# 911 Location Accuracy Group Calls Out Wireless Industry

Brian Heaton | December 10, 2013


As more people transition to smartphones as their only communications device, pinpointing a 911 caller's exact position can be challenging using GPS, particularly if the person is indoors or in an urban area where the signal may be weaker. While the wireless industry uses various technologies and procedures to ensure call location accuracy, a new advocacy group isn't satisfied with the results and is pushing the FCC for stricter regulations.

The Find Me 911 Coalition is filing a petition this week with the FCC to urge the commission to adopt indoor accuracy requirements through the commission's rulemaking process. Led by Jamie Barnett, former chief of the FCC's Public Safety and Homeland Security Bureau, Find Me 911 claims that half of the 911 calls from cellphones in North Carolina over the past year did not include accurate location data to find a caller. In addition, the group recently released a report showing similar struggles in Texas based on FCC data.

The wireless industry, however, thinks Barnett is ignoring key technical and operational aspects of location-finding technology and is off base on most of his assertions. Brian

Josef, assistant vice president of regulatory affairs for CTIA – The Wireless Association, which represents wireless communications providers, noted that carriers deliver detailed and accurate location information to 911 operators “90 to 95 percent of the time.”

Josef added that there are a number of public safety answering point representatives on record at the FCC praising wireless carriers for doing “a great job” in regard to location accuracy, including Bexar County, Texas, and King County, Wash.

Current FCC regulations require cellphones to give location information in two phases. The first delivers 911 operators the caller’s phone number and cell tower location. The second phase starts seconds later, giving the caller’s approximate location within a range of up to 330 yards. Wireless providers only have to prove that data can come in "effectively" on outdoor calls.

Barnett felt current regulations didn’t account for smartphones overtaking landlines as the primary method of calling 911. When someone dials 911 from a landline, an operator has a clear fix on the person’s location because the phone is attached to a physical address. But when a person calls 911 from a smartphone, wireless companies rely heavily on GPS to establish the caller's location.

That tends to work well when a satellite has an unobstructed view of an outdoor target. But calls placed from inside structures and urban areas can be a problem. Barnett added that of the 240 million 911 calls per year, 70 percent – and rising – are coming from wireless devices and 56 percent of those are from indoors.

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Two of the other technologies Barnett refers to are round-trip time (RTT) and Advanced Forward Link Trilateration (AFLT). The former calculates the length of time it takes for a signal to be sent plus the time it takes for an acknowledgment of that signal to be received. The latter measures signals from cell towers and reports the time and distance readings back to the network, which are then used to triangulate an approximate location of a phone.

Barnett argues that wireless companies should be using a hybrid of GPS and these other systems to provide a more accurate location trace. But Barnett is also a partner with Venable LLP, the law firm that represents TruePosition, an E-911 location technology provider that doesn’t use GPS. *Inside GNSS*, a publication that covers the satellite communications industry, reported that Barnett said TruePosition provided the initial funding to start the Find Me 911 Coalition.

In an interview with *Government Technology*, Josef pointed out Barnett’s potential conflict of interest and noted that Find Me 911 acknowledged the accuracy of GPS technology in FCC filings earlier this year. Barnett told *Government Technology* that GPS does have advantages in unobstructed outdoor locations, but said FCC

regulations would force wireless carriers into using a wider array of technology that would lead to more accurate call locations overall.

“The requirements from the FCC don’t need to be technology specific,” Barnett said. “The marketplace should decide that. The carriers will be free to adopt whatever combination that works for them.

“What we say is that the FCC should adopt indoor location requirements that will in essence require either better technology or a combination of technologies that will work indoors, but also solve the outdoor problem, rather than just going to the kind of single technology that the wireless carriers have done over the past four or five years,” he added.

Josef doesn’t believe further regulation is necessary. He explained that a few wireless carriers took part in a trial conducted by the FCC’s Communications Security, Reliability and Interoperability Council (CSRIC) that looked at indoor location accuracy with GPS. Although Josef said the trial showed “promising” results in regard to accuracy, he added that public safety representatives at the trial did think more work needed to be done on the issue.

In addition, Josef explained that wireless companies plan to be at the table as future testing is made a more permanent part of the CSRIC. He also noted that providers are pursing next-generation technologies and additional satellite constellations for better accuracy fixes.

“The wireless carriers, when they do this and they are committed to doing this, they want to do it right,” Josef said. “We want to help consumers. We want to help public safety. We don’t want to just throw out a regulation or a rule and have vendors scramble to try and enable that capability.”

http://www.govtech.com/public-safety/911-Location-Accuracy-Group-Calls-Out-Wireless-Industry.html