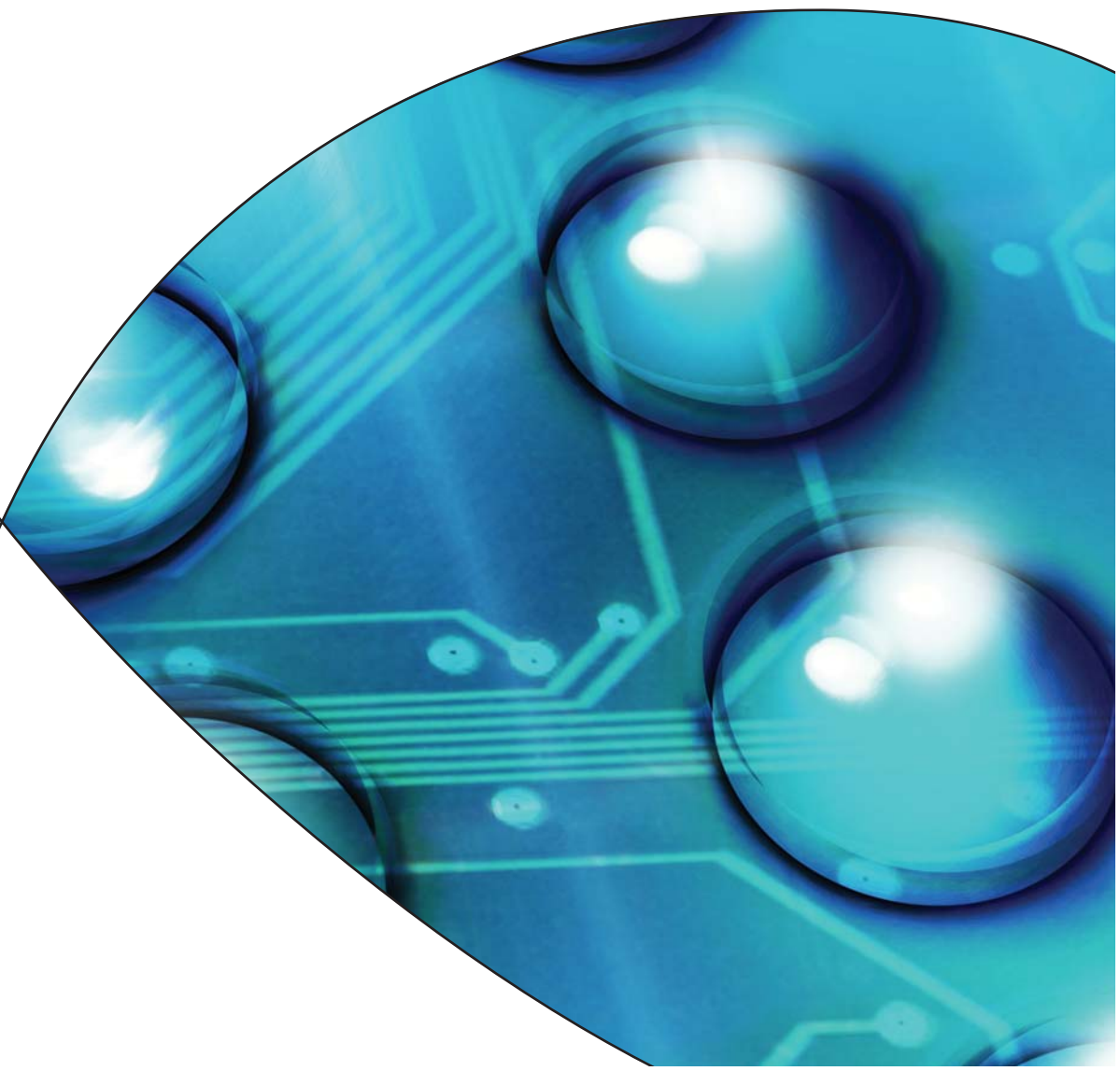


HITACHI
DATA SYSTEMS

Hitachi HiCommand[®] Suite and Storage Area Management Software

Partner Beyond Technology



Hitachi HiCommand® Suite and Storage Area Management (SAM) software provide application-centric capacity and performance management of your entire storage infrastructure. A key component of the Application Optimized Storage™ solutions from Hitachi Data Systems, the Hitachi HiCommand Suite tunes delivery of storage system performance, availability, recoverability, and functionality attributes to the requirements of your vital business applications.

Hitachi HiCommand® Suite: Control Storage Infrastructure from Application to Disk

Within the HiCommand Suite, heterogeneous management modules, powered by ApplQ, monitor, visually render, and administer your data infrastructure as a whole, including storage from multiple vendors as well as the switches, host bus adapters, servers, and file systems that serve business applications. Additionally, Hitachi-enhanced HiCommand Suite modules add focused management, advanced data protection, performance analysis, and migration capabilities for Hitachi storage environments.

Business applications become sluggish because they can not get to the data they need fast enough. Executives complain about losing sales and customers due to poor service and delays in deploying applications. Out-of-space conditions take down applications despite constant expenditures on storage. The CFO wants to charge back business units for storage, but you are not even sure you could provide an accurate storage infrastructure inventory, much less an accounting of who uses what. Meanwhile, your storage administrators are alternately working on mind-numbing manual tasks and madly scrambling to troubleshoot a performance issue or outage. What's wrong with this picture?

The problem is that storage administrators are having trouble delivering the quality of storage service that business applications need because:

More data =
More storage =
More SAN infrastructure elements =
More element managers =
More staff to manage the management tools =
Spiraling costs and complexity.

All HiCommand Suite and Hitachi SAM software modules were created to deliver the storage return on investment and quality of service to applications that your organisation requires. Built on industry standards, the HiCommand Suite includes an integrated set of application and business modules that enable you to manage your entire multibrand storage infrastructure as a shared utility. Hitachi SAM software offers extensive options for data management, high-performance application-transparent data migration, and data protection. By meeting business unit quality of storage requirements as quantified in reports and chargebacks, by maximising storage utilisation, and by improving operations, the HiCommand Suite helps you maximise storage efficiency and payback.

Application-centric Storage Infrastructure Management

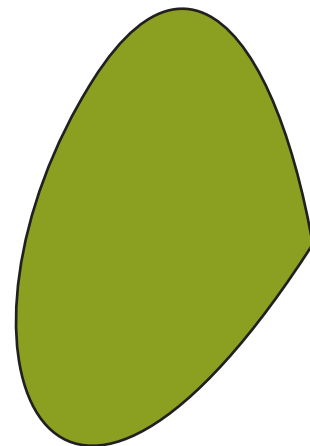
The HiCommand Suite provides heterogeneous modules that bring your entire storage infrastructure, from application to disk spindle,

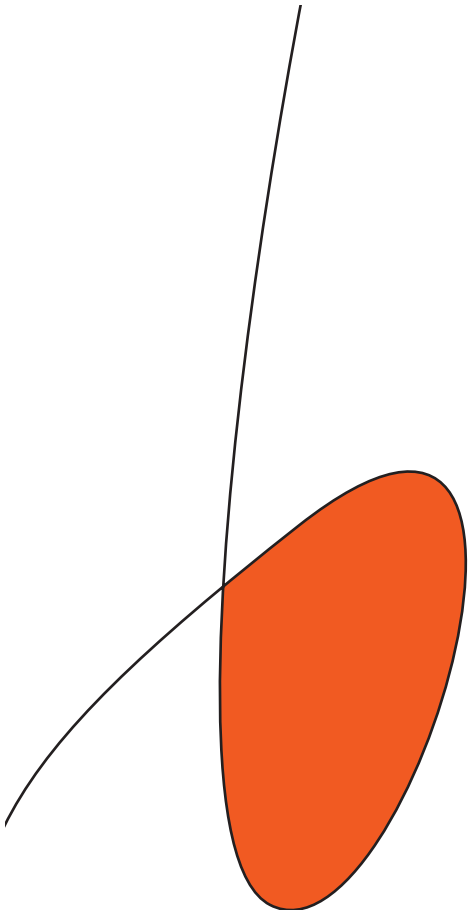
under the control of a single pane of glass. HiCommand Suite software tools auto-discover storage systems, switches, host bus adapters (HBAs), servers, file systems, and applications. The common intuitive user interface illuminates and guides exploration of the path from each application through the relevant portions of the storage area network (SAN) and storage system. Policy-based automation brings consistent, error-free execution to many complex storage processes, including path provisioning. And extensive performance analysis features, coupled with online, application-transparent data migration tools, allow exact optimisations of storage resources to meet changing application needs. Your staff is empowered to provide effective end-to-end capacity and performance management.

By bringing your multivendor storage environment under the control of the HiCommand Suite you can:

- :: Ensure application availability
- :: Deploy new applications faster
- :: Meet performance and service-level expectations
- :: Identify and correct potential problems before they impact operations
- :: Optimise the utilisation of your existing storage resources and delay unneeded storage acquisitions
- :: Improve staff efficiency
- :: Reduce errors and resultant outages
- :: Reduce operational and capital costs
- :: Forecast demand to predict when storage acquisition will truly be necessary
- :: maximise the value of future storage investments
- :: Prove storage return on investment with reports the business side can understand
- :: Further simplify management of heterogeneous storage environments anchored by Hitachi TagmaStore™ Universal Storage Platform, TagmaStore Adaptable Modular Storage, TagmaStore Workgroup Modular Storage, and TagmaStore Network Storage Controller

The HiCommand Suite's Application Optimized Storage solutions approach ensures that the appropriate quality of storage service - including cost, performance, capacity,





availability, and recoverability - is delivered to each application. It improves IT operational efficiency by showing only those details of your heterogeneous storage and systems environment that impact a given task. Its intelligent automation of complex storage processes allows each staff member to manage more storage more effectively and guides rapid problem resolution when trouble does occur.

HiCommand Suite: Tightly Integrated on a Standard Platform

The HiCommand Suite features heterogeneous software modules that are based on an open architecture. Built on the Storage Management Initiative Specification (SMI-S) and Common Information Model (CIM) standards, these HiCommand modules deploy quickly and easily because they use standard agents already resident on servers and storage components. They protect investments and reduce vendor lock-in by working with almost any storage infrastructure you have in your data center.

Improved Efficiency through Standard Interfaces

Using standard interfaces when they exist or an efficient mapping of proprietary interfaces to standards when they do not, heterogeneous HiCommand Suite modules improve staff efficiency through normalised views of and consistent nomenclature for SAN elements. By sharing the metadata they discover and use to populate CIM, the HiCommand Suite modules work together seamlessly, eliminating your staff's need to master multiple point tools, and sparing them from updating spreadsheets to keep track of their storage infrastructure.

Matching Functionality to Requirements

The HiCommand Suite's modular approach allows you to select the functionality you need. For multivendor storage environments, choose from the heterogeneous components clustered around the core module, Hitachi HiCommand Storage Services Manager software:

- :: **Business modules** to satisfy demands for rapid provisioning and accurate chargeback of storage usage
- :: **Application modules** that extend the HiCommand Suite's management reach "inside" application objects, better correlating application performance with the storage infrastructure and

providing improved storage resource management for even the largest collections of file servers

Get the Most out of Your Hitachi Storage Systems

For granular discovery and control of your Hitachi storage environment, including attached storage systems that are virtualized into the storage pool of the Universal Storage Platform or the Network Storage Controller, the HiCommand Suite and Hitachi SAM software offer:

- :: Advanced storage-system-based data protection and migration capabilities, such as disk-to-disk backup, application-transparent online data migration, and automated online data replication
- :: Hitachi storage-specific modules that augment control and management of Hitachi storage systems, providing granular views where standards have not caught up with industry-leading functionality of Hitachi storage

Hitachi HiCommand Storage Services Manager Software

Storage Services Manager software acts as the main console for the HiCommand Suite's heterogeneous storage infrastructure management. Depending on your preference, Storage Services Manager software allows storage under its control to be viewed as independent systems or, when attached to the Universal Storage Platform or Network Storage Controller, as part of the virtualized Universal Storage Platform or Network Storage Controller storage pool.

Heterogeneous Management - SAN, Network-attached Storage, and Direct-attached Storage

Storage Services Manager software controls a wider range of storage infrastructure than competing tools. It operates out of band without impacting SAN performance, which means, in the unlikely case of momentary downtime, your entire infrastructure is unaffected.

Storage Services Manager software handles and coordinates all aspects of storage services, from discovery to monitoring to task automation, providing:

- :: Auto-discovery of hosts, HBAs, SAN switches, and storage systems, so that you're up and running quickly

- Deep information capture, which eliminates manual entry of settings and asset information
- Graphical topology mapping, which guides you quickly along the path between application and disk with easy drill-down into all relevant element information
- Dependency and path management, which allow you to see the impact of downtime for any element, including applications, and to configure or reconfigure paths to resolve issues or create desired redundancy
- Capacity and performance reports, which help you flag impending issues and avoid outages and productivity-impacting performance issues
- Event management, with filtering to help you find the root cause of problems for quick resolution

- Trending information, for budgeting and proactive management
- Policy-based automation, which can trigger action based on events or when thresholds are surpassed, including alerts, execution of external commands, or even provisioning
- Role-based security, which allows a wide range of users, from executives to all levels of system administrators, to view and act upon just the information relevant to them

Simplified Firmware Upgrades, Capacity Planning, and HBA Replacement

Through built-in advisors and automators, Storage Services Manager software simplifies such complex tasks as replacing HBAs, tracking and upgrading firmware, and identifying new capacity that can be used by individual applications. Intelligent tracking of dependencies allows it to identify which applications,

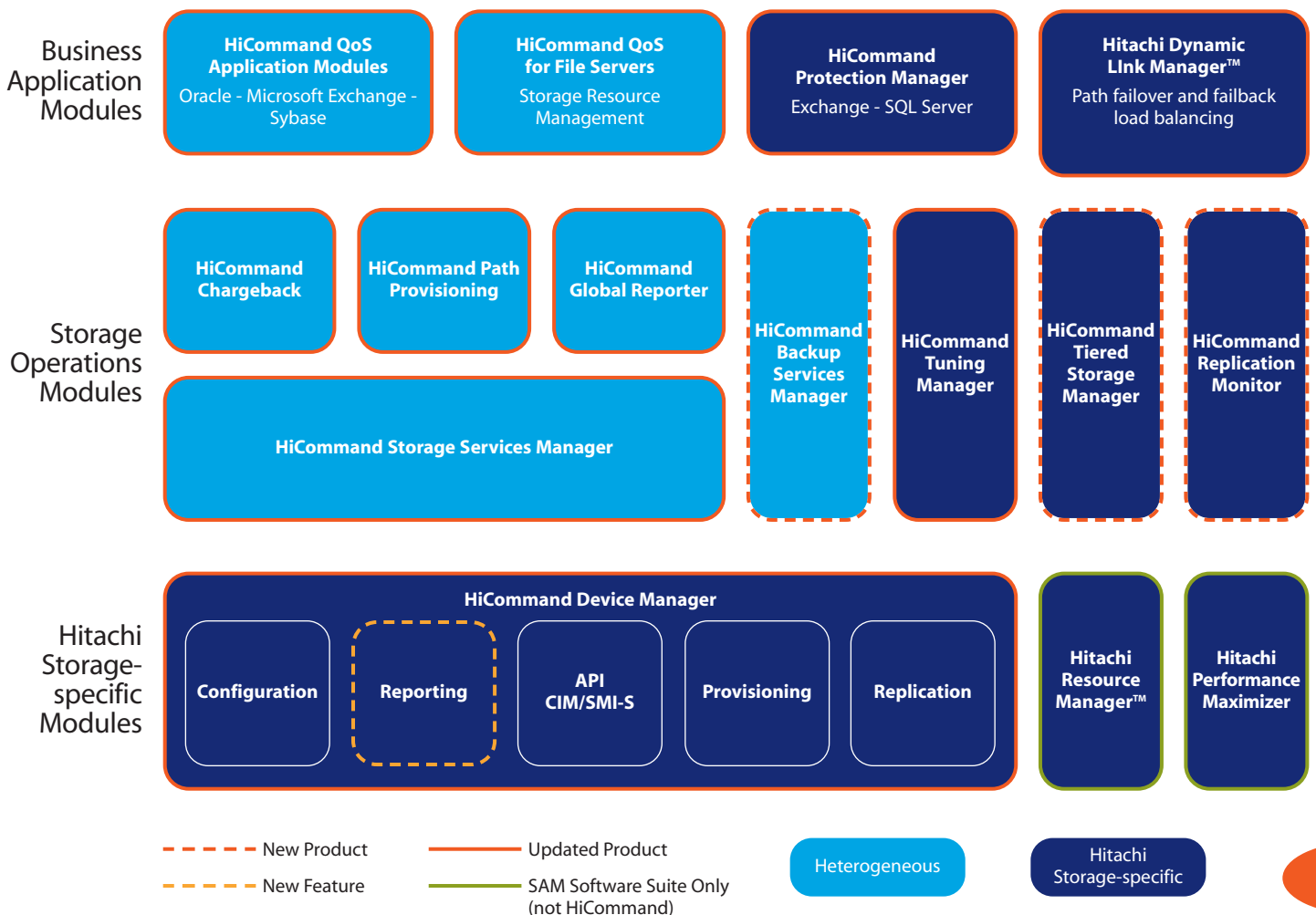
users, and data would be impacted should any storage infrastructure component suffer planned or unplanned downtime.

Finally, Storage Services Manager software serves as the central data repository for the HiCommand Suite's heterogeneous software, supplying and correlating the information needs of all the higher-level business and application modules built on it.

Business Modules

Hitachi HiCommand Path Provisioning software automates the time-consuming process of configuring storage resources to support business applications. It performs end-to-end provisioning from the host to the switch to the storage system. Rules-based intelligence ensures secure, error-free provisioning. Web-based forms enforce provisioning rules so that administrators can initiate one-touch provisioning without mistakes. Provisioning can even launch automatically, based on rules

Hitachi HiCommand® Suite and Storage Area Management Software



set up in the HiCommand policy engine, correcting issues without human intervention.

Hitachi HiCommand Chargeback software automatically meters storage resource utilisation enterprise-wide, calculates costs, and provides comprehensive reporting to enable organisations to proactively budget, account for, and control storage expenditures. It incorporates user-defined chargeback values, depreciation formulas, asset- and storage-based chargeback models, and reports. It allows you to align your storage infrastructure with your business objectives and manage storage as an internal service utility.

Application Modules

Recognising the importance of storage to the performance and availability of business applications, the HiCommand Suite provides modules that address the storage needs of key applications.

Hitachi HiCommand QoS for Oracle software, **Hitachi HiCommand QoS for Sybase** software, and **Hitachi HiCommand QoS for**

Microsoft Exchange software identify in real time how storage infrastructure performance, capacity, and availability impact Oracle, Sybase, and Exchange applications, respectively. These modules automatically discover application infrastructure and chart dependencies - of Oracle tablespaces, Sybase databases, or Exchange storage groups and databases - on hosts, HBAs, SAN switches, and storage systems.

Each module issues alerts when storage changes impact their respective applications and blocks inappropriate information to put all topology, configuration, capacity, and performance data relevant to the application at your fingertips. Administrators are able to quickly identify performance bottlenecks and reduce contention for overused resources. In addition, each module can extrapolate from historical data to enable proactive planning for future application performance and capacity needs.

Hitachi HiCommand QoS for File Servers software delivers end-to-end management for capacity, performance, and user consumption for file servers and can scale to handle

scanning and reporting tasks in even the largest heterogeneous storage environments. It integrates traditional file scanning and reporting capabilities with active SAN management features to deliver an end-to-end capacity, performance, and user-consumption management capability for SAN-based file servers. QoS for File Servers software automatically discovers file servers, mapped drives, and user shares, and charts the dependencies of file servers on HBAs, SAN switches, and storage systems. It also collects, monitors, and reports on a wide range of file-level demographics, including file age, file type, file size, and file ownership for fast response to out-of-space conditions.

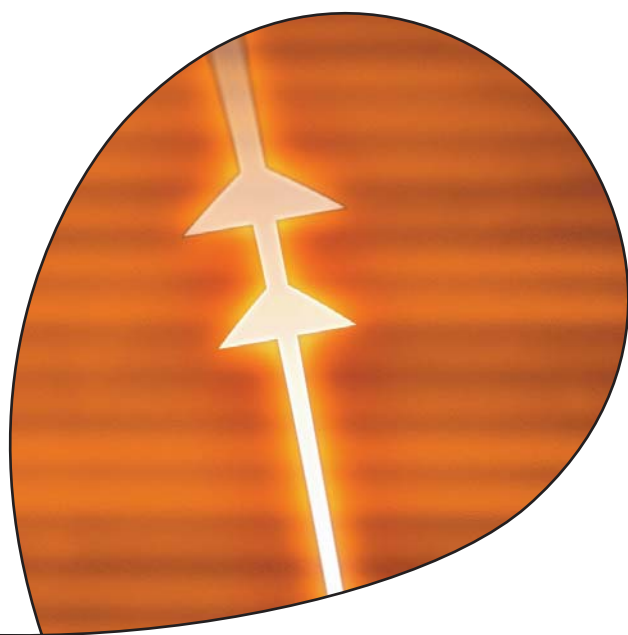
Hitachi Storage-specific SAM Modules

The HiCommand Suite and Hitachi SAM software provide for advanced granular discovery and control specific to Hitachi storage systems. These modules may be all you need if you are managing only storage under the control of Hitachi storage systems (including storage attached to a Universal Storage Platform or Network Storage Controller) and your SAN environment is simple and stable and does not require an overlay tool such as Storage Services Manager software. These Hitachi storage-specific modules offer management capabilities to help you answer storage system and device needs and performance and capacity requirements.

Storage Systems and Device Management

The HiCommand Suite and Hitachi SAM software storage-specific modules answer the administrative challenges of individual Hitachi storage system and device management in mainframe and open systems environments. Management is simplified through software that centrally manages, configures, and monitors Hitachi storage systems. An efficient CIM interface ensures a common underpinning and seamless interaction with the other HiCommand Suite and Hitachi SAM software modules. It also provides a logical view of storage resources while maintaining independent physical management capabilities. Through its continuously available view of actual storage usage and configuration, it allows administrators to precisely control all managed storage systems.

Storage administrators gain the capability to create storage pools for allocation activities,



filter storage selection, and coordinate with host file systems using leading volume managers thanks to a special provisioning feature. This feature also enables intelligent volume selection, Host Storage Domain creation, and automatic host-side setup, including file system format and mount. GUI element managers that offer robust functions, such as LUN creation and concatenation, LUN security, storage system performance monitoring, and cache control, further simplify management.

Administrators gain precise control of the Universal Storage Platform or the Network Storage Controller via virtualisation software that can partition ports, cache, and disk (at the level of a parity group) to create a virtual private storage system. Partitions allocate separate, dedicated storage resources called Private Virtual Storage Machines for specific clients (servers, applications, and/or groups of users). The unique MyDomain™ feature allows delegation of control over individual or groups of Private Virtual Storage Machines for balancing local control with centralised efficiency. Administrators are provided with access to configure and manage resources within their assigned partitions. Overall, system priorities, disk space, and tiers of storage can be managed and utilised most efficiently, based on business requirements, by allocating and adjusting resources to each partition.

virtualisation presents multiple storage systems connected to a Universal Storage Platform or a Network Storage Controller as if they were just more internal storage in the common pool, managed by Universal Storage Platform or Network Storage Controller software tools. This external storage can be grouped into tiers based on attributes of availability, recoverability, performance, and cost, but it is functionally equivalent to internal storage as far as software for data migration and replication or host-based software is concerned. Other software in the suite can actively tune and balance the workloads within this common storage pool, effectively providing automatic data lifecycle management across storage tiers.

Hitachi storage-specific system and device management software includes:

- ⌘ Hitachi HiCommand Device Manager
- ⌘ Hitachi HiCommand Tiered Storage Manager software
- ⌘ Hitachi HiCommand Protection Manager software

Open Standards-based Management Solutions

Hitachi pioneered the use of open standards in enterprise storage management, and its early adoption of the standards-based approach proved to be the catalyst that has driven other vendors to start to address the issue of open standards compatibility. With its open standards groundwork in place, Hitachi Data Systems has moved forward quickly in introducing best-of-breed, open standards-based products from leading vendors while avoiding the delays and complications that arise from trying to work with proprietary APIs and proprietary command lines.

Specifically, Hitachi Data Systems has been able to capitalise on open standards to incorporate best-of-breed application-focused management software from companies such as ApplIQ, Inc., and APTARE®. This seamless, open integration not only reduces IT workloads and training but also delivers effective application management. With the HiCommand Suite and its heterogeneous management modules, organisations can correlate the availability of business-critical applications with storage network capacity and performance, and perform logical-to-physical application path management. The open standards approach also protects the organisation technology investment, reduces vendor lock-in, and maximises flexibility and extensibility.

- :: Hitachi HiCommand Replication Monitor software
- :: Hitachi Dynamic Link Manager™ software
- :: Hitachi Resource Manager™ utility package

Performance and Capacity Management

After you have discovered, configured, and visualised your Hitachi storage environment, storage-specific HiCommand Suite and Hitachi SAM software tools can monitor the health, use, and performance of your storage and infrastructure. The ability to view and monitor the performance of the entire storage path, from the application to the storage device, ensures that peak performance is continuously maintained and service-level objectives are met.

When all of your Hitachi storage is running at peak performance and efficiency, your

next challenge is to ensure that you continue to maximise the use of your Hitachi storage assets across your tiered storage environment, and to proactively plan for future capacity upgrades. The ability to identify inefficient or underutilised storage will reduce or defer additional and unnecessary technology upgrades.

The HiCommand Suite actively tunes and balances workloads within your Hitachi storage systems, in real time and transparently to your end users, based on the criteria that you specify. The software makes recommendations for administrator approval in either automatic or assisted mode and replaces time-consuming, and error-prone, manual load balancing with simple automated procedures. The transparency of Universal Storage Platform or Network Storage Controller virtualisation of multiple attached storage systems, as well as the transparent support of the SATA Intermix Option for the Hitachi Thunder 9500™ V Series

modular storage systems, ensures this functionality also works across multiple tiers of storage. Highly accessed volumes are balanced with the placement of lower-activity volumes to reduce storage resource contention and maintain peak performance and response times while improving your asset use. The result is improved availability, performance, and response times and the assurance that your data is optimally located for fastest access.

In today's complex infrastructures where many servers are connected to a storage system, it's essential that business-critical applications get their required storage bandwidth. Hitachi software ensures that your critical application servers have prioritised access to their required storage bandwidth when Hitachi storage ports are shared between servers. The software allows you to limit storage port access of the designated servers, thus freeing up the bandwidth to your most critical applications.

MAN Nutzfahrzeuge Opts for HiCommand Storage Services Manager

MAN Nutzfahrzeuge, Germany, is the largest company in the MAN Group and one of the leading international commercial vehicle manufacturers. In the 2003 financial year, its turnover was EUR 6.7 billion and it sold approximately 56,000 heavy goods vehicles and 6,300 buses.

MAN Nutzfahrzeuge implemented Hitachi HiCommand Storage Services Manager (HSSM) in order to simplify the management of its SAN (Storage Area Network) infrastructure of around 500 MAPs (Managed Access Points). The solution, which also contains HiCommand Device Manager and HiCommand Path Provisioning, will allow MAN Nutzfahrzeuge to manage 54.3 terabytes of data.

"HSSM provides us with effective support in our daily business. Features such as auto-discovery, clearly laid out topologies, consistent documentation, rapid troubleshooting and reporting and, in particular, the automated internal chargeback, considerably reduce the time we spend on administration."

Roman Graminger
Space and Storage Administrator
MAN Nutzfahrzeuge

HiCommand Storage Services Manager software allows centrally integrated management of CPUs, storage networks, applications, and storage systems provided by different manufacturers. It serves as a "cockpit," making it much easier to gain an overview of a SAN infrastructure that is becoming increasingly complex.

"Our investments are future-oriented. The software should not only be able to manage current tasks, but also be capable of dealing with ever-increasing demands in the future. HiCommand Storage Service Manager's extensive functionality and management tools also make it possible for us to gain rapid and uncomplicated access to the information we need in our daily business."

Rudolf Compensis
Data Processing Manager
MAN Nutzfahrzeuge

Enabling the Internal Storage Utility

The challenges of storage management are driving a growing number of companies to explore the concept of a storage utility. Through a storage utility, an organisation can access storage capacity and associated services on a shared infrastructure. The utility itself is provided and operated by a centralised storage management group, which may be internal or external to the organisation. The organisation pays for the storage based on the utilised levels of capacity, performance, availability, recoverability, scalability, and associated services, as specified in a mutually acceptable service-level agreement between the organisation and the utility-management group.

Not surprisingly, the management of the storage utility itself follows the layered structure used by SAM solutions, starting with discovery and reporting and progressing through full automation. Enhancing the storage utility are extensive reporting capabilities and an internal architecture based on standards such as CIM, WBEM, SMI-S, SOAP, and others. In addition, integration with other information management frameworks, such as CA Unicenter or HP OpenView, is accomplished via extensive SNMP support. Standards-based architecture and interoperability of HiCommand Suite and Hitachi SAM software modules can enable services-like communication that facilitates the management of storage for complex business applications.

All of these tools have a common access point that provides a granular view of the performance data provided by the internal storage components, including physical disks, channel processors, and storage processors within the storage system. The data allows you to make informed decisions regarding storage tuning and load balancing.

HiCommand Suite and Hitachi SAM software modules specific to Hitachi storage provide the ability to protect and regulate the flow of data as it travels from the server to the storage system. Data paths can become congested, resulting in bottlenecks, or fail entirely, cutting off access to key information. Protection must begin as soon as the data leaves the server. These modules enable path failover and fail-back and automatic load balancing, resulting in higher availability and accessibility to data. If one path fails, the software's path-failover feature automatically switches the I/O to an alternate path, helping to ensure that an active route to your data is always available. Further, by balancing the workload across available paths, system performance is improved. With the threat of I/O bottlenecks removed and your data paths protected, performance and reliability increase, as well as your information-retrieval rates.

Hitachi storage-specific performance and capacity management software includes:

- :: Hitachi HiCommand Tuning Manager software
- :: Hitachi Dynamic Link Manager software
- :: Hitachi Performance Monitor software
- :: Hitachi Server Priority Manager software
- :: Hitachi Volume Migration software

Are the HiCommand Suite and Hitachi SAM Software for You?

Any organisation struggling to rein in storage costs, gain control of its storage environment, Optimise storage utilisation, meet storage service-level commitments, improve its storage management processes, account for storage usage, or ensure storage quality of service for business applications can benefit from the HiCommand Suite and Hitachi SAM software. They are particularly effective for organisations involved with any of the following:

- :: SAN installation or SAN migration
- :: Upgrading or extending an existing SAN
- :: Storage consolidation

Hitachi HiCommand Suite and SAM Software Products

Hitachi HiCommand Storage Services Manager Software

Storage Services Manager software, powered by ApplIQ, provides storage management capabilities in heterogeneous SAN environments. It auto-discovers your multivendor storage infrastructure and illuminates the path from each application through the SAN to the storage system for complete, end-to-end monitoring, reporting, management, and automation capabilities.

Hitachi HiCommand Protection Manager Software

Protection Manager software automates nondisruptive online backup of Microsoft NTFS, Exchange, and SQL Server while providing rapid recovery in case of data or database corruption or other form of outage. Protection Manager software protects your mission-critical applications and automates disk-to-disk backup and rapid recovery using proven Hitachi replication technologies.

Hitachi HiCommand Backup Services Manager Software

Backup Services Manager software, powered by APTARE®, dramatically improves backup and recovery success. It optimises the backup infrastructure for significant operational cost reduction, proves regulatory compliance down to the file level, provides secure end-user initiated on-demand restores for high user satisfaction, and clarifies backup exposure and risk.

Hitachi HiCommand Device Manager Software

Device Manager software is specific to Hitachi storage as well as Sun StorEdge 9900/9990 series and T3 storage systems. It provides centralised management of distributed Hitachi storage environments. It also provides the device interface into Hitachi storage systems for Storage Services Manager software.

Hitachi HiCommand Tuning Manager Software

Fully integrated with Device Manager software, Tuning Manager software monitors storage capacity and performance metrics from the application to the storage device, enabling storage environment tuning and management of storage growth.

Hitachi HiCommand Path Provisioning Software

Path Provisioning software, powered by ApplIQ, extends Storage Services Manager software's capability to the end-to-end provisioning of hosts, SAN switches, and disk systems, which speeds new application deployment and ensures that mission-critical applications have the storage resources they need.

Hitachi HiCommand Tiered Storage Manager Software

Tiered Storage Manager software interactively matches application quality of service requirements to heterogeneous storage assets. Tiered Storage Manager software performs nondisruptive movement of data volumes to match application-driven price, performance, and availability characteristics through an easy-to-use interface.

Hitachi HiCommand QoS Modules*

Powered by ApplIQ, application-specific quality-of-service modules for Microsoft Exchange, Oracle, Sybase, and File Servers extend Storage Service Manager software's integrated SAN, storage resource, and storage operations management capabilities inside the business application, enabling higher availability and better performance of applications.

Hitachi HiCommand Chargeback Software*

Chargeback software, powered by ApplIQ, provides powerful asset management and business unit chargeback capabilities, enabling organisations to align their storage infrastructures with business objectives and manage storage as an internal utility.

Hitachi HiCommand Replication Monitor Software

Replication Monitor software simplifies configuration and management of all replication performed by Hitachi storage systems, including the Universal Storage Platform and the Network Storage Controller, using a single interface for visualisation, status indication, and user notification of copy functions.

Hitachi Dynamic Link Manager Software

Dynamic Link Manager software provides robust path-failover and load-balancing capabilities to businesses with Hitachi storage systems and open systems environments. It is compatible with and enhances other path-failover products, such as Microsoft MPIO.

Hitachi Performance Maximizer Storage System Optimization Package

The Performance Maximiser package helps businesses get the most out of Hitachi storage systems and includes Performance Monitor software, Volume Migration software, and Server Priority Manager software. Performance Monitor software provides information on performance within the storage system while Volume Migration software monitors, analyzes, and balances performance, either automatically or by making tuning recommendations to administrators, to help eliminate bottlenecks. Server Priority Manager software rounds out the Performance Maximiser package by allowing customers to define and optimise the data access performance of the storage system for individual servers. With Server Priority Manager software, customers can ensure that production server access to data is prioritised over development servers.

*Module requires Storage Services Manager software

- :: Optimising a multivendor storage environment
- :: Supporting Oracle application and Microsoft Exchange systems on the SAN
- :: Supporting storage for multiple Microsoft Windows file servers
- :: Continual projects that require the provisioning of storage capacity
- :: Rationalising a proliferation of point storage management products
- :: Implementing storage capacity planning and budgeting
- :: Establishing storage as an internal utility

The HiCommand Suite and Hitachi SAM software help you face these issues by simplifying, Optimising, and automating the storage environment. As a result, the HiCommand Suite and Hitachi SAM software help you meet specific quality of service commitments, not only in terms of performance but also in capacity, resource utilisation, availability, recoverability, scalability, and even ancillary storage services, such as replication for data mining. The HiCommand Suite and Hitachi SAM software are:

Comprehensive

Only the HiCommand Suite and Hitachi SAM software completely integrate SAN management, storage resource management, application management, provisioning, and chargeback capabilities.

Application-centric

The HiCommand Suite offers the first modules to deliver application-to-disk capacity and performance management for messaging, database, and file server platforms.

Integrated

HiCommand Suite business and application modules as well as Hitachi storage-specific Device Manager software are built on common SMI-S and CIM architecture and data model. Competitive products are conglomerations of different modules from acquired companies, which paper over the multiple installations, user interfaces, and learning curves.

Efficient for Operations

The HiCommand Suite and Hitachi SAM software offer fast, efficient solutions that automate tedious, time-consuming administrative tasks.

Easy to Use

All HiCommand Suite and Hitachi SAM software modules share an intuitive, Web-based user interface with consistent naming across all the layers of the infrastructure.

Quick to Deploy

The agent-light architecture of HiCommand Suite modules leverages CIM providers already present on host operating systems.

Broadest in Device Support

The wide acceptance of the ApplQ platform underlying the heterogeneous modules gives the HiCommand Suite the industry's broadest heterogeneous device support.

System Requirements and Supported Platforms

<http://www.hds.com/go/hicommandrequirements>

Prerequisites

Quick Start Implementation Services

This service type, required with some of the HiCommand Suite and Hitachi SAM software products, helps you with project planning, installation, and configuration of the software modules you choose to anchor your Storage Area Management strategy. Through a collaborative, hands-on approach, Hitachi Data Systems storage consultants provide knowledge transfer to enable your technical personnel to roll out the software's capabilities across your enterprise storage environment.

Other specific prerequisites exist; details can be found at the Web location listed above.

Complementary Solutions

Storage Management Process Consulting (SMPC) Suite of Services

SMPC services combine a thorough understanding of storage best practices with ITIL, the internationally recognised framework for IT service management best practices. The Hitachi Data Systems three-pronged service approach - audit, process definition, and health checks - provides you with a complete picture of your current storage infrastructure and processes, recommends steps for improving those processes, and assists with the transition, plus provides periodic service checks. SMPC services help you simplify the management of your storage environment while maximising storage resource utilisation to ultimately bring your business and storage management strategies into alignment.

Hitachi SplitSecond™ Solutions for Microsoft Exchange and Microsoft SQL Server

These comprehensive business solutions enable rapid recovery of mission-critical database applications from planned and unplanned

downtime. Hitachi Data Systems service professionals assess your objectives and design the optimal solution based on Protection Manager software, Hitachi Data Systems replication products, and Universal Storage Platform, Adaptable Modular Storage, Workgroup Modular Storage, Network Storage Controller, Hitachi Lightning 9900™ V Series enterprise storage systems, and Hitachi Thunder 9500™ V Series modular storage systems.

Implementation Services and Additional Related Offerings

Implementation Services go beyond Quick Start Implementation Services to ensure your HiCommand Suite and Hitachi SAM software modules are fully operational on your entire storage infrastructure. Pricing is based on the size and complexity of your storage infrastructure and the degree of custom integration required. In addition, Hitachi Data Systems Global Solution Services provides a wide range of education and performance enhancement offerings.

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DISK-403-08 June 2005