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CASE STUDY EARLY ADOPTER

Building on Air

Bechtel uses wireless tech to gain a competitive edge

BY MERIDITH LEVINSON

BECHTEL GROUP—the \$11.6 billion, 47,000-employee engineering and construction company best known for building the \$14.7 billion English Channel Tunnel and the \$20 billion Jubail Indus-

trial City in Saudi Arabia, and most recently for receiving a \$34.6 million contract to rebuild Iraq's war-crippled infrastructure—was experiencing a precipitous decline in new contracts in 2001. The

Edited by Christopher Lindquist. Read his column "Tech Tact: New Tools for New Jobs" every Monday at www.cio.com. Send suggestions for future columns and features to clindquist@cio.com.

Bechtel goes wireless...Superdense drives

CASE STUDY COMPANY INFO

Bechtel Enterprises

Headquarters San Francisco

Project Wirelessly enable remote sales force, using hardware and software from Good Technology, to access e-mail, scheduling and back-end systems.

Objectives Instantaneous access to Bechtel applications would increase efficiency when closing multimillion-dollar deals. Wireless time sheets also would help the company avoid penalties for late filing.

Technology used Good Technology GoodLink messaging system combined with GoodInfo integration software connected to existing back-end systems. Website: www.good.com.

Project started October 2001

Project completed Almost immediately. The existing back-end applications were already Web-enabled, allowing the Good system to quickly put them to work. Integrating non-Web-enabled applications would take longer, according to Bechtel.

Total cost NA. Good estimates that a rollout of one low-end server and 70 devices can cost roughly \$20,000 plus \$35 per user per month for a basic wireless service package.

Actual ROI None estimated. Bechtel prefers to state the project's success in terms of operational efficiencies and costs savings (roughly \$25,000 per month).

Primary benefits Remote salespeople can now request critical information on the fly through their handhelds, allowing for faster contract creation and speedier answers to customer questions. Employees no longer need a landline to submit time sheets, reducing delays.

Future plans Bechtel is investigating expanding the number of users from 35 to 200. The company is also anticipating Good's move to support its platform on other devices, including Microsoft PocketPC and PalmOS.

value of new work had plummeted from a high of \$23 billion in 1999 to \$14.5 billion in 2000 and to \$9.3 billion in 2001. The weakening of the U.S. economy and the reputation Bechtel earned in Massachusetts over its alleged mismanagement of the \$14 billion-plus Central Artery Tunnel Project (a.k.a. the Big Dig) seemingly had combined to hurt the giant's financial performance.

Looking for a way to increase efficiency—and hopefully improve sales—in October 2001, Bechtel Enterprises, the finance, development and investment wing of Bechtel Group, rolled out a wireless infrastructure and 35 handheld comput-

pany's proprietary personnel database, ExpertLink, to identify individuals with particular expertise (such as fluency in Arabic or experience constructing airports) when putting together a business plan for a potential client. The mobile workers can also more quickly find out which prospective customers their colleagues are meeting by wirelessly searching a proprietary market intelligence application called BDTools. In addition, they no longer need to struggle with unstable dial-up connections to submit time sheets.

Jack Gold, an analyst with Meta Group,

The PDAs and wireless infrastructure have certainly made accessing time-sensitive information and mission-critical applications much easier for Bechtel Enterprises' deal makers.

ers from venture-backed startup Good Technology. Alberto Hernandez, Bechtel Enterprises' information systems manager, thought the wireless technology would let his division's mobile professionals, who are responsible for striking deals with potential customers, close more contracts and thus improve Bechtel's overall financial state. Thirty-five handhelds may seem like small potatoes for such a huge company, but when each person working with one of those wireless PDAs is in charge of inking a multimillion dollar deal, a technology's impact can add up fast.

"In today's market, the person who's got the most information is able to win the most work," Hernandez says. "When you're out there trying to make a deal, there's a lot of info that could give us an advantage over a potential competitor."

The PDAs and wireless infrastructure have certainly made accessing time-sensitive information and mission-critical applications much easier for Bechtel Enterprises' deal makers. They can now much more easily tap in to the com-

pany's ROIs for wireless deployments will vary, but there are "three primary benefits companies should seek." One is increased productivity of users. Another is more efficiently run operations. The final one is "better overall customer intimacy," he says. And according to Hernandez, Bechtel Enterprises has scored two of the three—increased productivity and more efficiently run operations.

No More Waiting

Before Bechtel Enterprises began deploying wireless technology, mobile workers didn't have easy access to corporate information. If, for example, a Bechtel Enterprises employee in Asia was trying to put together a deal with a potential customer in that region to build an airport and wanted to show the client all the expertise the organization had in building airports, he would have to ask an HR person in Bechtel's San Francisco headquarters to search the company's ExpertLink database for a list of qualified individuals. The employee in Asia would have to wait at

least a day to get the information because of the time difference and the lack of connectivity. Today, the remote Bechtel rep can get that information instantly on his PDA.

Submitting time sheets pertaining to work on U.S. government contracts was also a problem before Hernandez brought in wireless. Government regulations require the company to fill out sheets on a daily basis. Each time an employee fails to submit one on time, whether due to an unstable dial-up connection or the inability to locate a computer with dial-up access, Bechtel incurs a “substantial” penalty. (Hernandez won’t elaborate on the actual figure.) These days, Bechtel Enterprises’

give wireless a whirl in 2001, 35 of its 250 employees were already using BlackBerry pagers from Research In Motion (RIM). But even with the BlackBerrys, users didn’t have instant access to the information they needed. Syncing the data on a handheld with the data stored in back-end corporate databases required a trip to the user’s desktop cradle, which was likely back in a hotel room or the home office. After he was approached by sales executives from Good Technology, Hernandez became sold on the basis of the company’s cradleless, wireless synchronization technology, the capability to wirelessly enable proprietary corporate applications so that

Siebel CRM system. For example, if a user wants to find out if any of his colleagues are meeting with ExxonMobil or if he needs information on tax policies, contracts with banks or experiences with lenders, GoodInfo connects to the necessary data sources and returns the results to the user via wireless e-mail within minutes.

Hernandez says it took just three hours to get the GoodLink server up and running and about five hours to both put the GoodInfo server online and wirelessly enable three corporate applications—ExpertLink (the resource management application), BDTools (the market intelligence application) and BETR (Bechtel Enterprises’ time recording application). (Hernandez admits that the deployment was so quick partly because the applications were already Web-enabled. Had he needed to put a browser-interface on those apps, the implementation would have taken much longer.)

Hernandez won’t disclose the cost of the hardware, software and wireless service he purchased from Good, noting only that he spent \$10,000 in consulting fees. But a company that buys low-end server software from Good and rolls out 70 devices can expect to make an initial investment of less than \$20,000 (based on the \$349 cost of each handheld device and the GoodLink server that starts at \$2,000) plus \$35 per user per month for a basic wireless service package and other fees, according to Good.

Hernandez, who is participating in an early-adopters program with Good, is currently in the process of deciding, with users’ input, which other corporate applications should next be made available via the wireless network. He wants to roll out more devices to the 250 employees who work for Bechtel Enterprises. In fact, he says, if he gets his way, everyone in the organization will have one.

The Benefits

In 2002, Bechtel Group managed to increase the amount of new business it booked from \$9.3 billion in 2001 to

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mobile sales force no longer has to worry about temperamental modems preventing them from submitting their time sheets on time. They can access the time record application and submit their time sheets through wireless handhelds.

To access their Microsoft Outlook e-mail, calendar or contact information, employees had to find a location with a computer (if they didn’t have one of their own) and either a LAN connection or the capability to access the corporate network via a remote access server (RAS). “You’ve got a person sitting at a terminal waiting for, one, a connection, and two, for the data to come back to them via an analog line, which is pretty slow,” says Hernandez.

While all that waiting seems like it would be enough to make any user scream to their IS department for better IT, Hernandez insists he wasn’t getting complaints from users about the difficulty of making those remote connections. “I think we were being proactive,” he says.

Drop the Cradle

At the time Bechtel Enterprises decided to

users could access them from either their RIM or Good devices, and the fact that Good’s software will eventually run on other devices, such as Palms, HandSprings, Compaq iPAQs and Microsoft smart phones.

In addition to purchasing 35 new Good devices, which brought the total number of wireless handhelds deployed in the organization to 70, Bechtel loaded Good’s GoodLink and GoodInfo software onto two different servers. The GoodLink software lets handhelds communicate with the company’s Microsoft Exchange server. GoodLink takes all the e-mail, contact and calendar information in Exchange, converts it to a format suitable for a RIM or Good device, encrypts it using Verisign’s triple DES (data encryption standard; a popular symmetric-key encryption method) and pushes it outside the Bechtel firewall and over Cingular Wireless’s Mobitext network.

Meanwhile, GoodInfo performs database queries on a variety of back-end systems, including proprietary databases, an ERP system, and a Salesforce.com or

\$12.7 billion in 2002 for a net increase of \$3.4 billion. Hernandez won't credit any of that increase to wireless technology. He will, however, point to cost savings. By deploying Good's technology, Hernandez was able to disconnect the RAS server, saving his company about \$30,000 a month on remote connectivity. He says the difference between what he was paying for the RAS server and what he's paying for Good is about \$25,000 a month.

In spite of Bechtel's dramatic cost savings, this kind of wireless deployment won't work for every company. Stephen Drake, an analyst with research company IDC (a sister company to *CIO's* publisher, CXO Media), advises companies to think

critically about which applications they want to make available over a wireless network and who's going to use them. Bechtel Enterprises made three mission-critical applications available to its mobile sales force. Good made sense for Bechtel Enterprises because the organization uses the devices to obtain basic, textual data that's easy to format for a small screen and that doesn't take a long time to download over the slow Mobitext network (which is one-tenth the speed of a phone dial-up connection). If Bechtel Enterprises employees were downloading graphic-intensive maps or diagrams, they'd want to reconsider using both handheld devices and a slow network. And if the organization's users were not salespeople on-the-

go but construction workers spending their days underground, they'd probably opt against a pure wireless connection, which would be impossible to access from their subterranean locale, in favor of a cradle solution or some combination of the two.

But for Bechtel's purposes, the Good products have proven...good. "It's critical for our people to be able to access information. We're a global organization. For them to be able to retrieve information without having somebody here in the office get it for them is a big deal for us," says Hernandez. ■

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