OMAHA AIRPORT AUTHORITY
G4S TECHNOLOGY PROVIDES AN INTEGRATED SECURITY SOLUTION

Each year, almost 4 million people flow through the 368,000 square foot Eppley Airfield terminal building. Eppley, Nebraska's largest airport, is located four miles northeast of downtown Omaha at the geographic center of the United States. These days, Eppley is the center of attention of federal aviation security officials interested in the results of Eppley's recent $1.7 million electronic security system overhaul.

Eppley is owned and managed by the Omaha Airport Authority (OAA). After a distinguished career in the U.S. Air Force, including participation in President Kennedy's ambitious but short-lived moon base program, Ralph Holtmann came to the OAA in 1989 to assume the position of Planning and Engineering Director. Holtmann's wide ranging responsibilities included the OAA's security programs. In 1990, Federal Aviation Administration (FAA) regulations sent Holtmann in search of technology solutions that would enable the OAA to comply with these new security regulations.

His search would lead him to Tom Hruby, then security engineer and now executive vice president of Security Equipment, Inc. (SEI). After evaluating the limited number of electronic access control systems available at the time, Holtmann gave Hruby the approval to begin installation of a UNIXbased access system that used magnetic stripe cards. "The system was very limited and required us to purchase a variety of other products to do things, like badging and file sharing, that the access control system could not," recalls Hruby. While much of the rest of the airport was updated over the years, Holtmann and his team at the OAA managed to get by with the system with help from Hruby and SEI systems engineer, Thor Lyons. That was before September 11. "9/11 forced us to rethink and look at what we were doing," said Holtmann. "We knew we had to radically increase our ability to monitor the airport."

Holtmann and Dick Zpevak, OAA Communications Technician and manager of the communications and operations center, came to the conclusion that they could no longer meet the OAA's security needs with the current access control system. "The old system was unable to expand and was increasingly difficult, and expensive, to maintain," said Holtmann. Consequently, Holtmann and his team prepared a new system specification and bid request to be sent to security system integrators in the area. "We based much of our specification on the 'Recommended Security Guidelines for Airport Planning, Design and Construction' document published by the Airport Consultants Council (ACC) in July of that year." The specification contained a number of features that would enable Holtmann to deliver the level of security the ACC recommended. First, the new access control system had to be able to integrate closed-circuit television (CCTV) and intrusion monitoring into a single interface for real-time visual monitoring of access control events, such as doors being forced open or left open beyond a specified period of time.

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Second, the access control system had to be able to expand to meet the OAA's current monitoring requirements and to grow to address future needs. "The new system would double the number of card readers to a total of 240 and radically expand the CCTV system to a total of 135 cameras," said Hruby. Lastly, and most importantly, the new access control system had to be available at all times i.e. it could not fail ever. "On a number of occasions, the old system failed and left us with no access control protection," said Holtmann. Additionally, Holtmann wanted a system that was being successfully used at other large airports.

In SEI's response to Holtmann's bid request, Hruby recommended the OAA consider AMAG Technology. Hruby recalls, "We referred the OAA to a number of AMAG systems installed in high-profile business, hospital, and convention facilities in the Omaha area." Holtmann visited these facilities to see the AMAG system in action. Additionally, Hruby informed Holtmann that AMAG access control systems were being used at a number of large U.S. airports, including the Portland International Airport. "Most importantly, AMAG offered a proven solution to the system availability requirement through its hot redundancy option," said Hruby. AMAG's hot redundancy capability is supported by Microsoft's® clustering technology that links individual servers together. This linking synchronizes communication between two servers to create a shared database. In the event that the active server in the cluster fails, the system automatically shifts its operation to the passive server in the cluster. This is known as Active Passive clustering. "The hot redundant server cluster represented a $100,000 investment that would deliver the high reliability the OAA wanted," said Hruby.

SEI prepared a line item proposal in response to the OAA bid request. The cost of individual items, such as fixed color cameras and the price of installing a foot of cable were listed, in addition to an overall total. Hruby explained, "The line item presentation made it easy for them to add additional equipment because they knew exactly what it would cost." In early September 2002, the OAA approved SEI's proposal and obtained a grant from the FAA to fund the project.

Over the next six months, SEI replaced the existing magnetic stripe readers with AMAG S690 proximity readers, replaced existing controller panels with AMAG M2100 16-door controllers, and installed the AMAG Symmetry Enterprise access control software in the OAA's Communication Center. Additionally, SEI installed Kalatel CCTV cameras, matrix switchers, and digital video recorders (DVRs). Using the built-in CCTV integration capabilities included in the AMAG Symmetry Enterprise application, SEI was able to provide the OAA with a synchronized CCTV monitoring interface. The access control and CCTV systems operate over the OAA's new fiber optic network. "Frequent thunder storms create electro-magnetic fields (EMFs) that disrupted our previous copper wire network," explained Holtmann. The fiber network is not susceptible to EMFs, requires less maintenance, and offers faster data transfer rates over greater distances.

"Now, our security systems are on par with those installed at the nation's largest airports," Holtmann commented. "Compared to the earlier system, the AMAG Symmetry Enterprise system is very easy to use; it is nowhere near as complicated. About the only problem we have with it is that it never seems to break down," added Zpevak. "It is really easy to use and adapt to new federal requirements."

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AMAG Technology
sales@amag.com
www.amag.com