



# CENTER FOLD

## CONCENTRA HEALTH FINDS A CURE FOR WIRELESS GROWTH

BY KELLY JACKSON HIGGINS

Sometimes wireless deployments are trial and error. Concentra Health Services found that out the hard way earlier this year, when it launched a pilot for a custom physical therapy application and there was an annoying three- to four-second delay between screens.

It turns out that the Windows CE devices from Fujitsu didn't have enough power for the Web-based applications. "I was surprised," says Jay Wilson, vice president of information services and technology for the billion-dollar private occupational health provider, in Addison, Texas. "We thought we could get it to run efficiently on the handhelds."

To correct the problem, Concentra converted the Web application to a thin-client application using Citrix Systems' MetaFrame middleware. This way, the server would execute the client code rather than push it to the mobile devices. "It centralizes the application in the data center so that it's in one place instead of on every desktop and handheld," Wilson says. Only the screens and user input and output are sent between the Citrix server and the handheld, so it uses less bandwidth and requires upgrades only at the server.

The new applications for physical therapists and physicians now run in most of Concentra's 250 clinics across the country. Some 1,000 physicians and physical and occupational therapists use the applications in lieu of voice dictation and hand-

written notes to document patient visits.

When a patient arrives for an appointment, for instance, his or her name appears on the doctor's handheld computer. The physician can pull up information about the reason for the visit (say, an injury from a fall off a forklift) and the patient's previous visit and treatment. That information is fed from a Sybase database that handles patient data.

The browser applications, collectively called ChartSource, run on a combination of Windows 2000 and Citrix MetaFrame NT servers in Concentra's Addison data center. Concentra's clinics have 56-Kbps frame relay connections to the data center. The MetaFrame thin client software helps minimize Concentra's frame relay WAN costs because it doesn't use much bandwidth, Wilson says.

Indeed, Concentra's wireless applications already have paid for themselves: Wilson says the company is saving about \$3 million a year in transcription costs for physicians, which is about what it cost to develop the custom wireless applications.

Even with the architecture improvements, therapists notice slowdowns and screen delays with the ChartSource Therapy application during peak periods at the clinics. Concentra's IT team is working with outside contractors to help determine the cause, Wilson says, which he believes is a load problem with the server or wired network, not the

### JAY WILSON

**Occupation:** Vice president of information services and technology.

**Organization:** Concentra Health Services, Addison, Texas.

**Years' Experience:** 16

**Responsibilities:** Heads up all IT operations, including LAN, WAN, security and wireless application development.

**Size of IT Staff:** 62

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### ON THE JOB

**WILSON'S BIGGEST CHALLENGE WITH THE WIRELESS NETWORK:** Overcoming the inherent security weakness of 802.11b WEP technology.

**HARDEST PART OF IMPLEMENTATION:** Finding the best location to place the access point in the clinics to provide coverage without getting interference from equipment.

**BEST PART ABOUT WIRELESS APPS:** Providing solutions to medical and therapy providers, whose responsibilities don't allow them to be tied to a desk all day.

**NEXT TIME I BUILD A WIRELESS NETWORK, I WILL:** Make sure contractors have experience with the technology.

**JOB PERKS:** Providing technology solutions that make the workday better for someone else.

**MY NEXT CAREER:** Running a marina.

wireless connection. Enterasys RoamAbout wireless access devices run in the clinics.

Wilson and his IT group, meanwhile, are already testing the next phase of the wireless project, incorporating the patient checkout process. Physicians and physical therapists will use the application to record their recommendations for a patient's treatment after a workplace injury, along with a recommendation for when he or she should return to work. Today, those recommendations are recorded on paper, and an administrative assistant enters the therapist's notes into Concentra's homegrown practice management system, which shares a database with the wireless applications. "They will be able to document when the next appointment date should be and what procedures should be performed," Wilson says. Billing will be automatically generated, too.

All of Concentra's applications, including the wireless ones, are integrated using the company's Sybase database.

Concentra, like other health care organizations, is under pressure to keep patient data confidential to comply with the federal government's Health Insurance Portability and Accountability Act (HIPAA). Security hasn't been compromised on Concentra's wireless network so far, but Wilson says he anxiously awaits Enterasys' newest encryption technology, which works around the WEP (Wired Equivalent Privacy)'s weakest link: its vulnerable session key.

"One of the weaknesses in Web encryption is that the session key is broadcast out, and someone could capture and decrypt it," he says. Enterasys' new encryption feature, called rapid rekeying, automatically changes the key every 10 minutes, so a stolen key expires before significant damage can be done. Enterasys uses 128-bit encryption.

Concentra also plans to expand the new wireless applications to handle pre-employment physicals, drug screenings and other diagnostic tests used by employers. Although the extra Citrix layer is necessary now, Wilson says he hopes the newest generation of handheld devices will be powerful enough that Concentra can eventually shed the Citrix layer. ■

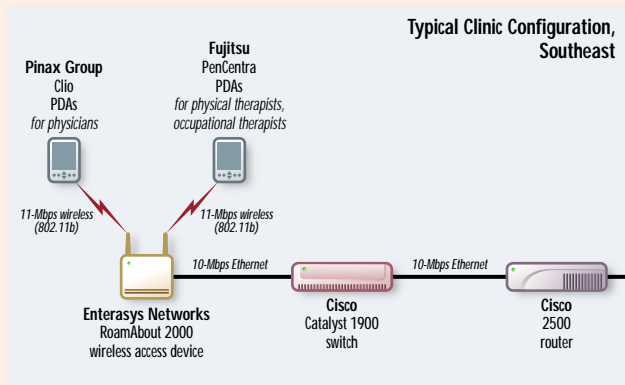
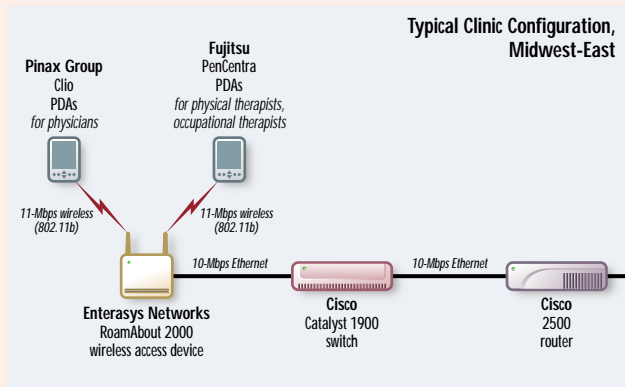
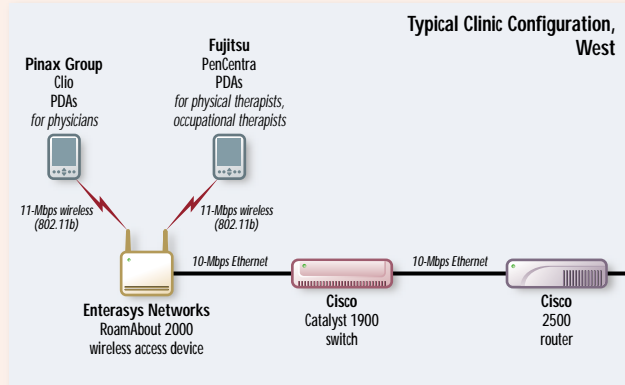


DIAGRAM BY BOB POWERS

# CONCENTRA HEALTH SERVICES

