MODELS

Compaq StorageWorks Virtual Replicator

Product Overview

Compaq StorageWorks Virtual Replicator is comprised of a rich set of innovative capabilities that simplify storage management for Windows NT environments. A key deliverable of Compaq's Enterprise Network Storage Architecture (ENSA), Compaq StorageWorks Virtual Replicator delivers two core capabilities across the ENSA family – *Storage Pooling/Virtualization* and *Snapshots.*

With data storage requirements growing exponentially, system administrators are finding it increasingly difficult to manage and protect their storage environment. Also, the application environment, with increasingly business-critical infrastructure applications, has created a user requirement for around-the-clock availability. To address these issues, Compaq StorageWorks Virtual Replicator focuses on reducing backup and restore windows from hours to minutes, improving data and application availability, and reducing the cost and complexity of managing storage.

This software enables quick response to changing storage capacity requirements with its flexible storage pooling and support for up to one terabyte virtual disks. Using snapshots (instant virtual replicas of the data), it provides the foundation to perform non-disruptive backup and user-initiated restores, and protects against data loss to keep businesses running. Its policy-based backup and restore automation simplifies storage management by reducing system administration involvement and potential operator errors. Compaq StorageWorks Virtual Replicator complements the standard capabilities of Windows NT and utilizes industry-standard server, storage, and network interconnect components, thus protecting a customer's current and future storage investments.

System administrators will value Compaq StorageWorks Virtual Replicator's built-in, ease-of-use and automated capabilities that support Compaq's initiatives to provide customers with simplified management. It employs an easy-to-use Microsoft Management Console snap-in Graphical User Interface (GUI), a command line interface, and SNMP support for industry-leading management frameworks. A set of interactive wizards is employed to guide the user through all management operations, and enhanced scripting capabilities enable unattended scheduling of snapshot operations using Compaq Batch Scheduler to increase IT productivity.

Compaq StorageWorks Virtual Replicator can be deployed on Windows NT systems (server or workstation) and supports Intel and Compaq Alpha architectures. It works with existing Compaq Smart Arrays, StorageWorks RAID Arrays, Enterprise Storage Arrays, and the StorageWorks Enterprise Backup Solution. It is complementary to industry backup solutions (e.g. Seagate's BackupExec™ for Windows NT, Legato Networker® for NT, and Computer Associates ARCserve® For Windows NT), as well as NT's basic built-in backup capability. When layered on top of Microsoft Cluster Server (MSCS), it takes full advantage of MSCS's high availability features.

Core Capabilities

- **Storage Pooling/Virtualization** – enables the grouping of hardware array storage or physical disks into a logically concatenated pool of disk space. Multiple "virtual disks" can be created from the pool; they behave and perform exactly like physical disks. Disk virtualization allows the system administrator to optimally tailor disk space to the size required by users and their applications. Storage devices can be added to a pool as needed, increasing the size of the pool. Moreover, storage from multiple hardware array controllers can be bound into a storage pool and a virtual disk can be created that spans them. Up to terabyte-sized individual virtual disks can be created.
- **Snapshots** – enable the instantaneous creation of multi-purpose virtual replicas of production data without the requirement of physically copying data. Snapshots function identically to ordinary physical disks with both read and write capability. Snapshots are used any time you need a quick "copy" of your production data without disrupting running applications. For example, while an application continues to run on a virtual disk, a backup of the disk can be performed using a snapshot of the virtual disk. The snapshot becomes the source for backup with a standard Windows NT backup engine to actually perform the backup, and is available to tape devices, or can be delivered across a TCP/IP network to a remote backup server. System administrators can also use snapshots to test new applications (e.g. Year 2000), use for data mining, and populate data marts and web servers with minimal or no impact to users. Wizards enable user-initiated, automatic scheduling of snapshots for unattended, instant restore operations. Integrated wizards create scripts that can be executed with Compaq Batch Scheduler to automatically schedule unattended creation, deletion, and backup of snapshots.
- **Cluster-aware** – runs on top of MSCS when cluster support is required, to provide higher availability for data and applications. Failover and failback of pools, virtual disks, and snapshots are performed as a unit in an MSCS cluster. Cluster resources are automatically created to simplify cluster management.

Compaq StorageWorks Virtual Replicator enables new levels of storage deployment flexibility and modularity, provides increased availability of production data to keep the business running, and reduces the cost and complexity of Windows NT storage management. This software further differentiates Compaq's storage solutions from the competition by providing leading edge storage management using industry-standard components.
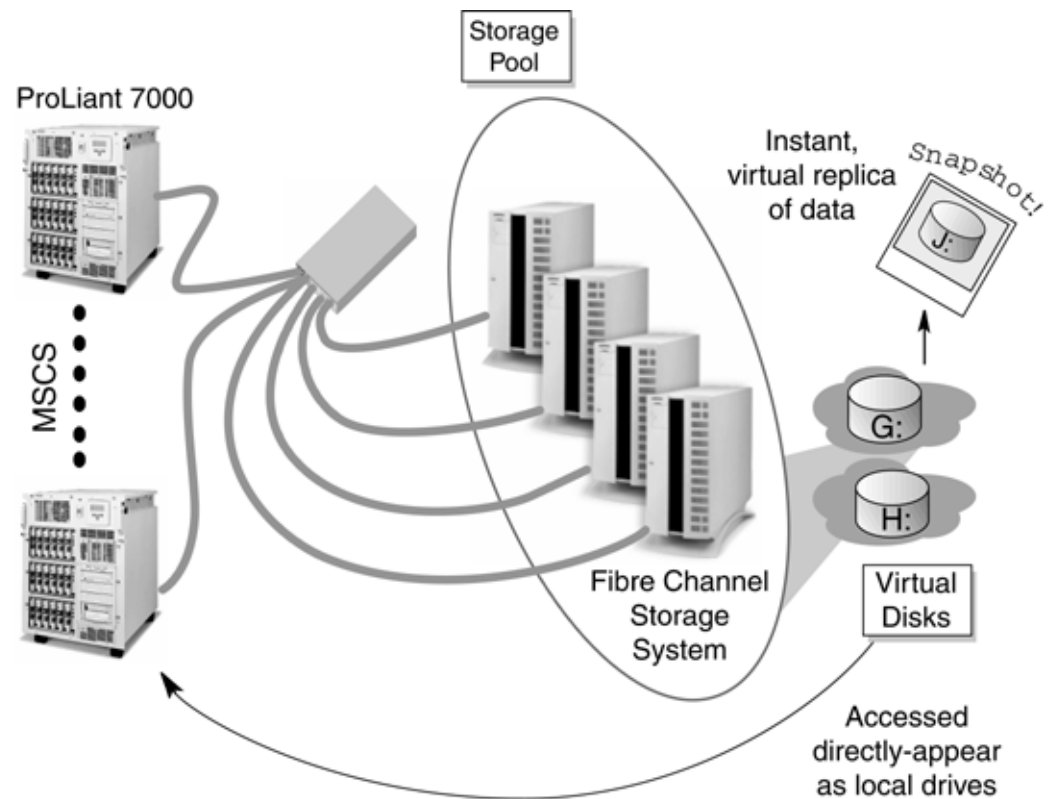
BENEFITS AT A GLANCE

- Delivers on Compaq's Enterprise Network Storage Architecture (ENSA) strategy for Windows NT
- Helps protect against data loss to keep businesses running with non-disruptive backup and user-initiated restores
- Enables quick response to changing capacity requirements with flexible storage pooling and up to 1-terabyte virtual disks
- Reduces system administration of data and storage with policy-based automation to increase IT productivity
- Enables risk-free software testing, including Year 2000 readiness
- Uses industry-standard components for investment protection and to reduce staff retraining
- Results in lower total cost of ownership
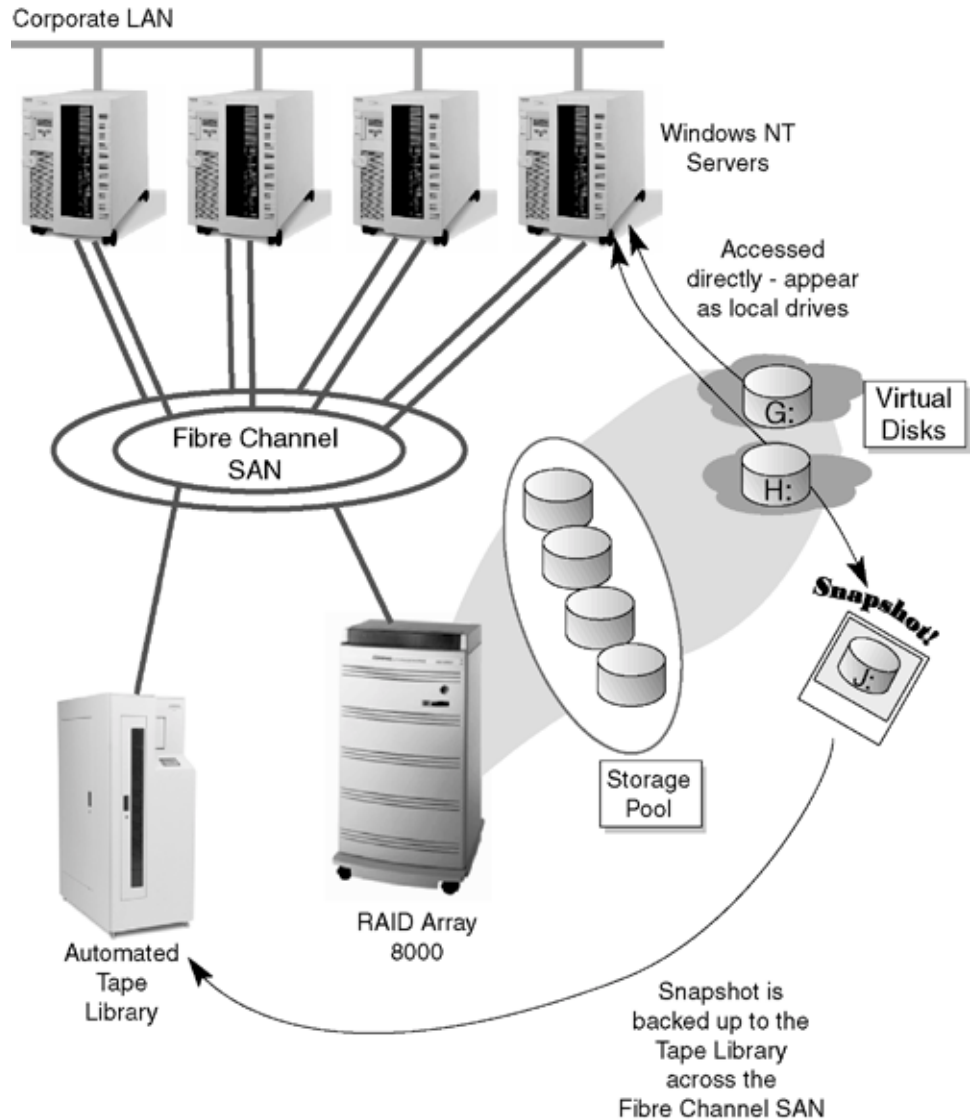
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Deployment Configuration #1 – Compaq StorageWorks Virtual Replicator for Flexible Storage Deployment

This configuration illustrates Compaq StorageWorks Virtual Replicator deployed with hardware array controllers (e.g. RA4000) that are made available as resources to the Windows NT ProLiant servers. The controllers are included in the storage pool, and from the storage pool, virtual disks are created. Once created, virtual disks and snapshots can be accessed directly from the Windows NT servers where StorageWorks Virtual Replicator is installed. Ideal for either non-clustered or clustered environments, it is shown here in a Microsoft Cluster Server (MSCS) environment. Note that this solution is complementary to both SCSI and Fibre Channel storage subsystems.

Deployment Configuration #2 – Compaq StorageWorks Virtual Replicator with Compaq StorageWorks Enterprise Backup Solution in a Fibre Channel SAN

To backup a virtual disk, a snapshot of the disk is created and backed up over the Fibre Channel SAN to an Automated Tape Library. The backup is accomplished using existing backup applications that operate with the Compaq Enterprise Backup Solution.

Using this approach for backing up critical data has two key advantages:

- Critical files/databases can be kept in production while the snapshot copy is backed up.
- The backup can take place in the background on the Enterprise Backup Solution Fibre Channel SAN without impacting any of the traffic on the corporate LAN.

SYSTEM REQUIREMENTS

System Software Supported

Microsoft   Windows NT Workstation/Server 4.0, Service Pack 3 (minimum)
Microsoft Internet Explorer 4.0
For clustered environments: Microsoft Windows NT Server, Enterprise Edition 4.0

Processors Supported

Intel   and Alpha

Memory Supported

64 MB required	128 MB recommended

Disk space

Disk space for full installation	20 MB

Other

Windows-compatible mouse

ORDERING INFORMATION

Part Numbers

Compaq StorageWorks Virtual Replicator 1 License & Media	388931-B21
Compaq StorageWorks Virtual Replicator 10 Licenses & Media	170477-B21
Compaq StorageWorks Virtual Replicator 25 Licenses & Media	170478-B21
Compaq StorageWorks Virtual Replicator 50 Licenses & Media	170479-B21
Compaq StorageWorks Virtual Replicator 100 Licenses & Media	170480-B21
Compaq StorageWorks Virtual Replicator 1 License only	388932-B21
Compaq StorageWorks Virtual Replicator 10 Licenses only	170481-B21
Compaq StorageWorks Virtual Replicator 25 Licenses only	170482-B21
Compaq StorageWorks Virtual Replicator 50 Licenses only	170483-B21
Compaq StorageWorks Virtual Replicator 100 Licenses only	170484-B21

Services Part Numbers

Compaq StorageWorks Virtual Replicator Installation service	QT-66MAA-I9
Compaq StorageWorks Virtual Replicator Packaged Product service	QT-66MAA-X*
Compaq StorageWorks Virtual Replicator License Subscription service	QT-66MAA-T*
Compaq StorageWorks Virtual Replicator Telephone Support service	QT-66MAA-Z*

Note: A=1, C=10, D=25, E=50, F=100