

NORTHWEST COMMUNITY HEALTHCARE WIRELESS SOLUTION

For almost 40 years, Northwest Community Healthcare has provided quality, compassionate healthcare services to the people of the northwest suburbs of Chicago. With a dedicated community-based staff of more than 700 physicians, Northwest Community offers an extensive range of services and is known for its excellence in cancer care, cardiology, emergency medicine, family medicine, mental health, orthopedics and rehabilitation, and women's and children's services

Northwest Community Healthcare's success is dependent not only upon competent healthcare professionals, but the use of technology has also become an important aspect in its capability to provide excellent patient care. Northwest Community Healthcare is a leader in adopting information management systems. The innovative use of cellular phones and wireless tracking devices allow nurses to be located and reached immediately. And a soon-to-be-implemented radiographic imaging system will allow X-RAY images to be accessed from terminals throughout the hospital. These technological advances provide accurate and timely access and information to the healthcare staff.



These improvements, and other advances like them, had enhanced patient services in the main hospital, but personnel in its three remote 24-hour treatment centers could not take advantage of most of the advancements such as the on-line patient care applications. The patient care software system did not adequately support the remote facilities. Access to patient data and software programs was also limited by the hardware in the treatment centers. These remote emergency and outpatient clinics were equipped with ASCII terminals and a modem connection to the main hospital. Transmissions were limited to basic patient data, and remote personnel routinely made the drive to the hospital to obtain other files such as lab reports and patient history data.

The installation of a new patient care software system enabled the hospital to provide upgraded services to the treatment centers, but forced Northwest Community Healthcare to replace their 56Kbps modem lines. With files up to 30 megabytes in size, combined with expected heavy demands on the system, even a 1.5 Mbps T1 line would have been too slow. The hospital was looking at a 45 Mbps DS3 optical, fiber-based solution that would have cost \$90,000 in capital investments plus \$90,000 annually for the life of the installation. Besides being expensive, there were concerns that the DS3 solution could be vulnerable to damage from heavy equipment used for the on-going construction in the area.

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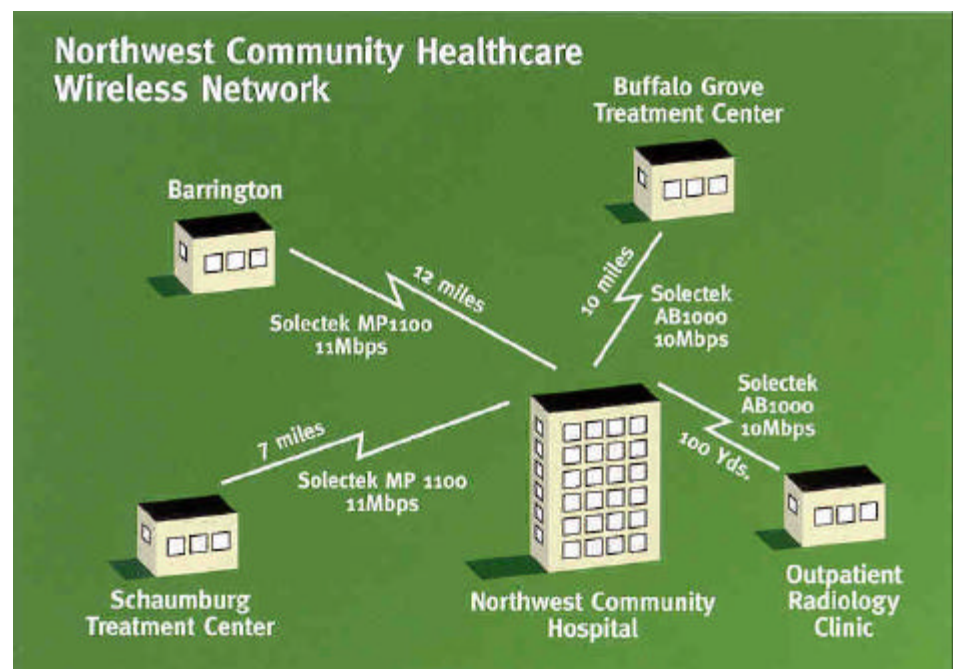
Tyron Mitchel
Northwest Community
Healthcare Systems
Analyst

The hospital decided to explore a different alternative and called Solectek Corporation about its bridging/routing products. Using spread spectrum radio technology, Solectek provided Northwest Community Healthcare with 10Mbps wireless links between the main facility and the remote treatment centers. These wireless links connect the Ethernet LAN at the main facility with LANs at the remote treatment centers. The Solectek wireless network not only easily handles the large application files, but since Northwest Community Healthcare owns the equipment, the \$90,000 annual recurring expenses were eliminated. Geary Davis, vice president of Information Management Systems, is pleased with the Solectek product. "This is a cost-effective solution to our needs for increasing bandwidth and improving patient care while maintaining financial reasonability."

From a tower on top of the twelve story hospital, the Solectek bridge/router directs files at a data rate of 10 Mbps across building complexes and the Woodfield Mall to the Buffalo Grove treatment center ten miles away. The second link goes to the Schaumburg treatment center, about seven miles away. Patient files, emergency information and lab results are transmitted back and forth. Additionally, e-mail transmission has minimized the need for the staff to physically drive to the hospital and has improved the communications to the treatment centers. "It's just as clear and fast as if they were here at the hospital," says Kathy McWard, desktop solutions analyst and project leader for the network installation.

One of the engineering challenges for Northwest Community Healthcare was the presence of other radio signals, or "noise" in the area. To avoid potential disruption of the 10Mb/sec wireless data signal, Solectek used a directional antenna. This high performance antenna reduced the likelihood of interference affecting the link, and allowed clear signal transmission from the bridge/router.

Northwest Community Healthcare opted to install the system themselves with on-site systems engineering assistance from Solectek. The hospital had never used wireless technology before this project. "I had heard of the Solectek system, but I wasn't sure how effective wireless was going to be," recalls Tyron Mitchell, the systems analyst for the network. The planning began in October 1997. The hospital went "live" in February 1998 with a smooth installation. The links have been operational ever since. Asked if he was satisfied with the system, Tyron replied, "The remote people are happy with the system and the capabilities it gives them. As long as they're happy, I'm very happy!"



Solectek Corporation, headquartered in San Diego, California, designs, manufactures and markets a full line of wireless interconnectivity products. Through technical innovation and steady revenue growth, Solectek has become a recognized leader in the wireless LAN/WAN connectivity market and the industry market leader in wireless bridges. Founded in 1989, Solectek has over 4,000 installations worldwide. The Solectek product line of wireless bridges and routers is the most flexible, reliable and secure in the industry. For more information visit www.solectek.com.