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TECHNOLOGY

Storage And Backup Is Only Getting More Important:

Column: From the Trenches

Jan. 01, 2007

Make A New Year's Resolution To Handle Your Data Correctly!

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Have you ever lost a critical file? How about a whole hard drive? We have content management or paperless documents, Microsoft Office documents from productivity applications, tax and audit files, e-mail, business management solution or accounting files, pictures, music, and more. What do all of these have in common? The number of items are getting more plentiful and taking up increasing amounts of storage space in the process.

Frankly, the importance of some of these items makes backup all the more important, and the lack of business need for some of these files drives the point that many of these items should not be retained at all. Regardless of the source or importance, greater amounts of storage often take longer to backup, and we just won't be able to create, store and dispose of data in the same ways we have in the past. Appropriate retention policies will guide us when to dispose of files of all kinds.

Traditional servers have had two or more hard drives to duplicate the server data for safety. The most common configuration is RAID (Redundant Array of Inexpensive

Disks). RAID configurations have three or more hard drives set up to replicate data across all of the disks so that if one fails, then enough of the data is stored on the surviving disks that all of the data can be recreated. When the bad drive is removed, often while the system is still running (hot swap), then the new drive has all of the data that was on the old drive recreated. This technology has worked pretty much flawlessly except in some configurations of Dell servers containing Pertec controllers during the last three years.

RAID will save most data from a catastrophic loss, but it obviously doesn't protect you in the case of fire, theft or other physical harm to the server.

RAID can save the data most of the time, but we still have a need for backup.

In older days of computing, tape was the only viable alternate means of backup, and tape is still one of the methods we recommend for backup purposes. Hopefully, you understand the importance of having multiple sets of tapes available, since tapes are prone to failure during restore, particularly when you really need the data.

Two rotation methods are common: Grandparent, Parent, Child and the 10-tape rotation system that has a tape for every day of the week, one for every Friday, as well as a rotation of tapes at the end of the month. This 10-tape rotation allows us to get to almost any file from the past, assuming we have a tape drive that can read the tapes available. Tapes only have a 99.6 percent reliability, so having more than one set of tapes helps with increasing reliability, but our experience has been that if one set of tapes fails, they all tend to fail. Speed, capacity, ease of use and now cost have all become reasons for us to consider an alternate backup method.

We have always said we want a minimum of three copies of your data to ensure recovery, but, today, we would prefer three to four different types of media in multiple locations in addition to sets of media like we have in the tape world. Other ways to backup include the following: (1) hard disks whether they are in Network Attached Storage (NAS), SAN or shadow copies, (2) Blu-Ray, HD-DVD, DVD or CD-ROM, or (3) off-site via Internet backup providers or at another site in your business. This data is typically stored on other NAS or server units by these vendors.

Key Vendors For Backup Using These Methods For Hardware:

- Maxtor
- Iomega
- IBM
- High-Rely
- HP
- EMC
- Snap
- NetApp
- Powerfile

Key Vendors From A Software Perspective:

- Second Copy
- Backup Exec Bmr
- Brightstor Arcserve Backup Disaster Recovery Option
- Double-take
- Replistor

Key Vendors For Web-based Or Internet Backup Providers: For Entry-Level To SMB Needs

- www.acesstockade.com
- www.evault.com
- www.businessdatatransfer.com
- www.esilo.com
- www.compunite.com
- www.efolderbackup.com
(my favorite for small businesses)
- www.xdrive.com
- www.gotomyfiles.com
- www.novastor.com
- http://quickbooks.intuit.com/product/add_ons/online_data_backup.jhtml
- www.acct1st.com/dms.html#disaster

For Mid-Market To Enterprise-Level Needs

- www.Mistral.net
- www.livevault.com
(now owned by Iron Mountain)
- www.ironmountain.com
- www.commvault.com
- www.recall.com

The Formula To Back Up From Office To Home

Parts:

- **A USB hard drive.** I prefer the Maxtor units of the appropriate size, and they will cost \$100 to \$800. For example, 600GB is \$600.
- **Software to make the copy.** Second Copy for \$29 is what I prefer. But if this is a business network, you can use your tape backup software, Backup Exec 10D.
- **Optional, but safer** — If the copy is being made from a business to a home, consider having a firewall in the business, and a firewall in the home that both have VPN (Virtual Private Network) capability. For example, the SonicWALL TZ170w in the business and the SonicWall TZ150w in the home would do this job. The installer of these firewalls can make these two firewalls see each other with an encrypted communication via the VPN over the Internet. You should have at least this quality of firewall in your business if you are connected to the Internet.

Procedure:

- Plug in the USB Hard drive to your server.
- Install Second Copy on the server in the office that has all of your data.
- Allow all of the server to be backed up (or you can choose only the data). The initial backup is much faster if done in the office.
- Suspend Second Copy on the server since you will only need it occasionally in the future.
- Unplug the hard drive, and take it home.
- Plug in the USB drive on your home machine.
- Install Second Copy on the machine in your home.
- Map the server network drive in the office on the home machine.

- Set the schedule of when you want the backup to run (can be continuous, can be once a day at a certain time, etc.).
- Check to make sure the backup has completed fairly often.

Setting up most of these systems will take some IT expertise whether your technical competence is in-house or outsourced. You will need to check the backups to make sure they contain all of your files as expected, and the backups will need to be checked on an ongoing basis. For most small businesses, a combination of a removable hard drive system (Maxtor or High-Rely) along with their standard backup software is a great start. After making an initial backup on-site, carrying the drive to the alternate site (home or other office) and then reconnecting the backup is a common strategy. Your picture of how this should work is to have a completely unattended nightly copy of all data, so that in the event of a disaster, all data can be retrieved and restored to completely new hardware.

Think about how critical your data is to you and what it would be mean to lose it all in a fire. For a relatively small investment of money and time now, such a catastrophic loss can be prevented. Why wouldn't you make your backups easier and complete today?

Mr. Johnston is executive vice president and partner of K2 Enterprises and Network Management Group, Inc. He is a nationally recognized educator, consultant and writer with over 30 years experience in strategic technology planning, systems and network integration, accounting software selection, business development and management, disaster recovery and contingency planning, and process engineering.

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