



VMware Virtual Infrastructure 3 Teaches Curtin University of Technology a Lesson in Data-Center Management

A Solution for Saving Legacy Applications Turns into a Dynamic Data Center Infrastructure with Significant



KEY HIGHLIGHTS

INDUSTRY: **EDUCATION**

CHALLENGE

Needed to migrate superseded Windows NT servers from old hardware, without losing the domain control service they were providing

SOLUTION

VMware Infrastructure 3 not only solved hardware issues, but also changed Curtin's entire approach to the data center to include resource allocation and disaster recovery.

RESULTS

- Approximately 100 physical servers have not been purchased since VMware software deployment commenced, resulting in a significant savings on hardware
- 100 percent time reduction in provisioning new servers
- 100 percent uptime in instances of hardware failure
- Fiber channel connection costs reduced 80 percent
- Anticipated 60 to 80 percent reduction in data center space consumed by physical servers
- Improved server utilization by 60 percent

"The virtualized infrastructure enabled by VMware Infrastructure 3 completely changes our approach to the data center, where we now see it as a pool of resources that can be dynamically allocated according to the university's needs. Near immediate server provisioning, support for a range of operating systems and a smart DR plan has changed the nature of our data center."

Kim Wisniewski, Systems Engineer, Curtin University of Technology

Legacy Applications No Match for Modern Hardware

Curtin University of Technology is Western Australia's largest university with over 39,000 students and nearly 1,000 research students. Offering over 850 undergraduate and postgraduate courses, Curtin is a world-class, internationally focused institution. Its main campus is situated in Perth, West Australia. There are two additional metropolitan campuses, two regional campuses, seven regional education centers, a campus in Sydney and one in Malaysia.

The IT infrastructure supporting the university's activities includes 6,000 desktops and 18,000 network points spread across the campuses. Four hundred servers drive the network accessed by the students, nearly 11,000 of which are offshore and onshore international students, and over 3,500 staff.

Kim Wisniewski, systems engineer at Curtin's IT department was faced with the problem of needing to migrate superseded Windows NT servers from old hardware, without losing the domain control service they were providing. Wisniewski has been watching the virtualisation space for several years and, assessing the options available, understood that VMware offered the only mature and enterprise-friendly product in the market. What started as an IT engineering push driven out of necessity quickly got buy-in from upper management as the far-reaching benefits became clearly evident.

Confidence in the Technology Leads to Vast VMware Infrastructure

Within six months of taking initial VMware technology training, Curtin had 40 virtual machines running, a number that has since grown to more than 120. Secure in the maturity of VMware ESX Server, Wisniewski says, "We built our testing and production environments in parallel because we were confident the technology was mature enough to operate in production environment."

While the VMware's virtual infrastructure platform quickly established itself in the Curtin data center, beta testing of VMware Infrastructure 3 (VI3), including ESX Server 3.0 and VirtualCenter 2.0 has impressed even more and shows great potential opportunities for the future.

- Fast and agile. ESX Server and VirtualCenter have vastly improved service agility and provisioning abilities. "We can act 10 times faster on provisioning new servers," says Wisniewski. "There is almost zero emphasis on needing to acquire new hardware in a fast time frame." The scalability, performance and capacity of the new infrastructure have exceeded the expectation of the Curtin IT department.
- Operating system independence. "A strong reason for using VMware software is the fact it supports a wide range of guest operating systems, which is a feature that is still unmatched," says Wisniewski. Further, as a result of the beta testing of ESX Server 3.0 and VirtualCenter 2.0, Wisniewski finds the operating system has become less important with emphasis now placed on delivering a service. This frees him to choose any platform as the operating basis for his virtual data center.
- Avoiding disaster. Curtin's data center, spread over two sites, has natural redundancy to enable disaster recovery. However, the VMotion and High Availability (HA) features of VI3 ensure continuous running and availability of all systems and applications. Within 12 months, it will be the platform for Curtin's disaster recovery plan.

Data Center of the Next Century Being Built Today

- Development for the future. With the ability to quickly provision testing environments as required, Curtin's virtual infrastructure supports test and staging for all applications. VI3 facilitates preparation for new technology. As Curtin sees the beginnings of 64-bit testing of Windows Solaris x86, as well as Solaris, it can be ready for future uses of 64-bit virtual machines, supporting test and dev of Exchange 12, Citrix PS 4, Oracle and other future large applications.
- Provisioning servers without paying. Curtin can account for "at least 100 servers not purchased" since the deployment of VMware technology, according to Wisniewski. However, the university has continued to provision new servers without the expense of buying new hardware.
- Disaster recovery of the future. A DR approach using virtual infrastructure is future-proofed to a large extent, and reduces the total cost of maintaining a "like for like" replica of hardware at the disaster recovery site. A virtual infrastructure offers a hardware-agnostic approach to disaster recovery, and simplifies DR procedures.

Moving forward, Curtin sees the deployment of VMware technology spreading beyond the data center. "We are keeping an eye on all the desktop virtualisation applications and initiatives," says Wisniewski. In the data center, he anticipates VMware Infrastructure 3 will account for more than 90 percent of services delivered within five years.

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