

Online Data Backup and Recovery Takes Hold

By Bud Stoddard
05/23/04 12:00 PM PT

Despite the current myths surrounding online backup, it is fast becoming the standard in the business of data backup storage. Online backup has proven itself to be a fundamental component of disaster recovery and business continuity plans of small to large businesses alike throughout the United States.

Due largely to recent environmental disasters such as the fires in California and the blackout, challenges in the Middle East, and new regulations such as Sarbanes-Oxley and HIPAA calling for increased data integrity, server backup and recovery has risen to the top of storage agendas. According to META Group Research, more than 80% of Global 2000 companies will significantly increase their business continuity/disaster recovery budget by 2006, from the current average of about 2-3% of total IT budgets to 5%+ of their budget.

A vital component to ensuring business continuity and recovering from a disaster is having sufficient data backup practices. Most storage professionals today utilize either traditional tape or disk backup and, as a result, most companies employ either method for their data protection. However, any sufficient data protection strategy should include an offsite component where data is available at a secure off-site location in the event of disaster. Often, because of this, outsourcing plays some role in this process, such as having a courier service transport backup tapes to a secure vault.

At the same time, remarkable changes in the way businesses work are being fueled by online and other electronic processes going on 24 hours a day. Business processes are becoming more compressed, and business activities that took days now happen within hours or minutes globally. Companies without a strong foothold in technology will be disadvantaged when facing the evolutionary trend of business changes. Storage planning must change to coincide with the fast-paced and highly competitive business environment and offer protection against uncontrollable looming disasters.

Because of these changes in our business climate, the increasing need for an effective backup and disaster recovery strategy and slimmer budgets, the outsourcing of parts or of all of a company's backup and disaster recovery has increased significantly in adoption. Companies are beginning to realize the tremendous cost savings associated with outsourcing such a vital function. Luckily, with many recent technological advances in the area of storage and storage management, there are a number of new outsourcing services and technologies available which can better address data protection as compared to traditional solutions. One such technology is online backup and recovery.

Online Backup

With its ability to quickly and efficiently perform backup and recovery, online backup and recovery or electronic vaulting is responding to the demands of today's businesses in these uncertain times. With online backup, the ability to automate your backup and remove the data off-site to a secure vault with a click of a mouse button is now a reality. It's no wonder a technology that used to be seen as unconventional and experimental is quickly becoming mainstream. IDC estimates that through 2006, rapid growth will continue in the area of remote backup.

A fully automated and electronic process, recognizes changes to files in the server backup set, encrypts the files for enhanced security, then sends the backup files over high speed telecommunication lines via the Internet to secure, off-site Mass Storage Vaults. This can best be described in a five-step process.

The first step is installing the Administrator software on a Windows machine and the client agents on all the servers and client machines that will be backed up. Using the machine with the Administrator software, one selects the files and/or directories to be backed up. Then, the frequency of backups is scheduled, and encryption methodology, vault passwords and type of backup for each machine are determined. After the first full backup, subsequent backups will most likely be incremental (at the client's choosing), to reduce time and bandwidth for future backups. After completing step three, one can essentially forget about it, as all backups will then be performed automatically per the set schedule, and the backup will be sent off-site to a Mass Storage Vault. When restoration is necessary, a file or files can be retrieved on-site or remotely from the Mass Storage Vault promptly using the installed software.

Essentially, one can schedule backups to run at any time of the day or night, as frequently or as little as necessary. The backup window is further reduced by utilizing "delta processing" technology which compresses the data, minimizing transmission time and saving time and resources. Delta Processing backs up changed files down to the bit level, so that only the portions of the file that have changed are backed up rather than the entire file.

Security is also a central component. The first is an encrypted authorization feature for every user that connects to the Mass Storage Vault. This protects data from unauthorized access. An additional option is to encrypt the data before transmission to the Mass Storage Vault. This protects data both during transmission over the network and while it is stored on the remote storage server.

Because online backup services are based on TCP/IP, the underlying physical communication method is immaterial. Thus, a local LAN connection, T1, ISDN, Frame Relay and analog 28.8 or 56kbps modems are all valid methods for connection between an Agent and the Mass Storage Vaults.

Myths About Online Backup

Certainly, data backup is critical for every company, but remember the last time you didn't suffer from backup headaches? You can't. Failed or incomplete backups,

forgetting to put the tape in, or waiting hours for a courier service to bring back your tape are all routine headaches. Whenever an innovative idea threatens to replace current solutions in day-to-day business practices, myths begin to sprout like weeds spotting your favorite golfing green.

Myth One

Online backup is too expensive. Initially, it may appear that way. Compare a tape scenario for instance. Hardware, software licenses, tapes, personnel -- and let us not forget basic human error -- add to the cost of traditional tape backup. Additional costs accrue with off-site courier services and tape solutions have large upfront and sometimes unexpected costs, while online backup costs are declining. A small 10-gigabyte user with daily backup would pay approximately \$460 per month for traditional, albeit partial, service; while the same user would pay approximately \$294 per month for complete, automated online backup service. Online backup eliminates all these traditional cost factors because with it, total automation, local backup and off-site protection occur simultaneously.

Myth Two

Data is not secure on the Internet. Online backup utilizes the same technology the U.S. Government uses for its security: encrypted, fragmented data or pieces of a puzzle in gibberish language. Online backup vendors can also offer clients a highly secure VPN (Virtual Private Network) connection if they so desire. This higher level of security ensures that all communication between the client and the vault is encrypted. Online backup is actually more secure than storing unencrypted data tapes in a remote vault.

Myth Three

Online Backup can't handle a Fortune 500 company's data. Handling large amounts of data over relatively small bandwidth is a popular feature of online backup. An initial backup or "seed" of the server's data is extracted. The Delta Processing technology then seeks out updated portions of changed files, and only the fragmented change of data is sent to the vault. Additionally, large-volume and highly redundant disk storage systems store the data online. To further data integrity, reliability and recovery, the massive amounts of data online are backed up to tape on a daily basis and shipped to an underground vault for safekeeping. Online backup providers service businesses with a responsibility to ensure that storage space is always available, no matter what the size.

Lawyers Weekly, the nation's top source of legal information for practicing attorneys, has used online backup for years. "My feeling is that you're only as good as your last backup. Our company has many remote locations without systems administrators. As a result, we really have come to depend on online backup as a means of assuring that our backups are done on a daily basis at these sites," said Tom Bannister, systems manager, Lawyer's Weekly.

An Inevitable Evolution

Despite the current myths surrounding online backup, unavoidably it is fast becoming the standard in the business of data backup storage. Online backup has proven itself to be a fundamental component of disaster recovery and business continuity plans of small to large businesses alike throughout the U.S. Traditional recovery solutions must be retailored to accommodate the new recovery and continuity alternatives available to businesses in this fast-paced and uncertain climate. No longer can businesses rely on protecting their most important asset with inefficient methods. Companies who wait until disaster strikes to implement more efficient means of backing up their valuable data will become extinct like the dinosaurs who once roamed our planet.