The Hitachi Universal Storage Platform® VM delivers proven enterprise-class functionality with advanced virtualization of externally attached storage, logical partitioning, thin provisioning and universal replication.

Confronted with escalating data growth, large businesses are challenged to improve application performance and availability, business continuity and backup windows. They must also simplify the management of increasingly complex infrastructures.

The Hitachi Universal Storage Platform VM is offered in a rack mounted storage services platform that delivers the same advanced storage services available in the Hitachi Universal Storage Platform V with a lower cost and smaller footprint.

It enables large businesses to package and deliver 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. It is ideally suited for migrating data from storage systems reaching the end of their useful or environmental lives, or for load balancing purposes to improve application performance.

The Hitachi Universal Storage Platform VM with Hitachi Dynamic Provisioning software supports both internal and external virtualized storage. It simplifies storage administration and improves performance to help reduce overall power and cooling costs.

**Complementary Solutions**

Additional solutions that complement the capabilities of the Universal Storage Platform VM 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 Management**

- 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 VM.**

**Run operations continuously 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.**

**Optimize Data Center Environment**

- Meet the most demanding workloads with the Hitachi Universal Star Network™ massively parallel crossbar switch architecture.

- Ensure application quality of service by partitioning storage resources with Hitachi Virtual Storage Machine™ technology. Individual Virtual Storage
**Universal Storage Platform VM Specifications**

**Racks (Cabinets)**
- Integrated Control/Drive Group Rack and 1 optional Drive Group Rack

**Universal Star Network Crossbar Switch**
- Number of switches: 2
- Aggregate bandwidth (GB/sec): 13.3
- Aggregate IOPS: 1.2M

**Cache Memory**
- Number of cache modules: 1-86
- Module capacity: 8 or 16GB
- Maximum cache memory: 128GB

**Control/Shared Memory**
- Number of control memory modules: 1-4
- Module capacity: 4GB
- Maximum control memory: 16GB

**Front End Directors (Connectivity)**
- Number of Directors: 1-3
- Fibre Channel host ports per Director: 8 or 16
- Fibre Channel port performance: 4 or 8Gb/sec
- Maximum Fibre Channel host ports: 48

**Virtual host ports**: 1,024 per physical port

**Maximum IBM® FICON® host ports**: 24

**Maximum IBM ESCON® host ports**: 24

**Logical Devices (LUNs/Volumes)**
- **Maximum Supported**
  - Open systems: 65,536
  - IBM z/OS®: 65,536

**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)**: 0-240

**Number spare disks per system (min/max)**: 1-16

**Maximum Internal Raw Capacity**
- Maximum (2TB disks): 472TB

**Maximum Usable Capacity — RAID-5**
- Open systems (2TB disks): 386.0TB
- z/OS-compatible (1TB disks): 182.4TB

**Maximum Usable Capacity — RAID-6**
- Open systems (2TB disks): 330.9TB
- z/OS-compatible (1TB disks): 155.9TB

**Maximum Usable Capacity — RAID-1+**
- Open systems (2TB disks): 232.4TB
- z/OS-compatible (1TB disks): 108.5TB

**Other Features**
- Maximum internal and external capacity: 96PB
- Virtual Storage Machines: 16 max
- Back end director: 1 max

**Operating System Support**
- Mainframe
  - Fujitsu: MSP; IBM: z/OS, z/OS.e, z/VSE®, z/VSE™, TPF; Red Hat: Linux for IBM S/390® and zSeries®; SUSE: Linux Enterprise Server for System z.
- Open systems

**Feature Highlights**
- Delivers industry leading availability and reliability in a fully integrated universal storage and data services platform that offers configuration flexibility:
  - Storage controller and high performance disk storage for mixed application environments
  - Storage controller only for virtualization services and data migration
  - 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

**Protect Your Business with Energy Efficiency Services**
- Build the foundation of a complete data lifecycle management solution with Hitachi Tiered Storage Manager software to enable the dynamic, nondisruptive movement of data between different tiers of storage.
- Reduce power and physical space with storage virtualization and thin provisioning to increase utilization rates.
- Enable cost-effective large scale data storage for open systems and mainframe environments through tiered storage strategies using internal high capacity SATA disks.

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