

Dunmore Lang College proves its commitment to offering students an innovative and technologically advanced IT experience during their study.



DUNMORE LANG COLLEGE

Highlights

Industry: Education

Business Need

To enhance the reporting, flexibility, and scalability of the college's infrastructure. Keeping at the cutting-edge of technology is a key focus for the college, driving the need for continual change.

Solution

Our solution consisted of more efficient and effective management of physical hardware through virtualisation. A multi-tiered security approach including internet & network security devices at the gateway, along with leading end-point software. An automated backup library & imaging software was also implemented to ensure a holistic approach to data protection so there is no single point of failure. Ongoing maintenance and real-time monitoring of key business systems ensures the college's infrastructure is maintained and supported.

Outcome

- Increased server performance & stability
- Reduces risk exposure through virtualisation, which offered the reduction in physical servers
- Green & energy efficient infrastructure
- Reduced resource consumption using virtualisation
- Robust disaster recovery system
- Automated backup ensuring a secure & scalable system
- Enhanced network security through a multi-tier system
- Explicit internet reporting, traffic shaping & content filtering capabilities
- Ongoing preventative maintenance for infrastructure
- Real-time monitoring to maximise network availability of key business systems

Customer Overview

Dunmore Lang College (DLC) is a co-educational, independent, not-for-profit residential college affiliated with Macquarie University. The college has one campus located in North Ryde, NSW and has been operating since 1972. DLC not only provides on campus accommodation for students & guests but has four well equipped conference rooms which can be used for a wide range of corporate events. DLC differentiates itself from other colleges through their commitment to offering students with 24x7 access to state-of-the-art computer services. DLC have 2 separate network segments for security, an Admin and Student network.

The College seeks to provide for its residents an environment which respects the integrity of the individual, cares for its members and nurtures the sensitivities, tolerance and mutual understanding required for life together in the community.

Need

The key driver for the project is the college's commitment to offering students an innovative and technologically advanced IT experience during their study at DLC. Computer Networks (CN) was engaged by DLC to conduct an independent audit of the network infrastructure & IT systems.

As our client wasn't achieving the reporting, flexibility and scalability that is required by the organisation in keeping at the cutting-edge of technology, the audit encompassed highlighting ways to address these objectives.

Solution

The audit revealed that there were a

number of areas which needed to be addressed in order to achieve these organisational goals.

Security

To achieve increased security and functionality, CN installed internet and network security appliances into the network. Reporting on these devices enables all usage across the gateway to be tracked and on-demand and scheduled monthly usage reporting has been configured for all gateway activities. Security groups or individual users can be limited on the amount of usage if acceptable usage policies have been exceeded. Such a device also enables a single point of authentication for students.

Core network switches have also been upgraded to enterprise grade managed network switches, using the same Vendor in order to reduce complexity and management overhead.

Upgrading to the leading internet security software has also added another security layer in ensuring further protection of the infrastructure. Such a solution enables administrators to restrict certain activities deemed as suspicious or high risk. Particularly as numerous students are accessing public college systems, controls have been put in place which manages which peripherals can be connected to a machine and how the peripherals are used. It locks down endpoints to prevent connections from unauthorised devices such as; CD burners, printers, and other USB devices, in order to prevent data leakage.

Server Hardware

A key objective was to implement more efficient and effective management of physical hardware. By reducing the

“They responded to our crisis, and worked seamlessly with us through the cycle of analysis, reporting, solutions, procurement, installation and support. Something we wanted, but hadn't dared expect in the critical situation we faced (a blowout of \$58K internet fees for one month), was an IT partnership that stretched our understanding and capability into the future.”

Dr. Lewis Rushbook, Principal and Chief Executive

number of physical servers through Virtualisation technology we achieve a greener and more energy efficient approach to technology. Being an environmentally responsible organisation, such an outcome was an important deliverable set by the College.

This solution also satisfies the organisations requirements in ensuring that the infrastructure has the flexibility to adapt to changing needs of the College and the student body. As such, it offers the ability to simply create a server environment should the college require it for a conference event or the like. Such a solution is advantageous in that the college does not need to procure additional hardware or have concern about network security issues.

Backup & Disaster Recovery

Until recently, the backup consisted of a manual approach whereby an individual was required to change tape cartridges on a daily basis. This method can pose certain issues as a result of human error in failure to change the tapes consistently and also due to loss or damage of the media. To ensure a secure and scalable backup solution, CN implemented a robust tape library environment that can accommodate the company's continuing growth whilst protecting their data from human error or security compromises.

Additionally, CN recommended implementing a disaster recovery solution that protect's the organisation in the event of a disaster. This was achieved through using a leading technology that captures an entire snapshot image of the servers, up to every 15 minutes, and has the flexibility to recover that image to different hardware and a virtual server environment in the event of a disaster. What's more, the imaging technology enables us to rebuild a server in a matter of hours, as opposed to days. The use of this technology reduces the loss of data, productivity, system downtime and also

provides a second form of backup and recovery so there is no single point of failure.

As part of DLC's focus on business continuity, we now have the ability to perform regular disaster recovery testing. Our disaster rehearsal involves simulating a failure, and using the most recent image of the server taken to restore the entire system as quickly as possible to our test equipment. Here we prove that the investment works.

Power Management

In order to maximise stability for the new infrastructure at DLC we decided to examine and implement a new power management backend. Our primary goal was power regulation and orderly shutdown and start-up in the event of a prolonged power interruption, and the solution had to cover an array of servers and networking equipment. We ultimately implemented a fully redundant backend based on two high-density UPS'. This solution has enabled the equipment at DLC to remain unharmed to anomalies in the power grid, and remain powered-on (i.e. avoiding corruption) during extended power outages.

Ongoing Maintenance

Preventative maintenance of an IT system is the best way to reduce downtime and increase productivity. CN tailored a support schedule that would provide DLC with a regular onsite presence, real-time monitoring to maximise network availability of key business systems and help desk facilities. This ensures that the college's investment is maintained in an optimal state.

Challenges

Management of communication to students during the project phases posed as a challenge for both CN and DLC. It was of the upmost importance to ensure communication was effectively

disseminated to students throughout the implementation, in order to raise awareness on what changes were taking place and how that would affect them.

Uptime is critical for DLC. Challenges were presented in ensuring that downtime be minimised as the college operates around-the-clock and students require continuous access systems. This meant that CN performed much of the installation and data migration offsite, and then cutover the systems once ready.

Outcome

Our client is now experiencing a secure, stable network with future expansion and growth in mind. All key servers, workstations & network infrastructure remain up-to-date and supported, ensuring stability and security. Virtualisation of servers has provided our client with a green and energy efficient infrastructure whilst achieving the flexibility to adapt to the changing needs of the college and the study body. Moreover, points of failure have been minimised by reducing the number of physical servers through Virtualisation.

Dunmore Lang College are confident that the Backup and Disaster Recovery systems in place are ready in the eventuality of an unexpected event. Planning has helped to minimise the implications from unplanned downtime and aims to continue operations quickly with minimal disruption to the college.

CN is continuing to support DLC through regular systems maintenance and maintains up-to-date and accurate documentation of the network. At any given point in time, the college is able to view a complete snapshot of their infrastructure with confidence in stability, flexibility, security and scalability moving forward.

For more information on this success story, please call one of our business solution architects on (02) 9878 0277