The Field Museum Reduces Backup Window from Weeks to Days with ExaGrid

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Mike Yoshida
Systems Engineer
The Field Museum

Customer Overview

Located in Chicago, The Field Museum mission is the accumulation and dissemination of knowledge, and the preservation and exhibition of objects illustrating art, archaeology, science and history. Its Museum Campus also includes the John G. Shedd Aquarium and the Adler Planetarium. These three institutions are regarded as among the finest of their kind in the world and together attract more visits annually than any comparable site in Chicago.

'Disk Sprawl' Led to Search for a New Backup Solution

The Field Museum had moved its backups from tape to disk in an effort to reduce backup times and improve retention. However, while the IT staff was happier with the backup speed, they realized that disk would quickly become cost prohibitive without data deduplication technology.

"Originally, we had been backing up to tape, but a full backup would take two to three weeks to complete," said Mike Yoshida, systems engineer at The Field Museum. "Moving to disk was a huge improvement. It made our backups faster and streamlined our processes, but we weren't going to be able to keep up with the cost of adding disk without some sort of data deduplication."

Cost-Effective ExaGrid System Saves on Datacenter Footprint

The Field Museum initially purchased one ExaGrid system and eventually installed five EX13000 units to handle all of the museum's backup needs. The ExaGrid systems are located in the museum's main datacenter and work along with CommVault Simpana, the museum's existing backup application.

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ExaGrid combines last backup compression along with data deduplication, which stores changes from backup to backup instead of storing full file copies. This unique approach reduces the disk space required by a range of 10:1 to 50:1 or more, delivering unparalleled cost savings and performance. ExaGrid delivers extremely fast backup performance because data is written directly to disk, and data deduplication is performed post-process after the data is stored to reduce data. When a second site is used, the cost savings are even greater because ExaGrid's zone-level data deduplication technology moves only changes, requiring minimal WAN bandwidth.

As a natural history museum and research institution, The Field Museum is especially aware of its environmental impact. ExaGrid's high-density packaging helps to minimize the museum's carbon footprint by packing more storage into a smaller unit and reducing cooling and power costs.

"Without data deduplication, we were looking at a considerable amount of disk sprawl and just cooling that amount of disk would have put our environmental controls over the edge," said Yoshida. "The ExaGrid system takes up only 5U of rack space, so cooling isn't an issue and power requirements are kept to the minimum. We would have needed three to four times as much commodity disk and incurred all the cooling issues and power requirements that go along with it."

EXAGRID™

Faster Backups and Restores

Yoshida said that since installing the ExaGrid system, backups and restores are significantly faster.

"We've come a long way in terms of backup speed. With tape, our backups took an astonishing three weeks, and with disk they were a little better, but we still weren't meeting our backup windows. We're currently able to get our full backups done in around three days, which works very well for us," he said. "Restores are faster, too."

Easy Setup, Industry-Leading Customer Support

"The installation process was very straightforward. The documentation was excellent, and we worked closely with our ExaGrid support engineer to tie up any loose ends and to make sure the system was set up properly," Yoshida said. "Our support engineer is easy to work with. He stays in constant contact with me, and he's proactive about providing the latest firmware and software updates. He's taken a few complex problems that we've run into and applied what I'd consider to be expert knowledge to resolve all of them quickly."

The ExaGrid system was designed to be easy to set up and maintain, and ExaGrid's industry-leading customer support team is staffed by trained, in-house engineers who are dedicated to individual accounts. The system is fully supported and was designed and manufactured for maximum uptime with redundant, hot-swappable components.

GRID Architecture Ensures Scalability

"One of the nice things about the ExGrid system is that it can easily be expanded. Initially, we purchased a test unit and the ExaGrid worked so well we decided to fully implement the solution," said Yoshida. "Again, ExaGrid's customer support engineer worked with me, but it was a painless process."

Yoshida said that using the ExaGrid system has given him peace of mind.

"Much of the data we back up here is one-of-a-kind research data. We have limited IT resources at the museum, and we take backups seriously. Installing the ExaGrid helps me sleep better at night. The system works flawlessly day in and day out, and I don't have to worry about backups anymore," he said.

ExaGrid's GRID computing software makes the system highly scalable, and when plugged into a switch, different sized configurations can be mixed and matched into a single GRID system with capacities of up to a 130TB full backup plus retention. Once virtualized, they appear as a single system to the backup server, and load balancing of all data across servers is automatic.

ExaGrid and CommVault Simpana

CommVault Simpana Backup and Recovery software contains extensive capabilities to simplify the management of backup media resources. Simpana software writes backup data to a broad collection of storage devices, including disk as a media target. This ability to write to magnetic disk as a functional equal of all other media types while exploiting the random access nature of the disk media sets Simpana software apart. Organizations using CommVault Simpana can look to ExaGrid as an alternative to tape for nightly backups. ExaGrid sits behind existing backup applications, such as Simpana, providing faster and more reliable backups and restores. In a network running Simpana, using ExaGrid in place of a tape backup system is as easy as pointing existing backup jobs at a NAS share on the ExaGrid system. Backup jobs are sent directly from the backup application to the ExaGrid for onsite backup to disk.

Intelligent Data Protection

ExaGrid's turnkey disk-based backup system combines high quality SATA drives with zone-level data deduplication, delivering a disk-based solution that is more cost effective than standard SATA drives. ExaGrid's zone-level data deduplication technology stores only the changes from backup to backup instead of storing full file copies, reducing the amount of disk needed by a range of 10:1 to 50:1 or more, resulting in a solution that is 25 to 30% the cost of standard SATA drives.

The ExaGrid system is easy to install and use and works seamlessly with popular backup applications, so organizations can retain their investment in existing applications and processes. ExaGrid servers can be used at primary and secondary sites to supplement or eliminate offsite tapes with live data repositories for disaster recovery.

For more information about ExaGrid, please visit us at www.exagrid.com or call us at 1-800-868-6985.

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