

Data Protection and Synchronization for Desktop and Laptop Users

**VERITAS NETBACKUP™ 5.1
DESKTOP AND LAPTOP OPTION**

TABLE OF CONTENTS

VERITAS NETBACKUP™ 5.1	1
DESKTOP AND LAPTOP OPTION.....	1
EXECUTIVE SUMMARY.....	3
CURRENT SITUATION	3
INTRODUCING THE NETBACKUP™ DESKTOP AND LAPTOP OPTION.....	3
HOW THE DESKTOP AND LAPTOP OPTION WORKS.....	4
FUNCTIONALITY.....	4
Data Protection	4
Data Availability	4
Storage Utilization.....	4
Trivial Administration	5
ARCHITECTURE	5
NetBackup	5
The Desktop and Laptop Option Administration Console	5
Desktop Agent	5
Architecture Overview.....	6
USING THE DESKTOP AND LAPTOP OPTION ADMINISTRATION CONSOLE.....	6
USING THE DESKTOP AND LAPTOP OPTION ADMINISTRATION CONSOLE.....	7
USING THE DESKTOP AGENT	7
DESKTOP AND LAPTOP BACKUPS.....	7
How often can a backup happen?	7
DESKTOP AND LAPTOP SYNCHRONIZATION	8
Conflict Detection and Resolution	8
INSTALLATION OF THE DESKTOP AND LAPTOP OPTION	8
THE DESKTOP AND LAPTOP OPTION ADMINISTRATION CONSOLE	8
THE DESKTOP AGENT	8
CONFIGURING THE DESKTOP AND LAPTOP OPTION	8
SECURITY	9
Authentication	9
Encryption.....	9
OPEN FILE PROTECTION.....	9
MICROSOFT OUTLOOK PERSONAL FOLDERS OR .PST FILES	9
OTHER OPEN FILES	9
RESTORING OPEN FILES	9
PROTECTING THE USER DATA WITH NETBACKUP.....	9
SUMMARY	10

EXECUTIVE SUMMARY

CURRENT SITUATION

When it comes to protecting data on desktops and laptops, today's IT Administrators are faced with a daunting challenge. Due to the increasing mobility of mission critical data and the inability to protect data outside of the corporate datacenter, the need for a new data protection solution is critical. In the past, providing protection for desktop and laptop systems has been cumbersome and expensive. Resource constraints have led companies to resort to largely ineffective ad-hoc solutions for protecting desktop and laptop data. The most popular method for protecting desktop and laptop data is to provide network shares for users and ask them to manually and routinely copy their data to these shares. This not only puts data at risk if users do not take the time to manually protect their data, 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 copy their data to shares frequently enough to provide effective data protection. The result is data loss. The cost to retrieve or recreate this data is staggering. In addition, laptops pose the greatest challenge because their users are typically on the road, have infrequent connections to the network and rarely take the time to manually protect their data. To add complexity to the situation, there is also a growing population of users that want to keep files synchronized between their desktop and laptop machines. Finding a solution that effectively protects desktop and laptop data, automates existing data protection policies and fits into current server backup procedures has been non-existent, until now.

INTRODUCING THE NETBACKUP™ DESKTOP AND LAPTOP OPTION

To meet the needs of corporations with critical data on desktop and laptop computers, VERITAS introduces the NetBackup™ Desktop and Laptop Option for windows. 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 "lightweight" 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, manual or scheduled backups, the Desktop and Laptop Option delivers.

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 when and where they are needed, 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.

The Desktop and Laptop Option's unique design eliminates the need for a separate dedicated application server. This allows the solution to fit easily into the existing infrastructure and comply with existing data protection policies. In addition the Desktop and Laptop Option is able to utilize existing data storage for user data. This allows a company to adopt a solution for protecting desktops and laptops without additional hardware, personnel or other large investments.

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 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

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 computer is connected to the network, files are copied to the user's Network User Data Folder based on the user's assigned Profile. The Desktop and Laptop Option Administrator can modify the Profile so that backups run either automatically, periodically, on a set schedule or that they must be performed manually.

Protection is provided regardless of whether the user is online or offline – To accommodate mobile and remote users, the Desktop and Laptop Option will copy files to a Desktop User Data Folder on the user's machine when they are not connected to the network. When the computer reconnects to the network, the files are automatically backed up from the Desktop User Data Folder to the user's Network User Data Folder. This ensures that files are protected whether or not the computer is connected to the network. When users are online, files are backed up to both the Desktop and Network User Data Folders.

The Administrator can customize the backup environment – Administrators have the ability to customize the backup environment through the use of Profiles. Profiles provide an easy way to logically group users by department or function and tailor specific parameters to meet each group's needs. Within each Profile the Administrator can:

- Set backup schedules
- Specify the number of file versions retained
- Include or exclude drives, folders or files from backup
- Set the maximum amount of storage each user is allocated
- Determine the extent to which the desktop user can modify settings.

Data Availability

Users can access their data from multiple desktops at multiple locations with synchronization – When a user is running the Desktop and Laptop Option, they can gain access to their data from any of their protected computers. By selecting to synchronize files or folders across machines, users can have data where and when they need it, 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 the Desktop User 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 user can restore a previous version without IT assistance.

Storage Utilization

The assignment of network shares is extremely flexible. Administrators can import users and assign them to existing network shares as Network User Data Folders, or they can automate the creation of new Network User Data Folders for each user.

User files are stored on existing network shares – Because the Desktop and Laptop Option is designed to use existing network shares and infrastructure, Administrators have the option to use previously designated storage locations to store user backup data. The Desktop and Laptop Option will automatically import users and assign them to existing network shares. Importing multiple users who already have existing network shares is easily accomplished through the use of a comma separated values (CSV) file.

Network User Data Folders are automatically created – Automated User Assignments are instructions that are applied when the Desktop Agent is first run on a desktop or laptop. The Automated User Assignment assigns a Profile and Storage Location to each user who is automatically configured by the Desktop and Laptop Option. A Network User Data Folder is created for each user in the assigned Storage Location

Configurable revision policies – Administrators determine the number of file versions retained and the amount of storage space is allowed for both network and local storage. Administrators can also enable users to modify these settings. This provides significant flexibility while still enabling the Administrator to manage storage hardware requirements.

Store file versions on the local hard drive – Each backup selection can be configured to store a specified number of revisions in the Desktop User Data Folder. Road warriors and executives who don't connect as frequently may want to maintain a large number of local copies for all data, whereas an in-office user with a desktop may retain local revisions for only a limited number of files, or not at all.

Trivial Administration

No dedicated server to manage – The Desktop and Laptop Option is an option to NetBackup, providing an integrated approach to data protection and eliminating the need for a dedicated server. The Desktop and Laptop Option automatically copies user data to the Network User Data Folder. To complete the protection cycle and assure that the user data store on the network share is protected, simply back up the Desktop and Laptop Option data stores using NetBackup.

Use a single console to manage client protection – The Overview tab in Desktop and Laptop Option Administration Console provides the Administrator with a quick look at system status. The Overview screen provides a summary of the status of desktop and laptop backup status, server status and alerts for quick issue identification and resolution.

ARCHITECTURE

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

NetBackup

The Desktop and Laptop Option is installed and administered from the location of your choice. It is recommended that you install the product and run the Console from a NetBackup 5.1 Server (see *Architecture Overview* below for more details). Desktop and Laptop Option Administration Consoles can be run from the NetBackup Server or a remote windows system where the NetBackup Administration Console is installed. In addition, the installation files for the Desktop Agent are placed in the Desktop Agent install share on the NetBackup Server.

The Desktop and Laptop Option Administration Console

The Desktop and Laptop Administration Console can run on an existing Windows NetBackup 5.1 Enterprise Server or Server installation or it can be installed separately from NetBackup on a Windows workstation. The console provides a quick summary view of tasks and status. All administration functions can be performed from the Administration Console. These include Profile management, status and alert monitoring, storage management, and the initiation of restore jobs for individual user machines.

The Desktop and Laptop Option Administration Console stores configuration information in a local database. The Desktop Agent uses this database to obtain configuration information. A local copy of this configuration information is used when the laptop is not connected to the network.

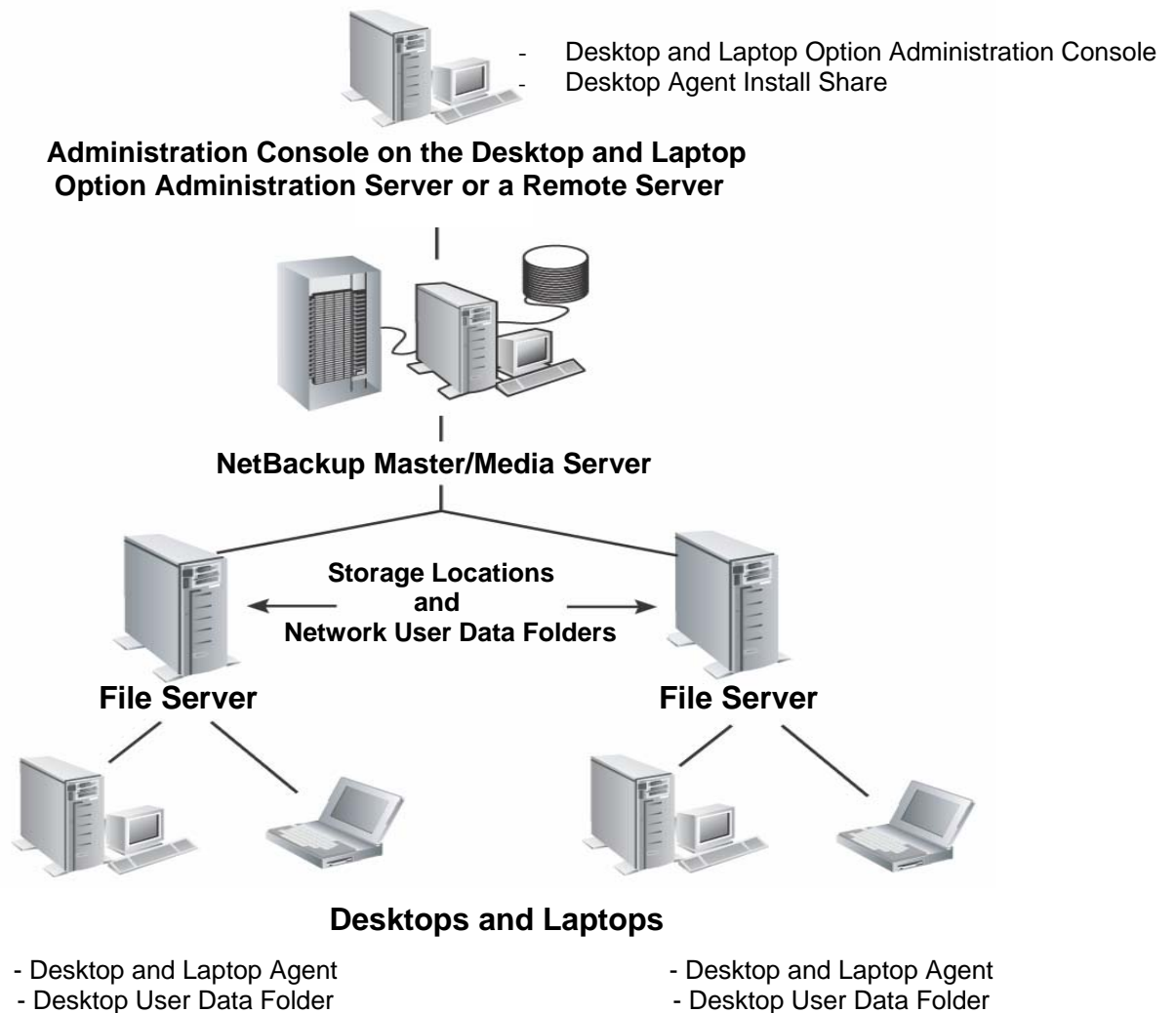
Desktop Agent

The Desktop Agent is the component that resides on the individual user's desktop or laptop computer. It provides protection for critical data by backing up designated files to the Desktop User Data Folder and the Network User Data Folder. 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 on all of their computers by synchronizing their data. Synchronization is initiated by the user and ensures that the most recent file version is available to them when and where they need it. Synchronization is quick and easy to set up, and uses domain

level security. Once synchronization is established, files are readily available and easy to restore from each of the user's synchronized computers.

The Desktop and Laptop Option Administrator performs the initial configuration of the Desktop through the use of Profiles. If desired, the Administrator can give the user rights to change Desktop Agent settings. 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 perform other tasks.

Architecture Overview



USING THE DESKTOP AND LAPTOP OPTION ADMINISTRATION CONSOLE

From the Desktop and Laptop 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 local server. Information such as Profiles, user specific settings, machine names, storage designations and alert events are kept here.

USING THE DESKTOP AGENT

The Desktop 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 Agent or the Administrator initiates a backup from the Administration Console. Because this option is not automatic and does not ensure that the data copies 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?

User Data Folders are used by the Desktop and Laptop Option to store protected and synchronized data for each Desktop Agent user. There are two kinds of user data folders. Network User Data Folders are located on the network and Desktop User Data Folders are located 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 user. Use of this feature can be enabled or disabled by the Administrator. 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 Agent, a conflict will occur. You will be notified of the conflict and the Desktop and Laptop Option will automatically select the most recently modified file, but will retain both revisions. 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, 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 separately from NetBackup and must be in a separate path from NetBackup. The installation files can be found on the Desktop and Laptop Option media. Double click the setup.exe file to start the installation process. 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 Agent files.

THE DESKTOP AGENT

The Desktop Agent is the software that runs on the individual user's desktop or laptop. The Desktop Agent can be installed the Administrator or the user very quickly. The Administrator has the option of pushing out the Desktop Agent by silent installation or login scripts. In addition, users can access the software from the designated share: <[\\DLO Administration Server\DLOAgent](#)> for installation. The first backup runs as specified in the Profile after the software is installed and automatically configured.

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, to determine which files are backed up, when files are backed up, and the level of interaction the desktop user has the Desktop Agent.
2. Determine where user data will be stored on the network. The Desktop and Laptop Option requires an individual user data folder on the network for each user. If Storage Locations are used, they will automatically create Network User Data Folders for each new Desktop 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 to 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 the Desktop and Laptop Option Administration Server on a machine that is a part of a Windows domain. You can run the Desktop Agent on a system that isn't in a domain or in the same domain as the NetBackup server, but you will be prompted to provide credentials for the domain the first time you run the software.

Encryption

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 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 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. Administrators will be able to restore encrypted data from the Administration Console.

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. An initial full backup is performed for the entire .PST file. Subsequent changes are made incrementally and added on a daily basis.

It is important to make sure that the .PST files are listed in the default mail profile and selected for backup in a backup selection.

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

OTHER OPEN FILES

There are backup limitations on files that are always opened or locked. The Desktop and Laptop Option will attempt to back up files when they are closed or saved. If a file cannot be backed up because it is open, it will be added to the Desktop Agent's pending list and attempt to back up the file during the next backup. Some files will not be backed up because 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 NETBACKUP

While the Desktop and Laptop Option provides superior data protection for desktop and laptop computers, NetBackup further protects desktop and laptop backup data. This is easily accomplished by placing the desktop and laptop backup data in the regular NetBackup backup rotation.

SUMMARY

All organizations have critical data on desktops and laptops that should be protected, but most IT Managers agree that this data is not adequately protected. To easily meet an organization's desktop and laptop data protection needs, NetBackup offers the Desktop and Laptop Option. In addition to providing continuous data protection and support for all desktops and laptops, users can synchronize their data between multiple machines, providing access when and where they need it. IT Managers can now have confidence in their ability to protect desktop and laptop data simply and effectively.

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 multiple desktops and laptops
- Integrates into existing IT infrastructure and policies lowering total cost of ownership
- Allows users to quickly restore files without assistance
- Lightweight design eliminates the need for a dedicated application server

The VERITAS NetBackup™ 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 NetBackup™ Desktop and Laptop Option, please visit: www.veritas.com.