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PANEL: BROADBAND VOICE FOR PUBLIC SAFETY IS INEVITABLE

Mar 12, 2010 12:37 PM, By Glenn Bischoff

Leading public-safety communications officials participating in a panel discussion at IWCE 2010 yesterday said that IP-based broadband technologies inevitably would supplant land-mobile radio for the provisioning of public-safety voice communications. But it won't happen for at least a decade, and it might not happen at all unless the sector's spectrum needs are met.

Chuck Dowd, deputy chief of the New York City Police Department who is in charge of the NYPD's communications system, acknowledged that land-mobile radio has provided reliable first-responder communications for decades.

"But the question is, 'Why can't we take that reliability and transfer it over to a broadband capability?' I see no reason why that can't happen," Dowd said. "It's not something that's going to happen overnight, and it has to be proven. But at the same time, rather than supporting two different types of network — one for broadband data and another for narrowband voice — ultimately the right solution will combine those capabilities."

Harlin McEwen, chairman of the Public Safety Spectrum Trust, which holds public safety's 10 MHz of 700 MHz spectrum that would be paired with 10 MHz of commercial spectrum to form the spectral foundation for a nationwide broadband network for first responders — agreed with Dowd on a macro level. "I think Chuck's vision is the right vision," McEwen said. "I don't disagree at all that this vision not only is possible, but is likely. It is just a matter of time."

But the devil always is in the details, and McEwen quickly shared his concerns over the amount of spectrum currently held by the public-safety sector.

"If we're going to do this, we're going to need more spectrum," McEwen said. "I don't think we should be putting all of our eggs into the [broadband] basket and going down the path to the future until we have some assurance that we're going to have enough spectrum to be able to do that."

The spectrum picture has become murkier of late. Originally, the plan was for the commercial D Block licensee and public safety to share a 20 MHz network. Now, signs indicate that the FCC will allow the commercial entity to operate independently from public safety, which would necessitate a guard band between the two spectrum blocks. That guard band likely would be carved out of public safety's spectrum, which would reduce the usable airwaves by 20%. This could place a significant roadblock in the path of the broadband voice future that Dowd envisions.

Even if the spectrum problems were sorted out today, it will be years before broadband voice becomes a reality because the work to build a voice capability into the standard for Long Term Evolution, or LTE — the technology chosen by public safety for its broadband network — so far has focused on telephony-based approaches that won't work for public-safety, said Emil Olbrich, lead project engineer in the Office of Law Enforcement Standards of the National Institute of Standards and Technology (NIST).

However, Olbrich added that the standards body is taking into account public safety's needs and currently is investigating two approaches — broadcast and multicast — to determine which would be better for delivering the one-to-many voice communications that public safety requires. He cautioned, however, that transport is just the first step in the process. LTE devices also have to be considered, in order to ensure the lowest-possible latency and fastest-possible call setup times, crucial considerations for mission-critical voice.

In this regard, public safety could help its cause greatly by becoming a bigger part of the process, Olbrich said. "We need public safety's input on their operational requirements," he said. "You don't need to know the technical things — we'll develop those. We just need to know what kind of reliability you need, what kind of availability you need. We need participation from practitioners nationwide to get a feel for what these systems need to be."

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With broadband voice years away, public-safety agencies whose network and subscriber equipment is aging will find themselves in a state of limbo. The key question they face is: Do they upgrade their systems now or do they wait for the broadband vision to become reality? The consensus thinking of the panel is that the answer lies somewhere in the middle.

Bill Schrier, chief technical officer for the city of Seattle, who believes public-safety broadband voice is a decade away, said, "I'm going to continue to invest in our current LMR systems -- not major investments, not forklift investments, but investments that will bring them up to Project 25 for their 10-year life."

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