

### End-to-end Virtualization: Improved Storage Economics and Higher Efficiencies for Business Continuity and Disaster Recovery



As more businesses move to highly virtualized server environments, it has become abundantly clear that effective server virtualization requires the right storage infrastructure to support it. Otherwise, even the most advanced server virtualization scheme will suffer unnecessary and avoidable hits to performance and capacity.

It just makes sense to virtualize both servers and storage. Assigning virtual servers to a fixed physical amount of storage can create serious storage inefficiencies. If the virtual machine infrastructure is tied to a pool of storage instead, the storage virtualization layer can allocate storage as needed. The end result: greater efficiency in storage provisioning that meets quality of service levels automatically and offers greater scalability as virtualization needs increase.

Hitachi Data Systems recently released two products that bridge the gap between server and storage virtualization: Hitachi Storage Cluster for Microsoft® Hyper-V and Hitachi Storage Replication Adapter for VMware vCenter Site Recovery Manager. By partnering with two major vendors – Microsoft and VMware – Hitachi Data Systems helps extend the benefits of virtualization throughout the IT infrastructure, to Microsoft clustering and VMware virtual machines.

With end-to-end, server-to-storage virtualization, organizations realize better efficiency on several levels. First, they can rescue enough stranded capacity from underutilized storage arrays to begin server virtualization implementations without having to buy new storage. Second, organizations can pursue virtualization initiatives without the worry that they'll be unable to scale storage to keep up with the performance and capacity demands that server virtualization can create.

End-to-end virtualization promises to have a significant impact on business continuity and disaster recovery – an ever increasing priority for many organizations. In fact, 31 percent of respondents to a recent [ESG Group survey ranked using virtual machines for disaster recovery as their top virtualization priority for 2009](#). Whereas in the past, complexity and cost prevented organizations from protecting more than a limited set of applications and locations from disaster, virtualization allows them to expand those capabilities without a significant increase in management or hardware overhead.

A highly virtualized infrastructure can not only mitigate the impact of disaster but also provide the high availability and minimal downtime that are absolutely crucial to any business trying to provide the consistently high levels of service required to weather a difficult economic environment. Hitachi Data Systems is uniquely able to bridge the gap between server and storage infrastructures, helping companies survive the current budget crunch and emerge with a more robust, efficient infrastructure

that can scale easily to meet increased demand once a recovery begins.

## Increase Return on Assets Through Virtualization



More businesses are being asked to take a serious look at their bottom line and justify expenses from small to large. In this environment, it's helpful for storage department heads to acquaint themselves with the concept of ROA – that is, Return on Assets. CFOs and CEOs use to this to measure the effective utilization of assets; that is, how many dollars of earnings they derive from each dollar of assets they have. How much mileage is your organization getting out of its existing storage infrastructure? Consolidation, virtualization, and storage tiering can all help organizations increase their return on assets. For more

information, [Click here](#)

## Reduced Storage and Server Demands for a Healthier Environment

End-to-end virtualization shows great promise in making data centers more environmentally friendly. Server virtualization can increase the utilization of specific servers, allowing organizations to shut down whole banks of servers that are no longer in use. And Hitachi Data Systems storage equipped with the power down capability can spin down drives that aren't in use. Implementing both of these technologies at once allows organizations to realize the same levels of service on a reduced number of servers and storage drives, leading to decreased demands for power, cooling and maintenance. And a cooler, less energy dependent data center is an eco-friendlier data center.

## How Wells Fargo Keeps Technology Costs Flat

We all know that the banking industry has suffered its share of challenges – and one of them has been determining how to control costs while continuing to provide a positive customer experience. In an interview with Computerworld, Wells Fargo's head of technology infrastructure services, Scott Dillon, shared how his department has kept down costs in the face of 15 to 20 percent year-over-year increases in technology demands.

Investments that Wells Fargo made years ago, such as virtualization through the Hitachi Universal Storage Platform™, are paying off now and will likely accelerate cost efficiencies when the economy bounces back. "You can put things like (Universal Storage Platform V) devices in front of your storage that will allow you to virtualize and provision it on the fly, as well as allow you to have multivendor technology behind it," Dillon explains. This ability to integrate heterogeneous storage environments will only be more valuable as Wells Fargo undertakes the mammoth task of integrating Wachovia Corp., which it acquired in December. For more details, [See](#)

## ▶ Hot Topics



Hitachi Data Systems Enables Integrated Server-to-Storage Virtualization

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## ▶ Expert Insight



Realize Maximum Benefits from Virtualization

▶ [Read the ESG White Paper!](#)

## ▶ Best Practices



Reclaim stranded storage. Increase Utilization. Improve your ROA.

▶ [Register for the July 22 Webcast](#)

## ▶ In this Edition

### Get the Facts

#### ▶ Briefing Paper:

Hitachi Data Systems and VMware — Delivering End-to-end Virtualization [More...](#)

#### ▶ In the Blogs:

A Cluster of Challenges  
By Hu Yoshida, VP and CTO, Hitachi Data Systems [More...](#)

Super News for Customers: End to End Virtualization

By Christophe Bertrand, Sr. Director of Product Marketing for Platforms and Business Continuity, Hitachi Data Systems [More...](#)

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The Hitachi Data Systems Academy is offering a new course to help you optimize your enterprise environment. The Hitachi Data Systems Architect - Performance and Virtualization course (TXE1630), is a one day virtual instructor led course offered once a quarter and is taught by the performance gurus that authored the course. Visit <http://www.hds.com/services/education/> for more information on this and other courses.

### Events

#### ▶ Storage Decisions Chicago 2009, June 1-2, 2009, Hyatt Regency, Chicago, IL

At Storage Decisions Chicago 2009, the world's leading independent storage experts will show you how your peers are meeting the challenges you face. The 2-day, 6 track agenda will delve in-depth into strategic planning on both your day-to-day storage practices and your storage purchases. This conference provides tactical tips on ways to increase productivity (not just minimize infrastructure) and how to spend with an eye to the future- and not just to help stop the bleeding now. [More...](#)

#### ▶ Deploying High Availability and Disaster Recovery in Virtualized Environments for Maximum Business Benefit, June 3, 2009, 9am PST, online

Research shows that business continuity and disaster recovery are not only key considerations in virtualized server environments but also drivers of virtualization adoption. Equipped with the proper toolset, organizations can reduce planned and unplanned downtime and importantly extend protection to additional applications and data types. With this in mind, Hitachi Data Systems has announced the availability of two new Business Continuity and Disaster Recovery Solutions as part of its end-to-end virtualization strategy: Hitachi Storage Cluster for Hyper-V and Hitachi Storage Replication Adapter 2 for VMware SRM environments. In this webcast,

Hitachi Data Systems will detail how medium to enterprise-scale organizations can leverage these two solutions for immediate - and maximum - business benefit in their environments. [More...](#)

▶ **SAN versus DAS – A TCO Perspective, June 10, 2009, 9am PST, online**

Recent reports suggest that DAS may have a lower cost than SAN architectures. David Merrill, Hitachi Data Systems Chief Economist and Global Business Consultant will present several dimensions of total cost of ownership that goes beyond the cost of acquisition. If the full capability of virtualized Storage and SAN are not employed and used to your advantage, then in some cases DAS can be preferable. Economically superior storage and SAN solutions continue to evolve, make sure you are realizing the full benefit of SAN (and NAS) storage architectures. [More...](#)

▶ **Storage Decisions Toronto 2009, June 16, 2009, Doubletree International Plaza Hotel, Toronto, ON**

IT pros in Canada are invited to an unrivaled day of storage education, peer networking and vendor meetings. More than simply a 'greatest hits' compilation of conference material, this is an intensive single-day training program that will benefit your entire storage team. This event is FREE for qualified IT pros to attend, but registration is limited to a 250 maximum, and nearly 200 applicants have been approved and have confirmed their plans to attend as of the first week of May. [More...](#)