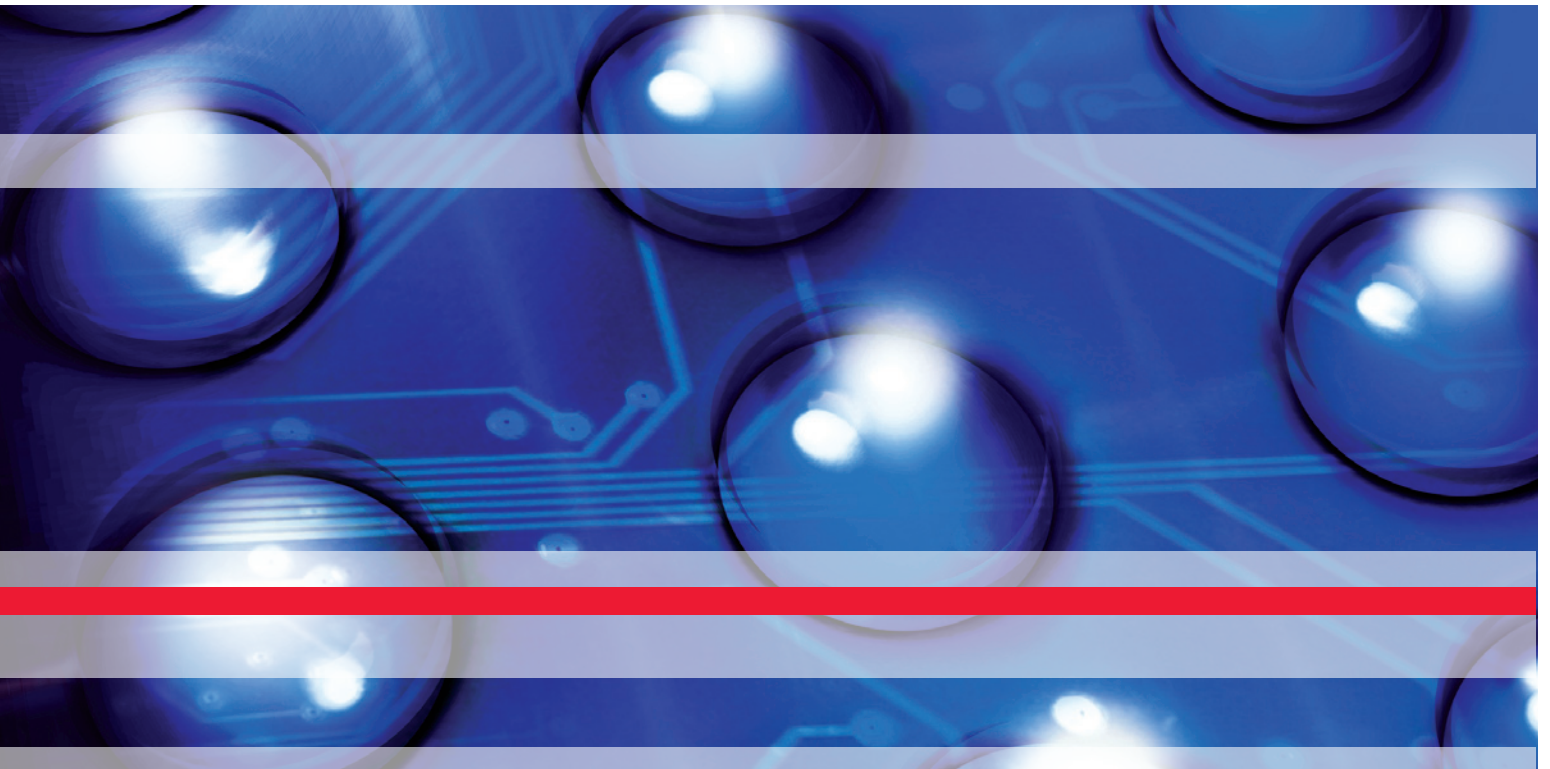


# Hitachi Data Protection Solutions for VMware: Advanced Data Protection for Today's Business Climate



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Massive growth in enterprise data, application usage and database expansion are driving unsustainable levels of cost and complexity in the data center. In order to break the spiraling cost complexity cycle, more organizations than ever before are virtualizing their server — and storage — environments. Virtualization enables an organization to simplify, standardize and scale its IT infrastructure and reap significant technical benefits through resource and site consolidation, improved performance and better utilization. Additionally, virtualization benefits businesses through improved productivity, lower capital and operational costs, and greater business agility.

While virtualization was initially deployed in nonproduction test and development environments, today it is being rolled out in large, scalable production environments. Research shows that a significant number of organizations have already virtualized their tier 1 applications — and an even larger number plan to do so (see Figure 1). As this transformation evolves, the question of how best to manage and protect these environments is something every organization must be able to not only answer but also illustrate in daily practice.

In fact, according to a recent InfoPro TIP Insight report for July 2009, 60 percent of Fortune® 1000 users see backup of virtualized environments as either an immediate need or near future planning.

The new Hitachi Data Protection Solutions for VMware provide advanced protection for today's evolving applications and data — capabilities that go far beyond basic backup and, importantly, span both physical and virtual environments.

## Comprehensive Protection, Advanced Capabilities

Hitachi Data Protection Solutions for VMware are designed to provide government organizations, enterprises and midsized businesses with scalable, cost effective and advanced data protection.

Capabilities of Hitachi Data Protection Solutions for VMware include user specified options for backup, remote replication, constant auto discovery and support for VMware Consolidated Backup (VCB). Data Protection Solutions also provide options for comprehensive data protection and de-duplication methodologies for VMware with various levels of restore granularity from server, virtual machine disk format (VMDK) and file levels.

By offering different restore options, Data Protection Solutions enable organizations to benefit from being able to get to mission critical data more quickly, without driving up costs

across the board. Recovery times are aligned to the importance of the data. This has the overall effect of improving recovery times and lowering overall data protection related costs.

Further, by incorporating data de-duplication with virtual server data protection, Hitachi Data Protection Solutions give organizations the ability to streamline their backup and recovery operations by enabling them to significantly reduce the amount of data to be protected. This has important implications not just from a capacity standpoint, but also from a performance perspective. By reducing the amount of data that needs to be protected, organizations find it easier to protect remote sites as, subsequently, the amount of traffic that needs to be pushed over already busy networks is reduced.

For this solution portfolio, Hitachi Data Systems has partnered with industry leaders CommVault and Symantec. These solutions combine the following proven technologies:

■ **Hitachi Storage, Software and Services**

— The Hitachi Adaptable Modular Storage family and/or Hitachi Universal Storage Platform® V and Hitachi Universal Storage Platform VM; in-system replication software; and data protection planning and deployment services (available through Hitachi TrueNorth Channel Partners)

■ **VMware Software** — VMware vSphere, the VMware cloud operating system, VMware data protection software and VCB for block level incremental image, volume level or file level backups

■ **Backup and Recovery Software** — Hitachi Data Protection Suite, powered by CommVault®, or Symantec NetBackup

## Hitachi Data Protection Suite

The Hitachi Data Protection Suite is a unified software platform that helps ensure outstanding data protection, high availability, constant auto discovery of virtual machines and rapid access to information through the integration of backup and recovery, migration, archiving, replication, third party disk-based copy capabilities and a single point of control.

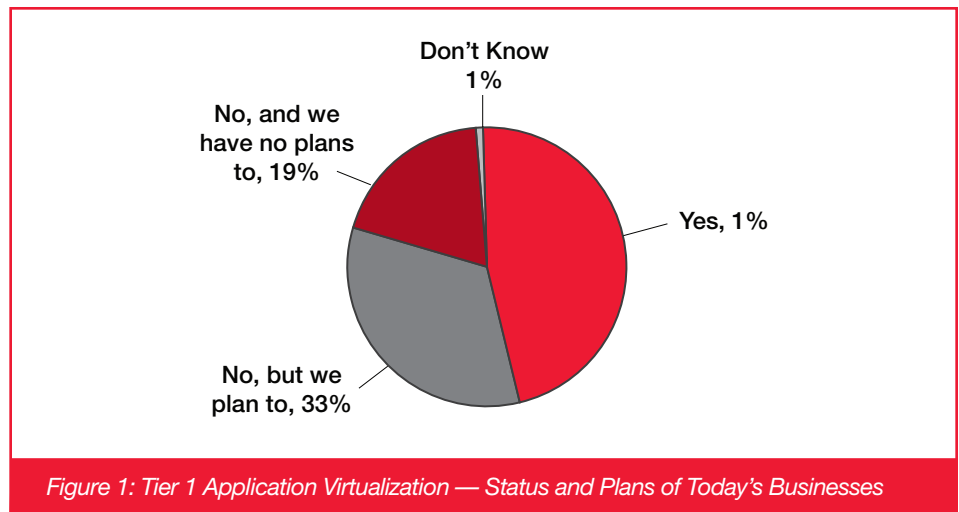
## Hitachi Data Protection Solutions for VMware: Immediate Benefits

### Business Benefits

- Meet recovery time objectives (RTO) and recovery point objectives (RPO).
- Improve backup times and reduce the amount of data with de-duplication.
- Restore data quickly based on the level of granularity required for the type or amount of data.
- Employ comprehensive backup and restore options to enable various levels of personnel to restore critical information.

### Technical Benefits

- Constant auto discovery allows addition of new virtual machines to be automatically assigned to new backup policies with load balancing.
- Service level agreement (SLA) appropriate levels of restore granularity can be achieved from server, VMDK and file levels. The need to install backup agents on each guest virtual machine is eliminated.
- Solution provides detailed reporting on backup metrics and in-depth analysis of problems and service level compliance.



Using the CommVault Common Technology Engine as its foundation enables the Data Protection Suite to help organizations implement the right mix of components without adding complexity.

The Hitachi Data Protection Suite also has embedded de-duplication capabilities and provides constant auto discovery of virtual machines — saving organizations both time and money while ensuring data is optimally protected.

### Key Benefits

- Offloads backup operations from virtual machines to a VCB proxy server to reduce resource contention and eliminate backup agents on each virtual machine
- Meets SLAs for protection and recovery by leveraging multiple backup and recovery options for protection and recovery of VMware virtualization platforms

- Improves data management and protection of virtual machines by automatically discovering and adding them to default protection policies
- Manages and retains more recovery copies on disk or tape while reducing the storage footprint by using embedded de-duplication, smarter management policies, powerful indexing and random disk access
- Identifies and eliminates redundant data across backup and archive of physical and virtual environments running VMware by using embedded de-duplication
- Leverages a single solution that integrates backup, archive, replication and storage resource management across physical and virtual servers, providing unlimited scalability and efficiencies through simplified management and better use of data and resources — all manageable from a single console.

## Symantec Veritas NetBackup

Symantec's Veritas NetBackup provides advanced data protection for enterprise backup and recovery environments. NetBackup helps minimize cost and complexity by providing a unified data protection solution for virtual and physical environments as well as desktops, remote offices and data centers.

With centralized and simplified real time management, organizations can better manage all aspects of backup and recovery, including disk- and tape-based data protection.

NetBackup's market leading disk-based data protection helps make backup and recovery faster, more reliable and more secure than ever. By leveraging storage lifecycle policies to create storage tiers and automatically move backup data through its lifecycle, organizations can meet increasingly stringent SLA commitments.

To help ensure data is secure before it is taken offsite for long term storage, NetBackup offers a wide variety of authorization and access controls as well as encryption options.

### Highlights

- **Flexible Data De-duplication** — Hitachi Data Systems solutions enable organizations to easily deploy and manage de-duplication wherever they need it, from remote offices to virtual servers to data centers.
- **Increased Speed of Backups and Recovery** — NetBackup improves speed of backup and recovery in VMware and Microsoft® Hyper-V™ environments. Leverage NetBackup PureDisk de-duplication features to minimize the bandwidth and storage required to protect virtual servers.

- **Fast, Granular Recovery of Critical Applications** — Help to ensure granular recovery of critical applications, including SAP, Oracle, Microsoft Exchange, SQL Server®, SharePoint® and others.
- **Data Security** — Set and verify the access level and identity of those who access data and ensure that any tapes taken offsite are encrypted.

## Summary

Hitachi Data Systems understands that no two VMware data protection environments are alike and that business requirements are constantly changing.

By offering the Hitachi Data Protection Solutions portfolio, Hitachi Data Systems gives organizations the choice they need to meet their business requirements today — and in the future.

## For More Information

To learn more about how to effectively plan and deploy the Hitachi Data Protection Solutions for VMware, please contact your Hitachi Data Systems representative or your Hitachi TrueNorth Channel Partner, or visit [www.hds.com](http://www.hds.com).

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