

Will Broadband Voice Replace Narrowband Voice? IWCE Virtual Tradeshow – 2011



Public Safety Communications Research

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Will the Automobile ever Replace the Horse?

“The horse is here to stay but the automobile is only a novelty, a fad.”

- President of Michigan Savings Bank to Ford Motor Company (1903)

Why was this even questioned?

- Automobiles were an unproven technology
- Automobiles were expensive to build and own
- Horse industry was extensive throughout the United States (and lobbied heavily against the auto)

How was it answered?

- Innovations in engine technology created breakthroughs
- Invention of the modern auto “assembly line” reduced cost
- The automobile proved itself more durable, practical and lower cost than horses
 - It took time for a nationwide infrastructure system (gas stations, highways... etc) to get built to support the auto

What is Mission Critical Voice?

- There are many ways to begin to define mission critical voice, but let's start with:
 - Qualitative features
 - Quantitative requirements
- In order to help have a consistent conversation about Mission Critical Voice, the National Public Safety Telecommunications Council (NPSTC) reactivated the Broadband Working Group (BBWG) to develop a definition
- Over a period of 8 months, the BBWG developed a descriptive list of qualitative features that are required for Mission Critical Voice

What is Mission Critical Voice? Cont'd

- Qualitative features:
 - Direct mode
 - Group communications
 - PTT and cellular modes
 - Emergency alerting
 - Talker identification
 - Audio quality

Why does it matter for broadband?

- Public safety's technology of choice for broadband in 700MHz is 3GPP's Long Term Evolution (LTE)
 - Many of the desired/required qualitative features for mission critical voice are not yet available
- It will take some time before the vision of a nationwide public safety broadband network is realized
- Land mobile radio will continue to be used for mission critical voice with the broadband network providing data services, but this transition is starting to happen now.

Is Mission Critical Voice different for Broadband?

- Absolutely, probably, maybe, no?
- Will the way public safety operates change as it has ubiquitous access to broadband data services?
 - Examples include cellular telephony vs. PTT
- Are there some aspects of mission critical voice as it stands today that must exist?
 - What, if any, are those aspects?

What About Voice over Broadband?

- Lots of pressure to move mission critical voice to broadband...
- But LTE is not ready for mission critical voice services.

What needs to happen?

- Standards
 - Voice (VoLTE)
 - Talkaround (Proximity Services)
- Interconnection
 - P25 (TIA TR-8 Initiated Effort in October)
 - Other LMR?
- Testing
 - New Vocoder? (AMR is fallback for VoLTE)
 - Transcoding
- Trials



For Additional Information:

<http://www.pscr.gov>

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