

# Looking Forward to FirstNet

## Realizing the full promise of a dedicated first-response network

The First Responder Network Authority (FirstNet) is on its way to creating a nationwide wireless broadband network dedicated to first responders. What follows are some observations and issues that naturally arise as the community collaborates to create what everyone wants: A network that works much better for first responders in every way.

## The Need for Objective Coverage Data

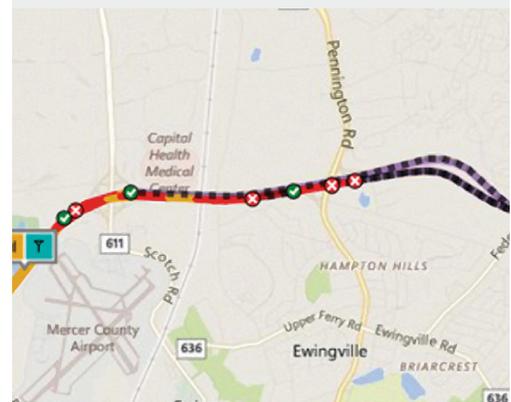
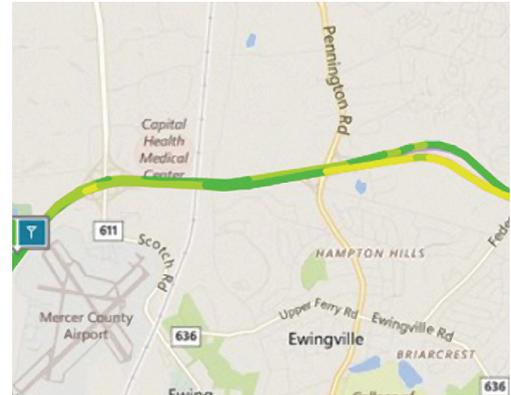
Part of the challenge of building out FirstNet is understanding what needs to be built. In a disaster scenario, private citizens as well as responders can overwhelm the available networks, creating significant issues for responders and ultimately a greater danger to the public. Therefore, being able to measure and know what's happening with the network will be a huge factor in the success of a FirstNet initiative. But most agencies struggle to understand even their current usage patterns in terms of signal strength and data consumption at various locations.

State and local jurisdictions are using NetMotion Diagnostics® to gather the critical information they need and convey it to non-technical stakeholders. LTE networks are dynamic; Diagnostics continuously collects data about how networks are functioning and how they change over time. Because it gathers the information while responders are driving around the territory and doing their jobs, there is no need for a special project to evaluate connectivity usage and coverage requirements. Diagnostics gives an accurate, continuously updated view of current usage patterns and a non-technical understanding of how local organizations will need FirstNet to function for them, based on real-world data.

Within each state, an evaluator will be making a recommendation to that state's governor about the path the state should follow with respect to FirstNet, and eventually each jurisdiction will need to decide whether they will subscribe to it. In many cases making these decisions will involve specific needs or requirements that FirstNet as a service provider must address. The ability of NetMotion Diagnostics to measure the where, when and "how much" of wireless use will be key to making informed recommendations.

**Trials are underway using NetMotion Diagnostics** to ensure that when FirstNet arrives, state and local authorities are prepared to make decisions regarding coverage, data usage, and hardware with real data. Diagnostics is able to track the root causes of underperformance or failures in a multi-network environment and determine whether the problem is in the hardware, software layers or within one of the wireless networks.

**Rapid end-to-end testing is complicated**, and safety in the field relies on rapidly diagnosing and fixing connectivity problems before they can jeopardize operations. With multiple networks and multiple paths between first responders in the field and application servers in the data center, identifying the root cause of connectivity problems becomes increasingly complex. Diagnostics hones in on the root cause of performance issues, whether with the local application, the device, the wireless network, the firewall, or even specific application servers.



NetMotion Diagnostics gathers information on connection availability, signal strength and throughput as responders go through their daily routines, avoiding the need for a separate evaluation project.

# NetMotion and FirstNet

The FirstNet RFP lists a number of requirements for diagnostics, monitoring, application session persistence, roaming, end to end data protection, device security, CJIS compliance, and advanced authentication. All are strong suits of NetMotion Mobile Performance Management technology, which includes NetMotion Mobility and Diagnostics.

## **Requirement: Continuous Monitoring, Diagnostics and Mitigation**

The RFP recognizes the importance of end-to-end diagnostics to a successful deployment. NetMotion Diagnostics solution features automated end-to-end testing and monitoring to track and report on over 40 key performance parameters, including coverage maps, network and device configuration, modem and router status, signal quality, server status, and location. NetMotion's Diagnostics solution provides a critical component for successfully preparing for, deploying, and supporting FirstNet deployments.

## **Requirement: Session Persistence**

First responders need continuous, secure connections and seamless roaming between FirstNet and other networks. The good news is that the NetMotion products you are using now are already an integral part of early trials and already support FirstNet technologies.

NetMotion Mobile Performance Management technology enables seamless roaming among FirstNet pilot networks, carrier networks, Wi-Fi, mesh and satellite, and between IPv4 and IPv6. Applications don't drop, users stay authenticated, and traffic keeps flowing through the gaps and transitions. Our technology implements a persistent, secure tunnel that exceeds the mobile VPN requirements in the FirstNet RFP.

## **Requirement: Device Security**

The FirstNet contract will be awarded to a bidder that demonstrates their ability to secure the device ecosystem. NetMotion already supports industry leading EMM/ MDM vendors. NetMotion Mobility with the NAC and Policy modules meets the FirstNet requirements for device security.

## **Requirement: Protect Criminal Justice, Healthcare, and Payment Card Information**

The FirstNet contract winner will need to provide a network ecosystem that protects CJIS, HIPPA, and PCI data. Our technology has been helping our customers secure data and pass CJIS, HIPPA, and PCI audits for over a decade.

## **The Importance of User Experience**

FirstNet is ultimately a set of end-user experiences that help first responders save lives, put out fires, apprehend criminals, restore essential services, and protect and serve the public. NetMotion Mobile Performance Management software allows first responders to focus on their jobs, not on the technology that supports them.

## **FirstNet and Network Interoperability**

Other wireless networks will be used alongside FirstNet. It is a requirement in the RFP.

**Use of FirstNet is not compulsory.** Ultimately, FirstNet adoption will be up to state and local jurisdictions. The FirstNet authority's task is to develop a wireless network that first responders find compelling.

**Build out will take time.** Cellular networks do not get built overnight. From antennas and hardened power supplies to backhaul capacity and metering systems, an entire infrastructure will need to be built or upgraded to the 'public safety grade' reliability standards required for first responders.

**Budget realities prevent a forklift hardware upgrade.** Adopting FirstNet will require new hardware including modems and antennas at the user end. Budgeting for new equipment is a local responsibility, not part of building the network itself. Depending on hardware refresh cycles, it could take years before all units in the field are fully FirstNet-capable.

**NetMotion Diagnostics and Mobility make the transition painless.** Don't get caught making decisions about FirstNet without real data specific to your deployment. With NetMotion Diagnostics and Mobility.