



Florida's Consultation With FirstNet

December 12, 2014

8:00AM

Contents

1. Agenda
2. FirstNet Updates
3. FloridaNet Updates
4. Florida Presentations
5. Questions for FirstNet
6. Users/Coverage Discussion
7. FloridaNet Committees
8. FirstNet Staff Bios
9. FirstNet Factsheets
10. Action Items Register

Agenda

07:30	Registration	
08:00	Meeting Begins	
08:05	Public Comments	Public
08:35	Welcoming Remarks	Executive Director Terry L. Rhodes, State Point of Contact (SPOC)
	FirstNet Update	FirstNet
	FloridaNet Update	
10:15	Break	
10:30	Florida Presentations	
12:00	Lunch	
13:00	Florida Presentations	
14:30	Break	
14:45	Users/Coverage Discussion	FirstNet
16:00	Wrap up & Next Steps	FirstNet & Attendees

FirstNet Updates



Initial Consultation Meeting with the State of Florida

Working together to bring broadband to Public Safety in Florida



December 12, 2014
Tallahassee, Florida



Agenda – Florida Initial Consultation



Time	Agenda Item
8:00	Welcoming Remarks
8:05	Open Public Comments
8:35	Introductions
	FirstNet Update & Consultation Process
	State Update
Noon	Lunch
1:00	User Discussion
	Coverage Discussion
	Wrap-up & Next Steps
4:30	Adjourn

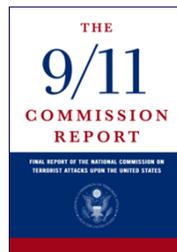
Welcome & Introductions



Our History & Mandate



2004



“Recommendation: Congress should support pending legislation which provides for the expedited and increased assignment of radio spectrum for public safety purposes....”



2011

Associations Supporting D-Block Reallocation

- | | |
|--|--|
| <i>National Governors Association</i> | <i>National Criminal Justice Association</i> |
| <i>National Association of Counties</i> | <i>National Association of Police Organizations</i> |
| <i>National League of Cities</i> | <i>National Volunteer Fire Council</i> |
| <i>United States Conference of Mayors</i> | <i>National Troopers' Coalition</i> |
| <i>Council of State Governments</i> | <i>National Organization of Black Law Enforcement Executives</i> |
| <i>International City/County Managers Association</i> | <i>Association of Air Medical Services</i> |
| <i>National Conference of State Legislatures</i> | <i>Advocates for Emergency Medical Services</i> |
| <i>International Association of Chiefs of Police</i> | <i>Emergency Nurses Association</i> |
| <i>International Association of Fire Chiefs</i> | <i>National Association of Emergency Medical Services Physicians</i> |
| <i>National Sheriffs' Association</i> | <i>National Association of Emergency Medical Technicians</i> |
| <i>Major Cities Chiefs Association</i> | <i>National Association of State Emergency Medical Service Officials</i> |
| <i>Metropolitan Fire Chiefs Association</i> | <i>National Emergency Medical Services Management Association</i> |
| <i>Major County Sheriffs' Association</i> | <i>American Probation and Parole Association</i> |
| <i>Association of Public-Safety Communications Officials</i> | <i>National Association of Regional Councils</i> |
| <i>National Emergency Management Association</i> | |
| <i>International Association of Emergency Managers</i> | |
| <i>Police Executive Research Forum</i> | |

Our History & Mandate



Middle Class Tax Relief and Job Creation Act of 2012

"The First Responder Network Authority shall hold the single public safety wireless license...and take all actions necessary to ensure the building, deployment, and operation of the nationwide public safety broadband network"

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5

First Responder Communications



Non-Mission Critical

The Current State

Mission Critical

Commercial LTE Service / Devices



Data

Voice

Land Mobile Radio (LMR) for Public Safety



Voice

December 12, 2014

Photo Source: Hurricane Andrew (Aug. 1992); http://rsd.gsfc.nasa.gov/rsd/images/andrewSequence_hg.jpg

6

First Responder Communications

Non-Mission Critical

The Near-Term Vision

Mission Critical

FirstNet will provide emergency responders with the first nationwide, high-speed, wireless broadband network dedicated to public safety

FirstNet[®] LTE Service / Devices



Data

Voice

Land Mobile Radio (LMR) for Public Safety



Voice

December 12, 2014

Photo Source: Hurricane Andrew (Aug. 1992); http://rsd.gsfc.nasa.gov/rsd/images/andrewSequence_bj.jpg

7

Leveraging an Evolving Landscape



Aggregate LTE Coverage 2Q 2014

Benefits of Leveraging Industry

- Existing Infrastructure
- Global Standard
- Economy of Scale
- Built & Maintained

Public Safety Requirements

- Dedicated Spectrum
- Hardened Infrastructure
- Specialized Devices
- Cyber-Security
- Public Safety Applications

All coverage illustrated is derived from public information provided by terrestrial mobile operators. Not all operators choose to market coverage information. Standards for coverage representation vary among operators. Mosaik Solutions provides no warranty to the accuracy of the data. Analysis reflects 2010 U.S. Census Data.
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SOLUTIONS

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8

Making it a Reality



As we begin the State consultation process, FirstNet is committed to:

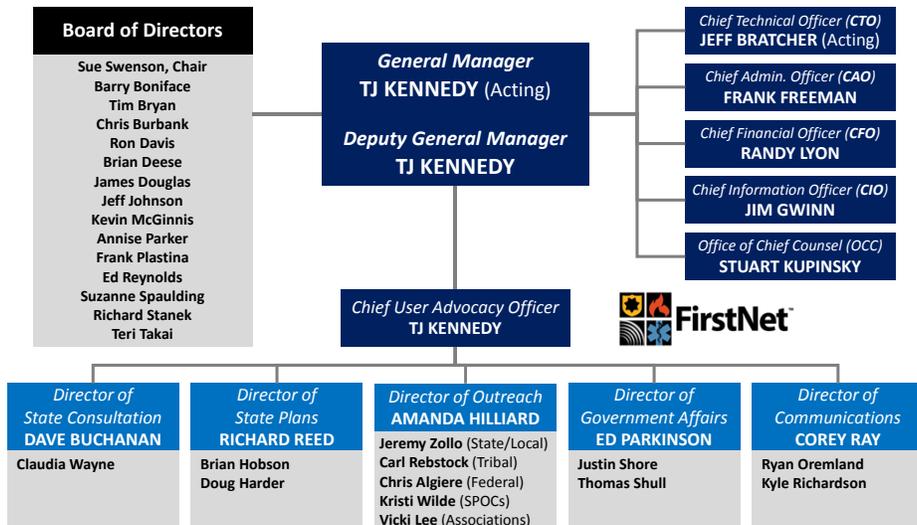
- Maintaining a close working relationship
- Understanding unique needs
- Seeking input from all stakeholders
- Gathering and utilizing State data



December 12, 2014

9

FirstNet Organization



December 12, 2014

10

FirstNet Organization



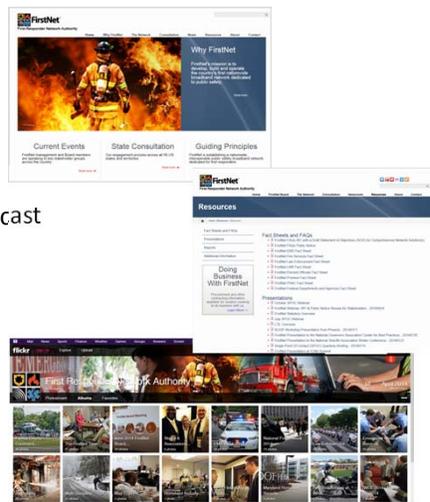
Chief User Advocacy Officer
TJ KENNEDY



Outreach and Communications



- FirstNet.gov website
 - Fact Sheets
 - Blogs
 - Presentations
 - Upcoming speaking engagements and current events
 - Board meeting materials and webcast
- Social media presence
 - Twitter (@FirstNetGov)
 - Google+ (+FirstNetGov)
 - YouTube (FirstNetGov)
 - Flickr (FirstNetGov)
 - LinkedIn
 - RSS Feeds



FIRSTNET UPDATES



Understanding Our Boundaries



FirstNet Mandates Under the Act

Understanding the Playing Field



Public Safety Entity (Eligible Users)	Management / Independent Authority	RFPs	Standards	Consultation	Secondary Users
National Architecture	Rural Coverage Consideration	Contracts	Commercial Infrastructure	Promote Equipment Competition	Opt-In
Roaming	PSAP	National Security Coverage Considerations	Cybersecurity	Public Infrastructure	Priority / Preemption
State Plan	Maintenance & Upgrade	Certified Equipment List	PSAC	Training	Other(s) as Needed

Defining Responsibilities and Duties

Funding

Building an Affordable, Self-Sustaining Network



- The network is to be self-sustaining
- Planning and implementation funding is provided through spectrum auctions
- Funds available until Sept 30, 2022; unused funds revert to the Treasury

Phase	Funds	Purpose
Planning	\$135 Million	Grants to assist States/Territories with planning & implementation
Implementation	\$7 Billion	\$2 Billion provided to start planning, designing and early implementation
		Remaining \$5 Billion from spectrum auctions
Growth / Sustainment	Ongoing	<ol style="list-style-type: none"> 1. Network User Fee (Service Plan) 2. Lease Fee for Excess Network Capacity 3. Core Network Access Fee 4. Lease Fee for Network Equipment / Infrastructure

700 MHz Landscape



- FirstNet is the license holder for Public Safety's Broadband allocation – **Band Class (BC) 14**
- Commercial Carriers also operate in several bands outside of 700 MHz

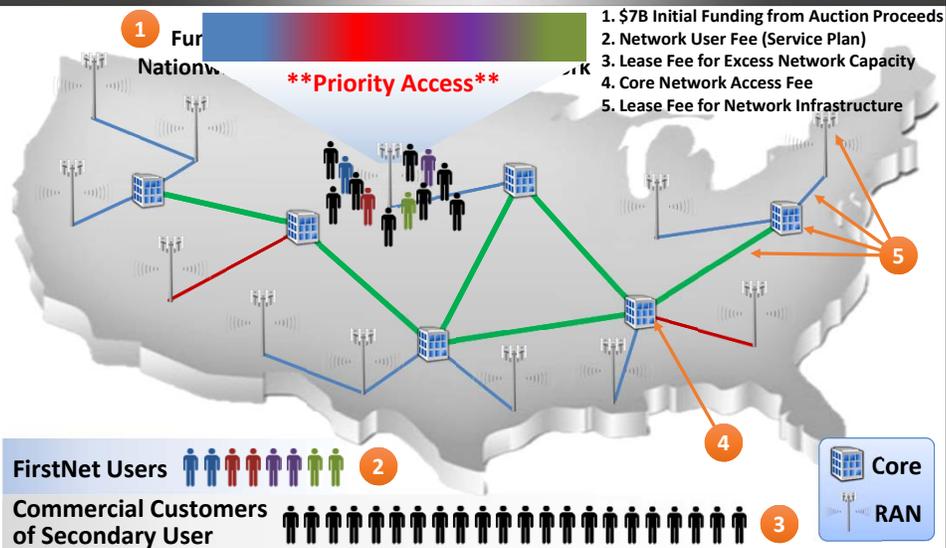
BC 17		BC 17		BC 13		BC 14	LMR	BC 13	BC 14	LMR
AT&T	AT&T	Dish	Dish	Verizon	Verizon	PS Broadband	PS Narrowband	Verizon	PS Broadband	PS Narrowband
UL	UPLINK	DOWNLINK	DL	DOWNLINK	DOWNLINK	DOWNLINK		UPLINK	UPLINK	
6 MHz	12 MHz	12 MHz	6 MHz	12 MHz	11 MHz	10 MHz	6 MHz	11 MHz	10 MHz	6 MHz

1 MHz Guard Bands

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17

Revenue, Architecture & Priority



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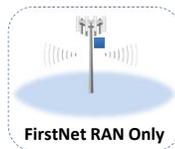
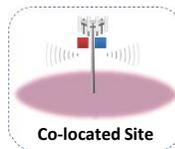
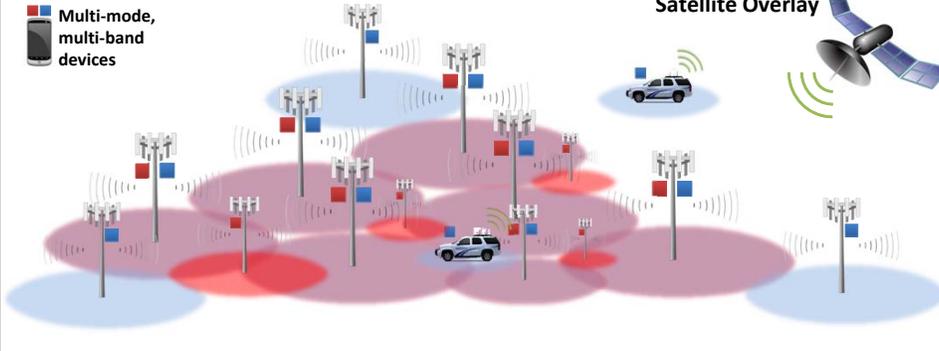
18

Conceptual Design Approach



Multi-mode,
multi-band
devices

Satellite Overlay



■ = FirstNet RAN (Band 14)
■ = Existing RAN (Band ??)
= Satellite Overlay

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19

Market Research



Objective: Identify current market capabilities and best practices

- FirstNet has held meetings with vendors following a methodical and rigorous process
- FirstNet provides guidance on Doing Business with FirstNet website page
 - Note: FirstNet has temporarily suspended accepting new requests



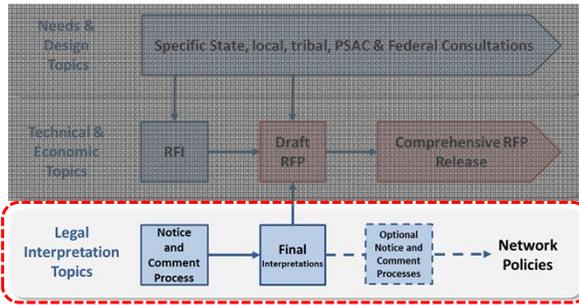
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20

Public Notice & Comment



Acquisition



Highlights:

- Comment Period: 9/24/14 – 10/27/14
- 63 responses received
- Allows inputs from broad stakeholder group
- Open & transparent process
- All responses posted on www.regulations.gov

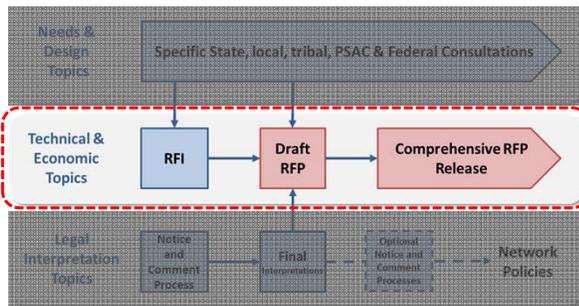
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21

Request for Information (RFI)/ Statement of Objectives (SOO)



Acquisition



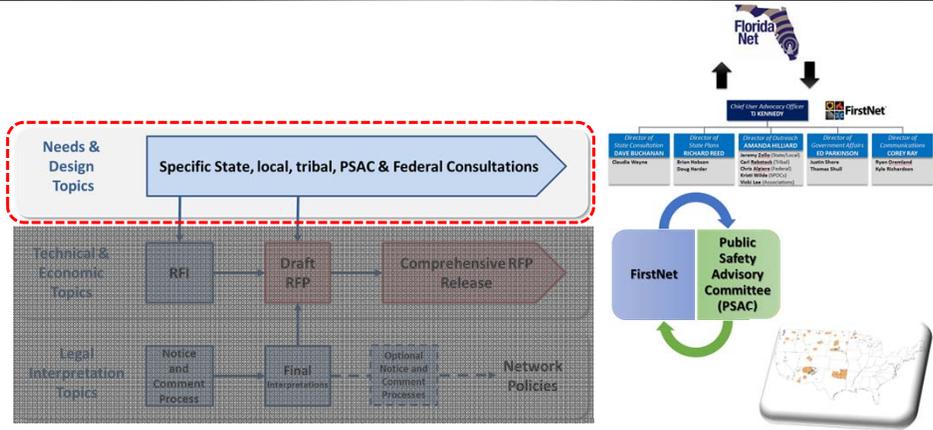
Highlights:

- Comment Period: 9/24/14 – 10/27/14
- 122 responses received
- Does NOT dictate a specific solution
- Identifies objectives to encourage innovation
- Focuses on several key questions
- Informs the FirstNet RFP strategy & requirements

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22

Consultation



Note: Tribal consultation requirements under the National Historic Preservation Act will be addressed separately.

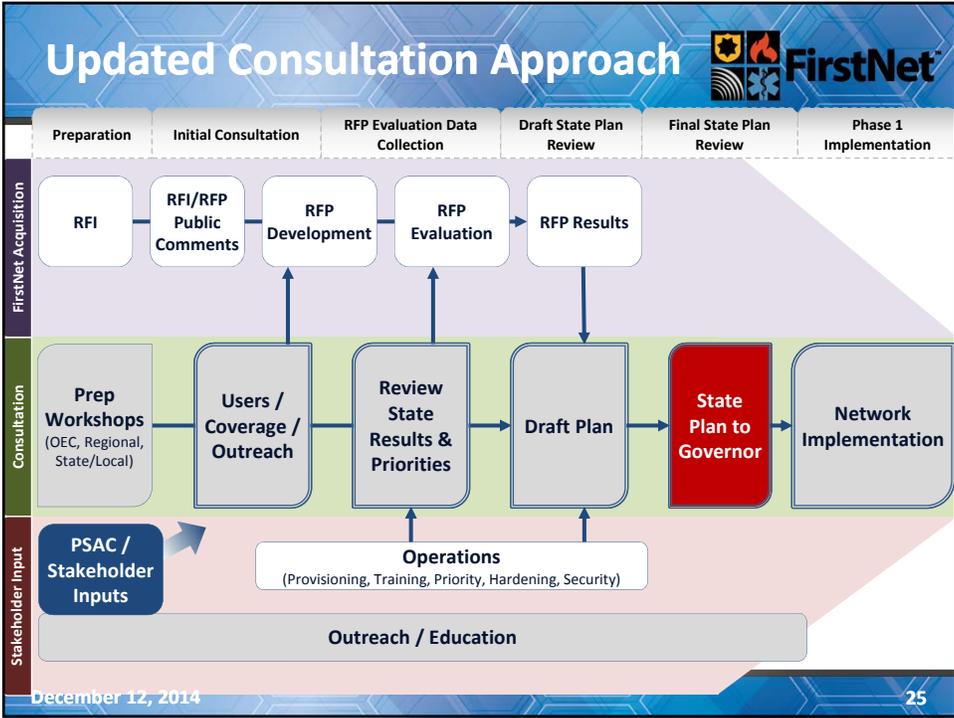


Mandatory Elements for State Planning

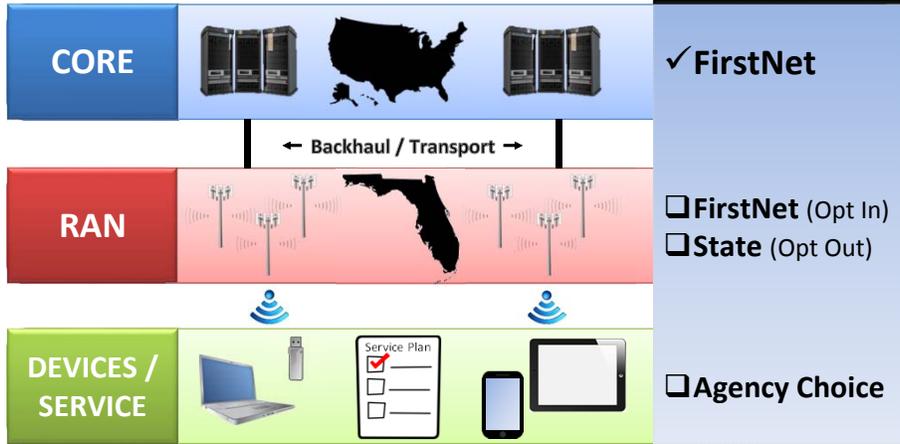


- Construction of a Core and RAN build out
- Placement of towers
- Coverage areas of the network
- Adequacy of hardening, security, reliability, and resiliency requirements
- Assignment of priority to local users
- Assignment of priority and selection of secondary users
- Training needs of local users





Network Components and Choices



December 12, 2014

27



FirstNet and Florida are working together to bring wireless broadband to Public Safety

FloridaNet Updates



FirstNet™

FloridaNet Project Status Update

FirstNet Initial Consultation
December 12th 2014



FloridaNet purpose and goal

- FloridaNet is a multi-year program designed to provide a framework for Florida First Responders to work with the First Responder Network Authority (FirstNet) in the design efforts for the nation's first Public Safety Broadband Network.
- The goal of this program is to work with FirstNet to create a network design that can meet the requirements of the public safety mission in Florida.

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Brief History

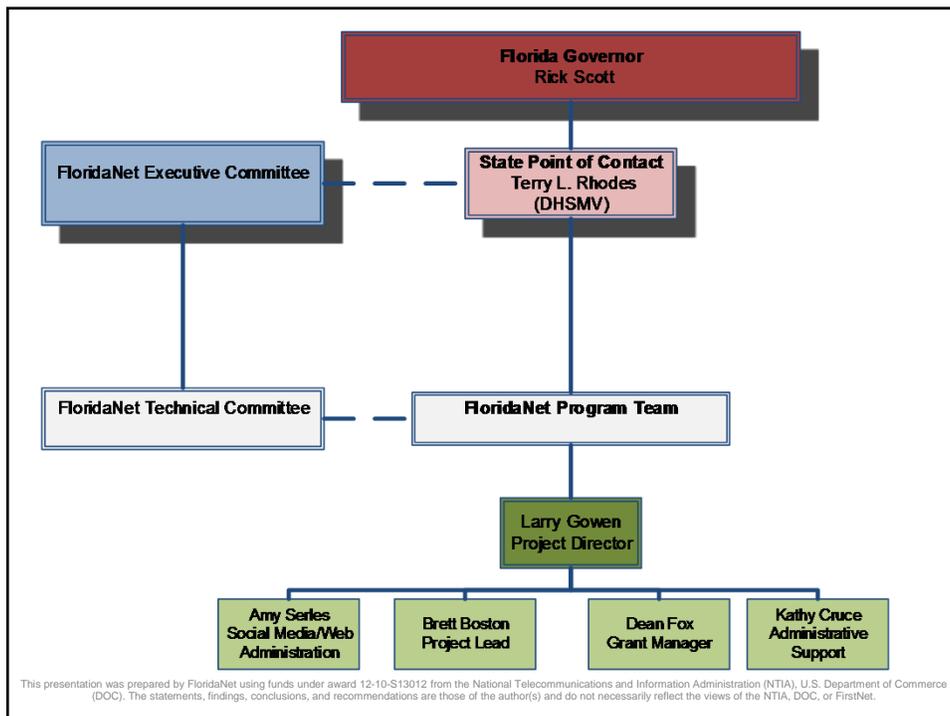
- State and Local Implementation Grant (SLIGP) awarded to Florida Department of Emergency Management in 2013
- Governor appointed Director Terry L. Rhodes as State Point of Contact (SPOC) for all design activities for this network.
- Florida Department of Highway Safety is sub recipient of SLIGP and provides the full time staffing for the FloridaNet project

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Purpose of FloridaNet Governance Structure

- Required by SLIGP Grant and FirstNet process
- Representative governance body responsive to the Governor
- Ensure a superior product through broad participation
- Participation by the private sector has been designed into the FloridaNet governance structure
- Achieve balance between broad participation and agility
- Provide appropriate forums for FirstNet issues
- Decision making body for FloridaNet program

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FloridaNet Executive Committee

Terry L. Rhodes, Chair, SPOC, Department of Highway Safety and Motor Vehicles

Sherri Martin, Florida Department of Economic Opportunity

Mike McHargue, Florida Department of Health

Donna Uzzell, Florida Department of Law Enforcement

Stacy Arias, Florida Department of Management Services

Ralph Sullenberger, Florida Department of Military Affairs

Charles Hagan, Florida Division of Emergency Management

Kevin Herndon, Florida Fire Chiefs Association

Daniel Alexander, Florida Police Chiefs Association

Jason Allison, Florida Agency for State Technology

Mike Sole, Florida Power and Light

Steve Casey, Florida Sheriffs Association

Greg Holcomb, Lake County

Greg Rubin, Miami-Dade EMS

Ray Weeks, Miccosukee Tribe

Bobby Brown, Seminole Tribe

Colin Denney, Verizon Wireless

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FloridaNet Executive Committee Ex Officio

Joe Nelson, Florida Bureau of EMS

April Henkel, Florida Health Care Association

John Wilgis, Florida Hospital Association

Peter Pappas, Holmes Regional Medical Center

FloridaNet Technical Committee

Greg Holcomb, Chair, Lake County

Rob Fortner, Bay County Sheriff's Office

Bob Finney, Collier County Sheriff's Office

Nick Simoncini, Florida Department of Law Enforcement

Cindy Cast, Miami-Dade County

Richard Steiner, Orange County

Norm Poe, City of Orlando

Terry Nehring, City of Tampa

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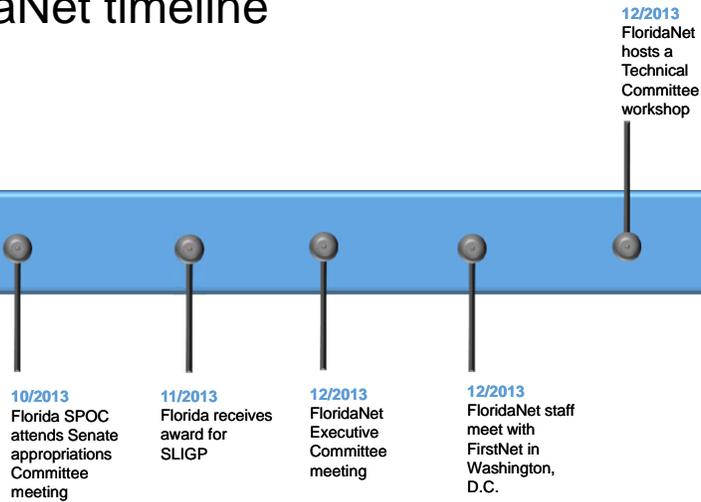


FloridaNet Activities

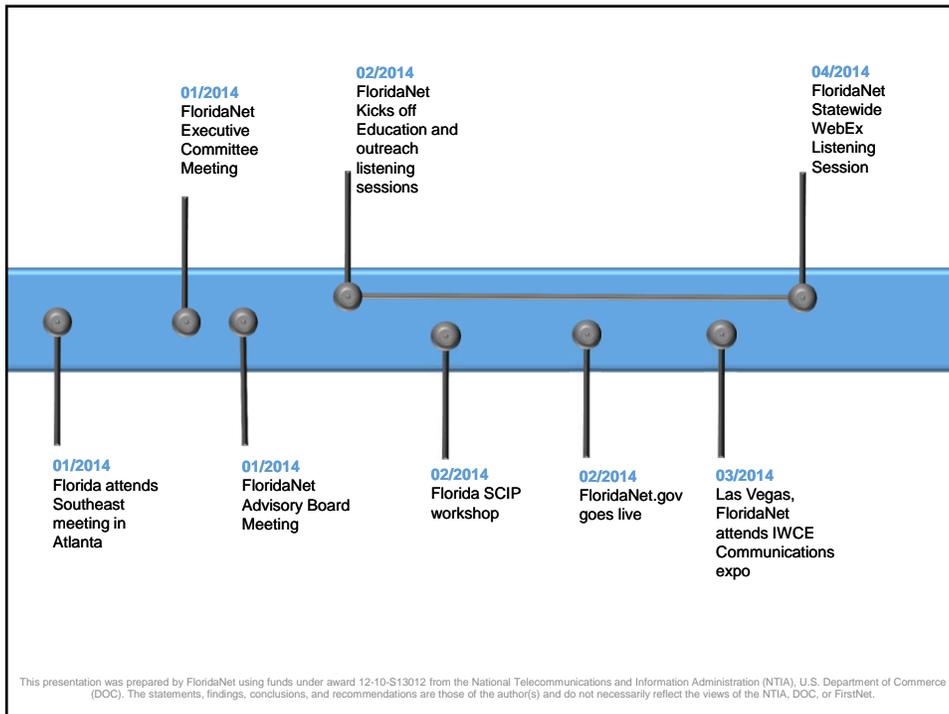
SLIGP grant priorities

Grant Priority	Status
Establish a governance structure, or expand existing structures, to consult with FirstNet	Completed
Develop procedures to ensure local and tribal representation and participation in the consultation process with FirstNet	Completed
Create a process for education and outreach, through a program development or through other efforts, among local and tribal officials, public safety users, and other stakeholders about the nationwide public safety broadband network	Completed
Identify potential public safety users of the public safety broadband network;	In progress. Potential users will be identified through the consultation process with FirstNet
Develop a standard Memorandum of Agreement (MOA) to facilitate the use of existing infrastructure with private sector entities that have been chosen by FirstNet to build, operate, and maintain the network on public safety infrastructure, or identify the legal barriers to creating a standard MOA and describe potential remedies	In progress. FloridaNet has had initial discussions with key stakeholders.
Develop staffing plans that include local and tribal representation to participate in the public safety governance structure and to prepare for data collection activities in consultation with FirstNet	Completed
Prepare a comprehensive plan as part of the existing Statewide Communications Interoperability Plan (SCIP), or a plan complementary to and similar in concept to the SCIP, describing the public safety needs that they expect FirstNet to address in its design of the nationwide public safety broadband network, as well as how they intend to satisfy each of the elements enumerated above, including milestones that demonstrate their progress	In progress. Florida SCIP has been revised. Additional information will be collected and discussed once more information is available from FirstNet.

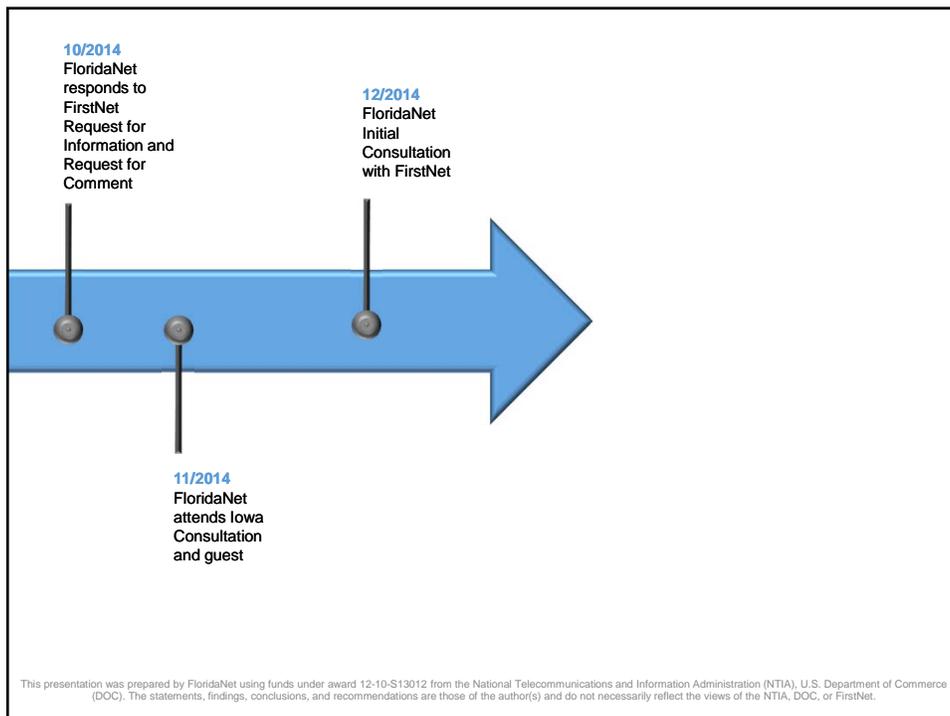
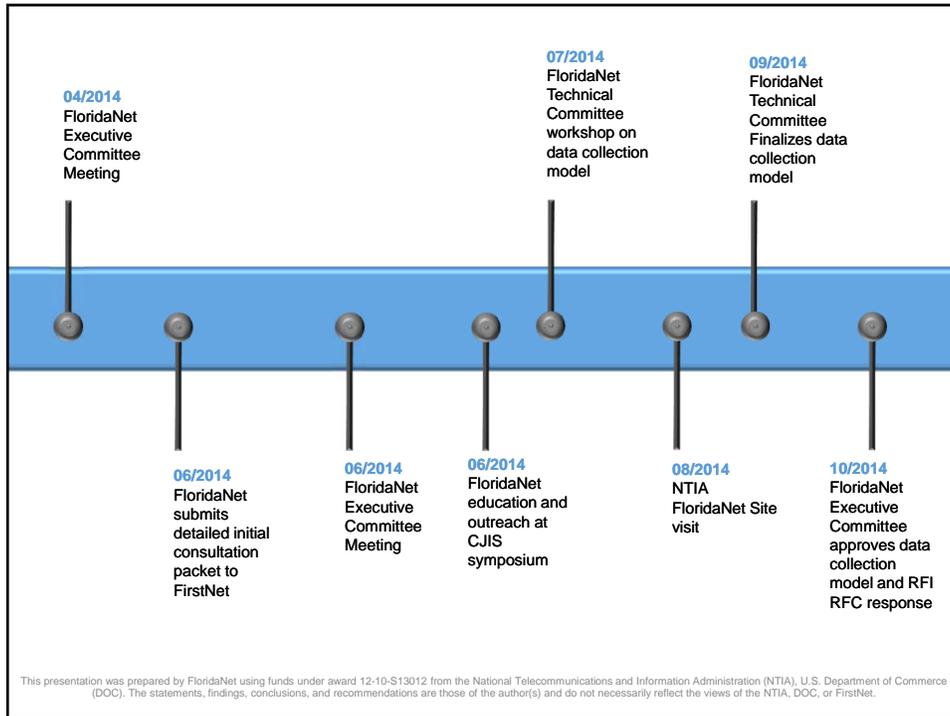
FloridaNet timeline



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Education and outreach

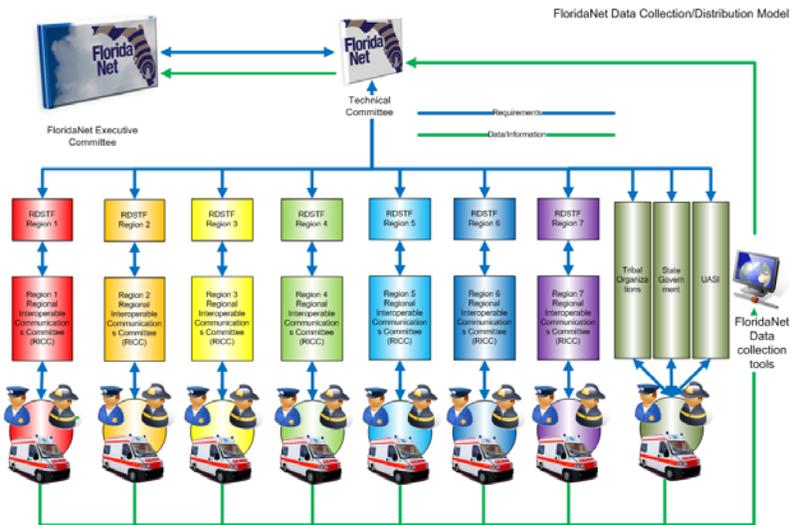


 twitter.com/FLFirstNet
 @FLFirstNet

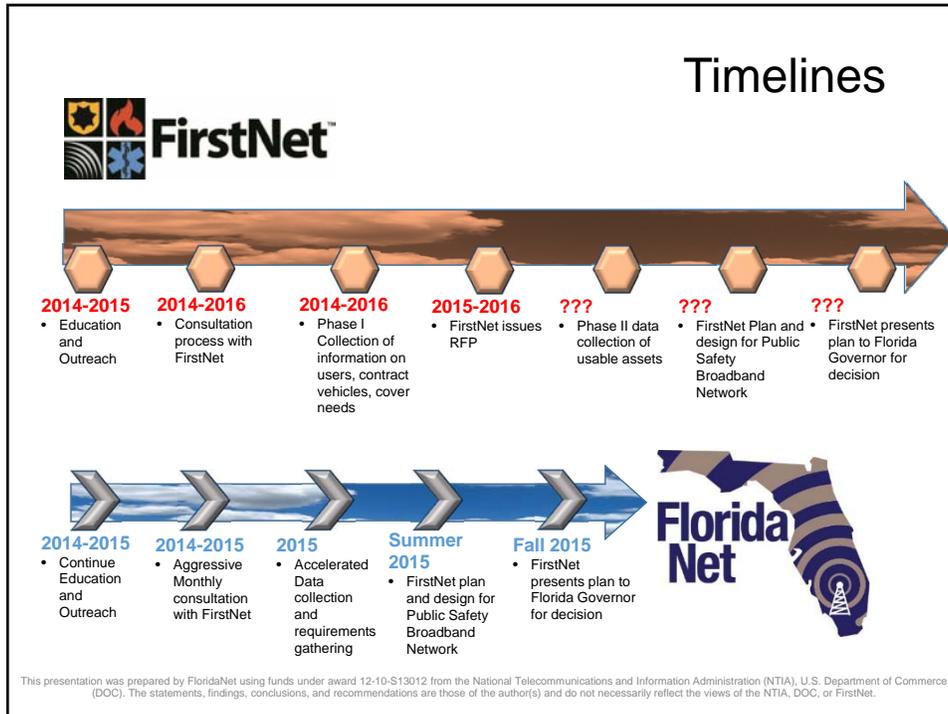
 facebook.com/FloridaNet.gov

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Data Collection Model



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Questions for FirstNet

1. What outcome does FirstNet seek from the state consultation process?
2. Where is the FirstNet project plan?
 1. Do you have a project schedule?
 2. What are the milestones of the project?
 3. What is the timetable for FirstNet Service Availability?
3. What are the roadblocks that are preventing Florida from moving to SLIGP phase II activities?
4. Will FirstNet require private partners to agree to the local control requirements of the public safety community (including, for example, the ability to influence change management, system maintenance windows, priority and preemption)?

Florida Presentations

SPARROWNET™
Florida's Emergency Tele-Network



Peter A. Pappas MD FACS

Health First/Holmes Regional Medical Center Melbourne, FL

Florida Emergency Trauma Tele-Network

- Leveraging telepresence for trauma
 - Florida Department of Health
 - U Miami Miller School of Medicine
 - Health First
- SPARROWnet™
 - Initiative for disaster management
 - Training, education and mutual aid

SPARROWnet™

- **Secure**
- **Portable**
- **Accessible**
- **Redundant**
- **Reliable**
- **Operational**
- **Woven**
- **NETwork**

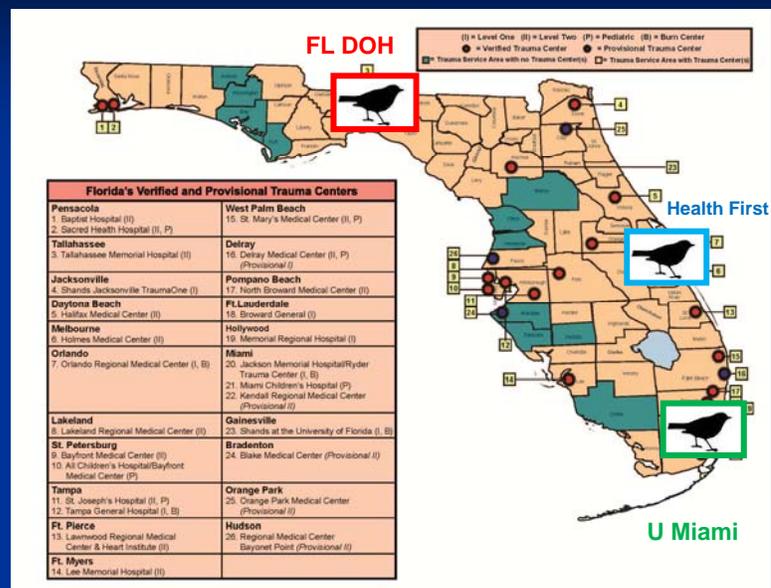
Objectives

- **Testing the FETTN**
 - **SPARROWnet™ disaster exercises**
 - **Virtual Instruction**
 - **Real World Activation**

Materials and Methods

- Tele-presence connections
 - 23 of 25 Florida Trauma Centers
 - “Hub and Spoke” Model
 - April, 2012 to August, 2013

SPARROW “Nest” Tele-Presence Hubs



SPARROWnet™ Disaster Exercises

- Four Exercises Deploying FETTN
 - Radiologic event
 - Hurricane response
 - Bomb, blast and burn



- Average of five centers per drill
 - Video-enhanced transfers
 - Triage support
 - Specialist expertise



Education

- Virtual Instruction
 - DMEP
 - FCCS
 - Emergency Procedures



- UM International Tele-Rounds
 - 60 Trauma Centers
 - Four Continents



Hurricane Isaac 9/2012

- First Real World Activation
 - Nine Trauma Centers
 - Florida Department of Health
 - Florida EMS Leadership



FETTN and SPARROWnet™

- Successful beginning
 - Model for other states and regions
- Leveraging the power of telemedicine
 - Overcome geography to deliver aid
 - Enhance on-site resources
 - Creating stronger, integrated care

SPARROWnet™ and the First Responder

- **New Challenges**
 - **The Era of the “Active Shooter”**
 - **High-risk, multiple casualty events**
- **Objectives**
 - **Link medics and trauma centers**
 - **Real-time support to first responders**
 - **Enhance first receiver preparations**

TacTel™-Tactical Telemedicine

- **Pilot program begun 2011**
 - **Health First Trauma and Palm Bay**
 - **Chief of Police Douglas Muldoon**
 - **Police Captain John Resh EMT-P**
 - **District Chief Gaius Hall RN EMT-P**



Materials and Methods

- TAC-TEL™ equipment
 - Secure, wireless link
 - Health First Telepresence Network
 - 4G LTE connection
 - Tablet, hand-held devices
 - Mobile cart at trauma center



Results

- Evaluation June, 2011 to April, 2013
- Four SWAT training exercises
- 18 patient scenarios
 - Gunshot wound to the torso
 - Head injury
 - Extremity bleeding



2013 Alliance for Innovation Award



Trauma Surgeon as MHealth Participant

- Real-time interaction with the field
 - Tourniquet application
 - Neck and spine stabilization
 - Techniques for respiratory assistance
- Provide expertise
- ***Get the facts on a patient in real-time***

A New Road for the Future

- **Mobile Health will strengthen communication between first responders and first receivers**
- **New Era in Emergency Communication as Revolutionary as the CB Radio**

Where Does that Road Lead?

A photograph of a long, straight road paved with large, irregular stones. The road stretches from the foreground into the distance, flanked by dry, scrubby vegetation and a clear sky. The overall scene suggests a path leading to an unknown destination.

FloridaNet

FloridaNet

Connecting the Dots



Field



Command Center



Medical Support

A final note...

“No one need ever again be lost, for a simple position-and-direction finding device could be incorporated into a (telephone) receiver...And in case of danger or accident, help could be summoned merely by pressing an ”Emergency” button.

...activity...can be carried out over radio circuits. The time will come when surgeons will be able to operate...away from their patients...and every hospital will be able to call on the services of the best specialists, wherever they may be...

Arthur C. Clarke – “Profiles of the Future” 1962

Thank You!



Seminole Tribe of Florida



Emergency Communications



Seminole Tribe of Florida An Introduction

- The Seminole Tribe is one of two Federally recognized Native American tribes in the State of Florida.
- The Seminole Tribe's lands consist of non contiguous reservations in Hollywood, Brighton, Big Cypress, Immokalee, Ft. Pierce, Lakeland, Coconut Creek, and Tampa.
- The Seminole Tribe's economy is based on Tourism, Gaming, Tobacco sales, and Agriculture.
- The Seminole Tribe was the first Tribe to introduce Native American Gaming.
- In 2007 the Seminole Tribe established itself as a global enterprise with its 1 Billion Dollar purchase of Hard Rock International.



Reservations and Communities



Seminole Tribe of Florida Public Safety

The Tribal Council administers the Office of Public Safety which provides law enforcement, Fire Rescue/EMS, Wildland Fire and Emergency Management for all Seminole Tribe reservations in the State of Florida. STOF operates federally recognized reservations and Tribal trust lands located throughout Central and Southern Florida, encompassing approximately 90,000 acres. The Tribe's locations across the State include Hollywood (497 acres), Immokalee (600 acres), Brighton (35,805 acres), Big Cypress (52,338 acres), Tampa (39 acres), and Fort Pierce (60 acres). Tribal Headquarters are located on the Hollywood Reservation in an urban environment between Fort Lauderdale and Miami. There are more than 2,000 Tribal government employees; over 400 of those are in the Office of Public Safety. Additionally, there are nearly 8,000 employees in the Gaming Division.

In addition to public safety services, the Office of Public Safety maintains security for STOF's large-scale tourism industries on Tribal lands including multiple entertainment/resort properties in high-threat urban areas where the Seminole Hard Rock Hotels in Tampa and Hollywood are located. These venues typically have a 25,000 person daily occupancy rate in addition to their everyday visitors which amounts to over 10 million visitors per year.

Through the activities described above, STOF's Office of Public Safety has progressively grown into a comprehensive, all-hazard, multi-discipline entity that is actively involved in the preparation, response, and recovery processes for incidents.



Seminole Tribe of Florida Current LTE Utilization

Current LTE use for Tribal Public Safety is provided through the use of Verizon, Sprint, and AT&T data cards. The carrier choices are based on acceptable coverage in a particular geographic area.

- **Police-** Seminole Police Currently uses LTE data for Mobile Data Terminals for CAD operations, Email, Automated Vehicle Location, License Plate Recognition, and FDLE hosted applications such as NCIC and DAVID Intranet, and Internet Access.
- **Fire/Rescue-** Seminole Tribe Fire/Rescue uses LTE for MDT's for CAD operations, Email, Firehouse operations, Intranet, and Internet Access.
- **Emergency Management-** Email, Web EOC, Intranet, and Internet Access



Seminole Tribe of Florida Recent Event

On Sunday Dec. 7th at approx. 6:45pm, a woman's vehicle stuck a Florida Black Bear on Snake Road on the Big Cypress Reservation, this road is a narrow curvy two lane road north of Alligator Alley with canals on both side and no shoulder or guard rails. The reservation borders Hendry and Broward County. 3 people stopped to render aid to the driver that struck the bear and her disabled vehicle. Another driver coming from the opposing direction at a high rate of speed side swiped and collided with the vehicles and people in the road killing 3 men and injuring 8 others, half of which had to be airlifted. Agencies involved were Broward Sheriff's Fire/Rescue, Seminole Tribe Fire/Rescue, Seminole Police Dept., and Florida Fish and Wildlife Conservation Commission. Air Rescue Helicopters were sent in from Palm Beach County, Broward County, and Miami-Dade County. LTE Data was needed for each of these agencies to use to keep track of initial triage, and share documentation of the incident as it progressed. LTE coverage in this location was sparse. Pictures and reports from the different agencies could be shared to compose the full incident report.

Wouldn't it be nice that if in Mutual Aid incidents, such as this one, that everyone was using a common secure carrier that provided the ability for multiple agencies to open up a sharable on demand digital white board, The IC opens a laptop, tablet, device, ect. clicks a dropdown list of agencies to instantly share with and BAMM everyone could add notes, pictures, and other incident data as it is acquired. It will only work if we have coverage, and not just urban areas, even in small rural, nearly wilderness areas.



Seminole Tribe of Florida The FirstNet Difference

FirstNet could allow our unique agencies, to not only interoperate with LTE data applications but it could allow us to “intraoperate” more efficiently within our own organization. One common LTE Data carrier with coverage on all of our non-contiguous reservations and in between. When that fire truck and crew or that police officer has to move to another reservation they don’t have to look around for what device is going to give them data where they are going. When XYZ mutual aid agency comes to help, they won’t have to worry about their MDT’s or other data driven devices working on our reservation. We will have coverage, dedicated coverage for ALL Public Safety.



Seminole Tribe of Florida A Unique Organization?

The Seminole Tribe of Florida is a unique organization, it is sovereign but it is not an island unto itself. Not only do they have their own primary Public Safety agencies, they also have secondary Public Safety users that could benefit from FirstNet. The Tribe manages their own Health Dept., Environmental Services, Forestry, Education Centers, Security for Museums and businesses, Public Works, Sanitation, Water Treatment, Aviation, and more. If there is a service that the State or local municipality provides its residents the Seminole Tribe of Florida probably has their own version in some scale to serve their communities.

Thank you.



Questions?

Questions for FirstNet

Project/Consultation related

1. What outcome does FirstNet seek from the state consultation process?

2. Where is the FirstNet project plan?

a. Do you have a project schedule?

b. What are the milestones of the project?

c. What is the timetable for FirstNet Service Availability?

3. What are the roadblocks that are preventing Florida from moving to SLIGP phase II activities?

Questions for FirstNet

Technical, Design and Roll-out

1. Does FirstNet plan on one-size-fits all Core and RAN design?
2. When will FirstNet release a high level or conceptual diagram of the network architecture?
3. What is the scope of the Core and the RAN?
4. How does FirstNet intend to meet or exceed current and future capabilities offered by the private sector now?
5. Where will data from the Core(s) be stored? Will the state retain control of this data? Who will own the data and what public record law will apply to the data?

Questions for FirstNet

11. Will there be geographic/regional/state differences in the design and service offering?

Who will decide the differences?

12. What approach will FirstNet take in building the Network? Will it be a phased approach or “big bang”? Will it be a State-by-State approach? Will it be prioritized by public safety coverage gaps or by population density?

13. Does FirstNet intend to build or buy a network?

14. Please explain the differences between primary and secondary users of the network.

15. When FirstNet’s issues their RFP, what are FirstNet’s presumed requirements for the State of Florida?

Questions for FirstNet

16. Will FirstNet require private partners to agree to the local control requirements of the public safety community (including, for example, the ability to influence change management, system maintenance windows, priority and preemption)?

17. We have concern with the RFC comment on “all or a portion” of the spectrum being dedicated to secondary usage. Please explain FirstNet’s justification for using the word “all”, as this is primarily a public safety network.

18. Aside from the core first responder disciplines, what other users do you anticipate being allowed to utilize the network?

19. Without collection of usable assets and State first responder requirements, how can FirstNet issue an RFP for network solutions?

Questions for FirstNet

Security

1. How does FirstNet envision protecting public safety data within the Network RAN(s) and Core(s)?

2. Has FirstNet contemplated how to protect public safety in the event that a private sector partner or opt-out State fails to build and deploy a RAN? If so, what are those plans?

3. Will FirstNet be drafting any legislation to protect the data?

Financial

1. What is the final amount received from the FCC auction?

Questions for FirstNet

2. Above the \$7 billion, what amount of revenue from the FCC auction will be allocated to FirstNet activities?

3. What are the special conditions of the sale of the spectrum?

4. Will the State of Florida be provided an opportunity to participate in the vendor selection process for the build out of the Network?

5. Has there been any indication of what private partner requirements exist to make an investment to build and operate the NPSBN?

6. Can you tell us what private partners have shown an interest in the network?

Users/Coverage Discussion

Users and Coverage

Initial Consultation Meeting with the State of Florida



Users and Coverage Goals



1. First Responder Users / Operations

- Identify potential user base and their operational areas
- Estimate current usage of mobile data today

2. Coverage

- Review FirstNet Initial Coverage Objectives
- Discuss State Inputs and Approach to Objectives
- Discuss Coverage Modeling and Desired Outputs

Key Inputs to FirstNet Design



Coverage

Where?

- Where Needed (Objectives)
- Different Device Types
- Throughput levels

Capacity

How Much?

- # of Users and Devices
- Application Usage
- Data Consumption

FirstNet Financial Team

- RFP Development/Evaluation
- Economic Modeling



Nationwide Design

FirstNet Engineering Team

- RFP Development/Evaluation
- Core, RAN and Devices

December 12, 2014

3

Guiding Principles for Data Requests

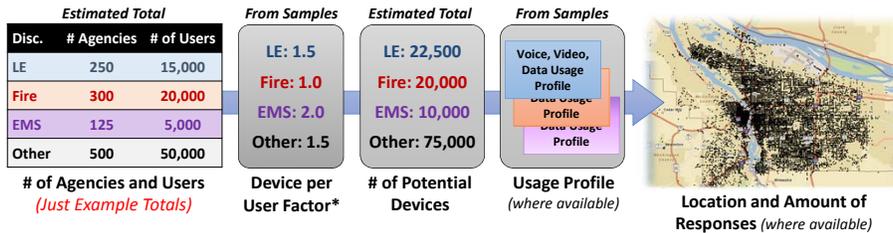


- **Critical Data:** only gather critically essential data
- **When Needed:** collect data close to when it will be used to ensure accuracy
- **Pre-populate:** where possible, FirstNet will collect as much data as possible from available sources for editing and validation
- **Specify Deliverables:** identify required deliverable formats, not necessarily specific tools and processes
- **Be Flexible:** allow flexibility given different stakeholders' existing use of tools, processes and resource constraints
- **Get Feedback:** socialize the process before formalizing
- **Advance Notice:** identify schedule, process and tools as early as possible for stakeholders to plan accordingly
- **Local Knowledge:** rely on stakeholder knowledge to help prioritize data collection

December 12, 2014

4

Users / Operations Overview



=> Inputs to RAN Design representative of Public Safety Operations

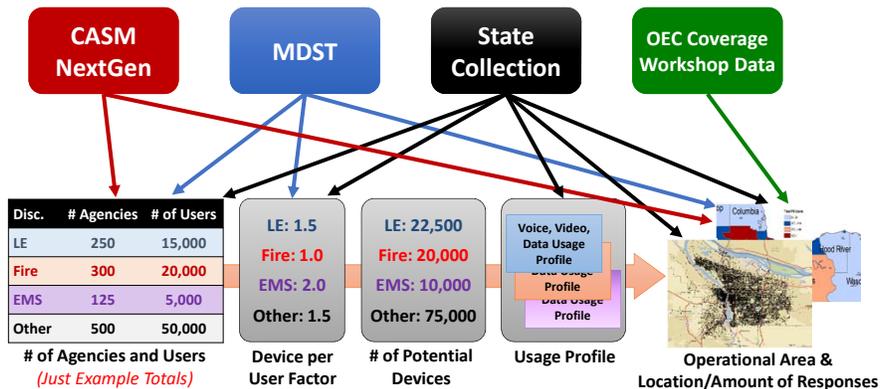
Who does Florida consider to be eligible users?
 What kind of assessment has been done on the potential user base?
 Current provider? Device types and counts? Procurement options and vehicles? Typical costs?
 Current usage amounts? Growth projections? Operational areas? Potential adoption?

*Several inputs: current usage, adoption rate, growth projections, new devices, etc.

Users / Operations Collection



CASM NextGen – Communications Assets Survey and Mapping Next Generation
 MDST – Mobile Data Survey Tool



*In the absence of any of this data, FirstNet will use baseline assumptions and estimates

Users / Operations Collection



- FirstNet will provide a spreadsheet template defining requested fields (similar to example below)
- CASM NextGen could support this type of data capture and reporting
- State may already have existing database and/or tools for use
- FirstNet looking at comprehensive tool to support all data uploads

Disc.	# Agencies	# of Users
LE	250	15,000
Fire	300	20,000
EMS	125	5,000
Other	500	50,000

of Agencies and Users
(Just Example Totals)

Disc.	Device per User Factor	# of Potential Devices
LE	1.5	22,500
Fire	1.0	20,000
EMS	2.0	10,000
Other	1.5	75,000

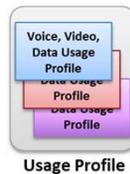


Agency	POC	Discipline	County	State	Jurisdiction	Full Time Personnel	Part Time Personnel	Volunteer Personnel	Total Personnel	# of mobile data devices	Calls for Service data
Spreadsheet template for Agencies, Users and Devices										If available	If available

Users / Operations Collection



- Usage profiles will include important information on how public safety entities may use FirstNet
- Historic use is also helpful to show growth trends
- Important metrics include:
 - Number of responders and devices
 - Type of responders (discipline)
 - Location of responders
 - Variability by incident types and scale
 - Upload vs. Download
 - Data usage by application
 - Time data sent
- Data can be averaged by:
 - Discipline
 - Area
 - Incident types
- Leverage same upload portal mentioned previously



Law Enforcement User (Busy Hour):
 xxx kbps SMS/text
 xxx kbps voice calls
 xxx kbps video
 xxx kbps other data
 xxx kbps total usage

**Has any analysis like this been done already?
 Could information like this be gathered from representative agencies?**

Current Providers / Procurement



- Capture current service providers
 - Commercial and Private
- Identify major procurement vehicles / options
- Identify different service plan types and costs
- Capture any specialized services
 - COLTs/COWs, network interfaces/customization, etc.
- Identify current barriers



December 12, 2014

9

Users / Operations Collection Summary



Data Type	FirstNet Use	Deliverable Format	Possible Resources
# of Agencies and Users	Estimate total number of potential FirstNet users	Excel file (FirstNet template)	Statewide database, CASM, Commercial sources, gov't & association census
Device per User Factor	Factor to estimate number of potential devices on the network	Excel Table (FirstNet template)	Statewide survey, MDST
# of Potential Devices	Estimate of potential devices for technical design and economic model inputs	Excel Table (FirstNet template)	Samples from agency surveys, calculate from agency/user counts
Usage Profiles (where available)	Technical design input to estimate how public safety may use the network	Excel Table (FirstNet template)	Commercial tools
Operational Areas	Identifies where public safety needs coverage; capacity input	GIS maps and/or from Agency File	Agency jurisdiction (city, county, state, etc.), State/local GIS offices
Location/Amount of Responses (where available)	More precise inputs to operational area	Excel files (FirstNet template)	Participating agencies
Current Providers / Procurement	Identify current service plans, procurement methods and potential procurement restrictions	Excel Table (FirstNet template)	Statewide survey, MDST

December 12, 2014

10

Coverage Objectives



Coverage Objectives vs. Coverage Maps



▪ What is a Coverage Objective?

Targeted areas within a state/territory identifying where FirstNet coverage is projected to be needed

▪ What is a Coverage Map?

A predicted coverage footprint showing where devices can reliably communicate with each other above a minimum data rate

Coverage Objectives are NOT Coverage Maps

FirstNet's Coverage Objective Goals



▪ **GOAL: Come up with a consistent, nationwide starting point to objectively identify Public Safety's coverage desires**

1. Set a FirstNet Nationwide Coverage Objective Baseline
 - ❑ Identify initial coverage objectives relevant to Public Safety's desires
 - ❑ Develop a systematic, consistent and objective approach applied nationwide
 - ❑ Leverage feedback from OEC's Coverage Workshops
 - ❑ Generate maps to document the starting point
2. Facilitate coverage discussion for a phased build out
 - ❑ Include additional data to tailor needs for each state
 - ❑ Modify based on stakeholder input and feedback
3. Generate coverage maps based on culmination of acquisition process

FirstNet Envisions Continued Discussion and Revisions on Coverage Beyond Delivery of a State Plan

Starting Coverage Objectives Data



1. **Public Safety User Population** *(Source: HSIP, OEC provided)*
 - Public Safety User Density based on jurisdiction (OEC data to start)
 - Common response areas (CAD data) – as it's made available with State collection
2. **Public Safety High Risk / Areas of Interest** *(Source: HSIP)*
 - Key facilities – PS agencies, corrections, airports, EOCs, hospitals, PSAPs, schools, etc.
 - Critical infrastructure – manufacturing, energy, dams, etc.
 - Large Public Venues – stadiums, theme parks, malls
 - Other major event locations – if provided with initial consultation submission
 - *Area for feedback – tourist/recreational destinations (parks, hiking, waterways, etc.)
3. **US Population** *(Source: 2012 US Census)*
 - Population density
4. **Developed Areas / Buildings** *(Source: 2006 National Land Cover Database)*
 - Dense / Medium / Light / Open / None
5. **Roadways** *(Source: Federal Highway Administration)*
 - National Highway System
 - Average Daily Traffic Counts to identify significant secondary roadways



6. Tribal Lands
7. Rural Metrics
8. Federal Land

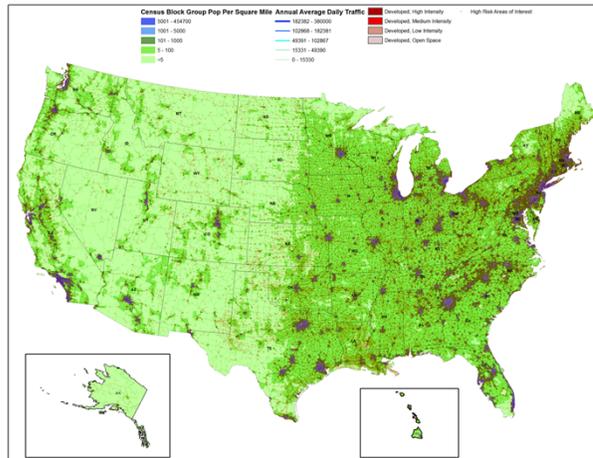
These will be incorporated with additional considerations (i.e. FirstNet Rural milestones) or via separate consultation (i.e. Federal)

Nationwide Approach



1. Employee count of L.E., Fire, EMS agencies
2. Public Safety High Risk / Areas of Interest
3. US Population
4. Developed Areas / Buildings
5. Roadways / Avg. Daily Traffic

Resulting Combined Map =>



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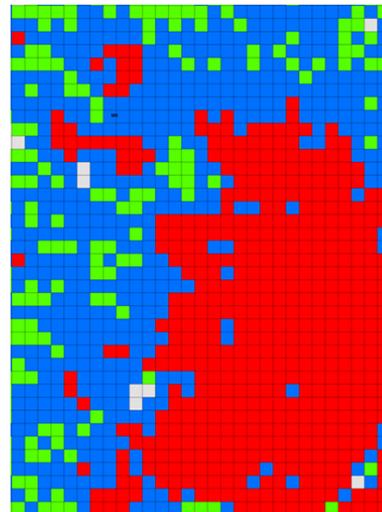
15

Converting Data into Coverage Objectives



1. Employee count of L.E., Fire, EMS agencies
2. Public Safety High Risk / Areas of Interest
3. US Population
4. Developed Areas / Buildings
5. Roadways

- A lot of data in different formats
 - Points, lines, polygons, etc.
- To evaluate these broad datasets, applied a 1x1 mile grid for uniformity
- Evaluated all data by grid to:
 - 1) Identify areas that had data of interest to PS
 - 2) Show concentration areas



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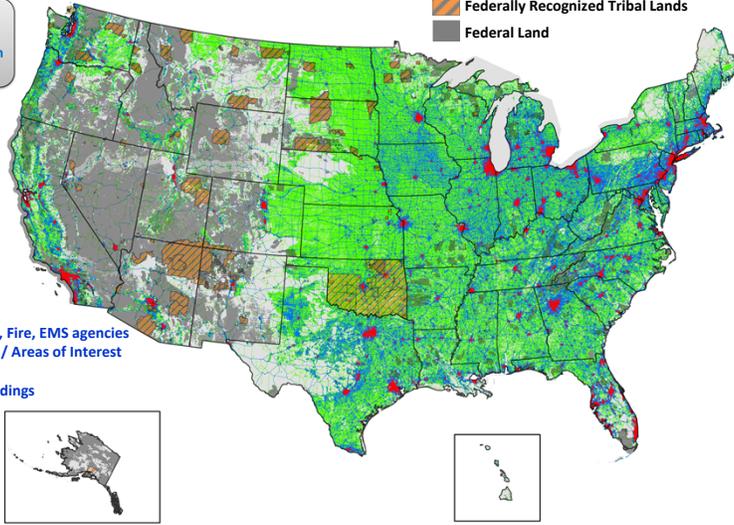
16

Nationwide Coverage Objective



- Legend:**
- High Concentration
 - Moderate Concentration
 - Low Concentration

- Federally Recognized Tribal Lands
- Federal Land



1. Employee count of L.E., Fire, EMS agencies
2. Public Safety High Risk / Areas of Interest
3. US Population
4. Developed Areas / Buildings
5. Roadways



December 12, 2014

17

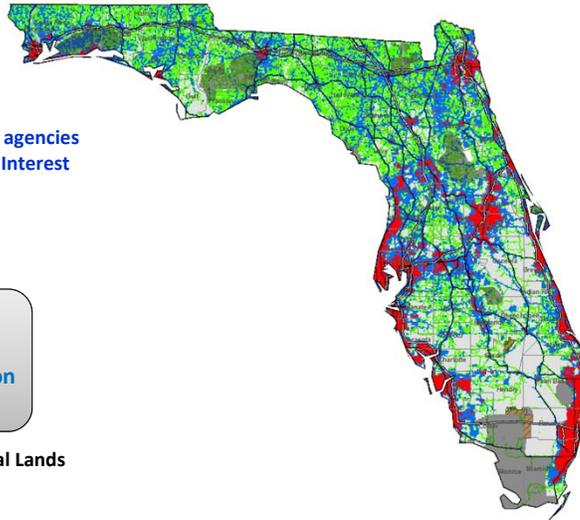
Results for Florida



1. Employee count of L.E., Fire, EMS agencies
2. Public Safety High Risk / Areas of Interest
3. US Population
4. Developed Areas / Buildings
5. Roadways

- Legend:**
- High Concentration
 - Moderate Concentration
 - Low Concentration

- Federally Recognized Tribal Lands
- Federal Land



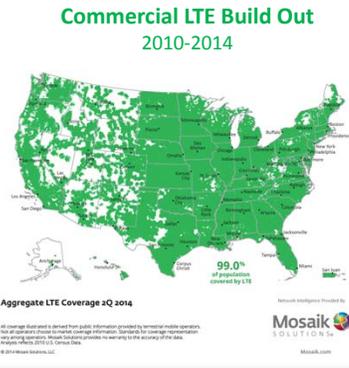
December 12, 2014

18

How Should FirstNet Phase a Build Out?



Coverage Objective	Phased Build Out
<ul style="list-style-type: none"> Public Safety High Response (CAD) or Interest Areas 	Build out →
<ul style="list-style-type: none"> Remaining Urban / Dev. Areas Remaining Rural Areas 	Build out →
<ul style="list-style-type: none"> Remaining Major Highways 	Build out →
<ul style="list-style-type: none"> Remaining Critical Infrastructure Remaining Secondary Roadways 	Build out →
<ul style="list-style-type: none"> Remaining Potential Users 	Build out →
<ul style="list-style-type: none"> Additional Land Area 	Build out →



What would a phased FirstNet build out look like in Florida?
 What decision factors would you consider?

Adjusting to Other Deployment Considerations



Coverage Objective	Build Out	**EXAMPLE ONLY**
<ul style="list-style-type: none"> Co-location / Common Areas of Need (Population, Developed Areas, Highways, etc.) Rural Areas (FirstNet Rural milestones) 	Partner(s) Co-Location / Common Need →	
<ul style="list-style-type: none"> Remaining PS Areas of Risk/Interest Remaining Areas of Need 	Site Acquisition →	Public Safety Gaps (State/Local/Other Asset Considerations)
<ul style="list-style-type: none"> Tribal Lands Federal Land 	Site Acquisition →	Tribal, Federal Needs (Tribal/Federal/Other Asset Considerations)
<ul style="list-style-type: none"> User Feedback Capacity Growth 	Site Acquisition →	FirstNet User Needs (All Asset Considerations)
Funding Source	<ul style="list-style-type: none"> Partner(s) Co-location (Excess Capacity Exchange) Initial Capital (\$7 Billion), where required 	Network Revenue

Proposed build out will be refined after RFP Award, ongoing discussion and additional build out considerations and tradeoffs

Coverage Modeling



Coverage Modeling Overview



- Coverage Objectives will be an input to modeling tools
- FirstNet has selected a coverage modeling tool
 - Used worldwide for LTE modeling
 - Granular dataset (terrain and land use)
 - 30 meter in rural
 - 10 meter in metro areas
 - 5 meter in dense urban (3D buildings)
 - Multiple propagation models
 - Tailored for land area type (urban, dense urban, rural, etc.)
 - Tuned with drive test data for different regions of country
- FirstNet intends to discuss coverage parameters and assumptions for our predictions



Coverage Modeling Viewing



- By Device Type *(for example)*

- Handheld**
- Vehicular (low power)**
- Vehicular (high power)**

- By Data Rate *(for example)*

- >1 Mbps** *(Video, web, email, etc.)*
- >512 kbps** *(Low-res video, web, email, etc.)*
- >256 kbps** *(web, email, SMS, etc.)*

- Provide results by layers in an interactive map to:
 - Zoom to areas of interest
 - View by device(s)
 - View by data rate(s)
- From Draft RFI/SOO: “...throughput >256kbps > 95% of time...”

How would you like to see proposed coverage?
By device type and/or data rate?

December 12, 2014

23

Users and Coverage Wrap-up



Summary



- Identifying the potential user base and their current use of mobile data is important
 - Both Engineering and Financial needs
- Identifying coverage needs and a potential phased build out is also important
 - RFP Evaluation and Eventual Build Out
- Coverage will be an ongoing discussion throughout consultation and into network deployment

December 12, 2014

25

Call to Action... Next Steps



- Continued Outreach and Education

- Potential Users and Operations

- Estimate current potential user base
- Identify Operational Areas
- Estimate current usage of mobile data

- Coverage Objectives

- Identify coverage objectives
- Provide a phased build out approach

Data Type	FirstNet Use	Challenges/Barriers	Possible Resources
# of Agencies and Users	Real number of potential mobile users	Exact file (if/when completed)	Statistical Analysis, GIS, Demographic analysis, etc. & other data
Devices per User	Factor to estimate number of potential devices on the network	Exact Table (if/when completed)	Statistical survey, MSOT
# of Potential Devices	Estimate of potential devices for potential design and economic model inputs	Exact Table (if/when completed)	Statistical from agency survey, statistical from other data, etc.
Usage Profiles	Statistical usage input to estimate how public safety may use the network	Exact Table (if/when completed)	Commercial tools
Operational Areas	Identify where public safety needs coverage, require input	GIS maps and/or Agency File	Agency information, GIS, survey, etc. with Statistical GIS effort
Locations/Amount of Responses	Where public safety is operational area	Exact File (if/when completed)	Participating agencies



December 12, 2014

26



Thank You

FloridaNet Executive Committee

Chair: Terry Rhodes, Department of Highway Safety and Motor Vehicles

Governor's Office: Jason Allison, Chief Information Officer

Homeland Security Advisor: Donna Uzzell, Florida Department of Law Enforcement

Florida Police Chiefs Association: Daniel Alexander, Chief, Boca Raton Police Dept

Tribal Representative: Bobby Brown, Seminole Tribe of Florida

Tribal Representative: Ray Weeks, Miccosukee Tribe

Florida Sheriffs Association: Steve Casey, Executive Director

Department of Management Services: Stacy Arias, Deputy Secretary

Department of Emergency Management: Charles Hagan

Florida Department of Health: Mike McHargue

Ex Officio: Dr. Joe Nelson, Florida EMS Advisor

Ex Officio: John Wilgis, Florida Hospital Association

Ex Officio: April Henkel, Florida Health Care Association

Ex Officio: Dr. Peter Pappas, Holmes Regional Medical Center, SparrowNet

Technical Committee Chair: Greg Holcomb, Lake County Public Safety

Finance Committee Chair: Vacant

Florida Department of Economic Opportunity: Sherri Martin, Rural Economies

Private Sector: Mike Sole, Florida Power & Light

Private Sector: Colin Denney, Verizon Wireless

Florida Fire Chiefs Association: Kevin Herndon, Deputy Chief

State-wide EMS Representative: Greg Rubin, Miami-Dade Fire Rescue

Florida Army National Guard Representative: Ralph Sullenberger, Major

FloridaNet Technical Committee

Chair: Greg Holcomb, Lake County Public Safety

Region I Representative: Carl R. Fortner, Bay County Sheriff's Office

Region II Representative: Nicholas Simoncini, Florida Department of Law Enforcement

Region III Representative: Vacant

Region IV Representative: Terry Nehring, Tampa

Region V Representative: Richard Steiner, Orange County

Region VI Representative: Bob Finney, Collier County Sheriff's Office

Region VII Representative: Cindy Cast, Miami-Dade County

UASI Representative: Norm Poe, Orlando

FirstNet Staff Bios



TJ Kennedy

Acting General Manager

Acting FirstNet General Manager TJ Kennedy is a seasoned executive with a unique blend of leadership, coalition building and technology expertise as well as hands-on experience in police, fire and emergency medical services. He began his career as a firefighter and emergency medical technician (EMT), and then became a state trooper for the Utah Highway Patrol. He later became a paramedic in the fire department as well as a flight paramedic for Life Flight in Salt Lake City. He then joined the commercial business sector, where he advanced to senior-level positions that honed his management and executive leadership skills.

Known domestically and internationally for his expertise in critical infrastructure and large-scale public safety projects, he has focused on facilitating collaboration among local, state and federal authorities to deliver projects of national importance such as Public Safety for the Salt Lake Olympics as a dedicated team member of the Utah Olympic Public Safety Command.

At FirstNet, Mr. Kennedy is also responsible for user advocacy including stakeholder outreach, consultation, and state plans, as well as government affairs and communications. Prior to joining FirstNet, Mr. Kennedy was the Director, Public Safety and Security for Raytheon Company, where he was President of JPS Communications, a subsidiary focused on radio interoperability solutions.

Earlier, Mr. Kennedy was a Vice President at Science Applications International Corp (SAIC), a defense contracting company. At SAIC he led deployments of large integrated public safety programs including systems for the 2004 Olympic Games.

While working with the Utah Department of Public Safety, Mr. Kennedy served as a state trooper and was on the SWAT/Special Operations team. He was also a flight paramedic with Intermountain Life Flight in Salt Lake City and is a past president of the International Association of Flight and Critical Care Paramedics. Mr. Kennedy was a firefighter and a paramedic for Park City Fire District, and graduated from the University of Utah.



Dave Buchanan, Director of State Consultation

David Buchanan is the Director of State Consultation for the First Responder Network Authority. Dave is leading the team that is developing the FirstNet State Consultation program, which includes a variety of activities and deliverables for FirstNet and the 56 states and territories. State consultation is a statutory requirement under the Middle Class Tax Relief and Job Creation Act of 2012, the law that established FirstNet, to ensure that the needs of public safety across the diversity of agencies and areas of the country are met. Dave has worked with first responders since 1999, with previous jobs at NTIA Office of Public Safety Communications and the Department of Justice Office of Community Oriented Policing Services (COPS). At COPS, Mr. Buchanan coordinated critical grant federal grant programs that assisted local law enforcement in a number of key areas, including hiring over 100,000 new law enforcement professionals nationwide, establishing school safety and school resource officer programs, combating gang violence and violent crime, and establishing interoperability and technology-related resources. Both previous positions involved extensive contact with public safety components and executives throughout the nation while managing federal budgets and programs.

Rich Reed, Director of State Plans

As Director of State Plans, Mr. Reed is responsible for leading the planning team that will provide support to the nation's 56 states and territorial governments. Mr. Reed served the U.S. Department of Homeland Security (DHS) Office of Emergency Communications (OEC) as the branch chief for Technical Assistance. There, he managed the Interoperable Communications Technical Assistance Program (ICTAP) along with the Modeling, Analysis and Continuity (MAC) Section, overseeing more than 100 project leads, engineers, software developers, and subject matter experts providing "no cost" consultations and services to public safety agencies across the nation. Mr. Reed brings more than 25 years of senior-level experience in advanced communications, and has an extensive background in Land Mobile Radio (LMR) and Satellite Communications (SATCOM) installation, maintenance and repair. During his time on Navy active duty, Mr. Reed experienced a uniquely diverse career, serving both sea and shore rotations as a search and rescue swimmer, and traveling with the presidential and vice presidential advance teams of the White House Communications Agency (WHCA).



Amanda Hilliard, Director of Outreach

Amanda joined the First Responder Network Authority (FirstNet) in January 2014 as its Director of Outreach. In this capacity, Amanda oversees FirstNet's education and outreach efforts with the public safety community across all levels of government. Prior to joining FirstNet, Amanda worked at the Department of Homeland Security Office of Emergency Communications (OEC) for 6 years, initially as a Senior Consultant with Touchstone Consulting Group and then a federal employee, leading public safety stakeholder engagement and outreach and statewide planning efforts. She most recently served as the OEC Partnerships Branch Chief, overseeing the Office's engagement with key stakeholder groups at all levels of government such as SAFECOM, the National Council of Statewide Interoperability Coordinators, the Emergency Communications Preparedness Center, and the One DHS Emergency Communications Committee. While working for Touchstone, Amanda also provided support to the Metro-Boston Homeland Security Region in implementing their Five-Year Strategic Plan for Communications Interoperability and to the Office of Management and Budget's Office for E-Government and Information Technology in implementing its Government to Government portfolio initiatives.

Ed Parkinson, Director of Government Affairs

As the FirstNet Director of Government Affairs, Edward Parkinson is responsible for intergovernmental relations with local, state and federal organizations. Previously, Mr. Parkinson served for five years as a Professional Staff Member for the House Homeland Security Committee, then chaired by Rep. Peter T. King of New York. During this period, Mr. Parkinson's primary responsibility was in the field of first responder telecommunications. He also worked on issues including border security, emergency preparedness, cybersecurity and investigations into waste, fraud and abuse of government resources. Previously Mr. Parkinson served as an associate at Kearsage Global Advisors, an advocacy firm, and a research analyst at McKenna, Long and Aldridge, an international law firm specializing in public policy. Mr. Parkinson earned a BA and an Honors postgraduate degree in International Affairs from the University of the Witwatersrand in Johannesburg, South Africa. In 2012 he completed a Masters degree in Liberal Studies from Georgetown University, with a focus on International Affairs.



Corey Ray, Director of Communications

Corey Ray is the Director of Communications for FirstNet, joining the Authority in February of 2014. Corey oversees a professional team dedicated to developing and distributing the latest news and information on FirstNet growth and activities, through media engagement, online resources, special events and public affairs activities. Prior to joining FirstNet, Corey was the Senior Public Affairs Specialist at the US Department of Justice, Office of Community Oriented Policing Services (COPS), a position he held for ten years. Corey coordinated media relations around several popular public safety grant programs aimed at hiring new law enforcement officers, promoting school safety, fighting gangs and methamphetamine abuse, and building interoperable communications systems among public safety agencies. Corey also coordinated public outreach efforts to cities, counties, and law enforcement agencies across the country, assisting elected officials and law enforcement professionals with developing public safety initiatives and practices in their communities. Corey also served as the Chief of Media Relations for Mayor Lee Brown of Houston, TX. Corey coordinated media activities for the mayor and the city's departments, including police, fire and public works.

Claudia Wayne, Senior Advisor, State Consultation Division

Claudia brings over 25 years of management, legal, and policy development experience in the government, nonprofit, and private sectors. She previously worked on the NTIA's SLIGP program, established to fund state, local and tribal consultation with FirstNet. Claudia has also worked at the DHS Office of Emergency Communications, where she established the Stakeholder Engagement Branch and the Regional Coordination Division.

Brian Hobson, State Plans Division

Brian spent the last 15 years with SPAWAR (DoD) working on various wireless communications and networking projects. For the past 10 years, Brian worked on the DHS/OEC Technical Assistance Program providing free technical assistance to all states and territories.

Doug Harder, State Plans Division

Doug spent the last 10 years as a task lead and subject matter expert on the DHS/OEC Technical Assistance Program. Doug brings significant experience engaging with the states and territories to determine their requirements and develop plans to accomplish those needs.



Staff Bios

Kevin Green, Attorney Advisor, Office of Chief Counsel

Kevin brings over 14 years of experience providing legal counsel on a wide array of issues. He previously worked as an attorney at the international law firm Arnold & Porter LLP, where his practice included advising clients on state and federal regulatory, legislative, and policy matters.

Alan Etter, Communications

Alan served for nearly a decade as the Chief Public Information Officer for the DC Fire & EMS Department. As the main spokesperson for one of the nation's busiest first responder services, he developed relationships in public safety across the country. Alan has a deep background in journalism as well, having worked for a decade as a news anchor and reporter for Washington's premiere news organization, WTOP News.

FirstNet Factsheets



FirstNet™



The Promise of FirstNet

WHAT IS THE FIRST RESPONDER NETWORK AUTHORITY (FIRSTNET)?

FirstNet is an independent authority within the U.S. Department of Commerce's National Telecommunications and Information Administration. FirstNet is governed by a 15-member Board consisting of the Attorney General of the United States, the Secretary of Homeland Security, the Director of the Office of Management and Budget, and 12 members appointed by the Secretary of Commerce. The FirstNet Board is composed of representatives from public safety; local, state and federal government; and the wireless industry.

Signed into law on February 22, 2012, the [Middle Class Tax Relief and Job Creation Act](#) created FirstNet. The law gives FirstNet the duty to build, operate and maintain the first high-speed, nationwide wireless broadband network dedicated to public safety entities. FirstNet will provide a single interoperable platform for public safety communications.

WHAT WILL BE POSSIBLE WITH THE FIRSTNET NETWORK?

The FirstNet network will improve citizen and responder safety and increase the efficiency and effectiveness of emergency response through cutting edge broadband communications. Imagine a day when a single communications network can be used to dispatch EMS personnel, a medical helicopter, police officers, and fire personnel from different jurisdictions all at the same time, utilizing voice, video, and data at broadband speeds.

Public safety personnel using the FirstNet network will be able to share applications, access databases, and provide better informed responses to incidents through integrated communications.

FirstNet's goal is to provide public safety-grade reliability and nationwide coverage so all public safety personnel can count on the network when they are on the job. FirstNet is also aiming to provide coverage solutions that let public safety "take the network along" to the destination in certain geographies. FirstNet will create a nationwide standard of service while affording localized customization and control.

When the FirstNet network launches, it will provide mission-critical, high-speed data services to supplement the voice capabilities of today's Land Mobile Radio (LMR) networks. Initially, the FirstNet network will be used for sending data, video, images and text. The FirstNet network will also carry location information and eventually support streaming video. FirstNet plans to offer cellular voice communications such as Voice over Long Term Evolution (VoLTE) or other alternatives.

WHY WAS FIRSTNET CREATED?

The public safety community fought hard to fulfill the 9/11 Commission's last standing recommendation and lobbied Congress to pass legislation establishing a dedicated, reliable network for advanced data communications nationwide. During emergencies, public safety personnel need priority access and preemption, which are not available on commercial networks.

HOW WILL THE FIRSTNET NETWORK BENEFIT PUBLIC SAFETY?

Using the FirstNet network will improve situational awareness, decision-making and responder and citizen health and safety. Just as smartphones have changed personal lives, FirstNet devices and applications will ultimately change the way public safety operates. FirstNet devices will work anywhere on the network and will save time when seconds matter. A market of millions of public safety users will bring savings opportunities to state and local budgets. FirstNet will bring the benefits of a single, nationwide, interoperable network that is built to open standards to public safety agencies across the country. With millions of users on a single network, FirstNet can take advantage of increased vendor competition and economies of scale to drive down the final cost to the public safety user.

WHAT WILL USERS PAY FOR FIRSTNET'S SERVICES?

FirstNet intends to offer services at a compelling and competitive cost to attract millions of public safety users and make FirstNet self-sustaining. The use of FirstNet services and applications will be voluntary. The costs for FirstNet services and devices have not yet been set.

HOW WILL STATES AND AGENCIES PARTICIPATE IN THE BUILDOUT OF FIRSTNET?

The law that established FirstNet requires it to consult with regional, state, tribal and local jurisdictions to ensure that the FirstNet network is designed to meet the needs of public safety across the country. State consultation will be a collaborative process, involving key stakeholders and leadership from each state and territory, and will be iterative to allow for enhancements and improvements from the state and territory. FirstNet will work through the designated single officer or governmental body during consultation to gather requirements from key stakeholders for developing its deployment plan. Additional information on state consultation is available at <http://firstnet.gov/consultation>.





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How will the FirstNet Network Work with Today's Land Mobile Radio Networks?

WILL THE FIRST RESPONDER NETWORK AUTHORITY (FIRSTNET) NETWORK REPLACE THE LAND MOBILE RADIO (LMR) NETWORKS PUBLIC SAFETY USES TODAY?

When the FirstNet network launches, it will provide mission-critical, high-speed data services to supplement the voice capabilities of today's Land Mobile Radio (LMR) networks. Initially, the FirstNet network will be used for sending data, video, images and text. The FirstNet network will also carry location information and eventually support streaming video. FirstNet plans to offer cellular voice communications such as Voice over Long Term Evolution (VoLTE) or other alternatives.

WHEN WILL MISSION-CRITICAL VOICE BE AVAILABLE FOR FIRSTNET USERS?

FirstNet can't predict the arrival of mission-critical voice in part because the standards are still under development. The standards work will determine the functionality and performance requirements for mission-critical Voice over Long Term Evolution (VoLTE). FirstNet is actively involved in the standards-setting process and the industry at large is working to accelerate the development of this new worldwide standard.

WHAT MAKES MISSION-CRITICAL VOICE DIFFERENT FROM CELLULAR-QUALITY OR COMMERCIAL-GRADE VOICE?

Today's LMR networks support push-to-talk, direct mode, and emergency call functionality. Public safety users typically communicate one-to-many instead of one-to-one. If the network fails, they also must be able to communicate with other responders in close proximity, so direct mode is critical. There are also performance requirements for mission-critical voice that address call set-up speed, quality, and reliability. These attributes need to be defined through the standards-setting process.

WILL THE FIRSTNET NETWORK SHARE SITES WITH LMR NETWORKS?

The FirstNet network will leverage existing infrastructure where it makes engineering and economic sense. Our goal is to keep costs down and reduce the time it takes to build out the new Band Class 14 FirstNet network. Band Class 14 is the portion of spectrum allocated to public safety for operation of the FirstNet nationwide public safety wireless broadband network. Whether FirstNet shares sites with LMR networks will depend on the availability of space to house FirstNet equipment and whether the location proves to be the best option for meeting our network design, coverage, and cost requirements.

WILL THE FIRSTNET NETWORK CONNECT TO LMR NETWORKS?

In order to access one or more LMR networks, a dedicated handset must be within range of the specific towers within the frequency band on which it operates. Public safety personnel utilize a propriety subscriber unit and must sometimes carry multiple units to execute their daily mission. Headquarters personnel, ad hoc users or neighboring jurisdictions are routinely provided with units when needed for mutual aid. There are many solutions that will allow FirstNet users to improve efficiency by extending LMR access to smartphones, tablets and PCs. Through a simple Internet Protocol (IP) gateway, users will be able to transmit and receive voice traffic on any device that is authenticated to an LMR network via a Push to Talk (PTT) voice application.





FirstNet™

FirstNet and Law Enforcement

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Signed into law on February 22, 2012, the Middle Class Tax Relief and Job Creation Act created FirstNet. The law gives FirstNet the duty to build, operate and maintain the first high-speed, nationwide wireless broadband network dedicated to public safety entities. FirstNet will provide a single interoperable platform for public safety communications.

WHAT WILL BE POSSIBLE WITH THE FIRSTNET NETWORK?

The FirstNet network will enable faster, more informed and better coordinated response to incidents. Just as smartphones have changed personal lives, FirstNet devices and applications will ultimately change the way law enforcement personnel and agencies operate. Imagine a day when one interoperable communications network can be used to dispatch police, fire, and EMS personnel from different jurisdictions all at the same time. Law enforcement personnel using the FirstNet network will be able to share images and applications, and access multiple databases to have a common operational picture as incidents unfold.

FirstNet's goal is to provide public safety-grade reliability and extensive coverage so law enforcement personnel can count on the network when they are on the job. FirstNet is also aiming to provide coverage solutions that let law enforcement personnel "take the network along" to the destination in certain geographies. Incident commanders and local officials will have local control over the network so, for example, they can assign users and talk groups and determine who can access applications.

When the FirstNet network launches, it will provide mission-critical, high-speed data services to supplement the voice capabilities of today's Land Mobile Radio (LMR) networks. Initially, the FirstNet network will be used for sending data, video, images and text. The FirstNet network will also carry location information and eventually support streaming video. FirstNet plans to offer cellular voice communications such as Voice over Long Term Evolution (VoLTE) or other alternatives.

WHY WAS FIRSTNET CREATED?

The public safety community fought hard to fulfill the 9/11 Commission's last standing recommendation and lobbied Congress to pass legislation establishing a dedicated, reliable network for advanced data communications nationwide. During emergencies, police officers, sheriffs, deputies, and other law enforcement personnel need priority access and preemption, which are not available on commercial networks.

HOW WILL THE FIRSTNET NETWORK BENEFIT LAW ENFORCEMENT AGENCIES?

Using the FirstNet network will improve situational awareness and keep law enforcement personnel safer with an improved communications capability. The FirstNet network will make it possible to use new audio reporting tools in the field to gain efficiency. Real-time data and audio/video feeds sent before, during and after incident response will improve the overall effectiveness of law enforcement personnel.

WHAT WILL USERS PAY FOR FIRSTNET'S SERVICES?

FirstNet intends to offer services at a compelling and competitive cost to attract millions of public safety users and make FirstNet self-sustaining. The use of FirstNet's services and applications will be voluntary. The costs for FirstNet's services and devices have not yet been set.

HOW CAN MY LOCAL AGENCY PARTICIPATE IN THE DEVELOPMENT OF THE FIRSTNET NETWORK?

FirstNet is responsible for working through the designated State Single Point of Contact (SPOC) to consult with states, local communities, tribal governments, and first responders to gather requirements for developing its network deployment plans. Law enforcement personnel can provide input to FirstNet via the outreach efforts coordinated by the SPOC in each state. To identify the SPOC for your state and let them know you are interested, go to <http://firstnet.gov/consultation>. Law enforcement personnel may also want to contact members of the FirstNet Public Safety Advisory Committee (PSAC) and participate in outreach discussions at professional association meetings and conferences. More information regarding the PSAC and its membership is available at <http://firstnet.gov/about/public-safety-advisory-committee>. To stay up-to-date on FirstNet activities, law enforcement personnel can track progress at www.firstnet.gov.





FirstNet™

FirstNet and the Fire Service

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WHAT WILL BE POSSIBLE WITH THE FIRSTNET NETWORK?

The FirstNet network will enable faster, better coordinated response to natural and manmade disasters. Just as smartphones have changed personal lives, FirstNet devices and applications will ultimately change the way career firefighters and volunteers operate. Imagine a day when one interoperable communications network can be used to dispatch an extrication team, a medical helicopter, police and EMS personnel from different jurisdictions all at the same time. Fire personnel using the FirstNet network will be able to share images and applications, and access databases to have a common operational picture as incidents unfold.

FirstNet's goal is to provide public safety-grade reliability and extensive coverage so fire personnel can count on the network when they are on the job. FirstNet is also aiming to provide coverage solutions that let fire personnel "take the network along" to their destination in certain geographies. Incident commanders and local officials will have local control over the network so, for example, they can assign users and talk groups and determine who can access applications.

When the FirstNet network launches, it will provide mission-critical, high-speed data services to supplement the voice capabilities of today's Land Mobile Radio (LMR) networks. Initially, the FirstNet network will be used for sending data, video, images and text. The FirstNet network will also carry location information and eventually support streaming video. FirstNet plans to offer cellular voice communications such as Voice over Long Term Evolution (VoLTE) or other alternatives.

WHY WAS FIRSTNET CREATED?

The public safety community fought hard to fulfill the 9/11 Commission's last standing recommendation and lobbied Congress to pass legislation establishing a dedicated, reliable network for advanced data communications nationwide. During emergencies, fire personnel need priority access and preemption, which are not available on commercial networks.

HOW WILL THE FIRSTNET NETWORK BENEFIT THE FIRE SERVICE?

Using the FirstNet network will greatly improve situational awareness and keep fire personnel safer with an improved communications capability. The FirstNet network will make it possible to gain quick access to new tools and applications that provide location data and other vital information for firefighting. The FirstNet network will enable the exchange of real-time data and audio/video feeds on the fireground to assist incident commanders with operational decision-making and maximize search and rescue and suppression effectiveness.

WHAT WILL USERS PAY FOR FIRSTNET'S SERVICES?

FirstNet intends to offer services at a compelling and competitive cost to attract millions of public safety users and make FirstNet self-sustaining. The use of FirstNet's services and applications will be voluntary. The costs for FirstNet's services and devices have not yet been set.

HOW CAN MY LOCAL AGENCY PARTICIPATE IN THE DEVELOPMENT OF THE FIRSTNET NETWORK?

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FirstNet and Emergency Medical Services

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WHAT WILL BE POSSIBLE WITH THE FIRSTNET NETWORK?

The FirstNet network will save time during the golden hour. Imagine a day when one interoperable communications network can be used to dispatch EMS personnel, a medical helicopter, police officers, and fire personnel from different jurisdictions all at the same time. EMS professionals using the FirstNet network will be able to share applications, access to databases, and provide better patient care through improved communications.

FirstNet's goal is to provide public safety-grade reliability and extensive coverage so EMS personnel can count on the network when they are on the job. FirstNet is also aiming to provide coverage solutions that let EMS personnel "take the network along" to the destination in certain geographies. EMS chiefs and local officials will have local control over the network so, for example, they can assign users and talk groups and determine who can access applications.

When the FirstNet network launches, it will provide mission-critical, high-speed data services to supplement the voice capabilities of today's Land Mobile Radio (LMR) networks. Initially, the FirstNet network will be used for sending data, video, images and text. The FirstNet network will also carry location information and eventually support streaming video. FirstNet plans to offer cellular voice communications such as Voice over Long Term Evolution (VoLTE) or other alternatives.

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HOW WILL THE FIRSTNET NETWORK BENEFIT EMS?

Using the FirstNet network will improve situational awareness and decision-making. The FirstNet network will make it possible to use new tools that support faster parallel processing. The FirstNet network will enable the exchange of real-time data and audio/video feeds between EMS personnel and hospital staff. This kind of connection, while units are on the scene and during transport, will improve all levels of pre-hospital care.

WHAT WILL USERS PAY FOR FIRSTNET'S SERVICES?

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