Case Study

Polysius extends the use of existing storage through Datalink.

INDUSTRY

Cement and mineral processing and engineering

LOCATION

Atlanta, Georgia

SOLUTION

Consolidated network storage with dual protocols (NAS/CIFS and SAN/iSCSI), in conjunction with deduplication, backup, and replication software

DATALINK SERVICES

- Analysis
- Design
- Implementation
- Support

BENEFITS

- Better use of existing storage for improved performance
- Deferral of storage acquisitions for six to eight months
- Reduction in the size of data volumes by 47- to 70-percent
- Ability to archive twice as much backup data on disk

THE CUSTOMER: POLYSIUS CORPORATION

Atlanta-based Polysius Corporation is one of the leading engineering companies serving the cement and minerals industries. Polysius offers project elaboration, engineering and design, shipment, field assembly, and commissioning, as well as comprehensive services for production lines, individual products, plant conversions, and upgrades.

When it comes to analyzing and solving challenges, the smart minds at Polysius know when to do it themselves or when to hire experts to help. When Polysius found its IT and data storage systems straining to accommodate phenomenal data growth rates in its infrastructure, Manager of IT James Krochmal knew he needed expert help to reduce the ever-growing need and cost involved in acquiring more storage. That's when he turned to Datalink.

THE CHALLENGE: CURBING THE NEED TO JUST BUY MORE STORAGE

In just two years, the number of employees at Polysius had tripled. And the underlying IT infrastructure had been under fire ever since. Krochmal and his IT team did their best to keep up with the growing demand to support a burgeoning range of applications – from Microsoft® Exchange and Microsoft® SQL Server® database systems to a growing volume of user home directories that contained everything from complex computer-aided design (CAD) drawings to more traditional Microsoft® Office-based files.

A long-time Datalink customer and NetApp® storage customer, Krochmal had moved to primarily centralized storage with a NetApp Fibre-Attached Storage (FAS) system years ago. Since then, he'd found it offered significant performance gains and more streamlined daily management of Polysius' storage. Yet, even with these improvements, Krochmal still couldn't overcome the unquenchable thirst by his applications and files for more and more storage capacity.

Over time, Datalink assisted him in the process of adding more storage and upgrading to a newer NetApp system with more capacity and data management functionality that would allow Krochmal to rapidly increase and decrease the size of data volumes on the fly.

"Datalink helped us upgrade the system – put a new head on the box, add a monitoring appliance, and add multiple gigabyte network interface cards (NICs). It was a significant improvement in performance and capacity over our prior architecture," said Krochmal. Yet, as time went on, his original challenge began to rear its head once again. With a data growth rate approaching 30-percent per year, Krochmal still found himself ordering more disks to accommodate his unceasing demand for storage. Krochmal and Datalink decided it was time to do something different.

THE SOLUTION: RE-ARCHITECTING HOW THE SYSTEM IS USED

As part of an in-depth analysis of the current situation at Polysius, Datalink's tenured engineering team began to pore over the automated reports that showed how Krochmal was currently using his system. Datalink recommended several ways to restructure the system to make smarter and more economical use of its resources.

Since the system contained both Fibre Channel (FC) and lower-performing ATA disks, Datalink looked at ways Polysius could free up its more expensive, high-performing FC disks by moving less performance-conscious applications and data to the ATA disk volumes. They also sought to improve the performance of some applications by setting them up to use the Common Internet File System (CIFS) or iSCSI data transport. "We just took a step back and looked at the best way to lay out the data on the system," said Datalink Application Engineer Chris Barnes. Datalink engineers leveraged their experience with Fortune 500 companies to develop a solid strategy for Polysius that could be effectively implemented and supported.

These changes alone made a big difference in Krochmal's ability to maximize the use of his existing storage. In one case, some Microsoft® SQL Server® databases were moved over to the NetApp system, achieving a dramatic improvement in application performance. "The time to generate an SQL report went from 16 seconds down to just four seconds," said Barnes.

Krochmal was delighted with Datalink's suggestions and the subsequent results. "Datalink was just phenomenal. I worked with one of their consultants who is very, very good. He's one of the best consultants I've ever worked with in IT in general," he said.

After seeing an article mentioning the availability of NetApp deduplication for primary storage, Krochmal called Datalink to find out what they thought about it. "Once I saw NetApp was offering this functionality, I wanted to try it out," he said. "I knew we had a lot of duplication because of the way we were filing some of our information between departments. I figured even if it just saved me 20-percent [storage capacity], it was worth the small price of entry."

Datalink was optimistic about how much space Polysius might reclaim through deduplication and recommended a phased implementation, which would allow Krochmal to test how well it worked on a smaller set of largely static volumes of backup and file data before rolling it out to more production data volumes. After seeing the results of the software running nightly deduplication on these volumes, Datalink expanded its use across even more of the system's data volumes.

THE BENEFITS: DEFERRED STORAGE ACQUISITION, MORE AGILITY

After a successful solution implementation, Krochmal felt safe in watching the changes unfold.

Reduction in data volume size

The largest data volume is a backup volume of NetApp snapshots and Symantec™ LiveState™ Recovery server images. Polysius reduced the size of the volume by 70-percent using NetApp deduplication. Once deduplication was expanded to other volumes throughout the system, Krochmal reported a 47-percent average reduction of redundant data after the first month in operation.

Datalink was optimistic about how much space Polysius might reclaim through deduplication and recommended a phased implementation, which would allow Polysius to test how well it worked on a smaller set of largely static volumes of backup and file data before rolling it out to more production data volumes.

Deferral of storage costs and extra capacity acquisitions
According to Krochmal, such reductions in redundant data had a direct impact on his IT budget's bottom line. With so much storage capacity freed up as a result of the deduplication, he's been able to defer the need to purchase additional storage hardware by a minimum of six to eight months. Krochmal has also been able to increase the time he's able to retain and archive data backup sets on disk – from six to seven weeks to more than 12 weeks.

Better flexibility
As part of the deduplication implementation, Datalink also showed Krochmal how to use NetApp FlexVol™ functionality in conjunction with deduplication. This allows him to non-disruptively shrink the size of volumes after deduplication, while growing others as needed, and quickly provision freed storage capacity to more critical data volumes.

THE OVERALL EXPERIENCE: LONG-TERM SUPPORT FROM A TRUSTED IT PARTNER

Looking at the growing needs of his IT environment, Krochmal is glad his team has Datalink as a resource – for both ongoing expertise and support, in the event it's ever needed. "Working with Datalink has been a great experience," he said. "We cannot be an expert in all areas. We have to depend on knowledgeable vendors and consultants. We had the right mix with Datalink and NetApp." ■

Making IT happen

A complete data center solutions and services provider, Datalink helps Fortune 500 and mid-tier enterprises get the most from every IT investment – with storage, server, and network expertise across the infrastructure. We deliver greater business results throughout, designing what we sell, deploying what we design, and supporting what we deliver.

10050 Crosstown Circle, Suite 500, Eden Prairie, MN 55344
952.944.3462 | 800.448.6314 | WWW.DATALINK.COM