



THE CASE FOR DATA PROTECTION FOR SMBs

DATA LOSS PUTS SMBs AT RISK

How long can a business survive if workers can't access data? How long will customers wait for answers to their questions about orders, billing, payment, delivery, service?

Businesses today cannot function for long without data. In fact, many organizations would probably go out of business in a week, and even a few days can result in debilitating consequences. Data is the lifeblood of all modern businesses, not just of big enterprises. Without access to its data, any business is in trouble.

Enterprise Strategy Group (ESG), an IT research firm based in Milford, Mass., found that 63 percent of the organizations it surveyed could withstand only four hours or less of system downtime hindering access to data before they would experience adverse effects on the business.

Organizations can lose access to data in many ways, from a hard disk or server crash to a power outage. Storms, natural disasters, fires, accidents, human error



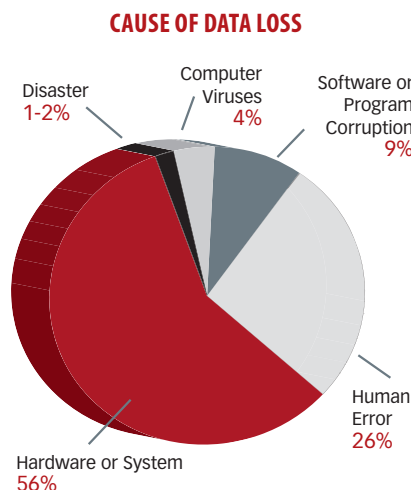
and even computer viruses can prevent access to an organization's data. With so many uncontrollable variables, the likelihood that any business will experience data loss sooner or later is great.

The cost in terms of lost business, lost opportunities, lost productivity and customer dissatisfaction resulting from the loss of access to data can be higher than

the cost of the initial problem, whether fire, flood or something else. And if the business operates in a regulated industry or handles data subject to regulations, data loss also raises a host of compliance concerns.

Given the importance of data, the likelihood of data loss and the serious harm to the organization that can result, it has become imperative for all businesses, even small and midsize organizations, to take steps to prevent loss of access to their data. In short, small and midsize organizations need to protect their data just as large enterprises do.

Data protection in the past was prohibitively expensive or too complicated for small and midsize organizations. "Many businesses just didn't back up their data. It was too hard or too costly," says Kyle Walczak, product manager for Dell tape



Source: ZDNet.com August 2007



storage products. Today, with advances in disk and tape technology, effective data protection is both affordable and simple.

This paper is intended for managers of small and midsize organizations. In the following pages, it

- **Identifies** data protection/recovery challenges
- **Examines** the value of data protection/recovery
- **Highlights** data protection/recovery options for SMBs

It also introduces selected data protection/recovery products for small and midsize businesses.

DATA PROTECTION AND RECOVERY CHALLENGES

Data protection revolves around data backup and is often associated with disaster recovery. Until recently data protection for small and midsize businesses consisted mainly of backing up data with slow, low-capacity tape drives. The process was cumbersome and labor-intensive, with the need to manually handle and track multiple tapes.

Ideally the organization backed up all or part of its data—the part that had changed—each night. Tapes were stored safely and were periodically shipped off-site for additional safety. In the event of a problem that caused loss of access to data, the latest tape containing the most recent copy of the data was retrieved.

In practice, it didn't always work that way for small and midsize organizations. The process was difficult to automate.

Recovering data from tapes was not always successful. And because of the effort and time involved, organizations backed up less frequently, so when they needed to bring back the data, it was frequently too dated to be truly useful.

"Many businesses ended up underprotecting their data. They have limited staff or limited budgets, so they made do with less data protection," notes Michael



Krutikov, technical product manager at Symantec.

Specifically, the data-backup-and-recovery process for small and midsize organizations suffered from several complicating factors:

- **Costly technology.** Reliable automated, high-capacity tape backup systems simply were too expensive, as was backup to disk.
- **Slowness.** Backups took too long.
- **Difficulty of automation.** The process required robotic tape devices and autoloaders that were expensive to acquire and difficult to set up and manage.
- **Labor-intensiveness.** At various points, manual tape handling was required.
- **Complicated process.** It often called for the sequential rotation of multiple tapes, which had to be tracked and managed.

As a result of these factors, tape backups often were unreliable and data recovery, if necessary, was uncertain. Given the cost and effort involved, many organizations questioned whether backing up was worth it.

IDENTIFYING THE VALUE OF DATA PROTECTION AND RECOVERY

As ESG noted, your business probably couldn't function very well or for very long without access to the data stored by your computer systems. It would be impossible to send invoices or schedule production. Customer service would quickly become a nightmare. For even



Tape Backup Today

- Complements backup to disk
- Lower cost (1/23 of the cost of disk)
- Can withstand rough treatment
- Better for long-term storage
- Portable for moving offsite
- Backward-compatible LTO tape

the smallest businesses, there is no going back to the days before electronic data.

“Maybe five or ten years ago, a small business could revert to paper, but not anymore. Much of the paper is long gone, and it would be next to impossible to re-create it,” says Dell’s Walczak.

Every business, small or large, depends on its stored data. So, in one sense, the value of data protection and recovery is the value of the business itself. Without its data, the business can’t survive. Even much of an organization’s intellectual property—its designs or engineering—is documented and captured as electronic data. If the data is lost, so is the intellectual property, a valuable asset.

Still, putting a specific value on data protection is elusive. “It is hard to pinpoint a specific return on investment for backup and recovery, but you know that it is there. Without it, you risk lost productivity, lost sales, even loss of reputation,” says Krutikov of Symantec. If regulatory mandates are involved, there can even be compliance penalties on top of any other losses.

The key metric when it comes to data backup and recovery, however, is not ROI, which is difficult to pin down. Rather, businesses need to look at two other metrics: recovery point objective (RPO) and recovery time objective (RTO). These metrics are integrally tied to how much a small or midsize business needs to invest to achieve sufficient data protection.

RPO is the amount of data, usually expressed in hours or days, the organization is willing to risk. It is the point from the past, whether two hours or two days ago, from which you aim to recover your data.

RTO is the amount of time you are willing to wait until you regain access to your data if you need to recover it. It is the point in the future by which you want access to your critical data restored.

For example, big enterprises such as airlines or banks aren’t willing to risk any data loss for any period of time. They want what amounts to an RPO and RTO of nearly zero. Achieving that requires huge investments in redundant, mirrored local and remote systems with complex failover mechanisms. This kind of data protection has been beyond the means of small and midsize organizations.

“It is almost cost-prohibitive to get to near-zero RPO and RTO,” says Krutikov, because of the amount of dedicated IT infrastructure that must be deployed. The general rule of thumb: The closer the RPO and RTO get to zero, the more it costs. And as the metrics get closer to minutes and seconds, the costs soar.

Small and midsize organizations, however, can get by with an RPO and RTO of hours or even days. “It is a question of how protected you want your data to be,” says Walczak. Could your business survive for two hours without access to its critical data? Could your business afford to lose the last 30 minutes of production data? If so, you can greatly reduce the cost of data protection without incurring significant business risk.

DATA PROTECTION AND RECOVERY OPTIONS FOR SMALL AND MIDSIZE BUSINESSES

Advances in technology make it possible today for small and midsize organizations to achieve data protection with an acceptable RPO and RTO without spending large amounts of money on backup-and-recovery infrastructure. User-friendly software and interfaces enable organizations to avoid the need to hire costly data protection specialists.

For example, a decade of steadily dropping costs has made disk storage practical for backup. Today organizations can back up their data to disk at a very affordable price. Small and midsize organizations are now backing up anywhere from a week’s to several months’ worth of data on low-cost disk. This simplifies and speeds the backup-and-recovery process and greatly increases the consistency and reliability of backup and recovery. Eliminating tape in particular speeds recovery, because there are no tapes to find and load before you can even start to get at your data. With random access disk, you can begin accessing your data almost immediately. And tape recovery is notorious for failure,



whereas disk is not—disk recovery is not only more reliable but also faster.

Similar advances in tape technology, specifically Linear-Tape Open (LTO) tape, have reduced the cost of tape on a per-gigabyte basis while increasing tape capacity, making it easier and more practical to use. As a result, tape remains a data protection workhorse used as a complement to disk-based backup, providing additional capacity as well as portability for moving data offsite for safety. “Companies will back up to disk and then move the data to tape for archival and offsite storage,” notes Walczak.

Simplified wizard-driven appliances further ease the backup chore. “We’ve put disk backup into an appliance, the Dell DL 2100, and combined it with the use of wizards that make it simple to set up and use. All you have to do is just keep hitting Next, Next, Next,” says Walczak. Another Dell backup device, the Dell RD 1000, “assumes that the business wants little involvement in the backup process, so the software takes care of it,” he adds.

Continuous data protection (CDP) products track and store changes to data as they happen. “It takes information written by the application server and immediately writes it to the backup environment,” Krutikov explains. In effect, CDP watches for changes to data throughout the day and stores the changes as soon as possible. The result is a near-zero RPO at a very affordable cost. In the event of data loss, the system will use the changes to re-create the data in its latest condition.

Even as organizations virtualize servers, with the potential of complicating backup, technology advances have addressed the problem. “We have virtualization agents for VMware and Microsoft Hyper-V that handle the backup of virtual servers,” notes Krutikov.

Finally, along with the increased adoption of disk-based backup, organizations are adopting snapshot technology that simplifies incremental backups. In addition, deduplication technology helps organizations reduce the amount of data stored during the backup process to only what is new or changed. The resulting reduction in data volume enables more days of backups to be stored in a given amount of storage space.

SELECTED DATA PROTECTION AND RECOVERY PRODUCTS FOR SMBs

Dell and Symantec provide data protection products that are especially appropriate for small and midsize organizations. They include the following:

Dell RD1000. This removable drive combines the speed of a hard disk with the portability of optical media for quick, easy, affordable backups. Built-in software takes care of the backup details.

Dell DL2100 appliance. This product, which supports Windows, Linux and UNIX applications, is for organizations that want a backup-to-disk solution with integrated tape support. Wizards simplify setup and operation.

Dell TL 2000. This product provides simple tape automation for small and

midsize businesses that want affordable, easy-to-use, automated tape backup.

Symantec Backup Exec System Recovery. This product protects against data loss and recovers business-critical e-mails and documents. It recovers Windows servers, desktops, and laptops in minutes.

CONCLUSION: DATA RECOVERY AND BUSINESS CONTINUANCE

Data backup is essential for data protection, but backup is not the actual goal. The primary goal is data recovery in the face of data loss for the purpose of business continuance.

Data recovery and business continuance used to be prohibitively expensive, something only large enterprises could afford. Today, though, data backup, recovery and business continuance are within the reach of any small or midsize organization; they are affordable and easy enough to deploy without the need for costly specialists. Data protection, in fact, has become so affordable and easy that every organization, no matter how small or lacking in technical skills, can handle it.



Please visit www.dell.com/smb/datamanagement to find out how SMBs can effectively protect their data due to affordable advances in disk and tape technology.