Mobile Data Security

A report comparing three backup solutions for data availability of mobile clients

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Mobile data is without doubt one of the most difficult business resources for network administrators to secure and protect and its value is often only realized after it has been lost or corrupted. By their nature laptops are at far more risk than the average corporate workstation yet the data stored on them is just as valuable a business resource as that held on the corporate LAN.

Projects, sales reports and business plans are valuable resources that can represent a significant investment in time and manpower but the theft or loss of a laptop can mean the data is lost for good. Furthermore, businesses now have a legal requirement to show that confidential data containing personal information is adequately protected and can be safely restored in the event of a disaster.

The range of mobile workers extends from field engineers and sales staff to executives and directors but incorporating them into a coherent backup strategy has always been problematic. When implementing backup strategies businesses often fail to take into account data other than that held on servers and workstations in fixed locations with many regularly securing data only held on their servers.

Traditional backup strategies with media rotation schemes revolve around a strict scheduling system that requires data to be backed up at specific times. Administrators also have to consider the impact backup will have on performance of critical network services and will schedule backup tasks accordingly. With an ever increasing number of businesses running 24/7 operations the windows of opportunity to run backup are rapidly diminishing and in many cases the primary backup tasks will be run during out-of-hours periods when network activity is at its lowest.

This strategy works well when all systems to be secured are in fixed locations. Servers and workstations inhabit a single location, are attached to the network at all times and are, consequently, available for backup whenever required. Unfortunately, mobile workers do not fit into this tidy equation. By their nature they are rarely attached to the head office network for any length of time and often connect sporadically over low bandwidth links such as wireless, broadband or dial-in modem links. This makes them a moving target that conventional backup software is not suited to pinning down and strategies running to a fixed schedule cannot take into account these seemingly random connections. A major consequence is that data held on mobile devices rarely, if ever, gets backed up and in many cases it is assumed that the individuals themselves will deal with this onerous task.

Executive Summary

The aim of this report is to test and compare three software backup products in order to find out their suitability for backing up data held by mobile workers. The products are Computer Associates BrightStor ARCserve Backup for Laptops and Desktops r11.1 (**ARCServe L&D**), Symantec Backup Exec for Windows Servers 10 Desktop and Laptop Option (**Backup Exec DLO**) and EMC Legato NetWorker 7.2 (**NetWorker**)

This report will provide an in-depth look at the facilities offered by these products and compare installation, configuration, ease of use, features, performance and scalability. It will explore each product's ability to provide a solution that requires minimal administration and user intervention. It is a well known fact that many support departments are struggling to cope with user demands with the result that even common house-keeping tasks are frequently under-prioritized. Backup strategies need to be easy to deploy and manage otherwise they will not be run correctly or in many cases not run at all. Companies with a large mobile workforce cannot rely entirely on each individual to look after backing up their own data as this would be difficult to enforce and control and training costs would be prohibitive. The bottom line is the responsibility for securing data held on mobile devices lies with network administrators and not with the users and the backup software must provide the tools to allow them to achieve this.

With nearly 47% of companies deploying mobile solutions by May 2005, it is becoming increasingly important to evolve from tactical mobility projects to a consolidated, managed, enterprisewide approach to mobility to limit operational costs and security risks.

Source: Forrester Research

Concept and function

The three software products featured in this report offer significantly different methods of securing mobile data so the first task is to discuss the concepts behind each product and how they aim to achieve this goal. A crucial requirement is the ability to secure data to a hard disk storage location which will be referred to in this report as a vault. Tape is not a suitable medium for backing up mobile data as the designated storage location must deliver the best performance and should be available at all times. Every time a mobile worker connects to the network it should be seen as an opportunity to backup their data. This needs to be achieved as quickly as possible to maximize effectiveness making a vault the ideal solution as it will always be available, can be connected to in the background and doesn't require support staff to load and unload media in preparedness.

BrightStor ARCserve Backup for Laptops and Desktops

Concept: ARCserve L&D is designed to use a hard disk vault on the LAN and a key feature is its independent architecture so unlike Backup Exec DLO, it does not require any supporting software. It can be installed on an existing server although for the best performance on large networks a dedicated system would be preferable. The software comprises three main components with the Server managing all backup operations including on-demand, scheduled and event-driven tasks, storing client data and handling remote restoration requests.

Both local and remote management are supported as a Server Explorer management console can be installed on the backup server or on another networked system where it provides full access to the Server for all configuration and monitoring. Multiple Server installations are supported and can also be managed from a single console.

The third component is the ARCserve L&D client which is loaded on all desktops and laptops to be included in the ARCserve L&D scenario. This is actually more sophisticated than the common backup agents provided with many products as it supports LAN, Internet, wireless and dial-up connections to the Server. The Auto TCP/IP feature also looks very useful as allows the client to work alongside other applications that require a network connection so it can connect to the Server and send backup data in the background.

Function: ARCserve L&D takes a two-fold approach to client backup as it maintains a user database locally on the client system and also a remote database on the backup server. The first time the client software runs a backup it secures all files to the local database and if a LAN connection is available it then copies them to the backup server. The reason for this method is to ensure that files are regularly being backed up locally when the client is offline and cannot contact the backup server. Another benefit is if the user, for example, accidentally deletes a file whilst in an off-site location they may be able to restore it immediately from the local backup database without waiting to connect to the LAN.

Backup Exec Desktops and Laptops Option

Concept: Symantec's solution aims to provide a very similar level of features to ARCserve L&D but its modus operandi is significantly different. Offered as an optional feature it can only be installed as an additional component on a server already running the core Backup Exec media server software. However, its storage location for backing up client data isn't restricted to the same server and the vault can reside on another system for improved flexibility.

For management the Backup Exec DLO option integrates with the main Backup Exec media server interface where it is accessed in the left pane along with all other common Backup Exec options. However, it isn't a true snap-in module as selecting Backup Exec DLO opens up a new management interface which although it retains a similar look and feel is independent of the main console. All clients participating in the Backup Exec DLO strategy require an Agent loaded locally which takes its instructions from the Backup Exec DLO server and looks after all backup and restore tasks.

Function: Backup Exec DLO uses very similar method to ARCserve L&D for client backup as it also employs a two-fold approach where it maintains a copy of the user's data locally for when they are disconnected from the main network. During these periods all backups are made to the local folder and when the client reconnects to the network Backup Exec DLO will back up new and modified files to the database on the network backup server. Whereas the ARCserve L&D clients secure data to a Server vault location as predefined in the agent installation package, Backup Exec DLO aims to take a lighter approach and uses simple network shares instead which means it doesn't require a dedicated server to act as a vault.

NetWorker

Concept: NetWorker takes a conventional approach to backup as it is designed to secure data from multiple systems over LAN or WAN connections to centrally located servers. Unlike ARCserve L&D and Backup Exec DLO it does not offer any specific features for securing data from mobile clients. It is focused primarily on securing data to tape and supports an extensive range of standalone devices, autoloaders and libraries. Vaults are supported in this latest version for backup as EMC offers its DiskBackup Option which allows NetWorker to use hard disks as a backup destination. However, this is more as a response to the increasing demand for high performance D2D (disk-to-disk) backup than it is to increasing requirements for securing mobile data. For a number of years, Legato did offer an optional NetWorker Laptop product that was designed specifically to secure mobile data but according to EMC's web site support for this was withdrawn at the beginning of 2005.

Function: Available in Business, Workgroup, Network and Power editions, the NetWorker environment comprises servers, clients and storage nodes and all three components are supported on Windows, UNIX and Linux platforms. All participating systems require the NetWorker Client software installed allowing them to be contacted by a NetWorker server for automated backup tasks. It also provides an interface which allows users to select their own data, decide when to back it up and access the backup server for data restoration. However, the Client does not support backup to a local destination on the user's laptop or desktop and must establish a connection to a NetWorker backup server before any of its features can be used.

BrightStor ARCserve Backup for Laptops and Desktops

The installation routine is a simple process that allows you to select the ARCserve L&D Server, Server Explorer or Client components. The vault location is handled automatically as the Typical routine will select the local drive with the largest amount of free space available. Alternatively, you can select the Custom option which allows you to decide where the vault is to be located on the ARCserve L&D Server. The system requires a reboot on completion but along with licensing and registering the product the entire process can be completed in little over five minutes. Country support is also far more extensive that the competition as ARCserve L&D is now offered in sixteen different languages.

Of the three products ARCserve L&D offers the most extensive range of client deployment tools. Selecting a Server in the Explorer window provides access to the Auto Client Installer tool which allows packages to be created and stored in a network share location ready to be pulled in by clients. Alternatively, the package can be created and emailed directly to clients and the Direct Install option pushes the client to selected workstations silently. Other options are to copy the install files directly from the product CD-ROM to the server and customise the initialization files, install locally from the CD-ROM or use Computer Associates Unicenter Software Delivery to deploy the client. Note that the client can be installed on Windows Workstation and Server systems as required.

Backup Exec Desktops and Laptops Option

Installation time for Backup Exec DLO depends on whether the core Backup Exec media services are already running on the designated server. If not then they can be selected from the installation menu along with the Backup Exec DLO component and all loaded together. The optional environment check is useful as it scans the backup server to ensure that it meets the minimum hardware and software requirements for the Backup Exec media services. This also requires a SQL Server and the routine automatically loads MSDE 2000 on the same system. If the entire Backup Exec media server and Backup Exec DLO options are loaded together the routine takes around twenty minutes to complete. Whereas ARCserve L&D is available is sixteen languages Backup Exec DLO currently supports eight languages.

Client deployment options for Backup Exec DLO are also good as the software can be pushed to clients, pulled from a shared location, installed directly from the CD-ROM, emailed to clients or placed on a web page. Sites running Microsoft's SMS (System Management Server) software can also deploy the client package with this. The Backup Exec DLO agent is not the same as used to allow systems to be accessed by the Backup Exec media server and, whereas the ARCserve L&D agent can install on any Windows system, the Backup Exec DLO agent only supports Windows 2000 and XP.

NetWorker

Networker's requirements for its backup server are comparatively minimal so server installation is a very swift affair with the main components being loaded in a matter of minutes. However, the Networker installation package contains not only the Server software but also the Storage Node and Client components as well and these must be selected manually from a menu when the package is run. The Networker Storage Node is an option during installation and is a system that runs both the client and media management services and has storage attached locally. It targets enterprise level backup applications by allowing data storage and backup and restore tasks to be distributed across the network. At present NetWorker only supports English language installations.

Client deployment for NetWorker is the least impressive and the documentation focuses first on locally installing it from the client CD-ROM which is totally impractical in a large, distributed network environment. The software can also be pulled from a shared network resource or Microsoft's SMS can be used to deploy it as a package. Note that unlike ARCserve L&D and Backup Exec DLO, the client package cannot be customised with parameters specific to users or groups. The client simply provides a conduit to the selected NetWorker server and the tools for users to run their own network backups.

BrightStor ARCserve Backup for Laptops and Desktops

Server overheads are comparatively low as the Server only installs as a single Windows service. If the Server Explorer is run from the same system then the local Server is automatically added to the management interface ready for access. A discovery routine is provided for locating remote Servers which scans the selected IP address range. A full scan of 255 IP addresses on the test network took nine minutes to complete.

The Server Explorer interface opens with easy access to tutorials provided in the right-hand pane. Client installations can have selected default configurations assigned to them along with the location of the local backup database and the server database folder. During installation the client is smart enough to check the local system and load its user database on the drive with the largest amount of free space. Users can load the client and select files and folders to be backed up, set up their own daily and weekly schedule and request an immediate backup. However, administrators that don't want their users fiddling with these settings can select the Protect option at the server for specific users which will block them from changing any client parameters and enforce the use of the default settings.

The Server Explorer interface is very well designed and provides an Explorer-style tree in the left pane for easy access to each function. Organisations are used to represent logical networks or departments and users are automatically added to the management interface and attached to the relevant Server when the client software first connects to the Server. ARCserve L&D uses a simple concept of configurations and backup sets allowing administrators to create custom client packages for different types of mobile users. Each configuration contains information about different connection preferences and backup and restore requirements while schedules determine when client backup is run automatically. Backup sets define a single location or group of folders on the client's system that are to be secured according to the associated schedule. For example, mobile worker groups that may be collaborating on a project stored on their notebooks can have this location specified as a backup set or you may wish to designate their Outlook PST file as a backup candidate. ARCserve L&D provides a range of common backup sets for locations such as My Documents but you can easily create your own.

Backup Exec Desktops and Laptops Option

The first time Backup Exec DLO is loaded from the main Backup Exec media server console it will ask for a new password to allow encrypted data to be recovered in the event of a failure or corruption of the media server. This is not an optional step as Backup Exec DLO will exit if this isn't completed. Also, a record of the password must be kept as if it is lost it can only be changed from the Backup Exec DLO command line interface tool. You can decide where the vault is to be situated and this can be on the local server or another network location and a Storage Location Wizard allows you to define where you want it to be. From here you can select the local system or specify another system by browsing the network. Another wizard is provided for creating new backup profiles that contain information about backup selections and schedules plus options for users to customise their backup selections. Users can automatically be assigned a default profile when they first run the desktop agent and you can limit the level of access they have to the agent.

The Backup Exec DLO console is well designed although not as intuitive as the ARCserve L&D Server Explorer. It opens with a system summary that provides an at-a-glance readout of backup results, pending backup jobs and alerts. The server summary shows the active Backup Exec DLO server along with the number of configured clients and computers. The Setup tab provides easy access to backup profiles which differ from those used by ARCserve L&D as each one contains a set of files to be included or excluded. This means a separate profile must be created for every group of users that may be using the same file locations but due to their working practices have different backup requirements. The Restore tab simply lists all client activated data restoration tasks with the remaining tabs providing access to general history and alert logs plus reporting facilities.

NetWorker

To help configure NetWorker a separate Wizard tool is provided to aid setting up basic management access, clients and backup devices. However, the main NetWorker administrative interface hasn't been updated for many years now and is looking dated. It does provide reasonably easy access to media and server management and client operations but creating backup strategies is a complex operation. Full, differential and incremental backups can be created while different backup levels determine how data is secured but each strategy will comprise a number of different jobs for each backup type. Save sets specify what data is to be secured and each client can have a number of these assigned to them for different locations. Clients are placed in groups for easy administration and backup schedules are then applied to the group.

Vault setup is completely different to ARCserve L&D and Backup Exec DLO as a file location need to be created as a device in the same way a tape drive would be created. From the Media Type drop-down box you simply select the File option instead of a tape format and enter the path to the vault location. NetWorker treats this in a similar manner to a tape as the vault needs to be labeled and then mounted before it can be used. To create a Save Set you enter the required path in the client properties or use predefined sets that will back up the entire system or just the System State data.

BrightStor ARCserve Backup for Laptops and Desktops

The ARCserve L&D client has clearly been designed to deal with a wide range of connections types and available bandwidth. From the Connection Preferences you can decide how often the Server should be contacted, whether the user needs to decide if a network backup should be allowed and if data should be sent automatically if a Server connection has been established. The client can be set to attempt to connect to the Server at scheduled intervals and the network throttling feature allows bandwidth usage to be restricted during backups. A separate schedule can be used to tell the client when not to send data to the server, a maximum bandwidth percentage specified and the backup limited to a total amount in Mbytes per day. The TCP/IP settings determine the maximum packet size in bytes and the port number the Server is to be contacted on. The Auto TCP/IP Connection feature is aimed at users who dial in to the LAN over a low bandwidth connection. If selected it loads a monitoring utility on the client system which allows backup data to be sent to the Server only during a dial-up link whenever the user is performing other tasks such as logging in to retrieve email.

All data sent to the Server is automatically compressed before transmission and the client deals with transmissions over insecure links as the data is also encrypted before being sent. An option that makes the ARCserve L&D client unique is hardware and software inventory gathering during a backup. This information is presented in the Server Explorer and can be used to create reports on selected systems. We found the levels of details - particularly for the hardware inventory - very good with the client identifying all major components on the test systems.

If the Protect option has not been checked then users can access the ARCserve L&D client. They can select local files for backup and run jobs on demand and note that their own selections are independent of those specified in the configuration profiles maintained on the Server. Whenever a backup runs, the client displays a window so the user can monitor backup progress. The client makes light work of file restoration as the user can load the Restore feature and search for specific files or use wildcards. Once a file has been selected the drop down menu allows it to be restored to its original location or another destination folder and if the file is available in the local database then this will be used first. Data restoration is also protected against unauthorized access as users must provide a password before the Restore utility will load.

Backup Exec Desktops and Laptops Option

Overall, we found the level of features provided by the Backup Exec DLO client to be similar to those offered by ARCserve L&D. Network utilization can be managed as each profile can have a limit defined in KB/sec to stop the client using all available bandwidth. One difference is that this method doesn't cater for situations where a mobile user may connect to the LAN from a variety of locations and different speeds. By specifying the limits as a percentage of available bandwidth the ARCserve L&D client works better in these scenarios. However, the Backup Exec DLO client can be set to yield bandwidth to other applications that are running alongside the backup task. Unlike ARCserve L&D, backup to the local client database can be disabled and storage limits placed on both local and network databases.

Each profile can contain custom and predefined source folders for backup and file types can be excluded or specifically included. Backup Exec DLO offers particularly good revision controls as for the local and network backup destinations you can set up individual limits to the number of revisions stored within a time interval and how many minutes apart you want to separate each revision. You can also disable the user data folder and stop local backups being taken and limit both local and network backup folders to a maximum size or for the former a percentage of available space. The client interface is also well designed and profiles are used to determine the level of access a user has to this utility. You can block them from even seeing the System Tray icon but with full access they can select their own files for backup and change any of the settings defined in the assigned profile. As with ARCserve L&D, security is tight as data is also encrypted as standard and compression can be selected if required.

Backup Exec DLO also has a couple of unique feature as the client can be set to take backups every time a file changes rather than at regular intervals. More importantly, it offers a synchronization tool that allows users to make sure they are using the latest file versions whether at their desk or out of the road. This menu option in the client displays all systems they are authenticated to use and allows them to run jobs that update all their systems with the latest files. Another useful feature is that backed up files are stored in the vault in native format so they can be restored by users with sufficient privileges using just drag and drop operations.
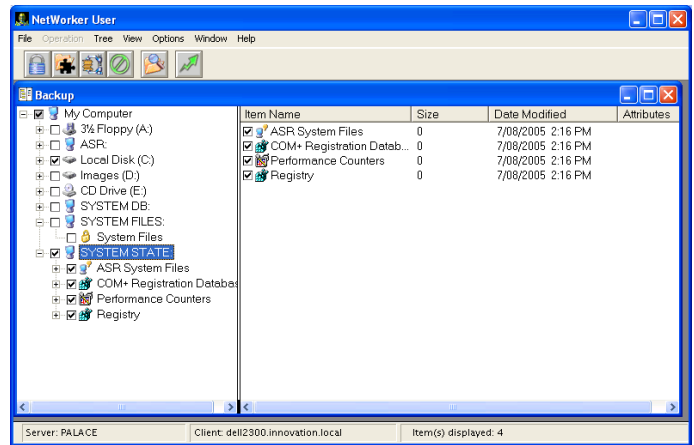
NetWorker

The NetWorker client functions differently to ARCserve L&D and Backup Exec DLO and confusingly can represent a physical computer with the service installed on it and also a resource which contains definitions of files and folders that have been declared for backup. However, this approach does allow you to create multiple tasks that can back up different resources on the same client using different schedules and also using more than one backup server. From a mobile client perspective this is of little value as the backup jobs must secure data to the NetWorker server and can only run when the client has an active connection. Unlike ARCserve L&D and Backup Exec DLO the client does not have the ability to secure user data to a local storage resource during times when a link to the main network is not possible.

The NetWorker User utility is, by comparison, basic with a minimal feature set and although the interface has been redesigned recently it is still looking dated. It's easy enough to use though and you can browse for and select a NetWorker Server to connect to. The Backup button displays an Explorer-style tree allowing users to browse through and select local files and folders they want backed up. Security options are reasonably good as data being sent to the server can be password protected and encrypted. However, if these options are selected then the data cannot also be compressed as this feature cannot be applied to a file that is password protected – which all NetWorker encrypted files have to be. For scheduled backups run from the NetWorker server file compression can be requested by applying one of a range of preconfigured global directive resources to the backup task associated with the client.

File recovery is straightforward as after connecting to the appropriate client you can browse the file index maintained on the NetWorker server. This displays all files that have been backed up and you can return them to their original location or specify another destination. The Archive tool could prove handy as it allows users to select data that is to be backed up permanently into the NetWorker archive. Once this has been completed the local data can be deleted allowing users to manage their storage more effectively. A separate menu option called Archive Retrieve is provided to restore these files and searches can be narrowed down if the user inputs part of the annotation string they used when describing the file prior to archiving it. However, beyond these standard features the NetWorker client offers no tools for managing and fine-tuning data backup over low bandwidth connections.
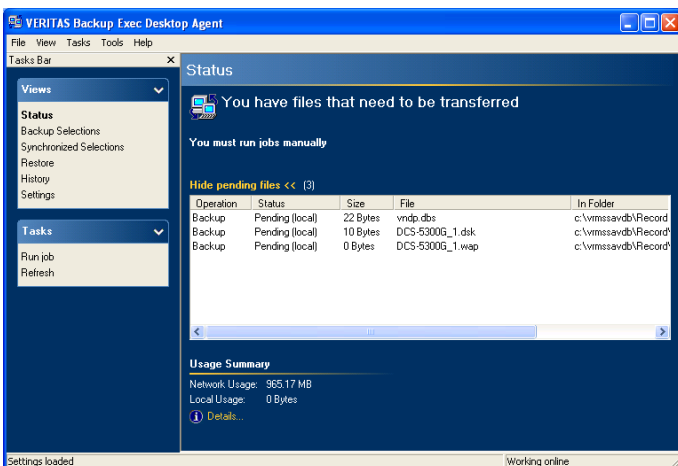
As a company's mobile workforce expands so client requirements will inevitably increase and the backup software must be able to scale easily with demand. Furthermore, backup products that use a hard disk vault must take into account that the vault itself represents a single point of failure. Consequently, the facilities to secure the contents of the vault to removable media are of paramount importance. As with the client backup there must be tools available to run scheduled backups of the vault with the aim of allowing secure off-site storage to be maintained so that in the event of a disaster the vault can be easily recovered.

BrightStor ARCserve Backup for Laptops and Desktops

ARCserve L&D scales extremely well with demand as it allows more Servers to be added to the network as required. One very slick feature is the Server Explorer supports user migration using nothing more than drag and drop. You simply select the user you want to move to another Server, drag their icon to the new system and all settings and backed up data will be automatically moved across. Furthermore, this process happens in the background and is completely transparent to the user although they will be notified of this the next time they log on.

If the vault is reaching its physical limitations due to an increased user base there are a number of other options that cater for expansion. A larger hard disk can be installed and the Server software copied across to it. The Move User Database command can be used to shift the backup location to the new hard disk on the Server. As the ARCserve L&D vault is essentially a folder on a hard disk it allows any conventional backup software to treat it as a source for securing to tape. However, ARCserve L&D goes a stage further than this as it has built in features that allow it to integrate with Computer Associates BrightStor ARCserve Backup for Windows. In the ARCserve L&D Data Growth Option the name or IP address of an ARCserve Backup for Windows server is entered along with the authentication details that will allow ARCserve L&D to submit backup jobs to it. Special tasks can then be scheduled at regular intervals that will migrate older data from the ARCserve L&D Server to the specified tape media pool on the ARCserve Backup for Windows server.

Backup Exec Desktops and Laptops Option

As Backup Exec DLO uses shared folder locations on local or remote networked systems to store user data then the vault can be treated as a normal disk source for backup. The system with the shared folders will require the standard Backup Exec for Windows Servers remote agent software installed on it and licensed but as Backup Exec DLO is an optional component of this core software then the company will have already purchased these components. Backup Exec DLO doesn't have the same level of integration as ARCserve L&D offers as there are no features to allow a specific Backup Exec server to be designated. In cannot, therefore, submit data migration jobs to the main backup server in the same way as ARCserve L&D and it cannot specify particular tape media pools to be used. Vault backup for Backup Exec DLO is achieved by creating standard Backup Exec tasks to secure the user data to removable media and these can be scheduled to run at regular intervals.

When an existing data store is reaching its physical limitations additional hard disks can be installed in the system and new data stores created. However, to minimize system downtime extra storage locations on other systems can be created and added to the Backup Exec DLO console. With the Move User Data Folder feature you can select other storage locations and allow Backup Exec DLO to move the user and all their associated data to a new location.

NetWorker

NetWorker also scales well with demand as extra hard disk locations can be created as required and defined to the core backup server as new file type Devices. You can also create multiple file type Devices on the same hard disk although EMC recommends that each is assigned to a separate partition. The NetWorker DiskBackup option now supports an advanced file type device which is designed to cater for very large hard disks. Tasks can be created as standard that allow the vault location to be treated as a source folder for backup and these can be scheduled as normal to run at regular intervals.

However, note that all combinations of NetWorker server and Storage Nodes have a limitation on the number of supported Devices. This stands at 256 and will include all tape drives, autoloader and libraries as well as hard disk locations. Furthermore, each edition has its own limitations with the Workgroup version supporting four devices.

NetWorker does not have the same facilities as ARCserve L&D and Backup Exec DLO for moving users easily to a new hard disk vault. Essentially, as new file type Devices are added then backup jobs will have to be modified or new ones created to allow client backup to utilize the new location. However, data archiving can be used to reduce the amount of data being held in a file type Device but note that this is also an optional feature of NetWorker and must be purchased separately.

BrightStor ARCserve Backup for Laptops and Desktops

As the ARCserve L&D Server does not rely on any other software to function it has no restrictions on the vault location. Smaller businesses can install it on existing servers whereas enterprises managing a large mobile workforce may wish to place it on a dedicated system for improved performance. The Server is also designed to accept backup streams from multiple clients simultaneously. This can be easily customized to suit as you can decide how many concurrent client connections can be made to the server and also how many client backups can be run at the same time as well.

A feature of the ARCserve L&D client that makes it stand out from the competition is the File Change Recorder which locally monitors files defined in the backup sets for modifications along with the creation and deletion of files. This eliminates the need for the client software to scan the system every time a backup is run so maximizing connection time when a mobile user logs on to the office network. Backup times are also drastically reduced as the client backs up at the byte or block level. This eliminates the need to send a complete file to the local database and Server as only the changes, or deltas, are transmitted resulting is a much quicker backup process. Furthermore, either backup method can be selected during client package creation so users who are dealing with large files can use block-level backup for improved file change detection speeds.

Backup Exec Desktops and Laptops Option

As the Backup Exec DLO vault is essentially a network share it is not tied to the Backup Exec media server and can be placed anywhere on the network. This gives it the same level of freedom as ARCserve L&D as companies can elect to use an existing server or place the vault on a dedicated system although any management access to a remote vault will result in increased network overheads. Unlike ARCserve L&D there are no options for fine tuning the number of client connections to the vault so you can't place restrictions on the number of concurrent backups that are allowed to run. Symantec does state in its documentation that the vault should not be loaded beyond a maximum of 400 concurrent connections otherwise operations may fail due to Paged Pool memory running out.

As Backup Exec DLO does not support delta backup any file modifications will result in the entire file being backed up. Whereas ARCserve L&D can record file changes and backup at the byte and block level Backup Exec DLO does not offer these facilities so backups will inevitably take longer. File encryption is not a customizable option and is carried out automatically although file compression can be turned off in selected client profiles if performance needs to be improved.

NetWorker

By its nature NetWorker does not offer any performance tuning capabilities that specifically address backing up mobile client data. However, the number of concurrent backup tasks allowed can be controlled with the Parallelism feature accessed within the Server Setup dialogue box. Not only can this restrict the number of backup streams to the backup server but it also allows client data to be multiplexed to the vault. This is a feature also offered in BrightStor ARCserve Backup for Windows r11.1 and tests carried out in this lab have confirmed it can make significant improvements to backup times. However, note that each edition of NetWorker has different limits on parallelism with the Network Edition, for example, supporting a maximum of 16 concurrent data streams.

Another performance option available in NetWorker is Target Sessions. This is a control placed on the backup device that limits the number of simultaneous backup sessions it is allowed to accept. This feature is used mainly in environments where multiple backup devices exist and is primarily aimed at streamlining tape drive usage. If a device is already receiving its maximum number of backup sessions then the NetWorker server will automatically send backup sessions to another device that has not reached it limit.

The availability of mobile data is rapidly becoming a major challenge as companies rely ever more on a workforce that is not bound by the office. The data on their notebook must be seen as a valuable corporate resource that represents many man-hours of work and should, therefore, have the same level of protection afforded to workstations and servers.

Business opportunities that are presented to mobile workers such as sales people must be capitalised on and the success or failure of a deal can rest purely on the quality and availability of data and presentations held on their notebook. Sales leads need to be followed up, demonstrations must function flawlessly and reports must be submitted on time if potential revenue streams are to be captured.

In order to achieve these aims the backup strategy for protecting mobile data must satisfy a number of key requirements. The burden of backup cannot be passed on to the users themselves and experience has shown that it will not be run on a regular basis if at all. The software must provide the facilities to be centrally administered and controlled allowing support staff to ensure it is run correctly and transparently to the user.

Also, the perception of many administrators of backing up mobile data is that it is another task they could well do without. Consequently, the software must be able to integrate seamlessly with the existing network infrastructure and systems to avoid an increase in the support workload. To gain acceptance it should not require a significant change in working practises when being implemented.

Of the products featuring in this report NetWorker was found to be the least suited to securing mobile data. It is a fully fledged enterprise backup product with support for a huge range of server and workstation platforms plus backup devices but its methodology does not function well with workers that are frequently disconnected from the corporate network.

Although it can use a hard disk vault this is designed more for high performance D2D backup on critical systems. Furthermore, it does not support the use of a local folder so data cannot be backed up automatically when users are out in the field.

This report found that ARCserve L&D and Backup Exec DLO deliver similar solutions that are specifically aimed at securing mobile data and both offer a range of valuable features. Client deployment is extremely well handled and the levels of control placed with the user can be easily customised to suit different requirements.

It is possible with both products to deploy the software to multiple clients and run backup completely transparently allowing for minimum disruption to general working practises. Configuration and general day to day use is dealt with ably as both provide well designed, intuitive administrative interfaces that will not require a major reassignment of support resources to use.

For performance and features this report found that ARCserve L&D had the edge as it offers more facilities for fine-tuning operations and is specifically designed to cope with low bandwidth connections such as dial-up links. The File Change Recorder plus byte and block level backup are all designed to reduce the time taken to secure mobile data and are features found on few other competing products.

Where ARCserve L&D will be a very good choice is for companies that have either not implemented a core backup strategy or are unwilling to change their existing software. Backup Exec DLO requires the core Backup Exec media server as it only functions as an optional product making it best suited to sites that have already invested in Symantec's backup software. It is highly unlikely that a business will accept the high costs involved in a major shift in backup operations to a completely new solution purely to tackle mobile user issues.

ARCserve L&D can co-exist with any third party backup software allowing its vault to be backed up to removable media. However, it also has the added advantage of integrating seamlessly with Computer Associates flagship backup software allowing controlled data migration to be included for a complete top-to-bottom solution for securing critical business mobile data.