

# Data Protection and Backup: Questions to Consider When Creating Your Disaster Recovery Plan

When it comes to data protection and recovery, many businesses are not as safe as they believe. The first thing that comes to mind when considering a disaster recovery plan, by the average consumer and corporate technology professionals alike, is a backup of critical files.

## How Often Should You Perform a Backup?

The frequency of backup is an important consideration. Any information added or changed between the last backup and the data loss event will be truly lost. Some companies backup nightly; others backup only once per week. Still others run programs in the background that backup data any time a file is changed.

## What Backup Media Should You Choose?

Tapes were once the standard medium for backing up computer data, because they were less expensive than disks. But tapes cannot instantly jump to a specific file; they must instead spool forward or backward to reach the information to be restored. Tapes are also inherently less robust than disks, just due to the mere nature of the media,

For these reasons, disk-based back up media is now the media of choice for IT professionals. Disks are more stable than tapes. They are stronger and less prone to physical damage. The storage on disks is not subject to damage from stray electromagnetic radiation. While tapes were once the economical choice, the price of disks has dropped markedly in the past decade.

## What Should Be Included in Your Backup?

In addition to the frequency of back up events and type of back up media, the type

of information to be backed up is also an extremely important consideration. What about system files and applications? Recovering a data file will be of little benefit if the application for the file has been lost as well. Data files may be accidentally deleted or become corrupt, but fires, flooding or power surges don't discriminate between data and applications. In the event of an actual disaster the losses will be much more extensive. The entire system, including expensive applications, will be gone as well.

A true "disaster recovery" system ensures that systems and applications, as well as data, is safely duplicated and available for reinstallation. Backed up information is usually thought to be safer if it is stored at a location other than the site of origin. Storage at multiple off-site locations is usually considered to be even safer.

## How Quickly Can Your Business Recover?

However, off-site storage brings another challenge into focus. Not only is it critical to back up the entire system as opposed to just data files, but backing up is only half of the equation. It is also extremely important to consider the recovery side of the operation. Businesses need to have continuity. When operations are disrupted by a server failure, companies need to recover quickly and return to normal operations as soon as possible. Recovering data, applications and system files over an internet connection sounds easy enough, but it can be a painfully slow process. Consider the download bandwidth of your own network connection, the size of your system, and think of how long it would take to restore everything currently stored on your server.

Also consider that in the case of a disaster, internet transmission infrastructure may be damaged or missing. If there is no internet connectivity, off-site information will be unavailable no matter how well it is backed up. On-site storage would be better in such situations, but file-by-file recovery, even with on-site availability, is still a time-consuming process.

Fortunately, a file-based disaster recovery solution isn't the only option. Many IT professionals opt instead for a block-based method of information recovery. While file-based recovery is only possible so long as applications or systems are available to process the recovery, block-based methods typically image and store an entire disk. Rather than recover individual files, one at a time, recovery is ac-

completed by writing a disk image onto a new drive, which duplicates exactly the original information: data, applications and operating system. The speed of block-based disaster recovery methods makes them superior choices for business continuity.

## Do You Have Physical Systems, Virtual Systems or Both?

Additionally the type of storage infrastructure should be carefully considered. Some disaster recover solutions are appropriate only for physical systems, and some new solutions are only appropriate for virtual systems. While some backup and disaster recovery solutions are capable of protecting physical and virtual machines, not all solutions will handle both. If the business uses a hybrid physical and virtual storage infrastructure, it is best to consider whether it is important to have multiple solutions, or to standardize on one.

When looking for the optimal solution for the needs of their particular businesses, IT professionals should carefully consider these issues. The stability of the back up storage media is important, back up frequency limitations are important, as is the speed of recovery and the storage infrastructure.

Corporate technology professionals must carefully weigh all of these considerations against the total cost of the disaster recovery solution in light of the individual needs of the company and the type and quantity of information to be protected.

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