

**Determining responsibility for indoor wireless coverage a big challenge for public safety, panelists say**

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With the almost ubiquitous use of wireless devices for communication, it is essential that first responders be able to respond to calls for assistance in the correct location, and it is equally important that people in need of help have reliable access to wireless coverage, even within buildings or other structures.

One way to make both possible is to enable public-safety communications indoors by requiring that new structures be fully able to provide reliable wireless access. The problem is establishing how to do it and determining whose responsibility it is to do it—and pay for it. Industry leaders recently discussed these challenges during a session on the subject at [APCO](#) 2014 in New Orleans.

Getting from technology to deployment is a huge hurdle, particularly as it pertains to establishing responsibility, even in the age of the [FirstNet](#), according to speakers on the panel.

The job of FirstNet is to “build a nationwide public safety broadband network,” FirstNet board member Jeff Johnson said.

“It is a daunting challenge to build a wireless corporation within the sphere of public safety within the federal government, [and] not the least of our challenges is providing [in-building coverage](#) on a nationwide basis,” Johnson said.

Part of the problem is the perception, because all players believe that indoor public-safety communications is someone else's responsibility, Johnson said.

In addition, the topic of indoor coverage has become a more urgent matter, because there has been a significant paradigm shift in the calling patterns of the general public from landline

phones to cell phones during the past decade.

"It has been a bit of a context change to watch is happening in the commercial wireless world," Johnson said. "The evolution of the percentage of calls that are coming into us [via the 911 system] by wireless across the country is now well over 50%."

With such a high and ever-growing percentage of calls to first responders originating from wireless devices, it is essential that there be adequate coverage and "to ensure that, if people need to call for help, they can call for help," said Alan Perdue, the executive director for the Safer Buildings Coalition.

There are three questions that need to be addressed, Perdue said.

"Number one: when people are in buildings, can they call for help in the time of the need?" Perdue said. "Number two: Can we push information to people? And, number three: When public safety arrives, can they get communication where the people are?"

In the age of wireless, ensuring these three things is a challenge when an incident occurs indoors, where radio signals from an outdoor macro network can be degraded or blocked completely, depending on the location of the user and the physical characteristics of the structure.

"People have come to rely on wireless devices more than ever before," Johnson said. Fixed telephones are not part of people's lives as it relates to what they would consider critical infrastructure.

"Now let's push that over to a wireless infrastructure that people have come to rely on as a public citizen and now as a responder. I need go into a mall and find you, regardless of where you say you are—where does your device say you are?"

"Once you make the leap to say [wireless] is an important part of our system, now you have to talk about reliability. To what degree is that building reliably going to have wireless service and to what degree is that signal reliable? During a fire, one of the first things that fire is going to do is eliminate the electricity—to what degree can we rely on that system to be public-safety grade with backup power?"

As with most things, cost is an issue.

"We do need an emergency-communications system, and it needs to be part of the building infrastructure," said Phil Klingensmith, a consultant who was formerly with both AT&T and Lucent. "Everyone agrees we need it, but who's going to pay for it?"

Perdue agreed.

"People will upgrade to granite countertops, but they won't upgrade to life savings," Perdue said. "Who's responsible for public safety? The answer is in the question—the public."

But no matter who ultimately pays, the issues remain the same.

"The scope of the [in-building](#) problem is what we are dealing with," Klingensmith said, noting that that we "really need is someone who can implement the code standard in best industry practice."

The primary concern is "reliability—determining to what degree is that building going to have reliable wireless—[and] [FirstNet](#) is going to play a critical part in establishing that reliability."

However, it may be some time before it is determined how the issue will be resolved, given that FirstNet has not yet designed its network.

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