

## Edith Cowan University virtualises its growing data with IBM® to regain control

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### Overview

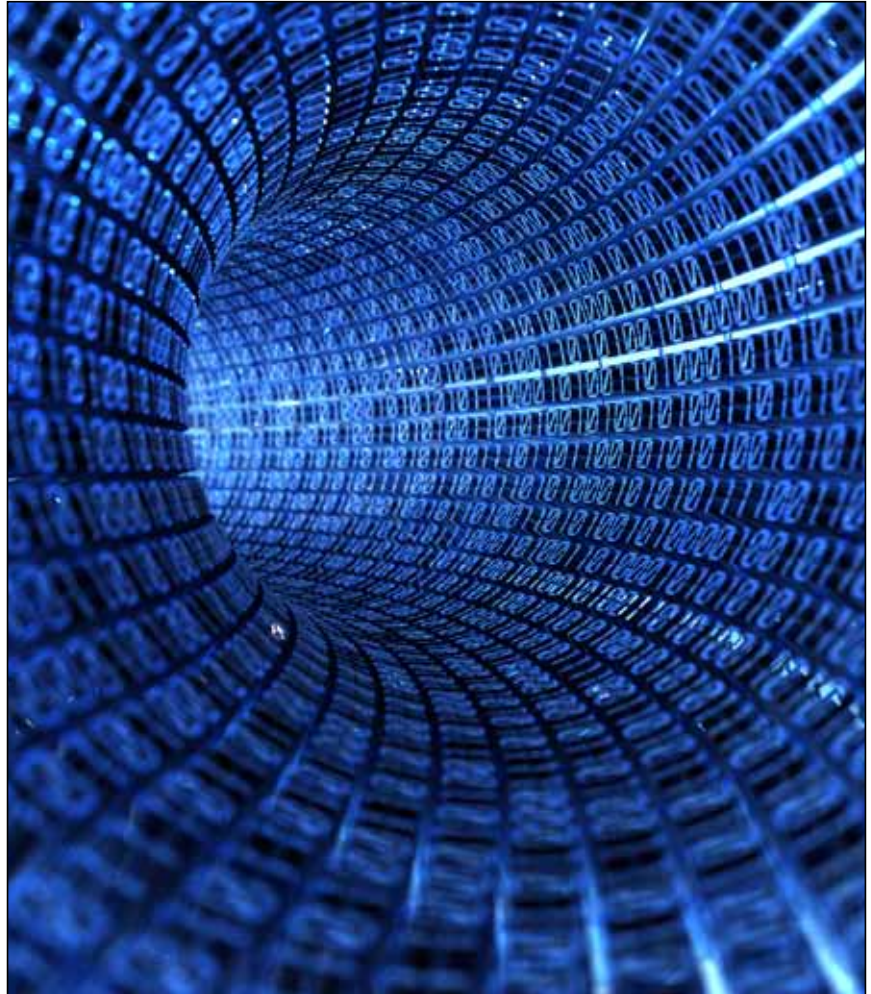
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#### ■ **Problem**

Like many organisations, Edith Cowan University was facing rapid data growth, with its storage system capacity projected to double each year, and expecting a need for up to 1600TB online and near-line storage in 2012. It needed to find a way to effectively manage this growth, while maintaining flexibility and ensuring cost predictability in uncertain financial times. Coupled with this, its ageing EMC hardware required upgrading, leading Edith Cowan University to conduct a complete review of its storage environment.

#### ■ **Solution**

In 2007, Edith Cowan University released its strategic ICT plan, leading to a fairly aggressive technology upgrade program. As part of this, the university went to market to look for a fully virtualised disk solution for its servers, storage and back-up requirements. After reviewing the available products, Edith Cowan University made the decision that only IBM had a solution that provided a truly solid and mature platform. The university selected key IBM software and hardware products including Tivoli Storage Manager, TotalStorage SAN Volume Controller (SVC), two DS4800 disk controllers and a DS5300 disk controller.



#### ■ **Benefits**

Through the use of virtualisation technologies Edith Cowan University has been able to reduce the number of physical disks required and make more efficient use of the space available in its data centre, reducing its energy requirements. The university is also able to mirror the disks between its

two metropolitan sites and is able to failover very quickly if one site fails. It also now has the ability to take a point in time snapshot of the system and recover to a new server with reasonable ease. Previously recovery time took 21 hours, but in testing with the new environment, the university was able to reduce this to only two hours.

### **About Edith Cowan University**

Edith Cowan University (ECU) serves the communities of Western Australia as well as nearly 5,500 international students from more than 90 countries. Its 22,000+ undergraduate and postgraduate students are spread across two campuses in metropolitan Perth – Mount Lawley and Joondalup - plus another campus in Bunbury, 200 kilometres south of Perth. The university employs almost 2,000 people and brought in \$300 million in revenue in 2008.

### **Data explosion**

Like many organisations, ECU was facing an ever growing amount of data that required storage. The strain that was being placed on ECU's disks was resulting in performance issues with key systems, including student records when the system was unable to retrieve information in a timely manner.

In mid-2007, ECU went to market to investigate the options available for a complete storage upgrade. The university went to tender for a comprehensive storage, server and back up solution to replace its ageing EMC infrastructure.

Angus Griffin, Manager IT Infrastructure, ECU said, "IBM was the best fit for our needs across all three of these areas. We felt that IBM was the only vendor that could provide the solid and mature fully virtualised disk solution that we needed."

Following the tender in mid-2007, ECU started to install the new hardware and software towards the end of that year across its two metropolitan Perth campuses.

### **More storage, more flexibility**

A key issue for ECU was to find a way to manage its projected data growth and provide the business with the flexibility it needs to respond to changing requirements, yet still maintain cost predictability. "We determined that virtualisation would be the key driver to allow us to improve disk utilisation and thereby reduce costs. We anticipate that within three years, 80% of services will be provisioned in a fully virtualised environment," said Griffin.

In order to achieve this virtualised environment, ECU implemented IBM TotalStorage® SAN Volume Controller (SVC). Through the use of SVC, ECU was able to efficiently manage a controlled upgrade for its backend storage hardware and migrate data from old disk infrastructure to the new, high-performing IBM equipment with minimal disruption. The university now

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also has the capability to tune storage capacity and performance as business requirements change, increasing disk utilisation while keeping the number of physical disks to a minimum. This also reduces ECU's impact on the environment, as fewer disks means less power consumption, as well as associated space and cooling requirements.

SVC also plays a key role in the university's business continuity planning. Through using the GlobalMirror feature of SVC, ECU has been able to mirror disks between its two metropolitan campuses, Mount

Lawley and Joondalup. If one site fails, ECU can now switch over very quickly to the other site and maintain operations across both campuses. "This now means we can give much greater reassurance to the business about our ability to recover key systems. It also plays a key role in helping the university to meet its audit requirements," said Griffin.

Another key part of ECU's business continuity strategy is achieved through the use of IBM Tivoli® Storage Manager FastBack. Through the use of IBM

FastBack, ECU can take a snapshot of the system at a point in time and recover that data to a new server. "IBM FastBack is hardware agnostic and speeds up the time to recover to similar hardware hugely. In our recovery time tests, we were able to reduce rebuild time for some systems from 21 hours to just 2 hours!" stated Griffin.

### **Replicating the future**

ECU is now planning to increase its use of the replication and virtualisation capabilities of SVC and Tivoli Storage Manager. The university plans to use virtual disk mirroring to provide better redundancy, and continue to explore virtualisation technologies to minimise management overheads as well as maximise disk utilisation.

"We're continuing to discover the capabilities of our IBM hardware and software, but in 18 months we've progressed from crawling to running and I would say we know more about, and make better use of, our new system than we ever managed in six years with our old EMC equipment," concluded Griffin.

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**For more information**

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IBM Australia  
55 Coonara Avenue  
West Pennant Hills  
NSW 2125

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