EDUCATION

Project Profile

Continuum™ Security Provides Single Card Access and Decentralized Control at Georgia Tech

"Continuum's strengths—it's networkable, NT-based, and allows for distributed administration—matched Georgia Tech's needs perfectly. With Continuum, each college within the university could have control over their domain."

—Jim Coleman
President, OSS,
(and a proud Georgia Tech alumni)

From its beginnings more than a century ago, the Georgia Institute of Technology has established a tradition of excellence in technological research and education. Founded in 1885, Georgia Tech has long been considered one of the world's premier technology-oriented universities, boasting a highly-respected faculty of world-class teachers, researchers, and consultants, and home to the prestigious Georgia Tech Research Institute (GTRI), a government sponsored-research center located on the school campus. Situated in downtown Atlanta, more than 160 buildings exist on this urban 350+ acre campus where 20,000 students, faculty, scientists and staff attend classes, teach, and conduct research.

Emergence of the Single Card Access Control System

Like many research universities, Georgia Tech's facility management is decentralized with operational control and responsibility for each building residing with the department occupying the facility. Access control needs range from low to very high security requirements. Over the past 20 years, various departments and agencies at Georgia Tech installed several types of keyless entry systems in over two dozen buildings on campus. There was no integration among these systems—several different access cards were in use, a single database did not exist, and compatibility and maintainability was a constant concern. Added to these issues, it was cumbersome to change door schedules, add or delete access privileges, let alone service any of these systems. These concerns, coupled with questions of Y2K system compliance, were the impetus in 1998 for the Administration to form a steering committee consisting of staff/faculty/student representatives to identify a *single* system capable of meeting campus-wide access control requirements at Georgia Tech.

System Requirements

Early on, the steering committee determined that the new security system should be capable of integrating access control, burglar alarms, and also CCTV, if needed, for the high security research areas. And while the access control system needed to be *separate* from the system used for campus retail operations (i.e. food service, bookstore, parking, etc.), the university wanted to issue only *one* card to the faculty, staff, and students to use for both security *and* retail purposes.

Andover Controls

There were several other requirements that the committee made top priorities in selecting a new system. The system must be able to accept multiple card technologies, i.e., magnetic stripe *and* proximity. In addition, the specifications also required that it operate over the campus' existing LAN (Ethernet TCP/IP), be expandable to more than 120+ buildings and 100,000+ cards, incorporate a batch add/delete capability (sometimes as many as 1500 personnel files at a time) to accommodate the after-hours access needs of various departments, and a time-and-attendance reporting function.

Equally important as the one card concept, this system had to allow for distributed network operations. A single agency would provide campus-wide *centralized* system security and data base management and support, but with *decentralized* operation and control by the individual academic departments. Each department felt strongly that they wanted to retain control of faculty, staff, and student access to their buildings and high tech/computer laboratories; monitor their facility's use; and determine all associated lock/unlock door scheduling.

Georgia Tech Selects Andover Controls

In search of a card access system with "off-the-shelf technology" to meet the unique requirements of Georgia Tech and those of GTRI, the steering committee narrowed the field of potential contenders. In the end, they selected an Atlanta firm, *Operational Security Systems, Inc.* to design, install, and maintain an Andover Controls *Continuum*™ Security Management System.

Jim Coleman, President of *OSS* (and a proud Georgia Tech alumni!) says *Continuum*'s strengths—it's networkable, NT-based, and allows for distributed administration—matched Georgia Tech's needs perfectly. "With *Continuum,"* states Coleman, "each college within the university could have control over their domain. This was extremely important to the Georgia Tech community. Plus, the university wanted a manufacturer with a long record of security product development and stability willing to partner with them. Andover Controls fit the bill!"

Georgia Tech Police Department Named Central Administrator of SCAS

Due to the unique manner in which the security card access system was structured and operational functions were established for the campus, the university designated the Georgia Tech Police Department as proponent and central administrator for the campus Security Card Access System (SCAS). To accomplish this mission, the Police Department appointed Mike Pearson, their Physical Security Specialist, as the program manager, assisted by Steve Travis, the department's Computer Support Specialist.

Because of the unique security requirements of the Georgia Tech Research Institute (GTRI), it was determined that a totally separate *Continuum* system would be installed for their facilities. As such, responsibility for central administration of this system resides with Bob Lang, Director of Security. System design and implementation is being facilitated by J. Kurt Aikman of GTRI.

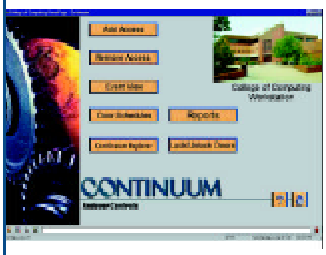
Installation of SCAS began in June of 1999. First, *OSS* converted the existing access systems in 19 buildings on campus to Andover *Continuum* and then expanded *Continuum* into several new buildings. As was the case with the initial change over, Mike Pearson coordinates and monitors all SCAS requirements—number, type and location of card readers, price quotes and associated funding, as well as timelines for installation and training on the system. At the present time, the *Continuum* system controls 30 buildings with 360 card readers and continues to expand with the addition of buildings and individual card readers on doors to high tech areas around the campus. Currently, GTRI is installing 145 card readers in 11 buildings, six of which are located approximately 25 miles north of the campus.

The Buzz Card

Georgia Tech's ID card, called the "Buzz Card" after the school's mascot, the yellow-jacket bee, is used as the access card for SCAS. Two different versions are issued. The standard campus Buzz Card incorporates both magnetic stripe and bar code technologies so it is used as a library card, meal card, and debit card, as well as an access control card. In addition, several facilities on campus opted for the more secure capability provided by proximity technology. As such, a limited number of Buzz Cards have the addition of a prox chip in them which allows designated individuals access to those sensitive areas on campus that have been outfitted with proximity card readers. To assure access for all personnel at GeorgiaTech and to meet ADA requirements, specific doors have been equipped with proximity card readers, as well. Due to the higher security requirements of classified research areas, GTRI's security access control system uses strictly prox card technology, readers, and keypads.

The campus "Buzz Card Center" produces the badges. Requisite data is provided to the Center by several offices on campus, including the Registrar Office, Admissions, and Housing. On a daily basis, the Buzz Card center transmits cardholder changes to the SCAS central *Continuum* SQL database, located in the Campus Police Department. The Police Department uses a Dual Pentium III arrangement as the main server with a Microsoft Cluster server for redundancy. Currently, the SCAS database contains more than 40,000 records. The GTRI system is comparable, but is not linked to the Buzz Card data bank. Additionally, the GTRI system is automatically backed up daily to a secondary server, creating daily history for one month and monthly history for one year.

Decentralized Control and Monitoring



Each department at Georgia Tech administers SCAS for their facilities via their own dedicated front-end workstation. According to Matt Barnette, Eastern Regional Sales Manager for Andover Controls, there are currently 26 *Continuum* CyberStation™ Windows NT workstations networked on the campus Ethernet. This arrangement allows the departmental administrators to exercise complete autonomy in determining access into their respective sections of a building or buildings. This method of decentralized control is key at Georgia Tech, and an essential requirement that was established at the outset by the steering committee. "What's more," says Barnette, "Georgia Tech can easily deploy additional workstations anywhere on the campus without any costly system upgrades."

Each department establishes their own standard and holiday door schedules, adds and deletes personnel records, handles visitors requests, monitors access events, and prints their own reports. To make it easier for departmental administrators to use the *Continuum* software, Steve Travis designed simple graphic menu screens for many of the common functions. They simply click on bright yellow screen buttons to "Add Access," "Remove Access," "Lock/Unlock Doors," etc. Access into each department's "portion" of SCAS is password-protected so no other department has access to another department's information. And although the Police Department programs access for their officers to all exterior doors on campus, each department decides whether to allow the Campus Police access to the interior doors in their buildings. And for obvious reasons, the Police Department can suspend universal access for a Buzz Card reported lost or stolen. Other than those two functions, each department exercises complete autonomy over their respective areas.

Another significant plus has been realized, according to Mike Pearson. By "decentralizing" control of SCAS to the individual departments and greatly simplifying the typical operational functions, an individual that is already employed within the department can easily take on the SCAS administrative duties. "Using talent that's already onboard eliminates the need for Georgia Tech to hire additional personnel, let alone create additional office space to handle these duties," says Pearson. "Plus, the departments feel more comfortable and in control making their own access decisions. It's a win-win situation for everyone!"

At GTRI, the Continuum access control system and CCTV feeds are integrated into the GTRI Security Command Center console. Console operators monitor and record access control and CCTV events 24/7.

The SCAS Web Page

If faculty, staff, or students have questions about the Georgia Tech SCAS, the answer could be just a click away! A direct link off the Campus Police home page (http://www.police.gatech.edu) provides a comprehensive overview of the Georgia Tech SCAS, including how the system works (with an easy-to-understand schematic), "Frequently Asked Questions," system specifications and computer requirements, training information, troubleshooting, and SCAS "Points of Contacts." The web site clearly demonstrates not only how well thought-out the implementation of the new security system has been, but also the quality of support the Georgia Tech Police Department continues to provide SCAS users.

Future Projects

The *Continuum* SCAS continues to expand at Georgia Tech with additional campus buildings coming on-line and new security applications implemented every month. Currently, plans are in the works to add 11 academic buildings to the system, with a follow-on goal of integrating all of the major facilities on campus into the system. GTRI has comparable plans under review to expand their system to 400 card readers covering off-campus facilities in several different states.

Capitalizing on the flexibility of the Andover system, Georgia Tech is considering various initiatives that will enhance the security of high tech/high value electronic equipment located in many of their facilities. By attaching alarm sensors to these items and linking these sensors to *Continuum*, any attempt to remove an item will automatically page designated personnel, activate a local annunciation alarm, and simultaneously transmit an alarm to the GTRI Security Command Center's *Continuum* workstation.

"In addition, we recently demonstrated our new product, Andover Controls' web.Client, to Georgia Tech's security personnel," says Andover's Barnette. "This new web interface fits right in with Georgia Tech's decentralized access requirements by allowing individual departments to access and modify personnel records using any computer and web browser. Andover Controls' web.Client will reduce costs, training. and support issues for Georgia Tech, while increasing functionality. Eventually, their whole system could be web browser-based!"

Project at a Glance

Project Type:
Security

Project Name:
Georgia Institute of Technology

Location:
Atlanta, Georgia

Market Segment:
Education

Number Of Buildings:
160+

Total Area:
350+ acres

***Continuum* Equipment Installed:**
30 – NetControllers
360 – AC-1 Access controllers
26 – CyberStation front-end workstations

Network:
Fiber Optic LAN (Ethernet TCP/IP)

Applications:
- Access control
- Security management
- Alarm monitoring

Number of Controlled Doors:
360

Number of Cardholders:
20,000+

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