Case Study

At the cutting edge of innovation

Tshwane University of Technology

Customer

Tshwane University of Technology

Industry

Education

Challenges

- Migrate existing communications infrastructure to IP
- Integrate multivendor telephony platforms from various campuses into a single platform
- Reduce administration and management time by centralisation

Solution

- Network of iS3000, UNIVERGE® SV7000 and UNIVERGE® SV8500 nodes
- MA4000 management solution
- Approximately 3 000 users served by one Voice Network
- Business ConneCT Operator solution

Results

- Smooth VOIP migration
- Centralised management
- Reduced costs
- Increased efficiency

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The Tshwane University of Technology (TUT) is the largest residential higher education institution in Southern Africa. With campuses located in Tshwane (Pretoria, Soshanguve and Ga-Rankuwa), Nelspruit, eMalahleni and Polokwane, TUT employs more than 2700 permanent staff members and serves approximately 60,000 students.

Challenges

Tshwane University of Technology (TUT) was formed in 2004 through the merger of three technikons, namely Technikon Northern Gauteng, Technikon North West and Technikon Pretoria. This resulted in a network comprising mostly of iS3000 systems. However, one Campus – Gauteng North – still deployed an Ericsson PBX system.

In 2007, the university decided to integrate all campuses into a single vendor, centralised and managed network to work towards a phased voice over IP (VOIP) migration, with a view to have a fully operational IP network by 2011. The phased approach would accommodate the university's IP Telephony (IPT) strategy, and reduce administration and management time, resulting in reduced costs for the university.

Stephen Rakgoale, Deputy Director: Communications Infrastructure in ICT Services at TUT, says: "Our university is faculty based, which means the teaching staff are always moving between campuses. Users had to log support calls whenever they moved from one campus to another, which resulted in increased downtime and greater frustrations with staff."

It also presented TUT's ICT Services management team with challenges, which had to rely on vendors to support the ongoing need to make such small changes. As a result, TUT commissioned Gijima, the exclusive supplier of NEC enterprise solutions in South Africa, to deliver and implement a solution that would address the challenges facing the university.

Solution

Tshwane University of Technology (TUT) deployed a mixture of NEC platforms to accommodate its IP Telephony (IPT) strategy. Most of the campuses already used the well known NEC iS3000 platforms. Both new and revamped campuses required a greenfields approach, where IPT was the most cost effective solution. This is where the NEC UNIVERGE SV7000 and SV8500 platforms, as well as the 2000IPS as native IP solutions, presented the most flexible and cost effective remedy. The existing iS3000 infrastructure was retained.

The NEC "Ever Green" policy allowed for these platforms to be upgraded, enabling IPT both to the desktop and across the institution's wide area network (WAN) to other campuses. The flexibility of the technology deployed realised substantial savings on telephony costs and also maximised the return on investment for the university. The various campuses were connected over the existing WAN, resulting in substantial cost savings from a telephony point of view.

In moving users across the various platforms, the ideal solution was to move telephone numbers seamlessly from the older iS3000 to the new SV8500 system. To be able to make a smooth migration to IP and re-use the existing terminals and applications, NEC proposed the installation of an MA4000 management system, including free numbering as a last addition. "The migration process was a seamless one, conducted over a weekend with zero downtime," says Rakgoale.

The MA4000 is designed to increase overall productivity, while delivering flexibility and simplicity to IPT administration. In combination with UNIVERGE or iS3000 platforms, the MA4000 platform provides the necessary tools for a truly comprehensive IPT solution.

The MA4000 has the ability to simultaneously manage all a company's voice servers , with virtually no daily interaction from the administrator. Thanks to MA4000's user-friendly interface, the management system requires almost no training for an administrator to begin using it.

Results

The flexibility offered by the NEC technology allowed Tshwane University of Technology (TUT) to deploy business critical solutions in a phased approach and at its own pace. For the mid-term future, the university plans to gradually migrate all existing TDM users to its UNIVERGE IP server network.

In addition, TUT will add additional severs over time, enabling full platform and node redundancy, including the deployment of telephony survivability across the campus. Business ConneCT will be rolled out as main operator consoles, while Fixed Mobile Conversion will be deployed for user mobility and reachability.

The phased migration of the new IPT system can take place at whatever pace suits TUT's business needs. Some of the previous investments already made in equipment can be retained including ongoing training and application interaction. At the same time, TUT benefits from the cost saving opportunities presented by the UNIVERGE SV7000 and SV8500 servers.

The resultant TUT network is now future proof and is ready for productivity-enhancing applications such as unified communications. "For the university, flexibility was vital. Exploring unified communications solutions can not only increase the mobility and efficiency of our users, but will also help to reduce overall costs for the university," says Rakgoale.

About

The Tshwane University of Technology (TUT) is a progressive institution of higher learning in South Africa. With campuses located in Tshwane (Pretoria, Soshanguve and Ga-Rankuwa), Nelspruit, eMalahleni and Polokwane, this new mega-institution annually enrols approximately 60 000 students. While the size and scope of this dynamic new institution impresses, the quality of its teaching, research and community engagement is what makes TUT really stand out.

Its student body is one of the most demographically representative in the country in terms of race and gender, reflecting the Rainbow Nation in all its diversity. With almost 22 percent of students accommodated onsite at the various university residences, TUT is by far the largest residential higher education institution in southern Africa.

The university employs more than 2 700 permanent staff members, including almost 855 highly qualified permanent academics. These academics are increasingly focusing on conducting applied research and community engagement activities in addition to their instructional roles. Caring for the underprivileged, the upliftment of people and assisting those in need are key elements of the university's community engagement strategy.