

British Columbia Institute of Technology

Symmetry™ Grows 300%, Upgrades Implemented Case Study

Like many post-secondary schools, the British Columbia Institute of Technology (BCIT) puts security technology and policies in place to provide a secure environment for its students, staff and visitors. Today's society and culture reflects that schools can never be too safe, nor can schools do enough to protect their campuses.

BCIT is different. BCIT's security approach and technology implementation is proactive and impressive. Not only do they care about the safety of their students and staff, the security team continuously improves and expands their security system to be at the forefront of technology and is a model for other post secondary schools to follow.

Fifteen years ago, BCIT's Security Director, Glen Magel wanted a security system to consolidate the multiple disparate systems on campus at that time. With the help of Tony Gojevic, principal of the installing integrator, RAMP Enterprises, who has provided services to BCIT for over 25 years, AMAG Technology's Symmetry Security Management System was chosen. The system has now grown from a dozen readers to over 600.

With the addition of a new administration building and another campus, the Symmetry access control system at BCIT has grown over 300% in just the last few years with plans to grow even more.

BCIT ONECARD ADDS TRANSIT SYSTEM

Gojevic states that a major factor for the growth of the system was the integration of the Campus ID card into the Symmetry system. That card, now known as the BCIT OneCard, has multiple uses on campus, with the latest being its use by students in acquiring a concession pass for transit.

Students use the BCIT OneCard to access buildings, classrooms, labs, studios, the Recreation and Athletics Center, printing and copying, to check out books in the library and for on and off campus discounts at retail operations.

Now, students can travel the public transit system when they use their BCIT OneCard. After passing a school-wide vote to add an additional student fee,



students can swipe their magstripe BCIT OneCard in a transit-type vending machine to obtain a U-Pass BC. A U-Pass BC allows students to receive a concession fare three-zone pass valid for all bus, train and sea-bus services in Metro Vancouver. When they present their U-Pass and BCIT OneCard student ID to the bus driver, they ride for free.

“The student card is encoded with a separate line of information for the machine,” said BCIT Safety, Security & Emergency Management, Assistant Director, Adrian Hingston. “The machine reads the data on the card and if it confirms they are a student, a concession pass is issued for the students to present to ride the transit system.”

The vending machine integrates with BCIT’s Banner system and Symmetry which confirms the card is a BCIT OneCard, and it also tracks the number of times the card is used in the machine. Students can obtain a new U-Pass BC once a month.

NEW CAMPUS

Always progressive, BCIT added a new campus and more programs to its course offering. The new Annacis Island Campus, a 142,000 square-foot facility, opened September 2014, and offers motive power programs by BCIT and unaffiliated Vancouver Community College.

Symmetry easily expanded with new controllers to manage another 65 readers and many monitoring points.

“We took over a building which became the Annacis campus and were able to integrate access control and alarms into our existing Symmetry system,” said Hingston. “Adding that building to the existing system was relatively simple, and it all tied back to the Symmetry head-end at the Burnaby campus. Employees at the new site can access specified areas, and the on-site security team can monitor who is going where and when with a local thick client attached to the system. The system suits our needs well.”

BURNABY CAMPUS ADDS ADMINISTRATION BUILDING

The main Burnaby campus contains 52 buildings and is where most of the educational programs reside and where the vast majority of administrative operations occur.

Recently, the Burnaby campus added a brand new, multimillion dollar administration and registration building. The new building houses executive suites, labor relations and human resource departments in addition to the majority of the student service areas.

“With an easy software upgrade another 60 readers were added to the Symmetry system,” said Ramp’s Gojevic.

CLUSTER AWARE AND BACK UP SERVERS INSTALLED

As part of BCIT’s business continuity plan, Director of Safety and Security, Glen Magel invested in AMAG’s Cluster Aware system. Symmetry operates on two separate computers running in tandem, so if one fails, the other picks it up creating an automatic failover and users would not see a disruption in service.

The main server was upgraded to an NEC Fault Tolerant Server running the NEC Express Cluster software and a secondary server was installed at a remote location.

“BCIT felt it was important to invest in a backup system in the event of an emergency or disaster,” said Gojevic. “Should a catastrophic event occur, the primary NEC server is backed up by an additional server, ensuring the school’s security system will remain fully operational with all historical data intact.”





UPGRADE PROGRAM IMPROVES PERFORMANCE

What really sets BCIT apart from other post-secondary educational institutions is their proactive approach to security. They are always looking to see how they can improve their current system and learn what technology is coming down the road and how best to implement it.

With that mindset, Magel and Hingston implemented an Upgrade Program. The Upgrade Program utilizes reports from a custom work request system created by RAMP that analyzes the system's performance and functionality. The data is used by Hingston and Magel to determine where maintenance and improvements are needed. This customized web-based request system also provides workflow for all new projects, from the quoting, approvals, scheduling and coordination of work, to the invoicing of completed projects.

"Much effort and investment go into maintaining the Symmetry system," said Hingston. "We take the data from our reports and decide which area needs improvement. We then decide if we'll purchase new product, swap out product or upgrade to newer technology and devices."

Recently, several controllers in a particular building were upgraded to the newest Symmetry M2150 panel for sustainability. Another upgrade included swapping out 220 iClass readers to Symmetry Desfire readers to maintain current system functionality and stay with advanced technology readers.

"In an effort to attain 100% uptime and maintain a fully operational security system, BCIT goes all out to ensure their system is running at peak performance and with current technologies," said Gojevic. "Sometimes they upgrade panels to prevent problems and other times the software is upgraded so they are running the most current version of Symmetry."

BCIT AT A GLANCE

As Canada's premier polytechnic institute, BCIT has six major campuses in the metropolitan area of Vancouver. The largest of the campuses is Burnaby with over 50 buildings.

BCIT's electronic identification program integrated to AMAG's Symmetry access control system in 2000 to create

the "BCIT OneCard," a card for students to use to gain access to educational areas such as classrooms, labs and studios. In certain program areas, students can access campus facilities 24 hours a day. The multiple technologies on the card, magnetic stripe, magnetic debit "junk" stripe, and barcodes, allowed the students access to many amenities, discounts and most recently, the U-Pass BC transit system.

Most employee areas on the campuses use smart card readers and cards to gain access with an ongoing upgrade program of converting from magstripe to smart card readers. There are currently about 300 smart card readers and 220 magstripe. All new installations are smart card technology as long as students don't require access. Student areas use magnetic stripe technology. Symmetry allows both magnetic stripe and smart card technology to be used in the same system and on the same card.

"It's presently more cost-effective to have students use magstripe readers and cards," said Gojevic. "Plans are in the works to look at adding smart chip technology to student cards."

Symmetry integrates with many technologies to provide BCIT with the security system they've come to rely on.

- **Banner System.** Each night, student and staff information is correlated between Symmetry and the Banner System (HR and registration software) via a custom integration software application from RAMP. This allows for automatic activation and deactivation of cards and access rights.
- **PC Tab.** An asset tracking system, PC Tab connects to Symmetry to deter theft of LCD projectors, lecture hall computers and other mobile technology used by BCIT. Symmetry will sound an alarm and alert the security staff if an item is being removed from its location.
- **U-Pass BC Transit System.** Students can insert their card into the transit vending machine to retrieve a month-long pass to use the transit system.
- **NEC.** Symmetry resides on an NEC Express Cluster to provide high availability and system redundancy in the event of a failure.
- **Sanction Software.** The Judicial Affairs staff can access Symmetry to view photos of students prior to meetings. Symmetry is the only software on campus that contains a photo of every student.



BCIT stats:

- Symmetry CA Enterprise software, I024 reader capability
- 5591 employee card holders
- 23,700 student card holders
- Segregated database for card holders outside the BCIT community using the Recreational Center
- 80 Symmetry M2100 and M2150 Intelligent Controllers
- 617 Readers
- 957 monitoring points
- Five badging stations

BCIT continues to expand and upgrade its Symmetry access control system ensuring they have one of the most robust security systems of any post secondary institution.

“Once we defined what our responsibilities and standards were, we found that Symmetry could meet those needs. From a systems perspective, I am extremely satisfied with our Symmetry Security Management System,” said Hingston.



AMAG Technology
sales@amag.com
www.amag.com