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THREE CONNECTED PERSPECTIVES

BY LISA BONNEMA

What do pest control, wood blinds, and traffic signs have in common? Not a whole lot. But when you factor in a few forward-thinking professionals and some creative use of technology, you have three examples of how M2M (machine-to-machine) can make just about any business run smoother, safer, and—most importantly—smarter.

Of course, adding M2M technology to your company culture has its risks—cost, time, training, and employee fears to name a few. Add an unstable economy to the mix, and it's easy to see why you might be more than hesitant to take the M2M plunge. But many companies are finding the benefits outweigh the risks, seeing positive results inside their four walls, out in the field, and in their P&L (profit and loss) statements.

Three executives discuss their paths to M2M, hurdles met along the way, and ultimately why connecting their businesses has been well worth it.

NO COMPROMISE

When it comes to taking care of his customers, nothing is going to stand in David Shiller's way. The chairman of Iselin, N.J.-based Blinds To Go has built his company on a "red carpet" service that promises custom-made window treatments within 48 hours of purchase and with 100% customer satisfaction.

It's a promise Shiller doesn't take lightly and one that he learned more than 57 years ago when he sold products door to door. Loading up his family's 1950s station wagon, Shiller would drive hundreds of miles in search of new customers while doing his best to maintain a loyal following. During those long treks across Canada, he learned that going the "extra mile" was the key to customer service and, ultimately, success.

With more than 120 retail locations throughout Canada and the U.S., it is pretty clear the entrepreneur's philosophy is effective. Today, Shiller and his employees make every effort to ensure all facets of the company are built around convenience and reliability, from the time customers enter the store until their products are delivered to their doorstep.

The company knew delivering on its founder's promise meant having a bullet-proof retail POS (point-of-sale) system. Specifically, it needed a failover solution that would provide continuous uptime for store transactions—with no interruptions—in the event of an outage of the primary wired source of Internet connectivity (T1/Fiber, DSL, or cable, depending on location).

Constantin Koutrias, systems administration for Blinds To Go, felt strongly that a wireless solution was the answer. "Ninety percent of the issues with landline disruptions are in the last mile, so when your primary landline goes down, chances are your secondary landline—the one you're using for redundancy—will go down, too," he explains.

Blinds To Go approached its account team at Canadian-based Rogers Communication to help find a solution for its telecom backup challenges. Rogers supplied Koutrias with a demo unit—the CBA250 Mobile Broadband Travel Router from a company named CradlePoint—for initial testing. After experimenting with a number of different models, Koutrias settled on CradlePoint's MBR1000 Mobile Broadband 'N' Router 3G/4G wireless router. In the event of an outage of the primary Internet landline at a Blinds To Go site, the mobile broadband router automatically switches to its 3G/4G broadband connection within 30 seconds. The POS systems connected to the router continue to operate at

broadband speeds without further interruption, ensuring continuous uptime for POS transactions at all locations.

With only one hardware platform and one configuration file, Koutrias says the router is easy to manage. "If an air card goes out, the replacement model is often a new upgrade—not the same card," he explains. "With other solutions, that can mean you have to buy a new cellular interface. But the CradlePoint router doesn't care where the air card comes from. ... We can use several carriers, or switch cellular platforms without having to worry about buying new hardware."

The fact that the solution is wireless offered additional advantages. With no wired networking to deal with, the routers were easy to configure via a simple Web browser. Wire-free installations also eliminated the high setup costs of wiring and were cheaper to run than a redundant wired circuit.

To speed rollout, Koutrias preconfigured the MBR1000 units and dispatched a technician to the retail locations. "We configured everything ahead of time," he notes. "It went really quickly because we had to create just one configuration file, then load it into each unit. We were able to configure dozens of devices in just hours. The actual installation probably took less than an hour per store."

As a result, deployment had zero impact on operations. "In fact, some stores didn't even realize that something new was installed," says Koutrias.

So far the backup system has not only helped the blinds retailer keep its business philosophy intact, it is actually seeing improvements. Since deploying the POS failover solution last March, Blinds To Go has seen a 10-15% improvement in speed and reliability.

According to Koutrias, backing up the landline connection with a wireless connection on Rogers' high-speed network has provided maximum protection against lost sales and significant operational benefits. "We have not had any problems with these units being deployed in a retail setting," Koutrias says. "We've definitely seen an improvement in uptime since we switched."

The retailer is also excited about what the future holds for the technology. "As 3G networks expand rapidly worldwide, we are very pleased to see that CradlePoint is constantly upgrading its firmware to support more 3G devices every day," says Koutrias.

"And when 4G becomes more common, we'll be able to take advantage of the latest wireless technology with just a simple swap of cards," he adds.

As an organization devoted to pleasing its customers, Koutrias says Blinds To Go no longer depends only on copper-based telecom providers. "By leveraging advancements made to wireless high-speed data networks … we are able to ensure uninterrupted continuity of daily business operations," he says. "Being a retail business, we needed robust failover capabilities," Koutrias adds. "There was no compromise to be made."

A SAFE INVESTMENT

Every Tuesday at 10:30 a.m., Mike Gibney sits down with his cup of coffee, about seven team members, and a three-letter agenda—GPS. As director of claims and loss control at pest control company Rollins Inc., Gibney spends the next 45 minutes discussing all things GPS. Topics range from shifting the company's current database to a Web-based system, to making sure drivers from two new acquisitions are educated on the vehicle-tracking system—and the rules that come with it.

"We have policies that revolve around GPS," Gibney says. "We have rules that govern driving behavior, and it's had a huge impact on the amount of insurance we're having to pay out."

And he isn't exaggerating. Since implementing GPS into its service fleet 11 years ago, Rollins, which owns

A connected solution ensures continuous uptime for retail POS transactions at all locations.

A fleet-management system can do more than increase safety and efficiency; it can also help a company cut down on the insurance premiums it pays for its fleet of vehicles.

well-known Orkin, has saved as much as $40 million per year. "We have dramatically reduced our cost of risk," Gibney says. "Back in 1996, 7% of revenue was going to insurance. Now, we are only spending about 2.2% on claims and insurance."

What's more is the company—and its employees—are safer. Accidents are down from about 33% of the fleet in 1996 to only 9% last year. Workers' compensation claims have decreased from about 25% of the workforce to 11%.

Gibney has no qualms attributing all of these results to GPS. "Safe driving is paramount to this company, and we've invested millions into this technology," he says. "It's a hell of a system."

How can a GPS system save the 20th largest fleet in the nation millions of dollars in insurance costs? Gibney says it's a matter of tracking unsafe driver behaviors like speeding, seatbelt use, and after-hours usage, and then implementing and enforcing a progressive discipline plan. "Our job is not to terminate our employees," Gibney explains. "We just want to modify their behavior."

Employees are written up if they exceed 71 mph, neglect to wear a seatbelt, or if they are driving the company vehicle after hours. Using the GO4 hardware platform from Geotab, the GPS tracking system uses a patented trip recording method as well as a Driver ID option that monitors driving performance by individual employee—a good feature if employees have to switch vehicles. By querying information from each vehicle's OBDII port, the GPS unit can also determine if the driver seatbelt is on or if the passenger seat is being occupied. Audible buzzers alert drivers when they are engaging in what Rollins defines as "risky behavior," and a text message is sent directly to branch managers when drivers violate the rules.

"If somebody knows that you are watching what they are doing every day, they are going to behave," Gibney says. "When people know they are being viewed, your productivity goes up."

According to Gibney, Rollins experienced a spike in productivity after first implementing the GPS system and has continued to see improvements as it tracks additional behaviors. And because drivers are paid based on productivity, it is a win-win situation. "A lot of times the employee doesn't know how much they are helped by the technology," Gibney says. "But if you have an accident and you mess up a whole day, you just lost a whole day's worth of pay."

Of course, the pest-control company has had its share of "Big Brother" fears over the years and has been very open with employees about its intentions. "GPS was brought to the table as a safety issue, and in that spirit was sold as a way to reduce accidents and injuries," Gibney says. "We don't want to lose good people. We just want them to follow the rules."

Now that the company has resolved its speeding and seatbelt issues, Gibney and his team are focusing much of their efforts on monitoring harsh braking. The GPS system tracks any time a vehicle decelerates 11 mph or more within a one second period of time. "Sixty-five percent of all of our chargeable accidents are where we rear-end a party in front of us," Gibney says. "If we can resolve that issue and allow more distance between vehicles, we should see a reduction in our rear-end accidents."

Once harsh braking has been tackled, Gibney says he will continue to look for more ways to enhance GPS as a risk-management tool. "This is a very driven culture," he says. "It's not good enough to maintain the status quo."

Indeed, Rollins has been a pioneer in using vehicle tracking solely for insurance claims reduction. Only recently have other companies started to see the savings potential, many of which have visited Gibney at his Atlanta office to share GPS best practices. "There is a lot that goes into GPS," he says. "If a company thinks they can go out and just purchase something off the shelf and expect everything to work, they are sadly mistaken. It has to be managed."

Even with a four-person staff dedicated entirely to monitoring driver behavior data, Rollins recently decided to transition to a Web-based data-management system to better manage the millions of rows of data it receives on a weekly basis. Called MyGeotab, the software will allow the company to store data securely and centrally with multiple users and will also include dashboard reporting for driving performance as well as fleet efficiency. "A Web-based solution is a more reliable source," Gibney says. "In the IT world, things always happen. We are so dependent on GPS now as a culture that we can't afford for it to go down."

As with any improved efficiencies, Gibney says the benefits of GPS trickle down to the customer. "When you are in the service business, everything is service," he says. "We have to know that everybody is on task. We have to know that that customer is being taken care of.

"Orkin is probably recognizable by at least 90% of everybody in the country as 'the bug company,'" Gibney adds. "We have a brand to protect. The last thing I want to see is a driving disaster with one of our employees. That's what keeps me up at night. Now, with GPS, I don't have to worry."

ON THE ROAD TO M2M

As a distributor and manufacturer of all things transportation, Brown Deer, Wis.-based Traffic and Parking Control Co., more commonly known to its loyal customers by the name TAPCO, is always looking for ways to make the road a bit safer. A quick glance at the company Website reveals a product portfolio ranging from traffic signals and stop signs to vehicle surveillance equipment and controller boxes. "Our motto is, 'Everything for the road, but the road,'" says John Kugel, president and co-owner.

So when the company was approached about using a patented technology that added LED lights to traffic signs, Kugel and his business partner, Rick Bergholz, were intrigued. "Being somewhat inquisitive, we responded and took a better look at it, and felt it had some potential," Kugel says.

The concept made sense. Adding LED lights to traffic signs would certainly enhance visibility and, hopefully, increase driver safety. However, Kugel and Bergholz quickly discovered that slapping a few lights on a stop sign was not as simple as it sounds. "Traffic signs are controlled by the Manual Uniform Traffic Control Devices (standard), and it's not written anywhere that you can put LEDs on traffic signs," Kugel explains. "So we had to file for experimental status."

After several years and a few successful pilots in various states, the federal standard was rewritten to allow LED lights to be added to traffic signs. But TAPCO'S work was far from over. The company still had to get approval from each individual state before marketing its line of solar-powered BlinkerSign LED Signs. Even now, 10 years later, a handful of states will not approve the technology.

Those obstacles haven't stopped TAPCO from taking the technology to the next level. After adding LEDs to its line of pedestrian crossing signs, TAPCO saw an opportunity to add M2M functionality as well. Unlike its other sign applications, which use solar panels to operate 24 hours a day, seven days a week, the company's pedestrian and school crossing signs only need to operate when pedestrians or school children are present. "We had to come up with a time-clock type option to allow programmability by the customer," Kugel says.

The company first designed a push-button application: Users would push a button to actuate the sign, and it would run and turn off according to the preprogrammed timer. However, someone still needed to manually set the timer onsite. Kugel's goal was to completely automate the system so the timer could be set remotely.

The challenge he faced was that solutions like radio connection and Wi-Fi were just too power hungry for TAPCO's application. "Our solar packages are sized just to flash our LEDs and our little control circuit," Kugel says. "We wouldn't want to have to redesign and resize a solar panel, the battery, and even the control circuit for that matter. The cost of making those changes just wasn't justified."

After an employee came across an article about M2M communications, Kugel's team approached KORE Telematics about adding a modem. However, initial conversations revealed that TAPCO had another long road ahead. "There wasn't a whole lot of information about how to get this up and running," Kugel says. "We needed some education."

Connected traffic signs were an opportunity for TAPCO to add more functionality to its products.

KORE then put TAPCO in touch with an industry consultant, which Kugel says has been key to bringing the M2M solution to life. Not only did the consultant navigate Kugel and his team through the process, he also created the prototype software TAPCO is now using in its field testing.

TAPCO is currently testing the technology with about 30 customers in both Wisconsin and Florida. For now, the company is using KORE as its service provider and GSM modems from Telit, Enfora, and Multi-Tech Systems. "We are still in the testing phase and have not determined which of the three we will end up choosing," Kugel says.

The connected signs allow Kugel and his team to remotely activate and deactivate the blinker capabilities, as well as

monitor battery voltage and current draw. "It is still in development," Kugel notes. "Our biggest benefit would be to have a system that we can dump in your lap, and you can install it with your current sign installation crews and be able to literally program via an office environment. Ease of use and ease of installation are probably the most powerful reasons for enabling the system."

Kugel admits he is excited about the possibilities of the technology, but is quick to add that he has guarded optimism. "We don't have any huge expectations of what this value is going to be for us," he says. "We are taking this from a standpoint of this is a tool that is certainly going to set us a little above potential competition."

According to Kugel, keeping a level head and carefully defining your goals have been an important part of his company's journey to M2M. "Yeah, maybe everything is possible, but is it real practical?" he notes. His advice to other companies? Find a consultant, define your core expectations, and then create a wish list.

That's not to say you should ignore the bigger picture. In fact, Kugel sees huge potential for M2M in traffic signs and other traffic-control devices. "When you think about it, that's what the traffic-control devices are there for—to try and communicate to the driver (about) conditions that exist," Kugel says.

For example, TAPCO recently developed chevron signs that light up to alert drivers there is a curve ahead. "In the future, it's very conceivable that the system would do that but then also communicate to the car, 'Hey you are going too fast for this curve,' and the car will slow itself down," Kugel explains.

"When we developed this technology, we were thinking of that type of communication going forward," he continues. "There are lots of questions that have to get answered before you can start to implement that type of technology, but certainly it's going to be here at some point."

Until then, Kugel says he and his team are happy to wait for customer feedback before moving full-speed ahead with the company's M2M solution. "We have all kinds of questions that we've formulated about how best to go about marketing the capability," Kugel says. "We're probably going to try two or three of those alternatives and see what happens. It's kind of like buying a calculator when calculators first came out. We know it's going to be a benefit, but measuring the benefit is tough to do."