

North Carolina State University

North Carolina State University, located in Raleigh, NC, has approximately 35,000 students, 8000 faculty and staff, over 2000 acres, 500 buildings, as well as critical infrastructure installations such as a nuclear reactor and other sensitive biological and animal material-handling sites. After the 2007 tragedy at Virginia Tech, universities have redoubled efforts to deploy security technologies that more effectively protect people and assets while still maintaining a relatively open environment, which is a hallmark of America's universities.

The Challenge

"NC State is the size of a small town," said Scott McInturf, Director of Security Applications and Technologies (SAT). "Our job is to provide the technology to efficiently and effectively protect all these assets in an urban environment with a dynamic population comprising more than 60,000 people on any given day."

NC State spent one year evaluating network video management systems. Key selection criteria included scalability, capability to fully utilize and sit atop the existing campus network, and integration capability with future security management systems. The DVTel Network Video Management System (NVMS) was chosen because it successfully met these criteria, but it also offered much more. The NVMS provides a highly user-friendly interface and, importantly, it easily partitions so that each individual "customer" department accesses only their video data while University Police and other university staff have access to all video. "The DVTel system fit our criteria: we didn't need a separate, dedicated security network and it has been growing with our needs as we rapidly add users and cameras," said McInturf.



The Solution

The NC State installation has over 650 cameras located in multiple departments across campus. The university network has ample capacity for the project to scale substantially as demand and budget dictate. The project is unique and innovative in that one department, Security Applications and Technologies (SAT), manages the servers, storage, and overall technology while offering each campus department the opportunity to purchase and integrate the cameras they need into the campus standard. As new buildings are built or when a department expresses security concerns, SAT, in cooperation with the University Police, serves as a security consultant, providing the standards and criteria new users need to address. All parties agree on a security template for the building(s) and AllCampus Network and the project integrator, Signet Technologies, supply the "customer" with budgets, project management, and technical support.

Video is used for live monitoring and extensive incident review. All video is maintained in a central secure location, so departments don't have this responsibility and the university knows that data is safely stored. Each department has access to only their camera data, and they are able to maintain their systems with autonomy while still being part of a larger campus-wide system. In addition to university departments including the Engineering School, the Veterinary School, campus convenience stores and cafeteria, the Higher Education Department, and multiple administrative buildings, AllCampus Network offers security services to non-University customers such as the North Carolina Department of Natural Resources, located on campus.

The Highlights

Very early, McInturf determined that the university's robust network provided the unifying element for a campus-wide security model.

As the command and control software, the iSOC NVMS accesses and correlates camera data from over 650 cameras and counting. The cameras are deployed throughout the campus and SAT currently serves over 80 separate administrative groups.

The partnership between NCSU and Signet Technologies has provided a solid foundation for the success achieved to date. The two parties have found a perfect delineation of roles—Signet stays on the cutting edge of technology, SAT hones the implementation design, and together they map out the long-term plan—while simultaneously integrating their teams to achieve the most effective security system at the best cost.

Video is used for live "hot spot" monitoring and extensive incident review. The NVMS' partitioning capabilities enable each department to view only their video while senior university administrators, security personnel, and police/fire can access all video feeds.

The DVTEL system's flexibility, ease of installation, and scalability fits NC State's current demands and plans for growth: "With the expansion of campus and other State agencies using our system, this system could grow to thousands of cameras," McInturf asserted.

AllCampus Network stores and maintains all video and manages the overall infrastructure. End user departments are responsible only for their own cameras.

While each department has access only to their camera data and their access control data, they can maintain their systems with autonomy while still being part of a larger campus-wide system that offers system uniformity, economies of scale, and constant innovation and improvement with each new installation.

Security Applications and Technologies stores and maintains all video for 30 days and manages the overall infrastructure. End user departments are responsible only for the operation of their own cameras—everything else is taken care of for the customer.

The DVTEL system has proven successful in meeting a varied set of demands. For special needs such as a cash counting room and in the rare books section of the library, individual cameras are programmed to record at higher frame rates and to store video for longer periods of time. The rare books section of the library stores data for an unheard-of 365 days.

Significantly, the security system has proven effective in using video data not only to solve crimes but also as a training tool to improve operations in university convenience stores and dining halls.

NC State is a model project for other universities and multi-site, campus installations: a single, central managing organization "sells" the transmission, storage, and management of the video to different customers who have the cameras. The departments get in-house expertise and service, and superior video, and the university knows the campus is safer, costs are managed effectively, and there is uniformity in quality and operations.

Visit us at www.dvtel.com

Future Innovations

As the partnership between NCSU's SAT and Signet Technologies continues to expand and their number of customers grows as well, McInturf and Walker are constantly evaluating new technologies and methods to expand the project and make it even more efficient and effective. Some ideas currently being evaluated include:

The team is testing a range of IP and megapixel cameras for future deployment.

Currently, all parking gates are managed by a separate software program and McInturf is assessing the integration of parking management to unify data and reduce the number of systems needed to manage.

Continued expansion of services to corporate and government customers on Centennial Campus to increase project revenues—not just cut costs.

Establish a Command and Control Center where all data and all alarms will be managed in order to more effectively back up and supplement each department user.

Signet continues to explore analytics with the SAT group: analytics for people counting and crowd management. Walker and McInturf are working on plans for video surveillance at all campus entrance points for license plate recognition and to set up a "virtual gate" using RFID technology to monitor parking permits when entering campus.



DVTel, Inc. USA
65 Challenger Road
Ridgefield Park, NJ 07660
Main: +1 (201) 368-9700
Fax: +1 (201) 368-2615

DVTel, Ltd. EMEA
7 Lancaster Court, Coronation Road
High Wycombe, HP12 3TD
Main: +44 (0) 870-240-0716
Fax: +44 (0) 1494-446-928

© 2008 DVTEL, Inc. All Rights Reserved