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VERITAS™

Data Protection and Synchronization for Desktop and Laptop Users

VERITAS Backup Exec™ 10 for Windows Servers
Desktop and Laptop Option

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EXECUTIVE SUMMARY

CURRENT SITUATION

When it comes to protecting data on desktops and laptops today's IT Administrators are faced with a daunting challenge. Data is becoming increasingly mobile. As a result, more and more of an organization's business critical data is now residing outside the main office on remote desktops or mobile laptops. The requirement to protect this data is quickly becoming a high priority. In the past, providing protection for these systems has been cumbersome and expensive. Resource constraints have led companies to build ad-hoc solutions to fulfill the checkbox of having completed a plan for protecting desktop and laptop data. The most popular ad-hoc method is the use of network shares as a place where users can copy their data. Not only does this compromise the integrity of the protected data, because it will rarely be current but it also puts IT in jeopardy of failing to meet their service level agreements.

Many IT Administrators readily admit that most of their users do not adhere to any policy because it is not enforced. The result is loss. Companies lose anywhere from thousands to millions of dollars each year to the cost of retrieving or re-creating lost data. In addition, laptops pose an even bigger challenge since these users typically travel and have sporadic connections to the LAN and never backup data or miss scheduled backup times. To add complexity to the situation, there is also a growing population of users that have a desktop and a laptop and want to keep files synchronized between these machines. Finding a solution that effectively automates existing protection policies, fits into current server backup procedures and utilizes network shares has been non-existent, until now.

KEY BENEFITS

- Provides continuous disk-based protection whether users are in the office or on the road
- Maintains synchronization between files for users with multiple machines
- Enables users to restore their own files quickly, directly from disk
- Integrates into existing IT infrastructure and policies lowering total cost of ownership
- Unique design eliminates the need for a dedicated application server

INTRODUCING THE BACKUP EXEC™ FOR WINDOWS SERVERS DESKTOP AND LAPTOP OPTION

To meet the needs of corporations with desktop and laptop users that have critical data VERITAS introduces the Backup Exec™ *for Windows Servers Desktop and Laptop Option*. The Desktop and Laptop Option offers continuous disk-based protection for users whether they are in the office or on the road. This new option enables users to restore their own files and maintain synchronization between multiple desktops and laptops. By automatically copying user data to existing network storage or to the local machine, the Desktop and Laptop Option easily integrates into existing IT infrastructure and policies, lowering the total cost of ownership.

The Desktop and Laptop Option is a network share based protection and synchronization solution. Users can work and travel with peace of mind, knowing that their data is safe. Whether users require continuous backups, periodic, scheduled backups or manual backups the Desktop and Laptop Option is able to deliver on flexibility.

Users who have multiple desktops can use the Desktop and Laptop Option to automatically synchronize data between their computers via a network share so they have the most up-to-date file versions where they need it, no matter which computer they are using. To allow further efficiency users can easily retrieve their own data or files through the intuitive user interface whether in the office or on the road.

Because the Desktop and Laptop Option has a simple design, a separate, dedicated application server is not required allowing the solution to fit easily into existing infrastructure and comply with company policies already in place. In addition the Desktop and Laptop Option utilizes existing data storage for housing all of the individual user data. This allows a company to adopt a solution for protecting desktops and laptops without additional hardware, personnel or large investments.

HOW THE DESKTOP AND LAPTOP OPTION WORKS

FUNCTIONALITY

Data Protection

User data is automatically copied to a network share, the administrator determines the frequency – When the user's desktop is connected to the network; files are copied to the user's share based upon that user's individual backup profile. Backups can be set-up to occur automatically, periodically, scheduled or manually based on what the Administrator defines in the user profile.

Protection is provided regardless of whether the user is offline or online – to accommodate mobile and remote users properly the Desktop and Laptop Option will copy files to a local data folder on the user's machine when they are not connected to the network. When the desktop reconnects to the network, the files are backed up from the local folder to the designated storage location on the network. This ensures that files are protected whether or not the computer is connected to the network. When users are online, files are backed up directly to the designated storage location.

The Administrator is responsible for designing the backup environment – Administrator's have the ability to customize the backup environment through profiles. Profiles provide an easy way to logically group users by department or function and tailor specific backup parameters to meet each group's needs. Within each profile the Administrator can control:

- Schedules
- File versions
- Inclusion/exclusion of drives, folders or files
- Maximum amount of storage each user is designated

Data Availability

Users can access their data from multiple desktops at multiple locations by synchronizing – Once a user has the Desktop and Laptop Option, they can gain access to their data from any of the machines they have attached to the network. By selecting to synchronize files or folders across machines, users can have data where they need it most, regardless of the file's original location.

Restore a previous version of a file without being connected to the network – Local revisions are maintained in a local data folder on the user's machine. If a user overwrites a specific document while on an airplane or in a hotel room and needs that past version, the previous copy can be viewed and restored locally without the intervention of anyone else. It also protects users from the error of saving over a file instead of utilizing the 'Save As' function and losing the original copy of the document. The Administrator can also configure the user profiles to allow the users to do their own file restores so they have the capability to do personal file recovery.

Existing Storage Utilization

User files are stored on existing network shares – Since the Desktop and Laptop Option uses existing network shares and infrastructure, Administrators will be able to take advantage of previously designated storage locations and lists that have already been created for existing network shares and automate the process of importing users. Configuring the user storage directories is extremely flexible. Administrators can utilize the Desktop and Laptop Option Import Users Wizard to create the storage directories or import a list of current users and related storage locations.

Automated User Assignments are instructions that are applied when the Desktop and Laptop agent is first run on a desktop or laptop. The Automated User Assignment assigns a Profile and Network User Data Folder to each user who is automatically configured by the Desktop and Laptop Option.

Importing multiple users who already have an existing network Storage Locations is made simple. To configure users that already have an existing Network Storage Location, you can import a list of users from a comma separated values (CSV) file.

Configurable revision policies – Administrators and users can set-up different policies for how many versions and how much storage space is required for both network and local storage. This allows for a pre-determined number of versions to be kept and a maximum amount of storage to be set for both locations.

Store file versions on the local hard drive - By default the Desktop and Laptop Option keeps revisions of designated files locally in a data folder. This can be customized so that the user has a specified number of local versions, as few or as many as needed. Road warriors and executives that don't connect as frequently may want to maintain a large number of local copies to be stored for them, whereas an in-office user with a desktop may have only very few local copies or no copies at all.

Trivial Administration

No dedicated backup server to manage – The Desktop and Laptop Option integrates into Backup Exec as an option, this allows for an integrated approach to data protection from the desktop to the data center and eliminates the need for a dedicated backup server. The Desktop and Laptop Option will automatically copy the user data to a network share and does not require a dedicated application to do so. To complete the protection cycle and assure that the user data store on the network share is protected simply add this data store to the server backup rotation.

Use a single console to manage client protection – The Overview tab in Desktop and Laptop Option console provides the Administrator with a single health view of all operations. Administrators need simply to check on the status of the operation once a day to check status and quickly identify problems. The Overview screen provides a summary of the status of desktops and laptops, servers and alerts for management-by-exception.

ARCHITECTURE

The Desktop and Laptop Option is comprised of two main components, the Desktop and Laptop Administration Console for the Administrator and the Desktop and Laptop Agent for the desktop or laptop user. These components are used in conjunction with the Backup Exec product to provide a complete data protection solution.

Backup Exec for Windows Servers

The Desktop and Laptop Option is installed and administered from the same location as the Backup Exec 10 Administration Console, just like other options (see *Architecture Overview* below for more details). The Administration Console can be run from either the Backup Exec media server or a remote windows system where the Backup Exec Administration Console is installed. In addition, the installation files for the Desktop and Laptop Agent are placed in the Desktop and Laptop Agent install share on the Backup Exec Server so installation packages can be easily created and sent to desktop users.

The Desktop and Laptop Option Administration Console

The Desktop and Laptop Administration Console is part of the Backup Exec Administration Console. It can be run from a Windows workstation or the Backup Exec media server. The console provides the Administrator with an at-a-glance summary view of tasks and desktop, laptop or server status. All of the traditional Administration functions can be performed from the Administration Console including setting up or changing profiles, checking status and alerts for the users and the servers, managing settings, designating or monitoring storage and initiating restore jobs for individual user machines.

The Desktop and Laptop Option Administration Console stores configuration information in a database on the Backup Exec media server. The Desktop and Laptop Agent uses this database to obtain configuration information for individual operations. A local copy of this configuration information is used when the laptop is not connected to the network.

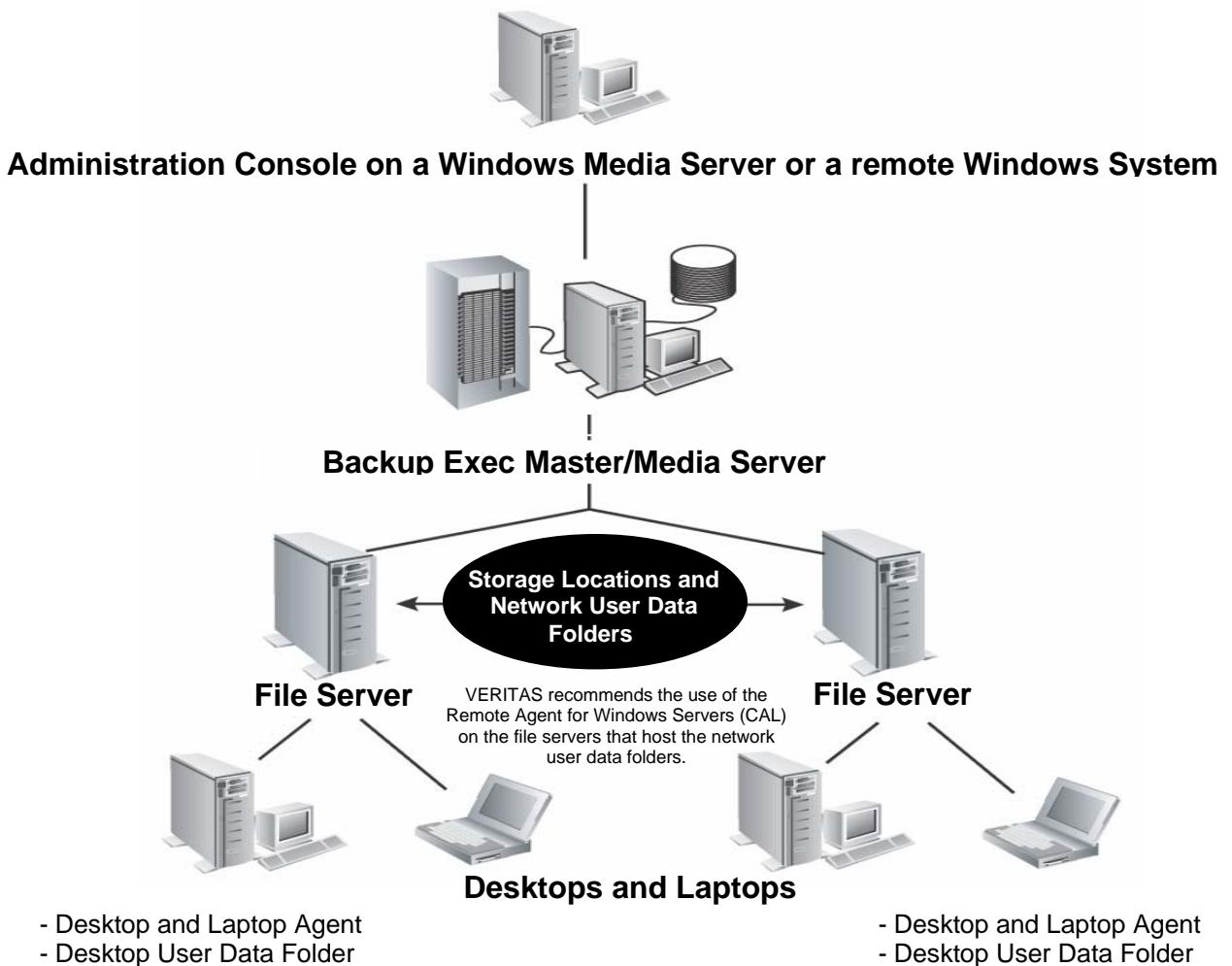
Desktop and Laptop Agent

The Desktop and Laptop Agent is the component that resides on the individual user's desktop and/or laptop. It provides protection for the critical data on the machine by backing up the designated data from the desktop hard drive to the appointed storage on a network share. Once protected, this data can be restored at any time by the Administrator or by the user. If a user has multiple machines, the backup data that is stored can be made available to the user from any of their machines by the process of synchronization. Synchronization is initiated by the user only and ensures that the most recent file version is available to them where they need it. By using domain level security for authentication, it is quick and easy to setup synchronization and to recover files, should a user change a machine or need to recover from a failure. After logging into a new machine and installing the Desktop and Laptop Agent, users or Administrators can restore previous revisions of files or folders.

The Desktop and Laptop Option Administrator initially configures the Desktop and Laptop Agent for the user during the installation and setup process through the use of profiles. The Administrator has the power to grant the user the rights to change their backup options or the Administrator can grant them no rights to perform any function at all. Depending on the rights granted the user may or may not be able to restore files, synchronize files, configure backup selections, set schedules, view history, and other functions.

Architecture Overview

- Desktop and Laptop Option on Backup Exec Administration Console (includes Admin Engine)



Using the Desktop and Laptop Option Administrator Console

From the Desktop and Laptop Option Administration Console, the Administrator can setup storage locations, profiles for individuals or groups of users and setup user assignments and schedules.

The Desktop and Laptop Option Administration Console provides information on the overall system configuration of the deployment. It also provides a single place for an Administrator to check status, setup new users, manage storage and, if requested, do restores (although users can also restore files themselves). The Administrator can also receive alerts and manage the amount of storage per installation and individual user.

Information about the Desktop and Laptop Option is kept in a single MSDE (Microsoft Data Exchange) database on the Backup Exec Server. Information such as profiles, user specific settings, machine names, storage designations and alert events are kept here.

USING THE DESKTOP AND LAPTOP AGENT

The Desktop and Laptop Agent is the piece of software that resides on the individual desktop or laptop and protects the user's data. The following section discusses best practices for configuring the desktop or laptop for optimal results.

DESKTOP AND LAPTOP BACKUPS

The Desktop and Laptop Option provides four different ways to initiate a backup: Continuous, Periodic, Scheduled or Manual. How often the backups occur and when depends greatly on how the backups are configured and what type of operating systems are in the organization. For more information on how to configure backups, please consult the Desktop and Laptop Option Administrator's Guide.

How often can a backup happen?

Continuous Mode – Continuous protection copies a file when it has been saved and closed. This allows for the greatest level of protection. With personal Microsoft Outlook files or .PST files as they are commonly referred to, protection can occur when the program is in use. Continuous protection is available on systems that support the Windows Change Journal (Windows 2000+) and have data residing on a NT File System (NTFS) volume. File Allocation Table (FAT) volumes do not support continuous operation.

Periodic Mode – Periodic protection copies user files based on a pre-determined interval. The default interval is set to have a backup occur every 30 minutes, which should be sufficient for most users. If your system doesn't support continuous mode or the user data resides on a FAT volume, then the use of Periodic protection is recommended.

Scheduled Mode – Scheduled protection copies user files based on a frequency set by the Administrator. This option can be used if the user data doesn't change often or if you prefer to have operations run on an hourly or daily basis.

Manual – Manual protection copies the data when the user initiates it from the Desktop and Laptop Agent or the Administrator initiates a backup from the Administration Console. Because this option is not automatic and does not ensure that the data copied and saved for the user is current, it is recommended that you choose this option as a supplement to any of the above preferred backup methods.

Where is the data stored? Local Revisions vs. Network Revisions

User data folders are directories used by the Desktop and Laptop Option to store data protected and/or synchronized by each user. There are two kinds of user data folders, network share folders, which contain all data for each user profile and user machine folders, which are stored on the local hard drive.

Each of these user data folders provides protection but in a different way. Depending on if users travel or are in the office will determine how these locations are configured for use. For example, for users that are in the office the majority of the time it makes the most sense for them to backup to the network share user data folders because they have access to them most of the time. For road warriors or users that have sporadic network connection it makes sense to have them utilize their machine's user data folders to ensure that a copy of their backup has been made safely to at least one location.

DESKTOP AND LAPTOP SYNCHRONIZATION

The Desktop and Laptop Option Synchronization feature allows for users who have multiple machines to have access to their data when they need it. Synchronization is configured by the Administrator and initiated by the user. Any of the user's data residing on any of the machines will be accessible from the current machine once the data has been synchronized between them. The *Synchronized Selections View* lets the user manage which folders are synchronized across their machines.

Conflict Detection and Resolution

If a synchronized file is modified on more than one computer without updating the file with the Desktop and Laptop Agent, a conflict will occur and you will be prompted to determine which file version to keep. For example, a conflict will occur when the same file is modified on both the desktop and laptop and the laptop is disconnected from the network. When the laptop is subsequently connected to the network, the synchronization will detect a conflict.

INSTALLATION OF THE DESKTOP AND LAPTOP OPTION

THE DESKTOP AND LAPTOP OPTION ADMINISTRATION CONSOLE

The Desktop and Laptop Option is installed by selecting the option during the installation of Backup Exec. This will install the Desktop and Laptop Console including all program files on the same system that the Backup Exec media server is located. After installation of the Console the option to configure protection for desktops and laptops will be located under the Tools menu. During installation, a share is created for the Desktop and Laptop Agent files. From this location the Administrator also pushes out the agent to each individual desktop and laptop user.

THE DESKTOP AND LAPTOP AGENT

The Desktop and Laptop Agent is the software that runs on the individual user's desktop and/or laptop. The agent can be push installed by the Administrator with no action required by the user. If Administrators choose to have installation carried out by users, each user can access the software from the designated share: <\\server\DLOAgent> for installation. After the software is installed, the first backup will run a baseline job to protect the files that have been selected in the user profile.

CONFIGURING THE DESKTOP AND LAPTOP OPTION

The Getting Started Wizard allows you to setup the Desktop and Laptop Option easily and quickly. There are three basic steps to follow:

1. Create a Profile – this determines what files are backed up, when files are backed up, and the level of interaction the desktop user has the Desktop and Laptop Agent.
2. Set-up Data Folders – determine where the data will be stored on the network. If Storage Locations are used, they will automatically create Network User Data Folders for each new Desktop and Laptop Agent user. If network data storage folders already exist for each user, they can be added to the Desktop and Laptop Option individually or imported in bulk.
3. Create an Automated User Assignment – This will automatically assign a Storage Location and Profile to new users, or configure new users manually.

SECURITY

Authentication

File servers are accessed using existing Windows domain authentication. To use the Desktop and Laptop Option, you *must* install Backup Exec and the Desktop and Laptop Option on a machine that is a part of a Windows domain. Running the Desktop and Laptop Agent on a system that isn't in a domain (or the same domain) as the Backup Exec server is achievable with the caveat that the very first time you run the software; you will be prompted to provide credentials for the domain.

Encryption

Encryption is possible on the client by enabling this option. The Desktop and Laptop Option utilizes 128-bit AES encryption at the file level. The encrypted files are copied up to the file server using normal Windows networking protocols. The file content is transferred and stored encrypted but the directory names, file names and attributes are not encrypted.

Each user is assigned a unique encryption key that is stored in the Desktop and Laptop Option database. When the Desktop and Laptop Agent connects to the database for the first time, it transmits a key over the network. With subsequent connections a locally cached copy of the key is used. By design, Administrators will be able to restore encrypted data without any additional work

OPEN FILE PROTECTION

MICROSOFT OUTLOOK PERSONAL FOLDERS OR .PST FILES

The Desktop and Laptop Option protects Outlook personal mail data files (hereafter referred to as .PST) by using the Microsoft Mail API (MAPI). These files can be backed up while Outlook is open and in use by the user. As a backup is performed, only mail messages that have changed or are new from the last backup are copied. This helps to lower storage overhead and bandwidth usage by avoiding copying the entire .PST to the local user data folder or the server folder location when changes happen. In this model an initial full backup will happen on the entire .PST file and then only incremental changes will be added on a daily basis.

It is important to make sure that the .PST files are listed in the default mail profile and selected via file selection for backup otherwise they will not be backed up by the Desktop and Laptop Option. All other Outlook files will be backed up as normal files.

If you need to restore a .PST file, the whole file may be restored from your last backup. It is not possible to restore individual messages.

OTHER OPEN FILES HANDLING

There are backup limitations on files that are open exclusively or locked. The Desktop and Laptop Option will attempt to backup up files when they are closed or saved. If a file cannot be backed up because it is open (for example, a Word Document that is being edited) the Desktop and Laptop Agent's pending list. The Desktop and Laptop Agent will attempt to backup the file at the next backup time. This also means that certain files opened by the operating system will not be backed up because when the operating system is running they never close.

RESTORING OPEN FILES

If the restore process encounters a file that is in use, the user will be asked if they want to restore the file or skip the file. If the user selects to restore the open file it will be replaced when the next reboot occurs.

PROTECTING THE USER DATA WITH BACKUP EXEC

While protecting user data is extremely valuable it only remains a value to the organization if the user data store is backed up in turn by Backup Exec *for Windows Servers*. Placing the desktop and laptop data in the regular backup rotation can be done simply and easily with Backup Exec. VERITAS recommends that use of the Remote Agent for Windows Servers (CAL) on the file server(s) that hosts the network user data folders. If the Backup Exec media server installed on the same system where the user folders reside, purchasing extra copies of the Remote Agent (CAL) is not necessary.

LOGGING

Logging options are found in the profile defined by the Administrator. This includes number or MB of logs to keep and what level to log. Logging levels include:

- None
- Errors
- Errors and Warnings
- All Messages

The Agent can always override these options if the user is granted permission to see the User Interface.

SUMMARY

All organizations have critical data on their desktops and laptops that need to be protected but most IT Managers would agree that current policy and infrastructure is not reliable. To easily meet an organization's needs and fit into existing infrastructure and policies, Backup Exec *for Windows Servers* offers the Desktop and Laptop Option. In addition to providing continuous data protection and support for all desktop and laptop users whether they're in the office or on the road users have the ability to synchronize their data between multiple machines, allowing for easy access where they need it. Built-in technologies and wizards make installing and managing the product simple. Now IT Managers can have confidence in their ability to protect users and the organization from data loss without a great deal of additional hardware, staff and expense.

The Desktop and Laptop Option offers the following key benefits:

- Provides continuous disk based backup protection whether in the office or on the road Synchronizes files between desktops and laptops Integrates into existing IT infrastructure and policies lowering total cost of ownership
- Users can restore their files quickly directly from disk
- Lightweight design eliminates the need for a dedicated application server required.

VERITAS Backup Exec™ *for Windows Servers* Desktop and Laptop Option is a comprehensive data protection solution designed to operate in a dynamic network hardware and software environment. For more information about the VERITAS Backup Exec™ *for Windows Servers* Desktop and Laptop Option, please visit: www.veritas.com.

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