



Customer Case Study

Telemedicine Pioneer Helps Physicians on the Move Stay Close to Patients

Executive Summary

Customer Name

InTouch Technologies

- Goleta, California, United States
- 40 employees

Industry

Healthcare

Business Challenge

- Create a reliable, high-performance network to allow physicians to use robots to consult with patients over the Internet.
- Ensure secure connections in compliance with healthcare regulations.
- Support company growth by keeping InTouch Technologies employees connected to the resources that they need, regardless of where they are located.

Network Solution

- High-performance Cisco wireless network in hospitals
- Cisco security solutions
- Cisco switching and routing

Business Results

- Provides highly reliable network for acute care telemedicine solution.
- Ensures security to protect confidential patient information.
- Provides infrastructure to support growth of InTouch Technologies.
- Improves customer support and interactions, while reducing travel time and costs.

InTouch Technologies mobile robots move through hospitals using secure, reliable Cisco® wireless networks to help physicians working in remote locations “beam in” to consult with patients and staff.

Business Challenge

InTouch Technologies – an innovative, privately held company based in Santa Barbara, California – is helping to improve the quality of acute care while reducing its cost by pioneering the use of Remote Presence solutions with its RP-6 Robotic System. Affectionately nicknamed “Mr. Rounder,” “Rudy,” and “Chip,” by InTouch’s healthcare customers, the five-foot-four-inch robot features a flat-screen computer monitor and a two-way audio/video feed. The robot is guided by a physician using a joystick from a computerized ControlStation console in another location, usually the physician’s office, clinic, another hospital, or home. The robot allows physicians to “beam in” to the hospital, visit with patients, and consult with colleagues and staff – moving, seeing, hearing, and talking as though the physicians were actually there. The screen rotates 340 degrees and pivots up and down, so that the physician can also see and hear everything going on around the robot.

The Remote Presence robotic solution delivers improved patient care and tremendous provider efficiencies. The robot is not meant to replace important daily interaction between patients and physicians. Rather, it serves as an extension to traditional patient-physician interaction, improving communication and increasing patient (and family) satisfaction. Busy physicians can have a virtual presence at the patient’s bedside much more frequently than they can visit in person. They can consult with colleagues about cases, talk to family members, and coach and train staff. Through faster response, improved communications, and more productive workflow, hospitals can improve the efficiency and effectiveness of care delivery.

Supporting the mobility of physicians – and robots – is based entirely on advances in networking technology. According to Greg Brallier, InTouch’s senior director of information technology and technical services, “In the past, the only way to deliver this kind of service was using expensive, dial-up ISDN facilities, which were not even available everywhere. The Internet makes it economical to deliver a Remote Presence capability to anyone from anywhere.”

In order for the Remote Presence solution to be a trusted presence, InTouch had to ensure that the service would always be available when physicians beamed in. “We knew the success and acceptance of the robots would be dependent on the reliable availability of the network. We had experience with several wireless technologies that just did not have the reliability or signal strength that we wanted,” says Brallier. “In addition, we had to provide rigorous security in compliance with HIPAA (Health Insurance Portability & Accountability Act) regulations.”

Cisco Systems, Inc.

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InTouch evaluated several networking vendors for the robot's wireless connection in the hospitals as well as the ControlStation consoles at the physicians' homes, offices, and clinics, but, says Brallier, "The only company that met our performance and security requirements was Cisco Systems®."

"We knew the success and acceptance of the robots would be dependent on the reliable availability of the network and rigorous security in compliance with HIPAA regulations."

– Greg Brallier, senior director of information technology and technical services, InTouch Technologies

Network Solution

Both the company and its product run on a Cisco network. "Our product fundamentally relies on Cisco capabilities," says Dr. Yulun Wang, Chairman and CEO of InTouch Technologies. "InTouch not only uses the Cisco network for our infrastructure and supporting all of our business processes and communications, it is also a vital part of the product. Without Cisco we have no product."

The RP-6 Robotic Systems connect to Cisco wireless access points installed in the hospital. This gives physicians the freedom to direct the robot around a unit, down hallways, and in and out of patient rooms. "The Cisco wireless network provides excellent signal strength, so the robots can be directed anywhere without the physicians losing the connection," says Brallier. "This gives us an important advantage because we know we can deploy our system in any area of the hospital with wireless access – intensive care units, emergency departments, and other areas of high acuity."

Physicians access the remote robots via the Internet using a Cisco router and broadband connection. The connection is a sophisticated, secure encrypted connection – completely HIPAA compliant. Brallier says the Cisco network gives customers the strong security that they demand. "The Cisco authentication protocol is efficient and easy for the hospital to administer."

"There is a robustness and reliability to Cisco services that we are very comfortable with," says Dr. Wang. "And in our industry, reliability is key. With the sensitive work we are doing, the network simply cannot fail."

With headquarters in Santa Barbara, salespeople around the country, and technical support based in South America, InTouch relies on its Cisco infrastructure of routers, switches, and firewalls to communicate and share information. Cisco VPN technology allows remote employees to upload and download information securely, from anywhere. The network also provides easy, secure access to the companywide Enterprise Resource Planning and Customer Relationship Management systems. Previously, according to Brallier, the company had tried another VPN technology, and employees had constant problems trying to access the corporate network. "Once we turned on the Cisco VPN server, we never experienced another complaint," says Brallier.

The company also gains tremendous efficiencies internally by using its network based on Cisco products and services to communicate with customers. InTouch salespeople and executives can beam into robots at customer/partner sites to attend meetings, answer questions, or simply pay a visit. Customers regularly beam into a robot at the InTouch office to attend company's sales, marketing, and product development meetings in order to share their experiences and feedback. This provides InTouch with a steady flow of customer feedback, which helps the company stay aligned with customer needs.

For support, InTouch uses an Internet-based Fleet Monitoring System (FMS), which allows the technical service department in Argentina to conduct preemptive troubleshooting. Engineers can run diagnostic tests on the robots without interrupting – or being noticed by – clinicians using the robots. FMS monitors a wide variety of product information including product status, utilization, and system latency. Monitored information is reported to a database that InTouch's technical service department uses to ensure maximum uptime and optimal product functionality.

Network-based customer visits and technical support have greatly reduced travel costs while supporting the company's ability to deliver world-class service. Even product training is done remotely.

Business Results

For customers, the Remote Presence solution is a boon to an increasingly overburdened healthcare environment, giving physicians unprecedented flexibility and mobility. For patients, InTouch gets physicians to their bedside when they need them most, as opposed to when schedules allow. This can help reduce the long wait time for services that slows down the healthcare system and creates more stress for patients and clinicians.

Customers are providing feedback on how InTouch has positively affected their operations. "The RP-6 robot is one of only a few pieces of equipment available today that is useful to virtually every physician in our hospital, regardless of specialty," said Samuel H. Turner, Sr., President and CEO of Shawnee Mission Medical Center, Kansas City. "Our four robots are currently being utilized by physicians in the Emergency Department, Intensive Care Unit, Joint & Spine Care Center, and Cardiac Care Center."

After using the robots, Shawnee Mission physicians participated in surveys. The results showed that:

- 96 percent of physicians said the technology allows them to advance or improve patient care and learn more about their patient's condition.
- 88 percent of physicians said the robots save time, increasing physicians' overall efficiency.
- Three out of four physicians said the systems allow them to accelerate the time of patient discharge.

In recognition of its achievements, InTouch received the American Telemedicine Association's 2005 Innovation Award for Telemedicine.

The InTouch telemedicine solution fills a vital need in the healthcare system, fueling the company's growth and expansion. InTouch has experienced triple-digit growth over the last couple of years, and expects to continue growing rapidly in the future. The Cisco network will play an important role in helping InTouch stay connected to both patients and employees as they grow.

Next Steps

As InTouch Technologies continues to grow, the four-year-old company will continue to rely on Cisco network solutions. The potential market for high-quality telemedicine services is almost unlimited. The initial implementation of the Remote Presence capabilities is in acute care areas of major hospitals. InTouch hopes to use the product to connect clinicians in major training hospitals with patients and staff in rural, community-based facilities.

Recently, InTouch was asked to participate in a statewide bioterrorism exercise in Montana in conjunction with St. Vincent Healthcare, the U.S. Health Resources and Services Administration, and DCB Consulting, LLC. InTouch demonstrated the ability of the RP-6 robot to examine a quarantined patient who had been affected by a biological contaminant. This use of the robot shows the potential for other similar future applications.

For More Information

For more information, go to: www.cisco.com/go/smb.

To find out more about the Cisco, go to: www.cisco.com.

To learn more about InTouch, visit: www.InTouchHealth.com.

To see InTouch Health's Remote Presence products at work, visit: www.intouchhealth.com/videos88.html.

Product List

Routing and Switching

- PIX-501-UL-BUN-K9 PIX® Router/Firewall
- Catalyst® Ethernet Switch

Wireless Access

- PCMCIA Wireless Network Cards
- AIR-AP1131AG-J-K9 Wireless Access Point 802.11a
- AIR-CB21AG-J-K9 PCI wireless card 802.11a/b/g
- AIR-AP1131AG-E-K9 Wireless Access Point 802.11a
- AIR-CB21AG-E-K9 PCI wireless card 802.11a/b/g

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