

Increasing data archiving frequency and security with *BackupEDGE™*

Using the Network (and Internet) With *Microlite BackupEDGE*

Microlite Corporation has a reputation for engineering excellence in enabling UNIX and Linux users to take advantage of the benefits of leading edge, low cost storage technologies. We are well-known as the first company to have made CD, DVD, BD-RE and Iomega REV devices mainstream backup and disaster recovery tools in this market space. This, of course, is in addition to our traditional tape, changer, library support. We've also applied our engineering excellence to network backups.

Background

Traditionally, the small business / medium business IT model was to have a single server handling all business functions, with protection and archival storage provided by a directly attached tape drive performing a backup each night.

Increasingly, that model has changed. Today, companies split their former single servers into several "purpose built" servers such as storage servers, application servers, web/ftp servers, mail servers, etc.

Placing standalone tape drives on each system becomes an expensive proposition for both devices and media. Media management is also an issue.

Network Attached Storage

Fortunately there is an easy solution; perform all backups over the network to disk on a single "storage server", then protect the "storage server" with backups to traditional media. This provides multiple levels of near-line and off-line storage at greatly reduced prices.

Microlite's revolutionary (and exclusive) *Transparent Media™* technology turns any server or appliance on the network (or Internet) into a full-featured backup, restore and disaster recovery device. Full-featured means we've given network backups the same set of capabilities afforded by locally attached storage devices, including....

- Backup/Verify/Restore.
- Instant File Restore™, allowing access to individual files or directories on remote archives within seconds.
- Full Security with optional encryption of the network link, archive contents, or both (protocol dependent).
- Maximum space savings with our class-leading compression technology.
- Bare Metal Disaster Recovery access to remote archives.

The "storage server" doesn't even have to be a dedicated NAS device. Virtually any computer system, server or appliance, running any operating system, can be used as a storage server.



BackupEDGE treats any network connected appliance or system with an FTP, NFS or CIFS server as locally attached storage.



Microlite Corporation
2315 Mill Street
Aliquippa PA 15001-2228 USA
Tel: 724-375-6711
Fax: 724-375-6908
email: sales@microlite.com
web: www.microlite.com

What if you could:

- Consolidate all your server backups by sending them to a data center, eliminating the expense of local storage devices?
- Become a backup data center for your clients, stores, etc.?
- Use any Network Attached Storage (NAS) device from any vendor to reduce backup windows and consolidate archives?
- Create your own inexpensive storage server?
- Have two servers backup to each other for redundancy, over your own network or the Internet?
- Create a ring topology, allowing each server to store archives to another server?
- Backup multiple servers to the same storage device concurrently?
- Increase the frequency of data protection by performing multiple differential/incremental backups per day?
- Combine traditional media, NAS, Internet backups as desired?
- Lower the cost of individual servers by eliminating tape drives completely?
- Combine quotas and "lazy expiration times" for archives, allowing for the maximum number of older versions of backups for each server to remain on file?
- Create "never" expiration times for archives the you never want erased?

What's the Magic?

BackupEDGE builds a full-featured, high-performance, high security *ftp/ftps client* directly into the backup engine. It is also completely NFS and CIFS aware. This allows any directory/folder on virtually any system or appliance equipped with an FTP/FTPS, NFS or CIFS server to act as a standard storage "Resource" for *BackupEDGE*. The system/appliance acting as the storage server...

- Does not need to have a copy of *BackupEDGE* installed.
- Can be running UNIX, Linux, Windows or even an embedded OS, as long as it has an FTP, NFS or CIFS server.
- Can have any type of filesystem. Our *Transparent Media* technology automatically segments archives as necessary, eliminating the "ulimit" and file size limitations associated with some operating systems, including SCO OpenServer 5.

FTP Advantages

Building FTP directly into the backup engine increases the reliability of the data stream and eliminates "store and forward" backups that take extra disk space and add complexity. With 5,000 character pathnames, state-of-the-art compression, world-class encryption and three-way integrity checking, the exclusive *BackupEDGE* engine has been engineered with all of the proper infrastructure for NAS/Network/Internet backups.

NFS / CIFS Advantages

NFS (Linux and OpenServer 5.0.7) and CIFS (Linux) protocols are very efficient and fast. Support has been embedded into the platforms listed

here for *RecoverEDGE* bare metal recovery. Backups automatically mount the remote server(s), create and verify the backups, then unmount them.

Additional Security

Many modern ftp servers include ftps, a secure ftp transport allowing encrypted transmissions. *BackupEDGE* can use ftps if available to secure the data in transit.

Note that the *BackupEDGE Encryption License* option also allows the archive itself to be encrypted at the remote site, which is perfect for complying with data security regulations and when dealing with third-party data centers.

Additional Features.

- "Volume Size" to a remote backup resource means storage quota. *BackupEDGE* will not use more than its assigned space limit.
- Advanced archive strategy. *BackupEDGE* creates multiple archives per server and implements a combination of retention time and storage quota to maximize the number of archives that may be usefully stored.
- Any restore, including a disaster recovery, displays a list of archives on the storage server and prompts for the appropriate archive.
- A built-in test system diagnoses connections, generally without having to resort to accessing logs on the server.
- A selectable flag allows backups to be automatically restarted if the connection fails.
- Passive mode is used by default for FTP. Active mode may be enabled.
- "Restartable" feature for low quality network connections. Automatically restarts the backup (right in the middle if necessary) in the event of a link failure.

Extra Benefits.

The engineering work necessary to build this functionality has some additional side benefits...

- Removable hard drives, flash drives and dedicated directories are now functional as valid storage devices, subject to some limitations designed to ensure that they are not accidentally erased as part of the automated disaster recovery process.
- Multi-volume backups of **any** media type now have Fast File Restore™ / Instant File Restore™ capabilities.

Summary.

Tape drives, optical media, REV drives, remote archives, archives to removable storage. *BackupEDGE* now treats them all identically. No functionality is lost, no compromises are made, when changing storage strategies.

New opportunities are afforded for heterogeneous environments. Choose the storage strategy or combination of strategies that best fits the needs of the client, at the lowest possible cost.

Network attached storage is now a lot more useful in the UNIX and Linux space, and a lot more secure.

Microlite has always considered *BackupEDGE* to be an “enabling technology”, and our role within the industry to find new ways to help our partners deliver competitive, cost effective solutions, especially in the small to medium business (SMB), web server / back office server and replicated site space. So we are constantly evaluating new technologies in an effort to find those which can help improve storage reliability and performance while at the same time reducing investment costs for our partners and their clients.

The BackupEDGE Advantage

BackupEDGE fully integrates network storage technology with *no compromises*.

- Our higher compression ratios ensure that the maximum amount of data can be stored on an archive.
- Our *exclusive* built-in ftp/ftps client ensures the easiest integration and fastest possible performance.
- NFS and CIFS servers may also be used.
- Instant File Restore functions perfectly. Only the data blocks containing the files to be restored are brought back across the network.
- Full compatibility with disaster recovery is maintained. (NFS backups to OpenServer 6 and UnixWare 7 are not *RecoverEDGE* compatible. CIFS backups are supported on Linux only).

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