EMS field technicians stay productive on site with wireless solution from IBM.

Overview

- ***Challenge***
  Inefficient business systems were hampering the electric meter service company's competitive advantage, productivity and responsiveness to employees and customers
- ***Why On Demand?***
  EMS needed to upgrade its systems so it could respond faster to utility companies' requests for information and enable its field force to work more productively
- ***Solution***
  A mobile field-service application enables field technicians to update status of jobs in realtime from work sites and utility companies to receive this information on demand
- ***Key Benefits***
  100% payback in less than 12 months; up to US$40,000 in annual savings, plus substantial savings in proprietary operating system fees; considerable improvement in workforce productivity; faster, more accurate response to customer demands

EMS field technicians can update customer information from job sites in realtime through their mobile devices running DB2 for Linux.

New Zealand's deregulation of the energy industry in the 1990s created a new market niche for firms that install, repair and disconnect the electric meters in individual homes and businesses on behalf of competing utility companies. One of the fastest-growing of these new utility service firms is Energy Management Services Ltd. (EMS), headquartered in West Auckland, New Zealand. Founded in 1997 by a small group of engineers, EMS today has 60 employees and generates about US$2.5 million a year in revenues. Serving more than 400,000

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>
> *–Craig Shepherd, Managing Director, EMS*

On Demand Benefits

- 100% payback in less than 12 months
- Estimated US$10,000 saved annually by cutting mobile phone bills in half
- US$26,000-30,000 saved annually by redirecting office staff into more productive positions
- Substantial savings in proprietary operating system (OS) fees
- Enhanced ability to attract new clients can potentially double company size within next three years
- Ability to market innovative wireless solution to other industries
- Ease of integration through open standards technologies
- Training time on new system minimized to just one hour per employee, enhancing productivity
- Improved speed, performance and scalability of master database with less data corruption
- Improved uptime of robust new technology platform

residential and commercial customers throughout the South Pacific island nation, EMS technicians disconnect and reconnect at least 50,000 meters a year and repair or upgrade another 25,000.

EMS grew rapidly in its first few years in business, but eventually the company's business systems were unable to support this growth. Because of this, field service technicians were unable to quickly access or update critical customer information, hampering their ability to deliver the responsive service that fosters business growth.

The firm maintains a field service system that contains mission-critical data about electricity service patterns, rates paid, repair and update schedules, and also handles job scheduling for technicians. "As we grew, we had more and more people connecting and adding records to our system and it started to just grind under the pressure," says Craig Shepherd, managing director and founder of EMS. "It was a nightmare — it would take 40 seconds to a minute just to find something, and we also began getting corrupted data. This prevented our field technicians from working as productively as they could and from delivering the responsive service that our utility customers demand, whether that involved answering a simple inquiry or arriving promptly at a meter repair site."

As technicians began their workday, they would log onto their laptops to retrieve their task lists from e-mails sent by clerks at headquarters. At the end of the day, the technician would fax back to headquarters a log of what was done, so the clerks could manually update the system. For service connections, disconnections or repairs, the technician would communicate updates with clerks by cell phone — a process that could eat up an hour or two of every workday and result in delays for updating records. "Cell phone costs were running out of control, and our field force wasn't able to make the best use of its time, which meant we weren't able to spend as much time with customers as they deserved," says Shepherd. "Our system obviously was creating inefficient processes. This was causing us to miss opportunities to provide a higher level of service, and creating concern that competitors might take advantage of our limitations and draw away our customers."

To increase employee productivity, enhance customer service and strengthen its competitive advantage, EMS needed a more resilient, high-performing solution that would enable it to be more responsive to its field technicians and ultimately to its customers. Given that, EMS could eliminate unnecessary administrative costs, deliver a more attractive business proposition than other meter-reading agencies and gain competitive advantage.

Recharging business processes

EMS addressed its challenge by deploying a robust new mobile field service system that enables technicians to access and update customer and job information in realtime, wherever they are. By eliminating manual intervention and costly telecommunications channels, EMS has empowered its field workforce with greater productivity and efficiency, enabling them to focus on delivering the responsiveness that customers demand, rather than completing manual tasks. The company has integrated this system with an automated reporting solution that gives power companies realtime access to the data.

Now, technicians simply enter a job ticket number from a mobile device to retrieve a customized spreadsheet with pertinent details about that particular job. Similarly, they can enter meter data directly into the form, promptly transmitting the information into the new system at headquarters. "As soon as our technician finishes the job and presses the OK button on the mobile device, our central system is updated," says Shepherd. "Then, the system automatically uploads this updated information to our customers' back-end systems in batches every half hour, enabling them to make more timely, insightful decisions. For power companies requiring more immediate updates, they can access this information in realtime through our secure Web site."

DB2 and Linux scale to meet growing demands

Working with IBM Business Partner Theta Systems, EMS used Wireless Application Protocol (WAP) to develop its solution. Field workers equipped with WAP- and text-enabled cell phones or mobile devices connect to the mobile field service system using General Packet Radio Services (GPRS). The device stores data collected from the field and, in areas without GPRS access, attempts to synchronize with the server every 15 minutes. If the device cannot initially connect, it simply keeps trying, delivering all stored data in one pass when necessary.

For the underlying information management system supporting the solution, EMS worked with Theta Systems to deploy IBM DB2 Universal Database for Linux, maintaining its existing Microsoft Access database to serve as a familiar front end for its employees and utility customers. By staying with Microsoft Access, EMS figured it could also leverage its vast number of existing customer records, while minimizing any training burdens. The company uses Open Database Connectivity (ODBC) protocol to link the Access front end to DB2 Universal Database running Red Hat Linux.

For customers who prefer to access updated information from EMS's Web site, the company has deployed IBM Net.Data to retrieve data from the back end and deliver it to Web browsers. "DB2 on Linux has the scalability and reliability we needed to serve as the central information management solution for our growing enterprise," says Shepherd.

Key Components

Software

- IBM DB2® Universal Database™ Workgroup Edition for Linux, Version 7.2
- IBM Net.Data®, Version 2 for Linux
- Red Hat Linux

Business Partner

- Theta Systems

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–Craig Shepherd

Priced right for small businesses

When seeking a new information management solution, EMS quickly rejected the prospect of a more enterprise-scale database from Microsoft, as it would have been too expensive and based on proprietary systems. Plus, it would have forced EMS to upgrade its servers. "The cost to use a Microsoft database system would have been ridiculous for a company our size," Shepherd comments.

Having selected Linux for its robustness and low cost, the company also considered open-source databases such as MySQL or Postgre SQL. But these would require more technical skills to administer than EMS had on its staff, Shepherd notes. At that point, serendipity stepped in. Shepard was searching online for information about Linux-compatible databases and came across a story promoting DB2 Universal Database on Linux and its suitability for small to mid-sized businesses.

"I always thought of IBM as very much at the enterprise level, not within our reach," says Shepherd. "But I was impressed with IBM's competitive pricing, as well as its ability to integrate with what we have and provide ease of use."

Benefits attract interest around the world

Training on the new system takes only an hour per employee and, even in the few months the wireless application has been live, the results have been impressive. EMS has cut its mobile phone bills in half, saving about US$10,000 a year. Its technicians' output has gone up considerably, allowing the company to serve more customers with the same staff. Meanwhile, the company has been able to free up two of its clerks for other, more revenue-producing duties, saving about US$26,000 to US$30,000 a year. All of these factors have helped EMS earn 100 percent payback in less than 12 months.

The well-known reliability of Linux means the EMS staff can focus on growing the business rather than desperately trying to reboot several times a week. "In the nine months since we installed the new Linux server, we only had to reboot twice — and only because we were actually enhancing functionality," Shepherd notes. "We're saving in proprietary operating system expenses, and enjoying better speed, performance and scalability of our database, with less data corruption. In fact, we really haven't experienced a failure, which boosts our productivity while further lowering costs." Moreover, since the solution integrates easily with utility customers' back-end systems, these customers do not have to make any costly changes to their IT infrastructures in order to benefit from faster information updates.

Not only does the IBM solution bring savings in absolute terms, it also conveys a competitive advantage. "This system is light years ahead of anyone else's," Shepherd says. "We were doing at least as well as our competition before, but now we have a huge commercial advantage in increasing customer satisfaction and winning more work."

In fact, customers in other industries and countries, including a rental car and fleet leasing company and an Australian water retailer, have already expressed interest in having EMS develop customized mobile service solutions for them. "These are large companies, which normally wouldn't take any notice of a little firm like ours," Shepherd says. "But our own success, fostered by our IBM information management solution, gets us noticed — and that gives us a foot in the door. Considering the greater interest we're attracting, we anticipate doubling our company size within the next three years."

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New Orchard Road
Armonk, NY 10504
U.S.A.

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