NATIONAL GAS AND CONVENIENCE STORE CHAIN

EMC storage, backup and recovery solutions manage data growth with high performance

ESSENTIALS

Industry

Retail / Convenience

Company Size

Hundreds of stores

Business Challenges

- Exponential data growth caused application performance issues
- Symantec backup system resulted in poor backup success rates and backup times longer than 24 hours

Solutions

- EMC VNX unified storage
- EMC FAST Suite
- EMC Data Domain
- EMC Data Domain Boost
- VMware
- Oracle, Microsoft SQL Server

OVERVIEW

With hundreds of stores located across the mid-Atlantic region, this large gas and convenience store chain is one of the fastest growing retail chains in the world. That growth is continuing to accelerate—the organization plans to open an additional 100 to 200 outlets in the mid-term.

BUSINESS CHALLENGES

All of this growth was straining the company's disparate storage infrastructure. The company's data volume had grown exponentially to a total of 15 TB. The number of virtualized Microsoft SQL Server databases that were used to support Oracle applications had grown from a few to 13. In addition, application performance was declining and the storage was difficult to manage.

In an attempt to reduce complexity, the company had adopted a virtualization strategy using VMware®. But now it sought to consolidate its storage infrastructure to manage continuing growth, improve application performance, and reduce costs.

"We were seeing a lot of IO timeouts for virtualized Microsoft SQL Servers running on VMware," says the company's Systems Administrator. "We wanted something faster and that incorporated Flash drives."

"We knew that storage consolidation would save money. As soon as we allocate storage, it's used—we're growing that fast," he continues.

Backup processes were also a challenge for the organization. Backup success rates were running at only 80 percent and backup windows were lengthy.

"Our old system was writing out to disk, but we weren't replicating the data anywhere. We were using Symantec PureDisk, then writing off to tapes and transporting them offsite. Our backup window was more than 24 hours, and we were getting further and further behind. We wanted to get away from tape as much as possible," the Systems Administrator explains.

After evaluating storage offerings from NetApp and IBM, and evaluating solutions to address its backup and recovery issues, the national gas and convenience store chain chose EMC storage and backup and recovery solutions.

SOLUTIONS

To increase performance and reduce CapEx and OpEx costs, the company deployed EMC® VNX® unified storage, along with the EMC FAST Suite (which includes FAST VP and FAST Cache) and Flash drives. This FLASH 1st strategy ensures that hot or active data is automatically stored on Flash for optimal performance, while less active data is tiered to high capacity drives for the lowest overall cost per gigabyte.

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The chain also chose EMC Data Domain® to address its backup time and success issues. The company implemented one Data Domain system at its primary data center and another at its DR data center located 17 miles away. It also deployed EMC Data Domain Boost (DD Boost) to further improve backup performance.

IMPROVED APPLICATION PERFORMANCE AND EASE OF USE

Data held in SQL Server virtual machines (VMs) were mission-critical to the company and supported a wide range of operating requirements, including customer-facing point of sale applications. The deployment of VNX and the FLASH 1st strategy immediately addressed the previous IO timeout and performance issues.

"We now have one big 15-terabyte storage pool on the VNX and one terabyte of that is Flash," says the Systems Administrator. "When we migrated our SQL VMs to the VNX, the timeout issues disappeared. FAST automatically moves hot data to Flash for high levels of data availability."

He continues, "We set it and forget it. We don't have to check on it. It just works. That means I can work on other things because I don't have to worry about migrating data to higher performance arrays anymore."

To further improve data performance, the gas and convenience store chain elected to utilize two storage tiers: Flash and SAS. By dispensing with nearline SAS, data availability is maximized with high IOPS performance.

"Automated storage tiering and high performance with Flash helps us to push efficiency for our IT department," the Systems Administrator says. "As we open more stores, I can pretty much guarantee that our headcount isn't going to go up. VNX integrated with VMware does the work for us."

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>
> Systems Administrator at a National Gas and Convenience Store Chain

In addition, EMC Unisphere® management tools, included with VNX, have made management easy. "Unisphere impressed me, which is one of the reasons we chose VNX," the Systems Administrator says. "I like the fact that I can trust the information that's on the single screen. Having such a great interface and access to metrics minimizes management and troubleshooting time. It's made things much easier."

The company trusts VNX because it performs as promised. "VNX does exactly what EMC told me it would do," states the Systems Administrator. "It runs fast and provides good up-time. If I hook up a new host, it works. I don't have to worry about what drives to put it on or how I'm going to connect. It just works."

VMWARE API INTEGRATION SETS EMC VNX APART

The native integration of VNX and VMware sets VNX apart from other competitors the convenience store chain considered. VASA and VAAI enable better visibility into vCenter™ and enable the company to offload storage-related functions to VNX.

In addition, VMware administrators can now easily create and provision new VMs. "Our VMware admin was always asking for a LAN here or a LUN there because of our growth. But with VNX and VMware tools, he can now do it himself. The time savings are tremendous."

100 PERCENT BACKUP SUCCESS

During the chain's decision process, EMC provided a Proof of Concept for Data Domain, which was an eye-opener. "We're a Symantec family and weren't enthusiastic about moving. But we have a great relationship with EMC, so we decided to give Data Domain a chance," explains the System Administrator.

During the POC, the company tested backup jobs that had proven problematic when using Symantec PureDisk. "We had replication problems with PureDisk on a few jobs. But with Data Domain, those same jobs were 100 percent successful," he continues.

He adds, "We have a lot of database backups. Before choosing Data Domain, we considered other companies. They'd come in and tell us we needed deduplication technologies. They'd do an evaluation, but discover because we had so many databases, their solutions wouldn't yield significant deduplication rates. Data Domain is different because the deduplication rates were proven to us."

Data Domain deduplication has also provided benefits to the company. "With our older systems, we were backing up 28 terabytes but were only able to keep 30 days of data online," the Systems Administrator says. "With Data Domain deduplication, we can keep 90 days of data online. We have 657 terabytes of data, but it has been deduplicated down to about 44 terabytes with Data Domain."

Data Domain Boost has reduced backup times even further. Backup starts at 1 p.m. Each batch process takes about an hour and the routines are complete in the morning. We're now seeing a 99, if not 100, percent backup success rate," he notes.

With Data Domain, the company saves significantly because it does not use NetBackup, eliminating Symantec-related fees for. The company now backs up directly to Data Domain, eliminating those fees.

POISED FOR FURTHER GROWTH

By deploying VNX, VMware, and Data Domain, the national gas and convenience store chain is positioned to better manage its growth. "The EMC solution provides us with the flexibility to give our in-house customers what they want, when they want it," says the Systems Administrator. "I can't imagine operating without EMC infrastructure. The innovative solutions and high levels of support we receive from EMC have been real game changers."

CONTACT US

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