

Hitachi Virtual Storage Platform: Managing the SAP Data Lifecycle



3D Scaling Storage Platform Maximizes the Value of SAP

The Hitachi Virtual Storage Platform for SAP ensures high performance, availability and security for enterprise information through a unique 3D storage platform that helps to make IT virtualized, automated, cloud-ready and sustainable. The Hitachi Virtual Storage Platform lets you create an efficient, highly virtualized storage and computing business resource that maximizes value from your SAP investment throughout its lifecycle.

SAP implementations may start small, but they do not stay small. Business success entails growth and change. The business itself, the market, customers, competition and the economy all change. Organizations must grow and change too, especially their SAP deployments, which are at the very heart of business operations and processes.

Hitachi Virtual Storage Platform addresses the business imperatives of SAP growth and change by enabling companies to accelerate SAP deployments, grow SAP application environments without limit and reduce risk and costs along the way. Hitachi Virtual Storage Platform ensures availability and security, meets service level agreements, delivers high quality of service (QoS) and improves the performance, scalability and efficiency of SAP environments. It works with the Hitachi Content Platform, a leading object storage platform integrated directly with SAP's information lifecycle management processes. This improves the management of SAP information from its creation, through retention to eventual disposition. These capabilities result in a transformed information center that is virtualized, automated, cloud-ready and sustainable.

The strength of SAP's three-tier application model comes from spreading the workload

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. The Virtual Storage Platform:

- *Scales up* to provide unmatched performance through the use of multicore and special purpose processors to handle critical internal functions
- *Scales out* to add capacity, connectivity, processing power and throughput, bringing special components to the control chassis, including a second, tightly coupled control chassis
- *Scales 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 Virtual Storage Platform

across multiple tiers, which enables extensive growth and flexibility. Hitachi Virtual Storage Platform, acting as a logical fourth tier, fully leverages the tiered SAP model to address the business challenges of growth and change. It also addresses the need for the highest levels of performance, scalability, information availability, efficiency and QoS for SAP environments.

Hitachi Virtual Storage Platform allows organizations to reduce SAP technology infrastructure costs while getting more value from their investment in SAP. The platform offers SAP users:

- Consolidation of SAP onto a single highly scalable virtualized storage platform
- 3D scaling which enables transformation of the data center infrastructure
- Increased data availability and business resilience
- Optimized cost and performance throughout the entire SAP information lifecycle
- Agility to respond quickly to change

Consolidate SAP onto a Single Highly Scalable Virtualized Storage Platform

Hitachi Virtual Storage Platform addresses the challenges of SAP deployment through its unique 3D architecture that allows organizations to consolidate their entire SAP deployment on a single, highly scalable and efficient storage platform. Designed for all data types, this platform is the only storage architecture that flexibly handles data for performance and capacity while extending its unique features and value to multivendor storage. Combined with the management capabilities of the highly automated Hitachi

Command Suite, the Virtual Storage Platform transforms your SAP application data into a true business information center.

Hitachi Virtual Storage Platform allows you to scale up to meet increasing demands of SAP for both open and mainframe environments, scale out to adapt to evolving server needs and capacity, and scale deep to extend value to multivendor storage. This 3D scaling increases automation and efficiency of the storage, computing and virtual infrastructure. It reduces business impact when adapting to change and puts the right data in the right place at the right time. The resulting improvements in operations increase data center efficiency and flexibility and enable the highest QoS for your SAP environment.

To deliver appropriate QoS for the SAP production database (PRD), organizations traditionally have isolated production data from all other data. They did this by deploying a separate storage system that contains only the production data. Requiring multiple storage systems to support a single SAP instance forces IT groups to expend a great deal of effort to ensure that the SAP production database (PRD), and often the Oracle database, is available to users when they need it. With the Virtual Storage Platform, you can easily maintain multiple SAP databases (landscapes) in a single storage system. This simplifies management and decreases expense while reducing the risk of inconsistent or corrupted data. In addition, many SAP customers, concerned with floor space requirements and storage management complications, prefer a single storage system like Virtual Storage Platform because they can easily move and manage data across SAP databases.

Transform the SAP Data Center Infrastructure through 3D Scaling

Hitachi Virtual Storage Platform addresses the challenges of SAP deployment through its unique 3D scaling architecture and a set of management capabilities that optimize return across all storage assets. By allowing you to scale up, out and deep, the platform helps you meet increasing demands for both open and mainframe environments. It helps you adapt to evolving server needs and capacity, and scale to extend value to multivendor storage.

3D management increases automation and efficiency of the storage, compute and virtual infrastructure. It reduces business impact when adapting to change and puts the right data in the right place at the right time. The resulting improved operations increase data center efficiency and flexibility and enable the highest QoS for your SAP environment.

At the same time, the 3D architecture of Virtual Storage Platform produces a reliable, dynamic and open storage environment:

- **Reliable.** This quality is secured thanks to the demonstrated reliability, advanced technology, leading data protection and high availability capabilities of a proven services organization and network of partners.
- **Dynamic.** The Virtual Storage Platform easily adapts to changing business and IT requirements, automates data tiering and scales in three architectural dimensions—up, out and deep—a capability no other vendor offers.
- **Open.** The Virtual Storage Platform supports a wide variety of operating systems and data types as well as heterogeneous server virtualization environments.

In short, the Virtual Storage Platform turns the SAP data center into a true business information center that efficiently manages, protects and makes accessible SAP production data.

Increase SAP Data Availability and Business Resilience

The production data generated by SAP truly is business critical. Through data mobility, Hitachi Virtual Storage Platform ensures the availability of that data, which is an essential component of business resilience, under all circumstances. Hitachi Data Systems ensures data mobility with capabilities that help you efficiently move data to balance loads, protect data and increase availability.

Hitachi Data Systems uses numerous components, including tiered storage, to bring about data mobility. These components, along with our replication capabilities, allow for the secure and transparent movement of data between storage tiers to reduce risks and support the easy migration of data.

Our replication is an essential ingredient of data mobility. It ensures data availability, business resilience and high levels of SAP QoS by efficiently and safely moving SAP data as needed. It not only makes sure that your data is protected from loss but also that SAP production performance is not impacted by any secondary operations, such as data backup or data mining.

Hitachi Data Systems provides four ways to replicate SAP data:

- 1) In-system full volume cloning for advanced replication
- 2) In-system copy-on-write snapshot for more immediate restore capabilities
- 3) Synchronous remote replication for real-time remote disaster recovery
- 4) Asynchronous remote replication for long distance disaster recovery

The ideal way to meet the data availability demands of SAP is through the intelligent use of storage infrastructure-based data replication. With these four options, SAP managers administrators can design and implement a data migration and replication strategy that best meets their unique business resiliency, data availability and QoS needs.

Optimize SAP Performance throughout the Entire Information Lifecycle

As SAP consumes more of its allotted storage, performance can suffer, but that is not the case with Hitachi Virtual Storage Platform, which offers unmatched performance and lowers costs in the process. As an application requires additional capacity, Virtual Storage Platform automatically and dynamically allocates additional physical storage from the shared virtual pool. This is possible through integration with Hitachi Dynamic Provisioning software, which provides thin provisioning capabilities that produce virtual storage capacity.

Behind the scenes, Dynamic Provisioning software monitors storage resources and proactively alerts administrators before

they require more physical storage. It then provisions storage from a virtual pool. This approach reduces administration costs by cutting the time to provision new storage and also improves application availability by reducing the downtime storage provisioning traditionally requires. The result is just-in-time storage provisioning that de-couples the provisioning of storage to an application from the physical addition of storage capacity to the storage system. This enables overall higher rates of storage utilization. At the same time, you can nondisruptively add physical storage to the storage system as needed and place it in a central pool that is available to all thinly provisioned volumes.

Consistent Performance at a Lower Cost

Dynamic provisioning enables you to maintain optimal QoS for your SAP deployment while still lowering overall storage costs. In addition, it transparently spreads the many individual I/O workloads typical of a SAP deployment across multiple physical disks. Such I/O workload balancing eliminates I/O bottlenecks across multiple applications while automatically tuning performance. The bottom line: better overall performance and more predictable performance at a lower overall cost.

Virtual Storage Platform for SAP helps lower overall storage costs through dynamic tiering. The value of any piece of data changes with age, usage and other factors as it moves through the SAP information lifecycle, a five-stage process incorporated in SAP ILM. With SAP ILM, all data does not need to be stored forever on the most costly production storage. At some point you will want to move it to lower cost storage.

Hitachi Dynamic Tiering software enables the fluid deployment of virtual tiered storage for any data type as part of our exclusive

dynamic scaling. It automates data placement to the appropriate storage tier and optimizes the use of high performance tiers. At the same time, it takes maximum advantage of low cost tiers to reduce an organization's overall cost of storage. Organizations can retrieve the data quickly and seamlessly from any tier whenever necessary.

Hitachi Content Platform as an Archive Target

Virtual Storage Platform uses the single-instance archiving of Hitachi Content Platform to increase storage capacity efficiency. This functionality is particularly valuable when applied to SAP ILM, which calls for the eventual long-term archiving of SAP data. Archiving improves overall SAP system availability, boosts performance, supports better resource utilization and addresses various regulatory and compliance mandates. Hitachi Content Platform integrates directly with SAP ILM to simplify the archiving process without requiring any third party connectors.

Hitachi Content Platform is a virtualized, distributed object store with advanced storage and data management capabilities. It helps IT organizations address a number of challenges posed by the ever-growing volume of SAP unstructured data. Hitachi Content Platform excels at preserving SAP data for long periods of time and enforcing policies governing its placement, retention and eventual disposal. Whether for legal, compliance, business or IT practices, Hitachi Content Platform employs key technologies, such as data integrity checking, RAID-6, replication, encryption, write once, read many (WORM) and audit logging. This ensures that data remains accessible and in its original form for decades and beyond. These capabilities make Hitachi Content Platform the ideal tool for handling SAP information lifecycle management challenges.

WHAT DOES THE HITACHI CONTENT PLATFORM DO FOR SAP?

- Stores SAP application data without the cost and complexity of a third party connector
- Allows archive and retention policies set in the SAP application to be applied to archived data
- Safeguards SAP application data through proactive protection and replication policies
- Secures SAP application data through encryption and data at rest
- Shares archive with additional archive applications, such as email and file archiving
- Utilizes an open, highly scalable active-archive platform for both structured and unstructured SAP application data

Respond Quickly to Change

Unlike competing storage systems, Hitachi Virtual Storage Platform effectively optimizes return on storage assets by combining unmatched agility, performance, capacity and utilization of multivendor assets. Whatever happens in your SAP environment, you can scale up, scale out and scale deep with immediate response. You can move data as needed or add storage capacity on the fly. The dynamic tiering and provisioning capabilities of Hitachi Dynamic Provisioning make your SAP storage infrastructure more fluid and the corresponding IT operations and business processes more agile.

Virtual Storage Platform also integrates with Hitachi Command Suite to lower costs and efficiently manage all data types for the agile SAP data center. Command Suite lets you manage up through highly scalable, unified management for the largest infrastructure and application deployments. It manages out through a single management framework with the breadth to manage storage, servers and the IT infrastructure. And it manages deep with Virtual Storage Platform integration for the highest level of operational efficiency you need to manage the complexities of today's data center.

Finally, the Virtual Storage Platform eliminates the traditional silo approach of separate, isolated management tools through a unified management framework that improves operational efficiency, agility and business resilience. As such, it provides comprehensive, integrated storage resource management,

HITACHI VIRTUAL STORAGE PLATFORM FOR SAP DELIVERS BUSINESS ADVANTAGES

- At least 20% lower CAPEX through extensive virtualization
- From 10% to 20% lower operating costs through intelligent automation and dynamic tiering
- Top-notch QoS, increased availability and business resilience through management automation, dynamic load balancing and dynamic virtual partitions
- Optimized consolidation through near-limitless scalability, dynamic provisioning and dynamic load balancing

tiered storage and business continuity software solutions. These solutions let you align your storage with the requirements of SAP to meet high QoS levels, service level objectives, recovery time objectives and recovery point objectives.

Summary

Hitachi Virtual Storage Platform is the only storage platform for SAP that is thoroughly virtualized, automated, cloud-ready and sustainable. It supports your SAP deployment with fast delivery of storage capacity and computing resources. It provides intelligent automation that increases staff productivity while reducing operating expenditure (OPEX). It also offers cloud capabilities that ensure service levels with continuous availability and sustainable approaches to energy efficiency.

Hitachi Virtual Storage Platform is the only 3D scaling storage platform designed for all data types. Highly flexible, it adapts to changes in the business or IT environment

and scales seamlessly to unprecedented levels while ensuring continuous high levels of QoS. By combining Hitachi Virtual Storage Platform with Hitachi Content Platform, Hitachi Dynamic Tiering, Hitachi Dynamic Provisioning, and intelligent management from Hitachi Command Suite, you can ensure a high performing, scalable SAP deployment while minimizing OPEX and capital expenditures (CAPEX).

For More Information

Hitachi Data Systems can help you with your SAP storage architecture, storage system implementation, dynamic tiering and management for business critical, data-driven applications.

For more information, visit www.hds.com or contact your local sales representative. Explore an engagement that will result in the optimal solution for your data architecture, dynamic tiering and management needs.

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