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Inspire the Next

DATASHEET

Hitachi Virtual Storage Platform G1000 provides the always-available, agile and automated foundation needed for a trusted Continuous Cloud Infrastructure. Powered with Hitachi global storage virtualization, its new software capabilities unlock IT agility and enable the lowest storage TCO.

Hitachi Virtual Storage Platform G1000: Available. Agile. Automated.

The Challenge

Today's data center operations are labor intensive and often prevent IT teams from keeping pace with changing needs of business. Data centers with infrastructure silos built around applications or technologies limit agility. Organizations must maintain IT operating expenses, support applications at cloud scale, navigate infrastructure complexities, and manage fewer, if any, maintenance windows to perform changes or technology refreshes.

The Solution

An IT-accelerated business is a must to win in tomorrow's information-centric world: one that exploits information without being overwhelmed by data or held back by slow IT infrastructure. Continuous Cloud Infrastructure solutions help by delivering continuous operations, data center extensibility and automated management.

Business Benefits

Enterprise-Class Software-Defined Storage Foundation

Always-on operations: Deliver zero recovery point and time objectives a new breed of cloud applications demands. Remove maintenance windows for maximum productivity. Customer-driven nondisruptive migration[1] and multi-data-center solutions ensure that data access and local and remote copy processing are maintained while changes or technology refreshes are performed.

Simplified operations: IT team productivity is increased with Hitachi Command Suite. It delivers policy-driven, automated and unified management capabilities, ranging from virtual storage machine creation, provisioning, migration and optimization to reporting.

Heterogeneous workload consolidation: Increase virtual machine density with advanced multitenancy capabilities and quality of service management. Resource pooling capabilities can be extended by scaling out to many multivendor physical controllers.

Hitachi Virtual Storage Platform G1000 Highlights

Global storage virtualization, an always-on infrastructure with enterprise-wide scalability, provides complete separation between host and storage. The scalability is independent of connectivity, location, storage system or vendor. Create new storage system and data center extensibility. Provision and manage virtual storage machines, up to 100km apart with active-active capability for volume, with remote data center replication support.

Customer-driven nondisruptive migration capability enables movement, copy and migration of data between storage systems, including 3rd-party storage systems, without interrupting application access and local and remote copy relationships.

Integrated active mirroring enables volume extensibility between systems and across sites through the provisioning and management of active-active volumes up to 100km apart[2]. Combined with remote data center replication, this mirroring is an ideal solution for critical applications zero recovery point and time objectives.

Active-Active VMware vSphere Metro Storage Cluster and Microsoft® Hyper-V® stretched cluster site protection[3]. When combined with VMware vSphere Metro Storage Cluster or a Microsoft stretched Hyper-V cluster, a virtual infrastructure is created, ensuring fault tolerance for both planned and unplanned outage.

Unified storage with enterprise scalability allows administrators to centrally manage large pools of storage across all virtualized internal and external storage pools, whether deployed for SAN, NAS or object storage. Hitachi Command Suite provides a common management framework with a unified dashboard view of block, file and object consumers. Organizations using Command Suite reduced their operating expenses 20% to 40% through consolidated management.

[1]Separately licensed feature.
[2]Active mirroring is enabled by the Hitachi global-active device feature, a separately licensed feature.
[3]Requires Hitachi global-active device feature.

Hitachi Accelerated Flash storage offers a patented data-center-class design and rack-optimized form factor, delivering more than 2PB per system. It supports a sustained performance of 100,000 8KB I/O per second, per device, with low and consistent response time.

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

- **VMware:** Storage Manager for VMware vCenter, vStorage API for Array Integration (VAAI), Storage Provider for VMware (VASA), vStorage API for Multipathing (VAMP), vStorage API for Data Protection (VADP), and Hitachi Storage Replication Adapter (SRA).
- **Microsoft Windows® 2012 (including Microsoft Hyper-V) and Systems Center:** Microsoft Virtual ShadowCopy Service (VSS), Microsoft Windows Offloaded Data Transfer (ODX), Hitachi Infrastructure Adapter for Microsoft® Systems Center Operations Manager, Hitachi Storage Adapter for Microsoft® Storage Management Provider, and Hitachi Storage Adapter for Microsoft® Systems Center Orchestrator.

Environmentally friendly platform allows for up to 1.9 times more drives per chassis, and lower power consumption, when compared to competitive systems to help further your green computing initiatives.

Native integration with active archiving enables the offload of data from production storage systems to an archive, to reduce capacity and backup requirements.

HITACHI VIRTUAL STORAGE PLATFORM G1000 SPECIFICATIONS

Block Module					
Height	10U				
Aggregate Bandwidth	896GB/sec				
Maximum (max.) Host Interfaces	192 Fibre Channel: 8 Gb/sec, 96 Fibre Channel: 16Gb/sec, 176 FICON: 8Gb/sec, 192 Fibre Channel over Ethernet* (initiator and target support): 10Gb/sec				
Host Groups (virtual ports)	255 per physical port; 48,960 host groups per system				
Max. Internal Raw Capacity	2,656TB [1.2TB 2.5" serial-attached SCSI (SAS)], 4,511TB [4TB 3.5" nearline-SAS (NL-SAS)], 2,026TB [3.2TB file module (FMD)]				
Flash Storage Options	400GB 2.5" SSD	800GB 2.5" SSD	1.6TB FMD	3.2TB FMD	
Flash Module Raw Capacity (GB)	393.85	787.69	1759.21	3518.43	
Hard Disk Drive (HDD) Options	300GB 2.5" SAS	600GB 2.5" SAS	900GB 2.5" SAS	1200GB 2.5" SAS	4TB 3.5" SAS
HDD Raw Capacity (GB)	288.2	576.39	864.64	1152.79	4,511.35
Speed (RPM)	15K	10K	10K	10K	7.2K
Minimum to Max. Hard Drives	0–2,304 2.5" and/or 0–1,152 3.5", including spares				
Max. SSDs	384				
Max. Flash Modules	576				
Back-End Disk Interface	6Gb/sec SAS				
RAID Configurations	RAID-1, RAID-5, RAID-6				
Cache Options	64GB to 2TB				
Max. LUNs	65,280				
Volume Size	46MB to 60TB				
Max. Number of Partitions	Virtual Storage Machine: 8, Resource Group: 1023				
High Availability	N+1 architecture designed for 100% uptime. 100% data availability warranty. Active mirroring option for 100% data accessibility.				
File Module (Hitachi NAS Platform or HNAS)					
Height	3U per node				
Nodes per Cluster	1-8 nodes				
Max. File System Pool Size: Single Namespace up to Max. Capacity	256TB - 32PB				
Number of File Systems	128				
Max. Snapshots, File Clones	1024 per file system, 1 million				
Cache per Node	46GB (HNAS 4060 or 4080), 108GB (HNAS 4100)				
Protocols	NFS/SMB/FTP/iSCSI and HTTP to the cloud				
Fibre Channel Ports	4 x 8Gb/sec ports per node				
Ethernet Ports (File Sharing)	4 x 10Gb Ethernet per node				

*Support for Fibre Channel over Ethernet (FCoE) host ports is available after initial release. Contact your HDS representative or HDS reseller partner for details regarding availability.

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

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