Giant Project Stands Tallest
in the BIG APPLE

The scale and scope is staggering. Integrator Security Management Systems designs and deploys a comprehensive security solution featuring 1,183 cameras for a Manhattan-based development's 110-building, 80-acre site encompassing more than 30,000 residents. See why the amazing multiyear project won *SSI*'s 2011 Integrated Installation of the Year Award.

Peter Cooper Village/Stuyvesant Town is a sprawling collection of red brick apartment buildings on the East Side of Manhattan in New York City.

By the Editors of *SECURITY SALES & INTEGRATION*

Our story begins in 2005 when Rose Associates on behalf of New York City's Peter Cooper Village/Stuyvesant Town — one of the world's largest apartment complexes — issued a request for proposal (RFP) for the design and upgrade of an integrated video surveillance and access control solution. A "city within a city," the private housing community located on the East Side of Manhattan comprises 110 buildings on an 80-acre campus.

In 2006, Great Neck, N.Y.-based Security Management Systems (SMS) was awarded the contract to engineer, install and manage the construction of campus-wide security upgrades following a competitive RFP process that some of the largest security integration firms in the country bid on. The new security system was part of a major renovation project at the complex that included new walkways, lobbies, elevators and playgrounds.

Still in progress today, the sheer magnitude of the project alone is impressive. But what really set it apart to earn SMS *SSI*'s 2011 Integrated Installation of the Year award was the firm's success in implementing a best-in-class security system, on time and on budget. In addition, it was accomplished without downtime or disruption of services to the sprawling, iconic housing community.

Launched in 2002, the Integrated Installation of the Year program judges entries based on innovation; systems design; integration of at least three electronic systems; seamlessness of installation; uniqueness of application; and end-user satisfaction. Other particularly worthy finalists this year were Johnson Controls Inc. (JCI) of Milwaukee and Stanley Convergent Security Solutions (CSS) of Naperville, Ill.

© Getty Images

Adept at Advanced Solutions

Founded in 1978 by Al Albrecht, together with son Craig, SMS is staffed by industry-leading technicians, engineers and programmers who design, build and manage a full range of integrated security systems. The company, which places special emphasis on remote support and managed services, also offers expertise in access control, video surveillance and analytics, intercom systems, turnstiles, perimeter/intrusion protection and mass notification systems.

"While SMS has a core competence in physical security applications, we take it a step further by providing an IT-centric approach to deployment and ongoing support. This way our clients receive high availability of their applications that are easily scalable as their needs grow," explains Craig Albrecht.

SMS has designed and managed enterprise security systems for some of the most notable and recognizable buildings in the Big Apple. The independent integrator serves a blue-chip client roster including *Fortune* 500 companies, government agencies, multitenant residential developments, commercial high-rise facilities, hospitals, and K-12 and higher education campuses.

Securing a Small City

Most towns and many small cities have fewer residents and visitors than the 30,000 inhabiting Peter Cooper Village/Stuyvesant Town, a collection of red brick apartment buildings containing one- to five-bedroom units. The non-gated complex, with 11,250 apartments, stretches from First Avenue to Avenue C and from 14th to 23rd Streets.

Overlooking the East River in Manhattan, the apartment buildings are set within a beautifully landscaped park. In addition to many playgrounds and athletic courts, the community offers on-site parking, storage, a seasonal green-market, and free music and movies on the Oval, the center of the complex.

Firms were requested to design and construct user-friendly, fully integrated systems that would maximize the efficiency of an already professional and well trained security force.

"In New York City, and other major cities, security is essential but also an amenity that ensures tenant and visitor safety," Al Albrecht (referred to as Albrecht for rest of article) explains.

Among the many objectives of the project: accelerating awareness of incidents requiring response and rapid access to archived video for forensic review. After an extensive and lengthy evaluation process, SMS was chosen by Rose Associates.

"SMS demonstrated to management that our solution provided superior performance. Our team also detailed how we would be able to manage the installation of more than four miles of conduit, cabling and devices with a streamlined, methodical approach," says Albrecht. "The specifications were generic so we surveyed the project building by building to determine optimum access control, and camera locations in conjunction with available power and other building services."

The first phase of the installation spanned three years and was completed in 2010.

Designing a Grid for Success

The massive project presented two primary challenges. SMS was able to address and solve both of them — power and the lack of existing infrastructure — with innovative solutions.

Each of the 110 buildings required power for cameras, plus uninterrupted power supply (UPS) backup for access control and locking hardware.

1

2

3

1 SMS project engineers review schematics at one of five security hubs. Each room is equipped with APC UPS backup power, Verint camera encoders, video servers and video storage, in support of about 20 buildings and the residences.

2 An SMS onsite manager examines one of the custom-designed low-voltage power and data distribution frames that power Pelco video cameras, locks and UPS backup for lobby doors.

3 Activation of Commend call boxes automatically focuses nearby cameras on the event and provide two-way communication with the command center.

The existing battery-equipped solutions were determined to be unfeasible due to the limited amount of space in each of the buildings to accommodate the batteries for the UPS backup.

Instead, SMS engineers devised a novel solution that would fit space restrictions and satisfy significant power supply requirements. The firm designed an innovative, low-voltage power and data grid to concentrate and distribute power from 35 fused distribution panel (FDP) locations where network fiber was also available. The grid is an impressive system with a custom distribution frame in every building.

selected Winsted to provide a custom-designed console for four workstations supporting an array of eight 42-inch and 16 20-inch monitors. Up to four security personnel at a time, which are deputized by the New York Police Department, monitor the facility's bank of screens.

For monitoring purposes, the complex is divided into three geographical areas. Alarms are routed to one of three workstations in the command center, with alarms in the queue automatically routed to an alternate workstation. The fourth workstation serves as a "catch-all," receiving alarm events from the entire complex. "This redundancy in

When there's an alarm event, the system programming automatically assigns predetermined camera views. A lobby door being forced open triggers a programmed response calling up views from all nearby cameras. Similarly, if a tenant uses an emergency assistance phone, the audio channel is opened, while cameras on the call box and adjacent buildings will appear on screen for a simplified, informed event response.

As part of the programmed response, when cameras detect activity in the field of view, the capture frame rate is automatically increased to a predetermined setting to provide greater detail

4 All six indoor parking facilities utilize HID card readers and parking gates. The integrated system provides access control and validation for billing purposes for a third-party operator.

5 Security personnel monitor activity from a command center equipped with 24 monitors. The system features a custom GUI that can call up any access control point, camera or group of cameras. A fourth workstation serves as a catch-all to back up the three manned stations.

6 SMS' Al and Craig Albrecht monitor network activity for many clients from its onsite managed services facility. SMS provides a full range of managed services, detecting problems and alerts, monitoring system servers, storage devices, applications and network infrastructure.

Camera, lock and UPS power for all the access control and security cameras in each building tower are terminated in the custom distribution frame supported by this low-voltage grid.

SMS acted as the general contractor on the project, provided engineering and project management, and utilized an electrical subcontractor to install miles of conduit for power, cable and data systems.

User-Friendly Command

During the course of the project, a more spacious area was designated for the new command center that is both functionally ergonomic and attractive. When tenants enter the management office, they are immediately struck by the massive screen-filled room that is visible behind glass, providing a reassuring level of safety and security.

Because of the IP system architecture the command center could efficiently be relocated anywhere on the network. SMS coordinated with the architect and

the system ensures that no alarm goes unanswered," Albrecht adds.

Critical to a user-friendly surveillance system for such a large complex is an intuitive graphical user interface (GUI). SMS developed a GUI that enables the security team to drill down from an overall site map. They can select to view a quadrant or single in on one building. The system architecture allows the user to select any one or a group of cameras in a given area by simply clicking an icon on the GUI. The sophisticated interface precludes operators having to memorize a specific camera number or location.

On a select number of cameras, SMS has deployed a video analytics platform by Verint. "The Nextiva analytics is a best-in-class solution that provides enhanced situational awareness, in this case, to detect loitering or unattended packages," says William Eckard, director of enterprise sales and strategic accounts for Verint.

for event video and reduce archived storage space. This advanced, highly programmed front-end is the result of integration of multiple products and SMS' customized programming.

SMS selected AMAG's Symmetry as the integration platform for both access control and video surveillance.

"SMS was instrumental in taking a conceptual design and delivering a value-engineered, fully integrated, high security system," says AMAG Technology Senior Vice President of Sales and Marketing Matt Barnette. "This project required a concerted effort to combine access control, IP video and IP audio from three of the best-in-breed manufacturers in the security space. SMS was the nucleus and driving force."

While AMAG contains an embedded video management solution (VMS), the sheer magnitude of video involved required a separate storage and archiving system.

Thus, SMS integrated Symmetry with Verint's Nextiva offering to manage,

archive and store the video. Symmetry then logs the video data and files it with access control events. With more than 1,100 cameras recording video 24/7, the system requires a massive amount of video storage capability. In excess of 320TB is available.

The system collects images from 1,183 fixed interior and exterior pan/tilt/zoom (p/t/z) Pelco cameras. These products were selected from a "camera shootout" that determined the optimum performance in low light environments. Pelco matrix switchers with distributed input modules provide both analog and IP video viewing capabilities. These units are housed in each of the four command center hubs and integrated into the overall system architecture.

Access, Managed Services and More

As part of overall improvements, a new apartment intercom system with an emergency call button was installed. SMS provided another level of integration to the newly installed Elbex intercom system. Each lobby intercom is equipped not only with communication to tenant apartments but also an emergency button to the security command center.

Also, SMS strategically placed emergency call boxes across the entire site. The voice over Internet protocol (VoIP) devices were chosen from Commend. Each of the call boxes is topped with a highly visible blue light so as to be easily located. A fleet of security personnel are a pushbutton away and can reach the box quickly in one of the security vehicles.

Peter Cooper Village/Stuyvesant Town has six tenant and visitor parking garages that are operated by a third party. In these subterranean facilities, SMS once again developed a high level of integration. Tenants who subscribe to parking services enter and depart scanning their ID cards positioned at the entry and exit points of every garage. The system uses HID's long-range proximity readers and SKIDATA parking gates.

"We set up a partitioned database of tenants who subscribe to the parking services. So the system can not only provide accurate access, but the operator can use the information for validation and assist in billing," says Albrecht. "The operator was provided with a workstation that allows them access to the tenant parking portion of the database, while security has an overview of the entire solution on one integrated system."

SMS has developed a software suite that monitors and manages the Peter Cooper Village/Stuyvesant Town development as well as other major clients. "If any issues arise with the functionality of servers, storage devices, applications and network infrastructure, SMS manages the issue," Craig Albrecht says.

Installed agents on the network infrastructure detect, determine and in many cases resolve service issues automatically. If an issue is not resolved, an automated service request is created in SMS' Customer Relationship Management software that alerts technical staff.

Executing With 'Precision' Pays Off

The final piece of the project was as-built documentation. SMS provided operation and maintenance manuals that included in excess of 300 as-built drawings both on CD and hard copy.

AMAG's Barnette speaks to the integrator's impressive achievement on the project: "This successful implementation could only be achieved by a few systems integrators in the business. This site is one of the more impressive installations I have seen and is an example of what can be accomplished when executed with precision."

Verint's Eckard adds, "There are a limited number of systems that truly integrate access control, IP video and intelligent analytics, and this is one of them, which is why it is such an impressive accomplishment."

However, the most important party to astonish and delight is the client. Listening to Adam Rose, co-president of property manager Rose Associates, there are certainly no worries there.

"The level of quality and sophistication found in this extremely complex installation is something that very, very few firms could have provided, much less supported for many years following the successful installation," he says. "SMS created a total package of which we are quite proud."

Presently, SMS is in the process of leveraging the existing network infrastructure to provide digital media to all lobby locations and amenity spaces, 200 locations in total. The content will include live TV, advertising and tenant messaging. In the meantime, Albrecht and his team are enjoying their much-deserved notoriety.

"We are proud of the final product and the recognition we have received from our clients and industry peers," he says. "The success of the [project] is a testament to everyone involved, including the manufacturers who supported our efforts and the owner's management team who worked closely with the SMS team to provide their input and coordination. It should serve as a model for future projects of this scale."

► Peter Cooper Village/ Stuyvesant Town Equipment List **SMS** *Security Management Systems, Inc.*

Manufacturer	Description	Quantity
AMAG	Symmetry enterprise software	1
	M2100-DBU-20K DBU nodes	160
	M2100-1DCR & M2100-2DCR controllers	820
	830BK proximity readers	960
APC	8KVA UPSs	5
Cisco	4500 supervisor catalyst switches	5
	3750 catalyst switches	56
Commend	ETP-MT/R OPS IP emergency phones	57
	GE700 system server	1
Dell	W1900 20-inch monitors	16
Elbex	Intercoms	N/A
HID Global	Access cards	48,000
	Contactless readers	12
LG	42-inch monitors	8
Nexsan	Satabeast VC5042-42 SANs – 144TB	18
Pelco	IS110-CHV9, IS110-CWV9 & ICS210-CR3 cameras	1,095
	SD4TCPGE1 p/t/z cameras	88
	CM9760L (256 X 16, 224 X 16, 144 X 16) matrix switchers	5
SKIDATA	Parking gates	12
Talk-A-Phone	Emergency phone towers	35
Verint	Nextiva master server software	1
	Nextiva IntelliView Analytics	1
	Nex-5-Re-Fiber Nextiva recorder fiber channel servers	19
	S1708e-T encoders	105
	S1704e-T-AS encoders	58