



- Optimize enterprise-class storage for mission-critical video surveillance and physical security data.
- Scale modularly from 1TB to nearly 4,000TB capacity.
- Achieve 99.999% data availability.
- Address storage needs from entry- to enterprise-level projects.
- Reduce energy consumption, slash equipment costs, and eliminate frame loss.

## Hitachi Unified Storage 100 Family: Physical Security Optimized Storage

### Scalable, Reliable and Tamperproof Data Storage for Demanding Physical Security

The demand for video storage is rapidly growing due to security concerns and expanding surveillance infrastructures. Organizations need infrastructures that support more cameras, higher resolutions, and larger archives. The Hitachi Unified Storage (HUS) video surveillance solution allows organizations to satisfy these growth requirements and protect potential evidence while simplifying operations.

The HUS 100 surveillance solution yields an evolution in universally managing block, file and object data (with Hitachi Content Platform), without compromising performance, scalability or cost efficiency. A highly efficient unified architecture allows organizations to satisfy growth requirements and meet business goals while simplifying operations, reducing the total cost structure and quickly adapting to changing storage needs of the market.

High-end storage functionality, such as autotiering, is available with HUS to facilitate automated placement of data for the highest performance at the lowest cost. Thin provisioning and data deduplication are included for proven capacity optimization solutions.

Now all data can be provisioned, managed and archived throughout its lifecycle, consistently and efficiently. HUS promotes faster and easier provisioning of storage for both block and file requirements within virtualized environments. It provides application-aware data protection for both virtualized and nonvirtualized server environments.

HUS is built on legendary Hitachi reliability for at least 99.999% data availability requirements, with complete system redundancy, hot-swappable parts, outstanding data protection and dynamic virtual controllers. Intelligent automation for failover, load balancing, tiering and migration keeps storage operations up and running at optimal performance.

Additional data recovery and protection tools allow simpler backup, restore, failover and consistency across copies, further reducing the risk of losing valuable evidence.

HUS can be combined with Hitachi Compute Blade servers and Hitachi high-resolution cameras for an end-to-end video surveillance solution.

### Business Benefits

- Highest levels of reliability to ensure image integrity.
- Scalable to nearly 4PB, without affecting performance.
- 99.999% data availability to meet mission-critical service level agreements (SLAs).
- Exceptionally high levels of throughput performance.
- Ability to meet data security compliance regulations at an affordable cost.
- High-density physical design to reduce space requirements.
- Ability to consolidate file, block and object storage for extensive cost savings.
- Tight integration with virtualized server environments: VMware and Microsoft® Hyper-V®.
- Lower power consumption to reduce energy costs.

# DATASHEET

## HITACHI UNIFIED STORAGE (HUS) 100 FAMILY

	HUS 110	HUS 130	HUS 150
<b>Capacity</b>			
Maximum Number (Max. No.) of Drives	120 LFF/120 SFF	360 LFF/360 SFF	960 LFF/960 SFF/480 FMD
Max. Raw Capacity	480TB (3.5" SAS); 144TB (2.5" SAS); 48TB (2.5" SSD)	1,440TB (3.5" SAS); 432TB (2.5" SAS); 144TB (2.5" SSD)	3,840TB (3.5" SAS); 1,152TB (2.5" SAS); 845TB (FMD) 384TB (2.5" SSD)
Large Form Factor (LFF) 3.5" SAS Drives Supported	4TB, 7200 rpm; 3TB, 7200 rpm; 2TB, 7200 rpm	4TB, 7200 rpm; 3TB, 7200 rpm; 2TB, 7200 rpm	4TB, 7200 rpm; 3TB, 7200 rpm; 2TB, 7200 rpm
Small Form Factor (SFF) 2.5" SAS Drives Supported	300GB, 15k rpm; 1.2TB, 10k rpm; 900GB, 10k rpm; 600GB, 10k rpm; 300GB, 10k rpm	300GB, 15k rpm; 1.2TB, 10k rpm; 900GB, 10k rpm; 600GB, 10k rpm; 300GB, 10k rpm	300GB, 15k rpm; 1.2TB, 10k rpm; 900GB, 10k rpm; 600GB, 10k rpm; 300GB, 10k rpm
Flash Drives Supported	400GB SSD; 200GB SSD	400GB SSD; 200GB SSD	1.6TB FMD; 400GB SSD; 200GB SSD
Disk Expansion Trays	2U: 24 SFF (2.5") 2U: 12 LFF (3.5")	2U: 24 SFF (2.5"); 2U: 12 LFF (3.5"); 4U: 48 LFF (3.5"); 5U: 84 LFF (3.5")	2U: 24 SFF (2.5"); 2U: 12 LFF (3.5"); 4U: 48 LFF (3.5"); 5U: 84 LFF (3.5"); 2U: 12 FMD
<b>Block Module</b>			
Height	2U	2U	3U
Controller Cards	2	2	2
Internal Drives	24 SFF (2.5"), 12 LFF (3.5")	24 SFF (2.5"), 12 LFF (3.5")	N/A
Host Interfaces (FC = Fibre Channel)	FC: 8Gb/sec; iSCSI: GbE or 10GbE	FC: 8Gb/sec; iSCSI: GbE or 10GbE	FC: 8Gb/sec; iSCSI: 10GbE
Host Connections per Module	8 FC, 8 FC + 4 iSCSI, 4 iSCSI	16 FC, 8 FC, 8 FC + 4 iSCSI	16 FC, 8 FC, 8 FC + 4 iSCSI, 8 iSCSI
Max Cache per Module	8GB	32GB	32GB
Max. LUN Size	128TB	128TB	128TB
Max. No. of LUNs	2048	4096	4096
RAID Supported	RAID-0, RAID-1, RAID-1+0, RAID-5, RAID-6	RAID-0, RAID-1, RAID-1+0, RAID-5, RAID-6	RAID-0, RAID-1, RAID-1+0, RAID-5, RAID-6
Max. RAID Groups	50	75	200
<b>File Module<sup>1</sup></b>			
Recommended File Module	4040	4060	4080
Height	3U	3U	3U
Nodes per Cluster	1-2	1-2	1-4
Max. Usable Capacity per Cluster	4PB	8PB	16PB
Random I/O (estimate) <sup>2</sup>	~130,000	147,957	205,519
Max. File System Size	256TB	256TB	256TB
Max. File Systems (single/cluster)	128/125	128/125	128/125
Max. Concurrent Users	24,000	42,000	42,000
Max. Open Files	72,000	126,000	126,000
Max. Snapshots	1024 per file system	1024 per file system	1024 per file system
Cache per Node	32GB	46GB	46GB
Protocols	NFS, SMB, FTP, HTTP, SSL, SNMP	NFS, SMB, FTP, HTTP, SSL, SNMP	NFS, SMB, FTP, HTTP, SSL, SNMP
Ethernet Ports	6 x 1Gb	4 x 10Gb	4 x 10Gb

<sup>1</sup>File module specs are per node unless otherwise indicated. <sup>2</sup>Dual node values based on SPECsfs\_2008 NFS benchmarks.

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DS-328-B KK October 2013