FirstNet Board Meeting

September 14, 2017

~~8/10/2017~~

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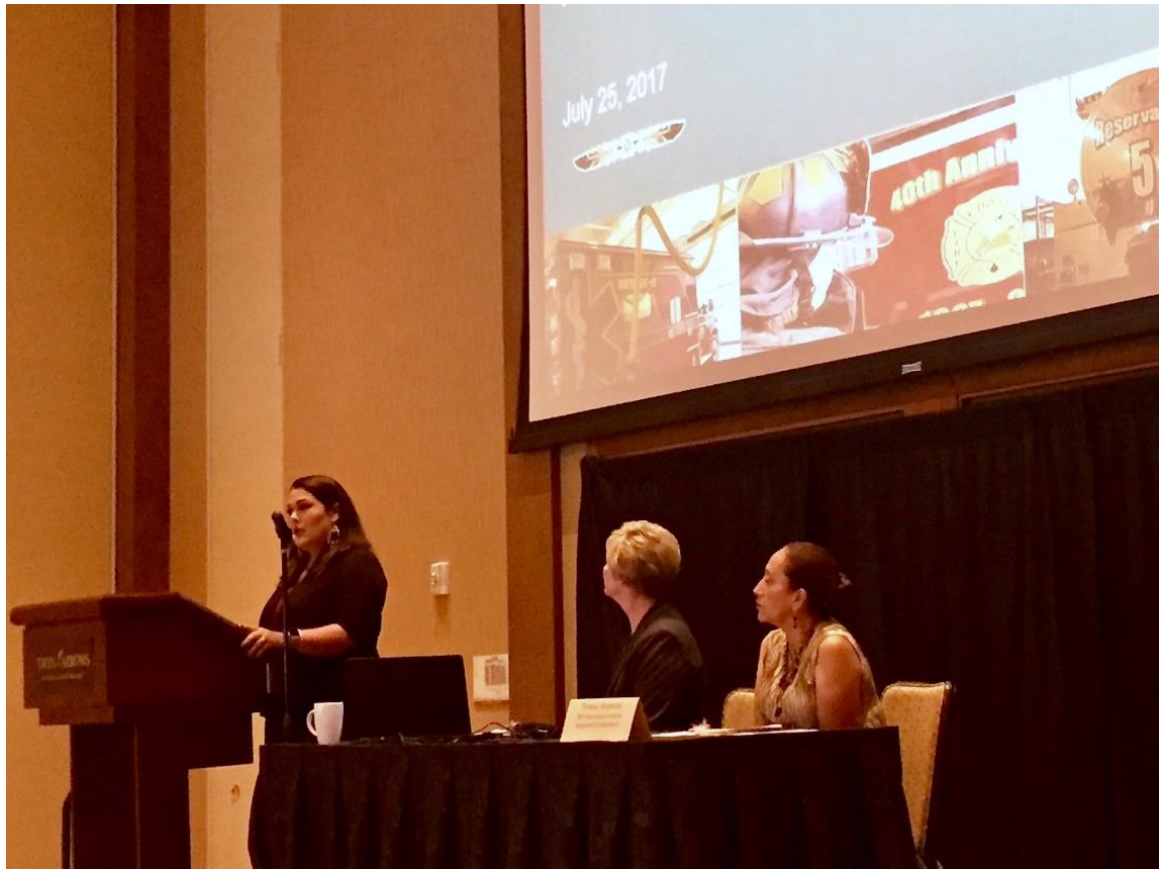
PSAC Update

Tom Sorley, PSAC Chair

July 24-25 TWG In-person Meeting and TIBC Recap



FirstNet thanks Board Member **Kevin McGinnis** for his participation

- Tribal working group in-person meeting
  - AT&T solution overview
  - Tribal consultation policy
  - Rights-of-way streamlining
  - Federal agency participation and contract vehicles
- Presentations to Navajo Nation Council, Navajo Nation leadership, and Tribal-interior Budget Council (TIBC) Public Safety and Justice subcommittee meeting
  - FirstNet and AT&T solution overview
  - Governors decision
  - SPOC team presentations
  - FirstNet Consultation and Outreach

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Upcoming PSAC Meetings

- **Sept. 27, 2 pm ET:** PSAC Webinar
- **Week of Dec. 11:** In-person PSAC meeting, Atlanta, GA

Anticipated topics

- Federal Working Group workshop
- Briefings with AT&T on past PSAC task teams
- PSAC participation on State Plan review teams
- TWG workshops at October National Congress of American Indians meeting

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Finance Committee Update

James Douglas, Finance Committee Chair
Kim Farington, Chief Financial Officer

Management Recommendation – FY 2018 Budget

- FY 2018 recommended operational budget request: $73.5 million
  - 13% decrease from FY 2017 budget ($84.6 million)

- Reduction based on
  - Streamlining processes in post-award environment
  - Focusing on improved resource optimization
  - Reducing reliance on contractors and more on full-time staff

- Assumptions driving FY 2018 budget total include funding for
  - Staff
  - Board expenses
  - Resources needed to achieve all FY 2018 goals and objectives, and meet FirstNet mission

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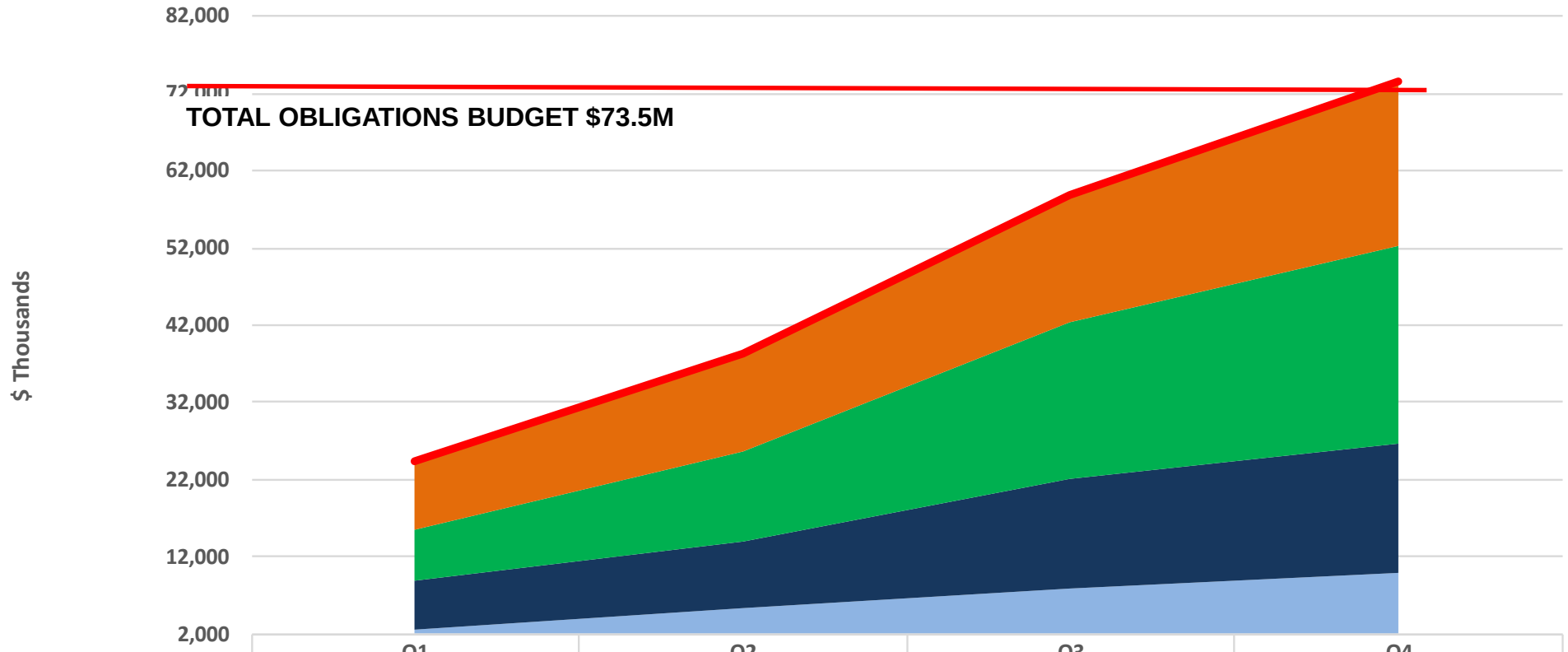
FY 2018 Cumulative Obligations by Workstream



	Q1	Q2	Q3	Q4
Public Safety	8,990	12,796	16,501	21,213
Network Operations	6,496	11,529	20,202	25,525
Corporate Services - Program	6,379	8,723	14,233	16,875
Corporate Services - Admin	2,556	5,340	7,829	9,886
Cum Budgeted Obs	24,420	38,387	58,764	73,500

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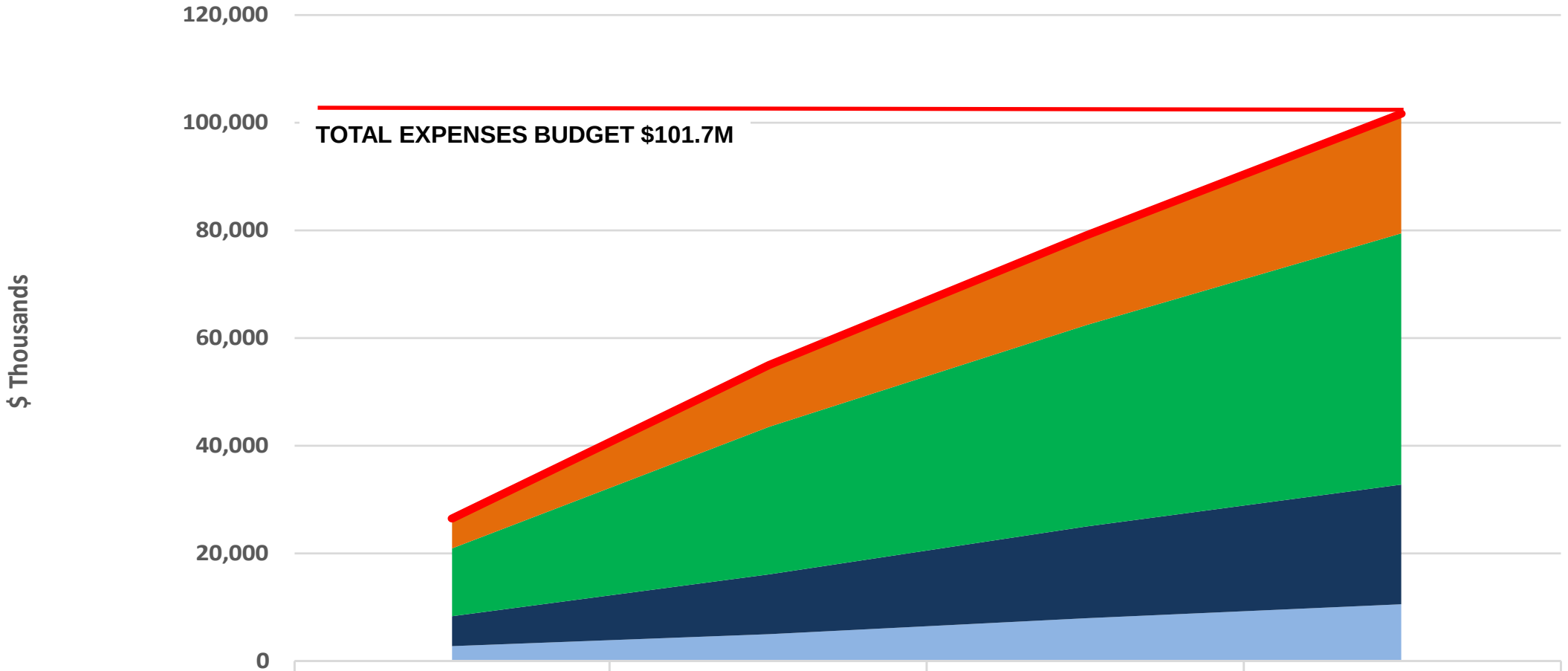
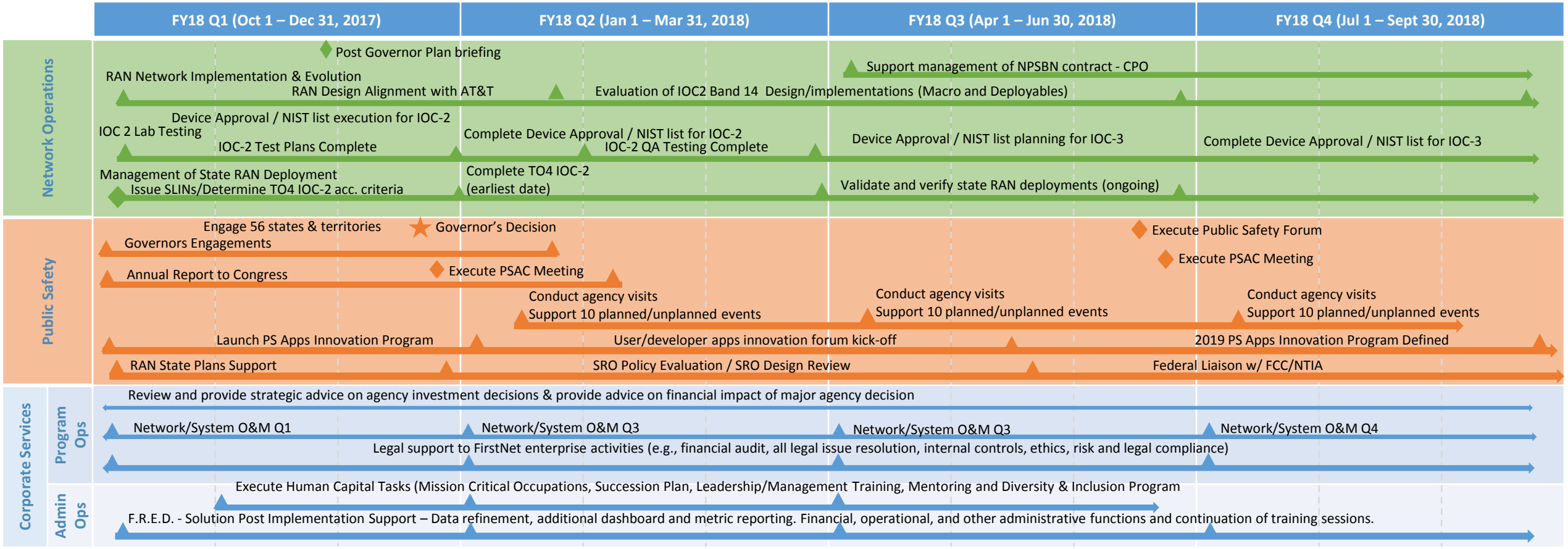
FY 2018 Cumulative Expenses by Workstream



	Q1	Q2	Q3	Q4
Public Safety	5,536	11,487	16,944	22,358
Network Operations	12,353	27,328	37,201	46,914
Corporate Services - Program	5,833	11,191	17,322	22,267
Corporate Services - Admin	2,532	4,965	7,672	10,256
Cum Budgeted Expenses	26,254	54,970	79,139	101,795

FirstNet Summary FY 2018 Milestones



Obligations	**$24,420,261**	**$13,967,173**	**$20,376,353**	**$14,736,316**
Total Expenses	**$26,254,119**	**$28,716,290**	**$24,168,441**	**$22,656,486**

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Board Resolution 86

1. **Approves** the proposed FY 2018 budget of $73.5 million on an obligations basis.
2. **Authorizes** management to enter into the necessary agreements to meet the FY 2018 FirstNet work stream milestones.
3. **Authorizes** management to reallocate up to 10% of the funds from any of the three major activity categories to another major activity category. Management may exceed the approved obligation level of the three major activity categories by no greater than 10% in the aggregate or by 15% in any individual major activity category.

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Governance and Personnel Committee Update

Sue Swenson, Governance and Personnel Committee Chair

Board Member Nomination Update

- Board member terms extended until 2017 appointments or Dec. 31, 2017, whichever is earlier
- National Telecommunication and Information Administration (NTIA) received 31 submissions of interest in response to the April 2017 *Federal Register* notice
- The Governance and Personnel Committee has interviewed and made a formal recommendation to NTIA
- NTIA has made a formal recommendation to the Secretary of Commerce
- ***Next steps***: Appointments shall be made and announced by the Secretary of Commerce
  - Projected timeline for appointment: September or October 2017

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FirstNet team wins Commerce Gold Medal Award

Recipients: FirstNet RFP Team

- **Mouncef Belcaid**
  Director, Solutions Services
- **Terri Callahan**
  Contracting Officer
- **Brian Hobson**
  Director, State Plans
- **Brian Kassa**
  Director, Tech. Planning & Development
- **Paul Madison**
  Deputy Chief Counsel
- **James Mitchell**
  Senior Director, Network Program Office
- **Peggy O'Connor**
  Director, Relationship Services
- **John Quinlan**
  Deputy CFO, Strategic Planning
- **Matt Schiller**
  Director, Financial Strategy & Development
- **Patrick Schwinghammer**
  Director, RAN

About the award

- Team received award in **Personal and Professional Excellence** category for implementing/executing an innovative acquisition and public-private partnership model for the Nationwide Public Safety Broadband Network
- Highest honorary award given by Commerce Dept.
- Awarded for distinguished performance characterized by extraordinary, notable, or prestigious contributions
- Commerce Secretary **Wilbur Ross** to present award at the 69th Annual Honor Awards Ceremony, Sept. 26, Washington, D.C.

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Consultation and Outreach Committee Update

Jeff Johnson, Consultation and Outreach Committee Chair
Rich Reed, Chief Customer Officer

FirstNet State Plan Timeline

June 19

FirstNet and AT&T deliver customized State Plans

June 19 – Aug. 4

States/territories have opportunity to review and provide feedback on State Plans

Aug. 4

Final date for states/territories to provide feedback

Aug. 4 – Mid-Sept.

FirstNet and AT&T review state and territory comments and feedback

Expected Mid-Sept.

FirstNet and AT&T provide official notice to the governor and initiate the 90-day decision period

Expected Mid-Sept. – Mid-Dec.

States/territories must make decision to opt-in or opt-out

Expected Mid-Dec.

Deadline for opt-in/-out decision. No response = Opt-in.

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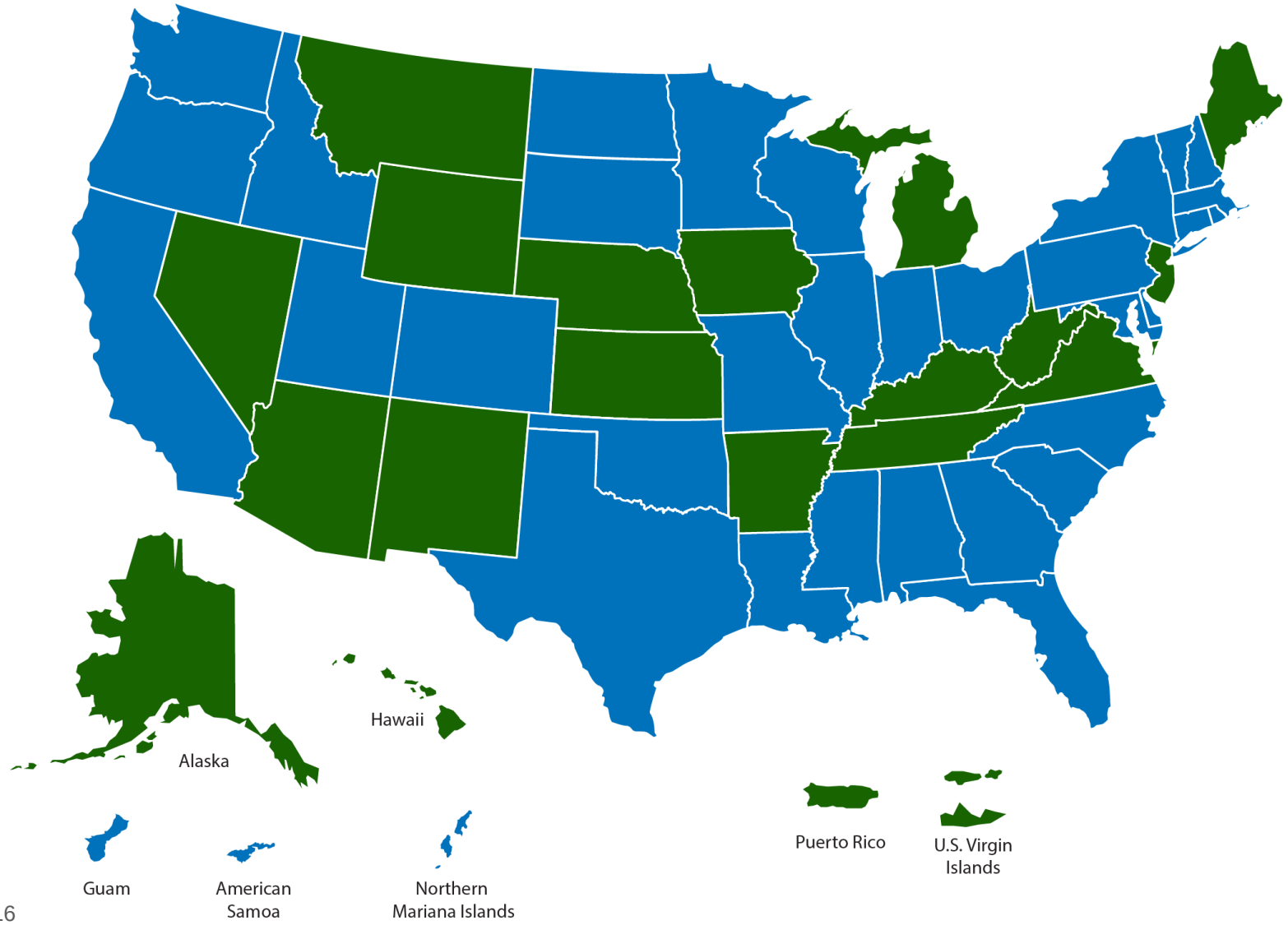
20 “Opt-In” States/Territories



- Alaska
- Arizona
- Arkansas
- Hawaii
- Iowa
- Kansas
- Kentucky
- Maine
- Michigan
- Montana
- Nebraska
- Nevada
- New Jersey
- New Mexico
- Puerto Rico
- Tennessee
- U.S. Virgin Islands
- Virginia
- West Virginia
- Wyoming

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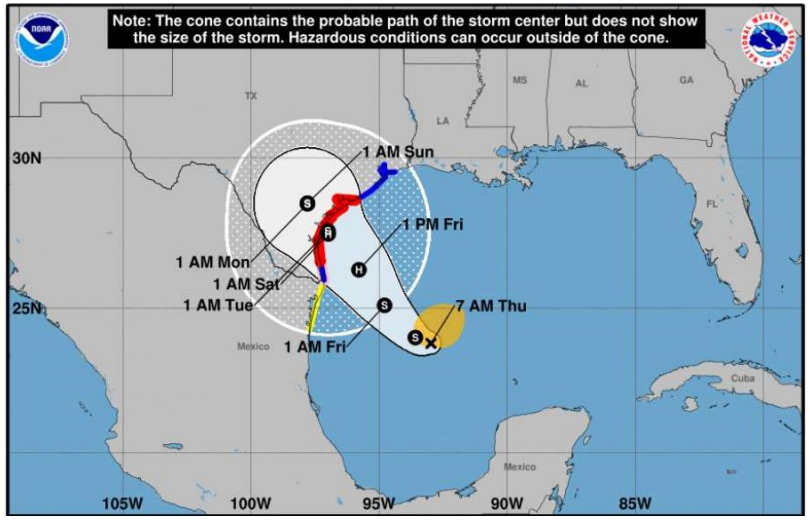
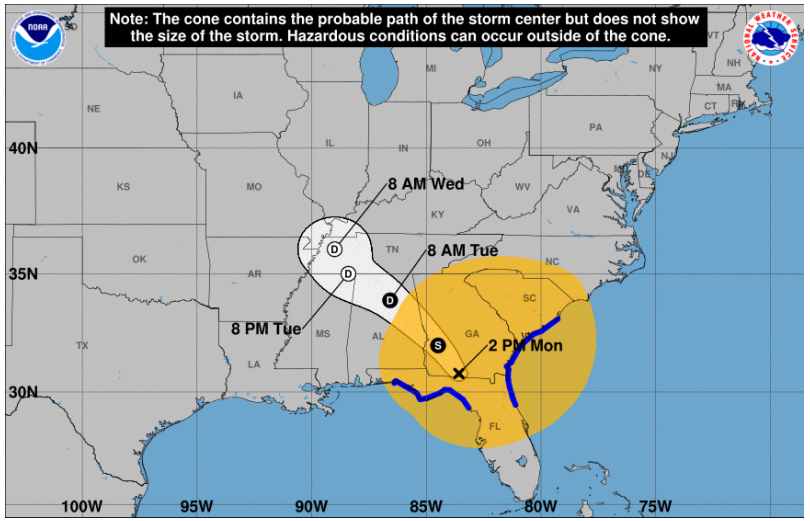
Hurricanes Harvey and Irma and Tropical Storm Jose



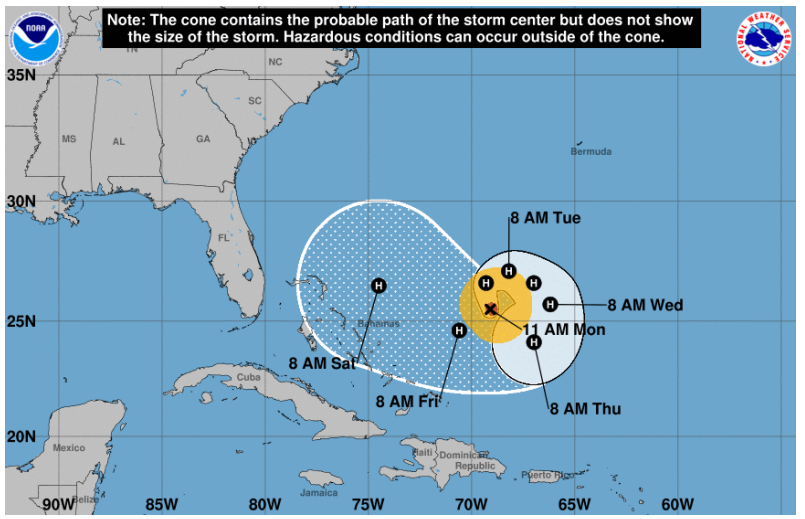
HURRICANE HARVEY

- FirstNet observers in TX, LA and TN Emergency Operations Centers over 10 days to:
  - **Observe/learn** from states' response to build FirstNet's response/support functions
  - **Strengthen** relationships and observe AT&T's response to the hurricane



HURRICANE IRMA

- Actively monitoring Irma
- Working with AT&T to understand response/restoration activities



TROPICAL STORM JOSE

- Predicted path: headed toward U.S. mid- Atlantic States

Lessons learned will help FirstNet:

- Evolve disaster response function
- Ensure the Network can/will continue to meet public safety's needs
- Work proactively with AT&T to ensure response/restoral works effectively and smoothly

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Technology Committee Update

Neil Cox, Technology Committee Chair
Jeff Bratcher, Chief Technology Officer

Applications Standards Strategy: Pillars for Driving Standards

TECHNICAL	MARKETING	LEGISLATIVE	STAKEHOLDERS
• Drive adoption of existing standards or creation of new ones • Drive economies of scale • Improve user experience • Minimize interop challenges	• Create strategies to encourage development and use of apps that employ standards • Lower barriers to entry for new public safety app developers	• Advocate changes to grant programs encouraging (requiring) selection of apps that employ standards	• Include PSAC, public safety users, agencies, developers, AT&T, academia, associations, and federal partners

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Applications Standards Focus Areas

Applications Base Technologies

- Location apps
- Information exchange
- Situational awareness
- Data analytics
  - Social media
  - RT video

- E-citations & court systems
- Digital evidence
- Facial recognition
- Field reporting

- CAD systems
- Integrated dispatch
- NG 9-1-1
- Electronic citizen reporting
- Government records
- Alarm management

- Personnel biometrics
- Personnel location
- 3D building plans

- Electronic health records
- En-route collaboration
- Telemedicine

Future Technologies

- Z-axis acquisition
- MC-PTT
- MC-Data
- MC-Video
- P2P Apps
- IoT
- Virtual Assistants
- AR/VR
- ICAM

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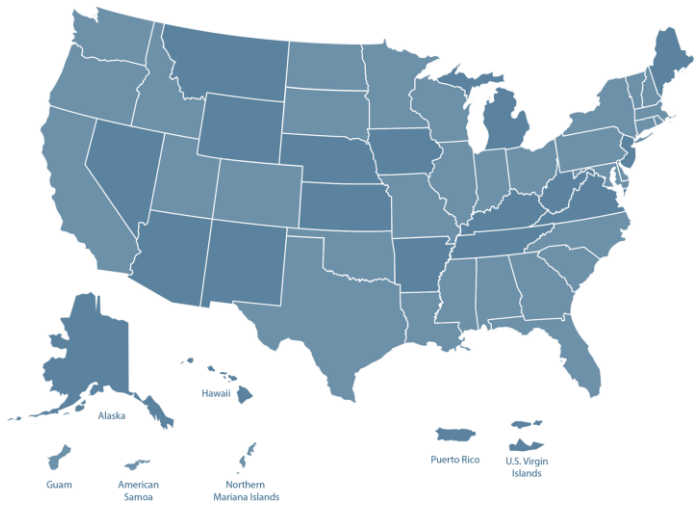
Device Portfolio Roadmap Influencing Strategy

Fire LE EMS

PUBLIC SAFETY ADVISORY COMMITTEE



Protect

Connect

Situationally Aware

Collect → **Collaborate/ Refine** → **Influence**

Evolve

Evolve

Distilling the needs of public safety to influence the FirstNet Device Ecosystem

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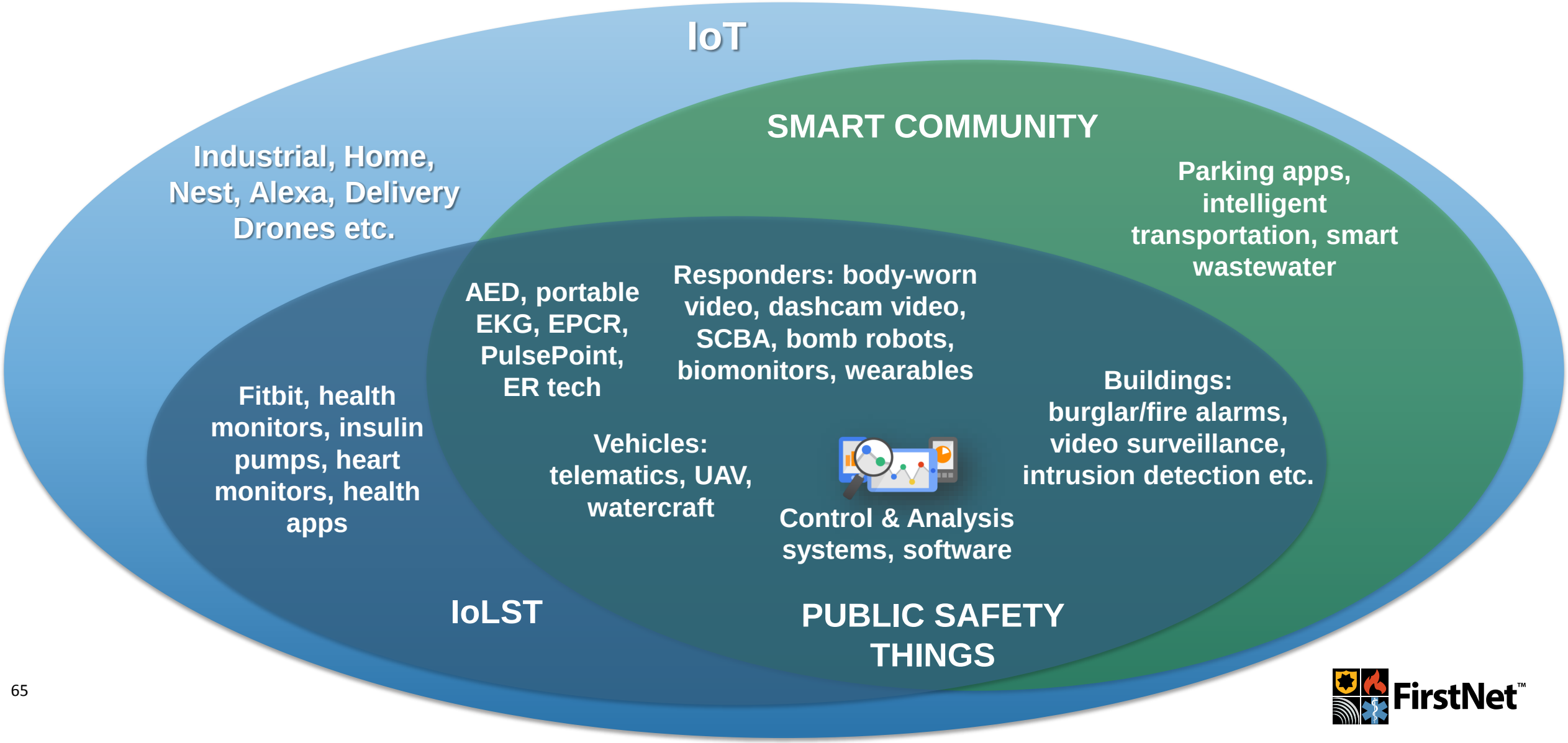
The Internet of Life-Saving Things (IoLST)



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Radio Access Network – Multi-Band Solution for Public Safety

Capacity

- Additional bandwidth
- Lower cost/bit as can often deploy more spectrum vs. new sites to add capacity

Coverage

- More sites & in-building DAS available to Public Safety communications

Time To Market

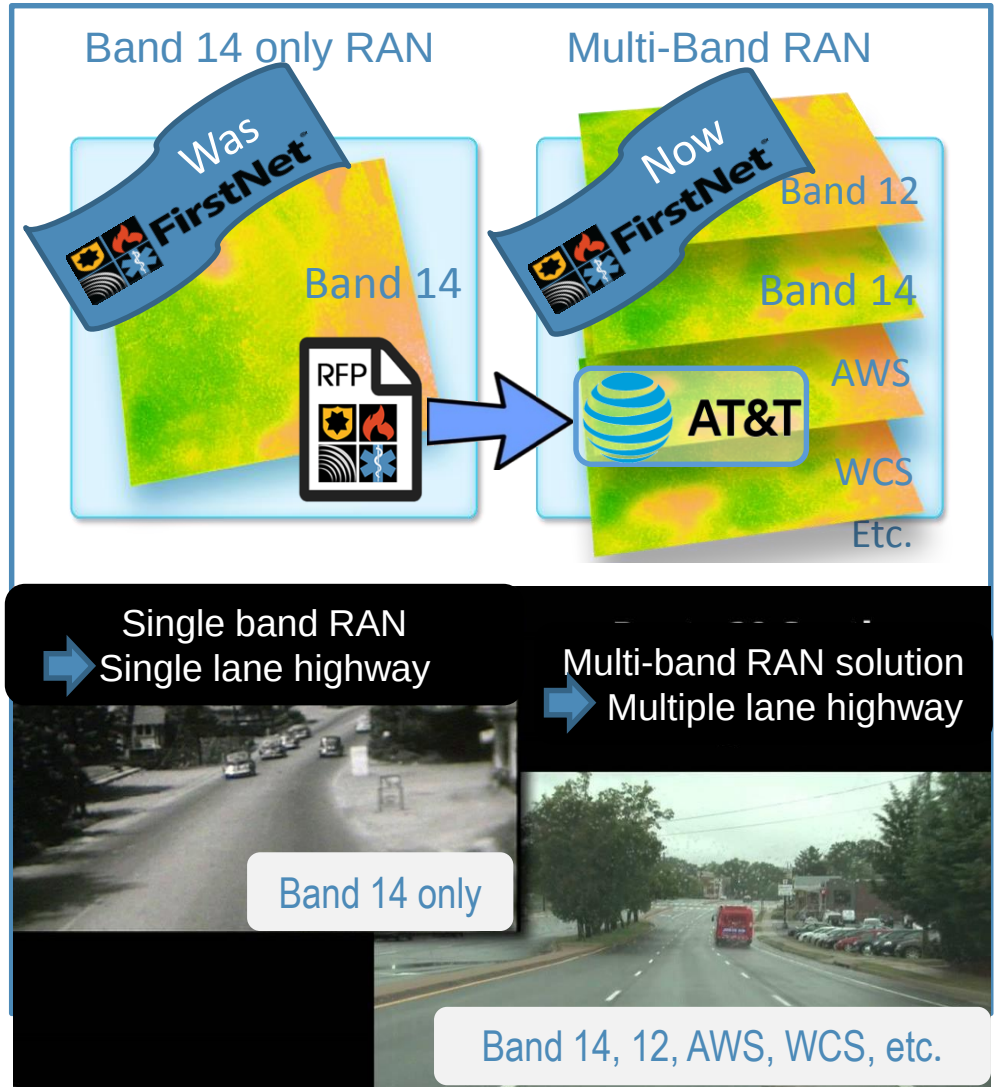
- Utilizing an established RAN network with legacy spectrum allows to launch Public Safety services sooner.

Resiliency

- Wireless interference tends to be band specific & multiple spectrum bands allows for alternative communication paths if one has interference

Faster Data Speeds

- Combining separate LTE bands (Carrier Aggregation) allows faster data speeds by combining multiple LTE spectrum



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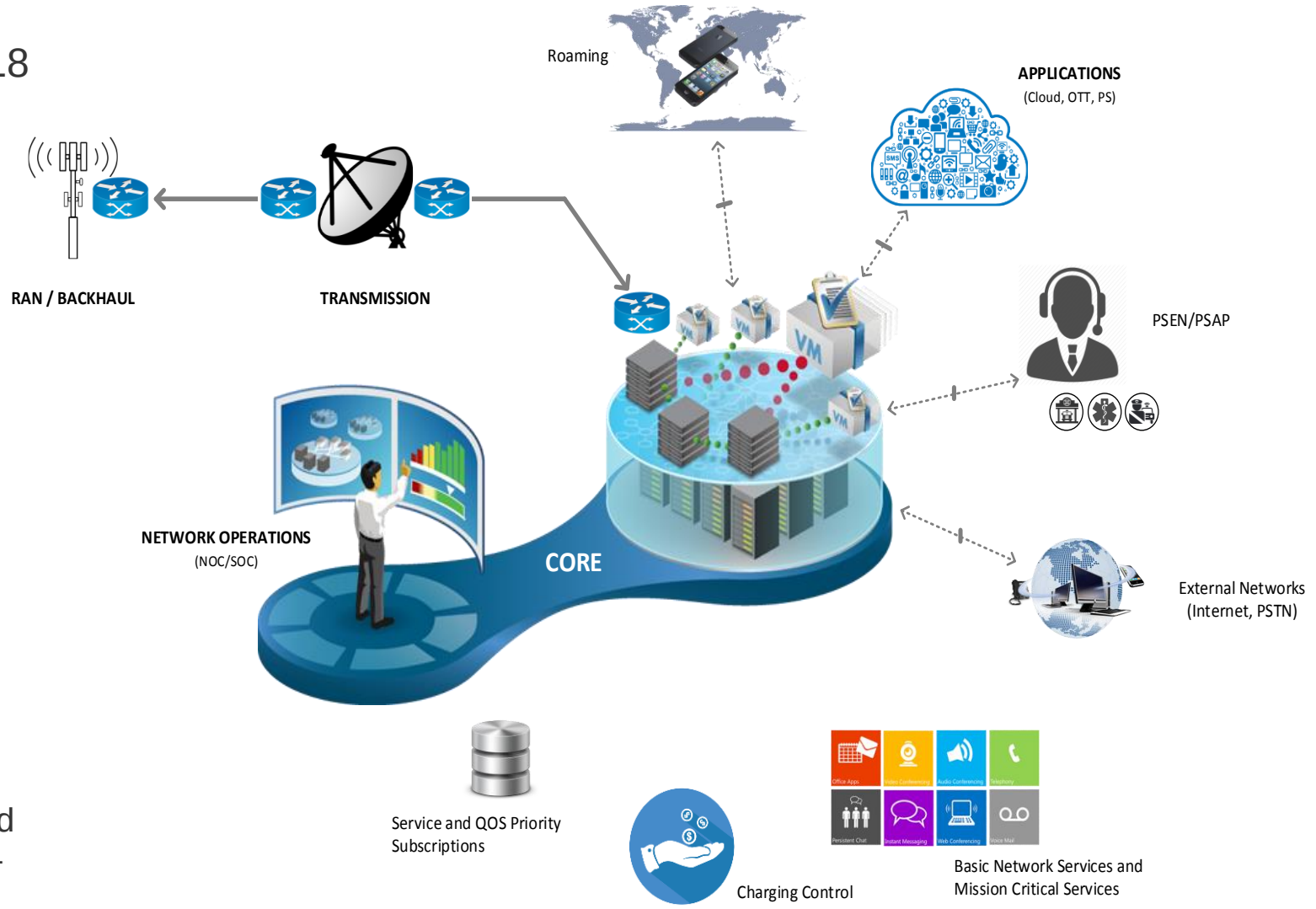
Dedicated FirstNet Public Safety Core Network

- FirstNet Core fully implemented March 2018 (IOC-2)
- Based on standardized Evolved Packet Core (EPC) and IP Multimedia Subsystem (IMS)
- Dedicated core for opt-in and opt-out states/territories RANs
- FirstNet Core to provide:
  - Basic network services
  - Mission-critical services (future)
  - Secure access to private/public networks, PSEN/PSAP, enterprise and cloud applications
  - Enables full network sharing among Band 14 and AT&T commercial bands while enabling Band 14 secondary use (MOCN)
  - QoS, priority and preemption across **all** AT&T LTE bands



Standards Technology Evolution: Network Capabilities

Common API framework	ProSe	MBMS/IOPS	Mission-critical services	QPP	GCS

Focus on supporting mission critical services and enablers

Services

- Mission-critical push-to-talk
- Mission-critical video
- Mission-critical data

Enablers

- Proximity services (ProSe)
- QoS, Priority and Preemption (QPP) and Dynamic Controller
- Group Communication Services
- Isolated E-UTRAN Operation for Public Safety (IOPS)
- Multimedia Broadcast Multicast Services (MBMS)
- Common API framework

3GPP A GLOBAL INITIATIVE

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2017 PSIAP Grant Program

- In December 2016 PSCR released a Notice of Federal Funding Opportunity that covers a broad range of research and development objectives across many technical areas

- Grants are for research, advanced engineering, and product development

- The Notice of Funding Opportunities identified the following focus areas that will drive R&D for the Innovation Accelerator
    - Mission Critical Voice
    - Location-Based Services
    - Public Safety Analytics
    - Public Safety Communications Demand Model
    - Research & Prototyping Platforms
    - Resilient Systems

PSCR

2017 PSIAP Grant Program

- PSCR received over 162 applications
- In June 2017 awards were made to 33 grant recipients, totaling more than $36 million
  - Mission Critical Voice – 6 Grants
  - Location-Based Services – 8 Grants
  - Public Safety Analytics – 10 Grants
  - Research & Prototyping Platforms – 4 Grants
  - Resilient Systems – 5 Grants
- Recipients represent industry, academia, and public safety institutions/organizations

PSCR

PSCR 2018 Stakeholder Conference Update

- Location: San Diego Convention Center
- Date: June 5 - 8, 2018
- New Meeting Structure
  - Multiple Tracks
  - Significant participation from Grantees and Prize Winners
- 3 Possible Prize Challenges:
    - Drone Load Lifting for LTE Systems
    - Security Hack a (wearable, ota, mobile app)
    - UI for In Building Navigation
- MOU with PSCR, FirstNet, and AT&T in review

PSCR

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Promoting Innovation

TJ Kennedy, President

Workshop on law enforcement priorities and recommendations for FirstNet

Workshop on fire-rescue-medical service capabilities and application recommendations to FirstNet

Streamline Incident Documents
CAD
Social Media
Telemedicine
AWARENESS
Portable Reporting & Data Access
Situational Awareness
De-centralized Operations
AVL/ Location-Enabled Tracking
GIS Mapping
Internet of Things (IoT)

Image: Motorola via http://www.gadget.co.za/meet-futurecop-the-vr-policeman-of-tomorrow/

http://iffmag.mdmpublishing.com/application-fireground-intelligence/

Create PS Ecosystem: Internet of Life-Saving Things (IoLST)

Personal devices
Fitbit, health monitors, insulin pumps, heart monitors, health apps, PulsePoint

Buildings
burglar/fire alarms, video surveillance, intrusion detection etc.

Vehicles
telematics, cars, trucks, UAS/UAV, watercraft

FirstNet™
(and other networks)

EMS devices, apps
AED, portable EKG, EPCR, ER tech

Control & analysis systems, software

Responders
body-worn video, dashcam video, SCBA, bomb robots, biomonitors, wearables

IoLST used by first responders

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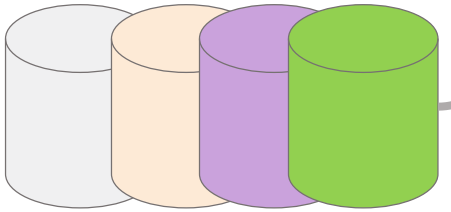
Internal/external databases, social media and other sources

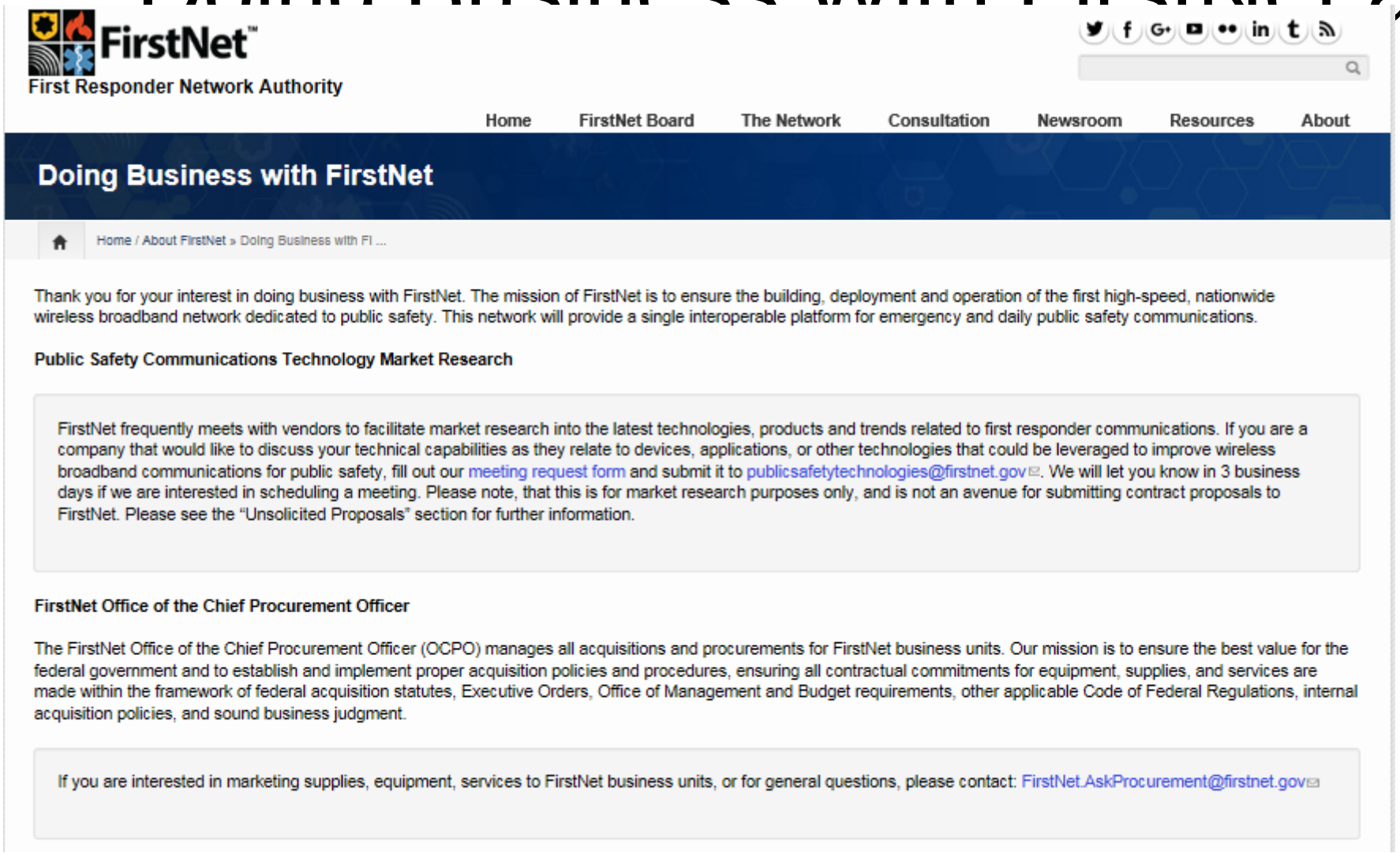


Analytics Software

Smart City Real-Time Analytics Center

Responders

Doing Business With FirstNet and AT&T



FirstNet
First Responder Network Authority

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Doing Business with FirstNet

Home / About FirstNet » Doing Business with FI ...

Thank you for your interest in doing business with FirstNet. The mission of FirstNet is to ensure the building, deployment and operation of the first high-speed, nationwide wireless broadband network dedicated to public safety. This network will provide a single interoperable platform for emergency and daily public safety communications.

Public Safety Communications Technology Market Research

FirstNet frequently meets with vendors to facilitate market research into the latest technologies, products and trends related to first responder communications. If you are a company that would like to discuss your technical capabilities as they relate to devices, applications, or other technologies that could be leveraged to improve wireless broadband communications for public safety, fill out our meeting request form and submit it to publicsafetytechnologies@firstnet.gov. We will let you know in 3 business days if we are interested in scheduling a meeting. Please note, that this is for market research purposes only, and is not an avenue for submitting contract proposals to FirstNet. Please see the "Unsolicited Proposals" section for further information.

FirstNet Office of the Chief Procurement Officer

The FirstNet Office of the Chief Procurement Officer (OCPO) manages all acquisitions and procurements for FirstNet business units. Our mission is to ensure the best value for the federal government and to establish and implement proper acquisition policies and procedures, ensuring all contractual commitments for equipment, supplies, and services are made within the framework of federal acquisition statutes, Executive Orders, Office of Management and Budget requirements, other applicable Code of Federal Regulations, internal acquisition policies, and sound business judgment.

If you are interested in marketing supplies, equipment, services to FirstNet business units, or for general questions, please contact: FirstNet.AskProcurement@firstnet.gov

Vendor requests to work with FirstNet
Refer to FirstNet's https://www.firstnet.gov/business page on FirstNet.gov

Vendor requests for a contact at AT&T
Refer to AT&T's Bradley Blase at bb6070@att.com

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Network Program Office Update

Steve Fletcher, Network Program Officer

State Plans

- Established and managed Integrated Task Teams (ITTs) to support State Plan Portal and delivery activities
- Supported CCO and led aspects of the State Plan Mechanism activities (developing user stories, web design, access control/security, conducting verification and validation of finalized State Plan content)

FirstNet Core and Lab

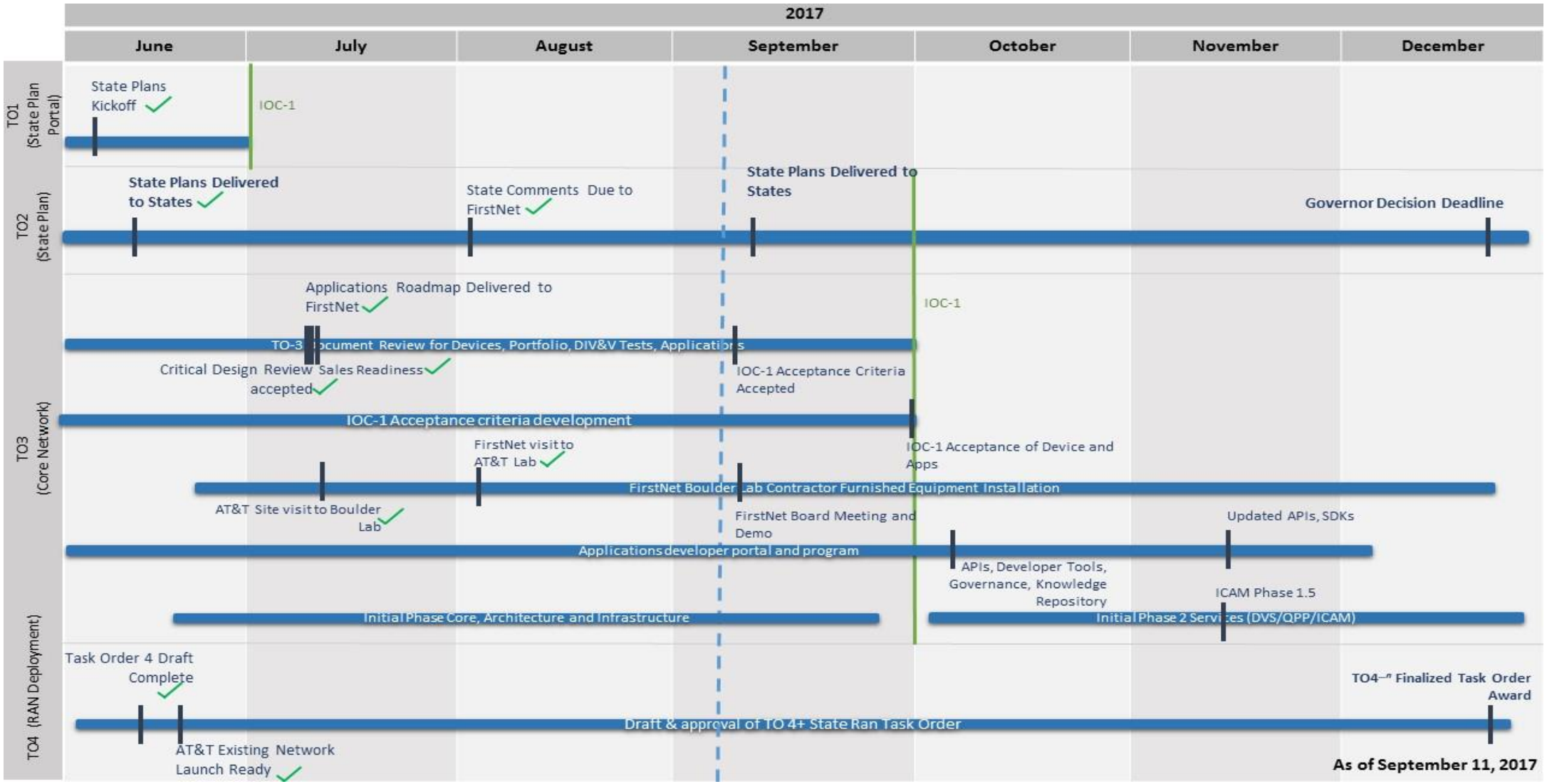
- Accepted Critical Design of NPSBN Core on 7/15 and working with CTO through the ITT model
- Continued to develop use cases and performance metrics for the Acceptance Test Plan of FirstNet Core Network for Public Safety
- Coordinated w/AT&T and CTO on permanent FirstNet Lab equipment delivery and installation, to include schedule management

Devices and Apps

- Coordinated w/AT&T and CTO to identify initial devices that will operate on the Network and to finalize process for devices
- Continued to evaluate and expand Band 14 portfolio across devices and user segments
- Facilitated integration the AT&T App Developer Program with CTO
- Led effort to have the FirstNet App Store available by September; negotiated features on initial set of apps

RAN Deployment & Ops

- Established FirstNet and AT&T working teams; conducted deep dive sessions on Network Operations Key Performance Indicators
- Continued to work cross functionally within FirstNet and AT&T on coverage augmentation requirements and maps
- Continued spectrum clearing activities to prepare for award of Task Order 4 SLINs per state


2017
June
July
August
September
October
November
December
TO1 (State Plan Portal)
State Plans Kickoff
IOC-1
TO2 (State Plan)
State Plans Delivered to States
State Comments Due to FirstNet
State Plans Delivered to States
Governor Decision Deadline
TO3 (Core Network)
Applications Roadmap Delivered to FirstNet
IOC-1
TO-3 Document Review for Devices, Portfolio, DIV&V Tests, Applications
Critical Design Review Sales Readiness accepted
IOC-1 Acceptance Criteria Accepted
IOC-1 Acceptance criteria development
FirstNet visit to AT&T Lab
IOC-1 Acceptance of Device and Apps
FirstNet Boulder Lab Contractor Furnished Equipment Installation
AT&T Site visit to Boulder Lab
FirstNet Board Meeting and Demo
Updated APIs, SDKs
Applications developer portal and program
APIs, Developer Tools, Governance, Knowledge Repository
ICAM Phase 1.5
Initial Phase Core, Architecture and Infrastructure
Initial Phase 2 Services (DVS/QPP/ICAM)
TO4 (RAN Deployment)
Task Order 4 Draft Complete
TO4–" Finalized Task Order Award
Draft & approval of TO 4+ State Ran Task Order
AT&T Existing Network Launch Ready
As of September 11, 2017

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CEO Update

Mike Poth, Chief Executive Officer

Rich Reed, Chief Customer Officer