

Manage Hitachi Unified Storage Systems in IT Environments



Simplify Operations with Hitachi Command Suite

Responsibilities of the data center of today are transforming from the storage of data to the management of information. As resulting requirements for more flexible, efficient storage management tools have grown, Hitachi Data Systems software has evolved to meet those needs. Hitachi Command Suite is the backbone of the Hitachi Data Systems solution for integrated management of your data infrastructure. It provides a comprehensive set of tools for IT and storage administrators to manage their storage, their application data and their information.

For IT professionals facing the demanding requirements and complex management challenges of supporting enterprise applications and who need optimal performance, availability and capacity utilization, these solutions simplify management. They allow the appropriate configuration of Hitachi storage systems to easily align storage to changing business application needs. Hitachi Command Suite is composed of multiple software products, which can be used individually but gain power when used together.

Reduce Administrative Costs

Hitachi Command Suite discovers the storage environment and provides visibility along the path, from each application through the servers to the storage system, for end-to-end application-to-storage management. It effectively replaces manual procedures and unifies administrative tasks under a common management framework.

- Use a common set of tools for simplified management of more data and resources.
- Employ server and host views, which use agentless approaches, for basic storage management.

- Manage from one to hundreds of storage systems from a single point.

Reduce Infrastructure Costs

Proper management practices lower your total cost of ownership by improving storage and IT resource utilization, deferring additional purchases and lowering ongoing operational costs.

Improve Application Performance

Optimal configurations improve the performance and availability of mission-critical business applications while ensuring adherence to application-specific service level agreements. Shared resources are easily matched to application availability and performance requirements. Application users will experience faster response times and fewer outages, resulting in improved business productivity.

BENEFITS

Business Benefits

- Reduce operational costs with centralized management and common administrative tools.
- Monitor and enforce predefined application service level objectives.
- Improve application data access, availability and performance.
- Employ virtual server visibility so virtualized applications can be properly aligned to the appropriate storage.

Technical Benefits

- Service-level-based management with business application views
- Easy, single-step creation of multiple LUNs
- Allocation and re-allocation agility
- Reduced management headaches with agentless approaches to virtual storage and server management
- Logical group constructs that can be shared and used across the Hitachi Command Suite of products

Hitachi Command Suite Integration

Hitachi Command Suite v7 features a unified architecture that integrates the products from the bottom up. Instead of separate products linked together, the software products in Hitachi Command Suite use a common code base, use the same graphical user interface and share a common look and feel.

Configuration and storage tier information is combined and synchronized in a database accessed by multiple products, rather than on separate databases requiring larger data repositories that could be subject to inconsistencies. The new design improves the efficiency and reliability of storage management information, and it provides a consistent and more flexible user experience.

Business Objects

Meaningful business names can be applied to logical groupings of storage for simplified management and reporting. These logical groups and LUN labels are shared among the components of Hitachi Command Suite.

Use of logical groups provides an enhanced organizational aspect to managing LUNs that makes their reporting and provisioning easier. For example, if you define logical groups according to how a company runs its business (by department and application), it simplifies management and reporting. This is because, for example, the same logical group and LUN label filters can be used as selection criterion by Hitachi Device Manager to provision volumes and by Hitachi Replication Manager to build an application set of those volumes in order to form a copy group.

Applying LUN labels further identifies the individual volumes that belong to each logical group. The combination of using logical groups and LUN labels enables administrative scalability for users to manage more storage with existing IT staff resources. It also reduces the risk of manual errors as it relates to heterogeneous storage provisioning, volume migration and remote replication.

Virtual Server Management

Hitachi Command Suite provides an ideal storage management framework to complement virtual server environments, such as

VMware and Microsoft Hyper-V. Command Suite provides end-to-end visibility and correlation from application to virtual machine to the individual logical device on the Hitachi storage system.

For VMware, Hitachi Command Suite uses VMware's vCenter management application to identify and associate virtual servers and virtual machines to logical storage devices on the Hitachi storage system. Using this information about the VMware ESX server and its data stores allows Hitachi Device Manager to properly configure and manage storage for each virtual machine. In addition, the correlation from virtual machine and data store to storage allows Hitachi Tuning Manager to properly analyze capacity and performance information about each virtual machine and identify the root cause of any storage performance issue. Similarly, more advanced service level reporting and management for business applications running on virtual machines is available with Hitachi Command Director.

Application Support

Hitachi Command Suite supports server- and application-specific views for storage configuration and performance information. Support for Oracle and Microsoft SQL Server, SharePoint and Exchange is included with Hitachi Tuning Manager for performance and capacity monitoring, as well as problem resolution. And Hitachi Replication Manager provides application-specific support for simple, fast and automated online storage-system-based backups and disaster recovery.

Built-in Intelligence Simplifies Management

Hitachi Command Suite applies built-in intelligence when setting defaults and options. For example, when menus are presented, only valid available options are displayed. And when creating volumes, once a specific storage system is selected, the drive types and RAID levels available on that system are displayed as valid options.

Built-in intelligence incorporates Hitachi best practices for storage management into Hitachi Command Suite menus and wizards. For example, when creating a Hitachi Dynamic Provisioning pool, only appropriate volumes are displayed. Also, when adding

capacity to an existing pool, the menu defaults to selected volumes with the same RAID level as in the existing pool volumes (a Hitachi Data Systems Global Solution Services recommended best practice). In this manner, Hitachi Command Suite helps to guide administrators to use the most efficient and effective storage management practices. Of course, these are just guidelines. Experienced storage administrators can use advanced settings to override defaults based on their experience or if they have specific requirements different than the defaults presented.

Hitachi Command Suite

An integrated management software suite, the following Hitachi Command Suite products can benefit your Hitachi Unified Storage system:

Hitachi Device Manager software is included with Hitachi Base Operating System M to simplify storage management and gives you full control of Hitachi storage systems. It features a fast, intuitive graphical user interface, a customizable dashboard (see Figure 1) and a complete command line interface to centrally manage your Hitachi storage systems. Device Manager gives multiple management views, including physical, logical, host, NAS head and virtual server views, for provisioning and storage pooling for primary and secondary storage. It manages multiple levels of security

IT CHALLENGES SOLVED

- Decrease complexity required to manage growing storage infrastructures.
- Easily determine what storage resources currently exist and how they are being used.
- Allocate the proper amount of storage required for an application; reduce overprovisioning.
- Pinpoint application performance or availability issues with efficient methods to quickly identify or eliminate storage as the root cause of the problem.
- Reduce excessive time spent identifying storage performance bottlenecks and resolving problems.
- Address difficulty gathering consolidated, accurate performance and capacity statistics.
- Improve understanding of the current storage environment's operating status and risk factors.
- Gain improved capacity forecasting for future growth.

for disks, ports and administrators, and it reports capacity analysis based on server, application or physical storage class usage.

Hitachi Tuning Manager provides integrated analytics within Hitachi Command Suite to quickly identify and isolate storage performance issues. With detailed monitoring of performance metrics from the application to the storage device, Hitachi Tuning Manager enables storage performance reporting, optimization and problem alerting and analysis. Tuning Manager features extensive instrumentation and built-in reporting capabilities, including specific

VMware, Oracle, Microsoft Exchange and SQL Server application support. Its end-to-end visibility for physical and virtual servers lets you identify, isolate and diagnose storage performance bottlenecks. For proactive monitoring, it has integrated alerting capabilities.

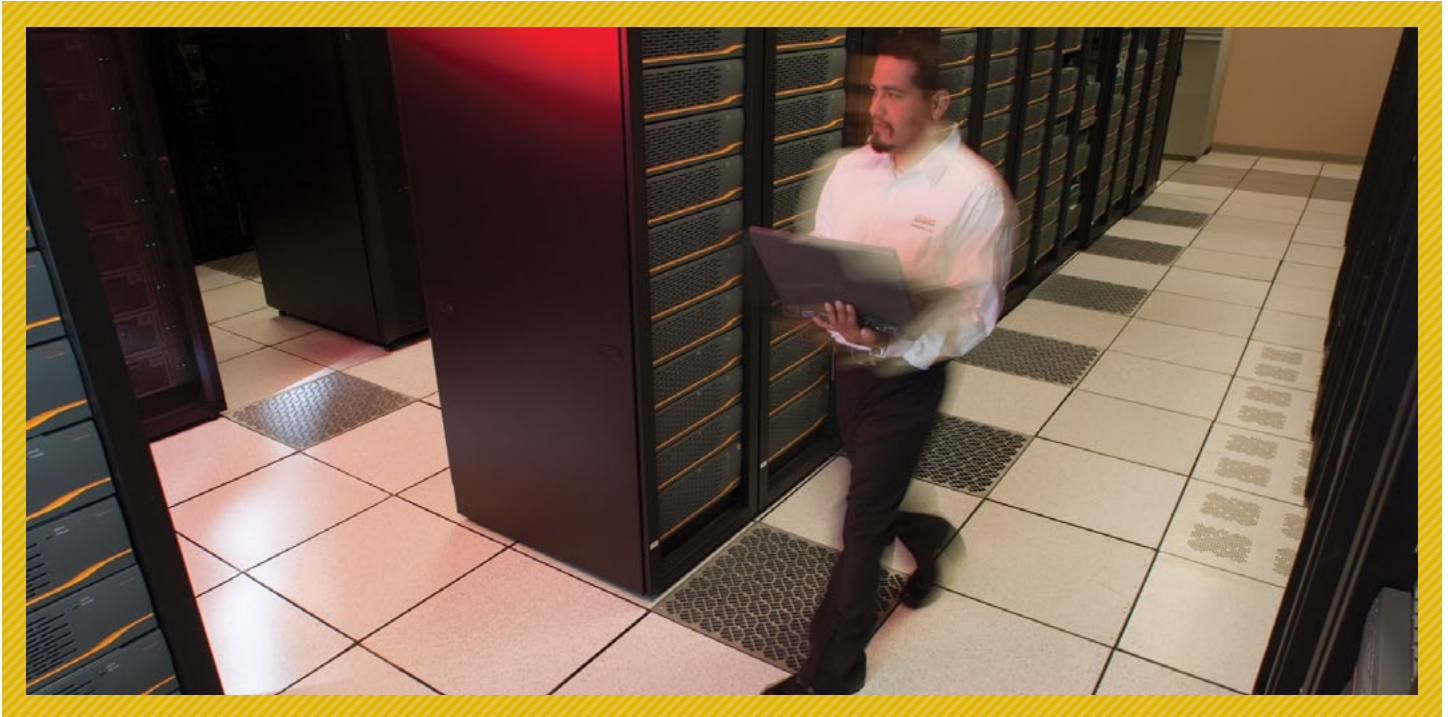
Through a complementary intuitive, web-based interface, Tuning Manager software facilitates predictive trending that properly forecasts storage performance requirements to meet your specific objectives. Tuning Manager improves performance, capacity management and storage utilization across all Hitachi storage systems.

Hitachi Dynamic Link Manager Advanced offers centralized SAN path management along with robust path failover and load balancing SAN multipathing capabilities. It improves application access to data and availability of storage by distributing the load across multiple paths and from one path to another in the event of a path failure.

Hitachi Replication Manager interfaces storage-system-based replication with popular Microsoft applications and enables easy centralized control of storage-system-based backup and disaster recovery operations across all Hitachi platforms. Replication Manager allows schedulable assignment of pair volumes and configuration of replication method and implementation commands to cause pair operations, all via an intuitive topology view interface.



Figure 1. Hitachi Device Manager Dashboard



Hitachi Command Director allows centralized management reporting across the Hitachi Command Suite of products. It consolidates and simplifies storage service level management for your mission-critical business applications. With views based on your business applications and functions, Hitachi Command Director new insights into their storage can be optimized, while ensuring applications and file servers are meeting their specific service level requirements. This helps to increase capacity utilization, improve storage performance and yield a higher return on their storage investment.

Summary

Hitachi Command Suite is a comprehensive management framework that enables organizations to align business applications to the necessary IT resources according to business-related objectives, such as quality of service, shared resource optimization and just-in-time delivery. The suite leverages IT investments, reduces operational costs with less complexity and increases storage asset utilization and efficiency. Thus, Hitachi Command Suite enables your organization to properly align the right management practices needed today for your unique infrastructure environment, while appropriately planning for future growth.

For More Information

Hitachi Data Systems provides a wide range of storage software to allow your business to take advantage of all the benefits of Hitachi Unified Storage systems. From the smallest environments to the largest, most demanding environments, Hitachi Data Systems has the tools to help you simplify and “right size” your storage environment now and in the future.

To see why Hitachi is the true leader in trusted, productive and intelligent storage contact your local Hitachi Data Systems Sales Representative today.

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