

Case Study: Allina Emergency Medical Response

Health system speeds emergency time-to-treatment with Mobility XE. Minneapolis/St. Paul-based Allina Hospitals & Clinics is the model of a modern, integrated health system. Allina ties its multiple hospitals, clinics and ambulatory care centers together with a common electronic medical record system. By using the Mobility XE mobile VPN from NetMotion Wireless, they extend that EMR system to emergency medical response teams in the field, allowing those teams to enter data directly into the medical record and speed time-to-treatment in the emergency room. Throughout the large metro area, Mobility XE persists connections across cellular carriers and through fringe- and no-coverage zones to deliver the lifesaving data.

About the Deployment

Allina operates the regional 911 call center for the Twin Cities area, and deploys a fleet of 64 ambulances. Each ambulance contains two Panasonic Toughbooks. A model 30 unit on a fixed-mount in the cab connects with the computer-assisted dispatch system, relays GPS coordinates, and allows the response team to look up directions. A smaller model 19 is removable for patient-side use, allowing emergency medical technicians to enter information directly into the Epic electronic medical record system for access by emergency room personnel. This allows the ER team to prep treatment rooms while patients are en route. The laptops are fitted with Sierra Wireless AirCards and connect through the Sprint and Verizon data networks to ensure the most-reliable-possible coverage throughout the service area. For automated connectivity and HIPAA-compliant security, the setup relies on Mobility XE.

Reliable Connections Across Multiple Carriers

Clyde Daisley, Systems Engineer, describes the network conditions: "For the most part, within the Twin Cities, coverage is good with the full 3G, but as you branch out from there, it depends on what freeway you're on. Coverage gets kind of spotty. Wherever Verizon doesn't cover, Sprint usually does." Mobility XE maintains the state of the application and network session so when the ambulance crosses between network boundaries or goes outside of coverage range, the team doesn't have to re-log in.

"Mobility XE is our standard VPN for all laptop users requesting an AirCard."

- Clyde Daisley,
Systems Engineer

The need for Mobility XE was already well-established and its advantages proven within Allina. It is used by approximately 400 mobile nurses in the home care and hospice division, by clinical service employees who maintain equipment, and by employees who have the option of working from home. In fact, "Mobility XE is our standard VPN for all laptop users requesting an AirCard," according to Daisley. So adding EMT response to the existing deployment was a logical and straightforward choice.



Organization

Allina Hospitals & Clinics

Industry

Healthcare

Objectives

- Extend medical record access to EMTs
- Ensure reliable coverage throughout broad service area
- Simplify and streamline management

Solution

- Mobility XE mobile VPN
- Panasonic Toughbooks
- Sprint and Verizon networks
- Epic EMR solution
- Sierra Wireless data cards
- CAD application
- Microsoft System Center 2007 and Microsoft Forefront

Results

- Faster time-to-treatment in emergency room
- Granular control via quickly deployed policies
- Hands-off management through notifications/analytics
- Severity 1-level redundancy and failover

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Management Made Fast and Flexible

Management of Mobility XE is a breeze, because it co-exists easily with the rest of the infrastructure. "We are running Microsoft System Center Configuration Manager 2007 to push out patches and updates, and using the Forefront product from Microsoft for anti-virus," Daisley states. And Mobility XE's policy management capability adds flexibility. "We're using policies quite heavily. One of the things we're using it for is split tunneling, to give the end-user direct Internet access. We look at every Web request and if it's an Allina request we keep that in the tunnel, and if not it goes outside the tunnel.

"The policy stuff is quick, too. If I need to make a change, I can get it out within seconds, as long as the client is connected. I can't get my finger off the mouse button fast enough before the change is spreading like wildfire. Policy capability is a must-have, for the ease of use, the control, and how granular you can get, either down to the nitty gritty or as high a level as you want. That I can create my own rules, whatever the case may be, for any criteria I think is important, that's critical to me."

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Analytics and Alerts for a Critical System

Initially pegged as a Severity 3 'nice-to-have', Mobility XE now has a Severity 1 designation as a critical application, because its clinical importance is directly related to the medical mission. Daisley has moved from a one-server to a three-server setup with automated load balancing and failover between servers. Because of the redundancy, "It just keeps going, and we almost forget that it's running, unless we get an alert. I use the Analytics Module to keep an eye on things, and everyone in our group gets alerts as to the specifics of what's going on with the Mobility servers. If we get an alert that a server went down I'll run reports to see what went wrong. We also get alerts for any kind of failure with a user and what the disconnect reason is, such as someone entered the wrong credentials many times over." The ability to immediately disconnect or quarantine a user or device is a key feature for dealing with stolen devices because of HIPAA privacy and security rules.

Mobility XE "a Lifesaver"

"Taking care of people is why we work here, and the impact of what we're doing on patient care is positive all the way. If you think about what the ambulance guys do, back in the day, the EMT would come through the door and shout at a doctor, hey, this person has x, y and z. Now we're able to know all the vitals and prep the ER while the patient is on the way. The medical record starts when the EMT gets to the patient, versus when the patient gets to us. Mobility XE makes sure the data gets here, no matter what the connection is like. That's a lifesaver right there."

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