



# Transforming the Data Center to Information Center

## FIVE WAYS ENTERPRISE STORAGE PLATFORMS CAN HELP IT MAKE INFORMED BUSINESS DECISIONS AND TURN DATA CENTERS INTO INFORMATION CENTERS

In today's global business world, data must drive strategic decisions. Being a truly agile enterprise means giving executives access to the right information at all times, enabling them to make choices that will propel business, improve revenue streams and foster growth. Employees also need constant access to data in order to keep operations running smoothly, complete projects on time and maintain high levels of customer service. And in today's self-service world, customers also want to access relevant information about their accounts in a manner that's convenient and flexible, but also secure.

In order to enable the agile enterprise, technology platforms that store and manage essential data must evolve from static silos of information into flexible, scalable information centers. At the heart of the progressive data center is an information platform that stores all of an organization's data—both structured and unstructured—and adapts to changing performance and capacity needs while simplifying multiplatform management. An enterprise's data must remain easy to access and manage, with response times that keep up with

the pace of business. The administration of storage systems must be at a minimum, so that data center staff can handle increasing workloads without the need to add head count. And data of all types must be safeguarded from unauthorized access and transfer while keeping current with government and industry regulations.

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New enterprise storage platforms help drive business and deliver returns on infrastructure investments by storing all of a company's data in one place regardless of format, reducing the amount of storage space required, automating administration to keep staffing levels in check and maximizing existing disk space. To achieve this, enterprise storage platforms must be virtualized, automated, ready for cloud deployment and sustainable to deliver greater data center efficiency, manageability and cost savings.

"Data center transformation is not just about adding storage and computing capacity, but about marrying a complete economic view of IT and the data center—from servers to storage to applications—with technology, people and processes to deliver a comprehensive solution for responding to the ever-changing business environment," says David Merrill, chief economist at Hitachi Data Systems (HDS).

Specifically, the features of enabling enterprise storage platforms include the following:

### **1»One Platform for all Data**

Throughout the course of business, companies collect and store various kinds of data. There's transactional data generated by daily operations, be it records of customer interaction or financial data. There's also file-oriented data, such as email messages, PowerPoint slides, Word documents and Excel spreadsheets. And there's content data, such as video, audio and graphic files that are used to help a company communicate. Traditionally, companies have purchased different storage platforms to house the various data types; for example, a content depot for product-support documents, network storage to save email messages for compliance reasons and tape for archiving. With all of these types of information stored

in various places throughout the enterprise and off-site, finding, managing and safeguarding information becomes a Herculean task.

"While specialized storage servers provide benefits for the management and preservation of certain types of data, they can create storage and server sprawl and increase the fragmentation of data center resources if these services are delivered as standalone storage and server bundles," says Hubert Yoshida, vice president and CTO of Hitachi Data Systems. "This tight bundling of storage, server and server application software limits the scalability of the service and the ability to migrate or refresh the technology without a major disruption to the service it performs. This piecemeal approach is not viable as the costs for managing and maintaining these disparate products increase with the explosion of data."

Storage platforms that utilize virtualization can remove complexity from the equation and add to the benefits realized by virtualized servers and applications. By placing intelligence in front of disparate storage systems from different vendors, data center administrators can treat all of the organization's data as one large pool of information that can be stored, searched, managed and protected. In addition to simplifying management, virtualization also optimizes available storage so there's less unused space, or "white space." With virtual environments, administrators can overprovision disk space, meeting departmental requests for storage space while minimizing the amount of unused storage.

### **2»Optimizing Storage**

Too many businesses today are storing their data on the wrong type of storage. Only the most critical data

and data that needs to be accessed often require the performance of tier 1-level storage, which tends to be expensive. If enterprises took the time to analyze their data usage and migrate data that isn't crucial or accessed frequently to less-expensive storage media, they would free up precious tier 1 storage space and delay future purchases of expensive infrastructure.

Automated data placement, done by software that analyzes data usage at a very fine-grain level and places it accordingly across storage platforms from different vendors, can help. Thanks to this dynamic tiering capability, enterprise storage platforms automatically determine which level of storage (tier 1, tier 2, etc.) different blocks of information should be stored on—based on the data's sensitivity and how often it needs to be accessed—leveraging existing assets while ensuring that the performance levels of data retrieval are appropriate. These platforms put the right data in the right place at the right time, saving significantly on administrative tasks and freeing up costly storage space.

Enterprise storage platforms keep costs in check by monitoring activity and automatically moving data accordingly to reduce the amount of costly capacity planning that companies must perform up front to fulfill their current and future data storage needs. Automated data placement software efficiently protects data and keeps it compliant by moving information to the safest level of storage while still facilitating as-needed access. Effective enterprise storage platforms with easy-to-use tools for optimizing storage offer companies significant returns on their investments while putting off future purchases by making the most of what they already have.

### 3» Highest Quality of Service

Because data is essential to business, the platforms that store corporate information must be not only 100 percent reliable, but also dynamic enough to grow with expanding workloads. These platforms must adapt to business needs, instead of forcing the business to adapt to the platform. A number of factors can force workloads to fluctuate at any given time: all or most employees logging on simultaneously at the beginning of the day; a spike in online orders when a new product is released; a new application brought online that exceeds expected resource demands. Whatever the situation, enterprise storage platforms must maintain high performance levels.

“Customers must be able to depend on this platform for the information that’s at the heart of their business,” says Mike Nalls, senior product marketing manager with the Hitachi Data Systems enterprise platform division. “This platform must be tried and true, it must never break—it must be viewed as almost a given.”

By dynamically balancing activity, assigning cache and scaling to match workloads without sacrificing performance or security, these platforms remove the requirement for human involvement, therefore reducing staffing costs.

### 4» Sustainability

Beyond just a slogan, “going green” means corporations must live up to the social responsibility policies and goals designed to demonstrate their commitment to reducing carbon footprints. To support these goals, companies today must rethink their approach to data center facilities and choose products based on the latest technology that can provide greater efficiency and sustainability. Storage platforms are a good place to start, since they

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typically account for between 30 to 40 percent of all the power used in data centers. In addition, business-critical data continues to grow at a compound annual growth rate of more than 50 percent, which means businesses need to significantly increase their storage in order to keep pace. As a result, it’s clear that enterprise storage platforms must offer floor-space efficiency, lower power consumption and reduced cooling requirements, regardless of capacity and performance.

“If a storage system allows you to store more data in less space, you pay for less floor space, and there’s less electricity required to run it and cool it,” Nalls says. “These systems allow enterprises to lower the cost of operations.”

By taking up less floor space, storage systems let enterprises do more with less, reducing costs while also saving expensive data center space. And with features such as dynamic provisioning, businesses can significantly reduce the amount of storage required in the first place.

### 5» Reduced Operating Expenses

While enabling the agile enterprise, storage platforms can also reduce an organization’s costs significantly. Storage platforms that feature software to automate many tasks associated with administering storage architectures go a long way to decrease operating expenses by limiting the number of data center staffers required. Software that can also manage heterogeneous storage environments allows an organization to leverage its existing

investments, instead of requiring “rip and replace” deployments. And, by giving IT departments one set of tools that handle the management of an organization’s entire storage environment, the cost of hiring specialized analysts, consultants and architects is also reduced.

“Storage management software simplifies the operator’s job by giving one set of tools to manage all storage platforms,” says Nalls. “Otherwise, the operator is left managing each individual platform independently.”

In addition, storage hardware platforms that achieve higher throughput by using faster processors, high-speed memory, large cache and fast connections mean greater efficiency.

### The Hitachi Data Systems Solution

Hitachi Virtual Storage Platform fulfills the promises of scalability, manageability, sustainability and reduced operating expenses for enterprises. It’s the only 3D scaling storage platform designed for all data types.

“Among today’s most pressing IT challenges is the need to reenergize the data center to readily accommodate changing business requirements and demands for always-accessible information,” says Nalls. “Hitachi Data Systems is focused on building agility into the data center architecture to rapidly address current and future needs dictated by change. Using a whole-systems approach to achieving agility, Hitachi helps enterprise customers transform their data centers, optimize a return on assets and

align infrastructure performance with business objectives.”

Hitachi Virtual Storage Platform boasts double the performance of earlier technology, reduces storage capacity costs by up to 40 percent and cuts down on the amount of reduced storage acquisition costs by up to 70 percent.

Administration is simplified through a single interface for management of all data, be it block, file or content, significantly reducing complexity and risk versus other storage formats, such as tape. Automation features such as data tiering, which moves ac-

tive data to high-performance flash storage and inactive data to less expensive archiving solutions, work across different platforms to leverage existing architectures. Data center professionals can also set data movement policies across tiers that are based on business value.

The all-new architecture of Hitachi Virtual Storage Platform features 3D scaling—the system *scales up* to the highest performance levels for heterogeneous environments, including mainframes; it *scales out* to match storage levels to evolving server needs and capacities; and it *scales deep* to include storage devices

from different vendors, making the most of what’s already installed. Yet the Hitachi Virtual Storage Platform requires 40 percent less floor space and 40 percent less power than previous technology generations. These features combine to increase productivity, reduce storage costs, increase the return on storage assets and boost sustainability. In addition, the new Hitachi Data Systems architecture mitigates risk by keeping customers in compliance with long-term retention and other regulations, and offers accelerated e-discovery collection and culling.

The new architecture makes migrating to multivendor storage environments 80 percent easier and cheaper compared with the industry average. It also features a global control grid architecture with independent scaling growth options for SAN connectivity; drive, cache and management processors; and supports 255 petabytes of externally attached storage from a wide variety of storage vendors.

Hitachi Command Suite management software administers the day-to-day management of several Virtual Storage Platform systems, up to five million objects on a single management server. Featuring a new administrator interface, new task-management features that can be implemented immediately or executed at a later time and integration with more products than before, Command Suite can achieve more management in fewer steps while reducing wait times for system refreshes.

For enterprises looking to enhance returns on enterprise IT assets while making infrastructures more efficient and organizations more agile, look no further than Hitachi Virtual Storage Platform.

» **For more information, go to [www.HDS.com](http://www.HDS.com)**

## Emphasis on Efficiency

**Hitachi Virtual Storage Platform can significantly improve an enterprise’s operations through a wide variety of efficiency gains that deliver greater business value. Such efficiencies are essential for enterprises to reduce their maintenance expenses, which now account for more than 95 percent of total IT budgets, exceeding the cost of hardware acquisition. By delivering greater efficiency in performance, capacity, platform and operations, the Virtual Storage Platform reduces total cost of ownership while also wringing greater returns from existing storage architectures. What’s more, the new HDS platform is built for the future with a design that meets high performance levels and can scale to accommodate business needs going forward.**

**Specifically, Hitachi Virtual Storage Platform offers the following:**

- **Capacity efficiency, by providing the highest density storage architecture that optimizes space**
- **Utilization efficiency through automated data placement and reclamation**
- **Scaling efficiency from the shared resource architecture that optimizes cost savings and performance**
- **Power efficiency by requiring the lowest power consumption for the capacity stored**
- **Throughput efficiency from faster processors, high-speed memory, large cache and fast connections**
- **Design efficiency thanks to a blade architecture and low-power memory, fan and hard disk drive power control**
- **Operational efficiency due to faster and simpler storage management and greater automation, as well as from a common management scheme across all Hitachi systems, common user interfaces and common operational workflows.**