Cutting the paper trail

Wireless technology becomes affordable

By Simon Blake

The operating principle behind wireless systems available to the plumbing and HVAC/R contractor is simple: free the technician from non-billable tasks to allow them to focus on generating money for the business.

That's fine in theory, but when *P&HVAC* last looked at wireless technology three years ago, it was too expensive for the average shop owner.

"You had to be a pretty big company… it was probably a $100,000 to get into this," reported Mansell Nelson, vice president of planning and business development for Rogers Business Solutions, Toronto.

But technology has evolved at a blinding pace. Today, service contractors are adopting a new generation of lower cost wireless systems that operate on high-speed digital networks.

The cost and headaches have been reduced dramatically. Off-the-shelf software is tailored to the HVAC/R and plumbing service industries. Internet hosted services let the contractor pay a fixed monthly fee.

The move to wireless was a no-brainer for the busy commercial/industrial service department at HTS Engineering Ltd. in Toronto.

"We wanted to eliminate a lot of verbal communication," reported service manager Morgan Cowl. "We were looking for a system where we could get quality information back from the field." That meant "stopping the chicken-scratch" on work sheets that office staff had to clarify with technicians by telephone.

Quality documentation

Basically, a wireless system ties the technician's handheld or laptop computer seamlessly to the shop's business and dispatch software.

"It's wireless work order management and the ability to schedule and dispatch work orders to your field force…" reports Carlo Marcanio, national account manager for FieldCentrix, Irvine, California.

The work order is transmitted to the technician who can adjust hours, add parts, recommend additional work, capture customer signature, etc. and immediately transmit the completed work order back to the office. It can automatically update the dispatcher's screen and transfer work site information to the office computer system to update invoicing, payroll, inventory, etc.

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Neither computer nor typing skills are required with many of today's systems. Drop-down screens allow the technician to tick off the right answer. "It's almost like it becomes a multiple choice exercise," remarked Nelson. Quality service records generated by a wireless system help improve customer satisfaction and reduce billing disputes because work order information is being captured at the point of service, added Marcanio.

Keeping track of technicians becomes easy. "Because it's checking back in real time, it's updating the dispatch board in real time," said Jamie Opalchuk of wireless software provider Mobilio Inc., Oakville, Ont. The technicians can be organized by zone, skill sets, equipment in their trucks, etc.

Service managers can go online any time and view the information that technicians are putting into their computers, again, minimizing the need for telephone calls.

Master files are created for each customer. This gives the technician access to equipment history and guides the planning of preventive maintenance. With an Internet connection, the technician can visit manufacturers' web sites to check specifications and maintenance information.

Residential contractors often use the wireless device as a point of sale terminal," added Opalchuk.

Choosing wireless software

The contractor must have a clear idea of what he/she wants a wireless system to do before they go shopping for a system.

"You want to find a software system that doesn't force the contractor to become a computer technologist," notes Marcanio. "It must follow the normal flow of their work orders – it does everything they usually do, but electronically."

Cowl required his wireless provider – Mobilio Inc. – to not only provide training for employees, but to work with the back office software provider to ensure that the two systems worked seamlessly together.

Depending on the size and complexity of the business, getting started may be as simple as loading a disc into a computer, or it may require considerable on-site setup and training from the wireless provider.

Typically, a couple of employees will be trained first. The system will be fine-tuned to suit the contractor's needs before other employees are brought on line, said Opalchuk.

One should avoid throwing too much new technology at the technicians at once, Cowl cautions. He plans to introduce things like GPS and bar coding in the future, but not until the technicians are comfortable on the wireless system.

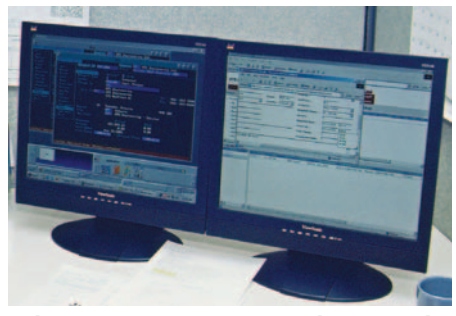
HTS Engineering service manager Morgan Cowl and service coordinator Fulvia Sperandio examine the day's projects.

The equipment

There are numerous devices that technicians can use to communicate with a wireless system – laptop computers, various handheld computers and even some of the modern cell phones with computer functions.

"Everything's converging," remarked Opalchuk. "We are seeing all-in-one devices that are both a computer and cell phone."

However, where the contractor requires the customer to sign off on the work order, the device must use PDA (personal digital assistant) technology, noted Nelson. Designed for transferring handwriting into a computer, it is the only technology that can capture signatures.



With two screens, the service coordinator can use her mouse to drag information from the (MobilioLINK) wireless communication system on the right to the back office on the left.

Handheld units can be tough, but

Computer literacy

The question of computer literacy among field technicians often arises when discussing wireless technology.

One would typically think that younger more computer literate technicians would catch on quicker. The reality is just the opposite, reports Morgan Cowl, service manager for HTS Engineering in Toronto. "The older guys love it. It's a new challenge."

And there is considerable motivation, added MobilioLINK's Jamie Opalchuk. "They don't have to spend their Sunday evenings doing their paperwork anymore."

That being said, today's young technicians expect to use computers in their work, said Rogers' Mansell Nelson. "One of the things we are finding is that wireless technology is attracting younger people into the industry because they can use these kinds of tools. They see these companies as progressive for adopting these kinds of technologies."

expensive, trade versions or less expensive "throw-away" models. Some wireless providers will lease the equipment as part of a package.

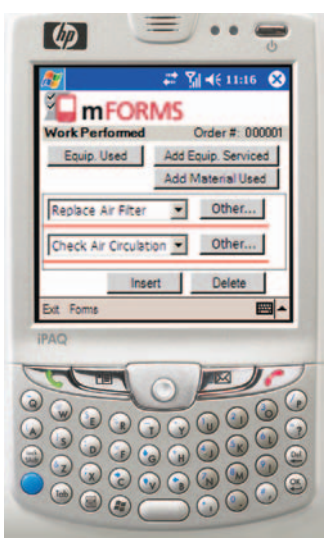
Technicians at HTS Engineering were already using laptop computers to diagnose equipment, reported Cowl. Adding a $350 'air card' allowed connection to the wireless network. However, he plans to upgrade to handheld computers that will include bar code readers. His technicians will bar code customers' equipment to provide quick access to the service history in future visits.

Air cards are available for less than a $100 when purchased as part of a three-year contract, noted Leo Tang, director of channel and alliance management for Bell Mobility.

All of these devices still work when a technician leaves the wireless coverage area, he added.

"If a technician goes five storeys down to service a boiler, it's unlikely that they would have access to a wireless network. But it doesn't matter, because they can still use the wireless application to input information. When they go back up to the ground floor, the information can be sent..." said Tang.

Some units – all MIKE System handsets, for example – incorporate Global Positioning Systems (GPS), allowing the dispatcher to locate technicians with a glance at a map on a computer screen.



Drop-down forms on the technician's handheld computer can make the input of job site information a simple "multiple-choice".

HTS Engineering ran into difficulty in setting up its service coordinators. With only one computer screen, they found themselves constantly flipping back and forth between back-office and wireless systems. That proved a real nuisance, reported Cowl.

An air card is used to connect a laptop to a wireless network.

The solution was a two-screen system with wireless on one and the office system on the other. This allowed the service co-coordinator to drag information between the two.

Wireless networks

Three companies offer wireless coverage to more than 90 percent of Canada's populated areas – Rogers Wireless, Bell Mobility and Telus.

Wireless charges have dropped 25 to 30 percent on average over the past four years, reports Tang. The shift to digital networks has created systems that are up to 70 times faster than the analog versions they replaced.

Costs vary depending on the size of the contractor and the equipment they use. On a hosted service, the monthly fee can be relatively low – as little as $125 per month for the Rogers mForms™ system, for example.

And that makes wireless technology worth a second look for all the contractors that walked away because of the price in years past.

"The concern of the owner is no longer what the technology can do for them. It's more that, as they see it more and more in the wider world, they are going to realize this is the way they have to go," remarked Opalchuk.

Back in his office, Cowl can view any job site information that the technicians put into their computers.