

INSTALLATION CASE STUDY

HIGH-RISE

An integrator designs a sophisticated security solution for a new, technologically advanced tower in Miami's financial district. Video and visitor management systems, access control, turnstiles, and floor-specific elevator systems are controlled through software in a single location or in multiple areas on the network.



All photos by Richard Hodge

Scales Heights

By Rodney Bosch

Rising above Miami's financial district, the new Brickell World Plaza is the Sunshine State's first commercial real estate tower to be pre-certified platinum under the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED). Also referred to as 600 Brickell, the 40-story structure, which topped out in March 2011, is in fact one of only a handful of buildings like it in the world with a LEED rating of platinum.

With a goal to represent a new standard for technology in office development, 600 Brickell's developer likewise sought to fortify the tower with state-of-the-art electronic security systems. To that end, Security Innovative Solutions (SIS) of Davie, Fla., was commissioned to provide the access control and video surveillance systems based on its advanced integration design philosophy and ample experience with other tower projects.

"Many systems are either poorly put together, with many components not talking to each other, or they are overly complicated to use," says SIS President Ramsey Hasan. "We design and install systems that can be easily used by security staff, property managers and building maintenance."

The Brickell World Plaza job would ultimately put SIS' high-rise project mettle to the test. A sophisticated design was drafted to seamlessly integrate multiple systems. Yet the success of the undertaking could not have been possible without first forging relationships with vendor partners who together resolved to get their systems to talk to each other.

Read on to learn how this unique undertaking came to fruition, and evidences the electronic security industry's headlong drive to deploy systems built on open platforms.

Tower Specialist Gets the Call

The developer of Brickell World Plaza, Miami-based developer Foram Group, broke ground on the \$310 million structure in spring 2007. The tower offers more than 600,000 square feet of leasable office space on 28 floors while levels 2-11 comprise the parking facility. At the ground level, the tower's 30,000-square-foot public plaza is bedecked with shade trees, garden areas, a 2,050-square-foot pergola with shaded seating, and an outdoor stage area for cultural events and concerts.

Among the innovative features that earned Brickell World Plaza its LEED Platinum rating is a "daylight harvesting" control system. Photo sensors located within 15 feet of the perimeter of the building detect daylight levels and automatically adjust the output of electric light-

of Integration

ing to create visual balance. Wireless Internet access is available throughout the building and on the plaza, plus the tower features a rentable meeting center with leading-edge video conference equipment.

Brickell World Plaza may have been designed to offer its tenants sustainable, sophisticated environs for decades to come, but initially its electronic security designs were nowhere near on par with its other technological accoutrements.

Enter SIS, which was commissioned by the project's general contractor, John Moriarty & Associates (JMA) of Boston. Among SIS' previous security work for JMA projects were three Trump towers in Sunny Isles Beach, Fla., and the three towers at Miami's Icon Brickell, a project inspired by cutting-edge designer Philippe Starck.

Following a lull in construction of the Brickell tower during the recession, SIS joined the project in December 2010 when it was back on a fast-track to completion.

"JMA brought us in because of the antiquation and the lack of scalability of the original security system," says SIS Project Executive Maurice Gerovitz. "It was more designed to lasso the building owner and keep them tied down with licensing all different types of things for a long time."

SIS writes specifications for many of its projects through its own in-house CAD and engineering department. Gerovitz was charged with redesigning Brickell's entire access control and video surveillance systems, which he envisioned to integrate with turnstiles, the visitor management system, and elevator controls. Hence, he selected systems for the building that would allow him to converge open platforms to maximize security and provide the end user with added business efficiencies.

"I did a lot of thinking outside the box with this project. Some of the integration was at the manufacturer level and some of it was created just for this job," he says. "We will only choose a manufacturer that will work with us. We'll choose a manufacturer that is not too big to where they won't let their design team work with us to create something that a building owner might want or a project may need."

SIS' vendor partners in the Brickell project included Easy-Lobby, Exacq Technologies, Gallagher and Gunnebo. Together, each of the firms played an integral part in demonstrating how separate components of a facility or security management system can be brought together as an integrated solution.

2-Megapixel Cameras Deployed

To meet the end user's desires for a huge security footprint, Gerovitz specified more than 120 IP video surveillance cameras, which are deployed in the basement and up through to the 11th level. (Tenants on levels 12-39 will each be responsi-



Security Innovative Solutions (SIS) designed and installed an integrated access control and video surveillance management system for Brickell World Plaza, a 40-story tower located in Miami's financial district. Pictured (l-r): SIS Project Executive Maurice Gerovitz; Paris Del Rio, project manager, Foram Group, the project's developer/owner; SIS President Ramsey Hasan.

ble for installing their own security systems.) Each camera is a 2-megapixel Vivotek model, including mostly fixed domes along with a handful of pan/tilt/zoom (p/t/z) cameras mounted outdoors on the corners of the building.

The recording system captures 30 images per second, utilizing H.264 compression and more than 48TB of usable, linked, redundant storage. Live and recorded images are shown on a high-resolution, nine-screen video wall in a security command center. Video is also available for viewing on the building's network, as well as mobile devices and at remote locations with the proper credential.

To provide the necessary bandwidth and scalability for the system to eventually expand to 200 cameras, SIS Chief Technical Officer Scott Shecter designed a separate network infrastructure for the entire security solution. Cisco gigabit switches are placed in IDF closets every three floors up through the 12th level and connected via fiber-optic cable with redundancy links. If a fiber is broken or a switch goes bad, only data at the trouble site will be affected while the rest of the networking will continue uninterrupted.

Risers are utilized to connect all the equipment. Gerovitz explains: "The head-end room is located in the master guard control station. And then we have other security rooms in the basement and two on the mezzanine level. We brought [the fi-

ber backbone] up to the elevator machine rooms and then we tie in to the elevator machine rooms toward the top the building. So we create our own loop and [the end user] can tie into their switches if they want as well.”

VMS Provides Digital P/T/Z

A big motive for selecting the 2-megapixel cameras was the capability for Exacq’s video management system (VMS) client to provide full digital p/t/z functionality, offering superior clarity for even facial recognition purposes. SIS installed two exacqVision Z-Series servers. These are standard off-the-shelf products; no major modifications were made to the hardware or software.

“The Z-Series is designed to meet the performance and storage requirements of enterprise video surveillance deployments and was clearly the right fit for this application,” notes Scott Dennison, senior product manager for Exacq Technologies. “While one of the servers is an IP camera server designed solely for network cameras, the other is a hybrid, which allows them to bring in analog and IP cameras on a single server.”

The networked cameras are spread out on the two servers and accessed via the VMS client in the tower’s 24/7 security command center. Since Exacq’s client software is free, the end user can deploy it anywhere to provide easy access for other security personnel and management, provided they have a network connection.

Bruno Santos, SIS’ IT director, built a custom computer to power the networked video system’s enormous amount of bandwidth. Built with system scalability in mind, the computer’s guts include dual solid-state drives to process information much faster, and 16GB of RAM.

“The exacqVision [VMS client] can be run on pretty much any workstation,” Santos explains. “My main concern from the get-go was to eliminate bottlenecks on the network. The custom computer gives us the flexibility to use up to 12 screens on the video wall. Otherwise, our solution would have to have a video wall controller with at least five different computers managing pieces of information.”

A ‘Truly Integrated System’

Early in the Brickell project, it was well understood that visitor management would be an integral part of the overall security management solution. SIS leveraged its vendor partners to meet the lofty security requirements befitting a high-rise project designed to next-generation standards.

Partnership and heavy doses of enterprise ensued. For example, consider: EasyLobby and Gallagher eagerly joined the project even though all parties were aware no integration existed at that time between the two firms’ systems.

EasyLobby CEO Howard Marson and Guerry Bruner, director of sales, access control, Gallagher North America, held several planning discussions and soon began exchanging each other’s software development kits (SDKs).

“We quickly determined that EasyLobby would drive the integration to Gallagher’s Command Center [formerly branded Cardax]. Once started, it took about four weeks or



An EasyLobby visitor management system was integrated with Gallagher’s access control Command Center solution to allow security attendants to easily and expeditiously process badging for visitors and building tenants. The system also integrates controls for optical turnstiles and elevators.



Live and recorded images are shown on a high-resolution, nine-screen video wall in a security command center. Video is also available for viewing on the building’s network, as well as remote mobile devices and at remote locations with the proper credential.

so for EasyLobby to have a working model of the integration for us to test and evaluate,” Bruner says.

A pair of technical experts for Gallagher and EasyLobby then worked closely together to test and tweak the integration. “I know we were all confident, but in the end the integration went smoothly and worked flawlessly between the two systems,” Bruner says.

Among the solution’s unique aspects is the use of, and encoding to, Mifare Classic and Mifare Ultralight proximity cards. The integration is real-time, such that when a visitor’s identification is scanned into EasyLobby and “checked in,” the data is sent to Command Center so that the visitor is issued an active badge with the specific clearance needed for that visit. A complete audit trail of the visitor’s movement is recorded in Command Center for historical reporting, and the badge — not the historical data — is removed from the database when the visitor is later “checked out.”

Gallagher provided a Mifare encoder with site-specific, unique crypto keys that allow Brickell staff to encode blank Mifare cards for use in their system and their system only. This helped in overcoming a major challenge in creating an integrated visitor management solution that was particularly

INTEGRATING MULTIPLE SYSTEMS

user-friendly and able to expedite the badging process. Success in that endeavor was achieved, in part, by using simple icons — such as a turnstile or an elevator or a floor designation — that a security attendant can simply drag and drop on the badging menu screen.

Here's an illustration of how the process works: A female visitor arrives at the front desk and hands the security guard her driver's license, which is then placed in a scan shell. The woman's information flows onto a screen; no typing is required. The guard navigates through simple menu screens to designate the days and times when access is granted to specific turnstiles, elevators, floors, and other areas of the tower; even bathrooms. All told, the visitor's check-in is completed and a badge is issued in less than 40 seconds; the card automatically expires per programming.

An additional feature of the Brickell solution is the ability for tenants to utilize a "partitioned" segment of the system to provide security and access control to their specific floor space. Alternately, tenants can elect to go with a complete standalone deployment of Gallagher's Command Center so that they may take advantage of using the same system as the base building. In either case, identity credentials issued by Brickell can be used in the base building and the tenant space as well.

In an industry once notorious for being stubbornly proprietary, Brickell is a shining example of how separate components of a facility or security management system can be brought together as an integrated solution. As Bruner observes, the industry is progressing beyond the convergence phase into the collaboration phase, which places end users, integrators and manufacturers in a position where collaborating with each other benefits everyone and provides total system solutions.

Bruner continues: "If you take into account that Brickell has a Gallagher access control system, an EasyLobby visitor management system, an ExacqVision video management solution, all integrated together with the [Gunnebo] optical turnstiles, [Thyssen Krupp] floor-by-floor elevator control, E-mail and SMS text notification, and photo ID badging, it is truly an *integrated system*."

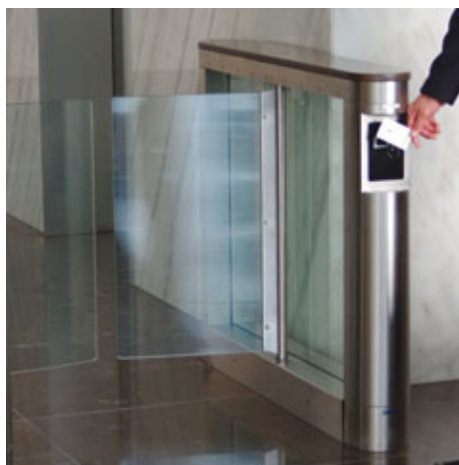
Security Helps Attract Tenants

During the first week in December, Brickell World Plaza celebrated its official unveiling, declaring itself open for business and actively recruiting tenants. Shortly thereafter, in preparation for handing over the reins of the integrated systems, SIS conducted training sessions for members of Forum Group and security personnel.

To say the end user is satisfied with Brickell World Plaza's integrated security solution is an understatement the size of the building itself. Forum Group is counting a great deal on luring progressive-minded companies that welcome the tower's sustainable and technological features. The electronic security systems will play a significant role in that attraction. Post 9/11, there has been an increased awareness to the security and life-safety features offered by buildings, says Tracy Story, Forum Group's president of management and leasing. And while no building can ever be 100% secure, tenants



Networked cameras are spread out on a pair of Exacq Technologies servers, shown here in the security control room. The exacqVision Z-Series devices are designed to meet the performance and storage requirements of enterprise video surveillance deployments.



The visitor management system integrates Gunnebo optical turnstiles, along with Thyssen Krupp floor-by-floor elevator control, among other features of the access control solution.

want assurances that a landlord is doing everything within reason to keep employees safe.

"While once considered an inconvenience, enhanced security features such as the optical turnstiles and card access-controlled elevators are now welcomed by tenants and corporations," Story says. "Tenants today want to be able to determine who is in the building at any given time and want to restrict access from solicitors, office creepers and unwanted visitors. The security system at 600 Brickell allows us to do that very easily," she says.

Although greatly improved security measures are becoming commonplace in cities such as New York and Washington D.C., Brickell World Plaza is one of the first nongovernment buildings to put such enhanced security controls in place in Florida. The tower's integrated system is an important differentiator between it and other buildings in Miami's high-rise market, which continues to recover following prolonged economic adversity.

"Given the condition of the market, everything that we do to set ourselves apart from our competitors contributes to a tenant's decision to come to 600 Brickell," Story says. ■

Rodney Bosch is Managing Editor for *SECURITY SALES & INTEGRATION*. He can be reached at (310) 533-2426 or rodney.bosch@securitysales.com.



FIND IT ON THE WEB

The online version of this story includes a partial list of equipment installed at 600 Brickell, as well as additional photos. Visit securitysales.com/600Brickell.