COLLEGE'S SECURITY IS CENTER OF ATTENTION

Long known for the magnitude of its academics and enrollment, North Carolina's Central Piedmont Community College now lays claim to an equally remarkable security solution. Learn how the nation's fourth-largest such school is creating a safer environment by centralizing control of video surveillance, access control and more across seven campuses. **by Scott Goldfine**

The 2007 shooting massacre at Virginia Tech that left 32 dead and 17 wounded shocked and horrified the entire nation — but perhaps nowhere more so than just down the interstate in Charlotte. It is there in neighboring North Carolina's largest city where many future Virginia Tech students emanate and alumni establish their careers. It is also where Central Piedmont Community College (CPCC), the state's largest such institution, has educated knowledge seekers since 1963.

"Let's be realistic, everyone is reacting to Virginia Tech. I think in the last week there have been five bomb threats to colleges," says Aaron Alexander, owner of integrator Security 101's Charlotte branch. "Colleges now realize they have to be more proactive versus reactive. When parents are choosing a college for their children, there's no doubt security is a concern."

To ensure inquiring minds stay focused on scholarly pursuits and bodies out of harm's way, CPCC stakeholders have green-lit the comprehensive upgrading of security systems throughout the campus.

"There was a need determined by security and senior management that the school needed to be secured," says CPCC Executive Director of Technology Infrastructure Systems Patrick Dugan. "This site sits in downtown Charlotte and so we have a lot of through-traffic, which makes it a high-risk area. We also have outlying campuses that sit in neighborhoods that have some issues."

Security 101 was signed on as part of a phased undertaking valued at more than $500,000 that was to include video surveillance, access control, intrusion detection, emergency

call stations and more. The project would involve seamlessly integrating the systems such that the whole exceeded the sum of the parts, with a prime directive to enable control and management from one centralized location. In addition, the solution would not only boost security but also numerous operational efficiencies while at the same time reducing their costs.

Security 101 is among many installing contractors targeting education as a market with strong prospects due to the high need to maintain safe environments; however, for those end users finding a way to fund these efforts can be more daunting than writing a master's thesis on molecular biology. At the same time the fact these campuses frequently have the cabling infrastructures to accommodate today's advanced networked systems make them primary candidates for converged physical-logical solutions, but also requires security integrators be comfortable working with IT administrators.

IT EXPERTISE PLAYS A BIG ROLE IN WINNING BID

As the nation's fourth-largest community college, CPCC offers more than 200 degree, diploma and certification programs to 75,000+ students on seven Charlotte-area campuses. The largest site is its central campus at approximately 52 acres and 27 buildings. Employing a full-time faculty and staff of approximately 1,075 people, CPCC provides customized training solutions to in excess of 550 businesses and 5,000+ employees with 10,000 different classes each year.

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CPCC IT lead Patrick Dugan *(left)* greatly values the network expertise of Aaron Alexander, owner of Security 101's Chartlotte branch.

In addition to personal safety, CPCC's security concerns are many and varied. They include vehicles, lab environments and other significant assets. Maintaining an open campus environment is an important part of its culture. Students need to be able to enter buildings without presenting credentials; however, theft issues in areas such as computer and science labs have caused the school to reconsider its security policies.

"We have health services types of technology, with very expensive echocardiograph and other devices. We also have a very expensive automotive program with high-end cars, tools and equipment. All of that has to be secured," says Dugan.

Having helped CPCC build a robust network infrastructure and supporting subsystems that allow management from the main campus' datacenter, Dugan, who supervises 24 of the college's 75 IT specialists, was appointed the lead to oversee and coordinate the security upgrade.

"Once it was funded and the school had made a decision to go forward, ITS was one of the large stakeholders and we were one of the leaders in the charge," he says. "Security is quickly becoming an IT add-on, so to speak. Security staff, of course, was another large stakeholder. We also brought in facility services since they manage the spaces physically. The three of us together worked on the bid process."

Before contracting an integrator, CPCC hired a consultant to prepare the RFP. As opposed to the previous situation of each campus having its own separate and disparate security system, the new plan would use centralized access control as the basis for the solution with video surveillance and intrusion detection operating within that framework. Thus the system would communicate security information from any of the campuses immediately back to the datacenter.

As a Microsoft-certified systems engineer with software development experience, Security 101's Alexander has generated local buzz as bit of an anomaly being a true IT-centric security integrator. Learning of his reputation, Dugan contacted Alexander for input and advice during the early planning stages.

"We found there were not many IT-focused integrators in this area at that time," says Dugan. "That meant a lot to us because it takes a bit to explain to someone the enterprise IT mentality. Someone who knows that industry and understands what we're looking for solves a lot of problems. And fortunately, after the bidding process, Security 101 ended up winning the bid."

Alexander understands and appreciates the competitive advantage he receives from his reputation as a uniquely qualified integrator combining networking knowhow with security expertise. This approach and ethic is one he strives to pass along to his employees as well.

"I've worked very hard with my staff to let them understand what IT means, teaching them what it means and how to interface with the IT guys," he says. "Being one myself, we're different than the security guys. We're different than the facility maintenance guys. You're dealing with college-educated, high-degree, master degrees and bachelor

degreed-type people. You've got to interact with them a bit differently."

Alexander's business is one of 27 Security 101 offices. Each location is locally owned and operated by the owner as a franchisee of West Palm Beach, Fla.-headquartered Security 101, which will celebrate its 10-year anniversary in 2013. The franchise model is intended to give end users the feel and personalized customer service of a small entrepreneurial shop along with the advantages of a trusted national company that has greater purchasing power and resources.

DEALING WITH A DOOR DILEMMA

CPCC's first objective was to obtain nearly keyless control of exterior doors on all buildings on all campuses (infrequently used doors were passed over with plans to add them in future phases). Areas where core building functions are managed, such as IT, mechanical and electrical, were also to be secured, with ID badges carried by security, facilities and IT staff.

Security 101 broke ground on the project in July 2011 and would achieve substantial completion by January 2012. Facing the challenges of installation while campus operations remained ongoing and also having to ensure connectivity among campus locations as far as 30 miles apart, the carefully coordinated job involved four full-time wirepullers running cable just ahead of the installers, building by building. Since the cabling process was faster than installing security devices, two crews consistently worked behind the wirepullers.

"We absolutely had scheduling issues," says Alexander. "You can't go drill on a door that's right next to a classroom, or may need to go through that classroom, to get where you're going from a cabling standpoint. We had to check in and check out keys, and also let security know where we were each day. With guys on ladders we always had safety issues. And being in an urban environment, we had to be careful where we left our equipment."

Scheduling and logistics were not the only issues that had to be contended with during the CPCC job. The biggest nuisance was getting a wide range of door types and hardware as well as misaligned doors to accommodate electronic access control. This largely unforeseen predicament not only led to delays for the integrator but also increased costs for the end user.

"We found that a campus as old and large as ours has some physical features to the doors and buildings that cause issues," says Dugan. "For example, doors didn't shut correctly or they were spaced in a way that didn't allow the electronics to work. There were delays and it was one of those things an IT shop wouldn't anticipate. We had to work with our facilities department to get these doors repaired."

It also came as an unwelcome surprise to discover how the campus' varied door types — including single, double and sliding doors — required pursuing multiple vendors to repair or replace parts so as to meet electronic specifications. In some cases, older parts had to be tracked down. If not for the expertise of Security 101, whose services include locking door hardware installation that's often relegated to locksmiths, progress might have come to a standstill.

"Aaron has a crew of guys who are very good with doors and very good with door repairs," says Dugan "He was able to help us out, get us to the right terminology so we could speak to facilities about what we needed. So it worked out."

SOLUTION BASED ON CENTRALIZED CONTROL

To date, CPCC's access control system includes AMAG Technology's Symmetry Enterprise V7 security management system (SMS), 225 Symmetry network single door controllers, a combination of 225 Symmetry and HID proximity access control card readers, ASSA ABLOY 9600 electric rim strikes, and Security Door Controls (SDC) electric latch retraction kits.

"The AMAG software and hardware provided the best solution in two ways," says Alexander. "The software allowed CPCC to put all their technology solutions — video, access control, burglar alarm and intercom — out to one platform that was very easy for the security officers to use, and extremely intuitive. From a hardware standpoint, installation was easy because we used the EN-1DBC edge devices. By running a simple Cat-5 cable to each door, and then running our cables down to the door, our installation times were improved."

CPCC's robust network has been designed to be able to handle advanced security system functions including access control and video surveillance. Left, some of the solutions hundreds of Axis IP cameras; above, an example of some of the college's many emergency call stations.

The surveillance system is paced by ipConfigure video management system (VMS) and approximately 500 Axis Communications IP cameras (standard and megapixel); while other systems include DMP XR500N intrusion alarm panels and Sentrol (UTC) door contacts, Lynx IP duress alarms, and a variety of emergency call stations.

"We started getting our feet wet in security with video surveillance," says Dugan. "One of the things that brought a smile to my face after reviewing all the video management systems out there was ipConfigure's approach. They were very IT enterprise centric, with a simple interface that was easy to manage and could scale in multiple ways."

Both the VMS and SMS supported the architectural design imperative for a solution that was both centralized and distributed. CPCC's strategy was to first ramp up storage capacity at the centrally based main campus. Expansion would then occur by distributing the system with a backend server at every site to manage the bandwidth locally, and truncate security and surveillance so only necessary data would come back to the main site. The use of edge devices was another key piece of the puzzle.

"One of the great things I've enjoyed about CPCC is we've used all edge device access control readers," says Alexander. "We don't have a central panel; we have a panel at every door. They're all powered over Ethernet at the door. With edge devices if one controller goes down you can still get in at one of the other doors. That design element, one single point of failure, is a big plus especially from an IT standpoint."

Integration of all the security systems is fed into the SMS' Web-based interface and populates it with live and recorded video when an alarm sounds. So if a door is forced or held open at a certain time, video automatically pops up instead of security personnel having to watch monitors 24/7 and hope that they catch an incident.

FIND IT ON THE WEB
For more from this project's integrator and end user, along with exclusive video, check out *SSI*'s Under Surveillance blog at **securitysales.com/blog**.

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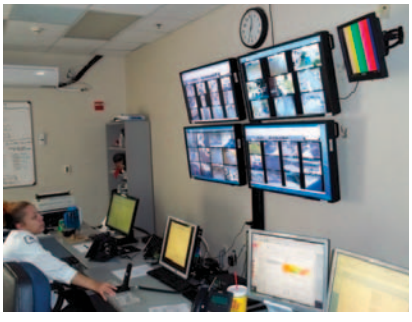

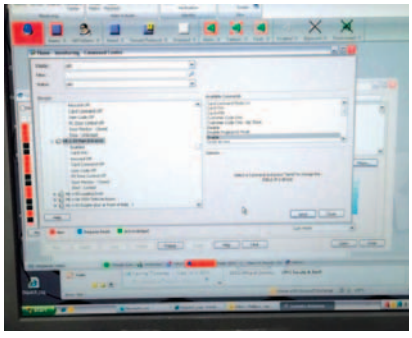

ONLY THE CRIMINALS HAVE COMPLAINTS

As CPCC's security systems have improved, so too has the school's success in deterring theft and increasing apprehensions. Dugan recounts a recent example of the surveillance system delivering on its promise.

"One of my employees parked her car in our parking deck while she traveled over the Christmas holiday, and it got stolen," he says. "After reviewing the video not only were we able to tell exactly when it happened, we got a picture of the face of the person. We knew the color, license plate, how many people were involved, when they staked out the job. Everything came through perfectly in crisp HD. We were able to retrieve the car with the help of police within 24 hours. That really showed the merit of the system."

The access control system is also contributing in a big way, including cutting costs and boosting efficiencies. Savings are being realized from no longer having to replace lost or stolen keys and rekey cylinders. Operations are enhanced with security officers being able to grant people access to a given door or area remotely rather than having to physically go to the scene. The solution also offers forensic features.

"Some of the other great things about the access system we're finding is the audit trail it provides," says Dugan. "It's very easy for someone to say, 'No, I wasn't there at the time,' and you have no way of confirming that unless you have an audit trail of when the door was opened by their credentials. We've used that several times to prove or disprove someone's word. That's very beneficial when you have high-risk systems you're protecting with them."

All that and CPCC has just barely scratched the surface of what the solution could ultimately become and accomplish. Funding permitting, plans include expanding both the scale and capabilities of the system. Future objectives include implementing threat management, elevator control, visitor management practices and an intrusion management system.

Dugan estimates 50% completion on the video side, with a third of the three-phase access plan now achieved. By any measure, he is pleased with the outcome. "We've had very good results and I'd recommend anyone who's been involved in the process," he says. "The system can speak for itself." ■

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