

# Tivoli

## Storage Management

### With Windows

# 2000

By Ron Riffe

**Tivoli Storage Management Solutions integrated with Dell PowerVault storage devices seamlessly supports a variety of storage management functions for Windows 2000-based systems. These include local and networked backup, disaster recovery, SAN-based tape resource sharing, SAN-based file sharing, and low-bandwidth mobile backup.**

**T**ivoli Storage Management solutions are a full-function storage software family that supports Windows 2000. These solutions manage the complete range of storage functions, provide applications-focused business recovery support for planned and unplanned outages, and deliver “one-touch” control over an entire storage infrastructure. Tivoli Storage Management solutions extend from the laptop through the data center.

Tivoli Storage Management solutions utilize the full range of Dell’s PowerVault Storage devices to deliver these functions.

#### **Business Solutions That Deliver**

Several focused business solutions that combine Tivoli Storage Management software with Dell PowerVault storage include:

**Easy-to-use image replication of a server.** Allows businesses to make very high-performance, local images of a server. These images can be used to back up and restore at the file level, to provide bare-metal disaster recovery, or to archive

data for long-term use. Figure 1 shows Tivoli Data Protection for Workgroups being used to make a local image replication of a Dell PowerEdge server to a Dell PowerVault tape device.

Product requirements include Tivoli Data Protection for Workgroups and Dell tape drives, including PowerVault 100T DAT or 110T DLT.

**Networked backup of several servers.** Allows business to consolidate the backup and archive operations of many servers. A Windows 2000-based system that uses Dell PowerVault storage can manage the backup, archive, and disaster recovery functions for over 35 other operating platforms.

Product requirements for network backup include:

- Tivoli Storage Manager
- Tivoli Disaster Recovery Manager
- Dell tape drives: PowerVault 100T DAT or 110T DLT
- Dell tape libraries: PowerVault 130T DLT
- Dell autoloader: PowerVault 120T DAT or PowerVault 120T DLT

**Enterprise storage management.** Allows businesses to consolidate the backup and archive operations of their entire enterprise, including files, databases, e-business applications, and mobile computers. As described above, Windows 2000-based systems using Dell PowerVault storage can manage the backup, archive, and disaster recovery functions for many other operating platforms.

Advanced technologies, such as Tivoli's Adaptive Differencing, can manage the backup of mobile computers. Specialized tools such as Tivoli Data Protection for SAP manage backup of e-business applications. An enterprise configuration consists of Web-based administration, single sign-on, consolidated event and performance reporting, integrated help-desk functions, and disaster recovery planning tools to enable business enterprises to control and audit their storage management.

Figure 2 shows how Tivoli Storage Manager combined with a PowerEdge server and PowerVault storage are being used for enterprise control. Application-specific modules such as Tivoli Data Protection for the Microsoft SQL Server, Microsoft Exchange, Lotus Domino, and SAP, as well as Adaptive Differencing for desktop and mobile backup are fully integrated.

The products needed to manage the storage for the entire enterprise include:

- Tivoli Storage Manager
- Tivoli Disaster Recovery Manager

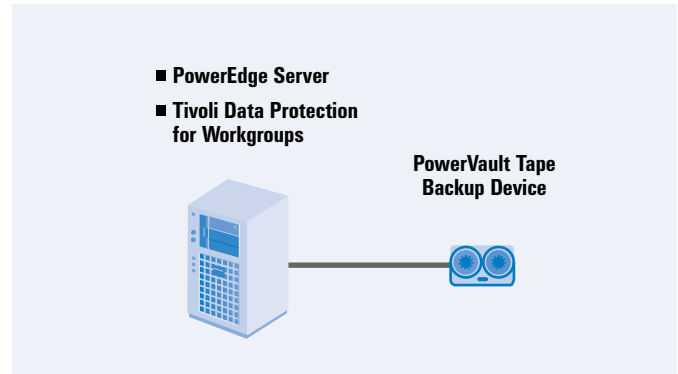


Figure 1. Image Replication of a Server

- Tivoli Data Protection for applications
- Tivoli Space Manager
- Tivoli Decision Support for storage management analysis
- Dell tape drives: PowerVault 100T DAT or 110T DLT
- Dell tape libraries: PowerVault 130T DLT
- Dell autoloader: PowerVault 120T DAT or PowerVault 120T DLT

**SAN: High-performance file sharing with LAN-free backup.** Allows businesses to use the well-known and easy-to-use Network Attached Storage (NAS) protocols of Network File System (NFS) and Common Internet File System (CIFS) in a storage area network (SAN) environment.

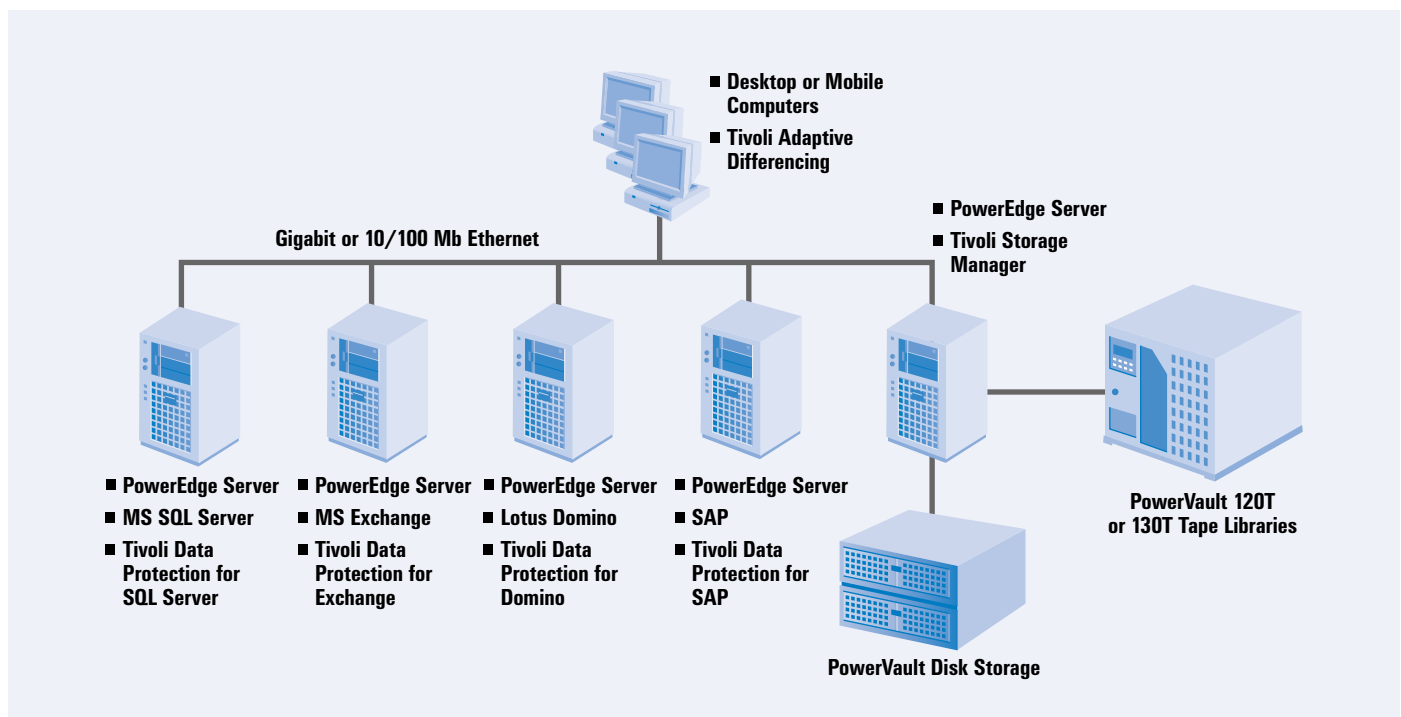


Figure 2. Enterprise Storage Management

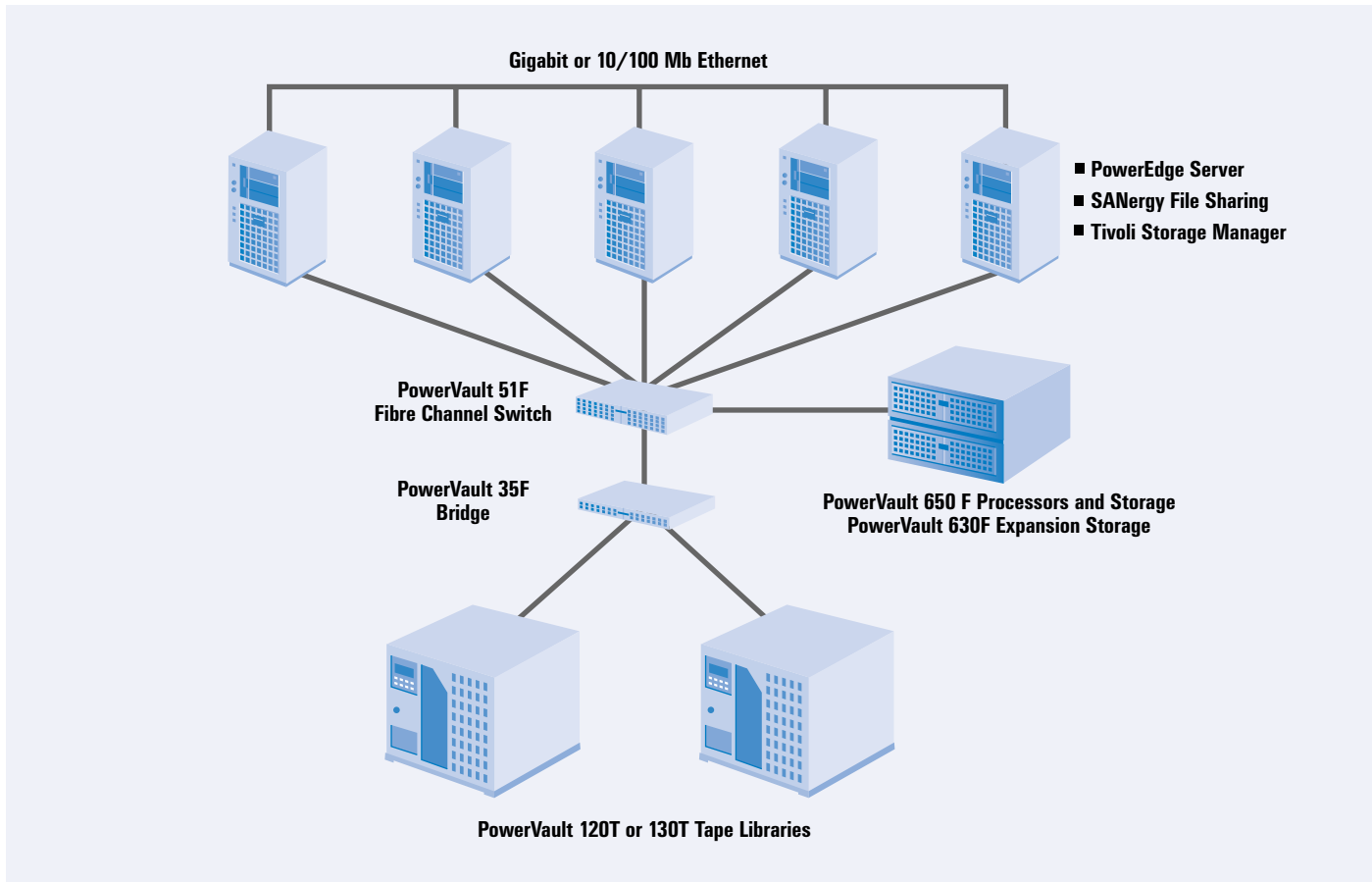


Figure 3. SAN File Sharing with LAN-Free Backup

Traditional NAS filers use local area network (LAN) links to transfer data. This solution uses newer and significantly faster SAN resources. The result combines the ease-of-use of a NAS filer with the improved speed of a SAN. Systems such as Windows NT, Windows 2000, Sun<sup>®</sup> Solaris<sup>®</sup>, IBM AIX<sup>®</sup>, SGI, and Macintosh<sup>®</sup> can all share files over a SAN. When combined with Tivoli Storage Manager, backup operations can be performed over the SAN (LAN-free) without impact to any of the shared systems.

Figure 3 shows Tivoli's recently acquired SANergy<sup>™</sup> "File Sharing being used on a PowerEdge server to control SAN-based file sharing from several heterogeneous operating platforms. These platforms are connected to PowerVault SAN hardware, and the shared information is stored on PowerVault disks. Tivoli Storage Manager is added along with PowerVault tape devices to provide integrated, LAN-free backup.

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***Tivoli Storage  
Management Solutions  
are a full-function storage  
software family that  
supports Windows 2000.***

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A high-performance SAN requires these products:

- Tivoli Storage Manager
- SANergy File Sharing
- Dell PowerVault 50F or 51F Fibre Channel switch
- Dell PowerVault 35F Fibre Channel bridge
- Dell PowerVault Fibre Channel disk array
- Dell tape drives: 110T DLT
- Dell tape libraries: PowerVault 130T DLT

### Choosing Storage Solutions

Storage solutions are critical to business enterprises today. The combination of Dell and Tivoli products offers a broad range of solutions. For additional information, visit our Web sites at [www.dell.com](http://www.dell.com) or [www.tivoli.com](http://www.tivoli.com). ♦

*Ron Riffe (Ron.Riffe@tivoli.com) currently manages Strategic Planning and Business Development for Tivoli Storage Management Solutions. Prior to joining Tivoli, Ron spent 10 years as a corporate storage manager for an international manufacturing firm.*