

Hitachi Universal Storage Platform™ V

The Hitachi Universal Storage Platform™ V delivers proven enterprise-class functionality—virtualization of externally attached storage, logical partitioning, thin provisioning, and universal replication—with the industry’s most reliable, scalable, and highest performing storage system.

Hitachi Universal Storage Platform V—Delivering Industry-leading Enterprise-class Functionality

As pressure from government and regulatory agencies for long-term data protection and retention intensifies, many enterprises are confronted with escalating data growth. They are also challenged to improve application performance and availability, business continuity, and backup windows, as well as to simplify the management of increasingly complex infrastructures. Hitachi Universal Storage Platform V, powered by the Hitachi Universal Star Network™ massively parallel crossbar switch architecture, further extends the enterprise-class functionality and performance—virtualization of external storage, logical partitioning, and universal replication—introduced with its predecessor, the Hitachi Universal Storage Platform. Plus, with Hitachi Dynamic Provisioning software this massive-capacity system further assists storage managers in their mission to simplify storage administration, improve performance, and reduce overall power and cooling costs.

Business Benefits

Simplify Management—Save Time and Money

- Improve utilization and flexibility of legacy systems by aggregating internal storage and externally attached Hitachi and third-party

storage systems (EMC, HP, IBM, Sun, and others) into a single, flexible virtual pool.

- Reduce management complexity via a single console and a common set of software tools to manage any storage resources connected to the Universal Storage Platform V.
- Increase efficiency (improved use of personnel and technology) through massive consolidation or aggregation of heterogeneous storage platforms.
- Keep operations running with Hitachi Dynamic Provisioning software—allocate virtual storage capacity with fewer physical disks required and add disks only when needed, without interrupting critical business applications.

Maximize Availability and Performance—Improve Support to End Users

- Count on the unique and proven, fourth-generation, massively parallel, crossbar switch architecture to meet the needs of the most 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, each with its own Virtual Serial Number for asset tracking and chargeback purposes.

Business Solutions

Hitachi Data Systems and its Hitachi TrueNorth™ Channel Partners offer industry-leading solutions to help organizations of all sizes meet their unique requirements for business continuity, regulatory compliance, and data recovery. Together, we provide cost-effective storage products and solutions that leverage world-renowned Hitachi global R&D resources to deliver performance, availability, and scalability—supporting business-critical applications and strengthening competitive advantage.

Complementary solutions for the Universal Storage Platform V include:

- Hitachi Content Archive Platform
- Hitachi High-performance NAS Platform, powered by BlueArc®
- Hitachi Adaptable Modular Storage and Hitachi Workgroup Modular Storage, ideal as externally attached tiered storage

- Match application requirements to storage attributes, improve storage cost-effectiveness, and respond quickly to evolving business needs.
- Ensure business continuity by simplifying and unifying data protection and replication between heterogeneous storage systems.

Facilitate Regulatory Compliance—Protect Your Business

- Meet regulatory compliance and corporate governance requirements for 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 tiers of storage.
- Lower costs by archiving mainframe data to either internal high-capacity SATA hard drives or to virtualized, externally attached SATA-based storage systems.

Feature Highlights

Optimized Data Center Environment

- Offers industry-leading availability, performance, and connectivity in a fully integrated universal storage and data services platform
 - Allows deployment of applications within a new framework, whether for tiered storage, for business continuity, or to simplify the storage infrastructure
 - Enables the 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
 - Helps protect investments and reduce total cost of ownership by extending the useful life of existing storage systems.
- For details on Hitachi Universal Storage Platform V capabilities, please go to www.hds.com.

Universal Storage Platform V Specifications

Controller	
Basic platform packaging unit: Integrated Control/Array Frame and 1 to 4 optional Array Frames	
Universal Star Network Crossbar Switch	
Number of switches	8
Aggregate bandwidth (GB/sec)	106
Aggregate IOPS	4.5 million
Cache Memory	
Boards	32
Board capacity (GB)	4 or 8
Maximum (GB)	256
Control Memory	
Boards	8
Board capacity (GB)	4
Maximum (GB)	32
Front-end Directors (Connectivity)	
Boards	1–14
Fibre Channel host ports per board	8 or 16
Fibre Channel port performance	4Gbit/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
Logical Devices (LUNs)—Maximum Supported	
Open systems	65,536
IBM z/OS®	65,536

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

Hard Disks (GB)	
Type (Fibre Channel)	73, 146, 300
Type: SATA II	750
Number (minimum/maximum)	4–1152
Spare drives per system (minimum/maximum)	1/16
Internal Raw Capacity (TB)	
Minimum (73GB disks)	82TB
Maximum (300GB disks)	332TB
Maximum Usable Capacity—RAID-5 (TB)	
Open systems	288
z/OS-compatible	270
Maximum Usable Capacity—RAID-6 (TB)	
Open systems	247
z/OS-compatible	231
Maximum Usable Capacity—RAID-1+ (TB)	
Open systems	165
z/OS-compatible	144
External Storage Support	
Maximum internal and external capacity	247PB
Virtual Storage Machines	32
Standard Back-end Directors	1-8
Operating System Support	
Mainframe: IBM OS/390®, MVS/ESA™, MVS/XA™, VM/ESA®, VSE/ESA™, z/OS, z/OS.e, z/VM®, zVSE™; Red Hat Linux for IBM S/390® and zSeries®	
Open systems: HP (HP-UX, Tru64, Open VMS), Sun Solaris, IBM AIX®, Microsoft® Windows (2000, 2003 Server), Novell NetWare, Red Hat and SuSE Linux, VMWare ESX	

Compliments of:

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