USING DOUBLE-TAKE SOFTWARE TO MIGRATE, CONSOLIDATE, AND PROTECT HETEROGENEOUS STORAGE

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In heterogeneous storage environments, a lack of interoperability can be a critical barrier to effective data management. Double-Take® software helps overcome this challenge by providing a cost-effective, simplified way to migrate, consolidate, and protect data in these environments, including those using multiple types of Dell™ servers and storage.

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Enterprise data centers often include multiple types of storage hardware from different vendors, which can introduce several challenges for IT organizations. For example, administrators typically must become experts on each type of storage, understanding the management intricacies and capabilities of each model. Because each storage vendor has typically implemented its own technologies and methods for handling data, different arrays are often incompatible with one another, resulting in isolated storage islands across the data center. And finally, migrating, consolidating, and protecting data on different storage arrays is often difficult, time-consuming, and expensive, and may even require costly consulting services to carry out.

The key to seamlessly migrating or consolidating data across dissimilar storage hardware is to use a storage-independent replication engine, one that administrators can place on a host server and use with any type of storage that the server can mount. The comprehensive Double-Take suite provides a simplified, cost-effective solution for storage-independent data migration in enterprise data centers, one that can help administrators easily migrate, consolidate, and protect data across different types of storage hardware while including cost-effective high-availability and disaster recovery capabilities. Administrators can take advantage of these powerful, flexible tools to carry out common migration, consolidation, and data protection tasks across multiple types of Dell servers and storage and in other heterogeneous environments, helping seamlessly interconnect hardware that might be otherwise incompatible.

SIMPLE STORAGE MIGRATION

Migrating data between storage systems using Double-Take software is typically a simple process—administrators mount the new storage to a Double-Take software–enabled host server and create a replication set between the two systems. Figure 1 shows an example environment in which administrators have configured a Microsoft® Exchange server with a Dell PowerVault™ 220 direct attach storage (DAS) system, and are now migrating their data to a PowerVault MD3000i Internet SCSI (iSCSI) storage area network (SAN).

Host-based replication is well suited for migration because of its ability to bridge dissimilar storage technologies as well as its ease of use and cost-effectiveness. In the example environment shown in Figure 1, Double-Take software can replicate the real-time data changes of the live Exchange server from the PowerVault 220 to the PowerVault MD3000i iSCSI SAN. After the data has been fully synchronized, administrators can un-mount the Exchange server from the

PowerVault 220 and mount the replicated stores from the PowerVault MD3000i SAN. The robust, simplified tools provided by Double-Take software are designed to support migration of any Microsoft Windows® OS–based or Red Hat® Enterprise Linux® OS–based application data.

SERVER AND STORAGE MIGRATION

Migrating data to a new storage array often provides a good opportunity to migrate or upgrade to the latest Dell PowerEdge™ server platforms as well (see Figure 2). Double-Take software includes tools such as Full-Server Failover (FFO) for server migrations that remove Windows hardware driver dependencies, enabling administrators to migrate entire systems—including the system identifier (SID), registry, system files, and applications—through an easy-to-use graphical interface while those systems are still running (see Figure 3). Once the synchronization is complete, administrators can shift the new server and storage platforms into production. This solution helps IT organizations optimize time and resources without the complex, time-consuming process of taking servers offline to perform a backup, then restoring, reconfiguring, and testing the new servers—ultimately enabling comprehensive server migrations without the downtime and risks associated with traditional approaches to migration.

In addition, the FFO technology in Double-Take software enables uninterrupted physical-to-physical, physical-to-virtual, and virtual-to-physical migration of production servers, providing IT organizations with a high degree of flexibility in their environments and avoiding limiting them to a single storage vendor or storage array.

Double-Take software includes a virtual appliance that allows IT administrators to perform large-scale physical-to-virtual migrations using the Double-Take Virtual Recovery Assistant. The Virtual Recovery Assistant helps reduce the complex, often

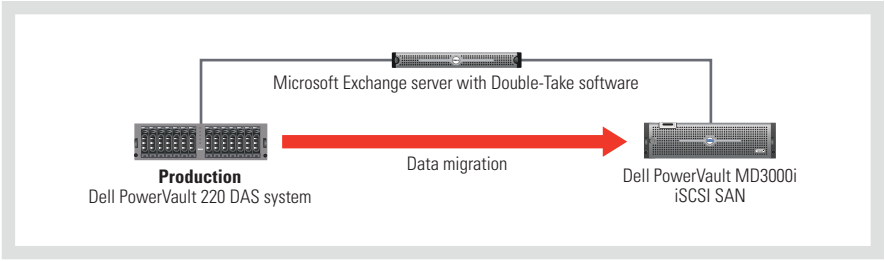

Figure 1. *Migration between two Dell storage arrays using Double-Take software*

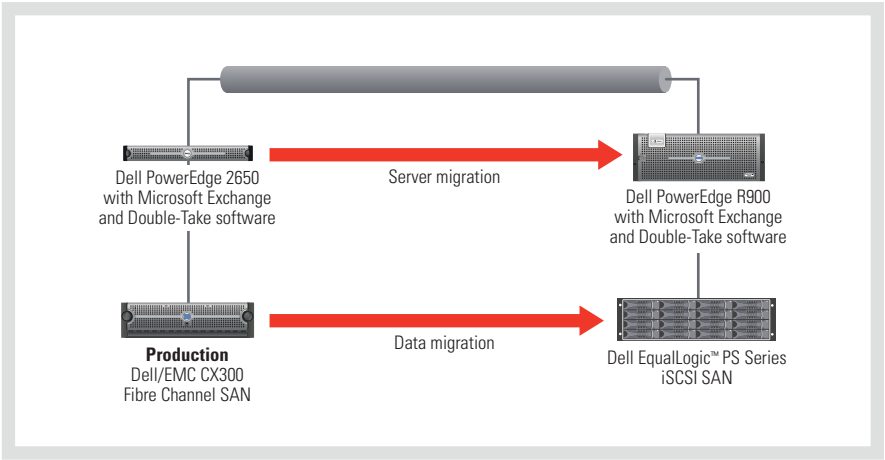

Figure 2. *Migration between Dell servers and storage using Double-Take software*

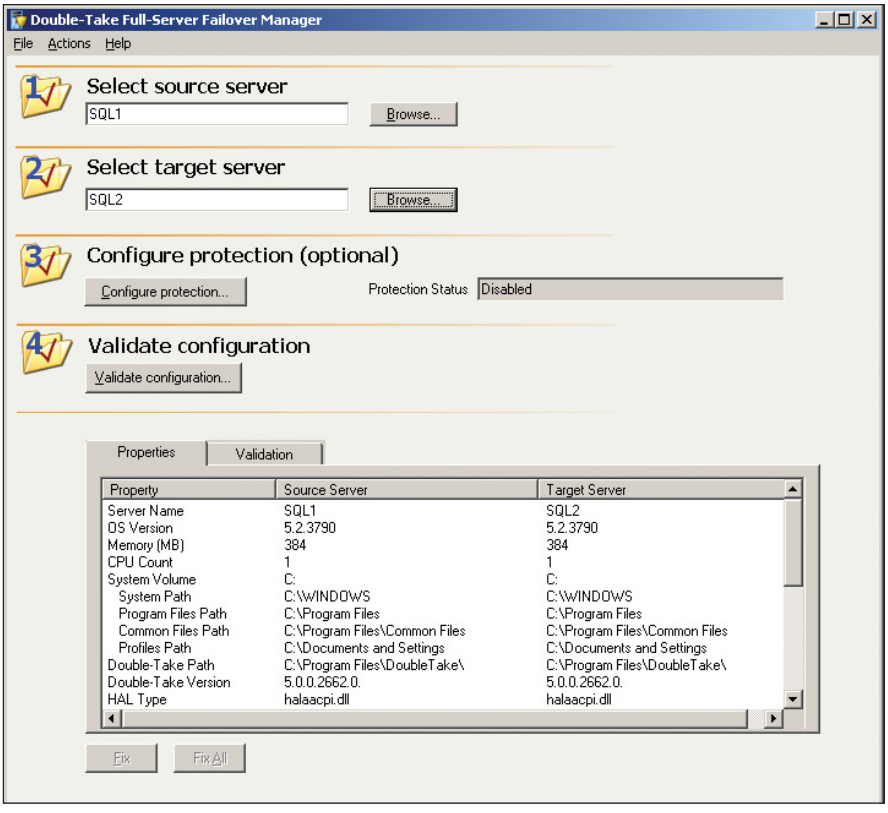

Figure 3. *Double-Take graphical interface designed for ease of use*

manual steps required to ready a new virtualized environment for migration. It does the work of provisioning the target virtual machine for the user—helping eliminate the need to set up the new virtual machine and install an OS, patches, or applications. Because Double-Take software can replicate changes to data in real time, end users can continue to access production applications right up until the workload is migrated.

SERVER AND STORAGE CONSOLIDATION

IT organizations often struggle to manage islands of data in remote or branch offices and departmental work groups, as well as data created by mergers and acquisitions that may create vulnerabilities. Consolidating applications and data to a single site can help ease management of this type of data, but can be difficult to carry out in heterogeneous environments. Because Double-Take software is designed to work over long-distance wide area network (WAN) topologies, including the Internet and IP networks, it can help administrators consolidate data to a central location regardless of differences in hardware platforms (see Figure 4).

SERVER AND STORAGE DATA PROTECTION

Because some application servers and storage systems need to be physically close to end users at remote sites, IT organizations often still need a way to reliably protect those systems. Double-Take software enables them to continue protecting applications and data in real time with minimal bandwidth requirements, using patented transaction-aware data integrity algorithms to help eliminate concerns about database corruption or reduced performance for production applications.

Double-Take software can also provide continuous data protection in heterogeneous storage environments. The Double-Take TimeData™ product helps extend server and storage data protection by providing granular data recovery for Microsoft Exchange, Microsoft SQL Server®, and other Microsoft Windows–based applications—enabling administrators to quickly recover from common problems such as viruses, data corruption, deleted files, and human error. Coupled with Double-Take software, TimeData helps extend enterprise recovery capabilities to include operational recovery in addition to disaster recovery.

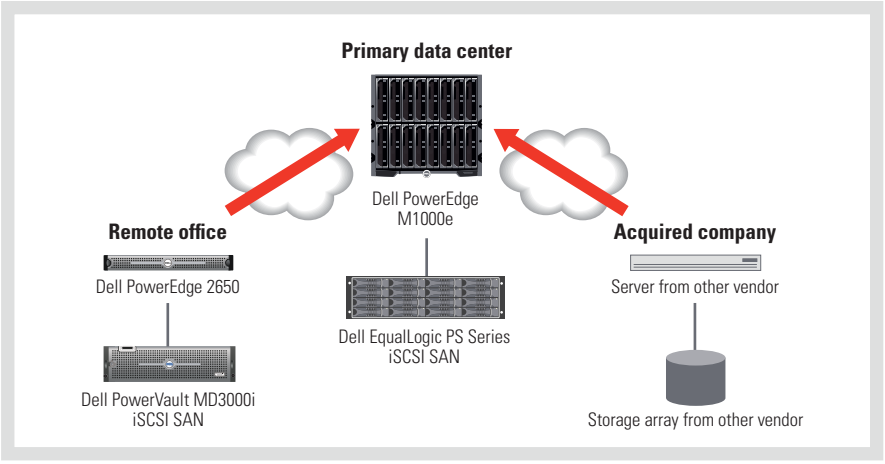

Figure 4. *Consolidation to a single site using Double-Take software*

SIMPLIFIED MIGRATION, CONSOLIDATION, AND DATA PROTECTION

Double-Take software is designed to provide a flexible, cost-effective way to migrate, consolidate, and protect data in heterogeneous environments while avoiding interruptions in service when administrators perform these key tasks. IT organizations can help further reduce total cost of ownership by combining Double-Take software with virtualization software from VMware, Microsoft, or Citrix, including the VMware® ESX, VMware ESXi, and Microsoft Hyper-V™ platforms. Implementing Double-Take software in environments based on Dell servers and storage helps provide a simplified, cost-effective way to manage data for large global IT organizations as well as the IT departments of international emerging-market organizations and small and medium businesses.

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