

		VSP	USP V	USP VM	AMS 2000	Mainframe and Open	Execute on Server or Frame
<b>Storage and Data Management</b>							
<b>Hitachi Basic Operating System</b>	<p>Foundation set of storage management software products for Hitachi enterprise storage.</p> <ul style="list-style-type: none"> <li>On Hitachi Virtual Storage Platform these tools include: Hitachi Device Manager software, Hitachi Dynamic Provisioning software, Hitachi Data Link Manager Advanced software (50 server license), Hitachi Virtual Partition Manager software (4 partitions) and Hitachi Server Priority Manager software. It also includes Hitachi Storage Navigator Modular (the low-level element manager and management utilities), microcode-based performance monitor feature, cache residency manager feature (formerly FlashAccess), LUN manager, logical unit size expansion (LUSE), cache manager utility feature (formerly Cache Management Host Agent), VLVI (CVS), SAN security feature (includes software formerly known as Hitachi SANTinel and Hitachi Volume Security Port Option), volume security feature for IBM® S/390®, Hitachi Volume Retention software (formerly LDEV Guard), open customized volume size (OCVS), Microsoft Volume Shadow Copy Service (VSS), Hitachi Data Retention Utility, volume shredder feature, SNMP agent and Sun Java API software.</li> <li>On Hitachi Universal Storage Platform® V and Hitachi Universal Storage Platform VM these tools include Hitachi Device Manager software, Hitachi Resource Manager™ utility package, Hitachi Virtual Partition Manager software and Hitachi Server Priority Manager software.</li> </ul>	Y	Y	Y	N	Both	Hitachi Device Manager, Hitachi Storage Navigator Modular, Java API and SNMP agent — Server. The rest is Frame (microcode-based).
<b>Hitachi Dynamic Provisioning</b>	Enables thin provisioning, the creation of logical, virtual volumes; de-couples the provisioning of storage to an application, from the physical addition of storage capacity to the storage system; allows overprovisioning; self optimizes; and improves performance and capacity utilization	Y	Y	Y	Y	Open	Frame
<b>Hitachi Dynamic Tiering</b>	Simplifies storage administration; through automation, eliminates the complexity of using tiered storage efficiently and delivers top tier performance to information stored largely on less expensive tiers	Y	N	N	N	Open	Frame
<b>Hitachi Compatible PAV for Mainframe</b>	Used for achieving fast I/O response time and fast overall system throughput for mainframe environments; enables the mainframe host system to initiate multiple I/O requests simultaneously to the Hitachi enterprise storage system.	Y	Y	Y	N	MF	Frame
<b>Hitachi Compatible HyperPAV for Mainframe</b>	Used for achieving even faster PAV performance; extends PAV technology by utilizing I/O virtualization management to achieve higher levels of I/O efficiencies, storage device resource management and overall system performance throughput	Y	Y	Y	N	MF	Frame
<b>Hitachi Cross-OS File Exchange</b>	Exchanges data between open and mainframe systems	Y	Y	Y	N	Both	Server
<b>Hitachi Chargeback</b>	Enables utility management model reporting by implementing asset- or utility-based accounting; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server
<b>Hitachi Device Manager</b>	Provides configuration GUI and CLI for Hitachi storage provisioning and management	Y	(1)	(1)	Y	Both	Server
<b>Hitachi Dynamic Link Manager Advanced</b>	Presents a combined offering of corresponding Hitachi Dynamic Link Manager and Hitachi Global Link Manager server licenses: Hitachi Dynamic Link Manager provides path failover and load-balancing capabilities with versions to support IBM® AIX®, Sun Solaris, HP-UX, Microsoft Windows 2000, Windows 2003 and Linux operating systems. Hitachi Global Link Manager provides aggregated management of Hitachi Dynamic Link Manager instances into a centralized management console.	Y	Y	Y	Y	Open	Server
<b>Hitachi Path Provisioning</b>	Provides heterogeneous provisioning of the entire data path at the host, fabric and storage system level; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server
<b>Hitachi Performance Monitor feature</b>	Monitors performance attributes of Hitachi storage systems	Y	(1)	(1)	(4)	Both	Frame – Bundled on Hitachi Workgroup Modular Storage 100

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<b>Storage and Data Management</b>							
Hitachi QoS for File Servers	Provides file-server-based security risk management (SRM) and reporting; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server
Hitachi QoS for Microsoft® Exchange	Provides application-based topology and capacity management; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server
Hitachi QoS for Microsoft® SQL Server®	Provides application-based topology and capacity management; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server
Hitachi QoS for Oracle	Provides application-based topology and capacity management; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server
Hitachi QoS for Sybase	Provides application-based topology and capacity management; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server
Hitachi Resource Manager™ utility package for enterprise systems	Supplies low-level tools for storage system setup and management, some performance reporting and data security; includes host (server)-based Hitachi Storage Navigator Modular 2, SNMP agent and Sun Java API software; also includes storage system microcode-based performance monitor feature, cache residency manager feature (formerly FlashAccess), LUN manager, logical unit size expansion (LUSE), cache manager utility feature (formerly Cache Management Host Agent), VLVI (CVS), SAN security feature (includes software formerly known as Hitachi SAnTinel and Hitachi Volume Security Port Option), volume security feature for IBM® S/390®, Hitachi Volume Retention software (formerly LDEV Guard), open customized volume size (OCVS), Microsoft Volume Shadow Copy Service (VSS), Hitachi Data Retention Utility and volume shredder feature	(1)	(1)	(1)	N	Both	Storage Navigator, SNMP agent and Java Agent – Server. The Rest – Frame
Hitachi Resource Manager™ utility package for modular storage systems	Supplies tools for storage system setup and management, including host-based Hitachi Storage Navigator Modular 2 (GUI, Web and CLI) as well as controller-based applications: volume migrator, SNMP agent, password protection, logical unit size expansion (LUSE), cache residency manager feature (formerly FlashAccess), cache partition manager feature and LUN management	N	N	N	N	Open	Storage Navigator Modular 2 – Server / The Rest – Frame
Hitachi Server Priority Manager	Assigns priorities to storage system ports for performance optimization	(1)	(1)	(1)	N	Open	Frame
Hitachi Storage Capacity Reporter, powered by APTARE®	Provides end-to-end storage capacity reporting from hosts and applications to heterogeneous storage systems without host-based agents for improved capacity management and planning; recommended to be used with Hitachi Storage Fabric Reporter and/or Hitachi Virtual Server Reporter	Y	Y	Y	Y	Open	Server
Hitachi Storage Fabric Reporter, powered by APTARE®	Provides end-to-end storage capacity reporting from SAN fabric switches to heterogeneous storage systems with SAN change management capabilities; recommended to be used with Hitachi Storage Capacity Reporter	Y	Y	Y	Y	Open	Server
Hitachi Virtual Server Reporter, powered by APTARE®	Provides end-to-end storage capacity reporting from VMware virtual servers and machines to heterogeneous storage systems; recommended to be used with Hitachi Storage Capacity Reporter	Y	Y	Y	Y	Open	Server
Hitachi Command Director (formerly Hitachi Storage Command Portal)	Centralizes reporting of storage configuration, tier, capacity and performance data across the Hitachi Command Suite of products; enables customers to view Hitachi storage assets based on business applications, monitor storage service level objectives and enable policy-based management practices	Y	Y	Y	Y	Open	Server
Hitachi Storage Navigator Modular 2	Enables essential functions for the management and optimization of individual Hitachi storage systems	N	N	N	Y	Open	Server or Laptop
Hitachi Storage Services Manager	Supplies SMI-S standards-based platform for heterogeneous storage resource management; composed of multiple add-on modules	Y	Y	Y	Y	Open	Server
Hitachi Storage Services Manager for NetApp	Extends the full range of Hitachi Storage Services Manager capabilities to all NetApp storage solutions; requires Hitachi Storage Services Manager software	Y	Y	Y	Y	Open	Server

		VSP	USP V	USP VM	AMS 2000	Mainframe and Open	Execute on Server or Frame
<b>Storage and Data Management</b>							
Hitachi Tuning Manager	Provides comprehensive performance management application for Hitachi storage systems; supports performance monitoring, reporting and troubleshooting, from the application to the logical storage devices	Y	Y	Y	Y	Both	Server
Hitachi Virtual Partition Manager	Enables the logical partitioning of ports, cache and disk (parity groups) into virtual storage machines on Hitachi Universal Storage Platform® or Network Storage Controller	(4)	(2)	(2)	N	Both	Frame
<b>Business Continuity, Data Protection and Migration</b>							
Hitachi Application Protector	Provides snapshot-based backup, recovery and data protection for Microsoft Exchange, SQL Server and SharePoint Server environments; enables VSS-based snapshots over Hitachi NAS iSCSI LUNs with MMC "snap-in."	N	N	N	Y	Open	Server and Hitachi NAS
Hitachi Business Continuity Manager	Provides a central management utility for automating Hitachi ShadowImage® Heterogeneous Replication, Hitachi True-Copy® Synchronous/Extended Distance (asynchronous) and Hitachi Universal Replicator operations for mainframe (S/390®, z/OS®) environments. Business Continuity Manager is a requisite for Universal Replicator implementations. Also requires Universal Replicator 4x4 Extended Consistency Group when implementing a 4x4 Universal Replicator configuration.	Y	Y	Y	N	MF	Server
Hitachi Compatible Mirroring for IBM® FlashCopy®	Delivers mainframe (S/390®, z/OS®) centric data mirroring and ease-of-use for mainframe and Hitachi enterprise storage environments. Provides IBM FlashCopy compatible command and control of in-system data copy tasks within Hitachi ShadowImage® Heterogeneous Replication software. New Compatible Mirroring for IBM® FlashCopy® v2 now extends this capability to remote data copies via Hitachi Universal Replicator for 2 data center (2DC) or 3 data center (3DC) configurations.	Y	Y	Y	N	MF	Server
Hitachi Compatible Replication for IBM® XRC®	Provides IBM compatible extended (asynchronous) remote copy data protection for environments employing mainframe and Hitachi enterprise storage technology	Y	Y		N	MF	Server
Hitachi Copy-on-Write Snapshot	A component of Hitachi in-system solution bundles, this software tool provides point-in-time data snapshots of logical units (LUs). For Hitachi modular systems, refer to Hitachi In-System Replication bundle. For Hitachi enterprise systems, refer to Hitachi In-System Heterogeneous Replication bundle.	n/a	n/a	n/a	n/a	n/a	n/a
Hitachi Data Protection Suite, powered by CommVault® Includes: Data Archiver, Data Migrator, Backup and Recovery, Quick Recovery, Data Protection Monitor, De-duplication, Virtual Server Protection, SnapProtect; also Search, Desktop Protection and Remote Office Protection capabilities	Appropriate for customers considering a new data protection and data management solution. Offers a single, integrated solution to not just block data recovery but also enable quick recovery, based on snapshots, and migration and archiving of Microsoft Exchange files. <ul style="list-style-type: none"> <li>– Data Archiver offers unmatched data management and accessibility by preserving email messages and attachments for regulatory data retention compliance.</li> <li>– Data Migrator moves file system data to less expensive secondary storage while retaining transparent access to the migrated data.</li> <li>– Backup and Recovery is the best-in-class backup and recovery solution.</li> <li>– Quick Recovery significantly raises availability of business-critical applications by leveraging snapshot technology to create point-in-time recovery volumes on magnetic disk.</li> <li>– Data Protection Monitor monitors storage resource utilization and successful delivery of data protection, migration, archiving and replication services.</li> <li>– De-duplication enables customers to reduce the amount of data being sent to the backup environment, thereby reducing the overall storage requirements and costs.</li> <li>– Virtual Server Protection enables customers to back up and recover virtual servers. Recovery options include image-, server- and file-level granularity.</li> <li>– SnapProtect enables data replication to allow faster restore and backup capabilities to improve customer service levels.</li> </ul>	Y	Y	Y	Y	Open	Server
Hitachi Database Replication for Mainframe	Designed for mainframe compatibility; complements Hitachi ShadowImage® Heterogeneous Replication software; provides IBM® DB2® database operational compatibility; allows copying within the same DB2 instance and operates with DB2 command and control functionality	Y	Y	Y	N	MF	Server

		VSP	USP V	USP VM	AMS 2000	Mainframe and Open	Execute on Server or Frame
<b>Business Continuity, Data Protection and Migration</b>							
Hitachi Dataset Replication for Mainframe	Designed for mainframe compatibility; complements Hitachi ShadowImage® Heterogeneous Replication software; enables automation of MVS UserCatalog housekeeping operations and functions when splitting ShadowImage software volumes; for IBM S/390® only	Y	Y	Y	N	MF	Server
Hitachi Disaster Recovery bundle	For achieving remote data protection across 3 data centers. This combination bundle combines popular Hitachi TrueCopy® Synchronous and Hitachi Universal Replicator (HUR) solutions. With TrueCopy Synchronous, achieve immediate replication, at a RPO of 0/near-0, from a primary data center to a 2nd data center up to 300km away. With HUR, achieve extra protection with a 2nd asynchronous remote copy to a 3rd data center, at any distance. Includes separately orderable options, integration and agents for Microsoft Cluster Server (MSCS) and VERITAS Cluster Server (VCS), which provide TrueCopy integration and automation of failover.	Y	Y	Y	N	Both	Frame
Hitachi Disaster Recovery Extended bundle	Provides Hitachi Universal Replicator with advanced remote data replication functions such as 3 data center configuration capabilities for open systems and IBM® z/OS® mainframes. Deployed implementations can be configured with or without delta resync, which ensures replication consistency for the highest level of remote copy data integrity. Solution also enables Hitachi Universal Replicator 4x4, along with extended consistency group support for z/OS.	Y	Y	Y	N	Both	Frame
Hitachi Replication Manager (HRpM)	Supplies an application-aware replication management solution for Microsoft Exchange, SQL Server and SharePoint; provides single point administration for replication configuration, management and monitoring of replication functions performed by Hitachi ShadowImage® Heterogeneous Replication, Hitachi TrueCopy® Synchronous and Extended Distance remote replication and Hitachi Universal Replicator; monitors mainframe environments	Y	Y	Y	Y	Open	Server
Hitachi Backup Services Manager, powered by APTARE®	Offers integrated enterprise-level reporting and control for VERITAS NetBackup, VMware Consolidated Backup for NetBackup, Symantec Backup Exec., Tivoli Storage Manager, EMC Legato NetWorker and Avamar, HP Data Protector, Sun StorageTek ACSLS Manager, Oracle Recovery Manager (RMAN)	n/a	n/a	n/a	n/a	Open	Server
Hitachi In-System Heterogeneous Replication bundle	For convenient and cost-effective in-system replication, this solution bundle combines and delivers Hitachi ShadowImage® Heterogeneous Replication software for full volume cloning and Hitachi Copy-on-Write Snapshot software for fast point-in-time data copies. Combine with Hitachi remote replication software or solution sets to create alternate copies of production data for repurposing, such as test and development at a remote site. Supported on Hitachi enterprise storage platforms for open systems or mainframe environments.	Y	Y	Y	N	Both	Frame
Hitachi In-System Replication bundle	Same solution as above except supported on Hitachi modular storage platforms for open systems environments	N	N	N	Y	Open	Frame
Hitachi Multiplatform Backup	Serves as backup utility for mainframes	Y			N	MF	Server
Hitachi ShadowImage® Heterogeneous Replication or Hitachi ShadowImage® Replication	A 2nd component of Hitachi in-system solution bundles, this software tool provides full volume data clones. For Hitachi modular systems, refer to Hitachi In-System Replication bundle. For Hitachi enterprise systems, refer to Hitachi In-System Heterogeneous Replication bundle.	n/a	n/a	n/a	n/a	n/a	n/a
Hitachi TrueCopy® Synchronous or Hitachi TrueCopy Extended Distance replication	For remote copying of full volume data clones. TrueCopy Synchronous delivers immediate, zero RPO, from a primary data center to a 2nd data center up to 300km away. TrueCopy Extended Distance utilizes asynchronous replication for volume cloning over any distance. TrueCopy modules cannot run concurrently (choose one or the other). TrueCopy Synchronous is available on all Hitachi Adaptable Modular Storage systems. TrueCopy Extended Distance is available on the Adaptable Modular Storage 2000 family.	Y	N	N	Y	Open	Frame
Hitachi TrueCopy® Synchronous Disaster Recovery bundle	Enables synchronous remote copy; includes separately orderable options, integration and agents for Microsoft Cluster Server (MSCS) and for VERITAS Cluster Server (VCS), which provide TrueCopy integration and automation of failover.	Y	Y	Y	Y	Both	Frame

		VSP	USP V	USP VM	AMS 2000	Mainframe and Open	Execute on Server or Frame
<b>Business Continuity, Data Protection and Migration</b>							
Hitachi TrueCopy® Remote Replication bundle	Combines synchronous and asynchronous remote copy versions of Hitachi TrueCopy. For integration with TrueCopy and for delivering automated failover capabilities, bundle includes separately orderable options, integration and agents for Microsoft Cluster Server (MSCS) and for VERITAS Cluster Server (VCS).	Y	N	N	Y	Both	Frame
Hitachi Universal Replicator	Featuring journal disk caching for achieving tight RPO time capabilities, even in the event of a network outage, Hitachi Universal Replicator (HUR) provides asynchronous remote copy, over any distance, for Hitachi enterprise storage.	Y	Y	Y	N	Both	Frame
Hitachi Dynamic Replicator	Leverages the advantages of disk-based data protection to provide application-aware recovery that can meet remote and/or local requirements; continually captures changes to data in real time as they occur; offers flexible recovery to any previous point in time, a feature which ensures fast, reliable recovery even when data is corrupted, while requiring very little network bandwidth. Data can be replicated to a local repository while at the same time it is replicated to a remote repository for disaster recovery purposes.	Y	Y	Y	Y	Open	Server
IBM® ProtecTIER®	Part of our Virtual Tape Library Solutions by Hitachi Data Systems; Linux server-based virtual tape application emulates a tape library unit, including drives, cartridges and robotics; uses Fibre Channel-attached disk storage as the backup medium; filters data already stored to eliminate duplication and save capacity	Y	Y	Y	Y	Open	Server
<b>Tiered Storage</b>							
Hitachi Basic Operating System V	Virtualizes external storage with Hitachi Universal Volume Manager when attached to the Hitachi Virtual Storage Platform and Hitachi Universal Storage Platform®; expands virtual cache partitions on the VSP to 32, and virtual partitions on the USP V and USP VM to 32	Y	Y	Y	N	Both	Frame
Hitachi Tiered Storage Manager	Manages storage tier definitions and directs migration of storage assets between those storage tiers	Y	Y	Y	N	Both	Server
Hitachi Universal Volume Manager	Virtualizes external storage attached to the Hitachi Virtual Storage Platform, Hitachi Universal Storage Platform® or Network Storage Controller	(3)	(3)	(3)	N	Both	Frame
Intelligent File Tiering software feature (available for Hitachi NAS Platforms) with native Policy Manager	Provides policy-based file tiering capability, which consists of a policy manager (built into operating system) and data migrator with cross volume link (CVL/XVL) software modules; enables automatic policy-based file and content movement within internal and external storage systems (e.g., Hitachi Content Platform)	Y	Y	Y	Y	Both	Frame
<b>File Services: Network Attached Storage</b>							
Hitachi NAS Platform 3100 and 3200, powered by BlueArc®	Provides an enterprise high-performance NAS gateway into Hitachi Virtual Storage Platform, Hitachi Universal Storage Platform® V and/or Hitachi Adaptable Modular Storage systems; supports best-in-class performance and scalability; provides up to 8-node clustering, intelligent file tiering, single namespace, large 256TB volumes and file clones; integrates with Hitachi Data Discovery Suite and Hitachi Content Platform for excellent storage economics, as well as with Hitachi SAN and data management products	Y	Y	Y	Y	Both	NAS Frame
Hitachi NAS Platform 3080 and 3090, powered by BlueArc®	Provides an enterprise midrange NAS gateway into Hitachi Virtual Storage Platform, Hitachi Universal Storage Platform® V and/or Hitachi Adaptable Modular Storage systems; supports best-in-class performance and scalability provides up to 4-node clustering, intelligent file tiering, single namespace, large 256TB volumes and file clones; integrates with Hitachi Data Discovery Suite and Hitachi Content Platform for excellent storage economics; works with Hitachi SAN and data management products; ideally matches with Hitachi Adaptable Modular Storage 2000 family systems for commercial application environments (ex: VMware, Microsoft Exchange, Oracle, etc.)	Y	Y	Y	Y	Both	NAS Frame

		VSP	USP V	USP VM	AMS 2000	Mainframe and Open	Execute on Server or Frame
<b>File Services: Data Discovery</b>							
Hitachi Data Discovery Suite (HDDS)	Simplifies cross-platform search and intelligent file tiering for Hitachi NAS Platform, powered by BlueArc®, Hitachi Content Platform, Microsoft Windows file servers and NetApp devices; provides single user interface that supports faster productivity and business competitiveness; supports proactive e-discovery and identification of content for compliance and governance; enables policy-based movement of content between NAS and archive storage tiers; enables e-discovery for legal environments	Y	Y	Y	Y	Open	Server
Hitachi Data Discovery for Microsoft® SharePoint®	Enables data to tier from SharePoint to the Hitachi Content Platform and Hitachi NAS Platform, powered by BlueArc®, using the familiar SharePoint interface	Y	Y	Y	Y	Open	SharePoint Server
<b>File Services: Archive</b>							
Hitachi Content Platform (HCP)	Provides digital content storage and archiving for data preservation, protection and retention as well as regulatory compliance of unstructured content; supports key capabilities, which include multiple tenants and namespaces, compression and data de-duplication; integrates with Hitachi NAS Platform, Hitachi Data Discovery Suite and Hitachi Data Discovery for Microsoft® SharePoint® for a comprehensive tiered storage architecture with ability to set retention and other archive features when moving BLOBs	Y	Y	Y	Y	Open	Server
<b>File Services: Cloud/Edge-to-Core</b>							
Hitachi Data Ingestor (HDI)	Serves as standard CIFS/NFS on-ramp into Hitachi Content Platform for remote or distributed environments; reduces cost and complexity at the edge; simplifies cloud deployment; works with HCP to deliver an integrated edge-to-core storage solution that is seemingly bottomless and backup-free	Y	Y	Y	Y	Open	Server

- Notes: (1) Included in Hitachi Basic Operating System  
(2) 1-4 partitions included in Hitachi Basic Operating System; 5+ partitions included in Hitachi Basic Operating System V  
(3) Included in Hitachi Basic Operating System V  
(4) Only includes cache partitions on Hitachi Virtual Storage Platform, no storage partitions

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