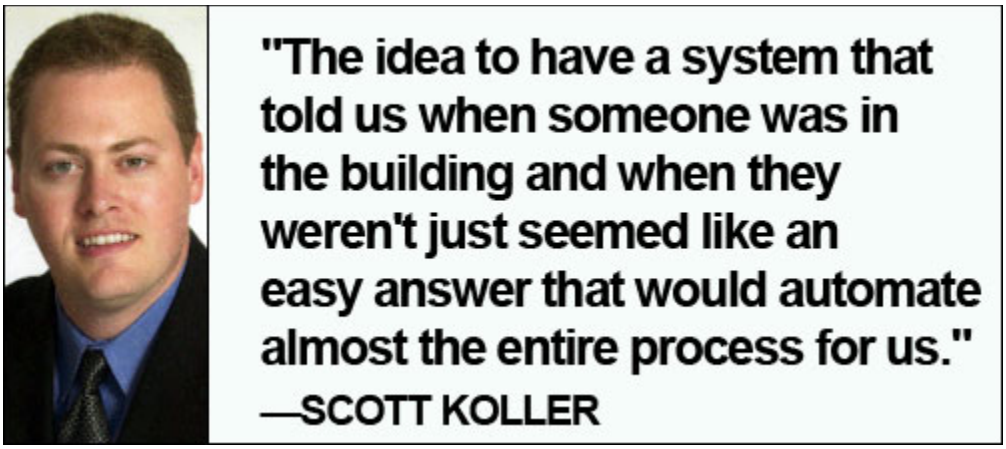
RFID Automates Payroll Process

LSI Mortgage Plus, a national mortgage banker/broker, deployed an RFID system to track employee work hours, reducing overtime pay and achieving an ROI within months.

By Bob Violino

July 18, 2011—Payroll is one of the biggest expenses many businesses have, and managing the payroll process can be one of the largest operational challenges companies face. That's because many firms, like LSI Mortgage Plus, in Duluth, Ga., rely on labor-intensive manual processes to track functions such as overtime pay.

At LSI, a national mortgage banker/broker with 130 employees working in three offices across the United States, workers fill in paper pay sheets to verify their work time and commission. These forms are collected by supervisors and are sent to the office's human resources (HR) manager, who enters all the information into a spreadsheet. That data is then keyed into the firm's payroll system by a member of the accounting office.



The process requires as much as 20 hours of labor in the HR and accounting departments every two weeks. And because so much of the process is manual, errors such as work hours being entered incorrectly are common, says Scott Koller, LSI's IT director.

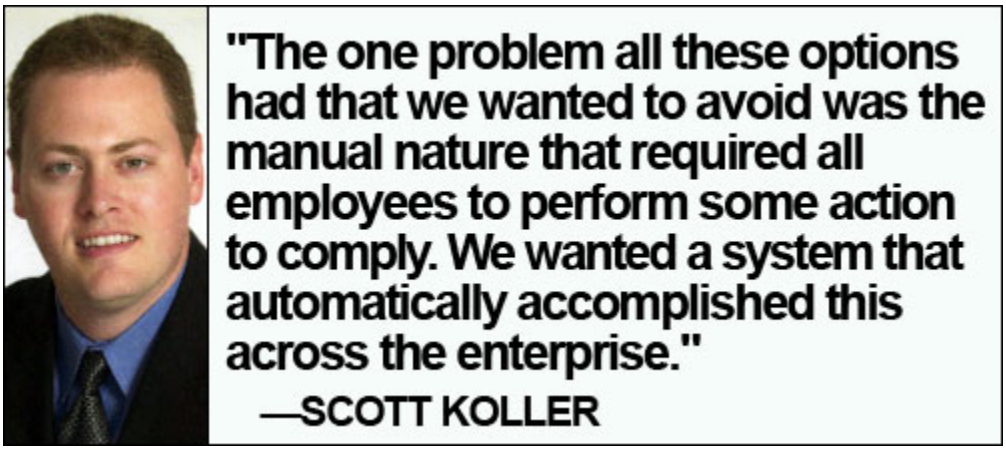
LSI's managers wanted to improve the payroll process by finding a way to automatically track the attendance and work time of employees at its Atlanta headquarters. "The idea to have a system that told us when someone was in the building and when they weren't just seemed like an easy answer that would automate almost the entire process for us," Koller states.

In late 2010, the firm evaluated several technologies, including hand scanners, thumb scanners, an old-fashioned time clock and a Web-based time-tracking system. But these options required either employees to go to one central location, or the company to install multiple scanners or clocks throughout the facility. The Web-based tracking system didn't begin to record users' time at work until they were logged onto their personal computers and the system itself, Koller says, which made tracking work times inaccurate.

"The one problem all these options had that we wanted to avoid was the manual nature that required all employees to perform some action to comply," Koller says. "We wanted a system that automatically accomplished this across the enterprise."

Then Koller learned about a potential solution while having lunch with a friend who is a forensic and IT security expert. Koller asked this individual if he'd come across any technologies that could be used to track employees' work time without their having to do anything. The friend suggested several ideas, including inventory-tracking systems utilizing radio frequency identification to track products as they enter and leave buildings.

Koller was intrigued by the idea of using RFID, and the company evaluated passive and active systems. One initial consideration was to install passive RFID readers at all entry and exit points within the 19,500-square foot office, on the second floor of an office building. But the firm determined that this approach was not feasible, since the office has 10 points of entry and exit. "There was a higher chance of misreads," he explains, "and the number of antennas required to cover all doors would have dramatically increased the cost of the project."



In 2011, LSI deployed an active RFID system at the Atlanta office, using components from multiple vendors and with help from inLogic, a solutions provider. Active RFID provides coverage of the entire office space, as well as real-time visibility of personnel within the office.

How It Works

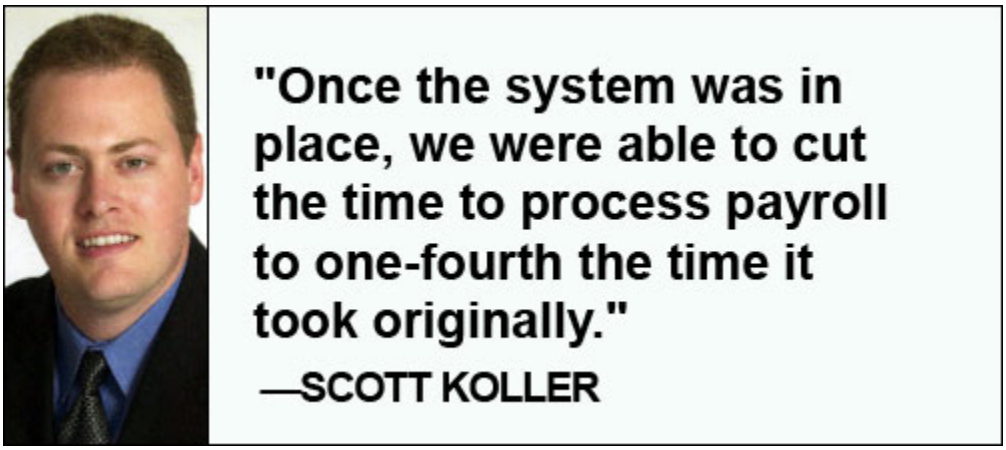
Each employee already wore a lanyard with an access-control card, required to enter the building, so active RFID tags, provided by Protrac iD, were assigned to all LSI personnel, and were attached to their cards via adhesive. The RFID tag numbers were associated with each employee's existing ID number. Four active RFID reader antennas, also from Protrac iD, were installed at various locations to provide the maximum coverage, based on tests conducted by inLogic. Whenever employees are in the LSI office, their presence is detected by one of the readers.

The system includes inLogic's RFTrack.NET Monitoring Module software, which provides LSI's HR manager with real-time information, such as which employees are in the office, which were there but have left, the number of hours each employee has worked each week, and other time and attendance data.

"Since the [inLogic] system runs on Microsoft SQL Server," Koller says, "we are able to leverage SQL Reporting Services as an additional component to disperse information to managers and payroll personnel." RFTrack.NET has a reporting feature that the firm uses to generate reports.

According to Koller, the RFID system provides more accurate time and attendance data by tracking the precise time that each employee enters and leaves the office, and significantly automates the process of calculating the time required for payroll. "Once the system was in place, we were able to cut the time to process payroll to one-fourth the time it took originally," he says. "Now the process involves pulling a report off the server. The accounting department adds the commission portion, and the information is uploaded to our payroll processor."

The system also offers managers the ability to see if employees are nearing their 40-hour work week, Koller says, and to make decisions to let employees leave early on a Friday to prevent unnecessary overtime. As a result, LSI has reduced its overtime expenses. The company does not have an accurate measure of the savings, he notes, "because the previous system was [based] on the honor system."



LSI spent an initial $15,000 on the system, Koller says. Due to the time and cost savings, the company saw a return on its investment within a few months.

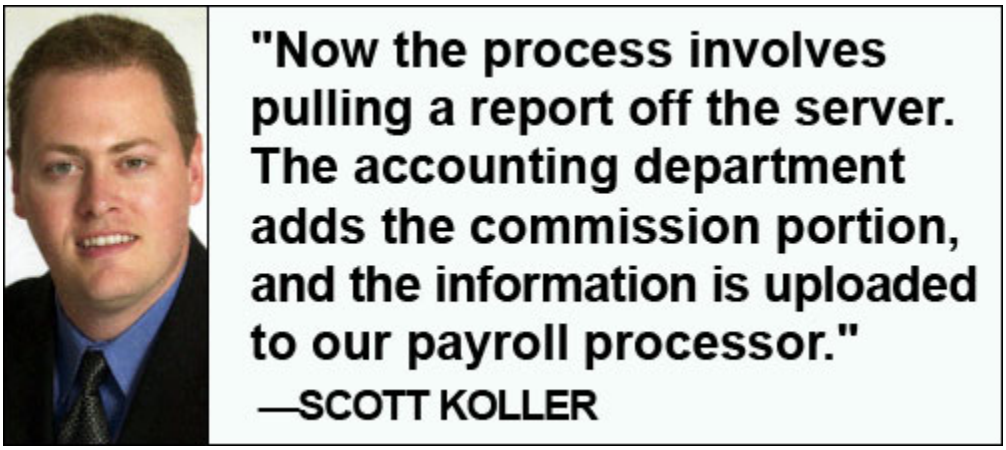
Another benefit is that the system helps prevent disputes regarding pay. "In any company with a paper-based time tracking system, employees tend to overestimate their work hours, and this can lead to disagreements about overtime," Koller says. The system's "always on" nature accurately tracks employees to the second, he says, and protects the company from litigation "due to a payroll system that is left to a mostly inaccurate manual paper system that works on the honor system."

LSI is enhancing the system so that it automatically sends e-mails to employees and managers at the end of each day, notifying them of the hours reported on the system, to help avoid any discrepancies. "This helps employees make sure they work their full schedule," Koller says, "and also makes sure that they know to leave a little early if they've acquired 40 hours and there is not an approved reason for overtime."

Privacy and Other Issues

One concern managers had when considering tracking technologies was that the system would be intrusive and highly visible to employees. They requested that InLogic and Protrac iD's distributor, 1st Choice Security Solutions—which helped InLogic deploy and tune the active RFID readers—install the hardware in such a way that it would not be an eyesore in the office.

All readers were installed in a drop ceiling, with battery backup so tag reads would not be missed in the event of a power outage. One reader location was able to use a thin antenna that was installed within the interior of the wall so it would remain completely out of sight. The other antennas were installed in storage rooms or behind doors to limit visibility. The antennas have a range of approximately 50 feet, Koller says.



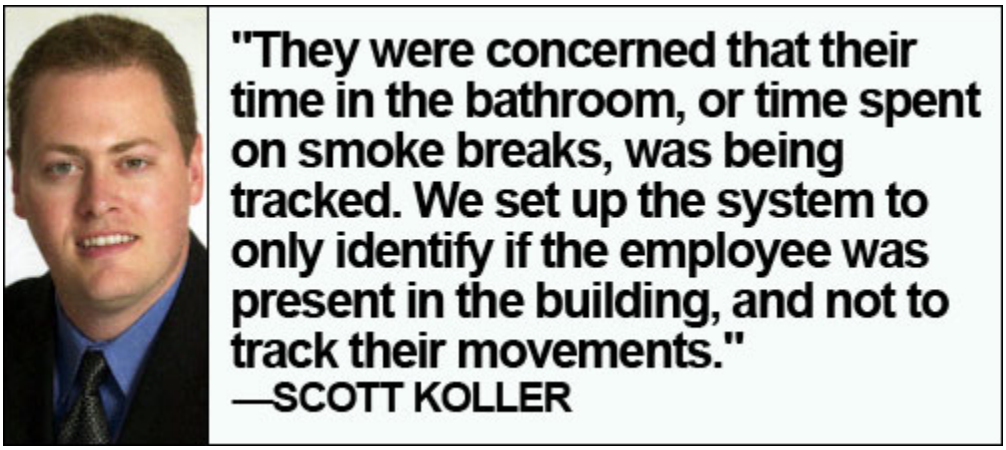
From start to finish, the entire implementation took less than one month, Koller says. The actual installation took less than three days, including identifying where to place the antennas.

LSI tested the solution during the first month of operation, to compare the old and new payroll numbers, in order to identify if there were any major issues with the RFID system. The firm checked to see if there were periods of time when employees were in the office but not being

acknowledged as present by the system.

"The biggest problem we had, at first, were employees' badges not being picked up by the system," Koller says. "After looking into the incidents, we came to realize that the users had placed the badge in a purse or a filing drawer that was made of metal."

Although privacy was not a major concern among employees, some wondered if their movements throughout the office would be tracked. "They were concerned that their time in the bathroom, or time spent on smoke breaks, was being tracked," Koller says. "We set up the system to only identify if the employee was present in the building, and not to track their movements." If an employee is not seen in the building for more than 10 minutes, the system lists that person as having left, he says, and records the last time the individual's card was visible at the time of exit.



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To help get employees onboard with using the system, LSI's management held a companywide meeting prior to the implementation, to answer any questions regarding the system and how it would work. "This was done to avoid any resistance to the new system, because this technology is still so misunderstood by the average person, even though it is used all around them on a daily basis," Koller says. "The meeting helped curtail any 'Big Brother' suspicions that could have run wild had they gone unanswered."

The solution is working so well at the Atlanta office, Koller says, that LSI now plans to begin employing the same technology at its two other offices by the end of this summer.