

On February 22, 2012, the Middle Class Tax Relief and Job Creation Act was signed into law. As part of that bill, the Secretary of the U.S. Department of Commerce was directed to create the First Responder Network Authority (FirstNet) as an independent entity within the National Telecommunications and Information Administration (NTIA). FirstNet was given the mission to "take all actions necessary to ensure the building, deployment, and operation of the nationwide public safety broadband network [NPSBN]," which "shall be based on a single, national network architecture."

A Broad band working group comprised of public safety practitioners and technologists was formed under the leadership of the National Institute of Standards and Technology (NIST) and the National Public Safety Telecommunications Council (NPSTC). The group recently completed work on the initial Statement of Requirements document for the NPSBN. The document was approved by the NPSTC and presented to the FirstNet board on December 12<sup>th</sup>, 2012.

APCO was a driving force behind the legislation and the overall initiative from the onset. In addition, APCO has been represented on both the NPSTC Broadband Working Group, and the Public Safety Review Team in creating, reviewing and refining the requirements and document.

The Nationwide Public Safety Broadband Network, to be deployed and managed by FirstNet, represents the future of public safety communications in the United States and will be a paradigm shift for both public safety Telecommunicators and Responders.

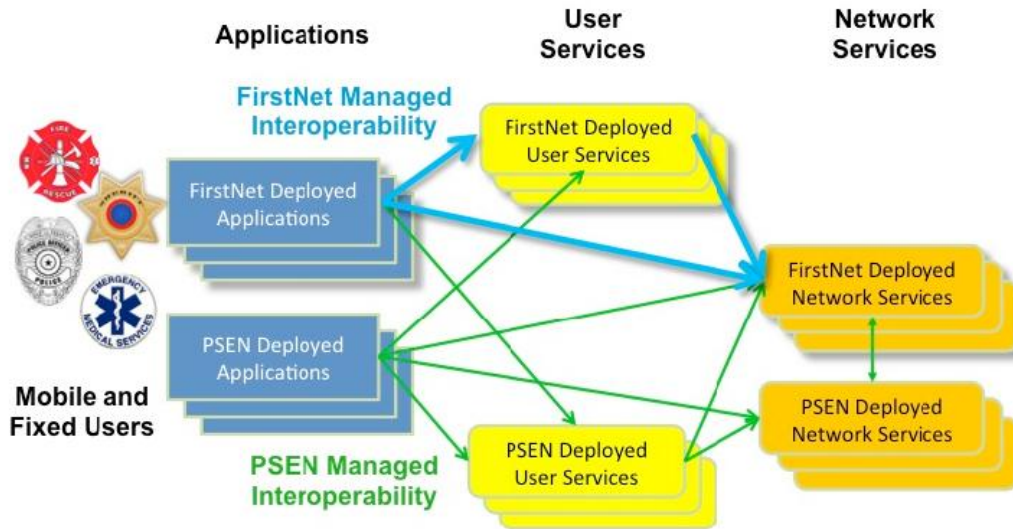
While the specific architecture of the NPSBN will be determined during the upcoming technical requirements and design phase, below are a few examples of how the network is intended to operate at a high level.

The NPSBN is a network that contains significantly more than a basic 3GPP LTE system. Traditional LTE Carrier networks provide connectivity from a device to the Internet or the Public Switched Telephone Network (PSTN). Public safety users need the NPSBN to be a complete system that provides nationwide, interoperable applications and services, in addition to connectivity to their agencies applications.

Applications provide a set of features and an interface to an NPSBN user (NPSBN-U) that may be realized by fixed or mobile devices. User services are logical building blocks of application layer functionality that application developers may combine to realize NPSBN-U applications. Network services are building blocks of network functionality, which are provided to the applications and user services. The figure below illustrates these relationships.

This figure is not intended to provide a complete listing of public safety user services, or network services. It is intended to provide a high level overview of the potential services that may be made available via the NPSBN.

Relationship of NPSBN-U.s, Applications, User Services, and Network Services



- Examples**
- Advanced multimedia telephone
  - Video
  - PTT Apps
  - Fire situational awareness, etc.
  - Computer-Aided Dispatch
- Cellular Telephony
  - Video
  - Direct-mode PTT (not for Launch)
  - Messaging, etc.
- Location
  - Service Discovery
  - DNS
  - Identity
  - Dynamic QoS, etc.

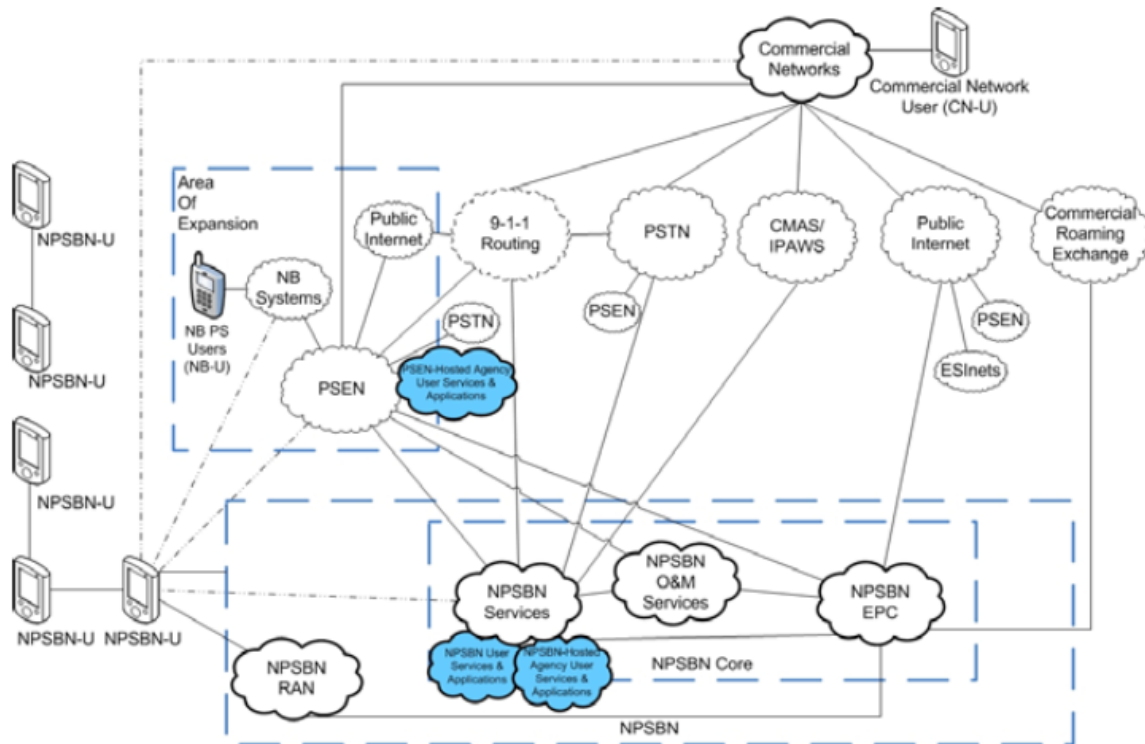
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The NPSBN will be well positioned to host FirstNet, Public Safety Enterprise Network (PSEN), and vendor-supplied application servers and services. The potential exists for FirstNet to host applications for access to common services, facilitating interoperability across multiple agencies. In addition, PSEN’s could potentially host their applications on the NPSBN rather than home networks. The potential also exists for the NPSBN to provide vendors the ability to quickly deploy solutions to the PSEN’s. While the specifics as to who will host potential applications, and how that hosting will be accomplished, and shared, between users, have yet to be determined, the NPSBN offers a tremendous opportunity to public safety.

The diagram below illustrates some potential application hosting options available via the NPSBN. Again, this diagram is not intended to provide design or network specifics, but instead to illustrate potential opportunities.

<sup>1</sup> NPSTC Launch Statement of Requirements for FirstNet Consideration, December, 2012

## Application Hosting Locations



2

<sup>2</sup> NPSTC Launch Statement of Requirements for FirstNet Consideration, December, 2012