Case Study: Mesa Police Department

The Mesa, Arizona Police Department needed a way to troubleshoot dropped connections and cellular network coverage for their officers in the field. They found a solution with NetMotion Wireless Locality™, cellular network performance management software. Using GPS and connectivity data gathered dynamically from each mobile user, Locality creates maps and reports that give Mesa the insight and visibility needed to make the most of their cellular data deployment.

About the Deployment

The Mesa police department protects more than 400,000 people in Arizona's third-largest city. A current user of the NetMotion Mobility XE mobile VPN software, the department deployed the Locality software across their employees' Panasonic Toughbook laptops. These devices access the Sprint network via Sierra Wireless AirCards, and employ the GPS capabilities of the AirCards for sending position information.

Empirical Data for Resolving Connectivity Issues

Locality is a standalone software product that provides visibility into cellular network performance via a coordinated set of maps and reports for any mobile deployment. Mapping features show network performance and connectivity metrics corresponding to the locations of mobile workers over time. Reports provide critical insights about a mobile deployment including signal strength, technology type, usage, dropped connections and device inventory.

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> *IT Architect*
> *Mesa Police Department*

Doug Scroggins, IT Architect, explains the department's interest in the Locality software. "The important opportunity for us was having empirical coverage data. When a user calls in and says they're having problems connecting, we need the ability to determine whether it's something that's within our control or not. The reason why someone can't connect varies, and Locality can help us determine the causes of connectivity issues."

"We're starting to accumulate a lot of sample data for various locations," continues Scroggins. "Looking at the maximum signal strength, we've been able to identify areas where we've never received a good signal. That's going to let our help desk be more informed about the nature of the issues that our users are having."

Visibility into Individual Hardware

Locality inventory reports provide comprehensive overviews of cellular network adapters, and correlates them with key account and service information, including phone number, ESN and EMEI, and who last used the device. According to Jeremy White, IT Engineer, "The inventory reports let us see specifically which network adapter is on which computer. It's nice for troubleshooting to have this level of information on each adapter in our mobile deployment."

Organization

Mesa Police Department

Industry

Public Safety

Solution

- Locality cellular network performance management software
- Panasonic CF29, CF30 and CF31 Toughbooks
- Sprint cellular network
- Sierra Wireless 598U AirCards with embedded GPS

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As Scroggins relates, having this level of information not only helps identify the adapter, but also its performance. “We’re starting to analyze data on individual devices. Now that we can track signal strength for an individual adapter and view it on the coverage map, we can monitor for dropped connections. The dropped connections statistics speaks to both the coverage quality and the state of the adapter. If an adapter is dropping connections while we have a good 3G signal, then we likely have a hardware issue.”

Troubleshooting Connection Issues

The reporting capabilities of Locality also help in fine-tuning other elements of the mobile deployment. “In the beginning, you're fielding a lot of calls about connection quality,” explains Scroggins, “and in the first few months you're tweaking timeouts and failover settings… So while our user expectations have leveled out now, at first you’re changing all kind of things that are going to impact the end-user experience.”

This insight will be handy when the system expands to a new group of users. “We're looking at bringing in some fire department vehicles that are in neighboring communities, so our service area is likely to grow. We’ll be serving new users, some of whom are located in outlying areas that may not have adequate 3G coverage, so the information from Locality is going to be very useful to us,” added Scroggins.

Locality Provides Visibility

Locality provides firsthand visibility into what the users are experiencing, rather than IT being the last to know. As White explains, “We told officers to email us when they found coverage problems or experience dropped signals. But this can be hard for officers to track. We mostly hear about issues after the fact.”

“Using Locality’s maps provides us with a visual way of determining when and where we might have coverage problems. We can determine if it’s a local hardware issue or possibly a network issue where the carrier may need to take steps to improve coverage. This allows us to work with the carrier to improve the network.”

Plus, when it comes to coverage, Scroggins is always looking ahead. “We're looking forward to services that are not yet deployed here, like real-time video surveillance in the vehicle. With Locality, we’ll be able to work with the carriers to ensure we have the network infrastructure needed to support these types of applications.”

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