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AudioTel Uses RFID to Protect Financial Data

A provider of software and services for financial institutions, the company is using an RFID-based access-control and asset-tracking system to prevent theft or loss of banking records.

By Claire Swedberg

July 26, 2006—[AudioTel](#), an Addison, Texas, provider of software and services for financial institutions, is using an RFID-based access-control and asset-tracking system to prevent theft or loss of records pertaining to institutional and retail banking customers.

AudioTel provides payment-processing software including digital-image-based solutions and Web hosting for remote banking. Rick Stadel, AudioTel's senior vice president and chief operating officer, says the company had been seeking a solution that would allow access control for employees at the facility and chose [Axxess](#)'s ActiveTag system because it used RFID, enabling better, faster access control than, for example, a system based on bar codes.



AudioTel's Rick Stadel

Installed in January, the ActiveTag system uses battery-powered semi-active RFID vehicle tags, personnel badges, key fobs (to identify bags holding magnetic data tapes) and universal sensing appliance (USA) tags. Mounted on doorframes, USA tags contain a sensor that works in conjunction with a magnet to indicate whether a door is open or not. When the tag senses a door is open, it transmits a signal to the system, which then instructs the reader to seek an authorized personnel tag number. If an employee passes through the door without a valid badge, it can send an alert via e-mail or text message to notify AudioTel security that someone entered without a badge.

All 65 AudioTel employees wear a semi-active dual-frequency (126 kHz and 315MHz) RFID-enabled badge that allows the company to control their access to its main facility. The facility is located on the grounds of Addison Airport, where it has airplane hangar doors that open directly onto the airport (for its company planes). The tags not only allow authorized employees to enter the building at its three main doors and several side doors, they also help the company track where employees are at any given time. Two interrogators installed at each door (one inside and one outside) capture the badge number of an employee and discern whether he or she is leaving or entering any particular door.

When an employee approaches the door, a low-frequency (126 kHz) signal, transmitted by the reader, wakes up the badge, which then transmits details via a 315 MHz UHF signal. "The LF used to wake-up the tags allows us to penetrate materials, work around metal and allow for location tracking," says Axxess marketing manager Kelly Stark. "The UHF provides a long-range transmit signal—typically 30 to 100 feet—to reduce infrastructure cost."

The battery-powered tags, when activated, transmit to RFID interrogators connected simultaneously to

the enterprise system software via Internet web-based, sequel based TCP/IP, to the existing [Lenel](#) security alarm equipment that monitors doors and door locks, and to stand-alone management software.

AudioTel is also using RFID for asset tracking. Inside the building, to keep the system invisible, AudioTel mount RFID interrogator antennas in ceiling tiles throughout the building. "We used a variety of our antennas depending on the application but all are hidden beneath floors, walls, or ceiling," says Stark. The antennas, he says, are hidden for aesthetic reasons.

For asset tracking, employees attach an ActiveTag key fob to a bag of magnetic tapes used for backing up data. They also attach tags to electronic equipment such as computers located in each of three secured locations where there is a reader. If an employee attempts to move a tagged asset such as a computer from that location, the computer's tag will pass near an antenna in the office or at a doorway, activating the tag, which then begins transmitting a signal. The system then records the location of the item, who moved it (based on the signal emitted by the person's RFID-enabled badge) and whether the movement is authorized. If an asset leaves a controlled area without authorization, doors such as those at the facility's front entrance can be locked automatically, and wireless alerts can be sent to security personnel to recover the asset before it leaves the premises.

The system also includes RFID tags for company vehicles to allow AudioTel to track movement of its company vehicles in and out of its parking area. The parking control gate, where employees can enter or exit the parking lot, has an RFID interrogator that must read an authorized RFID badge before it unlocks and opens the gate. That feature, says Stadel, is required since the gate opens into Addison Airport, where controlled access is required.

"What we like is that, unlike with some other access-control systems with a badge and lock, we can have multiple people walk through in a group," he says, and have accurate reads of all those who pass through. "We have people coming and going all day, so that is important to us," he says. Before the RFID system was installed, Stadel says, AudioTel used a keypad that required employees to punch in their ID number.

The next step, Stadel says, will be to use the same RFID system to control access to server rooms within the facility.

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