VERITAS™

Enhanced Data Protection for Windows Server 2003

VERITAS Backup Exec™ 9.0 *for Windows Servers*

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With the introduction of Microsoft Windows ™ Server 2003, existing backup applications will no longer protect the entire system. VERITAS Backup Exec™ 9.0 *for Windows Servers* fully supports Microsoft's Windows Server 2003 and takes full advantage of enhancements to help manage your storage more effectively.

Introduction

This white paper addresses business challenges and presents customer benefits realized by using VERITAS Backup Exec 9.0 *for Windows Servers*. Now in its ninth generation, Backup Exec continues to lead the industry in Windows Server data protection. VERITAS has been the sole provider of the backup applet found in every version of Windows Server technology. Throughout the years, VERITAS has developed world class data protection solutions based on the technology that is inherent in the operating system.

New Storage Features in Microsoft Windows Server 2003 [1]

The Windows Server 2003 family introduces new and enhanced features for storage management, making it easier and more reliable to manage and maintain disks and volumes, backup and restore data, and connect to Storage Area Networks (SANs). This article provides an overview of benefits, new features, and improvements for storage management services in Windows Server 2003.

Shadow Copies for Administrators and Users - Windows lets administrators configure shadow copies from either the Disk Management Snap-in or the Shared Folders Snap-in, both located in the Computer Management console. When enabled, users can find previous versions of files available from network shares.   Once the shadow copies features are enabled on the server or network share, users can find previous versions of files in Windows Explorer by simply right clicking the file and selecting Properties.

Encrypting File System - The Encrypting File System (EFS) is the technology used to store encrypted files on NTFS volumes. Encrypted files and folders are easy to use. They appear just like any other file or folder - transparent to authorized users but inaccessible to anyone else. EFS is particularly beneficial for mobile users who may face a higher risk of computer loss or theft. An unauthorized person who tries to access encrypted files or folders is prevented from doing so, even if the intruder has physical access to the computer. EFS improvements in Windows Server 2003 include the ability to authorize additional users to access encrypted files, the ability to encrypt offline files as well as store encrypted files in Web folders.

Open File Backup - The backup utility included with Windows Server 2003 now supports "open file backup". In Windows 2000, files had to be closed before initiating backup operations. Backup now uses Shadow Copies to ensure that any open files being accessed by users are also backed up.

Improved Check Disk Command - In Windows Server 2003, the performance of the Check Disk command, known as CHKDSK.exe, is seven times faster than the version released with Windows 2000 Server.   The program, which checks for errors on Windows volumes (FAT or NTFS file systems), also provides improved reliability and error-handling capabilities to ensure the program only runs when serious errors occur, or when initiated by the user from the command-line. CHKDSK for Windows Server 2003 will also be available for Windows 2000 Server.

Boot from SAN Configuration - Storage hardware vendors are now making it possible to boot and run a Windows Server 2003 operating system remotely. Each Windows-based server requires a separate copy of Windows. SAN boot also requires a custom configuration, depending on your storage hardware vendor. Contact your storage vendor for more information on SAN boot support.

Automated System Recovery - Automated System Recovery (ASR) enables consistent data recovery of servers, including "system state" and hardware configuration information. Using recovery mode, ASR ensures a server can be returned to its original state if a serious failure occurs. The backup application included with Windows can be easily configured to use ASR for system restores. Combined with Remote Installation Services (RIS), ASR provides an effective way to automate complete system restores across the network without user intervention.

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[1] Datasource: http://www.microsoft.com/windowsserver2003/evaluation/overview/technologies/storage.mspx

New Storage Features in Microsoft Windows Server 2003[2] (continued)

Diskpart Command - The DISKPART.exe command-line program provides all the functionality of the Disk Manager Microsoft Management Console (MMC) Snap-in, but via the command-line.   In addition, DISKPART enables storage administrators to expand basic disks, a disk type used by Microsoft Cluster Services, as more disk space is required.

Distributed File System Improvements - The Distributed File System (DFS) eases locating and managing data on your network. DFS provides unified management and access of distributed servers across the enterprise. DFS unites files on different computers, making them appear to be a single "namespace," enabling a single, hierarchical view of multiple file servers and file server shares on your network. Improvements in DFS deliver more reliable load balancing, better file replication between DFS sites and servers, and closest-site selection for users accessing the network. Closest-site selection ensures that users share files from the server closest to their network access point.

This paper highlights some of the new Storage Management features in Windows Server 2003. There are many more features in the operating system that this paper does not cover. For more information on features included in Windows 2000 or Windows Server 2003, please contact Microsoft or visit them online at http://www.microsoft.com.

The Microsoft/VERITAS Partnership

Backup included in the Operating System - VERITAS Software is the author of the backup applets within Microsoft Windows NT 3.1, 3.5x and 4 as well as Microsoft Exchange Server and Microsoft BackOffice Small Business Server. Demonstrating its continued leadership, VERITAS Software now exclusively provides the backup applet in the latest generations of Microsoft's Windows products - Windows 2000, Windows 98 and Windows Server 2003.

Tape Format - The tape format used by the Microsoft Windows NT backup applet and by VERITAS Backup Exec is Microsoft Tape Format (MTF), which was co-developed by VERITAS and Microsoft to provide 100% read and write compatibility with the operating system.

Disk Administrator - Microsoft licensed the Dynamic Disk Manager (DDM) from VERITAS as a replacement for the Disk Administrator found in Windows NT 4.

Certification - VERITAS Backup Exec was the first certified Windows NT, Windows 2000 Server and Windows 2000 Advanced Server data protection application and the second Windows 2000 Datacenter Server-certified application behind the VERITAS NetBackup product.

Supporting Microsoft Standards - Backup Exec applications utilize COM+, VDI and MAPI technologies to ensure reliability, enhance backup performance and embrace the Microsoft architecture.

Solving Critical Business Needs

VERITAS demonstrated a strong commitment to the Storage Market by listening to customers and providing solutions to meet their business needs. With the release of Backup Exec 9.0 for Windows Severs, VERITAS addresses key business issues facing IT administrators by enhancing the user experience with easy-to-use features that deliver improved performance and reliability. The release of Backup Exec 9.0 *for Windows Servers* fully supports installation on and protection of Windows Server 2003, Windows XP Professional, Windows 2000 and Windows NT systems, running in a domain.

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[2] Datasource: http://www.microsoft.com/windowsserver2003/evaluation/overview/technologies/storage.mspx

ENHANCED USER EXPERIENCE

An Updated graphical user interface - is more intuitive with features that further simplify operation. A task pane makes launching Backup Exec operations easier while the media server summary provides a quick listing of recent Backup Exec activity on the server. A new Information Desk provides quick, convenient access to detailed information on how to use Backup Exec as well as other relevant information to further enhance the user experience.
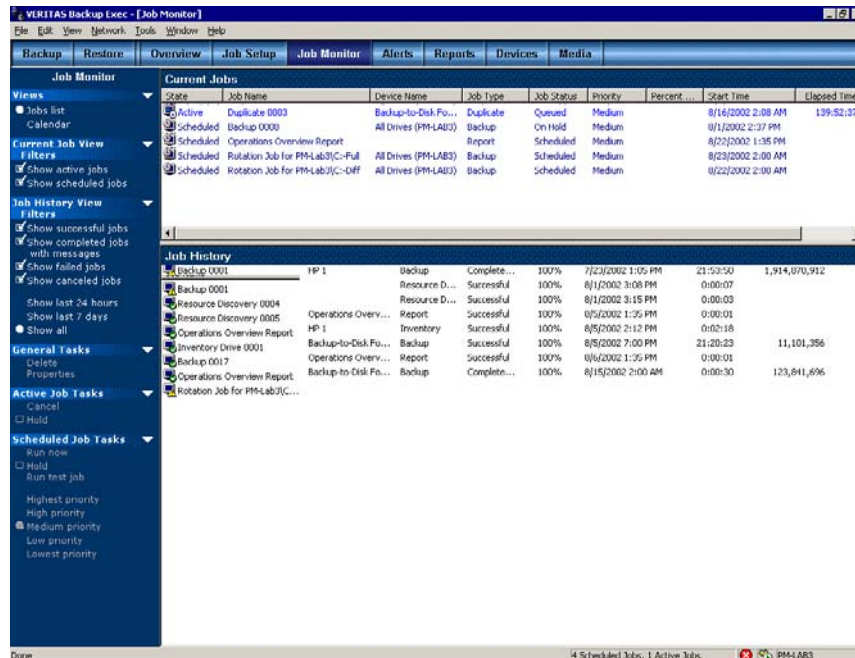
VERITAS Backup Exec Web Administration Console - provides a web-based administration console for Windows Powered and Windows Server 2003 servers displaying task-oriented features designed to protect data on Windows servers.
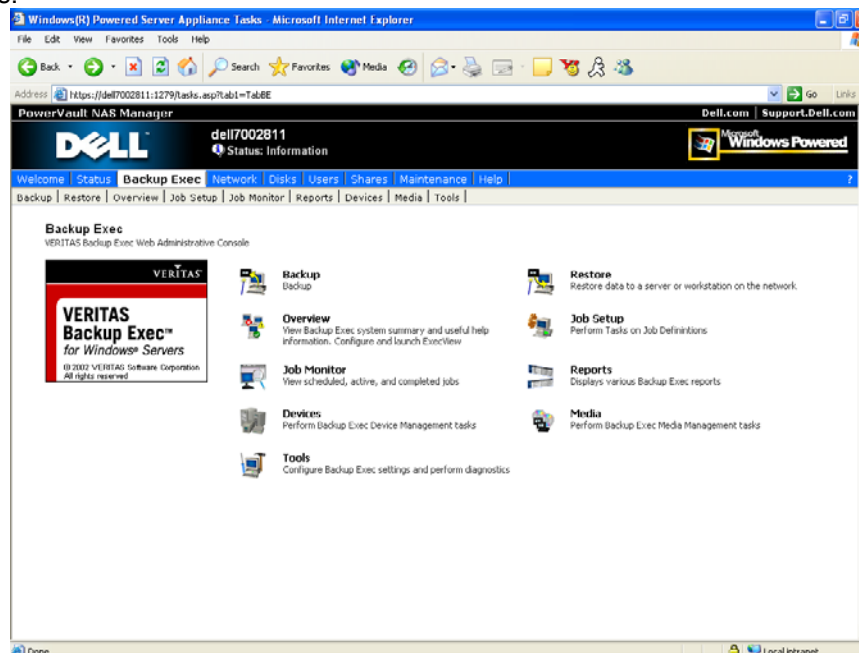
Microsoft Installer - easier to use Microsoft Installer (MSI) based Installation. Set it and forget it installation. All questions are answered at the beginning and installation then runs to completion. This also provides automatic rollback capabilities for failures.
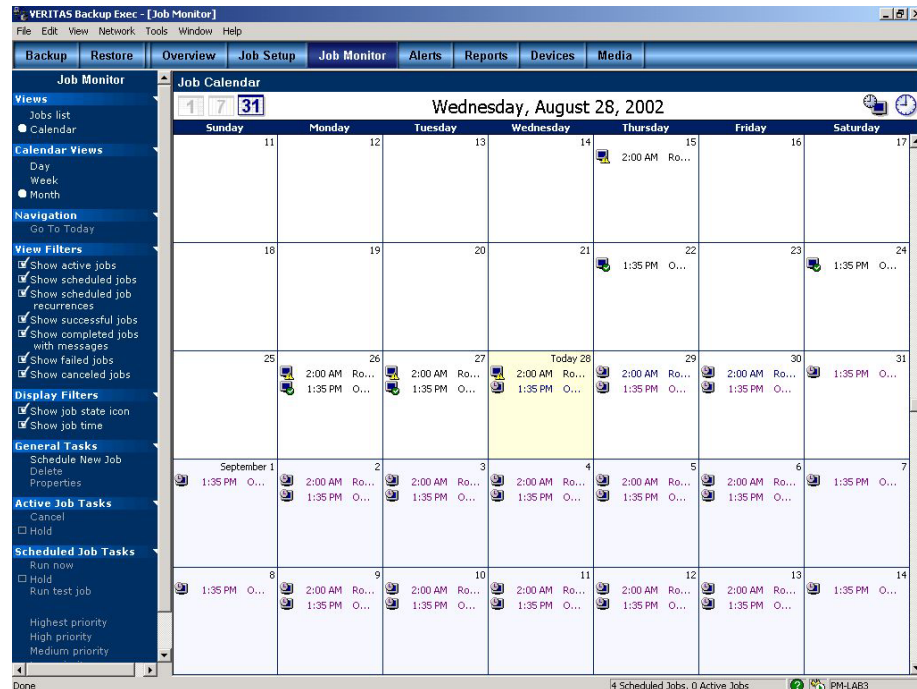
Calendar-based job scheduler - allows users to quickly view and schedule jobs through a calendar format similar to Microsoft's Outlook.

User customized views for the UI - enables users to include filters, add, remove, collapse and expand columns.

Enhanced alert and notification setup - allows configuration of alerts and set up of recipients who will receive e-mail or pager notification when alerts occur. Also provides alert filtering to specify the types of alerts that will display on the Administration Console. In addition to active alerts, the enhanced alert and notification setup allows viewing of alert history.

Job history enhancements - provides color-coded HTML-formatted job logs, presents summary of errors in a history log, and provides more detail of job history without having to view the log.

System Summary screen - provides a central, consolidated view of the status of the Backup Exec server. Administrators can use this screen to easily see all of the most important status information in a summarized view. This view can be configured for 24, 48, or 72 hours to quickly review the system summary history for that time period. Good for coming in on MONDAY mornings and seeing what happened over the weekend.

Job Summary view - provides a detailed summary of the backup job being submitted allowing the user to review for accuracy before submitting a job.

Dynamic product update - checks the VERITAS web site at user-specified intervals for any available Backup Exec updates and informs the user when software updates are available.

Enhanced ExecView Integration - now users can launch ExecView from within the Backup Exec UI to centrally monitor and manage multiple Backup Exec *for Windows Servers* or Backup Exec for NetWare servers through a remote JAVA console.

Backup Exec Information Desk - links to the product wizards, documentation, configuration, support and other key features of the product providing a quick link to the read-me file and any other information pertaining to the release.

Integrated HTML Help System - the new integrated HTML smart help system is available from every screen within backup. It allows powerful search and indexing features, hot links to areas in the application and an ability to "add favorite" links.

IMPROVED PERFORMANCE

Enhanced Specified Backup Network - a new drop down menu lists all available network interface cards that can be chosen and dedicated as a default LAN to remove backup traffic off the general LAN decreasing overall traffic on the production LAN. A default LAN can be specified for all jobs, or a LAN can be specified on a per job basis for both backup and restore jobs.

Remote Agent for Windows Servers - speeds up the backup traffic providing increased performance during the restore process of Windows NT, Windows 2000 Server and Windows Server 2003 and workstations via Agent Accelerator™ technology.

ServerFree Option - off-loads the backup process onto a third-party data mover within a SAN. Support for VERITAS Volume Manager's Split Mirror capability (FLASHSNAP) enables frozen image backup of SQL Server.

Windows Change Journal Integration - by using the Windows modified time instead of relying on the archive bit, backups run faster. Journaling can be used during incremental/differential backups.

Working set backup for UNIX and Macintosh Clients - allows selection of last access date or archive bit for performing incremental and differential backups of data, delivering faster backups by eliminating the need to perform larger, full backups.

Remote Image Backup with Intelligent Image Option - performs image backup and restore of remote Windows NT 4 and 2000 Professional workstations as well as remote Microsoft Windows Server 2003, Windows NT 4, Windows 2000 Servers, and Windows XP Personal and Professional workstations.

Advanced Open File Option - Complete with Backup Exec Remote Agent for Windows, the Advanced Open File Option ensures all files on local or remote servers are protected even while in use and integrates the ability to detect the Microsoft Volume Snapshot Service (VSS) for shadow copy components on Windows Server 2003 or Volume Manager FlashSnap -- providing users the option to select either frozen image solution to protect open files.

Enhanced Agent for Microsoft SharePoint Portal Server - provides Microsoft SharePoint Portal Server users additional granularity to perform backup and restore of individual SPS workspaces and documents. Workspace-Level restores should be backed up to the original or to a redirected SPS information store without affecting other workspaces.

Lotus Domino Rnext support - provides non-disruptive data protection of Lotus Domino R5 and R6 databases and transaction logs.

Scheduling of Utility Jobs - utility jobs such as cleaning, inventory and erase, can be scheduled to run once or as regularly reoccurring jobs.

Duplication of backup data - allows copying of existing backup sets or backup sets created during a scheduled backup job. If you select to duplicate existing backup sets, the backup sets you select from catalogs are read from the source media and written to the selected destination such as a drive, drive pool, or backup folder. If you select to duplicate backup sets following a job, you must select a scheduled backup job as the source. That backup job runs first, and then the backup sets it created are copied to the destination selected for the duplicate job.

Hot-swappable Device Wizard - guides users through the process of replacing or adding tape drives on a Backup Exec media server without having to reboot the server.

Cluster install and configuration wizard - automates installation and configuration of Backup Exec media servers operating in a Windows cluster environment.

Single Instance backup of NTFS Volumes - Backup Exec now supports backing up NTFS volumes using single instance storage. If a file is on an NTFS volume multiple times, a link to the file is backed up for each additional copy saving backup time and space on the tape.

IMPROVED RELIABILITY

Microsoft Windows Server 2003 Logo Certification - VERITAS has traditionally been the first to provide certified solutions for Microsoft operating systems and will continue to embrace Microsoft standards for certification with Windows Server 2003 ready solutions.

Enhanced Agent for Microsoft Exchange - **Single Instance Backup of Message Attachments -** backs up only one copy of attachments delivered to multiple users, delivering faster backups of individual mailboxes by reducing backup of duplicate information. **Greater Granularity** - Exchange users can now perform incremental and differential backups of individual mailboxes and public folders when performing mailbox level backups. **Specific Folder Exclusion** - provides Exchange users the ability to globally include or exclude specific folders, such as Deleted Items or Sent Items, during Exchange mailbox backups. **Individual Public Folder Backup and Restore** - provides Exchange users the ability to select individual messages and folders from public folders for backup or restore. **Automatically Recreate User Accounts and Mailboxes** - when mailboxes are being restored to their original locations, users can now automatically recreate Exchange mailboxes and user accounts during the restore.

Test Run of backup jobs - determines if a scheduled job will complete successfully by checking tape capacity and user credentials to identify potential problems that could prevent successful job completion and notifies the administrator on the Administration Console or via e-mail or pager.

Automation of complex recovery processes for SQL Servers using the Intelligent Disaster Recovery option - The IDR process will now use copies of the Master and Model database to start SQL Server without having to re-install the SQL application.

Reordering of job selections - allows editing of the order in which resources selected for backup are processed.

Prioritizing of job order - allows changing of the priority order of jobs.

Error handling rules - allows setting of rules for Backup Exec to handle failed jobs based on error categories.

Tracking of media by location - provides offsite tracking of media through the creation of user-defined media vaults.

Media capacity tracking - allows viewing of remaining media capacity.

Integrated MSDE 2000 database backend - Backup Exec 9.0 now incorporates Microsoft Data Engine (MSDE) 2000 as its database by default increasing reliability, scalability, and performance. Optionally an existing Microsoft SQL Server 2000 can also be used to host the Backup Exec database.

Built-in Database Maintenance - allows administrators to manage the Backup Exec database from within Backup Exec. This includes automatic backup, data grooming, history retention, database compaction, database consistency checks, and alerts about the status of the database, and date and time of last database back up.

Backup of Utility or System Partitions - Backup Exec can now protect Utility, System or Boot partitions on Windows 2000 systems.

ASR Support in IDR - IDR integrates with Automated System Recovery (ASR) functionality in Windows Server 2003 and Windows XP to provide complete disaster recovery on Windows servers.

ENHANCED EASE OF USE

Automatic Discovery of New Resources - allows creation of a job to automatically detect new backup resources, including local and remote databases or volumes.   This enables administrators to identify resources on the network that are at risk to determine which devices need to have a backup job created.

Admin Plus Pack Option - provides features designed for distributed management of data on media and remote servers. It includes the ability to clone servers and copy jobs, selection lists and templates between media servers. This option also provides twenty-four additional advanced reports for a total of 38 reports in all.

Enhanced Reporting Capabilities - delivers additional reports for administering media servers and remote systems, enable reports to be scheduled as jobs and e-mailed to specified recipients and allows set up of user accounts for protecting specific systems (Total of 14 new reports!) Additionally, the enhanced reporting capabilities allow creation and modification of user accounts with access to back up and restore specific systems --providing tighter login and security procedures on the backup server.

Easier and Faster Job Setup and Editing - using the new Job Templates and Selection Lists, administrators can quickly and easily create new jobs by combining re-usable Templates and Selection Lists. Editing multiple existing jobs can now be done with a simple change to the Template or Selection List instead of editing each individual job.

Manage by Exception - enhanced alert management features enable administrators to direct the application to take a predetermined action based upon a specific type of failure event occurring. For example, if open files are skipped, then the backup will be completed with exceptions due to the skipped files.

Enhanced System Services - Backup Exec's new user interface contains a utility that enables users to manage system services such as change password, start and stop or reconfigure the service account used on multiple Backup Exec 9.0 servers simultaneously.

OTHER ENHANCEMENTS

Understanding customers' needs and incorporating specific features requested has helped VERITAS deliver a best of breed backup application.

User-Defined Ports Through Firewall - allows users backing up data over a firewall to configure ports used by Backup Exec and the Remote Agent *for Windows Servers*.

Enhanced Backup to Disk Drive Spanning - backup to disk now supports removable media such as DVD- RW, ZIP, JAZ and floppy drives. Configurable size limits help prevent disk full errors and provide low disk space warning.

Mixed Media Support - allows users to populate a single tape library with multiple types of tape drives (OEM).

Auto Job Cancel - provides users the ability to set up automatic job cancellation if the job's duration passes a certain designated time. Very useful for making sure backup jobs run in the specified window.

BEMCMD Command Line Enhancements - provides the ability to run more Backup Exec operations through the command line interface (CLI), enabling customers to run backup operations outside of the Administration console.

Enhanced PRE/POST Job Commands - Pre/Post Job Commands now supports running commands on Remote systems. Previously, these commands were run on the local system only.

Automatic Job Cancellation Setting - allows administrators to set Backup Exec to automatically cancel a job after it has run for a certain amount of time. This gives Administrators the power to have jobs end when specified instead of when the job is complete.

Audit Logs - audit logs provide security conscious customers the ability to review changes made to Backup Exec. This allows administrators to easily track and review who has made changes, and determine when, and where the changes were made to ensure proper configuration.

Console for Maintenance tasks – New BEUTILITY.EXE program in the Backup Exec directory provides the ability to run maintenance operations across all Backup Exec servers in an environment; including diagnostics, start and stop services, general Backup Exec database tasks and configuration of SAN SSO servers.

Selecting the Right product For Your Business

BACKUP EXEC CORE PRODUCT EDITIONS
Backup Exec is a high-performance data management solution for Windows server networks. With its client/server design, Backup Exec provides fast, reliable backup and restore capabilities for servers and workstations across the network. Backup Exec is available in two configurations to accommodate multi-platform networks of all sizes.

VERITAS Backup Exec 9.0 for Windows Servers - installs on and protects any supported version of Microsoft Windows Server 2003, Windows 2000, or Windows NT 4. It includes Backup Exec agent software to protect unlimited remote workstations running on Windows XP Professional, Windows 2000 Professional, Windows NT 4 Workstation, Windows Me, Windows 98, UNIX, and Macintosh platforms. This edition supports unlimited stand-alone drives. Support for a single robotic library drive for use with Backup Exec is provided in the product. A Library Expansion Option must be purchased to enable support for additional robotic library drives. Support for additional Windows Server 2003, Windows 2000 or Windows NT 4 servers, NetWare servers, databases, open files, and more can be purchased separately.

VERITAS Backup Exec Small Business Server - installs on and protects any supported version of Microsoft Small Business Server for Windows NT 4 or Windows 2000. Also includes Backup Exec agent software for workstations running on Windows XP Professional, Windows 2000 Professional, Windows NT 4 Workstation, Windows Me, Windows 98, UNIX, and Macintosh platforms. This edition supports unlimited stand-alone drives. Support for a single robotic library drive for use with Backup Exec is provided with the product. A Library Expansion Option must be purchased to enable support for additional robotic library drives. The Small Business Server Edition includes an Exchange Agent, SQL Agent, and IDR Option. Protecting additional Windows 2000, or Windows NT 4 servers, NetWare servers, or databases is not supported and would require an upgrade to the Backup Exec *for Windows Servers* Edition.

Backup Exec Options and Agents

MEDIA SERVER OPTIONS
Media Server Options enable greater control of storage resources and alternate backup techniques.

Admin Plus Pack Option
Exercise greater control of remote Backup Exec servers on the network with components designed to ease management of distributed backup servers and their media. Features include the ability to clone and remotely install media servers as well as copy jobs, scripts and job templates between media servers. This option provides an additional 24 management reports and advanced capabilities such as report scheduling and e-mailing output to recipients.

Advanced Open File Option[3]

Ensure that every file on the server is protected even if it is currently in use. This option handles open files at the volume level and is seamlessly integrated into Backup Exec- perfect for application and data files that must remain open and available on the network during backups. There is no need to know which files are open ahead of time; just set a scheduled backup to use this option with a simple mouse click.

Intelligent Image Option[3]

An ideal solution for servers with thousands of smaller files that requiring fast backups with minimal impact to system resources such as a Web server. The Intelligent Image Option increases backup performance and reduces CPU processes by mapping the meta-data of a local file system and copying the volume as a single file to the storage device. It seamlessly integrates into Backup Exec operations and allows full volume or individual file restores from full, incremental and differential backups.

REMOTE CLIENT ACCESS OPTIONS

Remote Client Access Options connect and protect remote Windows and NetWare servers on the network.

Remote Agent (CAL) for Windows Servers

Expand network-wide data protection and optimize data transfers for remote Windows servers, including local Registry and System State information. The exclusive Agent Accelerator™ technology maximizes backup and recovery performance by providing source-level compression and distributed processing at the client. The result is reduced network traffic and maximized data throughput.

Remote Agent (CAL) for NetWare Servers

Incorporate remote NetWare server data protection and recovery into daily backup and recovery activities. The agent offers 100 percent Systems Management Server (SMS) compatibility and NetWare Directory Services (NDS) bindery information for NetWare 4.x, 5.x, and 6.x servers. The exclusive Agent Accelerator technology maximizes backup and recovery performance by providing source-level compression and distributed processing to reduce network traffic and maximize throughput.

ONLINE GROUPWARE AGENTS

Online Groupware Agents provide protection for e-mail messaging and knowledgebase applications.

Agent for Microsoft Exchange Server[3]

The fastest and most flexible method available to protect vital Exchange 5.5 and Exchange 2000 Server data while the application is online. Providing full backup and restore of all Exchange Server components, including embedded objects, attributes and all Outlook components, the Agent for Microsoft Exchange Server also gives administrators the flexibility to perform individual mailbox backup with selective restores of individual messages.

Agent for Microsoft SharePoint Portal Server[3]

Safeguard a SharePoint Portal Server corporate knowledge base system with online, fast and reliable data protection and recovery. Now offers additional granularity to perform backup and restore of individual SharePoint Portal Server workspaces and documents for greater flexibility and faster performance. Protected portal components include the Web Storage System files/databases, the Search Service, SharePoint Portal Server configuration files and the Applications folders.

ONLINE DATABASE AGENTS

Online Database Agents protect and recover mission-critical database applications.

Agent for Microsoft SQL Server[3]

Ensures that business-critical Online Transaction Processing (OLTP), Online Analytical Processing (OLAP) and e-business data is protected in the event of application/hardware-based corruption or loss. It provides SQL Server, 7 and SQL Server 2000 users granular protection down to the individual table space or file group. Execute differential backups as well as Transaction Log backups with automatic truncation. Restore options include redirection to another SQL Server and the ability to perform "rollback restores," enabling a database to be

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[3] This option includes a Remote Agent (CAL) for Windows Server license.

recovered to a specific moment in time, rather than a backup job. Backup Exec Multiple and Virtual Device Interface (VDI) support give users the most dependable and fastest way available for complete SQL Server protection.

Agent for Oracle
Integrate non-disruptive data protection for business-critical Oracle Server 9i, 8i, 8.x and 7.x applications and databases. Use advanced features such as the granular protection of individual table spaces or a complete application/database backup and the protection of achieved redo files and control files, without ever taking them offline. This agent includes a Remote Agent (CAL) for Windows Server license.

Agent for R/3 for Oracle[3]
Provide certified data protection for business-critical SAP applications while the application is still online and in use. The R/3 Agent is a reliable solution that allows Backup Exec to provide both local and remote protection of the latest versions of R/3 databases using the SAP (BC-BRI BACKINT) interface while enabling efficient data management.

DISASTER RECOVERY OPTIONS
Disaster Recovery Options provide bare metal recovery of troubled server resources.

Intelligent Disaster Recovery™ Option
Implement "bare metal" system recovery solutions, for both local and remote Windows or NetWare servers, eliminating the need to first reload the entire operating system. Using either the diskette-based or CD-R/CD-RW or bootable tape, Intelligent Disaster Recovery will get you back online fast, allowing you to restore from your last complete backup set including full, incremental, differential and working set backups. Intelligent Disaster Recovery is the only disaster recovery solution allowing users to specify new hard-disk information, RAID configurations and network configuration cards.

STORAGE OPTIONS
Storage Options expand larger media storage devices or enable the sharing of storage resources over a SAN.

Library Expansion Option
Scale the network storage system by leveraging additional drives within multi-drive tape or optical autoloader/library storage systems. When using the Advanced Device and Media Management (ADAMM) features, this option provides extensive configuration and management capabilities to include "lights-out" backup and restore operations, bar-code reader and portal support. With the embedded device partition utility, users can partition autoloader slots to target backup jobs to a specific slot.

SAN Shared Storage Option
This powerful LAN-free backup solution allows multiple distributed backup servers to centralize storage devices that are connected over a switched fabric or fibre-channel arbitrated loop storage area network (SAN) for greater performance, efficiency and fault tolerance. The SAN Shared Storage Option load balances activity across multiple Backup Exec servers, increases performance and backup speeds, centralizes management tasks and lowers the total cost of ownership. SAN Shared Storage Option is a groundbreaking solution in manageability and performance for large-scale, high-end storage environments.

Tivoli Storage Manager Option
Fully access the complete line of IBM midrange or mainframe hardware and Tivoli/ADSM software to leverage the Tivoli system as a large data storage device. Backups can be automatically routed to the Tivoli system just as if it were a large tape library or autoloader. Additional clients can be purchased to provide flexibility for multiple backup servers to access the Tivoli architecture.

Optimizing for mixed Windows 2000 and Windows Server 2003 environments

As companies migrate to Windows Server 2003 technology, they will likely continue to have Windows NT 4 and Windows 2000 servers in their environment for years to come. These mixed environments require products that enable companies to leverage the latest Windows Servers benefits without having to maintain an older application to manage and protect legacy Windows 2000 and Windows NT 4 applications.

VERITAS, the industry's leading enterprise-class application storage management software provider, has designed Backup Exec 9.0 *for Windows Servers* to support the full line of Windows Server platforms (NT4, Windows 2000 and Windows Server 2003), making it the ideal solution for mixed platform environments. By isolating items that must be considered when protecting these new platforms within the user interface, users can incorporate their Windows specific protection criteria within a single backup or restore operation into one application.

Summary

Today's IT administrators have the same daunting challenge as their company's CEO – ensuring business continuity by protecting their most valuable assets. A company's data is critical to its day-to-day operations therefore, IT administrators must select a reliable data protection solution to efficiently perform backup and restore operations. With the exponential growth of data, shrinking backup windows and limited resources, the right solution must enable the administrator to manage more data with fewer resources. It must support complex operating systems, mixed environments and multiple backup applications. Finally, the right solution must be easy to use, cost effective, and must provide a strong foundation scalable to support a company's future needs.

VERITAS Backup Exec *for Windows Servers* is a complete solution designed to meet all your data protection needs. Whether your environment is small or large, Backup Exec has features and Options to ensure your business continuity.

VERITAS Software Corporation
Corporate Headquarters
350 Ellis Street
Mountain View, CA 94043
650-527-8000 or 866-837-4827

For additional information about VERITAS Software, its products, or the location of an office near you, please call our corporate headquarters or visit our Web site at www.veritas.com.