

Pediatric Software and RangeLAN2™ Keep Pediatricians On The Move

A Wireless LAN Case Study



"We feel great about the system. The success of our product is due to a combination of the practical and powerful software and Proxim's wireless LAN technology."

—Daniel Frieling, President, Pediatric Software International

High-tech House Call

Sometimes sick children are physically unable to get to a hospital, either because transportation is unavailable or because they are immobilized. However, through an innovative project at the Children's Hospital of the Greenville Hospital System, pediatric care is being brought directly to young patients' homes. A mobile clinic housed in a van travels around the city, bringing care right to the sick child; conducting check-ups, sick visits, camp physicals, and immunizations. Amazingly, with the wireless local area network (LAN) technology, if a child has chronic ailments and cannot be moved, doctors can take health care directly to the child's bedside!

Making room for several hundred patients' charts in the van used to pose a problem. Since doctors and nurses never know which patient records they'll need, it's crucial that they have access to any number of them instantly while mobile. To meet this need, a creative solution was implemented, utilizing RangeLAN2 equipment from Proxim to provide clinicians access to patients' medical records wherever they go. Information is viewed and updated live, right from the wireless handhelds in the van.

A Clinic On Wheels

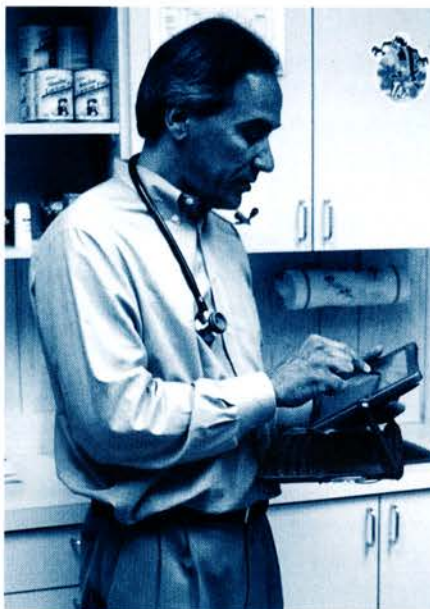
Though now the wireless solution is becoming widely popular among pediatric clinics and children's hospitals,

not everyone was initially convinced. "In the beginning, our pediatric office solution had a few problems," remembers Daniel Frieling, President of Pediatric Software International. "In terms of the software, it was very advanced. Doctors thought it was interesting, but they didn't know how to apply its features to their practices." According to Frieling, adding mobility changed doctors' minds quickly. "Now, as more and

more pediatricians understand the power and applications of wireless technology and mobile handheld computers, our software solution is really starting to take off."

A generator in the van supplies power to the server, a MedServer Mobile supplied by Pediatric Software, running multi-user Windows NT and Citrix Metaframe remote access software, and utilizing CompuKID, a specialized program for pediatric medical records. The MedServer itself is a 15-pound Pentium computer with 128 MB RAM / 8 GB hard disk.

While making rounds in the mobile unit, the MedServer is placed on a desk in the van and plugged into an A/C outlet. A Proxim RangeLAN2 Ethernet Adapter (EA) establishes a radio data connection between the file server and the handheld computers via their RangeLAN2 PC Card or RangeLAN2 CE PC Card. This radio link between the file server and the Windows CE units



RangeLAN2™

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creates a fully portable medical records system. The compact, robust EA is located out of the way behind the file server.

With CompuKID running wirelessly on the handhelds, doctors and nurses are able to review patient history and chart the current encounter faster and with greater detail, producing an electronic record that is readable, comprehensive and printable. Doctors use the handhelds to chart exams, compute immunization schedules, display growth charts, and track vaccinations. At the end of the day, the MedServer and the handhelds pack neatly into a carrying case and are carried into the hospital, where they are secured overnight. Backup files are created by connecting the mobile server to the hospital's wired network. Another option is for doctors to take the handheld units home. Through their normal home phone lines, doctors can establish a direct connection to access patient records via their clinic's private network or over the Internet.

Safe and Proven Technology

RangeLAN2 products employ spread spectrum radio frequency (RF) technology, and operate in the 2.4 GHz unlicensed band. RangeLAN2's radio transmissions meet IEC 601-1-2, the European safety specification for RF devices in healthcare, and have been successfully and safely implemented in a number of areas considered sensitive to RF interference- such as neonatal monitoring and intensive care units.

The Windows CE handhelds used are lightweight Sharp Mobilon TriPad PV-6000 portable PCs running the Windows CE operating system and Pediatric Software's CompuKID medical records application. The units have a touch screen pen interface, and a complete (though reduced-size) keyboard. "The portables have proven to be an excellent platform for our medical software," states Frieling. "The Proxim PC Card quickly plugs in

and makes for a great mobile LAN device, giving the user a wide roaming range, and a 1.6-Mbps maximum data rate. The Mobilons have an exceptionally long battery life, thanks to Proxim's industry-leading lowest power consumption requirements. It's an extremely practical system for medical staff constantly on the move."

A Boon To the Practice

In addition to enabling mobile pediatric care, these systems also ease the record keeping and patient-chart-recall chores of doctors in traditional clinics, by allowing them to retrieve and update medical records as they move from patient to patient. When doctors finish an exam, they can scan the computer's screen to view real-time information on their next patient- including the reason for the visit and in which room the patient is waiting. Doctors no longer must swing by the front desk clerks to find out if their next patient has arrived or where their chart is located; this information is now instantly available at their fingertips.

David Cooper, MD, PhD FAAP in Exton, Pa. is pleased with the benefits gained from the Proxim solution. His staff uses wireless handhelds in the office and at patients' bedsides. Charting has become much more efficient, and there is less missed billing. In fact, his gross revenue has gone up 18%. Dr. Cooper notes, "In my very busy practice, the time it takes to document an encounter is a major concern. I found that, with CompuKID and Proxim, I have now quadrupled my medical documentation, without losing any time."

The power and convenience of the wireless solution has drawn accolades from users. According to Frieling, "Observers are always amazed at just how fast the doctor is able to navigate through screens and record great amounts of documentation with simple pen taps and minimal keyboard input."



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