



## A Step into the Efficient Future

*Telecom company improves its field operations with powerful new technology and an innovative communications network*

Every company that uses field workers faces the familiar challenge of inefficient communication—and utility companies are no different. Field service techs need a great deal of information to carry out their tasks. They need to know their schedules, have a clear understanding of their work orders, and have access to information that can help them troubleshoot problems. And techs need to return a similar amount of information to the home office. They need to confirm their arrival, share change orders and confirm their departure times. Plus, given the very nature of their work, techs' schedules change constantly—some appointments run long, some customers decide to change service or add features on the spot—so they need a real-time communication tool.



Cell phones have provided this real-time communication recently. Armed with a cell phone, the field worker rarely needs to return to the office to share the needed information. But cell-phone reliance has brought about unforeseen consequences. For every call that a field worker makes, there must be a dispatcher ready to answer the phone and share information—and that means increased labor costs. In fact, many companies who rely on cell phones struggle to keep up with their need for dispatchers.

Black Hills FiberCom (BHFC), the telecom subsidiary of a \$1.3B diversified energy company located in Rapid City, South Dakota, also faced this challenge. Each of BHFC's 40 install and repair technicians was calling a dispatcher for information up to six times per appointment. Since the company's field techs handle between eight and 12 service appointments each day, that's up to 2,880 calls between field workers and dispatchers each day—and a daily total of nearly 90 minutes on the phone for each tech.

"We were having to ramp up personnel at the dispatch end just to keep up with the phone calls," says Don Strachan, an information systems manager with BHFC. "Our costs were rising with the inefficiencies of communication. We really needed to reduce our labor costs, especially for overtime."

### Seeking a better way

So Black Hills decided to find a better solution, and in the process took a step into the future of mobile communication. They looked for a combination of mobile computing and software that could relay the same information without a cell phone. Plus they wanted the ability to expand for other applications, in turn increasing efficiencies in areas they hadn't yet considered.

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The first step was to find the proper software. They chose Passport inField from Passport Corporation. “Our software gives BHFC techs real-time access in the field to information previously only available to dispatchers in the home office,” says Dave Peters, senior vice president of sales and marketing for Passport Corporation. “BHFC needed an easy-to-use application that delivered real-time wireless interactivity when connected and robust mobile productivity when offline. Service techs sometimes work in places where there’s no wireless coverage, but they still need to be able to review and record the information they need to do their jobs. These features, plus our experience in the telecommunications industry, made for a great fit.”

In their search for the right handheld, Bob Ewing, field services operations manager for BHFC, came across the Recon rugged handheld computer from Trimble. “We were considering several devices,” he says, “but all of them were larger, bulkier and more expensive, and most didn’t have color screens like the Recon. I loved the feel of the Recon, and I also liked that it has two CompactFlash slots and a standard 9-pin connector. Plus it runs Windows Mobile, so it’s compatible with our industry software and hardware. And best of all, none of the other handhelds came close on the price—even with the color screen.”

The Recon’s versatility also impressed Strachan. “With the two CompactFlash slots, there’s a multitude of applications we can utilize. For example, 65 percent of our customers have broadband cable, so we can actually use an Ethernet Flash card and connect the Recon directly to the customer’s modem. That will let us test the connection if they’re having problems, as well as allow our service techs in the office to send information directly to field techs who are working in areas not covered by our Wi-Fi network. With this kind of versatility, all our techs can use the same device to accomplish all their different tasks.”

With the combination of software and rugged handhelds selected, BHFC set about working with Trimble and Passport to configure their new system. “One of inField’s key features is rapid application development, so it was easy to set up initial screens to show the field techs,” says Peters. “The initial review team loved the application and the device, and asked Bob and Don why they hadn’t given them this sooner! But of course everybody had suggestions for new features and functions once they got the device in their hands. You have to see and use this kind of software in order to really figure out how it affects the processes and procedures you use each day. We were able to make a few significant screen changes in only a few hours—between a morning meeting and an afternoon training session. BHFC was amazed.”

## Connecting the pieces

Now that Black Hills had the software and handhelds to do the job, they needed to find a way to connect their field components to the home office so they could truly eliminate the excess cell phone time. For this, they used a little imagination and some corporate synergy. While commercial wireless carriers offer good coverage in Rapid City, you don’t have to go far out of town to lose service. So, knowing that BHFC’s regional telecom conglomerate included the necessary infrastructure, they got creative.

“We needed real-time access, but how to connect from a series of living rooms to the home office?” says Strachan. “Commercial carriers aren’t the answer today. So we realized that every service tech has a truck—what if we put an 802.11b hot spot in the truck?”

“We realized we could team up our infrastructure with 802.11b to talk to the Recons in the field,” he says. “Because we’re also an Internet provider, it proved to be relatively inexpensive. We could buy

products off the shelf to do this. It's commonly available technology, and with the Passport software and the Recons, it all fit together perfectly."

So BHFC turned each of its service trucks into a mobile hot spot that connects up to 300 feet from the truck—plenty to reach the house from the street or driveway. However, BHFC's territory does extend outside Rapid City to numerous small outlying towns beyond their own infrastructure. Taking their creativity one step further, BHFC solved the problem by installing hot spots in appropriate locations in each town—next to a common lunch-break restaurant, or near a convenience store—so techs can stop by to get updates on their Recons.

## **Paying for itself**

Once the system is fully deployed, BHFC's field workers will be able do all their communicating with their handhelds. Using the Recons and inField, techs will receive their initial daily schedules each morning, review appointment and trouble ticket information, and enter service information directly into the Recon in the field. As each call is completed, updated information will be transmitted in real time directly back to the home office or stored until the tech is back in coverage. Schedule changes and updates can be sent to the techs on the fly, and if one service team completes its assignments early they can call up appointments for other teams that might be running behind. With this kind of real-time information and adjustments available, techs will be less likely to require overtime, and dispatchers will be able to deploy field resources more efficiently.

How much will the new system help? "The impact will be immediate," says Strachan. "Just putting our appointment call process on the handhelds, we figure to recapture one to two hours per day of essentially lost time for each field tech—that's about 20 percent of their typical 10-hour day. We figure now our techs can either complete two more trouble tickets a day or do extra maintenance work—either way, it cuts down on our labor and overtime costs. And with access to better information in the field, we can do the job right the first time and deliver better service to our customers."

What's more, BHFC will reduce its need for dispatchers from four to just one, resulting in a major labor cost savings. And Passport automatically delivers updates to the devices, so the techs won't need to bring the devices back to the office or install any new code—minimizing device and software management costs.

So BHFC has taken a step into the future to solve the common problem of excess labor and overtime costs caused by inefficient communications. And Strachan is able to deliver words that any utility would be happy to say: "Once this system is fully deployed, it should pay for itself entirely in eight to 10 months."

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