

## Hitachi Virtual Storage Platform and Hitachi Content Platform: Streamlining Microsoft® SharePoint® Server and SQL Server®



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### Advanced Storage Management Prevents SharePoint Server Sprawl

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Hitachi Data Systems has developed a comprehensive portfolio of technologies, products and solutions to help companies apply advanced data storage management practices to their growing volume of unstructured data, such as Microsoft SharePoint Server. With these solutions, companies can maximize their return on information and lower their storage expenses.

Over the past few years, organizations that use SharePoint Server and SQL Server as their main data repositories have seen an unprecedented increase in the volume of unstructured content. SharePoint Server is a driving force behind the quick and easy development of new applications by individuals, small workgroups and departments within these organizations. Yet few central data management policies are in place to handle the massive amounts of corporate information collected for these purposes.

Termed, "SharePoint sprawl," this undisciplined approach to application development and efficient storage continues to accelerate. The result is rising storage and personnel costs, increased management and version control of large object stores, and long backup windows. Corporations need to be able to provision, manage, back up and protect all of this data while mitigating expenses and avoiding risk. Administrators need a high performance content management infrastructure that allows them to move growing volumes of content to less expensive storage while applying structured data management principles.

### 3D SCALING ARCHITECTURE OF HITACHI VIRTUAL STORAGE PLATFORM

The unique 3D storage architecture of Hitachi Virtual Storage Platform scales in three dimensions: up, out and deep.

- **Scale up** for unmatched performance through the use of multicore and special purpose processors to handle critical internal functions.
- **Scale out** to gain capacity, connectivity, processing power and throughput with the addition of special components to the control chassis, including a second, tightly coupled control.
- **Scale deep** to extend the life of storage assets and increase the return on assets by facilitating the migration of data from external storage devices to Hitachi Virtual Storage Platform.

IT can effectively manage SharePoint sprawl with Hitachi Virtual Storage Platform, operating in combination with Hitachi Dynamic Provisioning, Hitachi Dynamic Tiering, Hitachi Command Suite and Hitachi Content Provider software. Reining in SharePoint deployment begins with Hitachi Dynamic Provisioning, which lets companies quickly and easily allocate storage resources to new and existing SharePoint applications. As companies consolidate volumes of autonomous, unstructured SharePoint content into a holistic storage system, Hitachi Dynamic Tiering automatically moves information from high cost Tier 1 storage systems to less expensive storage options. Our intuitive, scalable solution elegantly ties unstructured data stored in SharePoint and SQL Server content databases into Hitachi Command Suite, a sophisticated 3D storage management software infrastructure. Hitachi Content Platform consolidates structured and unstructured data so companies can manage their information more cohesively. In sum, by combining unmatched performance, capacity and utilization of multivendor environments, Hitachi Data Systems delivers the functionality IT needs to efficiently manage today's rapidly rising volume of SharePoint content and optimize the return on storage assets.

#### Scale Up, Scale Out and Scale Deep with Hitachi Virtual Storage Platform

By pulling the unstructured content proliferation of the SharePoint Server environment under centralized control, Hitachi Virtual

Storage Platform helps transform data centers into information centers. As the only 3D scaling storage platform, the Virtual Storage Platform scales up to meet increasing performance demands, scales out to add capacity and scales deep by extending to multivendor storage environments.

3D management increases automation and efficiency for storage, computing and virtual infrastructures. Enhanced data mobility reduces business impact when companies need to quickly adapt to change and puts the right data in the right place at the right time. Hitachi Virtual Storage platform, featuring Hitachi Dynamic Provisioning and Hitachi Dynamic Tiering, makes a company's storage infrastructure more fluid, agile, powerful and cost-effective for better return on storage investments.

Hitachi Virtual Storage Platform delivers a reliable, dynamic and open storage environment. It is:

- **Reliable**, thanks to a heritage of market-leading innovations from the company's proven services organizations and a network of partners
- **Dynamic**, because it easily adapts to changing business and IT requirements with exclusive, automated data tiering that scales in three architectural directions
- **Open**, because it supports a wide variety of operating systems and data types, and provides heterogeneous support of server virtualization environments

### Hitachi Dynamic Provisioning Dramatically Enhances IT Staff Productivity

The past few years have seen an unprecedented increase in the volume of unstructured content that corporations generate. Microsoft SharePoint Server 2010 empowers individuals and groups within companies to address key business concerns with the development of hundreds of new applications a year that address key business concerns. Provisioning sufficient storage for these diverse applications is a complex and time consuming task, which often requires additions to IT staffing.

With Hitachi Dynamic Provisioning, companies can scale up their SharePoint storage solution to meet increasing demands without adding staff. The innovative approach takes the guesswork and complexity out of allocating data for different tiers of a storage system. Hitachi Dynamic Provisioning and online storage expansion allows IT organizations to easily configure and nondisruptively add multiple terabytes of storage as needed to a common pool of storage resources. Administrators can dynamically add processors, connectivity and capacity in a single unit.

This thin provisioning approach simplifies operations.

Virtual volumes are self optimizing and self balancing, which reduces provisioning work as well as risk. This lets companies keep pace with the growing volume of SharePoint deployments without overtaxing IT staff. IT can automate many manual storage procedures, extend storage resources as needed and effectively control storage costs. If you can oversee your current SharePoint environment with one full-time engineer now, Hitachi Virtual Storage Platform will enable that same engineer to manage the environment in the future, regardless of how many new applications employees develop. This capability is simply not found in other storage solutions.

#### Dynamically Move Data to the Most Cost-effective Storage Platform

Solutions from Hitachi Data Systems allow IT organizations to gain visibility into what data they actively store as well as the metadata associated with it. Hitachi Dynamic Tiering simplifies storage administration by eliminating the need for time consuming manual

data classification and movement of data for the purpose of optimizing tiered storage usage. Elaborate decision criteria scenarios are unnecessary, because data moves automatically according to simple rules. It is possible to define one, two or three tiers of storage within a single virtual volume using any of the storage media types available for Hitachi Virtual Storage Platform.

With Hitachi Dynamic Tiering, companies create tiered storage infrastructures. Rather than keep all the information in one place, they can place the metadata on the Tier 1 system and move the other information to less expensive storage tiers. For example, SharePoint BLOBs housed in Tier 1 storage associated with SQL Server databases can be offloaded to less expensive Tier 2 or Tier 3 storage solutions. Cost savings can prove significant, since Tier 1 storage often costs up to 10 times more than Tier 2 and Tier 3 options.

Tier creation is automatic and based on user configuration policies, including media type and speed, RAID level and sustained I/O level requirements. Using ongoing performance analysis and an I/O heat index periodically, data moves to the most appropriate internal tier. The most active data moves to the highest tier and less active data moves to the lowest tier. The data moves at a fine grain, page-based level, which reduces system overhead and assures only the right data moves. The system automatically makes the best use of storage resources by keeping the highest tiers fully utilized.

### Improve Backup Procedures

A ripple effect from SharePoint sprawl is the impact it has on corporate backup policies, systems and procedures. Individuals creating content data stores often do not understand the need for sophisticated backup policies or have the experience to develop them. Hitachi Dynamic Tiering simplifies and speeds up the backup process and integrates with backup products from leading vendors, such as Symantec.

### Manage Next-generation Data Centers with Hitachi Command Suite

Hitachi Command Suite helps companies complete the transformation of their data centers. This integrated approach to data management brings together all the tools

needed to understand and make decisions about systems and data. In addition to managing tiered storage in three dimensions, it gives business processes a uniform workflow and controls the versioning, publication, record retention and approval of corporate content.

The Command Suite user interface has been significantly upgraded and enhanced to support novice and expert users in managing the storage infrastructure. The user interface incorporates integrated use case wizards with best practice defaults to enable administrators of all skill levels to perform common actions and ensure proper configuration.

Hitachi Command Suite centralizes storage configuration with a common management interface across all of our storage systems. Through agentless host discovery and management, administrators can more easily manage and maintain distributed storage environments. The Command Suite also helps prepare the enterprise for migration to the cloud by enabling storage administrators to deliver block storage as a service within a private cloud.

### Breaking Down Data Silos with Hitachi Content Platform

Hitachi Content Platform addresses SharePoint sprawl by transcending the concepts of typical content management platforms. The platform is a virtualized, distributed object store with advanced storage and data management capabilities that help IT organizations address the challenges posed by an ever growing volume of unstructured data. Most significantly, this content management system eliminates the need for a siloed approach to storing unstructured content, so companies can manage their information in a cohesive fashion.

Recently, there has been significant growth of unstructured content resulting from the proliferation of corporate intranets, electronic document stores, document sharing, rich media usage and web technologies, such as blogs and wikis. Because these next-generation application development tools were inexpensive and easy to manipulate, employee use spread virally, leaving many IT departments unprepared for the SharePoint and SQL Server data deluge. With Hitachi Content Platform, companies can rein in these applications.

### Transfer Content to More Appropriate Storage with Remote BLOB Storage (RBS)

A disconnect exists between the type of unstructured content that SharePoint generates and the central database management system (DBMS) that is typically associated with database server stores. A DBMS with its rigid structure is ideal for housing textual information. However, corporations are now moving to a wide and ever expanding array of unstructured content, such as Microsoft Office documents, tagged image file format (TIFF) files and portable document format (PDF) files. Consequently, they find themselves housing sporadically used data on their most expensive Tier 1 storage systems and perpetuating SharePoint sprawl.

To help businesses more effectively manage that data, Hitachi Data Systems has developed an RBS provider to enhance the Hitachi Content Platform, allowing better integration and management of large object stores for SharePoint environments. This is based on Microsoft's remote BLOB storage (RBS), a set of application programming interfaces (API) made generally available as an add-on feature pack for Microsoft SQL Server 2008 R2 and 2008 Express. Via an RBS provider, companies can move the storage of BLOBs from costly database servers to cost-effective storage solutions, such as content addressable stores (CAS), commodity hardware with data integrity, and fault-tolerant systems or megaservice storage solutions. The DBMS only stores a reference to the BLOB, eliminating redundant copies of large documents and reducing the overall complexity of SharePoint deployments.

While RBS helps firms address SharePoint sprawl, it is not a panacea because most corporations are unable to establish policies for different types of information. For instance, if IT policies are set for content retention for periods of two years, all objects will have that retention applied regardless of whether the policy is appropriate. Hitachi Content Platform addresses these limitations with flexible options for storing, preserving and accessing different types of data, which allows unique retention policies and data retention periods for varied IT and regulatory requirements. The platform protects and secures content

## HITACHI VIRTUAL STORAGE PLATFORM OFFERS IMMEDIATE BENEFITS IN MANAGING UNSTRUCTURED CONTENT

- Easily provision new SharePoint deployments.
- Centrally control SharePoint content databases.
- Maximize productivity of IT operations staff.
- Easily move unstructured data from high priced Tier 1 storage to systems designed for long term content management.
- Consolidate disparate content database silos for easier management.
- Reduce backup requirements and streamline recovery.

for long-term preservation and continually checks content for integrity throughout its retention period. It sets retention and disposition services while integrating with third-party software. Another plus is that it transparently indexes and redirects users to the most current version of a document for disparate SharePoint workgroups. With this capability, companies can eliminate the problems associated with housing multiple copies of the same document.

### Summary

The ballooning effect of unstructured content created through the use of Microsoft SharePoint is quickly filling Tier 1 storage. While SharePoint and SQL Server environments offer individuals and business units the ability to respond quickly to both business- and market-level changes, they present enormous content storage challenges. Companies need sophisticated storage with the capability to oversee their unstructured content databases as effectively as their structured data. This lets them leverage their SharePoint and SQL environments for competitive gain without incurring additional expenses, impeding business processes or opening themselves up to possible compliance violations.

The ground-breaking Hitachi Virtual Storage Platform in combination with Hitachi Dynamic Provisioning, Hitachi Dynamic Tiering, Hitachi Command Suite and Hitachi Content Platform, enables IT to consolidate autonomous SharePoint deployments into central repositories. This makes corporate data available to anyone who needs it. These solutions can automatically and efficiently move data off of your most expensive storage tier to less expensive, lower tiers. Together, they help companies transform the SharePoint sprawl of raw data into valuable information and deliver IT data systems that are virtualized, automated, cloud-ready and sustainable.

### For More Information

To learn more about how Hitachi Data Systems can help you with your data architecture, storage system implementation, dynamic tiering and management for multiple Microsoft data-driven applications, visit [www.hds.com](http://www.hds.com) or contact your local sales representative. Explore an engagement that will give you the optimal solution for your data architecture, dynamic tiering and management.

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