



HITACHI
DATA SYSTEMS



**Hitachi Data
Protection Suite**
Powered by CommVault®




Partner Beyond Technology



Facing rising volumes of data that promise to overwhelm shrinking backup windows, stress already stretched resources, and frustrate mandated government regulatory compliance, organizations need a cohesive and unified strategy for protecting data. In addition, traditional tape-based backup and recovery no longer meets application availability demands. A disk-based data protection strategy helps to solve these problems by offering faster and more reliable backup and recovery, faster access to information, and a unified framework to reduce costs and ease management.

Hitachi Data Protection Suite: Unified Data Protection and Management

The Hitachi Data Protection Suite, powered by CommVault®, is a unified platform comprising solutions for data backup and recovery, migration, archiving, and replication—all through a single, easy-to-use point of control. Using the CommVault® Common Technology Engine (CTE) as its foundation, the Data Protection Suite enables organizations to select the combination of products that best meet their needs.



Tape-based backup has long been the primary method for archiving and protecting critical application data. But tape backup alone cannot meet the needs of many of today's businesses. Tape solutions cannot store and recall the rapidly rising volume of data fast enough, are not sufficiently reliable for critical information, and do not provide the easy access, immediate retrieval, or rapid restoration of data that businesses need for compliance and disaster recovery.

To compensate for the shortcomings of tape-only backup systems, many organizations are moving to disk-based data protection strategies. File system journaling, log file creation, snapshot backups, point-in-time mirrors, remote mirroring, tiered architectures, and other disk-based strategies can help businesses overcome many of the challenges posed by purely tape-based solutions. Still, each of those disk approaches tends to protect data at only a single level of granularity—such as the file, disk volume, or server level. Combining various disk-based methods can help provide more complete protection, but for many businesses, managing multiple protection methods is too complex and time-consuming.

Organizations need a comprehensive strategy that pulls from the entire array of disk and tape solutions to optimize data protection, improve data availability, and facilitate rapid access to stored information. Though the strategy must be comprehensive, it must also be cost-effective and simple to manage.

The Hitachi Data Protection Suite is a unified platform that helps ensure outstanding data protection, high availability, and rapid access to information through the integration of backup and recovery, migration, archiving, replication, third-party disk-based copy

capabilities, and a single point of control. Designed for disk-to-disk storage area network (SAN)-based data protection, the Data Protection Suite avoids the performance issues of products that have evolved from local area network (LAN)-based disk-to-tape infrastructures. Its CTE foundation enables the Data Protection Suite to help organizations implement the right mix of components without adding complexity.

Achieve Protection That Is Greater than the Sum of Its Parts

Unlike competing products, the Hitachi Data Protection Suite is more than a disparate collection of standalone software. The CTE provides unified cataloging, indexing, and movement of data at various levels of granularity via a common user interface and policy engine.

With the Data Protection Suite, adding components and integrating advanced functionality from the Hitachi Storage Area Management Suite is simple and requires no additional training or major upgrades. As a result, you can pick and choose the right components to implement. The Data Protection Suite of software is powered by CommVault and comprises:

Hitachi Backup and Recovery software—which offers a unified, scalable data protection solution for distributed, heterogeneous environments

Hitachi Quick Recovery software—which recovers applications completely, in minutes, by leveraging snapshot technology to create point-in-time recovery volumes on magnetic disks

Hitachi Data Migrator software—which delivers policy-based data management for Microsoft Exchange e-mail and Microsoft Windows or Sun Solaris file system data to reclaim space, reduce production data storage size, address quota issues, enable file-based tiered storage management, and provide archiving services

Hitachi Data Archiver software—which provides tamperproof surveillance, discovery, and long-term access to Exchange e-mail for government compliance or business needs

Hitachi Data Protection Monitor software—which monitors storage resource utilization and successful delivery of data protection, migration, archiving, and replication services to better match the cost of providing critical IT services with business needs

Enjoy Easier Backup and Faster Recovery, Plus Improved Availability

Hitachi Backup and Recovery software can help reduce the complexity of deploying, using, and maintaining a backup and recovery solution. Built on an open software architecture and equipped with a straightforward browser interface, Backup and Recovery software is ideal for heterogeneous environments in which administrators need to cut through complexity to protect growing volumes of data on diverse applications and platforms.

Administrators can keep track of data more easily by unifying distinct disk-based point-in-time copies in a single target entity. For additional protection, administrators can easily make copies of disk-based backups, providing a disk-to-disk-to-tape (D2D2T)



capability. And, a robust reporting mechanism helps to keep administrators on top of data protection strategies. By applying policy-driven capabilities across all operating systems, applications, and storage types the administrative burden and IT costs of backup and recovery are reduced.

Backup and Recovery software integrates seamlessly with a full range of software and hardware platforms to help protect existing investments. Integration with leading snapshot solutions frees businesses from costly lock-in to proprietary products while allowing use of technologies that are already deployed. Though it supports all major operating systems, Backup and Recovery software is specially tuned for Microsoft Windows environments, supporting Microsoft Exchange, SQL Server, and SharePoint, as well as advanced Microsoft technologies, such as Active Directory and Virtual Shadow Services (VSS).

Backup and Recovery software is also a scalable solution that adjusts the granularity of the recovery to the scope of the data loss, from a single object to an entire system. As a result, businesses can dramatically reduce the time it takes to both back up data and

recover, which means greater system availability, improved productivity, and better business continuity.

Optimize Storage

As businesses generate and store an increasing volume of data, they need solutions that will help optimize storage resources. Hitachi Data Migrator software can help reclaim precious production storage space by moving older information to less expensive storage media automatically according to predetermined data retention policies. As a result, businesses can not only reduce the costs of storing data but also accelerate access to critical production data and improve backup and recovery times. Data Migrator software's ability to apply data retention rules across the enterprise also helps minimize the burden of administration.

Full integration with Exchange/Windows and Solaris file systems makes data migration more transparent to end users and easier for administrators to manage. Within Exchange, for example, Data Migrator software retains e-mail stubs—shortcuts to

archived e-mails—in end-user mailboxes. Users can access e-mail simply by double-clicking the stub. They no longer have to search, select, and access data outside of Exchange. Users can also tag messages to force migration outside of normal rules when they face quotas.

Help Ensure Regulatory Compliance

Corporate and government regulations that require organizations to store large volumes of e-mail data and maintain fast access to that information are forcing organizations to rethink long-term data archival strategies. Hitachi Data Archiver software enables simplification of long-term retention and recall of Exchange e-mail messages to comply with legal discovery requirements, corporate policies, and government legislation, such as the Health Insurance Portability and Accountability Act (HIPAA) and the Sarbanes-Oxley Act (on corporate governance, financial disclosure, and the practice of public accounting). With Data Archiver software, organizations can easily monitor inbound and outbound e-mail messages, store them reliably and automatically, and retrieve them rapidly to ensure compliance.

A single, unified browser interface enables administrators to define or adjust policies to regularly index and move data to long-term archival storage media, ensuring that a copy of every e-mail message routed through the server is preserved with full indexing of body and attachment text content. Tightly integrated with Exchange, Data Archiver software stores a single instance of archived messages and attachments directly from Exchange to help ensure exact retrieval. This reliable process minimizes the risk of data loss or alteration due to corruption, and indexes are preserved in accordance with retention rules that help ensure accessibility and compliance.

When necessary, administrators can locate archived e-mails easily using wildcard or full-text word searches that span mailboxes. This straightforward way to retrieve messages accelerates responses to external requests for information. By merging long-term data retention capabilities into an overall data management strategy, Data Archiver software greatly reduces costs and business risk.

Maximize Information Availability

Competing in today's business climate requires organizations to be up and running continuously. Hitachi Quick Recovery software can help businesses improve information availability and ensure business continuity by leveraging snapshot technologies to create local or remote point-in-time recovery volumes on magnetic disk. Quick Recovery software creates a second, native-format copy of application or file data to protect against the loss or corruption of data. If a disaster or temporary outage does occur, Quick Recovery software automates the recovery process to help business-critical applications stay up and running.

Quick Recovery software automatically discovers application data sets, and then uses block-level change capture and data movement to minimize bandwidth and accelerate transfer rates across Fibre Channel or IP connections. This resilient, robust, and fault-tolerant transfer helps ensure that hardware or network connectivity problems have a minimal impact on the replication process. With Quick Recovery software, creating point-in-time copies of volumes for testing, data mining, or other business purposes is no longer labor intensive. Through a simple interface, the software enables IT personnel to easily track, administer, and manage point-in-time snapshots.

Integrated with leading snapshot solutions, including Hitachi Copy-on-Write Snapshot software (formerly QuickShadow), Microsoft VSS, and similar technologies, Quick Recovery software is easily incorporated into a comprehensive data protection process without requiring companies to abandon existing investments. Quick Recovery software supports UNIX, Windows 2000, and Windows Server 2003 file systems, and in those environments, it can copy or restore millions of files or entire directories in minutes. Integration with Microsoft Exchange Server and SQL Server plus Oracle 8i and Oracle 9i databases provides seamless, nondisruptive snapshots and rapid recovery.

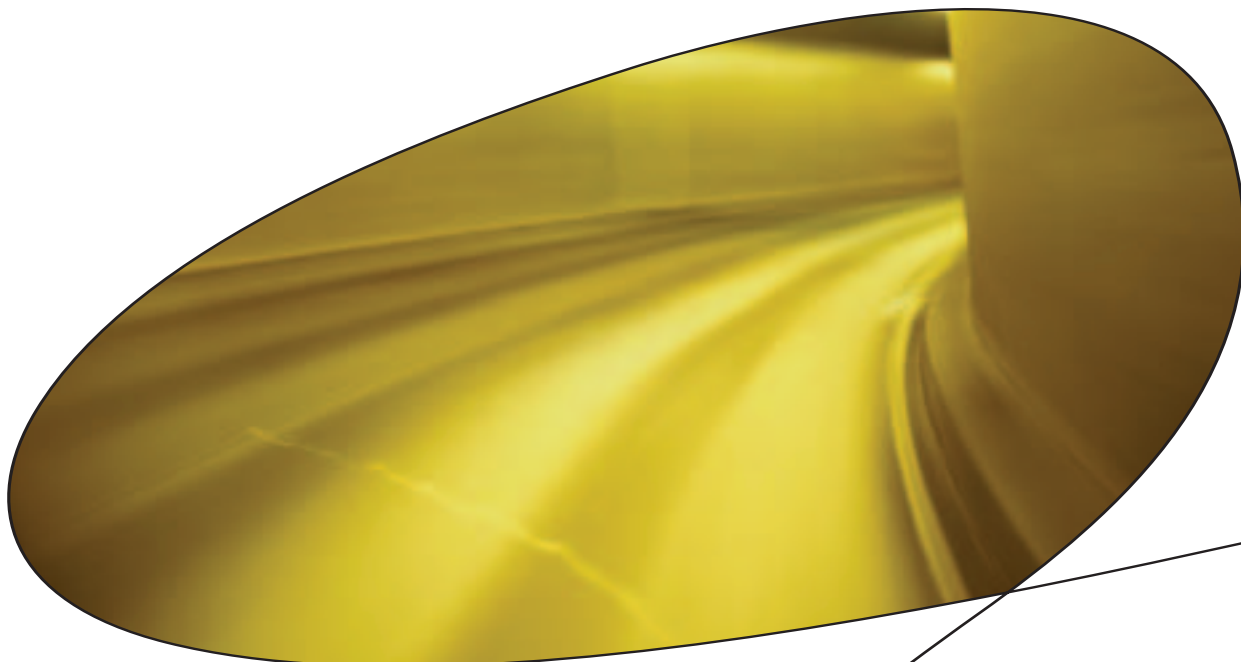
Simplify Administration with a Single, Common Interface

The Hitachi Data Protection Suite not only delivers a wide range of outstanding capabilities, it does so without adding administrative complexity. Hitachi Data Protection Monitor software helps streamline data protection and data management administration with a single Web-based graphical user interface that provides an integrated, unified view of all Data Protection Suite operations. Providing easy access to information through a consolidated view or business-level reports on enterprise storage resources, Data Protection Monitor software enables administrators to accelerate decision

making and gain greater insights for strategic planning. At the same time, the software's device status alerts will let administrators know when critical components are up or down.

Data Protection Monitor software can also help to better align storage and protection services with business needs. By providing an end-to-end view of all storage resources, including disk, server, tape, library, and network resources, Data Protection Monitor software can help determine which service is consuming which resources. As a result, administrators can fine-tune services by reallocating storage in a tiered environment, adjusting the data retention lifecycle, or modifying processes to comply with regulations.

With more information about how data is being stored, backed up, and moved, an organization will be able to better track application service levels and better understand the business, financial, and operational impact of IT services. While evaluating service levels with other solutions can be a time-consuming manual task, Data Protection Monitor software helps manage service levels dynamically by analyzing applications and data; monitoring performance, availability, and protection; linking data movement and data management; and reporting on service-level successes and failures.



Integrate Fully with Windows

While the Hitachi Data Protection Suite is well prepared to protect mixed Windows and UNIX environments, it has been optimized for the Windows platform and SAN environments typical of advanced Windows storage configurations. The Data Protection Suite is powered by CommVault, which is the data protection solution tested and recommended by Microsoft, and the solution on which the Microsoft System Architecture (MSA) reference configuration is based. As the exclusive backup and recovery solution for MSA reference configurations, the Data Protection Suite has been subjected to a rigorous qualification process to ensure that it meets MSA standards.

Deep integration with Microsoft VSS makes frequent backup to disk of key Windows applications, including Microsoft Exchange and SQL Server, simple and nondisruptive, and recovery is rapid. Optimization for Windows plus the official testing and blessing of the underlying architecture by Microsoft makes this environment the logical choice for Windows-centric organizations.

Benefit from a Full Family of Solutions

Components of the Data Protection Suite offer efficient, effective, and easy-to-manage solutions to key business challenges.

- Backup and Recovery, Quick Recovery, Data Migrator, and Data Protection Monitor software focus on solving backup and recovery problems. These products are perfect for organizations looking to implement a new backup solution or add to or replace an existing backup vendor's product line.
- Data Archiver, Data Migrator, and Data Protection Monitor software products provide a great solution for organizations looking to implement a new Windows-specific e-mail archiving solution or augment an existing archiving solution.

The Data Protection Suite also complements the entire range of Hitachi Data Systems business continuity and storage solutions, including Application Optimized Storage™ solutions from Hitachi Data Systems.

The Data Protection Suite adds strength to those solutions in disk-to-disk and Windows environments.

- Backup and Recovery software and Quick Recovery software complement Hitachi Data Systems copy products by integrating disk-based replication into the backup process. The result is a more efficient, nondisruptive backup process from an application perspective.
- Data Migrator software complements Hitachi HiCommand® Tiered Storage Manager software by providing file-level data movement (as opposed to volume-level movement) from one tier of storage to another.
- Quick Recovery software offers rapid recovery functionality similar to Hitachi HiCommand Protection Manager software. But unlike Protection Manager software, which is well-suited to standalone operation in Hitachi storage environments, Quick Recovery software offers the benefits of full integration with other components of the Data Protection Suite.

Several Hitachi Business Continuity Solutions augment the capabilities offered by the Data Protection Suite products.

- While Data Archiver software is a Windows-specific offering that provides

e-mail archiving for small- to mid-size environments, Hitachi Data Systems archiving solutions, powered by IXOS software, can address enterprise-level archiving for other document types.

- Hitachi Message Archive for Compliance Solution adds integration with Hitachi Data Retention Utility software (formerly Open LDEV Guard), a feature not yet available on Data Archiver software.

Protect Data, Improve Availability, and Simplify Management

The Data Protection Suite is a unified platform designed to ensure high-performance data protection, universal availability, and simplified management of complex storage networks. Using the CTE as its foundation, the Data Protection Suite allows you to select the right mix of backup and recovery, migration, archiving, and replication components for your needs. It can also help you manage those components in a dynamic environment through a single point of control. The result is an integrated collection of solutions that can help you protect data and manage data storage without adding complexity.



Solution	Key Features	Benefits
Hitachi Backup and Recovery software	<ul style="list-style-type: none"> ⌘ Includes straightforward browser interface ⌘ Unifies distinct point-in-time copies into a single entity ⌘ Applies policy-driven capabilities across operating systems, applications, and storage ⌘ Integrates with leading snapshot solutions ⌘ Adjusts granularity of recovery to scope of data loss 	<ul style="list-style-type: none"> ⌘ Simplifies administration ⌘ Identifies lost data easily ⌘ Minimizes administrative burdens and IT costs ⌘ Protects existing investments ⌘ Reduces the time to back up data and recover it
Hitachi Data Migrator software	<ul style="list-style-type: none"> ⌘ Migrates data from production to less-expensive storage automatically ⌘ Applies data retention rules across an enterprise ⌘ Fully integrated with Microsoft Exchange/Windows and Sun Solaris file systems ⌘ Provides transparency for end users 	<ul style="list-style-type: none"> ⌘ Reclaims production storage space ⌘ Reduces the costs of storing data ⌘ Accelerates access to production data ⌘ Improves backup and recovery times ⌘ Minimizes administrative burdens
Hitachi Data Archiver software	<ul style="list-style-type: none"> ⌘ Stores e-mail messages reliably and automatically ⌘ Includes a single, unified browser interface ⌘ Integrates tightly with Exchange ⌘ Stores a single instance of archived messages and attachments ⌘ Enables wildcard or full-text word searches that span mailboxes 	<ul style="list-style-type: none"> ⌘ Helps ensure compliance with corporate and government policies and legal discovery to reduce business risk ⌘ Simplifies long-term retention and recall of Exchange e-mail messages ⌘ Reduces administrative burdens ⌘ Delivers fast retrieval of specific e-mail messages
Hitachi Quick Recovery software	<ul style="list-style-type: none"> ⌘ Leverages snapshot technology to create local or remote point-in-time recovery volumes ⌘ Automates recovery process ⌘ Uses block-level change capture and data movement across Fibre Channel or IP connections ⌘ Integrates with leading snapshot solutions 	<ul style="list-style-type: none"> ⌘ Helps to deliver business continuity ⌘ Makes administration easy with simple interface ⌘ Helps to ensure that hardware or connectivity problems have minimal impact on replication process ⌘ Enables companies to protect existing IT investments
Hitachi Data Protection Monitor software	<ul style="list-style-type: none"> ⌘ Provides a single Web-based graphical user interface with an end-to-end view of all storage resources ⌘ Offers an integrated view of all Data Protection Suite operations ⌘ Delivers business-level reports ⌘ Tracks application service levels 	<ul style="list-style-type: none"> ⌘ Streamlines data protection and management ⌘ Enables better alignment of storage and protection services with business needs ⌘ Allows dynamic and improved management of application service levels

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DISK-533-00 March 2005