Dispatching Paperless Work Orders in an Instant

One Campus Facility Manager's Experience with Wireless Technology

By Russell B. Woodard

When people get stuck in an elevator, they panic. They are afraid the elevator will drop or that they will be trapped for hours. It is essential to get them out quickly and safely. All elevators on our campus at Indiana University Purdue University Indianapolis (IUPUI) are equipped with emergency phones that connect with a campus operator who sends an electrician to the rescue immediately.

Not long ago, we discovered just how much new wireless communication devices—that we deployed to our electricians and other staff—have improved the elevator emergency response process. The Push-To-Talk (PTT) walkie-talkie feature on these devices makes our communication with our maintenance workers quicker and more reliable.
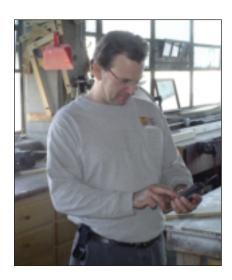
When an elevator got stuck in the Gatch Clinical Building and the trapped passengers called for help, the operator alerted the nearest electrician using PTT. The electrician responded immediately. After he had already rescued the passengers and started his repairs, the electrician's old emergency notification system, a pager, alerted him to the situation. Both notifications were sent simultaneously, but the

page took much longer to process. It's amazing how real-time information has increased our ability to serve our customers.

Our decision to move away from pagers and an old 800-megahertz analog radio system was not a quick decision. The radio system was not reliable and we would often hear noise from other channels or simply had no signal in basements and other enclosed areas. We considered upgrading to a new digital radio system, but determined it would be financially difficult to do. The new radios would have cost between $2,500 and $4,500, and we needed to replace at least 100 radios—a cost well beyond our budget. An alternative to the radios was using a cellular provider for walkie-talkie service. After much testing, we found a system with Nextel that provided us with better coverage than the old radio system was able to provide. The communication devices were also capable of receiving pages and text messages. This was a more affordable solution than our monthly expenses for pager and radio service and equipment maintenance.

In addition to the PTT, we also implemented the use of a system called MobileFM™ Instant, developed by MAXIMUS in partnership with JumpStart Wireless Corporation. This product has simplified the workflow process by converting our maintenance forms from paper to electronic format. These electronic forms are available on our technicians' devices, and now our crews do their "paperwork" without

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Jeff Smith is a master carpenter who works in maintenance at Indiana University Purdue University Indianapolis. He has learned to use the new wireless technology well and the device saves him time in processing work orders.

paper. Work orders, time cards, and status updates can be entered and updated in the field. New job information is automatically sent to the technician's device as soon as it is entered in the computerized maintenance management software we have used on campus since 2001. When a job is completed, the updated work request information is sent directly to the system. There is no need for paper work orders or time-consuming data entry. We have an instant record of all our work and we have virtually eliminated a backlog of completed work needing to be closed.

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The wireless system saves time and money. In the past, workers had to return to their shops to pick up paperwork when they received a new job. Now that they receive their work electronically, they no longer have to return to the shop throughout the day. We estimate that we save about $300 a month with each device in the field. With about 100 workers using the hand-held wireless devices, that translates to about $30,000 a month, or approximately $360,000 a year. While there are some costs associated with the devices and software, they are quickly offset by the savings we have realized.

We use Motorola devices with a data plan to manage work orders and time cards in the field. The two-way communication—both voice and data—is essential. We started testing the wireless system in our facilities department in July 2006 and we now have over 370 employees using the walkie-talkie feature and about 100 using the mobile work management. IUPUI is an urban campus, located in downtown Indianapolis, with more than 100 buildings, 6 million assignable square feet under roof, and growing.

Adding More Efficiency

Our Indianapolis campus is divided into six maintenance zones, each with a team of between 12 and 15 technicians responsible for maintaining a specific group of buildings. The team consists of carpenters, plumbers, electricians, and others who provide heating, cooling, lighting, and all electrical work. They also take care of machinery and handle all sorts of maintenance requests.

Our zone system helps the maintenance team not only know their customers and buildings better, but now the crews are able to respond more quickly. Five customer service associates handle all customer requests. We use direct connect "push to talk" to contact the right person, making sure he or she is available and can respond quickly. Once the technician changes the work order status code to "In Progress," the status update is transmitted to our computerized maintenance management system.

Master electrician Ken Flodder uses the Push-To-Talk walkie-talkie feature on his emergency phone to quickly respond to maintenance calls on campus.

The maintenance crew has suggested modifications to the new wireless solution. The solution providers have been receptive to the suggested modifications and have incorporated these requests into a new release. We suggested adding running totals on timecards, which was implemented shortly after we presented the idea. This feature is perfect for wireless paperless timekeeping.

The real success is that everyone acclimated to this new technology very well. It is exciting to know that our successful implementation experience and suggestions for improvements will benefit others who decide to take advantage of this technology. I'm always glad to talk with others about the challenges they face. We live in a world of ever increasing technology, and utilizing wireless systems like these work for the benefit of our university and our customers.