



CASE STUDY:

CSU Installs Access Control in Residence Halls

by Carol Carey

FORT COLLINS, A MEDIUM-sized city located at the base of the Rocky Mountains in northern Colorado, offers outstanding hiking and skiing, along with cultural events at the 24,000-student Colorado State University (CSU).

For nearly a year, however, a serial rapist put a damper on the serene environment. Four of the assaults occurred within two miles of the CSU campus before 29-year-old Troy Graves was arrested and later convicted in April 2002.

Residents of Fort Collins and CSU could breathe easier, but the year when the rapist roamed free had created a heightened security awareness. CSU's housing department had been considering an electronic access control program, and implemented it after an assault occurred at a CSU residence hall community bathroom.

"We'd been investigating such a program for several years," says Rick Pott, assistant director for housing operations management. CSU's 10 residence halls occupy some 1.2 million square feet on 30 acres, and house approximately 5,000 students, 70 percent of them freshmen.

All Exterior Doors Monitored

Today, exterior residence hall doors are being monitored by an online



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electronic access control system (the B.A.S.I.S. system) from Best Access Systems, Centennial, Colo.

"We presently have 350 exterior and interior doors controlled by the system," says Pott, who explains a tightly structured program aimed at balancing budgetary concerns with "the ability to monitor door position of every exterior door of all 10 halls."

All residence hall exterior doors have been fitted with door contacts that enable them to be monitored for position by the B.A.S.I.S. system. Five have card reader access and five have mechanical access.

"The software system allows us to monitor all the external doors to see if they're propped open. If something abnormal is occurring, an alarm will come up," Pott says. "This has met the intent of our administrative directive to monitor what is going on in all buildings, and has given us a platform to build on for future enhancements." The buildings with mechanical locks are accessible

through Corbin Russwin locks with rim cylinder exit devices.

Exterior doors to the five halls accessible through proximity readers have been retrofitted with Best Removable Core Cylinder locks. Interior corridor doors in these five halls are also online.

Balancing Budgetary and Security Concerns

CSU's phased-in approach to electronic security is particularly timely today, when record state budget deficits have forced major public universities to take dramatic cost-cutting measures.

In the first phase of the access control system installation, which began in April of 2002, 900-resident Corbett Hall was put online and made a prototype. The installation included all wiring for future access control and CCTV to all 10 CSU residence halls. Electronic access was provided into four more buildings this summer—Braiden Hall, Edwards, Ingersoll and Parmelee.

The Online Program

CSU has installed the Pro series software from Best Access Systems, which uses the OnGuard software platform from Lenel Systems Intl. Inc. The alarm monitoring capacity is presently in place and all of CSU's residence halls have been wired for access control and CCTV.

The access control system makes use of a CSU fiber-optic network that includes several hundred miles of cable. Software has been installed in a file server located at one of the residence halls, and the program can be

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operated from any of four workstations located in the Housing Services Center area.

HID Miniprox card readers and HES Innovations electronic door strikes at each access point are controlled by LNL1000 Lenel Intelligent Controllers, each of which can operate up to 64 doors. Information from the controllers travels along the campuses' 1 gB underground fiber-optic cable connection to the file server. Readers and door strikes are wired to the LNL1000 controller and controller modules via shielded copper wiring.

Data is accessed at four workstations, at Pott's office, a customer service area, the system administrator's office and the lock shop. The readers use HID ProxKey II and ProxCard II devices, and the doors are equipped with the HES strikes, magnetic contacts by Oregon-based Sentrol company, and passive infrared exit sensors by Detection Systems Inc., Fairport, N.Y.

Securitron delayed egress devices are used in remote locations on exterior doors where emergency egress may be needed in case of fire. In ordinary circumstances, a full audible alarm will sound for 15 seconds before the magnet releases to allow exit. But in case of fire emergency, the magnets will automatically de-energize to allow exit. This is accomplished through an interface with the Notifier fire alarm system.

Fire System is Upgraded

Along with the security upgrade, the residence halls' fire alarm system is also being upgraded. There are more than 100 devices, such as pull stations, smoke and heat detectors, flow switches, horns

and strobes as part of the system. Additional features include initiation of "trouble calls" and a full graphic interface with CAD maps of the buildings.

Three Levels of Security

Along with fire safety and external and corridor security, extra attention is being paid to students' security on an individual level. Five of the residence halls have what Pott designates as Level 1 and Level 2 security, with both external and internal corridor doors online. The corridor doors open to between 16 and 20 rooms. These corridor doors have card readers and strikes, and require a proximity device for entrance. Unlike the external doors, however, they are not monitored by the B.A.S.I.S. system.

Every resident is issued a key, either manual or prox, for exterior doors. Students are given access to all floor

sections during the school year, with the exception of the remote fire tower doors, which can be exited but not entered. "In general, we do not want students to enter through these doors because they are in remote locations. We encourage entrance through the primary entrances to the residence halls," Pott says. During the summer conference season, access is limited to specific floors and times of day, and separate cards are issued to participants.

Most student rooms feature a combination of Corbin Russwin Corbin 3400 series lever locks and Corbin Russwin Pearce series locks. All are heavy duty cylindrical locks with removable cores and Emhart High Security cylinders.

The Offline Program

At present, 20 student room doors in Parmelee Hall, as part of a pilot program, have been fitted with stand-alone battery-operated B.A.S.I.S. V Proximity locks. In addition, B.A.S.I.S. V Dual Validation (mag stripe/keypad combination) locks have been installed on doors to all of the residence halls' community bathrooms.

Community bathrooms are considered vulnerable, particularly after the 2002 assault. "Seven of our buildings have community bathrooms and we have installed 104 Best Access locks in these rooms," Pott says. "The locks require a PIN code which is specific to the building and set up by gender."

"The B.A.S.I.S. system integrates online and offline locks," explains Pott. "You can manipulate the online locks from the centralized points, while you must visit the offline point and download information to (and from) it with a personal data assistant (PDA). The soft-

ware itself doesn't differentiate between online or offline locks."

Data downloaded onto the offline units (from a PDA) includes access levels, time zones, and individual user identification. Door modes can be scheduled as can specific entry modes (such as whether the unit will take a mag stripe card or a PIN code), says Lee Knight, account manager and a systems integrator for Best Access Systems. "These are online features built into an offline lock."

Of the 20 individual room locks in the pilot program at Parmelee, each has a manual key override for emergencies. These manual keys are issued only to emergency personnel. Fire department keys are in a KNOX Box at the entrance to each residence hall.

Police Patrols, Staff Contribute to Security

Pott is in charge of a highly-self-sufficient housing staff of 42 full-time trades people, including carpenters, locksmiths, electricians, control technicians, fire alarm specialists, plumbers and painters. In addition, his department uses personnel from the campus police department for extra patrols, which it subsidizes.

"Our campus police are a fully certified law enforcement agency by the State of Colorado. We have uniformed officers patrol the housing grounds and halls daily and nightly. In addition, we use campus services officers, who may perform escort services for residents," says Potts.

In the residence halls, front desks are staffed day and night. Custom control panels in the five buildings with card reader access allow front desk workers to see at a glance if there has been a security breach, by means of a light system that is green when normal,

amber when a door is opened and red when a door remains open outside operating parameters.

Future Plans

"The next phase of our project will be to hardwire the corridor doors in our two 12-story high rise facilities," says Pott.

Of the five buildings with mechanical access, CSU plans to bring two online per year, in its phased implementation of electronic access control. "Three of these five buildings have been targeted for either extensive renovations or demolition and replacement in the near future," he says.

"In addition, a new, 660-person residence hall is under construction, and we are considering putting all three levels of security into it (covering exterior, corridor and room doors)"

Positive Student Reaction

How have the students reacted to the new security measures? "We recently surveyed last year's residence hall students and found that their perception is that safety and security have increased tremendously in the halls," says Pott. "Most of the students on our pilot floor at Parmelee Hall (with offline, battery-operated locks) are excited to be participating in the program and view it as a positive step.

"Seventy percent of our students at the residence halls are new freshmen, and each year we get to teach them from the beginning to use basic security measures. While some come from high schools that have electronic security, others come from towns where people don't even lock their doors," Pott says. ■

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