



City-Wide Surveillance Case Study

Sanford Expands City-Wide Installation of Genetec Solution to Manage and Protect Newly-Built Public Safety Complex

The city of Sanford, Florida, is located less than 30 miles northeast of Orlando and serves as the seat of Seminole County. It is well over 130 years old and home to a diverse population of just over 53,000. The city is a hub for rail, water and air transportation, and is a provider of sewer and water utilities to surrounding communities. In November 2010, the city unveiled a new 75,000 square foot Public Safety Complex housing both Sanford's Fire and Police headquarters. The state-of-the-art building is constructed to withstand 150mph winds with airborne missile impact resistance, and serves as the city's emergency operations center.

The Business Challenge

Over four years ago, Sanford enlisted SiteSecure, a Genetec Unified Elite Integrator specializing in municipalities, to build surveillance installations for several of the city's facilities. John Grocke, Design Engineer and Project Manager at SiteSecure, recommended and installed Genetec's [Omnicast solution for video surveillance](#) at several water treatment plants and well facilities. SiteSecure later installed [Synergis](#), [Genetec's access control solution](#), at the City Hall. A major factor in choosing Genetec for Sanford's security needs was its ability to federate several distinct facilities under one umbrella allowing all data to be unified and managed as a single system.

When plans were drawn up for the city's new Public Safety Complex, Mr. Grocke knew that the security needs would be much different, and far more advanced, than in any of the previous deployments. The new system would not only need to bear a large increase in camera and access-control load, but also be flexible enough to meet a long list of requirements.

Housing both the fire and police departments under one roof would pose some unique challenges due to accreditation rules requiring police and fire activities and records to remain strictly separate. Additionally, a facility like the Complex would be subject to a number of other demands stemming from legislated rules about evidence information handling, management of suspects and other law enforcement practices. To accommodate these varied stipulations, permissions for video and access control would need to be highly specific, requiring a system with incredibly fine-grained and flexible permissions control. Additionally, the new critical facility's security system would require seamless integration with an array of third-party hardware designed for advanced security applications.

After evaluating the available options and considering the city's existing infrastructure and federation capabilities, Mr. Grocke decided that Genetec's [Security Center unified security platform](#) would be best suited to meet the facility's high-level needs. He started configuring layouts for the planned installation of Genetec's Security Center 4.0, comprising both Omnicast and Synergis systems. During construction of the complex, SiteSecure updated the city's federated Synergis server (at the time serving only City Hall) to Security Center. The city also updated and augmented the city's storage arrays to accommodate the 300% increase in camera load, up from only a total of 20 cameras at the water facilities.

The Perfect Solution

Despite the level of sophistication of the system, the installation of the Security Center platform went remarkably well. When construction was complete, 83 cameras were installed at the complex. Fourteen cameras, including six outdoor-ready [AXIS Q6032-E Fixed Dome PTZ \(pan/tilt/zoom\) Network Cameras](#) and eight fixed [AXIS P1343-E Network Cameras](#) were installed to monitor the parking lot and building exterior. The remaining 69 cameras, mostly [AXIS P3343-V \(vandal resistant\) Fixed Domes](#), monitor the building interior in various capacities.

The selection of cameras provides an exceptional mix of indoor and outdoor coverage, and gives the police and security personnel tools to maximize efficiency. AXIS Q6032-E PTZ cameras provide high-performance, continuous motion with unique E-flip functionality, and the camera comes equipped with 100 presets, 360° endless pan and intelligent Guard Tour. Should Sanford require additional functionality in the future, embedded motion detection in each of the PoE-powered camera models can alert the staff to alarm events. Additionally, to maximize on storage resources, each camera has H.264 compression functionality to reduce bandwidth and storage, but also has a Motion JPEG option for live viewing capability.

The Synergis system includes 78 access-controlled points covering a myriad of uses such as parking gates and sally ports for detainees. Sanford put Genetec's open and flexible access control system to the test by incorporating a number of third-party hardware integrations, including:

- duress buttons in interview rooms (HUB-M Panic Buttons), which trigger strobe light alerts (SW-P Strobe w/ LENS-B Blue Lens);
- microphones (Lourde Verifac A Microphones); and
- alarm triggers (HID VertX® V1000s and [V200/300s](#)) connected to perimeter and rollup doors, as well as storage facilities.

Access control is provided with HID Global's PoE (Power over Ethernet) [EdgeReader® ER40s](#), [EdgePlus® E400s](#) and [Vertx® V100s](#).

To meet the accreditation requirements, Synergis is configured with a hierarchy of advanced permissions for various areas. The departments share common areas like the gym, but all other doors are under the strictest control to keep the right personnel in the right areas. Moreover, Chief Brian Tooley of Sanford's Police Department had certain high-security areas such as the evidence room and armory protected by advanced access control measures, including HID bioCLASS biometric keypad smart card readers.

Sanford's Security Center runs on two [IBM Blade servers](#) and an 18 terabyte SAN (storage area network). The server room is mirrored at City Hall with redundant connections as a failsafe. The Complex can be overseen at any time from three monitors managed by Security Center. At night, a patrol officer monitors the grounds as well. In addition to using the system for live monitoring, video is stored for a minimum of 30 days, as set by state law. The Public Safety Complex also serves as an emergency operations center for the city, and the workstation can pull up all cameras (excepting the investigation rooms, which are sandboxed with specific permissions) across all facilities under the federated system in the



event of an emergency.

The Benefits

Of all the advantages afforded by Security Center, the greatest quality it has provided Sanford is its extreme flexibility, while still providing a highly robust system.

Integration between the various components has allowed normally unrelated pieces of hardware to interact with each other, creating an efficient and responsive system able to handle all the needs of this highly sensitive environment. For example, when certain doors are forced open or held open for a period of time, the door contacts trigger HID VertX® output modules to alert a third-party security monitoring panel, which then sends an alarm to an offsite monitoring company. Simultaneously, the system pulls up the appropriate camera on the monitoring panel, facilitating timely response to any potential threat.

This same flexibility has also allowed Sanford to simplify its system. Where the police department used to require a completely segregated video surveillance system (monitoring, network and storage) for the interrogation rooms to ensure only appropriate access to the data, the new system did not require such drastic measures. Omnicast's detailed control over permissions has allowed the interrogation video feeds to simply be programmed as viewable only by the appropriate investigators. The discrete cameras located in interrogation rooms send feeds directly to a viewing station that remains independent of the main monitoring panel, but the video data can be archived centrally without running the risk of breaching clearance levels.

Moreover, the system efficiency has increased. Fine-grained permissions allow time-specific access, enabling control over visits from warranty technicians. Having the platform tied to the IT network also allows the city's IT department to do most of its own maintenance, keeping the system at peak performance. The management of these very intricate permissions can be handled and overseen remotely by the IT department, allowing a simple way to keep the system up to date without having to physically send someone to the facility.

The various pieces of hardware incorporated into the platform were also carefully chosen for the benefits they offered. The Axis cameras were selected specifically due to their ease of installation and decreased overall costs. Using PoE cameras allowed Mr. Grocke to coordinate with the building design and IT teams so that when the time came to install cameras, the only thing left to do was connect the hardware to the provided CAT6 cable, mount the camera and configure it for Omnicast. In addition to providing lower overall hardware and installation costs, Axis and Genetec's support for the H.264 data format allowed for lower video archiver and network bandwidth costs, while also providing higher image quality. The P1343-E and P3343-V cameras also provide an auto back-focus feature so that adjustment of the camera images can be done remotely without having to physically climb a ladder and disassemble camera housing. These features compliment and strengthen the Security Center platform, and together the two comprise a formidable solution.

In the future, the city is looking at adding some access-controlled points and cameras to lower priority areas. "One of the great things about this system is how easily it can be expanded," said Mr. Grocke. "In a critical facility like this with such complex security needs, it's great to be able to quickly add a new piece of hardware without having to reconfigure or rewire the whole system. Using PoE [Power over Ethernet] reduces complications and costs, and the extra money can go towards more doors or cameras, creating an even larger coverage area. Plus, the edge devices and distributed architecture have allowed us to majorly downscale the amount of physical space we devote to IT equipment -- now it's just the size of a broom closet, instead of a whole room!"

"Genetec's Security Center has met all of our sophisticated needs for video surveillance and access control, and afforded a few additional perks above and beyond. As an example, the ease and speed with which we can navigate video footage allows us to efficiently use our archives in an audit capacity if a concern arises about evidence handling. All the data is organized in an intuitive manner, and we can go back after the fact to track an item from the time it landed in our hands to the time it left, moment by moment, to assuage concerns or prove validity in a court of law," said Nicholas McRay, Senior Project Manager at the City of Sanford.

"My colleagues at the station and I have been very pleased with the new Security Center. It's so user-friendly, we've fallen into it without a painful or lengthy learning curve to hinder our ability to do our jobs. Our last building used an elementary setup -- we used to have physical keys to access various parts of the building, which was cumbersome and inefficient. Synergis has made our lives much easier. All we have to do is swipe our badges and if we're cleared to enter that space, the door unlocks. We're very happy with it," said Sergeant Dave Morgenstern.

"Security Center is a platform that can address all of Sanford's needs, allowing us to create the federated system that we now have serving several types of facilities simultaneously. We never need to cross-reference information between discrete solutions across the city -- it's all tied in. It works well for us, and it suits the widely varied needs of a municipality," said Nicholas McRay.

