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HEALTHCARE: OHIO HEALTH

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OhioHealth depends on a virtual data environment and found an efficient way to protect ESX servers..

Serving patients in central Ohio since 1891, OhioHealth is a family of not-for-profit, faith-based hospitals and healthcare organizations comprised of eight member hospitals, nine affiliate hospitals and numerous outpatient facilities across the state. Named one of “America’s Best Hospitals” by US News and World Report, and the number one company to work for in the entire state of Ohio by FORTUNE Magazine, OhioHealth has an image of excellence to maintain throughout the state and across the country.

The Challenge

Part of upholding that image is protecting the incredibly valuable data of OhioHealth’s patients, physicians and employees. With 15,000 employees, 2,500 physicians and 2,500 volunteers serving more than 100,000 patients annually, OhioHealth made the decision to virtualize its data environment in order to improve the efficiency and availability of resources and applications. Nightly backups for the VMware environment run about 1.5 terabytes. Overall, OhioHealth backs up about 8 terabytes nightly, including the VMware environment.

Backing up all of the system’s virtualized data posed a big problem for Celeste Grone, Senior Technical Specialist for the Storage Team at OhioHealth.

“With a VMware environment of three virtual centers, 50 ESX hosts and 800 VMware guests, we were unable to meet an eight hour backup window or 99 percent success rate and could not integrate reporting using our previous backup vendor,” said Grone. “In a large healthcare organization, a 90 percent success rate of backups just doesn’t cut the cake.”

Using its former backup solution, reporting logs did not easily export into the Aptare reporting software. Backup error reports provided limited explanation and issues were often left unresolved. Data Domain was used for the backup data storage. Deduplication processes were not efficient with compressed data and the backup solution did not support uncompressed differential backup data to Data Domain NFS mounts.

“When we implemented our previous backup solution for VMware to the Data Domain, we found that we could not run incremental backups without compression,” said Grone. “Compressed data does not deduplicate well at all, which defeats the purpose of a deduplicating disk-based backup system. So, we had to run full backups every night using our former backup solution for VMware.”

“The two primary reasons for wanting to move off of our previous solution were, first, we weren’t meeting our backup window or success percentage of backups,” said Grone. “And, second,

the reporting with the old solution wasn't integrated at all with the Aptare reporting, and we were just using spreadsheets to log the success of performed backups. With more than 500 VMware guests in place, it was incredibly difficult to keep track of what backups were running successfully and which were not."

As a result, full VMware image backups had to be completed every night with the nightly backups running almost 24 hours. File level restores were cumbersome and often unsuccessful, leaving the only option to restore the full VMware image. Grone and her team looked into an implementation using straight IBM Tivoli Storage Manager (TSM).

"A consultant wrote software for us and it didn't go well," said Grone. "We found it very difficult to maintain and configure. Plus, we didn't get the error messages, so there was no way to figure out what was going wrong. We needed a straightforward solution that would allow us to simply click to find out what is wrong."

Fortunately, a colleague of Grone's suggested that Grone look at the STORServer Agent for Virtual Machine Backup (VMB).

"I went to the STORServer Web site and discovered that they did have agents available for backing up large VMware environments, so I requested a demo," said Grone. "The demo worked great and I would suggest anyone with a large VMware environment and running TSM to demo this software. It has saved us tons of time and resources."

OhioHealth consolidated data centers with a purchased hospital that was using a VAX system. The organization needed a way to back up the environment without using tape, so it made the decision to implement the Archive Backup Client (ABC) software from STORServer. Ohio Health implemented about 500 guests of the STORServer Agent for VMware Consolidated Backup seven years later.

The VMB agent improves manageability of backups and reduces costs by centralizing the backup of VMware ESX servers to the IBM Tivoli Storage Manager (TSM) server. This eliminates the need to have individual backup clients on each virtual machine or VMware ESX server.

Consolidating backups of virtual machines with VMB and using Consolidated Backup snapshots in the SAN also reduces resource utilization on production virtual machines, hosts and the LAN during backup operations and allows the virtual machine to continue to operate without impact during backup operations.

"In the past, we couldn't even tell that all of the servers were being backed up without manually going in and checking each one," said Grone. "Occasionally, we'd find that one of our servers

hadn't been backed up in a month. With STORServer, we no longer have that problem. STORServer has scheduled backups and if one fails, it shows up very easily if we missed one."

Results

Today, incremental backups are run nightly on the VMware guests for OhioHealth. Full image backups are run every two weeks with the backups spread across the guests over the two weeks. Using this setup, the backup window is now eight hours or less, compared to nearly 24 hours under the previous VMware backup solution. Tivoli Storage Manager captures the backups in its own logs, so all of the data is reported in Aptare. STORServer logs have more detail and many environment issues were identified and resolved.

"With our previous VMware backup solution, I had a very difficult time restoring a single file using their file level restore, and often had to restore the entire VMware guest to get a few files restored," said Grone. "Now, I pull up the graphical user interface within the STORServer application and have the file or files back within a minute or two. We can also install a TSM client on the guest if we choose and all the data is there from the STORServer backup. Full VMware restores are the exception now, instead of the rule."

In addition to tremendous time savings, VMware backup success has gone from 70 - 90 percent with the former solution to greater than 99 percent with the STORServer Agent for Virtual Machine Backup. Backups and restores are standard as with the physical servers and incremental restores are easy.

"We are very proud of our accomplishments at OhioHealth with the VMware environment backups and truly could not have done it without STORServer and our reseller," said Grone.



ABOUT STORSERVER

STORServer, Inc., headquartered in Colorado Springs, CO is a leading provider of data backup solutions for the mid-market. We offer a complete suite of appliances, software, and services that solve today's backup, archive and disaster recovery challenges. For more information on STORServer, please visit the company's website at www.storserver.com.

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