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# Chief Technical Officer Update



**Ali Afrashteh**

FirstNet CTO

June 2, 2014

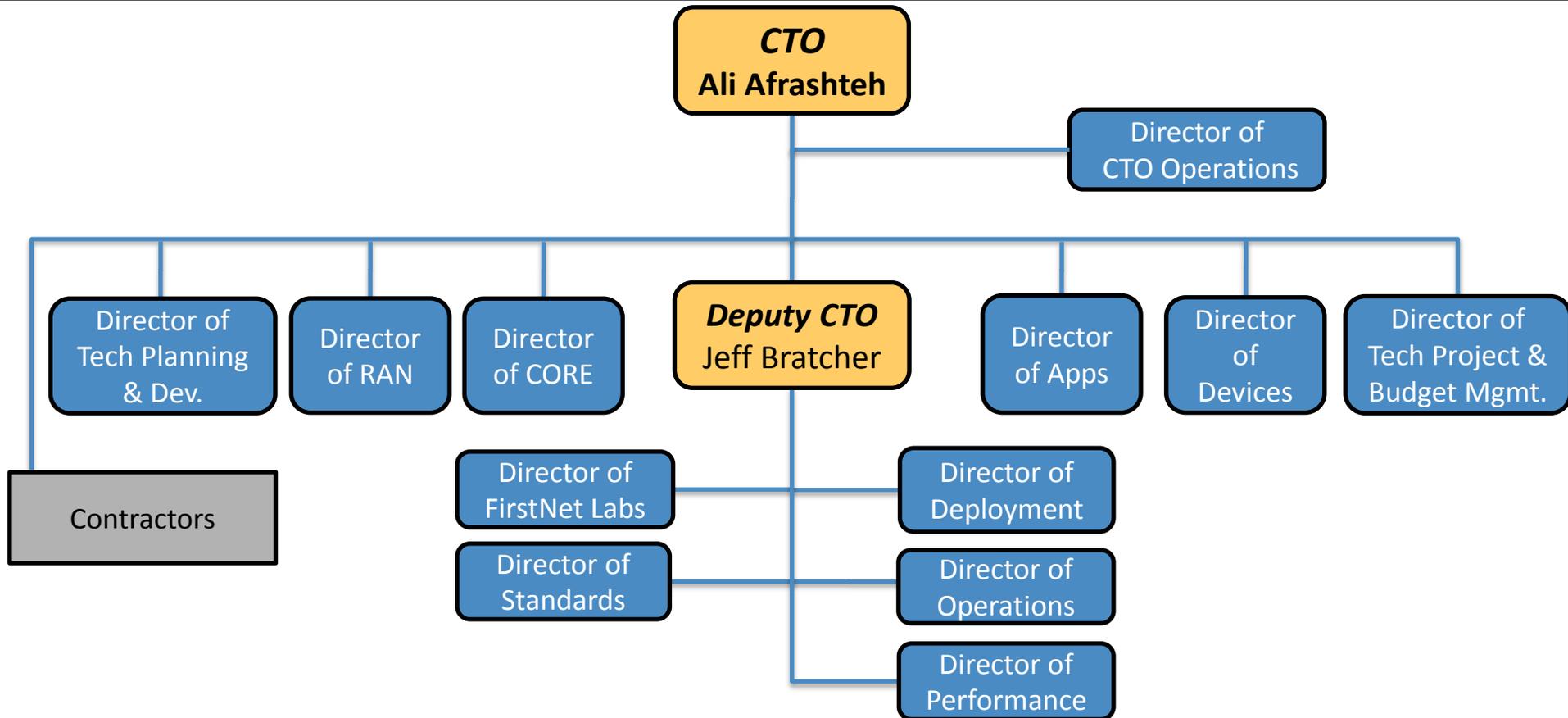
# CTO Focus Areas

- Embrace the work completed by the Board and my predecessors
- Define and refine 2014/2015 projects and the process for the FY2015 Annual Operating Plan
- Support the User Advocacy Team in the consultation process with the states, territories, tribes, and federal agencies
  - Continue the development for the nationwide network RF design to support state plans
- Support the comprehensive network RFP
- Staff the CTO organization

# CTO Focus Areas (continued)

- Continue the technical requirements analysis for the network
- Provide technical support of five public safety LTE deployments
- Support FirstNet-funded PSCR activities
- Established the Boulder technical headquarters and lab facilities
  - Plan the FirstNet Boulder lab network as part of the experience center

# CTO Organization



- **20 technical staff members** (employees and contractors) onboard and growing
- All 12 Director positions are in final development and should be posted shortly to USAJOBS

- FirstNet has engaged PSCR to perform several key initiatives:
  - Test and evaluation of key FirstNet LTE network features:
    - Priority / Preemption / Quality of Service (QoS)
  - Drive public safety standards:
    - Direct Mode / Group Communications / Mission Critical PTT
  - FirstNet network modeling and simulation

## ■ Standards Development

- Working within global standards organizations to develop key features, specifications, and standards that first responders have requested be built into the public safety broadband network over the long term to meet their mission-critical communication needs
- PSCR staff: Three full time and six part time staff

## ■ Testing and Evaluation

- Testing public safety LTE vendor products and services to identify gaps between the current state-of-the-art and the fully implemented QoS, priority, and preemption
- PSCR staff: Three full time and five part time staff

## ■ Modeling and Simulation

- Planning and design of networks before deployment, to assess the performance of features and capabilities not yet implemented in products, and to investigate network scalability and excess capacity
- PSCR staff: Six part time staff



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# Public Safety LTE Deployment Status



**Jeff Bratcher**  
FirstNet Deputy CTO

June 2, 2014



***FirstNet Guiding Principle***  
*FirstNet will provide technical support to these projects and will share any lessons learned with the broader public safety community to inform FirstNet's nationwide deployment.*

Project	SMLA	KLCP	Sites	Primary Focus Area(s)/Key Learnings	On-Air
1. LA-RICS <sup>1</sup>	Yes	Yes	231	Secondary responders partnerships, QoS, priority/pre-emption	2Q15
2. NM <sup>1</sup>	Yes	Yes	9	Hosted core, int'l border spectrum management, federal partnerships	2Q15
3. NJ <sup>1</sup>	Yes	Yes	31	Deployable assets, DR/COOP, training exercises, NOC notification	2Q15
4. ADCOM <sup>1</sup>	Yes	In-Progress	17	PSCR/FirstNet test support, BC 14 device testing, demonstration access	2Q14
5. TX <sup>2</sup>	No	In-Progress	14	KLCs under discussion including core migration, user data analytics, use cases	Now

| SMLA: Spectrum Manager Lease Agreement | KLCP: Key Learning Conditions Plan | PSCR: Public Safety Communications Research | BC: Band Class |  
<sup>1</sup>NTIA BTOP Grantee | <sup>2</sup>Operating under Special Temporary Authorization (STA) |



## Highlights:

- Los Angeles County: 4,060 square miles
- 34,000 first responders
- 231 sites and an Evolved Packet Core (EPC)

## Key Learning Conditions for FirstNet:

- Interactions with utilities and secondary responder agencies
- Congestion impacts, QoS, and pre-emption
- Validation of priority and QoS requirements

# New Mexico

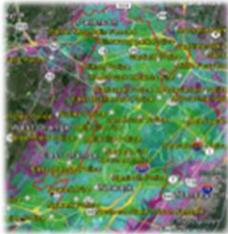


## Highlights:

- 9 sites: 7 existing and 2 Federal
- Remote EPC operation
- Southwest border focus

## Key Learning Conditions for FirstNet:

- Leverage a hosted EPC
- Spectrum issues on international border
- Sharing use among federal and state organizations



## Highlights:

- Route 21 Corridor, Camden, and Atlantic City
- Deployables-based network: 31 Cells On Wheels and 6 Systems on Wheels

## Key Learning Conditions for FirstNet:

- Demonstrate rapidly deployable emergency communications systems
- Emergency management training and exercises
- Network Operations Center best practices

# Adams County, CO (ADCOM)

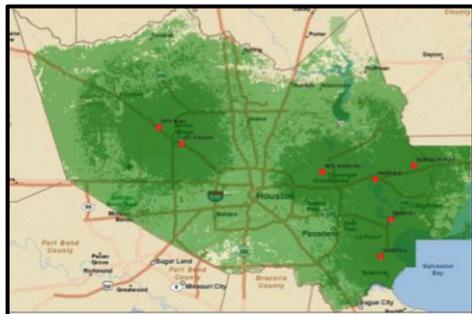


## Highlights:

- Adams County: 1,200 sq. miles
- 2,000 first responders served by ADCOM911
- 17 sites and EPC

## Key Learning Conditions for FirstNet:

- Real-world test system for FirstNet technical headquarters and PSCR
- Devices beta testing
- Demos with FirstNet and public safety



## Highlights:

- Harris County, Texas
- On air now in testing and trial status
- 14 sites and an EPC

## Key Learning Conditions for FirstNet (proposed):

- EPC transition
- Real operational usage data and statistics of past and current public safety broadband usage
- Improve the existing FEMA-approved responder training to include public safety broadband

# Thank you

