NIST and Advanced Communications

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Jason Boehm

Director, Program Coordination Office

National Institute of Standards and Technology

NIST
National Institute of Standards and Technology
U.S. Department of Commerce

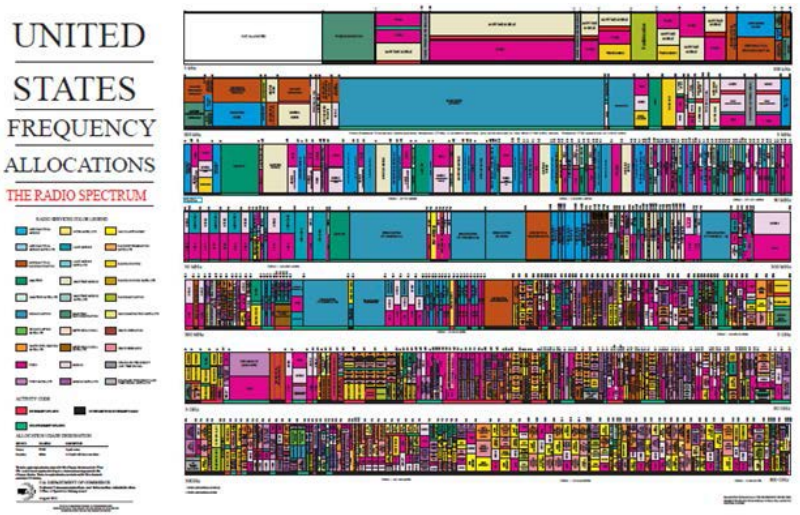
Outline

- Why the focus on Advanced Communications? – Drivers
  - PCAST
  - Public Safety Communications/FirstNet
  - LightSquared

- NIST/NTIA Center for Advanced Communications
- National Advanced Spectrum and Communications Test-range Network

Why the focus on advanced communications?

Technology advances in communications have revolutionized how we work, entertain, govern, and defend ourselves.



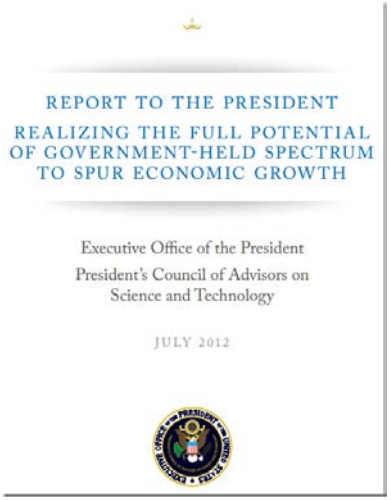
Multiple near and long-term challenges must be addressed

- Spectrum scarcity;
- Broadband access driving needs for ever-higher bandwidth;
- The vulnerability of all Internet-capable devices to a variety of security threats; and
- The threat of natural disasters and terrorism on communications infrastructure.

Policy Drivers for a DOC Role

PCAST Spectrum Report

- *"…provide test services to support the development of the policies, underlying technologies, and system capabilities required to support dynamic spectrum sharing."*


REPORT TO THE PRESIDENT

REALIZING THE FULL POTENTIAL OF GOVERNMENT-HELD SPECTRUM TO SPUR ECONOMIC GROWTH

Executive Office of the President

President's Council of Advisors on Science and Technology

JULY 2012

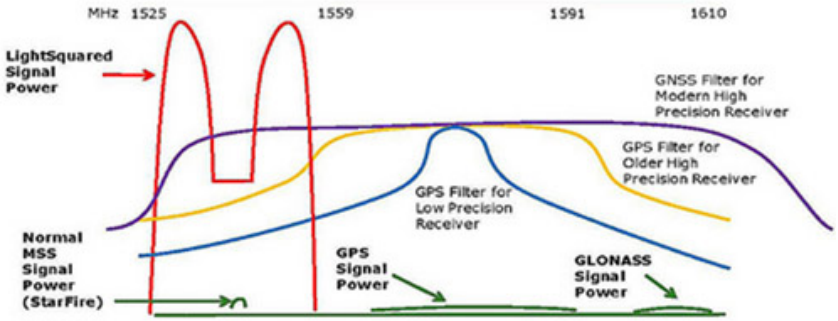
Public Safety and FirstNet

- FirstNet – establishes a nationwide public safety broadband network (PSBN) based on a single, national network architecture
- Through auction of spectrum NIST will receive $100M to support R&D on next generation Public Safety Communications

FirstNet™

LightSquared

- Concerns over GPS interference clearly illustrates need for clearly defined testing and evaluation capabilities



Response – The Center for Advanced Communication

NIST and NTIA will work together to establish the Center for Advanced Communications

- MOU between NIST and NTIA to establish the Center signed on May 24th, 2013

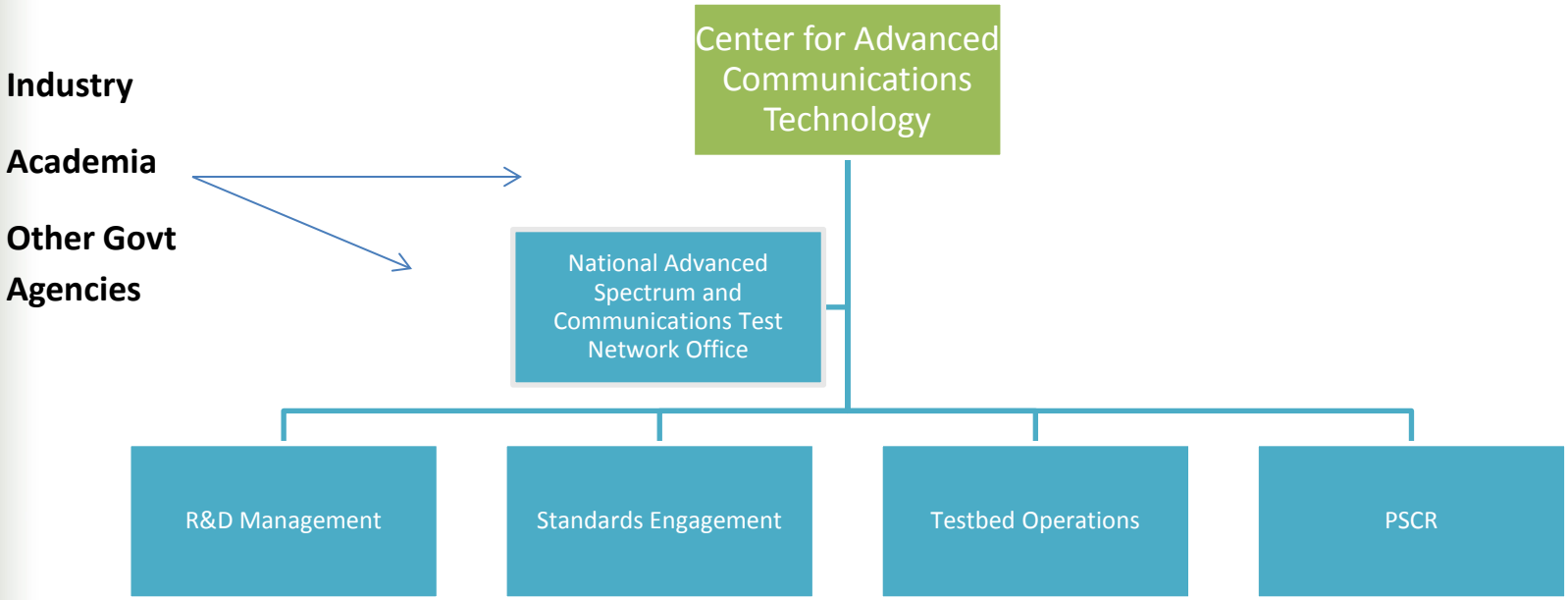
Planned Center Objectives:

- Enhancing mission effectiveness of both agencies by better coordinating research and testing functions of NIST and NTIA
- Promoting interdisciplinary research, development, and testing in advanced communication-related areas (radiofrequency technology, digital information processing, cybersecurity, etc.)
- Providing a single focal point for engaging both industry and other government agencies

Center for Advanced Communications – Proposed Structure

NIST and NTIA have established a transition team to develop the initial plans for the Center organization. Nominally the Center will:

- Function as an independent laboratory Operating Unit, reporting to NIST ADLP
- Be governed by a NIST appointed Director and an NTIA appointed Associate Director
- Act as an umbrella organization with responsibilities for program management, coordination with other agencies, and outreach and engagement to the private sector



Next Steps

- Establish transition team to begin finalizing organizational plans for the Center and complete the necessary approval steps with DOC and OMB.
- Initiate recruitment of the Center leadership.
- Begin coordinated industry and stakeholder outreach.
- Finalize agreement with DOD on NASCTN.

National Advanced Spectrum and Communications Test Network (NASCTN)

- PCAST calls out the need for better coordination of testing capabilities to promote spectrum sharing.
- E.O. tasks NIST and NTIA with developing a coordinated approach to identifying and addressing Federal testing needs in the area of advanced communications.
- To address these needs, and in parallel to the development of the Center NIST, NTIA, and DOD have been working on the development of the National Advanced Spectrum and Communications Test Network.
- The NASCTN will be housed in the Center for Advanced Communications and will be staffed by detailees from NIST, DOD, NTIA and other agencies.
- The NASCTN will organize a national network of federal, academic, and commercial test facilities, as well as modeling and simulation and laboratory research capabilities to facilitate and coordinate the testing and evaluation of spectrum sharing capabilities.

NASCTN Services

The NASCTN Organization shall provide the following services:

- Coordinate availability and access to participating M&S, laboratory, and testing capabilities.
- Provide a single access point to facilitate engagement, contracting, and planning between federal and non-federal stakeholders and participating modeling and simulation, laboratory and testing facilities.
- Provide a secure repository of test data and analysis.

NASCTN Mission Functions

In order to provide those services and achieve the NASCTN Organization mission, the following functions shall be performed:

a. Lead outreach and engagement activities in order to identify spectrum-related testing and evaluation needs.
b. Disseminate information about participating M&S, laboratory, and testing capabilities availability and access requirements.
c. Facilitate collaboration among industry, academic and government stakeholders and subject matter experts by providing NASCTN participants model agreements, test plans, report templates and other resources.
d. Provide prospective and active NASCTN participants a centralized and up-to-date directory of available and participating facilities and subject matter experts.
e. Facilitate access to appropriate participating M&S, laboratory, and testing facilities to meet high-priority research, testing and evaluation needs.
f. Facilitate access to test data, analysis and reports to NTIA, DoD, FCC and other industry, academic and government organizations to assist in policy making, technology assessments and other research efforts while adequately protecting proprietary, classified or other sensitive information pursuant to applicable agreements, regulations and statutes.

Questions