

Hitachi Universal Storage Platform® V

The Hitachi Universal Storage Platform® V delivers proven enterprise-class functionality, including advanced virtualization of externally attached storage, logical partitioning, thin provisioning and universal replication, with the industry's most reliable, scalable and highest performing storage services platform.



Enterprise-class Functionality with Common Storage Services

As legal and regulatory requirements for long term data protection and retention intensify, many enterprises face escalating data growth. Simultaneously, they must improve application performance, availability, business continuity and backup windows, while simplifying the management of increasingly complex infrastructures.

Hitachi Universal Storage Platform V is powered by the Hitachi Universal Star Network™ massively parallel crossbar switch architecture. The platform enables common storage services, including virtualization, thin provisioning and business continuity across storage assets from Hitachi Data Systems and other providers — whether file, object or block based.

The Universal Storage Platform V further extends the enterprise-class capabilities introduced with the Hitachi Universal Storage Platform. With Hitachi Dynamic Provisioning software, it supports both internal and external virtualized storage, simplifies storage administration, improves performance and helps reduce overall power and cooling costs.

Complementary Solutions

Additional solutions that complement the capabilities of the Universal Storage Platform V include:

- Hitachi Basic Operating System V software
- Hitachi Storage Command Suite
- Hitachi In-System Heterogeneous Replication software bundle
- Hitachi Adaptable Modular Storage
- Hitachi High Availability Manager software

Business Benefits

Simplify, Save Time and Money

- Improve utilization and flexibility of legacy systems by aggregating internal storage and externally attached Hitachi and third party storage systems into a single, flexible storage pool.
- Increase efficiency through massive consolidation or aggregation of storage platforms, including those from other vendors.
- Reduce management complexity with optimized storage services managed from a centralized user console and a

common set of software tools across storage assets connected to the Universal Storage Platform V.

- Continuously run operations during storage expansion activities with Dynamic Provisioning software, allocating virtual storage capacity without interrupting critical business applications, requiring fewer physical disks and adding disks only when physical pool size is exceeded.

Maximize Availability and Performance, Improve Support to End Users

- Count on the unique and proven fourth-generation parallel crossbar switch architecture to meet demanding workloads.
- Ensure application quality of service by partitioning storage resources with Hitachi Virtual Storage Machine™ technology. Independent Virtual Storage Machines offer a synergistic linkage of disk, cache and ports for creation of virtual storage systems to simplify asset tracking and for chargeback purposes.
- Match application requirements to storage attributes to improve storage cost-effectiveness.

UNIVERSAL STORAGE PLATFORM V SPECIFICATIONS

Frames (Cabinets)

Integrated Control/Drive Group Frame and 1 to 4 optional Drive Group Frames

Universal Star Network Crossbar Switch

Number of switches 8
 Aggregate bandwidth (GB/sec) 106
 Aggregate IOPS Over 4 million

Cache Memory

Number of cache modules 1-32
 Module capacity 8 or 16GB
 Maximum cache memory 512GB

Control/Shared Memory

Number of control memory modules 1-8
 Module capacity 4GB
 Maximum control memory 28GB

Front End Directors (Connectivity)

Number of Directors 1-14
 Fibre Channel host ports per Director 8 or 16
 Fibre Channel port performance 4 or 8Gb/sec
 Maximum Fibre Channel host ports 224
 Virtual host ports 1,024 per physical port
 Maximum IBM® FICON® host ports 112
 Maximum IBM ESCON® host ports 112

Disks

Type: Flash 200 and 400GB
 Type: Fibre Channel 146, 300, 450 and 600GB
 Type: SATA II 1TB and 2TB
 Number of disks per system (min/max) 5-1,152
 Number spare disks per system (min/max) 1-40

Logical Devices (LUNs/Volumes) — Maximum Supported

Open systems 65,536
 IBM z/OS® 65,536

Maximum Internal Raw Capacity

Maximum (2TB disks) 2,269TB

Maximum Usable Capacity — RAID-5

Open systems (2TB disks) 1971.6TB
 z/OS-compatible (1TB disks) 931.7TB

Maximum Usable Capacity — RAID-6

Open systems (2TB disks) 1,689.9TB
 z/OS-compatible (1TB disks) 796.4TB

Maximum Usable Capacity — RAID-1+

Open systems (2B disks) 1130.5TB
 z/OS-compatible (1TB disks) 527.4TB

Other Features

Maximum internal and external capacity 247PB
 Virtual Storage Machines 32 max
 Back end directors 1-8

Operating System Support

Mainframe — Fujitsu: MSP; IBM z/OS, z/OS.e, z/VM®, z/VSE™, TPF; Red Hat: Linux for IBM S/390® and zSeries®; SUSE: Linux Enterprise Server for System z.
Open systems — Apple: Mac OS X; HP: HP-UX, Tru64 UNIX, Open VMS; IBM: AIX®; Microsoft® Windows Server®: 2000, 2003, 2008; Novell: NetWare; SUSE Linux Enterprise Server; Red Hat: Enterprise Linux; SGI: IRIX; Sun Microsystems: Solaris; VMware: ESX.

- Ensure business continuity by simplifying and unifying data protection and replication between storage systems.

Facilitate Regulatory Compliance, Protect Your Business

- Meet regulatory compliance and corporate governance requirements with industry leading data protection and storage security services that guarantee data availability and tamperproof long term data retention.
- Build the foundation of a complete data lifecycle management solution by enabling

the dynamic, nondisruptive movement of data between different storage tiers.

- Lower costs by archiving mainframe data to either internal high capacity SATA hard drives or to virtualized, externally attached SATA-based storage systems.
- Enable cost-effective, large scale data storage for open systems and mainframe environments through tiered storage implementations.

Feature Highlights

Optimized Data Center Environment

- Offers industry leading availability, performance and connectivity

- Allows deployment of applications within a new framework for tiered storage, business continuity and/or storage simplification
- Enables consolidation of open systems and mainframe data onto fewer physical storage devices to minimize maintenance costs and lower software license fees, capital expenditures and environmental costs
- Protects investments and reduces total cost of ownership
- Extends the life of existing storage systems

For details on Hitachi Universal Storage Platform V capabilities, visit www.hds.com.

Hitachi Data Systems Corporation

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.

IBM, z/OS, z/VM, S/390, zSeries, FICON, ESCON and AIX are registered trademarks and z/VSE is a trademark of International Business Machines Corporation. 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.