CUT takes important digital transformation step with Datacentrix

The Central University of Technology (CUT), a leading higher education institution based in South Africa's Free State province, has successfully rolled out phase one of its three-year network and Wi-Fi infrastructure upgrade, an important step in the university's digital transformation journey. The project is being completed in partnership with Datacentrix.

Says Busi Matube, CUT's ICT Director and Chief Digital Officer: “The driving force behind this infrastructure upgrade is our digital transformation strategy, with the aim of improving our connectivity efficiencies and speed, and our use of 4IR technologies. This will allow us to better leverage the Internet of Things (IoT) for other projects we have in place, such as smart buildings, smart bins, a virtual reality environment for our engineering students, and more, located in different areas.”

Prior to this implementation, she explains, CUT's infrastructure was failing to meet the needs of both students and staff, with connectivity issues becoming a sore point for the university. In fact, according to Lucky Matjelo, Deputy Director: ICT Infrastructure Services at CUT, the university's Wi-Fi, which was set up in 2009 as its secondary mode of connectivity after the LAN, had actually become the primary connection point for these users.

“Over this time, technology has changed and advanced, and the existing solution, which was not scaled for high volume connectivity, was under increasing pressure,” he comments.

“With around 22,000 staff and students on campus, each with a minimum of two devices apiece and expectations of being able to connect wirelessly around the campus, connection speed had increasingly become an issue for us, and end-of-life infrastructure needed to be replaced.”

Challenges for CUT at the time included low throughput, resulting in poor connectivity; poor coverage (both inside and outside); and a lack of visibility on the network. This was particularly challenging in the event of users reporting connectivity challenges, as the CUT team was unable to ascertain what was happening on the network at the time.

“The COVID pandemic also played a role in these increasing needs, as the reliance on virtual meetings increased, further overloading the Wi-Fi infrastructure,” Matube adds.

CUT thus decided that a network and Wi-Fi infrastructure upgrade was critical for the university to meet its digital transformation objective of building a smart campus, where both students and staff are always connected through improved network infrastructure and reliable, responsive connectivity.

The new wireless network infrastructure would ensure the connectedness of students and staff to digital resources both internal and external to the network, as well as providing the medium through which CUT would be able to relay data from smart buildings' backend systems for analysis and

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Busi Matube, Director: ICT and Chief Digital Officer at Central University of Technology, Free State

reporting, and to provide a connected access control system for a more secure campus.

CUT went out on tender through its partner PURCO to appoint a service provider that could implement a Wi-Fi solution that would be able to seamlessly integrate with the university's existing network infrastructure and improve its Wi-Fi services.

Says Matjelo: “An additional requirement was that the supplier should have done a similar project in the higher education sector.”

“Datacentrix's strong footprint in education, which extends to the support of several local universities, and our excellent vendor certification levels, as Aruba Platinum Partner with ClearPass Policy Management competencies and the 2022 winner of the Aruba Partner Deal of the year award, were critical in our appointment to provide the procurement, configuration and installation of Wi-Fi equipment for a period of three years at both the Welkom and Bloemfontein campuses of the university, as were our Level One Broad-based Black Economic Empowerment certification and competitive pricing,” adds Henry Denner, Datacentrix Account Manager: Commercial.

Benefits experienced by CUT from the rollout thus far include the improvement of Wi-Fi connectivity issues in high-traffic areas, like the library and labs, where previously students had experienced serious connectivity challenges due to low Wi-Fi signal. These signal drop-outs have stopped completely since Datacentrix began the project, reports Matube.

“There has also been greater visibility on the network, as well as more opportunity to engage with users to understand and solve challenges. Now, when a student or staff member logs a query, these can be tracked according to what the individual was doing on the network at the time, and where any problems lie.

“I have personally worked with Datacentrix for a number of years now, and there is no doubt as to the organisation's strong technical capabilities,” Matube says. “For this project, Datacentrix has delivered far beyond the set-up of our equipment, and has provided excellent after-sales support to CUT's small IT team, augmenting the skills we have available internally. Our Datacentrix contacts are always available and the experience with them has been excellent.”

“The trusted partnership built over recent years between Datacentrix and CUT has been integral to the success of this project. Magical outcomes like these require constructive input from the client, our technology partners, in this case Aruba Networks, as well as from the experts at Datacentrix. We look forward to many more successful engagements with CUT,” concludes Francois Jacobs, Sales Manager: Commercial at Datacentrix.

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