Hitachi Universal Storage Platform™
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Reaching previously unattainable levels of consolidation and bringing to reality the virtualization of internal and external heterogeneous storage into one pool, the Hitachi Universal Storage Platform™ V and the Hitachi Universal Storage Platform™ VM redefine the storage industry.

Now companies from the growing small enterprises to the largest global enterprises can benefit from the industry’s highest-performing (Universal Storage Platform V) and most scalable storage solutions, backed by a set of storage and data services that includes thin provisioning with Hitachi Dynamic Provisioning software, application-centric storage management, and simplified, unified data replication across heterogeneous storage systems.

As integral components of Services Oriented Storage Solutions from Hitachi Data Systems, the Universal Storage Platform V and the Universal Storage Platform VM provide the architectural foundation for matching application requirements to different classes of storage. Services Oriented Storage Solutions have proven their ability to lower costs, extend lifetime value, and simplify management activities. The Universal Storage Platform family enables you to deploy applications within a new framework, fully leverage—and add value to—current investments, and more closely align IT and business objectives.

The Universal Storage Platform V and the Universal Storage Platform VM provide the high performance (Universal Storage Platform V) that meets data storage requirements at the largest organizations. These models excel at meeting critical, day-to-day needs for data storage, archiving, and business continuity. These systems let you combine externally attached Hitachi and non-Hitachi storage systems to create large storage pools.

For Large and Small Enterprises: Universal Storage Platform

For large and small enterprises seeking a powerful and cost-effective storage solution for managing their growing data retention and business continuity needs, the Universal Storage Platform is an ideal choice. It allows for virtualization and thin provisioning of internal and external storage, resource-efficient thin provisioning with Hitachi Dynamic Provisioning software, logical resource partitioning, and universal replication, all through a single management interface.

You can aggregate internal and external storage into one virtualized storage pool and logically partition storage resources—even resources from other storage vendors. Dynamic Provisioning software improves resource utilization and simplifies administration by allowing you to
purchase only the storage you need, when you need it, while eliminating the costly service interruptions to install and deploy additional storage capacity. Mature management software makes it easy for storage administrators to nondisruptively migrate data among storage tiers and to associate those tiers with specific business applications. The Universal Storage Platform V and Universal Storage Platform VM can also help you establish solid business continuity practices so you can confidently address governance issues by protecting one of your most valuable corporate assets—information.

With the majority of the top 100 companies in the FORTUNE 500® on its roster of customers, Hitachi Data Systems has the experience and technology to meet the storage challenges of large and small enterprises. When complemented by professional services from Hitachi Data Systems, the powerful Universal Storage Platform can help you increase efficiency, simplify storage management practices, mitigate risk, and better align IT resources with business objectives.

**Designed for Scalability, Performance, and Availability**

The Universal Storage Platform leverages the unique and proven Hitachi Universal Star Network™ architecture, making it the industry’s highest performing (Universal Storage Platform V) and most scalable storage system. The Universal Storage Platform V delivers as many as 4.5 million IOPS and unifies data and storage services across as much as 247 petabytes (PB) of storage (equivalent to 62 million average laptops). The Universal Storage Platform VM delivers as many as 1.2 million IOPS and unifies data and storage services across as much as 96PB of storage. Both offer industrial-strength virtualization, replication, and migration capabilities and use a common management interface across heterogeneous storage systems, simplifying storage management and reducing management costs.

**Are These Challenges Yours?**

- Exponential or continued data growth
- Data center power and cooling constraints
- Increasingly complex storage infrastructure
- Multiple management utilities for different classes and brands of storage
- Incompatibility among storage investments
- Low levels of storage utilization
- Difficulty linking IT deliverables to business needs
- No easy way to match application requirements to storage attributes
- Increasingly stringent application-service-level agreements
- Complex replication tools/procedures placing business continuity at risk
- Disruptive maintenance and disaster recovery testing
- Users demanding 24/7 uptime; need to reduce backup window and speed recovery times
- Data volume generated by Microsoft® Exchange overwhelming current storage system, slowing access to important information
- Meet these challenges and more by building a Services Oriented Storage Solution based on the Universal Storage Platform. This flexible storage platform offers:

  - **Aggregation.** Virtualize internal and externally attached storage and allocate resources to specific applications or tiers.
  - **Reduced total cost of ownership (TCO) and maximized resource utilization.** Allocate “virtual capacity” based on anticipated future needs, but with fewer disks required. Add capacity later with no application interruption.
  - **Business continuity and storage management.** Deliver business continuity through a single suite of software products that can be used to manage a heterogeneous pool of storage.
  - **Quality of service (QoS).** Logically partition internal and externally attached storage, match application service levels to each type of storage, and manage the associated resources accordingly.
  - **Scalability, performance, and availability.** Support mission-critical business applications with exceptional flexibility for managing capacity, performance, connectivity, and availability.
  - **Investment protection.** Leverage your current storage investment on your terms.
  - **Reduced power and cooling requirements.** Dynamic Provisioning software enables you to allocate and use “virtual storage capacity” with far fewer disks required to meet your growth requirements.
Why Do the Universal Storage Platform V and the Universal Storage Platform VM Take the Lead over All Other Enterprise Storage Systems?

- Thin provisioning to increase utilization and simplify operation
- Virtualization to enable heterogeneous storage pooling
- Logical partitioning of storage resources
- Any-to-any data replication
- World’s most scalable enterprise storage platform

Consolidate Storage Resources, Simplify Storage Management

Are you still running your business-critical applications on server-internal or direct-attached storage? Are some of your storage systems maxed out while others are barely used—and hard to use where they are needed? Are your storage management costs growing faster than your budget? Are your backup windows exceeding the time you’ve allotted for them? Are you unable to meet the availability and performance levels demanded by your business and applications?

Networked storage solutions from Hitachi Data Systems can help you consolidate, reduce management complexity, and cut costs. The Universal Storage Platform lets you create centralized storage pools that can be consistently managed and shared across applications and servers. Consolidating and aggregating storage resources in this way helps you reduce environmental costs while improving application availability and performance. Additionally, coupling consolidated, networked storage with robust Hitachi Storage Management and HiCommand® Suite software greatly improves the amount of storage administrators can manage.

Aggregate Storage Resources into Tiers

With its exceptional capabilities for aggregating and virtualizing storage resources across both Hitachi and non-Hitachi storage systems, the Universal Storage Platform can help you maximize the use of your IT assets even as you improve efficiency and reduce costs.

With a Services Oriented Storage Solution, multiple heterogeneous storage systems become part of the common storage pool, managed via a single software console for data migration, replication, and other tasks.

Externally attached storage is managed as internal storage and inherits all of the rich-functionality software available for the Universal Storage Platform. All storage resources can be grouped into classes based on attributes of performance, availability, recoverability, and cost, as shown in Figure 1.

Your storage administrators can assign different service levels to different types of data, and then segment the storage infrastructure into tiers. They can use Hitachi HiCommand Tiered Storage Manager software to set different classes of service for each tier, so that each segment of the storage infrastructure is managed according to specific policies for availability, data recovery, and other variables.

You can also implement tiered storage configurations at the application level for

Figure 1. Multiple mainframe and open systems can be managed by Universal Storage Platform software tools from a single management console.
business processes such as e-mail archiving and compliance. For example, a production e-mail environment would most likely be considered mission-critical, whereas a test or training environment might have less rigorous uptime requirements. Services Oriented Storage Solutions allow each of these environments to reside in distinct tiers and be managed accordingly, so you can apply specific storage policies to each business application.

**Logically Partition Storage Resources**

Hitachi extends its innovative port virtualization technology to entire platforms. With Hitachi Virtual Storage Machine technology, you can logically partition the Universal Storage Platform to create as many as 32 Virtual Storage Machines (Universal Storage Platform V) and as many as 8 Virtual Storage Machines (Universal Storage Platform VM)—each with dedicated internal and external capacity, cache, and ports, as shown in Figure 2. Virtual Storage Machines allow you to apply storage policies to specific applications, matching business requirements for performance, capacity, and availability to designated storage resources. Because each Virtual Storage Machine has its own serial number, you can associate specific business applications with selected departments and business units, and then charge back accordingly. These unique capabilities allow you to create a utility model to deliver “metered” storage resources to select business entities. You can delegate management of Virtual Storage Machines to local administrators or manage them centrally, whichever you prefer.

**Extend Existing Storage Investments**

The Universal Storage Platform V and the Universal Storage Platform VM extend the useful life of existing storage resources, so your technology will not become obsolete ahead of your depreciation schedule. Consolidating existing storage devices into one or more Hitachi storage platforms can improve resource utilization, lower costs, and simplify data management activities. For example, such consolidation enables you to reduce your total number of software licenses, lower maintenance and environmental costs, and centralize management functions.

**Move Data Easily Among Different Classes of Storage**

The Universal Storage Platform V and the Universal Storage Platform VM move data across any distance, between any connected devices. To enable data movement across storage tiers, the platforms provide universal connectivity across operating environments, data types, networks, and heterogeneous storage platforms with support for Fibre Channel SAN, NAS, and IBM® FICON® and ESCON®.

**Create a Storage Utility**

The Universal Storage Platform V and the Universal Storage Platform VM allow you to manage storage assets by using a utility model—much like gas and electrical utilities do when they use a meter to monitor resource use. A utility model allows you to charge business units and applications for specific usage rather than assessing a flat rate.

By using the Universal Storage Platform to create a shared pool of storage resources, the entire enterprise can centralize its storage resources to economically serve a large number of users. Combining this model with Storage Management and HiCommand Suite software allows you to implement path provisioning, chargeback, and logical storage partitioning—creating a utility that is both practical and sophisticated.

- Accurately provision storage resources—where and when they are needed
- Bill for exact resources used
- Maximize storage efficiency for a large number of users
- Allocate hardware, capacity, and bandwidth on demand
- Create unique storage pools for designated users

**Logically Partitioned Storage Resources**

<table>
<thead>
<tr>
<th>Storage Machine</th>
<th>Platforms Supported</th>
<th>Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sun Solaris</td>
<td>Hitachi Virtual Storage Machine™</td>
<td>8 Fibre Channel Storage Ports, Multiple LUNs, 16GB Cache, 100GB High Perf. Disk, 200GB 100% Avail. Disk, 50GB Archive Disk</td>
</tr>
<tr>
<td>HP-UX</td>
<td>Virtual Storage Machine</td>
<td>8 Fibre Channel Storage Ports, Multiple LUNs, 32GB Cache, 600GB High Perf. Disk, 60GB 100% Avail. Disk, 218 Archive Disk</td>
</tr>
<tr>
<td>IBM® AIX®</td>
<td>Virtual Storage Machine</td>
<td>2 Fibre Channel Storage Ports, Multiple LUNs, 24GB Cache, 200GB High Perf. Disk, 80GB 100% Avail. Disk, 200GB Archive Disk</td>
</tr>
<tr>
<td>Microsoft® Windows</td>
<td>Virtual Storage Machine</td>
<td>2 Fibre Channel Storage Ports, Multiple LUNs, 80GB Cache, 20GB High Perf. Disk, 100GB 100% Avail. Disk, 100GB Archive Disk</td>
</tr>
</tbody>
</table>

**Figure 2.** Through partitioning, you can create as many as 32 Hitachi Virtual Storage Machines (Universal Storage Platform V) and as many as 8 Hitachi Virtual Storage Machines (Universal Storage Platform VM) from internal and attached storage, each with dedicated capacity.
Create a Cost-effective Archive Strategy

Today's businesses must store an ever-growing number of documents. While Microsoft Word files, PowerPoint presentations, engineering specs, and rich media documents constitute much of a corporation's intellectual property and financial records, many of these items are increasingly stored as file attachments and given context by e-mail messages. At the same time, government regulations and compliance initiatives are imposing new timelines on data archiving practices.

To comply with these regulations, you must be able to store data for longer periods, and retrieve data at any time. A data lifecycle management archival solution, based on a tiered storage architecture, can provide a foundation for effectively administering and archiving e-mail and other data assets.

Although the value of enterprise data changes over time, it is important to consistently manage and archive business data throughout its lifecycle. Leveraging the virtualization capabilities of the Universal Storage Platform V and the Universal Storage Platform VM and Tiered Storage Manager software, you can dynamically and nondisruptively move data between storage tiers, and manage it all from one interface.

Because the Universal Storage Platform supports mainframes, UNIX systems, Microsoft Windows platforms, Linux platforms, VMware platforms, and other types of open systems, you can use your high-end storage devices for activities that require top-tier performance and availability and attach low-cost storage resources for less critical tasks. These tasks may include archiving or replicating data—including older mainframe data—and replacing or complementing tape technology. For cost-effective second-tier storage, you can use the SATA Intermix Option within the Universal Storage Platform or in a Hitachi Adaptable Modular Storage model, a SATA-based Hitachi Workgroup Modular Storage model, or other vendors’ externally attached storage.

Streamline Storage Management Activities

Burgeoning data storage requirements dictate that you simultaneously increase capacity, provide rapid access to enterprise information, and maintain 24/7 operations—often without additional budget or head count. Hitachi Storage Management and HiCommand Suite software can help you effectively manage your entire storage infrastructure—from application to disk—and provide the quality of service your business needs.

Simplify the Infrastructure to Minimize Management Headaches

Created with growing business requirements in mind, the virtualization capabilities of the Universal Storage Platform V and the Universal Storage Platform VM mean that you have fewer elements to manage, reducing the complexity of heterogeneous environments.

Fewer elements to manage means less stress and higher utilization of resources—including staff. This provides direct monetary savings as well, since you have less equipment to buy, fewer licenses and maintenance agreements to worry about, and lower environmental costs. It all adds up to greater investment protection: instituting common management practices helps you extend value to all of your storage assets and even makes is possible to redeploy older storage systems as part of a common fabric.
Storage-specific Hitachi management utilities facilitate fine-grained discovery and control of your entire storage environment, including attached storage systems that are virtualized into a storage pool. They support “any-to-any” local and remote copying, and they allow storage administrators to implement sustainable and repeatable management processes.

Universal Storage Platform Foundation for Data Lifecycle Management

Although the value of data to an enterprise changes over time, there is still a need to manage and store data throughout its lifecycle. For many types of enterprises, regulations are increasing that length of time. With the Universal Storage Platform V and the Universal Storage Platform VM, you can:

- Match data to the appropriate storage
- Create unique and appropriate storage pools
- Keep more data for longer periods of time
- Meet governmental compliance regulations and legal requirements to protect your enterprise
- Manage tiers of storage in pools with a single console
- Direct fluid and transparent movement of data between different classes of storage

Leverage Standards to Improve Interoperability

Storage Management and HiCommand Suite software is built on industry standards such as Common Information Model (CIM) and adheres to the Storage Networking Industry Association’s Storage Management Initiative (SMI-S). Compliance with these industry standards enables you to use complementary system management software from other vendors, in addition to Storage Management and HiCommand Suite software.

Ensure Effective and Efficient Business Continuity

Safeguarding data is one of the fundamental components of keeping your systems online. But there are many other aspects to business

Optimize Performance by Balancing Workloads Across Tiers

You can use Hitachi HiCommand® Tuning Manager software combined with Hitachi HiCommand Tiered Storage Manager software to actively tune and balance workloads within a common storage pool. The software makes it possible to balance the load among internal storage and virtualized externally attached storage systems in real time—without disrupting the activities of users and applications. Frequently accessed volumes are carefully balanced with less frequently accessed volumes throughout the storage pool, reducing resource contention while improving asset utilization. The result is better availability, performance, and response times—plus the assurance that your data is optimally stored for fast and efficient access.

Hitachi Storage Management and HiCommand Suite software provides SAN visualization and reporting, asset management, performance and capacity monitoring and planning, and policy-driven event management. As the primary console for heterogeneous SAN and storage resource management, Hitachi HiCommand Storage Services Manager software helps you pinpoint application performance and availability issues by locating the underlying cause of problems and issuing alerts when storage infrastructure changes might impact applications. This helps administrators satisfy service-level requirements, respond more efficiently to help desk calls, increase application uptime, and plan effective disaster recovery scenarios.

“Virtualization breaks the boundaries of physical infrastructure and makes them boundless. The USP V* raises the level of play by supporting external and internal virtualization.... External virtualization creates a network of otherwise isolated storage systems in order to move and replicate data between them. Internal virtualization enables you to more fully optimize the storage systems you have and make them far easier to manage. Storage virtualization leverages storage assets to be greater than the sum of their parts.... It is important to look at solutions holistically and demand best-in-class systems. Hitachi truly understands this and the USP V embodies these goals.”

—Tony Asaro, Senior Analyst, Enterprise Strategy Group

* Hitachi Universal Storage Platform V
continuity. Today’s business managers must pay close attention to risk exposure and regulatory compliance, necessitating best practices for data management, backup, and archiving. To ensure continuous business operations, companies require robust, application-focused storage solutions that enhance their operational efficiency and resilience.

How do you ensure you have an infrastructure in place that can run the business continuously, with the right levels of service and proven capabilities to recover systems and data if necessary? At a tactical level, the storage management options can be overwhelming—ranging from local disk-to-disk backup to replicating data out-of-region to establishing a practical recovery methodology that maximizes recovery point and recovery time objectives.

**Hitachi Business Continuity Software**

- Hitachi Universal Replicator
- Hitachi TrueCopy® Heterogenous Remote Replication software bundle
- Hitachi In-System Heterogeneous Replication software bundle
- Hitachi HiCommand® Dynamic Link Manager
- Hitachi Copy-on-Write Snapshot
- Hitachi Data Protection Suite, powered by CommVault®
- Hitachi Backup Services Manager, powered by APTARE®
- Symantec Veritas NetBackup
- Remote Replication Agent for Symantec Veritas Cluster Server (for synchronous remote replication)

**Out-of-Region and Metropolitan Replication**

For extra protection, some businesses combine synchronous and asynchronous remote replication into a “three data center” configuration. For example, they might establish a local or metropolitan site within 10 to 20 miles of the primary site, along with a remote site hundreds or even thousands of miles from the primary site. With Hitachi disk journaling and data replication software, you can achieve “no data loss” replication over any distance, and guarantee the integrity of your data. This type of innovative strategy ensures data availability in nearly any business scenario.

**Services Oriented Storage Solutions**

Services Oriented Storage Solutions apply service-oriented architecture (SOA) concepts to enterprise storage to deliver a platform that offers sets of automated functions delivered as services, which can be invoked as the business needs them. Companies now have the means to replace inefficient capacity-based chargeback models with models that apply more relevant metrics and better “monetize” all of the storage-based services they provide across the enterprise, delivering substantial breakthroughs in efficiency and business agility. Services Oriented Storage Solutions from Hitachi Data Systems offer companies the ability to present business clients with a menu of storage attributes, such as performance,
availability, cost, and security, and charge for those services based on the client’s selection.

The Hitachi Universal Storage Platform V and the all-new Hitachi Universal Storage Platform VM, the industry’s most powerful storage services platforms, provide the horsepower for Services Oriented Storage Solutions. By virtue of its powerful controller-based virtualization engine, Hitachi is in a unique position to package and deliver storage services across heterogeneous storage assets, whether file, object, or block based. Offered with the robust Hitachi software portfolio, these capabilities mark the beginning of a new era in storage service delivery.

**Simplify Data Replication Practices**

Organizations needing to replicate heterogeneous data sources will find Universal Replicator software delivers enterprise-class performance associated with storage system–based replication. Unlike server- or appliance-based replication products, Universal Replicator software satisfies business continuity objectives without employing redundant servers or replication appliances.

Just how much can you simplify your storage environment? Universal Replicator software streamlines and unifies data replication policies and procedures across as much as 247PB of storage (Universal Storage Platform V) and as much as 96PB (Universal Storage Platform VM) that is either in or attached to the Universal Storage Platform. It powers a business continuity framework that can satisfy the most demanding uptime requirements, regardless of the type of storage platform you select to host your business-critical data.

Universal Replicator software fully leverages the Universal Storage Platform to create a complete business continuity framework. It builds on the heritage of the Hitachi TrueCopy Heterogeneous Remote Replication software bundle to create “three data center” configurations. Hitachi Business Continuity Manager and Hitachi HiCommand Replication Monitor software simplify many of the management tasks associated with data replication scenarios.

Universal Replicator capabilities include:
- Disk-based journaling
- Advanced bandwidth control for communications links
- Link-failure mitigation
- Workload management to reduce resource usage on production/primary systems
- Support for multiple data centers

Optimize control over recovery time and recovery point objectives as you balance both the risk and the cost of your business continuity solutions.

**Exceptional Performance Powered by Universal Star Network Architecture**

The Universal Storage Platform V and the Universal Storage Platform VM are built on the industry’s fastest storage architecture:
- Enhanced, massively parallel design
- Up to 106GB/sec internal bandwidth (Universal Storage Platform V); up to 13.3GB/sec internal bandwidth (Universal Storage Platform VM)
- Up to 4.5 million IOPS (Universal Storage Platform V); up to 1.2 million IOPS (Universal Storage Platform VM)
- Up to 256GB of cache with improved algorithms (Universal Storage Platform V); up to 64GB of cache with improved algorithms (Universal Storage Platform VM)
- Separate control and memory paths
- 4Gbit/sec Fibre Channel back-end loops

**Heterogeneous Storage Pooling with Multiprotocol Connectivity**

- Up to 224 host connections (Universal Storage Platform V); up to 48 host connections (Universal Storage Platform VM)
- High-performance Fibre Channel architecture for mission-critical applications
- ESCON and FICON for mainframe environments
- High-performance NAS option
Hitachi ShadowImage® Heterogeneous Replication software provides a nondisruptive, host-independent data replication solution for creating copies of any customer-accessible data within a single Hitachi storage system. Tight integration with ShadowImage Heterogeneous Replication software expands Universal Replicator capabilities as well. This solution helps companies overcome the obstacles of maintaining business continuity while performing routine tasks that would traditionally be impossible, without having an impact on information availability. ShadowImage Heterogeneous Replication software disk-based copies can provide nearly instant recovery from data corruption.

Solutions for Microsoft Exchange

Is the volume of data generated by Microsoft Exchange slowing down your storage environment? With large volumes of data overwhelming systems, it may be becoming cost-prohibitive to keep all your data on fast primary storage.

Services Oriented Storage Solutions for Microsoft Exchange allow e-mail data to be placed on a fast-response Hitachi storage system and then automatically migrated to lower-cost SATA storage as it moves through the information lifecycle. This helps you to reduce e-mail server and storage costs,

improve e-mail server performance, satisfy compliance regulations, protect intellectual property, and mitigate the costs of legal discovery for e-mail content that is currently available only on backup tape.

Enterprise Capabilities for Companies that Depend on Exchange

As pressure from government and regulatory agencies for long-term data protection and retention intensifies, many companies are confronted with issues like limited budget, staff, and data center space. E-mail assets within Microsoft Exchange are often at the heart of these issues, which makes e-mail availability, security, and archiving absolute priorities. Using the Universal Storage Platform, companies can manage escalating growth of their Exchange assets with attention to application performance, availability, and business continuity.

A Powerful Solution for All Your Storage Needs

As part of the growing portfolio of Services Oriented Storage Solutions from Hitachi Data Systems, the Universal Storage Platform constitutes a powerful foundation for enterprise content archival, data lifecycle management, and business continuity—all with easier
management and lower operational expenses. These solutions are designed to improve information access through an integrated hardware, software, and services platform; reduce management complexity through heterogeneous storage pooling; and increase efficiency by consolidating storage across different storage platforms—without sacrificing performance and availability.

Virtualization: Solving the Environmental Problem

When it comes to accommodating the rapid growth of data management, storage, and archiving, environmental issues are now everyone’s concern as organizations struggle to keep pace in matching their storage needs with business requirements.

- **Controller-based virtualization:** Consolidation and virtualization can help relieve data center hot spots and reduce floor space requirements in heterogeneous environments without disrupting applications. Tier and provision storage to meet needs.

- **Dynamic provisioning** can be applied to internal and external disk for reduced administration costs and improved utilization, resulting in lower “carbon footprints” and improved application availability. Dynamic Provisioning saves power and money, and provides the economic benefit that will make Hitachi systems preferable.

Investment Protection and Your Return on Investment (ROI)

- Aggregate and pool your existing storage hardware instead of replacing it
- Extend the life of and add value to existing storage assets
- Reduce the costs associated with multiple software licenses
- Increase storage and server utilization
- Enhance quality of service to users and customers
- Reduce storage management costs; improve administrative productivity

Meeting Storage Requirements for Data-intensive Industries

The enterprise-class Universal Storage Platform has the capacity, redundancy, and flexibility demanded by today’s data-intensive industries. The Universal Storage Platform can seamlessly scale from a single small business configuration to the largest enterprise configuration.

Consider the financial services industry. Banks, brokers, and insurance companies require maximum uptime and performance for their online services, even as they reduce the costs associated with storage and long-term data retention. Likewise, life sciences firms have intensive demands for capacity and performance with respect to database management, visualization, and analytics. Meanwhile, health care industries rely on rapid, secure access to patient records, billing information, and medical images—along with their own strict requirements for privacy and data retention. Media applications process massive audio/video files, now stored in digital formats, not to mention intensive editing and data lifecycle management for archiving their creative assets. Hitachi storage solutions provide enterprise-strength storage along with simplified management and ease of use to industries with even the most demanding storage requirements.

Hitachi Data Systems Global Solution Services

Fully exploit the unparalleled capabilities of the Universal Storage Platform V and the Universal Storage Platform VM. Consolidate and aggregate multivendor systems for simplified management. Control your entire storage universe through a single management console. Hitachi Data Systems Global Solution Services (GSS) incorporates the industry’s best people, products, tools, and methodologies to help you implement Services Oriented Storage Solutions so you can reach your critical enterprise milestones and maximize your ROI.

GSS helps you address IT challenges by applying targeted services to leverage tiered storage pools, multiprotocol aggregation, and single-point-of-management capabilities.

GSS consultants can help you plan, design, implement, integrate, optimize, and manage storage infrastructure solutions that meet your needs.

Services for the Universal Storage Platform V, Universal Storage Platform VM, or Network Storage Controller include:

- **Storage Economics Strategy Service**
- **Risk Analysis Workshop**
- **Storage Virtualization/Tiered Storage Services**
- **Backup Assessment Services**
- **Implementation Services for Storage Management Products**
- **Implementation Services for Hitachi Replication Products**
- **Data Migration Services**
- **Storage Consolidation Services**

We Anticipate Your Business Needs

At Hitachi Data Systems, we believe a company’s information is a strategic asset. That’s why we continue to develop and improve storage solutions with the performance, availability, and scalability you need to maximize ROI and minimize risk. We always consider your perspective and business needs while applying the best hardware, software, and services to satisfy your requirements.

Our commitment to being a partner beyond technology sets us apart from other vendors in the industry. It means we’re prepared to help you envision your future and accomplish your business goals. We offer you an open and collaborative storage management framework, policy-based automation tools, virtualization capabilities, and the world’s finest storage systems.