



The Greater Cleveland Transit Authority (GCTA)



operations smaller than ours. An integrated system gives the centralized command and control a large organization like ours needs; its operating expense is lower once it is installed."

Another important characteristic of the Continuum system, Buckner says is the fact that its intelligent remote controllers will continue to operate if there is a network failure. Under the previous hardwired system, a network failure would either cause access points to run in a degraded mode--providing access but no information--or lock down and not work at all. "The Integral Technologies ACX access controller has all the intelligence needed to keep the local units running and gathering data," Buckner says.

"When the network recovers, the data it collects is uploaded to the central site, so nothing is lost."

Finally, Buckner praises the Continuum's ability to create pre-formatted and ad hoc reports quickly and easily. "One of the powers of the [Integral Technologies] system is its ability to go to the report writers, let us define an ad hoc report and get it in an electronic format that I can e-mail or fax to someone who needs it," he notes. The difference, he believes, is in the Continuum's Windows NT operating system, which enables him and his staff to make simple point and click selections. Previously, Buckner was limited in the ways he could format a report. He could generate a Word document, but not an Excel spreadsheet. "The Continuum gives me output in standard formats as well as a comma delimited format, so I can do anything I want to with it," he points out.

The reporting capability has helped to dramatically reduce the number of security breaches throughout the RTA. Every week, Buckner creates reports of security breaches and e-mails them to the appropriate Single Access

Control Coordinator (SACC), who controls access in an area. The SACC investigates each breach and corrects its cause. The reports enabled one SACC, who had logged 80 to 90 breaches a week, to reduce them to an average of two.

Chief Joyce's vision has paid off since he started integrating the security system in 1991. "The transit system was viewed as a dangerous place then," he said. "But in our latest surveys, the most important issues to passengers were on-time service and the cleanliness of buses. Personal safety didn't even make the first five."

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Joyce expects the Continuum system to play an important role in the RTA's future. Data gathered from the integrated system can be tracked and enable the Transit Police to anticipate needs and determine if their responses affected the number of incidents. Joyce also plans to enable transit police officers to file reports on their own laptop computers and upload them to a central database, where they are accessible and useful.

"We looked at several alternatives before we started this major upgrade and none of them matched [Integral Technologies'] range and functions," Buckner said. "We picked each system on its own merits--in fact, when we selected the CCTV system by Integral Technologies, I didn't know it was [an Andover company*]. I'm thrilled that we made the decision to go with Integral's Continuum systems."

*Integral Technologies Inc. and Andover Controls are wholly owned subsidiaries of Schneider Electric SA.



"Other Companies Can't Combine Access Control & Life Safety Like Integral Technologies Does."

Case Study - Transportation

Whether they take a bus to work, ride the train to the airport, or travel among the 59 municipalities it serves, Greater Cleveland Regional Transit Authority's (GCRTA) riders logged nearly 60 million trips a year. The RTA is one of the largest and most widely distributed transit systems in the United States. That makes it especially difficult to provide a safe environment for its 4 million riders and 3,000 employees and protect its many buildings, millions of dollars of physical assets and the more than \$30 million it collects in fares every year.

When John K. Joyce, the RTA's Chief of Police and Director of Security took his post in 1991, personal safety and protecting assets were long-standing concerns. "Personal crime and safety issues were always number one and two on our surveys back then," he recalled. His first step to

address the issues was to formulate a plan to integrate the four independent security systems he inherited. Over time he added CCTV in public areas and offices, electronic access control at RTA facilities and voice emergency call boxes for passengers and employees.

After six years of progress, Joyce hired Bernard Buckner in 2000 as Security Systems Manager to upgrade the existing equipment and oversee the integration of the system.

Buckner found that the RTA's 28 CCTV cameras, 750 controlled doors and between 8,000 and 10,000 life safety monitoring points were hardwired into a 20-year-old mainframe computer. The system had a number of operational drawbacks. For example, the mainframe was not Y2K compliant, so all 2001 entries had to be dated 1990; date entries were now being

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recorded incorrectly. The CCTV system recorded images on remote VCRs located throughout the RTA's domain, which posed a logistical problem because tapes had to be manually replaced and were time-consuming to review when there was an incident.

The RTA has the potential for many types of incidents. For example, almost all the money it collects is in small bills and change that is hard to control. To guard against loss or theft, the authority uses CCTV to follow fare boxes from the bus or train to devaulting stations, to an armored car.

Another potential danger comes from the compressed natural gas (CNG) that the RTA uses to power some of its vehicles. CNG, while environmentally friendly, is colorless, odorless, and more volatile than gasoline. While the gas contains an additive ester which gives warning of it being in the air, it requires diligent monitoring and quick reaction. So the RTA uses monitoring devices to detect CNG leaks and report them to the central station through the life safety system. It also tracks smoke detectors, fire detection and enunciation systems.

Key control, while much improved over the original master key system, had room for improvement. It was difficult to invalidate keys that were lost or held by former employees and doors could not be controlled remotely, so security or custodial people often had to travel to a remote site to open doors manually.

Joyce and Buckner began talking to the authority's

long-time system consultant, SimplexGrinnell, about upgrading and integrating the CCTV, access control and life safety systems. Buckner believed the most efficient and economical approach would be an integrated, networked approach that would consolidate control over all three systems. SimplexGrinnell recommended replacing the hardwired mainframe-based system with Integral

Technologies' network-based Continuum system and an analog CCTV system with another Integral digital system.

First Buckner had to convince the RTA's information technology department to let him switch from his collection of leased and dial-up lines to their system-wide Ethernet network. The Ethernet was used for everything from group-wide communications to time and attendance recording and went almost everywhere Buckner

needed a connection. However, the IT group was concerned about the network resources that the Continuum system would use. "But once we showed them the specs, they realized we'd use very little bandwidth," Buckner said. "Even with a lot of signals going off we would use just three to five percent of the bandwidth. Continuum just runs in the background and no one notices it." The IT group agreed and the RTA began installing the Continuum system in 2000.

The Integral Technologies digital CCTV system, with its networking support, provides the RTA with real financial and operational benefits. For example, the 28 cameras and 6 DVXi digital and 21 tape video recorders cover the path of the money from fares. Under the old system, the RTA dedicated a person to changing VCR tapes twice

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a week. The tapes, which can hold a month's worth of images, were brought back to the command center and stored. If Buckner's group was asked to document an incident, someone had to locate the right tape in the roughly 200 tapes on file and run it through a VCR until the incident was found. If the incident was recorded, Buckner's group made a copy. "It could be pretty time-consuming," he noted. "We spent between 14 and 19 hours a month viewing tapes and making a copy is a minute-for-minute commitment."

Today, the Integral system streamlines surveillance by enabling departments to access a digital video recorder over the network and view the images themselves on a local PC. Investigators simply type in the location, date and time they want to scan and the Integral system calls up images from the DVXi digital video recorders. "The only time the security department gets involved is if someone needs a copy of the images," Buckner noted.

The DVXi recorders have more storage capacity than the VCRs. One reason is that the new digital cameras have built-in motion detectors, so nothing is recorded if there is no activity. That boosts the DVXi disk's capacity to more than three times of that of the VCRs – an average of 3½ months of images compared with one month.

The Integral system also increases the level of service available to its users. Buckner recalled that a manager who was responsible for many physical assets and records felt he was imposing on the security department to pursue what he felt were minor issues. "He feels better now because the Integral system lets him review images at his PC without involving us at all," Buckner said.

Another benefit noted, is that if it automatically from the camera control station.

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of the CCTV's support, he there is an alarm, streams the video to the central

was upgrading system, he also year program access control systems and

integrating them with the Continuum system. The RTA controls about 750 doors and many more life safety systems, which include the CNG monitors, fire and smoke detection and enunciation devices, duress or "panic" buttons, and elevator and escalator monitors. Buckner says one of the biggest benefits of the Continuum system is that the RTA did not have to do anything special to piggyback any of these monitoring points on the network. "That's the benefit of a standards-based integrated system," he said. "Other companies have good stand-alone products, but most of them can't combine access control and life safety like Integral Technologies does," he says. "A decentralized system is more appropriate for

At-A-Glance

Project Type:
Digital Video Management Systems

Project Name:
Greater Cleveland Regional Transit Authority (GCRTA)

Location:
59 Municipalities in The Greater Cleveland Metropolitan Area

Market Segment:
Transportation

Equipment:
Continuum, DS XPress DVXi, RemoteView

Network:
Ethernet

Applications:
Digital CCTV
Video Storage
Access Control
Alarm Monitoring
Key Control
Intrusion Detection
Security Management

