Hitachi Basic Operating System and Basic Operating System V software are integrated tools that simplify storage management. They let you take full advantage of the partitioning and virtualization capabilities of the Hitachi Universal Storage Platform® V and Universal Storage Platform VM.

Unify and Simplify Storage Tasks for Optimized Operational Efficiency and Storage Usage

Hitachi Basic Operating System and Basic Operating System V are ideal for enterprises seeking simpler ways to manage their storage, either for a single Hitachi system or for multiple heterogeneous storage systems. They enable hands-on management, delivering more efficient utilization, automation and control of your storage assets.

**Basic Operating System** features a set of management tools that cover the full range of Hitachi storage systems, including Hitachi Device Manager, Hitachi Virtual Partition Manager and required storage system utilities.

**Basic Operating System V** is an upgrade to the Basic Operating System that:

- Adds the unique ability to virtualize externally attached storage systems to the Hitachi Universal Storage Platform systems
- Expands virtual partitions by employing up to 32 Hitachi virtual storage machines and 32 cache partitions (Universal Storage Platform V) and up to eight virtual storage machines (Universal Storage Platform VM)
- Configures storage system for mixed Microsoft®, UNIX, Linux and IBM® mainframe environments; simplifies administration; enables storage consolidation
- Improves IT productivity through consistent administrative operations across storage and operating systems
- Supports business continuity and disaster recovery by configuring Hitachi replication software
- Integrates Hitachi storage with management systems through CIM/SMI-S or SNMP

**Business Benefits**

**Integrate Operations**

- Consolidates, rationalizes storage and storage management points; uses a single Device Manager server to manage all Hitachi storage
- Easily deploys storage resources
- Provides immediate view of available storage classes and current use with rapid allocation of more storage; improves storage utilization
- Defines logical groups for reporting and management with meaningful group names
■ Organizes, manages and reports on storage based on applications, departments and storage classes; generates reports by storage system or logical group with HTML or CSV output

**Optimize Storage System Performance**
- Ensures storage service levels to individual servers or applications
- Balances workload and troubleshoots performance
- Allows tuning to minimize unnecessary I/Os, logical device contention and operating system queuing
- Ensures tunable performance per server via cache logical partitions and per port bandwidth reservation

**Automate Storage Management Processes**
- Automates repeated tasks via CLI or XML requests to reduce administrative expense and manual error

**Feature Highlights**
Hitachi storage management capabilities included in the Basic Operating System set are:
- **Device Manager** is the primary control point (pane of glass), with single point management for all Hitachi physical and virtual storage; it is the open systems interface for integration with other systems.
- **Storage Navigator**, used by Device Manager, shows individual physical storage system configuration and status information and sends administrative commands to a Universal Storage Platform.
- **Virtual Partition Manager** enables the logical partitioning, up to four partitions, of ports, cache and disk (parity groups) into independently managed virtual storage machines on the Universal Storage Platform.

**Performance Monitor**'s intuitive, graphical interface assists with performance management information in capacity and configuration planning, workload balancing, analyzing and optimizing storage system performance.

**LUN Manager/LUN Expansion** lets administrators define, configure, add, delete, revise and reallocate LUNs to specific paths without system reboots. Its infrastructure supports alternative path failover, path load balancing and clustered servers.

**Logical Unit Size Expansion (LUSE)** creates virtual expandable LUs out of physical groups.

**Virtual LVI/LUN Manager**, also called Customized Volume Size, lets administrators create custom-sized logical volumes. It better utilizes physical capacity and boosts remote copy performance by eliminating the need to copy large volumes of partially used information.

**Volume Port Security and Volume Security Port Option** secure SAN environments by denying access to unauthorized users at the port level.

**Server Priority Manager** ensures specific servers and applications get needed storage bandwidth.

**Cache Residency Manager and Cache Management Host Agent** allow users to "lock" and "unlock" data into cache in real time to optimize access to the most frequently accessed data.

**Data Retention Utility for Open Systems and IBM z/OS®** provides virtual disk-based "write once, read many" (WORM) capability. Archived data can be nonerasable and non-rewritable for prescribed periods, facilitating regulatory compliance.

**Volume Shredder** erases sensitive data after the prescribed retention period.

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**COMPLEMENTARY SOLUTIONS**

The following Hitachi software modules complement the capabilities of Basic Operating System and Basic Operating System V:
- Hitachi Command Director
- Hitachi Dynamic Provisioning
- Hitachi Tuning Manager
- Hitachi ShadowImage®
- Hitachi Universal Replicator
- Hitachi Replication Manager
- SMI-S Provider, SNMP Agent and Microsoft Volume Shadow Copy Service (VSS) support provides standards-based integration with enterprise management systems.

Basic Operating System V is an upgrade to the Basic Operating System that:
- Expands **Virtual Partition Manager** partitions from a maximum of four up to 32 partitions
- Adds **Universal Volume Manager** software to virtualize multitiered storage systems of heterogeneous devices into a common storage pool and provides a common storage management, data migration and lifecycle management tool

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**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

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