Public Safety 700-MHz Broadband

Project Description

"There is little doubt that the potential benefits of a nationwide 700 MHz broadband network are enormous — the ability to transmit medical data, to run complex criminal database queries and to download blueprints of a burning building are just a few of the examples noted by public-safety officials."

-Urgent Communications Magazine

SNAPSHOT

Public safety has long struggled with effective cross-agency/jurisdiction communications in the land mobile radio environment, due to stove-piped proprietary systems and non-contiguous spectrum assignments. Congressional legislation has made broadband spectrum cleared by the Digital Television (DTV) transition available to public safety. New public safety broadband communications will allow for a unified system to foster nationwide roaming and interoperability. With sponsorship from the National Institute of Standards and Technology (NIST), the National Telecommunications and Information Administration (NTIA), and the Department of Homeland Security/Office for Interoperability and Compatibility (DHS/OIC), the Public Safety Communications Research (PSCR) program is deeply involved in the rapidly progressing 700-MHz broadband activities. To help move forward broadband technology for public safety communications, PSCR is building a national public safety broadband demonstration network and providing technical advocacy for the public safety community through requirements gathering and standards development.

BACKGROUND

The Federal Communications Commission (FCC) and Congress have created the public safety 700-MHz broadband spectrum allocations over several years and rulings. This newly freed space opens up an opportunity to establish a unified broadband communications system for public safety agencies with nationwide roaming and interoperability. The FCC has developed the National Broadband Plan, which outlines how 700-MHz spectrum activities will move forward. While this is progress, several public safety jurisdictions at the city, county, and state level have already filed waiver requests with the FCC for early deployment of their own 700-MHz broadband networks.

AN INNOVATIVE APPROACH

PSCR is implementing a Public Safety Broadband Demonstration Network to provide manufacturers a location for early deployment and evaluation of their systems in a multi-vendor environment. No government or independent laboratory facilities exist in the United States to test and demonstrate the behaviors of this yet-to-be-deployed first-responder network. Results from the PSCR program's demonstration network will be available to all emergency responders, vendors, carriers, academia, and other pertinent stakeholders to understand how the broadband systems function and determine how the systems will meet user needs.

PSCR has been active in the following requirements gathering and standards development efforts for 700-MHz broadband since autumn 2006:

- PSCR led the National Public Safety Telecommunications Council's (NPSTC) Broadband Working Group to develop a 700-MHz Broadband Statement of Requirements.
- PSCR led the NPSTC Broadband Task Force Technology Working Group, which addressed interoperability issues, and delivered its report and recommendations in August 2009.
- PSCR is a member of 3GPP, which is developing the standards for the technology (LTE) selected by public safety for 700MHz broadband, to represent public safety and their requirements.

VALUE TO PUBLIC SAFETY

Broadband presents a significant opportunity for public safety communications, and the FCC's new broadband plan will have a large impact on the public safety community. There are as many as 15 million public safety users in the country. The newly available 700-MHz spectrum will let public safety adopt broadband technologies that support high-speed data transmission across long distances creating access to video, mapping, GPS applications, and more. The PSCR program's broadband demonstration network and PSCR participation in the development of requirements and standards will help to ensure that public safety broadband communications purchases are interoperable and meet users' expectations.