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Data storage explodes, creating need for capacity

By LYNETTE HAALAND

Stored data—from e-mails to medical records—are like a sleeping giant that is slowly waking up, creating significant business challenges.

Research in 2006 indicated that almost one-fifth of organizations expect their data warehouses to double this year, according to International Data Corp., a market research and analysis firm specializing in information technology, telecommunications and consumer technology. A data warehouse is the main repository of an organization's historical data—its corporate memory.

IDC also reports that in 2007 the amount of information created will surpass, for the first time, the storage capacity available.

"The explosive growth in (data) storage is known to everybody and is a challenge," says Andy Brunell, director of sales at Pittsford-based ServerWare Corp., a company that works with state government, colleges and businesses to assess, build and implement solutions to manage and store data.

Brunell estimates data storage needs at companies and other organizations is growing at 40 percent to 50 percent a year. An example of this, he says, is a ServerWare client: an undisclosed local state college that made what it thought was a three-year purchase for data storage from another company.

"They bought a specific (storage) array they felt would meet that need. In 12 months they had already used 80 percent capacity of that storage array," Brunell says.

The recommended safety cushion is 20 percent of available capacity. By the first year ServerWare's client was in a storage crunch.

"Just about every company has a storage management problem and they are constantly adding storage needed to meet capacity," says Tom Hughes, Massachusetts-based regional manager at storage device maker Plasmon PLC and an expert in the field. "Data storage has been talked about for quite a while, but companies haven't really rushed to implement."

Now, however, with increased volumes of data and more compliance issues, Brunell has seen tiered data storage explode.

Tiered data storage helps companies manage, access and store data in the most cost-effective format. Various tiers relate



Photo by Kimberly McKinzie

Andy Brunell, director of sales at ServerWare Corp., left, seen with Jim Kegelmeyer, president, estimates data storage needs at organizations is growing at 40 percent to 50 percent a year.

to accessibility and cost. Tier 1—primary storage—is data that is accessed more frequently and is more costly than Tiers 2 or 3, for example.

The data on Tier 1 generally involve expensive spinning disc systems—a key component of a hard drive—that hold information that can be accessed at a click. When the data become static or are not accessed as much as they once were, they are moved into the second tier, which usually involves less expensive spinning disc or tape storage. The final tier can be classified as archival in nature and traditionally is stored with tape or optical-based storage. Boxes of paper files can also be a part of a company's final tier of data storage, experts say.

"Every single client is looking at tiered storage," ServerWare's Brunell says.

Regulations also are pushing companies to keep more records. The Sarbanes-Oxley Act, Health Insurance Portability and Accountability Act, and new e-discovery laws

make it mandatory for firms to capture and reproduce e-mail traffic.

That applies to any organization subject to civil lawsuits, says Hughes, who adds that health care data alone have gone through the roof also because of enhanced imaging and larger files being created with the newest technology.

Classifying data is the first hurdle that determines the duration and accessibility of information. Some data need to be available for daily use while items like patient records need to be retained for decades.

After classification, the next step is storing and protecting that data at a reasonable cost, Brunell says.

Prices for tiered data storage can range anywhere from tens of thousands of dollars for a small office to hundreds of thousands of dollars for a large office, ServerWare officials say. At Plasmon, archival solutions start at \$15,000 for roughly 1 terabyte of storage and top out at roughly \$150,000 for

roughly 38 terabytes.

Managing the process is another important part of tiered data storage. ServerWare teaches clients how to manage the data themselves and reclassify data as time goes on. One rule of thumb is to never keep a document longer than is needed because it can be a liability, Brunell says.

Boxes of paper documents still exist at many companies. Depending on how much they need to be accessed, some companies take on the expensive process of electronically formatting those records onto a compact disc.

It costs about 25 cents a page to prepare documents, scan them and then index them with a software application so they can be searched if needed later on, says Paula Carter, president of Rochester-based DataVault Storage Services Inc., which mostly deals with paper files.

"Companies are increasingly drowning in a sea of paper, and we're trying to help customers manage that," Carter says.

DataVault does some scanning projects, taking paper documents and converting them to CD. Carter says the scanning process is much more expensive compared to storing boxes on shelves. And, she wonders if the technology will change from CDs to another format in the near future.

Monroe County is one of DataVault's largest paper file customers.

"We really rescued them from dire straits 10

or 11 years ago," Carter says. "They had boxes that had been in basements and elsewhere in a terrible state of disorganization."

DataVault warehoused some 20,000 boxes of files from some 20 county departments, including the district attorney's office, the county clerk's office and social services. Then, the boxes were indexed and brought to a "viable state where they could be managed," Carter says.

The move saved the county money because boxes were taking up valuable space, she adds.

In 10 years, DataVault has filled up three warehouses with data, totaling some 300,000 square feet. Each file box is bar coded for ease in tracking. DataVault also helps customers know when it is time to destroy boxes of files.

One of the company's newest services, which has grown in the last few years, is storage and rotation of computer backup tapes in view of disaster planning, Carter says. This includes keeping record backups in a different location than the company's server.

Another local company, Finger Lakes Technologies Group Inc., is getting involved in data storage in a different way. The Victor firm plans to spend some \$7.5 million over time to develop bunkers at the Seneca Army Depot into high-tech records storage sites, among other things, says Paul Griswold, president and CEO of Finger

Lakes Technologies.

In early June, Finger Lakes Technologies signed a 20-year lease agreement with Seneca County Economic Development Council for 64 bunkers at a site in Romulus. The four-foot-thick concrete bunkers are highly secure with iron doors and enclosed behind three tall, barbed-wire-topped fences and a guard station.

Finger Lakes Technologies plans to be the landlord and lease space to other companies. A contract currently is in the works for two of the bunkers.

The company already has run 210 miles of fiber-optic cable from Rochester to Ithaca, which goes through the Romulus site, creating the high bandwidth needed for large applications such as data storage and backup, Griswold says.

Finger Lakes Technologies sees three main ways the bunkers will be used: for companies to house servers off site, as a place for companies to back up files and as a co-location for company servers. If there was a power outage in Rochester, for example, a company still could be up and running because of its data centers in Romulus.

Data storage is here to stay, ServerWare's Brunell says.

"It is something that will never end," he adds.

Lynette Haaland is a freelance writer and a former Rochester Business Journal reporter.