

Case Study



Catholic Education
Diocese of Parramatta

QUICK FACTS

Industry/Solution:

- Education

Platform/File System:

- Microsoft Windows
- Novell NetWare
- OS/X
- Linux

Applications:

- Active Directory
- Exchange
- SQL
- VMware vSphere ESX

Partner Hardware:

- EMC Dell and unified Sun Storage

Challenges:

- Need to consolidate three disparate backup and recovery platforms to ease management and boost operational efficiency
- Ability to meet backup window was hampered by unprecedented growth and large percentage of redundant data
- Reducing administrative overhead of managing separate consoles for different platforms with limited visibility across the enterprise
- Increasing move to virtualization created additional backup and recovery challenges

continued on next page

CommVault® Simpana® Software Helps Catholic Education Diocese of Parramatta Heed Higher Calling for Leading-Edge Learning

Customer Profile

For nearly 200 years, the Catholic school system in Australia has provided high-quality education and today, provides quality schooling to over 20 percent of Australia's school population. For the Catholic Education Diocese of Parramatta, this constant focus on learning and teaching extends to nearly 80 primary and secondary schools in western Sydney with more than 4,500 teachers and staff serving more than 42,000 students.

Located in one of the fastest growing areas of New South Wales, the diocese is west of Sydney and encompasses some of the oldest schools in Australia with links to the first Catholic school in the colony. Aside from its rich historical roots, Catholic Education is known for its forward-looking vision reinforced by innovative educational theories and a rigorous practice of continuous improvement. Catholic Education utilizes leading-edge technology tools and systems designed to support their work in ensuring schooling is relevant and effective for the 21st century.

According to Matthew Doepel, chief technology officer at Catholic Education, his IT team works closely with the school system's executive director, Greg Whitby—who Bulletin Magazine called the "smartest, most innovative and creative person working

in education today"—to create a virtual learning environment. "Today, people have 24x7 learning opportunities, so we need to provide our students and teachers with greater accessibility and mobility," Doepel explains. "This way we can offer 'open learning spaces' that remove the boundaries of traditional school environments."

To that end, Catholic Education embraces the latest in social media, including YouTube, Twitter and Facebook, as well as video conferencing, interactive whiteboard systems and an e-Library online portal with more than 300,000 books and resources. Catholic Education has also applied much-needed government funding to build a state-of-the-art Cisco Unified Communications fiber network while leveraging government stimulus dollars to provide more than 23,000 laptops to high-school students.

"We designed our network to support up to three devices per student, which meant doubling our bandwidth capacity six months ago and more is needed already to support an average of 400 TBs of Internet data downloads each month," Doepel adds. "Confidence in our new system is driving unprecedented demand and CommVault Simpana software plays a big part in protecting all that data, which includes student records, courseware and critical enterprise files."

QUICK FACTS (continued)

Solution:

- CommVault® Simpana® 9 software with global deduplication

Benefits:

- Impressive deduplication results nets approximately 56 percent reduction in file system data and nearly 80 percent savings in Exchange and SQL data
- Backups of nearly 160 TBs completed within allocated window; disk restores accomplished in just a couple of minutes
- Administrative overhead cut in half with more time available to focus on strategic projects
- Tight VMware integration expected to ease rapid adoption of server virtualization
- CommVault SnapProtect technology projected to support strict recovery SLAs

Data Management Environment

A 17-person department, which includes four network engineers, oversees Catholic Education's robust IT environment, which is becoming more virtualized thanks to an increasing reliance on VMware. A variety of student experts assist the team while partaking in a rigorous training and certification program. In addition to augmenting the diocese's network, desktop and helpdesk support, these students graduate with strong technology skills that appeal to major employers, such as Cisco and Apple.

The IT team currently manages a mix of Microsoft Windows 2003 and 2008 as well as Novell NetWare file servers. Additionally, the team supports Microsoft Active Directory, Exchange, SQL, Linux and OS X servers at the enterprise and departmental levels. Microsoft Windows 2003 and 2008 are the predominant platforms at the schools, which typically have two file servers with up to 2 TBs of storage per server.

On the storage side, Catholic Education relies on Dell EMC and Sun unified storage, which along with an LTO-5 tape library, meets the needs for data storage, backup and recovery as well as long-term retention. A steady increase in disk storage is the result of students and teachers increasing their use of technology to support learning and teaching. After starting with 40 TBs, the diocese doubled its storage capacity and is preparing to implement 200 TBs more of hard disk to meet data protection and retention requirements.

In Australia, student data must be kept for up to 25 years, which places an additional burden on long-term retention. "We currently outlay a significant amount on backup tapes each month," says Doepel. "Upgrading our environment means improving how

we backup, restore and retain mission-critical data and student files. Fortunately, Simpana software with its embedded source-side deduplication has helped us safeguard and save data more efficiently and economically."

Elevating Backup and Recovery Standards

As part of its massive IT computing and network upgrade, Catholic Education wanted to consolidate three disparate solutions that were being used to protect vital data. Simpana® software safeguarded core data while Symantec Backup Exec was used to backup and restore Exchange data and FalconStor protected school data. The primary challenge with this decentralized approach was that it required two engineers to manage the process, which was somewhat tedious and time consuming.

With a major IT overhaul and plans for a new data center on the horizon, the team wanted to get a better handle on its data with centralized management. "We were confident in the economies of scale we could achieve with a single solution and consolidated administration," notes Doepel. "The challenge was finding the right solution to meet all our needs."

According to Tristan Slusarczyk, system support engineer for Catholic Education, a large percentage of redundant data was being backed up each night, but the team lacked the proper visibility or capability to eliminate it. "We had limited capacity to look at the type of content we were protecting," he says. "It was difficult to keep up with aggressive data growth, as we started out with 40 TBs of storage and expect to put in 200 TBs by next year. Moreover, we struggled to understand which data was most relevant to students, teachers and the diocese."

In looking ahead, the team also wanted to better protect its ever-increasing virtualized environment and therefore sought tight integration with VMware. "Our backup solution had to be part of the overall strategy for our new data center," Slusarczyk adds. "In addition to VMware, we had to accommodate a mix of Novell, Microsoft and Linux platforms."

Simpana Software Takes Data Protection to the Next Level

Catholic Education took advantage of special expertise offered by a local technology consulting firm to find a consolidated, scalable data protection platform with deduplication capabilities for reducing redundant data while accelerating backups and restores. Simpana 9 software was recommended as the ideal platform to meet the diocese's requirements.

"It was clear that CommVault was the most suitable proposal and matched all our criteria," says Doepel. "Using one console and a singular platform, we were able to accomplish everything we required." Doepel was also pleased with the speed in which Catholic Education could deploy the Simpana software. "We put the design forward, planned the upgrade and jumped straight into it," he adds. "Within two weeks, we completed the initial deployment."

To assist with the implementation, Catholic Education solicited support from CommVault Professional Services. This was important as the diocese was building out its network, changing

operating systems, adding bandwidth and storage as well as moving from Novell NetWare to Microsoft Active Directory all at the same time.

"CommVault Technical Support is very professional and easy to work with," Doepel adds. "They understood how we work and what we are trying to achieve, so we were impressed by CommVault's complete understanding of our objectives."

Reaching New Heights in Operational Efficiency, Productivity & Cost Savings

With Simpana software in place, Catholic Education has been able to reap immediate benefits, including accelerated backups and restores, reduced storage consumption and increased data management capabilities. So far, the ability to leverage integrated source-side and target-side data deduplication has yielded impressive results, according to the IT team, enabling the team to eliminate duplicate data, before sending it across the network to the data center.

Simpana software's embedded deduplication is fully integrated into the diocese's core backup process, which eliminates separate management layers, translating into less complexity, lower costs and more reliable data protection. "CommVault's dedupe ratios have exceeded our expectations in terms of reducing enterprise and school data," says Slusarczyk. "We were able to decrease our file-system data by approximately 56 percent while deduping SQL and Exchange data produced a space savings of nearly 80 percent."

The data reduction streamlines weekly synthetic full and daily incremental backups of nearly 160 TBs of enterprise and school data while facilitating faster, trouble-free recoveries. "Restores have been excellent as I simply hit the 'restore' button and away we go," notes Slusarczyk. "It typically only takes a couple of minutes to recover Word docs, which are our most frequent recovery requests."

In addition, one person can manage backups and restores from Simpana software's centralized console, thus cutting administrative overhead in half. "My strategy is to reduce reactive work from 95 to 50 percent, freeing time to work on more strategic projects," notes Doepel.

Now that backups and restores are working as planned, Catholic Education retains enterprise data on the SAN for a month before offloading to tape. Meanwhile, data for the respective schools is kept on the SAN for two weeks and then migrated to tape for longer-term retention.

Overall, using Simpana software, Catholic Education has been able to reap significant operational cost savings across infrastructure, administration and licensing.

Next, the diocese plans to use Simpana software's virtual server agent (VSA) to protect its fast-growing VMware environment. CommVault's tight integration with VMware will enable the team to safeguard hundreds of virtual machines in minutes with minimal server impact. "I am really

looking forward to implementing VSA," Doepel says. "CommVault's reporting features will also prove useful in providing greater visibility into both our physical and virtual environment."

Also appreciated is the fact that Simpana software works with any disk storage for deduplication, backups and retention. "With CommVault, it doesn't matter what type of storage we use," says Doepel. "This also yields greater economies of scale as we can select the right storage platform with the optimal performance and price."

CommVault's SnapProtect technology is another capability Catholic Education is considering for creating multiple recovery points throughout the day. In particular, this ability would accommodate the two-hour data recovery service level agreements with its finance department. Boosting disaster recovery is also on the horizon now that Simpana software has yielded major reductions in storage consumption and administrative overhead. "We are very confident in our data protection abilities and it shows," Doepel notes.



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