



Holmesglen Institute improves student services with new network and server infrastructure

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– Chris Puchalski, Operations Manager, Holmesglen Institute

Established in 1982, Holmesglen Institute is a large vocational education and training provider based in Victoria, Australia. The institute operates from three major campuses in Chadstone, Glen Waverley and Moorabbin, and through offshore partners. Holmesglen currently offers approximately 600 courses to more than 50,000 students.

Critical business issue

In 2008, Holmesglen Institute developed a strategic plan to refresh its core infrastructure to deliver teaching and administration applications more efficiently to its students and staff.

The institute’s network infrastructure, which consisted of a variety of edge and core network switches, was reaching end-of-life. Its ageing server infrastructure also needed to be replaced and a 10% annual growth in student numbers has resulted in the challenging task of having to provide more IT resources.

One year later, after receiving a grant from the Victorian government and allocating its own funds, Holmesglen Institute began a project to refresh a data centre infrastructure. The institute planned to mirror its server and network infrastructure at a new disaster recovery site and deploy wireless services across its three campuses.

“We were under pressure from the business and the Victorian Auditor-General’s Office to build system resilience and meet quality assurance,” says Chris Puchalski, Operations Manager, Holmesglen Institute.

“We had also grown to a point where our users expected applications to be available all the time and were reluctant to accept outages. We needed to deploy new network and server infrastructure to achieve these goals.”

The solution

In April 2009, Holmesglen Institute engaged Dimension Data to design and deploy a new data centre at its Chadstone campus. It included six Cisco UCS 5108 Blade Server Chassis, Cisco Nexus 7000 Series switches and Cisco Catalyst 3750 Power-over-Ethernet switches, as well as Cisco wireless access points. The TAFE plans to mirror this infrastructure at a disaster recovery site in Glen Waverley, which is due for completion at the end of 2010.

Holmesglen Institute will run an ‘active-active’ data centre where both data centres run at the same time and data is instantly replicated to the disaster recovery site. This provides protection for the institute’s data if there is a system failure or catastrophic event such as a fire at one of the sites.

The institute also plans to leverage its existing fibre optic connectivity to increase bandwidth and redundancy for its network traffic.

The Cisco UCS 5108 Blade Server Chassis, which house eight half-width Cisco UCS B-Series Blade Servers, have replaced the institute’s IBM System x3950 servers, creating more space in the data centre.

“The CPUs and memory in the blade servers are packed together tightly in the rack, which means that one blade server can do the job of six or seven of the old servers,” says Puchalski. “All our core applications will eventually move across to the Cisco blade servers.”

A new Cisco wireless network is available to 50,000 students with access to web-based services from their own portable devices such as laptops and smartphones. The institute has deployed six Cisco 5508 Wireless Controllers and 130 Cisco wireless access points across its Chadstone, Moorabbin and Glen Waverley campuses.

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The capabilities Dimension Data brought to Holmesglen Institute

Holmesglen Institute had an existing service and maintenance agreement with Dimension Data for its Cisco network equipment.

Dimension Data worked with the institute's internal IT staff to draft a plan for each project. Workshops were held to determine how the new data centre and disaster recovery site would be built and connected with each other.

During the data centre refresh, Dimension Data engineers deployed around 100 Cisco 3750 Power-over-Ethernet and four Cisco Nexus 7000 Series switches across three sites. The Cisco Nexus 7000 Series switches were deployed during the evenings over the Easter break in April 2010. They were connected to the Cisco UCS 5108 blade servers.

“There were hundreds of old switches that needed to be replaced across our sites and the process took several months,” says Puchalski. “Without Dimension Data's help, it would have taken us a year to complete this task.”

“It was a complex job to replace the old networking infrastructure across our campuses. Dimension Data provided the right level of assistance to finish the upgrade without upsetting the business.”

The outcomes for the Holmesglen Institute

1. Fast and reliable application delivery to 50,000 students

The network and server upgrade ensures that Holmesglen Institute can reliably deliver around 1,000 applications to users across its network such as vital student management systems and email services. Students and teachers benefit from more reliable infrastructure that is always available.

“We can provide a constant service to our students and staff and when the disaster recovery centre in Glen Waverley is completed at the end of 2010, we will be able to eliminate system downtime in the event of a server failure or disaster at our primary site,” says Puchalski.

2. Reduction in data centre hardware costs

The Cisco UCS 5108 blade servers have enabled Holmesglen Institute to reduce hardware costs by about 30% and halve the amount of space in the data centre required to house its servers. “We now have room to grow as the TAFE network expands in the future,” says Puchalski. “Holmesglen Institute will also reduce its carbon emissions.”

Holmesglen Institute is also running virtualisation technology on the Cisco blade servers. This also helps to reduce hardware costs because many virtual machines, or software-based servers, can be created on a few physical blade servers.

“Virtualisation also reduces the time it takes to provision new servers from days or weeks to minutes,” adds Puchalski. “We can save time and money and our IT staff can focus on more important tasks.”

“We can provide a consistent service to our customers and when the disaster recovery centre in Glen Waverley is completed at the end of 2010, we will be able to eliminate system downtime in the event of a server failure or disaster at our primary site.”

3. Providing wireless access to staff and students across all campuses

The Cisco wireless network enables students to access applications from any location.

“Students can now use their laptops to access the network without having to find a PC in the library or computer lab,” says Puchalski.

“We have around 4,500 desktop PCs around the institute and with the recent growth in demands for IT resources we always have had a shortage.”

For more information

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