

## Miami Intl's State-of-the-Art Security System is Role Model for U.S. Airports

*Integrating access control, intercom, CCTV, and live video makes MIA one of the top airport security systems in the U.S.*

### For Immediate Release

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MIAMI—When former Secretary Tom Ridge and other U.S. Department of Homeland Security officials sought a major American airport as a national role model for state-of-the-art aviation access control and security they visited Miami International Airport (MIA), Dade County, Fla.

Once there, Raynier Davalos, MIA's building systems support manager, demonstrated the monitoring and control of most system components in a laboratory built specially to test the newly-installed system.

That was four years ago, however MIA is still cutting edge today and in the top five percentile of the nation's technologically advanced airports, according to what federal officials have recently told Davalos.

The unique testing laboratory, which most U.S. international airports don't have, is one of the reasons. The testing facility is a working miniature replica of the entire security system at MIA, which had over 32 million passengers pass through in 2006. New components and upgrades are added to the system only after passing a real-life compatibility and performance test in what MIA calls the "Integration Room." This eliminates some "white elephant" equipment that other airports have gotten stuck with previously when it doesn't perform up to original sales presentation promises after installation. "A lot of vendors say they can do this and that, so we say 'don't give us a PowerPoint presentation, but rather bring in your so-called wonder widget and prove it,'" said Davalos, an 18-year-veteran of the nationally-acclaimed MIA security program. "Many airports have compatibility problems between vendors, so it's the Integration Room where things get worked out before we buy it."

The laboratory goes beyond new equipment testing, however. Many existing vendors have found the Integration Room invaluable for their own use in tweaking and refining their current Beta applications or products at the airport.



In addition to the test laboratory, it's the integration through applications protocol interface (API) of all security aspects—the access control, closed circuit television (CCTV), intercom, and live video-- where everything can be reviewed simultaneously from one PC workstation that adds to MIA's technology excellence. "The synchronization allows the reviewing of an event's video, audio, access control record, and other functions all from one workstation with a couple of mouse clicks," said Davalos. "When an access point is breached, everything afterward is automatic and the access point's video comes on the screen."

### **History of Improvements**

A nationally publicized investigation in the late 1990's that netted an airline employee smuggling operation prompted the federal government to allocate funds to major U.S. airports for upgraded security that would include video surveillance. MIA used its Federal funding to research and execute the integrated system, which was very experimental at the time. Finished in 2003, MIA chose a distributed architecture system consisting of several rooms, versus a more conventional approach of a centralized location. "This strategy gives us more diversity, redundancy and less risk than a centralized system," Davalos explained. "If one room fails—even though there are redundancies designed into that room—we lose only a very small part of our security rather than the whole facility."

Another reason for its superiority in airport security is MIA's access control system, which is manufactured by Matrix Systems ([www.matrixsys.com](http://www.matrixsys.com)), Dayton, Ohio, a 29-year-old turnkey access control and security system provider. During the major security upgrade, Matrix System's Frontier<sup>®</sup> software system was updated from the original Matrix Legacy system MIA installed in the early 1990's to the latest state-of-the-art, Frontier version, which executes on Windows<sup>®</sup> 2003 Server and uses Windows SQL Server 2005 Express.

The advantage of Matrix Systems, according to Davalos, is they always custom design the software to meet a specific customer's needs. Plus, they also manufacture the hardware, install the system, and provide 24/7 customer service. "With other systems incorporating a variety of hardware vendors, integrators, and other suppliers, access control becomes a difficult task due to the reluctance to modify "off-the-shelf product," said Davalos. "The reality is that every facility has unique security needs and therefore requires a system that's adapted to meet those needs."

The Matrix Systems upgrades have helped MIA create better workstations for security personnel. "The GUI (graphical user interface) allows a security workstation operator to put audio, video and pre-recorded video into separate windows all with one screen management tool and then have the ability to resize them and make the re-configuration as a preset command," explained Davalos.

Frontier's user-friendliness helps Davalos train new employees himself; however Matrix Systems does have trainers available for individual as well as group instruction, when needed.

Listening to customer request is also Matrix Systems' advantage over other vendors, according to Davalos. For example, Matrix Systems incorporated several airport-specific functions into the Frontier software that Davalos suggested, such as the door extended door-ajar feature. The door-ajar and other Davalos requests and designs have since been incorporated into the latest Frontier versions that Matrix Systems provides to other airports.

Complementary to the Matrix System is Omron Electronics, Schaumburg, Ill., software for programmable logic controllers (PLC) that allows MIA to change a door function quickly and integrate it into the entire security system. "We have the flexibility to change how a door works simply by changing a program," Davalos added. "if code requirements change, we upgrade the software on the PLC."

When the current expansion is completed, the security update will include more than 2,000 CCTV cameras for doors and other critical areas. MIA is using Telindus, Brussels, Belgium, for its Cellstack line of high resolution digital video surveillance cameras (live video) and NICE, Ra'anana, Israel, for audio/video recording gear

The other integrated system component is the intercom by EMCOM Systems, Trenton, NJ.

## **MIA Looks to the Future**

MIA's access control began with 21 door readers in the airport operations area (AOA) controlled and monitored by Matrix Systems software/hardware in the early 1990's. Shortly thereafter, 300 more doors were secured beyond the security checkpoints.

By 1998 more than a thousand doors were planned as part of the South and North Terminal phases. The more than 2,000 access controlled doors expected when the North Terminal is completed in 2012 is a monumental security task that is facilitated by technology advancements. Adding doors is only a matter of adding more Matrix Systems reader control modules (RCM) which handle up to two doors each. Matrix System's software is scalable to thousands of doors, so doors are immediately added as construction phases are completed.

For example, another technological advancement that will facilitate future door installations and reduce costs is Power over Ethernet (PoE). Davalos hopes to cut door security installation costs with Matrix System's newly-introduced RCM III with PoE, which uses Ethernet connections to power door readers and door strikes. Using PoE reduces electrician labor and AC wiring costs.



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All of the recent upgrades and scheduled additions promise to keep the airport in the top five percentile in security operation well into the future. MIA has one of the best security track records in the nation and Davalos attributes the success to MIA's commitment in using new technology to assist staff with securing a class X airport.

About Matrix: Matrix Systems, Dayton, Ohio, is the only security solutions provider to author and integrate access control software, design and manufacture subsystem hardware, engineer and install, sell direct to end-users, and provide intimate customer service. For more than 25 years, Matrix Systems has provided turnkey access control solutions for aviation, healthcare, education, industry, corporate, government and other applications. The systems are flexible, scalable and easy to use, allowing customers to optimize their IT infrastructure, increase productivity, and effectively track people and information. For more information on Matrix Systems, please visit [www.matrixsys.com](http://www.matrixsys.com) or call 800-562-8749 x4490.