

Data Storage

Data Storage 2009 It's All About Efficiency

Looking ahead to 2009 with its recessionary complications, indications are that backup in all its forms will help the next 12 months become the year of finding more efficiency. In data storage, this means finding and utilizing as much disk capacity as can be identified to make best use of existing hardware and software, so that costs can be contained.

By all accounts, 2008 was the year storage backup graduated from the University of Testing & Quality Assurance and matriculated into the real world of business production.

In many cases, this means **IT managers** will be utilizing new capacities previously untouched by storage controllers - places such as Web, database servers that previously were single-purpose machines.

It's getting crowded in the backup storage array neighborhood. The creation and flow of digital information in all of its formats continues to pick up momentum. E-mail, text and instant message documents are written and saved by the thousands every second. Financial service and retail sales records are filling up databases. Photos, music files and video streams are pouring into storage coffers from PCs, desktops, servers and handheld devices at an ever-increasing pace.

More capacity for all this data keeps coming to serve as the backstop for this explosion. Enterprises and consumers alike continue to invest in storage hardware and software.

Still a Relatively Bulletproof Sector at This Time

Last year's quarterly financial reports bear it out: Recession or no recession, the most economically bulletproof sector of the IT business is data storage and its immediately peripheral subsectors, including disaster recovery, e-discovery and deduplication software.

Will this continue in 2009? Industry experts are



near-unanimous in their assessment: Yes, the flow of data will continue to increase, despite a general slowdown in business, and yes, storage and storage-related IT products and services will continue to remain in demand for the near and long term.

Trends in the data storage business in 2009 are pretty well defined.

- Backup storage and services in the cloud will move beyond the talk/testing stage and get into regular production, most likely later in the year.

-A new generation of mainframes is well-positioned as the default "security blanket" for IT organizations.

-Green IT **data center** strategies will continue to be deployed - spurred first by cost savings, and secondly by environmental purpose.

At All Costs, Reduce Costs

All data roads eventually lead to some kind of backup storage, whether it be on 15K RPM Fibre Channel disks, a slower-running SATA (Serial ATA) drive, or a tape cartridge. Thus, efficient **data backup** is a key factor in a well-run enterprise IT operation.

Redundant data is the enemy; it is costly, wastes energy and generally slows storage I/O, traditionally the major bottleneck of storage.

Data deduplication -- not a new idea but one which has evolved into its own market in the last few years - eliminates redundant data from a disk storage device in order to lower storage space requirements. In turn, this lowers **data center** power and cooling costs and lessens the amount of carbon dioxide produced to generate power to run the hardware.

Data deduplication is no longer a fad. 'Dedupe' is now a proven technology. There are very large organizations adopting dedupe in volume and even as a standard. This will continue to develop in 2009.

This is a method of storage resource management and virtualization that lets IT administrators limit the allocation of actual physical storage to what applications immediately need. It enables the automatic addition of capacity on demand up to pre-set limits so that IT departments can avoid

buying and managing excessive amounts of disk storage.

Simply deleting old files that are no longer necessary and/or legally required is another way to add efficiency, because it adds immediate capacity.

A lot of people haven't embraced a 'cleaning up' approach for two reasons: One, things are going well and they don't want to be bothered with it - they'll just keep everything. Two, there is really no way to integrate it into a movement.

You can identify the data and see that it's old, but what do you do with it? If it's not identified with a data movement technology, you haven't taken action - all you've done is identify it.

Automation Software Will Be Hot

If there's one word that spells out a major **data storage** trend for 2009, it's "automation." In its simplest form, the creative intersection of business intelligence, botlike software and data storage arrays.

Storage companies are finding ways to automate processes that used to be painstaking, tedious and expensive to handle. For example, storage tiering and change management priorities can now be dialed up from anywhere in the world on central, Web-based consoles supplied by a rapidly growing number of vendors.

Storage tiering keeps often-accessed data on a fast Tier 1 spinning or solid-state disk, by far the most power-hungry option; Tier 2 data, accessed less frequently, is kept on slower, cheaper SATA (Serial ATA) disks. Tier 3 is tape storage for data that may never see the light of day again.

An example of this is the recent spike in sales of storage equipment. Storage equipment is a plug-and-play device which combines storage capacity control and tiering automation, and does it with a simple interface that a savvy business person can use. No scripts or other code need to be written.

Cloud Storage Poised for Growth

Since a lot of all this new data is going to reside on somebody else's **server** array, to be accessed by a subscription storage service in the cloud, efficiencies outside the enterprise's own **data center** are also becoming strategic.

Cloud storage serves up computing power, **data storage** from one data center location over a grid on a subscription basis. Thus enterprises avoid capital costs for hardware, software and real estate.

There is a lot of interest in cloud storage in all its forms, but when you step back, it's still the year of early adoption.

Mainstream America is saying they're just getting comfortable with what cloud storage means. They're not rushing to purchase just yet, but they will. People are questioning whether they really need to buy Tier 1 storage in 2009 as opposed to buying cheaper SATA hardware or simply renting space in the cloud.

Green IT, Welcome Byproduct of IT Efficiency

Green IT **data center** strategies will continue to be deployed - spurred first by cost savings, secondly by environmental purpose.

Business is business: Frankly, bottom-line savings will trump anything else in importance in this tricky economy, including environmental concerns. While they are not willing to volunteer this information, many enterprises consider power savings and the shrinking of carbon footprints as simply a good byproduct of efficient data centers.

First-tier IT enterprises such as Hewlett Packard, Cisco Systems, IBM, EMC, Dell and Sun Microsystems are putting their R&D money where their mouths are. Each of those companies has a green IT division and is working to coordinate product focus toward power and carbon saving results.

