



# FirstNet as a Complement to NG9-1-1: The Art of the Possible

## Moderator



**Steve Devine**  
APCO  
Chief Technology  
Officer

## Panelists



**Renee Gordon**  
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(Va.) Department of  
Emergency & Customer  
Communications and  
Vice Chair,  
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**Jennifer McIntyre**  
ECC Subject  
Matter Expert,  
FirstNet Authority

## FirstNet is the nationwide public safety broadband network

- Offers nationwide coverage and has **built-in priority and preemption**
- Supports **mobile devices**: smartphones, tablets, connected wearables and data devices, and Internet of Things
- Offers more than 200 applications in the **FirstNet App Catalog**
- Provides improved location services, including **z-axis capabilities**
- Supports subscribing agencies with **dedicated deployable assets** for planned events and emergent incidents





## First Responder Network Authority

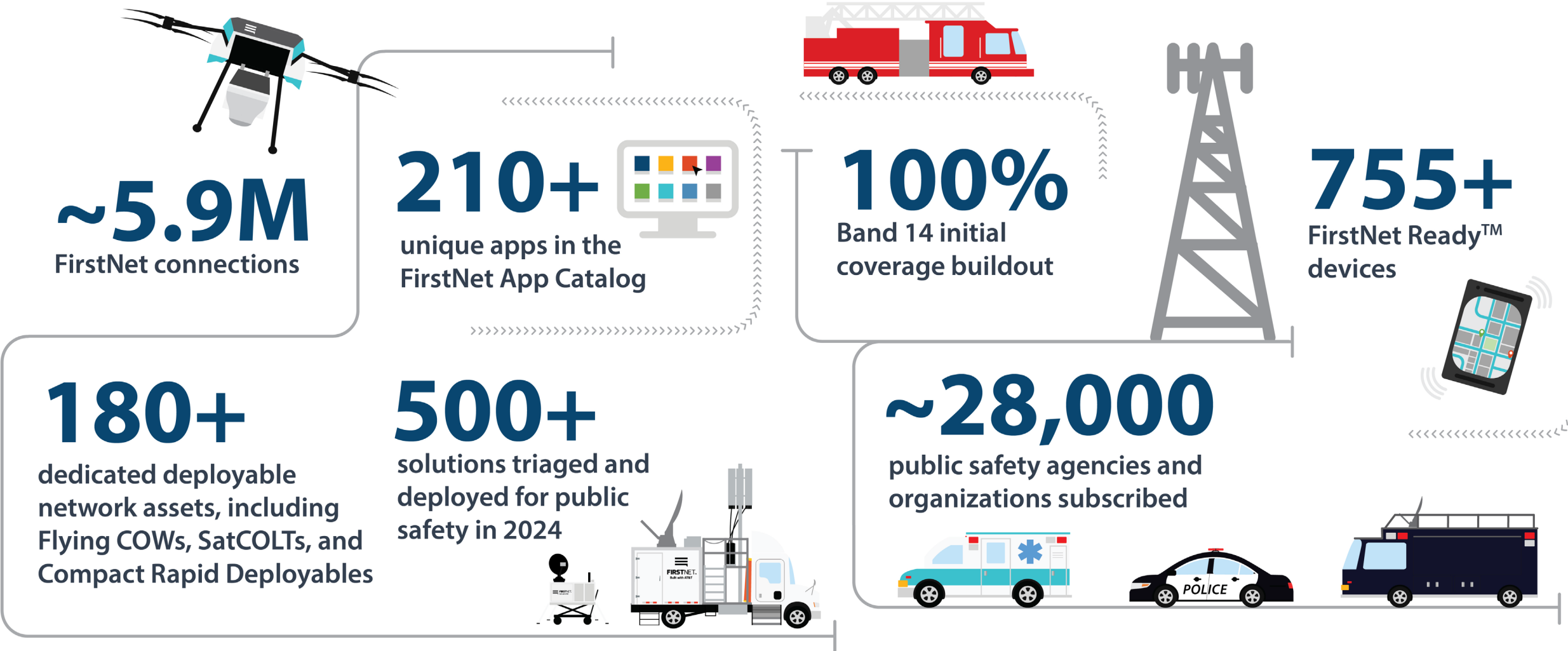
- Independent entity within the Department of Commerce
- Responsible for overseeing the creation and delivery of FirstNet
- Ensures AT&T delivers on the terms of its contract and that FirstNet meets public safety's needs now and into the future, including by investing in further network enhancements

## FirstNet: The Network

- Nationwide wireless broadband network for first responders being built and deployed across all 50 states, 5 U.S. territories, and the District of Columbia
- Offers public safety a communications network built and customized to meet their needs

## AT&T

- Telecommunications company
- Responsible for building, operating, deploying, and maintaining the FirstNet network in accordance with a 25-year contract with the FirstNet Authority
- As part of the agreement, access 20 MHz of spectrum licensed to the FirstNet Authority and \$6.5 billion in initial funding
- Will invest about \$40 billion into the network over the life of the contract





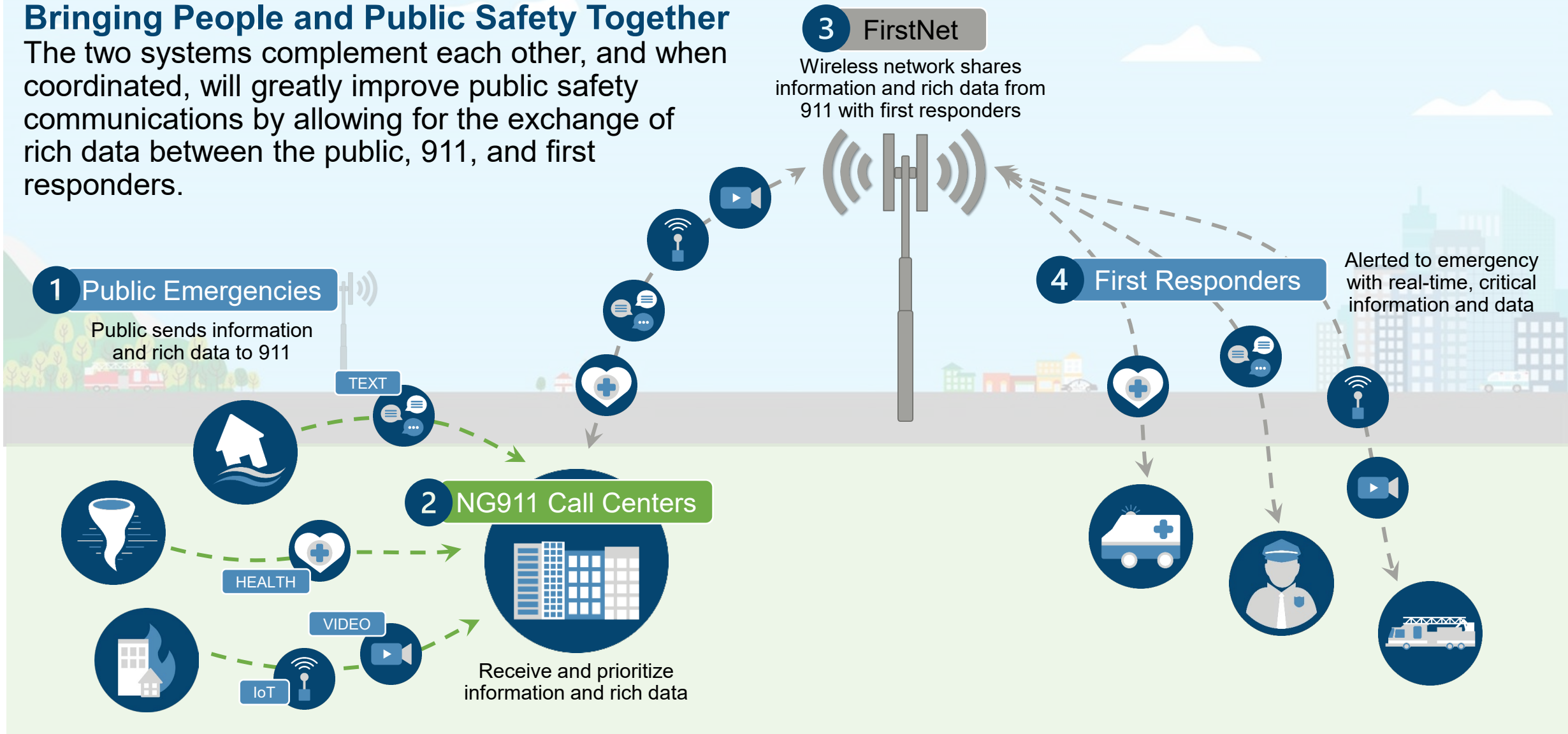
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# FirstNet Connections to the ECC

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## Bringing People and Public Safety Together

The two systems complement each other, and when coordinated, will greatly improve public safety communications by allowing for the exchange of rich data between the public, 911, and first responders.





## Quality of Service

Public safety users have access to their needed services and applications at the appropriate level for their immediate situation or activity.



## Priority

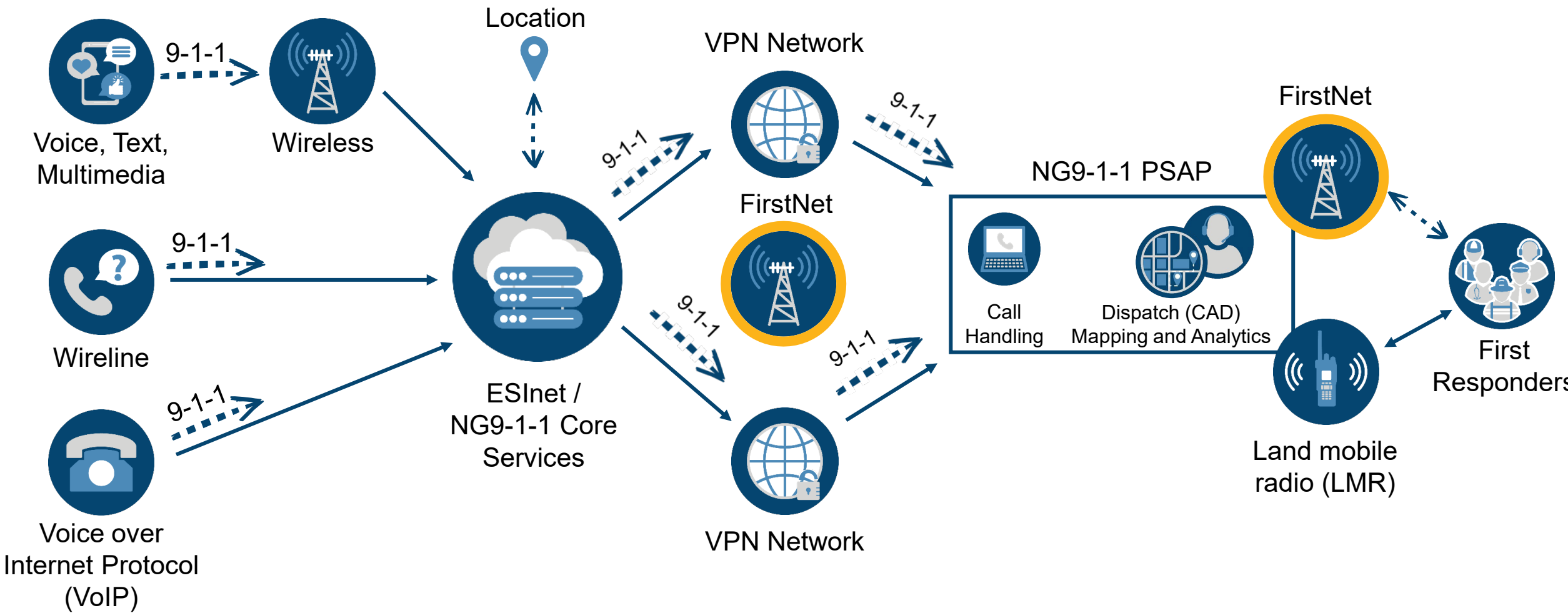
Public safety devices gain access to the network first. Public safety is at the front of the line.



## Preemption

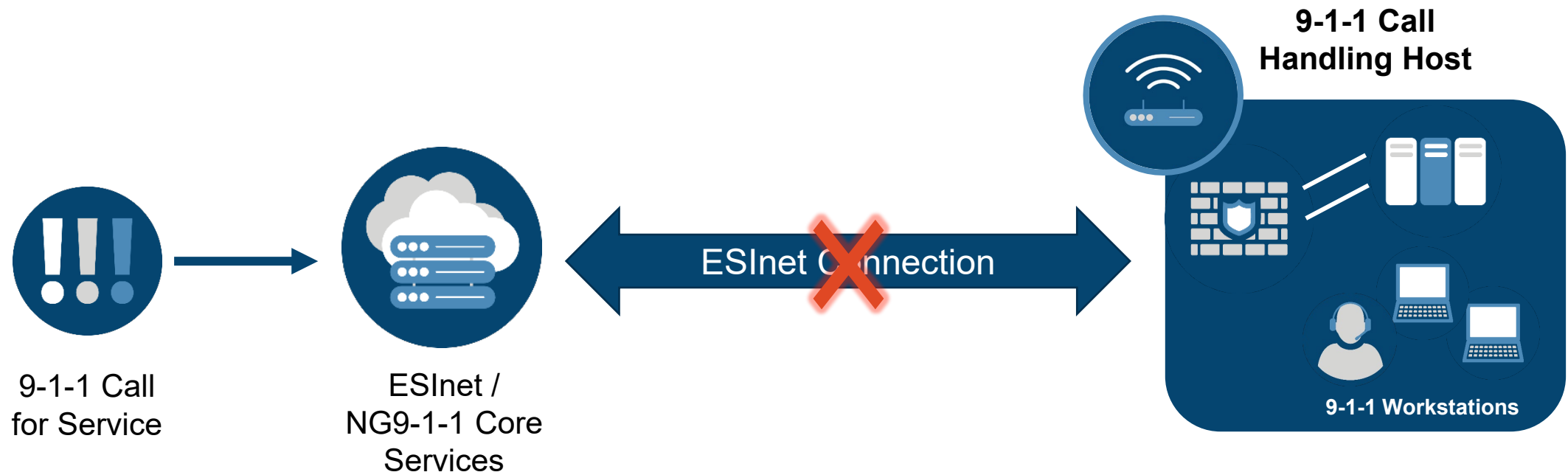
Public safety devices are treated as the most important on the network. Network resources cannot be taken from public safety.

# NG9-1-1 Emergency Services Ecosystem



## FirstNet Wireless Backup in ESInet Call Routing

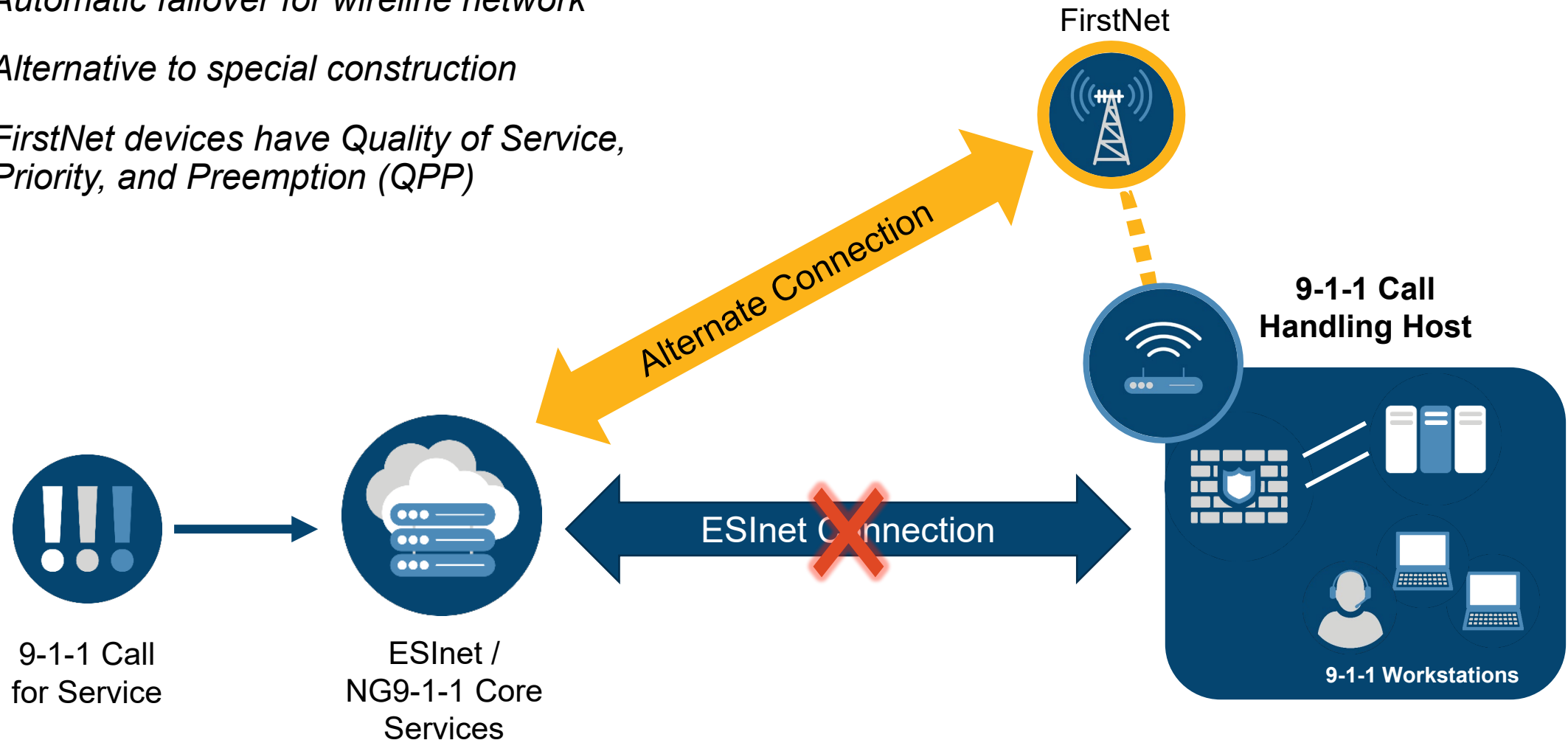
- *Automatic failover for wireline network*
- *Alternative to special construction*
- *FirstNet devices have Quality of Service, Priority, and Preemption (QPP)*



# NG9-1-1 ESInet Wireline Failover to FirstNet

## FirstNet Wireless Backup in ESInet Call Routing

- *Automatic failover for wireline network*
- *Alternative to special construction*
- *FirstNet devices have Quality of Service, Priority, and Preemption (QPP)*



"In the event of an accidental fiber cut or some other outage, FirstNet allows the 9-1-1 call center to maintain connectivity to answer 9-1-1 calls."

**Curtis S. Sutton**

Tennessee Emergency Communications Board  
Executive Director



## Situation

Tennessee's 118 primary public safety answering points (PSAP) rely on fiber for primary connectivity to bring calls in; some centers even have dual redundant fiber connections

## Need

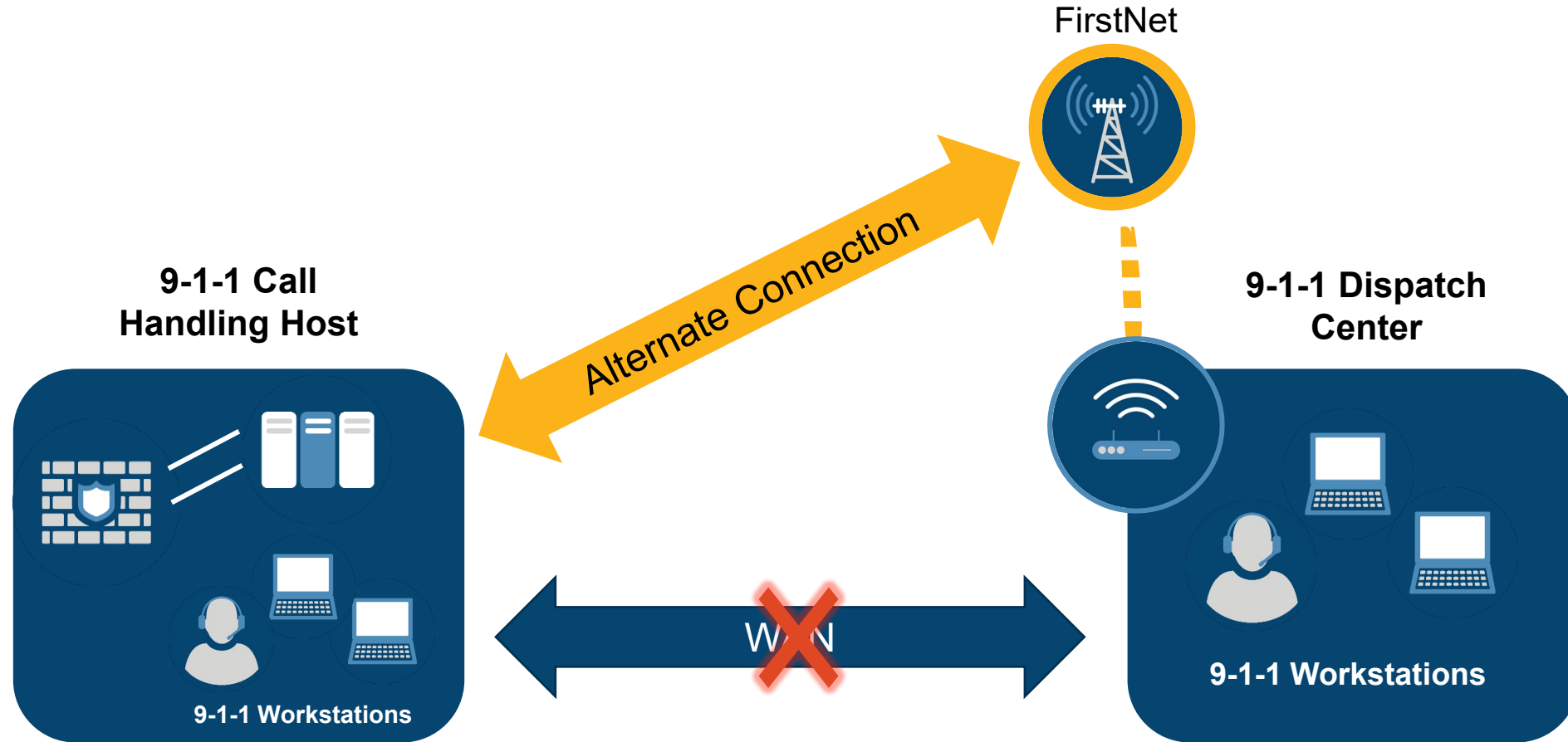
PSAPs need backup wireless connectivity to ensure 9-1-1 calls are always routed to local call centers when physical infrastructure is damaged or destroyed

## Solution

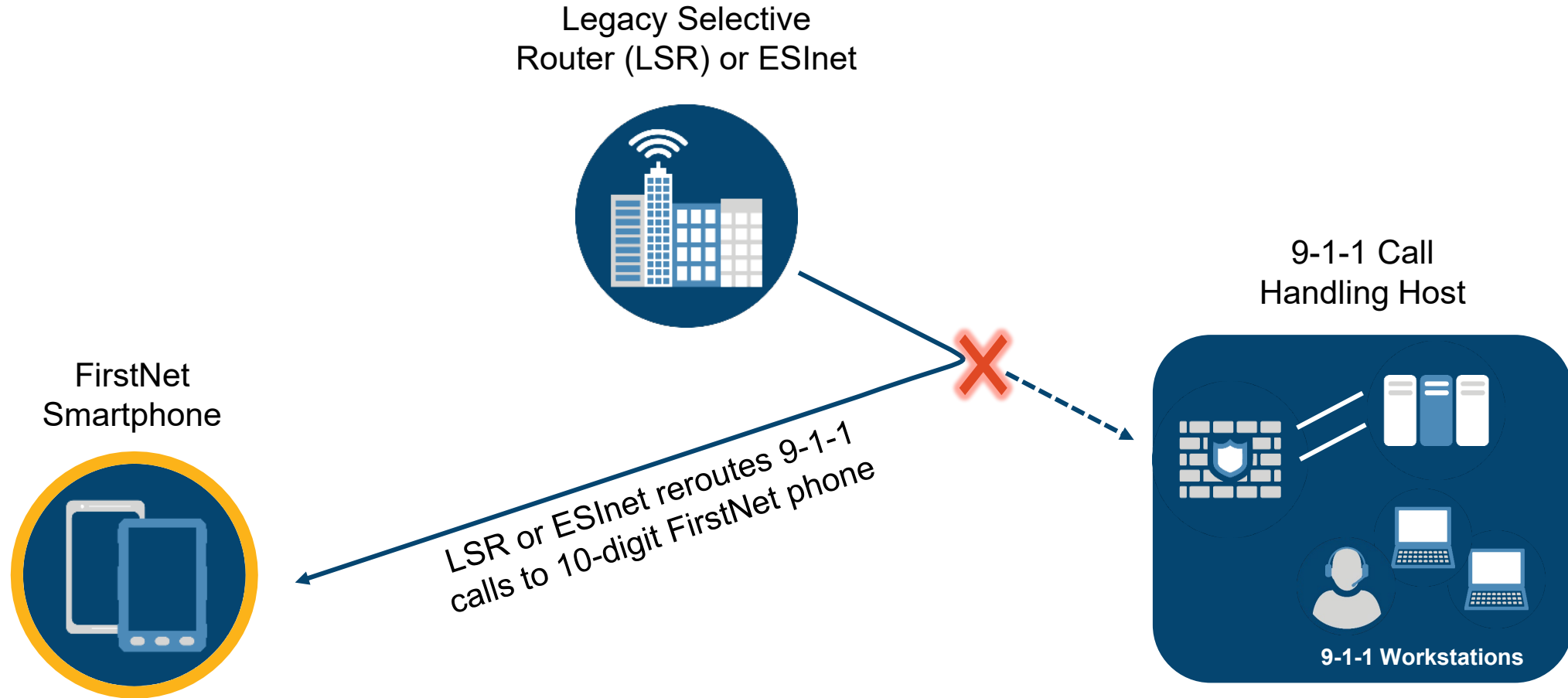
Tennessee uses Cradlepoint modems with FirstNet SIMs to provide a redundant path for 9-1-1 calls to PSAPs; combined with AT&T ESInet™, this solution provides increased reliability and resiliency for Tennessee's PSAPs

# NG9-1-1 FirstNet Diversity Between Call Handling Host and ECC

## FirstNet Wireless Diversity in Call Handling

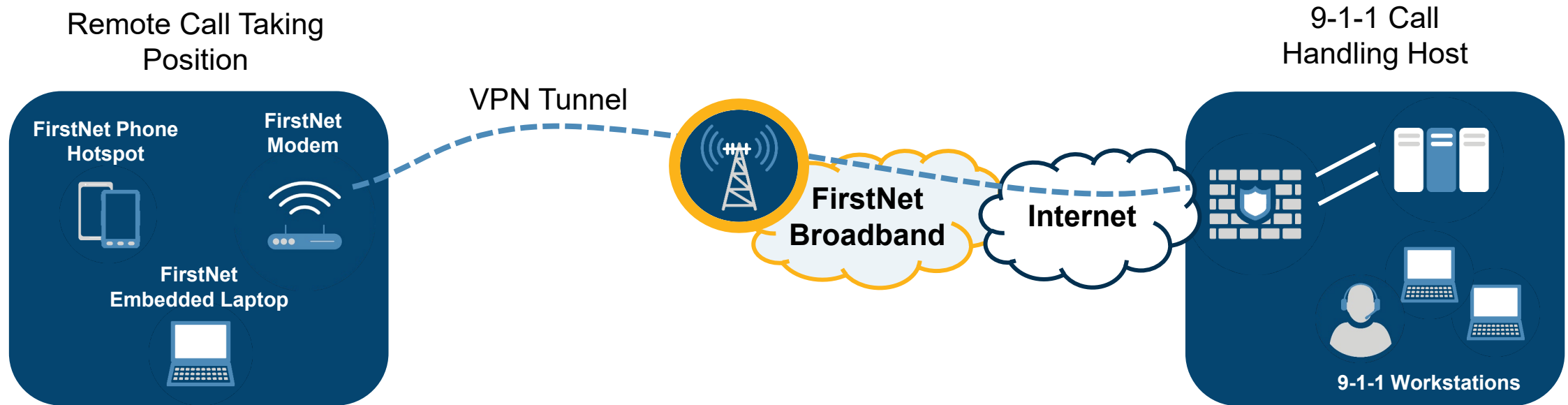


# NG9-1-1 Using FirstNet for Alternate Routing



*Note: FirstNet devices have QPP*

# NG9-1-1 FirstNet for PSAP Continuity of Operations: FirstNet Devices

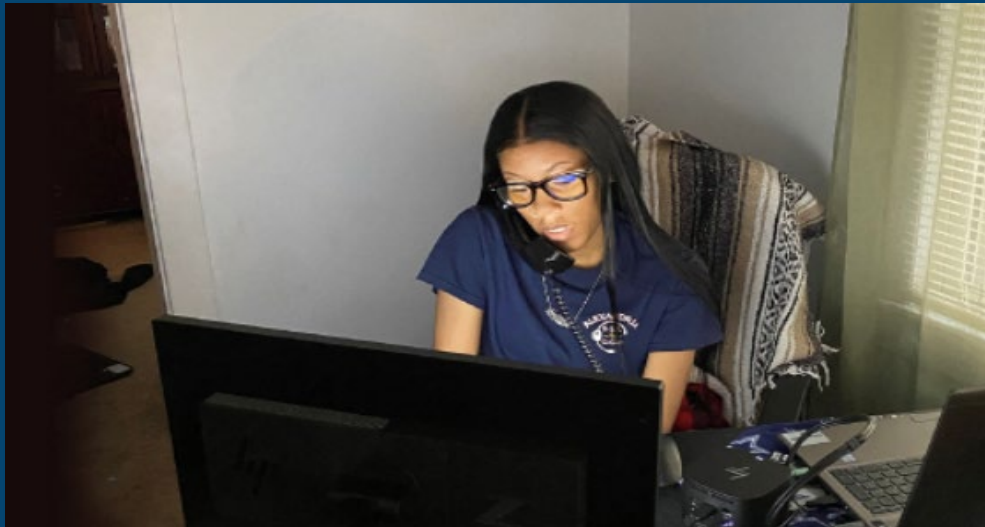


## Notes:

- *FirstNet modem or phone acting as a hotspot, can also be wired directly with an ethernet cable*
- *FirstNet devices have QPP*

“What we see is that peace of mind that the FirstNet device brings to say, hey, doesn't matter what's going on in the rest of the connected world, we know we are going to have a reasonable level of connection and protection to maintain that connection.”

**Dave Mulholland,**  
Arlington County ECC Administrator



## Situation

Civil unrest and extreme weather impacted individuals' ability to get to the physical ECC, and COVID increased the need for social distancing to keep the team safe and healthy

## Need

Multiple options to ensure connectivity at all time to support remote call taking, dispatch, and supervision

## Solution

Leverage the FirstNet network to provide a reliable, always-on backup connection to individuals' home network in case of congestion or traditional communications channel failures

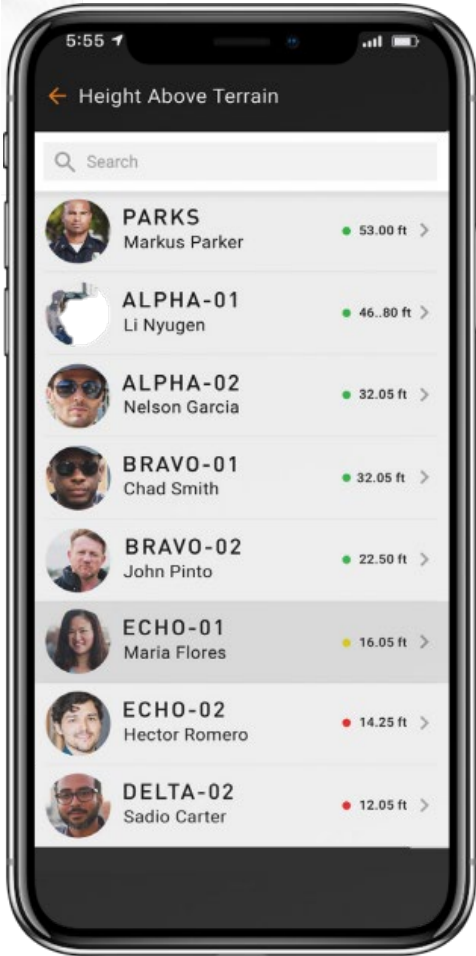
## Push-to-Talk



## Video



## Z-Axis Location







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# Discussion

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