



COMPELLENT SAN HELPS CHILDREN'S MEDICAL RESEARCH INSTITUTE ERADICATE DISEASES



The data collected and analyzed at the Children's Medical Research Institute (CMRI) in Sydney, Australia, could unlock the mysteries of a range of conditions, from cancer to brain conditions and developmental abnormalities. In state-of-the-art facilities, CMRI researchers study human genetics and cell biology and share the findings with a global network

of scientists in an effort to develop ways to prevent and treat these illnesses.

When CMRI added two new technologies to enhance research, the IT group knew it was time to update the storage area network (SAN) that housed research data. "The institute added an advanced measurement and analysis tool for microscopic research, plus a live-cell imaging microscope that can collect real-time, 3-D pictures of mouse embryonic cells as they grow," explains Darryn Capes-Davis, the information communications and technology manager at CMRI. "These tools require high storage capacity for images. To support the ongoing research at CMRI, we needed more storage space."

The team also saw opportunities to protect data more effectively and reduce the time and money spent on IT administration while also supporting the institute's critical research. "We wanted a better way to back up research data. If a scientist made an error or mistakenly deleted a file, he or she might have to take a full day to run the experiment again," says Capes-Davis. "Our small IT group was spending way too much time on storage management. We wanted a solution that would let us focus on new projects so we could better contribute to the success of the institute."

COST-EFFECTIVE PROTECTION FOR CRITICAL RESEARCH DATA

After considering solutions from other vendors, the IT group selected two Compellent® Storage Center™ SANs, located 20 km apart. The primary SAN has a raw capacity of 4.5 TB spread across two tiers. The first tier uses fast Fibre Channel drives to store active data, while the second tier uses cost-effective SATA drives for inactive files. Compellent's Automated Tiered Storage moves data from the first to second tier based on pre-defined rules. The secondary Compellent SAN, which uses SATA drives, enables the IT group to reduce its backup window and replicate frequent snapshots to the remote site.

With the Data Instant Replay™ feature, CMRI can automatically create space-efficient snapshots of data called Replays to help protect research data. Replays use minimal



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Manager, Children's Medical Research Institute

RESULTS REPORTED BY CMRI

- » Simplified interface reduces storage management time by 50 percent
- » iSCSI capabilities help to accelerate deployment and avoid the costs of implementing a new Fibre Channel network
- » Thin Provisioning helps the IT group accommodate growth without excessive expenditures for unneeded capacity
- » Data Instant Replay enables CMRI to back up data 12 times more frequently per day to ease retrieval of lost files
- » SATA-based secondary SAN offers a cost-effective disaster recovery solution

OPERATING SYSTEMS

- » Windows XP
- » Windows 2003 Server

KEY APPLICATIONS

- » Customized measurement and analysis tools
- » High-resolution imaging software

COPILOT SERVICES

Compellent Copilot Services is a comprehensive customer service and technical support center providing exceptional system support through online incident tracking and automated event notification. In the event of a drive failure or other system threat, Copilot alerts system administrators, identifies the level of the emergency and provides potential solutions. Compellent Copilot Services offers the CMRI IT group peace of mind in the event of unforeseen problems.

“We were having some temporary power problems at our primary data center, and Compellent Copilot Services notified us immediately. It’s good to know that if something happens, they are there to help us resolve any problems.”

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storage by only duplicating new data written since the previous snapshot in the file. “Replays make it much simpler to support users when they make an error or mistakenly delete a file,” tells Capes-Davis. “We used to back up data twice a day. But if a file was deleted between those backup sessions, a researcher might be out of luck. Now we take hourly snapshots, so we can retrieve data much more easily than before.”

Using Remote Instant Replay™, the IT group stores copies of snapshots at the remote site. “If something goes wrong at our primary site, we have a much better opportunity to recover data now than before,” says Capes-Davis. “Compellent also makes it simple to set up rules for how long to retain each Replay—and it just runs automatically, without us having to manage it.”

CUTTING STORAGE MANAGEMENT TIME IN HALF

The Compellent SAN has dramatically simplified storage management. “The SAN has a single, easy-to-use interface that reduces provisioning times and automates frequent tasks,” explains Capes-Davis. “We estimate that it has cut the time it takes to manage storage by at least 50 percent.”

Compellent’s Enterprise Manager interface provides storage capacity and utilization information that enable CMRI to easily plan future storage purchases. “With some other products, you need to buy third-party tools. Even with some of those tools, you have to make your own graphs and estimates about volume size and growth,” says Capes-Davis. “With Compellent, all of that reporting is done. With easy access to information, we can better plan for growth while minimizing the time we spend keeping our storage system running.”

FLEXIBILITY FOR GROWTH

Compellent’s Thin Provisioning software, called Dynamic Capacity™, helps the IT group cost-effectively manage that data growth. “Compellent’s Thin Provisioning enables us to provision the capacity a research project needs without wasting unused storage space,” says Capes-Davis. “As the project approaches its limit, we can easily re-provision the space so we don’t have to buy more capacity than we are actually using. Now we can give the new microscopic applications the capacity they need while also supporting research in other areas.”

Support for both Fibre Channel fabric and iSCSI connections deliver flexibility for the future. Using iSCSI has already helped the IT group save time and money compared with an exclusively Fibre Channel system. “The new microscopic applications are between 50 and 100 meters from the SAN. It would have been very time-consuming and costly to lay Fibre Channel cable between the computers and the storage system,” says Capes-Davis. “We already had a good Gigabit Ethernet network in place, though. By using iSCSI, we were able to capitalize on that network and make the required connections quickly and cost-effectively. In the future, we know that we can work with both Fibre Channel and iSCSI while retaining our investment.”

CMRI REMAINS FOCUSED ON RESEARCH

With the Compellent SANs in place, CMRI is better prepared for the future. “The Compellent SANs give us a reliable backup system that helps us provide excellent support for researchers,” says Capes-Davis. “The ease of managing the SANs enables our team to help the scientists focus on what’s truly important—carrying out important medical research.”