A DEGREE EASIER

AUSTRALIAN CATHOLIC UNIVERSITY NATIONAL SAVES 60% ON COMMUNICATION COSTS WITH CISCO IP TELEPHONY

ACU NATIONAL IS ONE OF THE LEADING INSTITUTIONS IN AUSTRALIA IN THE FIELDS OF HEALTH SCIENCES AND EDUCATION. ACU HAS BEEN EDUCATING HEALTH PROFESSIONALS AND TEACHERS SINCE THE MIDDLE OF THE 19TH CENTURY.

Since their formation as a single institution in 1991, the University has established highly respected schools in the social sciences, business and information technology, philosophy, theology and the liberal arts. ACU has chosen to specialise in these areas to develop their expertise rather than offer a broader range of courses.

ACU National excels not just in teaching but has active research programs in all faculties, with particular strength in applied research and socially relevant projects. ACU National has strong links with employers and students undertake work experience throughout their studies. ACU graduates enjoy one of the highest rates of employment in Australia and many find jobs using their professional skills before they have even graduated. ACU National is a leader in terms of graduate satisfaction. ACU students consistently give a five-star rating in terms of their educational experience.

With campuses in Brisbane, Sydney, Canberra, Melbourne and Ballarat, ACU National caters for undergraduates, postgraduates and non-degree students. It has over 800 staff to meet the needs of only 10,000 students, giving it one of the best student/staff ratios of any Australian tertiary provider.

In addition to links with employers, ACU National reaches out beyond its community of scholars to engage with the broader community through public lectures and forums, performances, exhibitions, service activities, links with other secondary and tertiary providers and through their highly regarded research program.

THE CHALLENGE

IN JANUARY 1999 ONE OF THE KEY ISSUES FACING THE AUSTRALIAN CATHOLIC UNIVERSITY NATIONAL WAS THE HIGH COST OF TELEPHONE COMMUNICATION.

They wanted to better manage their telephony through a faster, scalable system that could grow, as their needs grew, whilst making savings on call costs.

Barbara Olde, Director of Information Technology and Communications Services at the Australian Catholic University National comments: "We have six campuses spread over three States and the ACT. It is vital that staff on each campus can freely communicate with each other to keep up to date on a range of topics, from day to day business issues to course information, student records and financial information.

"The ACU National North Sydney campus was using an analogue Centrex 'Spectrum Service' with the services and hardware managed out of the local service provider's telephone exchange. All campuses had a similar Public Switch Telephone Network (PSTN) set-up in their State, which basically meant we had no control over our telephone network. Our existing telephone network was expensive to run and difficult to manage."

THE SOLUTION

IN FEBRUARY 2000, ACU NATIONAL APPROACHED CISCO ABOUT UPGRADING THEIR EXISTING DATA NETWORK TO A FULL A VOICE OVER IP (VOIP) NETWORK DEPLOYING CISCO'S ARCHITECTURE FOR VOICE, VIDEO AND INTEGRATED DATA SOLUTION.

Barbara Olde explains: "We already had a Cisco data network at each campus which allowed staff and academics to access the network facilities and the Internet. We wanted to leverage this network to also integrate IP telephony in the first instance and then to progress to video over IP.

"Each campus had previously installed UTP cable into each room and lecture theatre with a fibre optic backbone running the length and breath of the campus.

"As a public, 'Higher Education' institution, we were fortunate to be able to take advantage of the Australian Academic Research Network (AARNet), which provides high-capacity Internet access to all public Australian universities."

In each campus a Cisco 7204 VXR Router has been installed, which acts as the gateway to the Internet and is the interface for direct connection to a 34MB Microwave System. Each campus has a 100MB fast Ethernet WAN.

Cisco and Barbara Olde's team installed a Cisco 3640 Router in each campus, which provides a gateway to the PSTN telecommunication carrier network, with support for multiple Onramp ISDN channels. As the core campus Gigabit network switch, ACU installed a Catalyst 6509 Switch with MSFC routing modules. The switch provides the interfaces for direct connection to Gigabit fibre optic distribution cable, which connects to the edge distribution switches.

For edge distribution switches, ACU National installed Cisco Catalyst 3548, 3524 and 1900 Switches into each campus providing the 10/100 full duplex connections to IP handsets, servers, workstations and other network peripheral devices.

Voice communication is achieved through the Cisco CallManager software running on Windows® 2000 clustered Media Convergence Servers in each campus. ACU chose to install two Cisco CallManagers into each campus for load sharing and redundancy. If one of the servers fails, then the remaining CallManager switches into action and routes all of the incoming and outgoing calls through the PSTN until the server is re-established.

Barbara Olde comments: "Australian Catholic University National purchased more than a 1000 Cisco 7960 IP handsets. These handsets include functionality that's really helped the staff and academics around the different campuses. And as the technology matures, it will offer even greater long term value.

"The IP telephony application has a powerful database which allows the user to make certain enquiries; for example, the directory contains all ACU National telephone numbers including departments, faculties and who owns the numbers. The IP handsets also allow me to see who has called, change settings and perform diagnostics."

THE RESULT

BEFORE INSTALLING THEIR IP TELEPHONY SOLUTION, AUSTRALIAN CATHOLIC UNIVERSITY NATIONAL USED TO SPEND MORE THAN $1 MILLION PER ANNUM ON INTERNATIONAL, LONG DISTANCE AND LOCAL PHONE CALLS. THAT FIGURE HAS NOW DROPPED BY 60% – A SAVING OF $600,000 PER YEAR.

Cisco's IP Telephony Gateway and Gatekeeper provides the administrator with any billing information they need. For example, ACU can keep track of how many calls are made through the AARNet Regional Network Operations (RNOs), by whom and to where. Each handset has a unique IP address, making it easy to provide statistical report on all calls made from each campus.

ACU National has now begun trialling video over IP with a view of replacing their old videoconference equipment with new IP conference units. The installation of these units will also produce savings on call costs.

Barbara Olde comments: "For my department, videoconferencing over IP is now an invaluable tool. I use it to hold my management meetings with my campus managers in each State.

"We can have virtual face-to-face meetings about day-to-day issues, budgets or implementing new technologies. I could also ask a technician from CSIRO, AARNet or Cisco to present or to answer questions. Videoconferencing over IP has reduced the amount of travelling needed, which also saves budget."

"CISCO WERE THE BRAINS BEHIND THE INSTALLATION AND WERE CONSTANTLY EXPLORING NEW WAYS TO ENHANCE THE SYSTEM."

BARBARA OLDE, DIRECTOR OF INFORMATION TECHNOLOGY AND COMMUNICATIONS SERVICES, AUSTRALIAN CATHOLIC UNIVERSITY

THE PARTNERSHIPS

THE AUSTRALIAN CATHOLIC UNIVERSITY NATIONAL IT TEAM WORKED CLOSELY WITH COMMONWEALTH SCIENTIFIC AND INDUSTRIAL RESEARCH ORGANISATION (CSIRO), AARNET AND CISCO TO UPGRADE THE EXISTING CISCO DATA NETWORK TO A FULL IP NETWORK

Cisco has a wealth of knowledge and expertise especially in IP telephony.

Barbara Olde comments: "Cisco were the brains behind the installation and were constantly exploring new ways to enhance the system, while CSIRO provided configuration guidance. They worked tirelessly to ensure that all six campuses were configured on time and with optimal functionality.

"Cisco Account Manager, Sam Gerner, was extremely responsive to our enquiries. For example, while we were testing the system if we encountered an anomaly Sam would immediately talk to the US to resolve the issue. Cisco's hardware support was impeccable and their solution is extremely robust. It was reassuring to work with an organisation who are the recognised industry-leaders in this emerging technology."

Account Manager Sam Gerner comments: "ACU embraced IP telephony because it solved their business needs. In 2000, ACU were one of the early adopters of large scale IP telephony and their team was enthusiastic and capable. At Cisco, we were able to work with ACU and CSIRO in a true partnership to deliver the results that were envisaged. Because of a willingness to move down this path, ACU have been realising the benefits of IP telephony for a number of years and are in an excellent position to capitalise on the next generation of productivity tools and applications that are emerging around IP telephony technology. These include desktop videoconferencing, distributed contact centre and unified messaging."

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