UNIVERSITY OF WESTERN SYDNEY
MIGRATION FROM CONCEPT TO INTEGRITI

INTEGRITI CASE STUDY

The first Concept 3000 equipment was installed at the University of Western Sydney (UWS) in late 1999.The decision to choose Concept was made for a variety of reasons, but two of the deal clinchers were that:

1 the robust Concept LAN protocol allowed the university to utilise existing telephone cables between buildings with the implicit cost savings being significant;

2 the new accredited training regime initiated just weeks earlier by Inner Range meant that a pool of properly trained technicians would always be available to install and service the new installation into the future.

Inner Range Insight Software was first registered for use at UWS in 2006 and the systems just grew and grew, eventually servicing all five UWS campuses. In 2008, when the old telephone cables finally began to corrode, the connections between buildings were redirected over the University's IP infrastructure using the then new Inner Range CLOE (Concept LAN over Ethernet) modules.The systems kept growing without missing a beat.

By the middle of 2011, UWS were running separate Insight databases on each of their five campuses and Inner Range were approached at that time to recommend a way of combining all of these databases into one; with both centralised and localised management capability depending on the particular functionality required.The timing was ideal as Inner Range were then in the final stages of developing their new Integriti technology platform and it was perfect for the job. Meetings were held and the project was assessed but it soon became evident that the task was not going to be a simple one. These were very busy systems running 24/7.

They controlled thousands of doors and monitored security inputs.They were integrated with building management systems and their continuing operation was critical.

Where to start?

Copies of the five databases were taken and sent to Inner Range where engineers wrote software scripts to analyse and compare the programming of the different systems. One of the major obstacles was the different data structures of the two systems. The Concept system was the premier product of its time but the incredible firepower in the new Integriti platform meant that now so much could be improved.To merely migrate the existing functionality would be to waste the magnificent array of options that Integriti had to offer, but to change things too radically would risk confusion and disruption during the critical change over.

What to do?

Finally a plan was hatched. Inner Range would act somewhat as a project co-ordinator taking on the work of merging and modifying the various databases. Data migration programs were written to handle the bulk work and specialised software tools were developed to massage old Concept programming structures to, where possible, make use of the increased flexibility inherent in the new platform. A new server consistent

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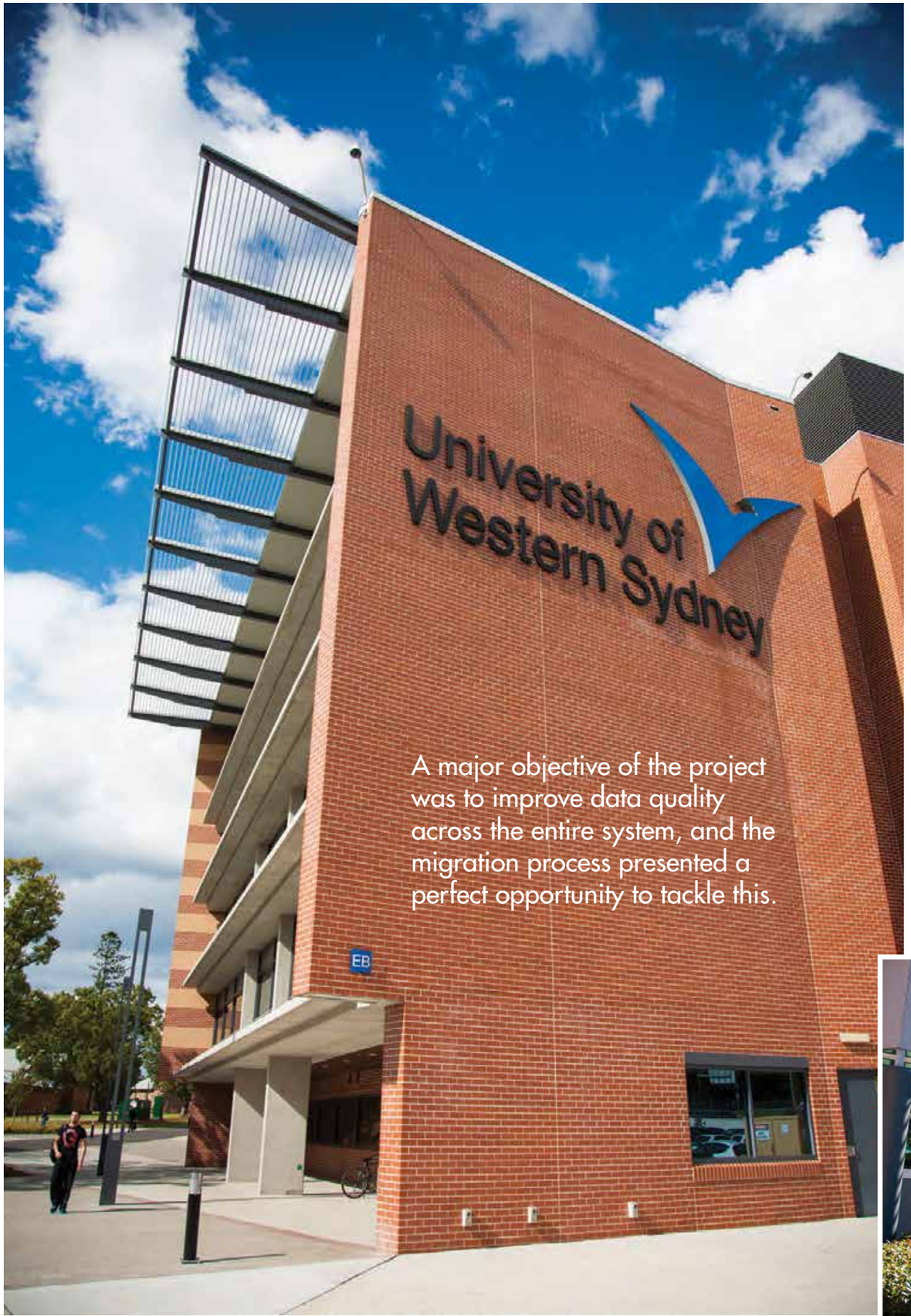

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with specifications as advised by Inner Range software engineers was procured and installed at the Parramatta campus under the direction of the University's IT department. Inner Range support technicians were given remote VPN access to this server and the Integriti software was uploaded to the server and tested.

A major objective of the project was to improve data quality across the entire system, and the migration process presented a perfect opportunity to tackle this. User identities could now be merged across all five campuses. So Inner Range engineers devised a number of automated techniques to identify duplicate or invalid records, and then consolidate the amended records into the new global system. This would have been a prohibitive operation to attempt manually and, to the university, it represented a saving of thousands of operator hours.

During the data migration process, it became apparent that the Concept systems on site had slowly evolved to perform considerably more than just security and access control functions. Aside from the usual integrations to building management and paging devices, the system had also been used as an automation controller in part of a large climate change research project being undertaken by the university.This project known as the Free Air CO2 Enrichment project or F.A.C.E. was right out of left field and totally unexpected, but nevertheless its programming was carefully migrated from Concept Calculated Auxiliaries to Integriti Macros and tested into submission. Re-implementing this logic using Integriti macros was a virtual baptism of fire for the new technology but, in testimony to the versatility of the Integriti structures, on migration day everything ran smoothly.

The new Integriti Controllers were backwardly compatible with all of the old Concept LAN modules so the only hardware that would need to be changed to bring these systems into the new millennium was the 32 Concept Controllers. All of the other hardware such as readers, door locks, door controllers and zone expanders could remain in place, however some of the module addresses would have to be changed to be meaningful when connected to an Integriti controller.

The new Integriti Controllers were despatched to local installation companies who under the direction of Inner Range support technicians installed them on site alongside the existing Concept Controllers. These new Integriti Controllers were then connected via IP and enrolled on the new Integriti server at Parramatta. Up to this time everything at the university was still running on the old Concept systems, nothing had been touched.The new Integriti system, being the new server and the 32 Integriti controllers, was running completely separately but in an idle state. In order to achieve the migration with virtually no downtime it was planned that both the Concept and Integriti controllers would run side-by-side for the period of the migration.The LAN segments from each of the Concept controllers would be cut over one by one to the new Integriti controllers. If the plan worked there would be a seamless migration, with only seconds of downtime as the RS-485 LAN was moved from the Concept to the Integriti controller. A major advantage of this approach was that it would provide an immediate roll-back strategy should anything go wrong.

With the Integriti system now established but still idle, the new merged database was downloaded remotely from Inner Range onto the Integriti server at Parramatta and testing was undertaken to ensure the stability of the new platform and its network. Databases were downloaded into the controllers and modified on line; even remote firmware upgrades were downloaded from the software into the controllers while the system was operational. It was time for the migration to begin.

Daniel Joubert, a senior Inner Range support technician, was tasked with coordinating the migration project, with the first campus to move across being Hawkesbury. Daniel liaised with the installation technicians on site as well as the guards and operators who were actively using the system on a day to day basis to try and anticipate any quirks in behaviour patterns or uncover anything that may have been missed.

Planning and preparation now complete, it was time to take the plunge and to use Daniel's own words "We arrived on site at 7am. It was very intimidating seeing the size of the site and I began to have doubts about

how easy the migration would be.Three hours later all the hardware was running flawlessly on the Integriti system, users were accessing doors and guards were using the software to control the site. The entire hardware migration was performed by the LAN simply being swapped over. It really shows how robust a product we have developed in that a diverse range of hardware modules all with different firmware versions were able to come online instantly with just seconds of down time per controller."

The second migration was at the Parramatta campus and buoyed by the success of the first, this operation was undertaken with Daniel Joubert at Inner Range in Melbourne programming the Server remotely on the VPN while liaising by phone with the local installation companies on site to swap the LAN's.As Daniel states:

"The use of the migration tool was fantastic. I was able to migrate an entire Concept database to Integriti with only a few basic settings. At Parramatta I was migrating ten panels at once. Integriti's flexibility in action centric programming made the automation programming just so much simpler. No more use of multiple calculated auxiliaries to achieve basic functionality, the programmable actions functionality in Integriti allowed us to distil complex automation down to one action. We were able to drive almost any outcome from an input going into alarm.The real wow moment for me was seeing the system handle thousands of inputs, doors and areas giving real time status updates for every item on the system designer."

"I was also surprised at how quickly the guards were able to get a handle on the software with only minutes of instruction and in some cases no formal training.This shows just how intuitive a software product we have developed."

At the end of the migration Daniel boasted "We were able to cut over a campus in a single day and were confidently able to leave the site knowing that the system was even more functional and capable than it ever was with Concept and Insight."

All five campuses are now migrated and today the University of Western Sydney is running completely on the new Inner Range Integriti technology platform. Campuses at Campbelltown, Hawkesbury, Bankstown, Parramatta and Penrith, are running on a single system of almost 3,000 doors. Security personnel at all five facilities are controlling doors, assigning user permissions and processing alarms. Team leaders are programming automated actions and creating global permission groups. Administrators are pouring over their wish lists to use the new power of Integriti to streamline procedures, integrate other systems and deliver new standards of reporting and accountability.

There are eleven thousand monitored security inputs across three thousand partitions with twenty thousand active users and another eighty thousand preenrolled and historical users to be imported. Millions of historical review events are there at your fingertips and there is a detailed forensic audit trail logging every activity and change to the system programming; it's time/date stamped to boot and identifiable by operator.

This is a serious enterprise system. It has a demanding 24/7 workload with wildly fluctuating dynamic peak demands yet the system response times are spectacular. System diagnostics show that CPU, RAM and hard disk utilisation are well below server capacity leaving plenty of head room for system expansion. Even then, the multi-server clustering technology inherent in the Integriti software architecture ensures that capacity and scale will never be a problem for this system.

According to Adam Byrne, Director of Campus Safety and Security at the University of Western Sydney, "…….the integration has provided an opportunity for the UWS to be able to manage multiple campuses and access points, secure research and provide crucial business continuity assurance to a University featuring 500+ buildings and over 11,000 rooms. The program is by far the most advanced access control program I have ever worked with and by far the easiest and most intuitive. The demands on access control across our institution are great and the Inner Range solution is for us a perfect fit." By all accounts Integriti has exceeded the expectations of all stakeholders at the university and they are now discussing future high level integration possibilities with other business applications deployed in their various facilities.With Integriti the possibilities are endless.This is an extraordinary product and we at Inner Range are very proud of it.

integriti
INTEGRATED SOLUTIONS

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