

National Institute of Standards and Technology

Federal Register Notice

Soliciting Input on Research and
Development Priorities for Desirable
Features of a Nationwide Public Safety Broadband
Network

[Docket No.: 110727437-1433-01]

Analysis of Comments

Presentation Materials

- All presentations can be downloaded from <http://pscr.gov/agenda.php>
- Send questions and/or comments at any time during the meeting to zoomhz@its.bldrdoc.gov

Background

- On September 12, 2011, NIST published a Request for Comment in the Federal Register inviting interested parties to submit written comments on various possible features of a new nationwide interoperable public safety broadband network.
- The comments will be used by NIST to help determine research and development priorities in anticipation of the President's Wireless Innovation (WIN) Fund to help drive innovation of next-generation network technologies. Comments were accepted until October 26, 2011.
- NIST received 33 comments, from industry, academia, public safety associations, state and local entities, and private citizens.

The FRN can be viewed here:

<http://www.gpo.gov/fdsys/pkg/FR-2011-09-12/pdf/2011-23180.pdf>

Comments can be downloaded here:

http://www.nist.gov/oles/public_safety.cfm

Commenters

- Alcatel-Lucent
- APCO
- California Technology Agency
- Center for Interdisciplinary Geospatial Information Technologies
- Edison Electrical Institute
- ESD America
- Fairfax County
- General Dynamics
- Harris
- Hypres
- IPWireless
- Jon Melvin
- Layer 2 Connections
- LR Kimball
- Motorola Solutions
- Nokia Siemens
- Rex Buddenberg
- Don McLaughlin
- Charles Sheehe
- Northrop Grumman
- NPSTC
- One DHS
- Overwatch Systems
- SafetyMesh
- SAIC
- Shared Spectrum Company
- Sprint
- Textron Systems
- University of Colorado
- Utilities Telecom Council
- Virginia Tech
- Wireless Innovation Forum
- xG Technology

Prevalent Comment Themes

- NIST should leverage commercially available, open standards processes while developing the nationwide network to ensure interoperability, innovation, and affordability.
- It is essential to maintain an open and collaborative process throughout the prioritization and R&D process
- Open APIs encourage innovation affordability by ensuring availability to the widest community of users and developers. NIST should ensure that public safety users needs are represented existing Open API initiatives
- The function of network sharing will be critical to realizing the full potential of a nationwide network.
- Government-to-citizen communications capabilities will be very important as a nationwide network is built out
- Rural access must be considered
- R&D must supplement, rather than delay, initial deployments

Common R&D Priorities

Many of the comments highlighted the need for Federal R&D funds to be directed towards features/functions that are **not currently utilized in the commercial market**, such as:

- Direct Mode/Talk-Around
 - Commercial markets do not use this feature as there is no demand for it currently.
- Quality of Service
 - Public safety will be required to utilize QoS parameters much more than is currently seen in the commercial markets
- Security
 - While commercial standards address certain aspects of network security, the public safety network will have to be built to much higher security standards

Features Addressed in FRN

- Resiliency
- Self-Organizing
- Meshing
- Adaptability
- Prioritization
- Quality of Service (QoS)
- Strong, Dynamic Access Control
- Compatibility with Commercial Infrastructure
- Network Sharing
- Multi-Modal
- Scalability
- Power Awareness
- Standardized Common Interfaces
- Uniform, Universal Access

Features Not Addressed in FRN but Proposed in Submissions

- Mission Critical Voice
- Inter-Jurisdictional Interference Mitigation
- Incident Area Networks
- Dynamic Local Control
- NG911
- Disruption and Delay Tolerance
- Talk Groups
- Backwards Compatibility

National Institute of Standards and Technology

Visiting Committee of Advanced Technology (VCAT)

Desirable Properties of a Nationwide Public Safety
Communication System

Overview of Recommendations

Background

- Aneesh Chopra, the United States Chief Technology Officer requested that the Director of NIST charge the Visiting Committee on Advanced Technology (VCAT) with the task of developing a summary of desirable features that could be incorporated into the design of a nationwide public safety communication system.
- The report provides a summary of features that appear to the VCAT to be relevant to and potentially useful objectives for the design of a nationwide public safety communication system

The report can be downloaded at:
www.nist.gov/director/vcat.

Desirable Features

- Flexible System Architecture
 - Use of Internet Protocols
 - Backward and Forward Compatibility
 - Mesh or Mobile Ad Hoc Networking
 - Robustness and Recovery

Desirable Features

- Security and Authentication
 - Strong Authentication
 - Distributed Authentication
- Standards Application and/or Development
- Ruggedization
- Sensor and Location Systems
- High Density Radio Operation
- Next Generation 911 Emergency Services IP Networks

Programmatic Considerations

- Public Safety Network Interoperability Panel
- Coordinated Research, Development, and Testing
- National Incident Management Systems (NIMS)
- Training and Evaluation Program
- Institutional Framework

Presentation Materials

- All presentations can be downloaded from <http://pscr.gov/agenda.php>
- Send questions and/or comments at any time during the meeting to zoomhz@its.bldrdoc.gov