

# Regional Infrastructure: Public Safety Communications Infrastructure



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# Next Generation 9-1-1 and Communications

## National Capital Region Public Safety Communications

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# Public Safety Communications

## NCR INTEROPERABLE COMMUNICATIONS INFRASTRUCTURE (NCR ICI)

- Affirms the region's commitment to a common vision of working together towards a safe and secure National Capital Region



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# Public Safety Communications

## Regional Commitment to Public Safety Communications

- National Capital Region Strategic Plan
  - Goal 1 - Interoperable Communications
  - 2003-2014 UASI Investments
    - \$47.4 million in Voice Communication
    - \$54.1 million in Data Sharing & NCR ICI
    - \$6 million in Video Sharing \$6M

## Local Government Commitment to Public Safety Communications



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## National Capital Region Interoperable Communications Infrastructure (NCR ICI)

- Nearly a dozen public safety applications
- Supports law enforcement and emergency response

## Governance and Support

- Direct oversight by COG Chief Information Officers Committee
- Supporting governance by multiple COG technical committees
- Policy guidance from Homeland Security Executive Committee

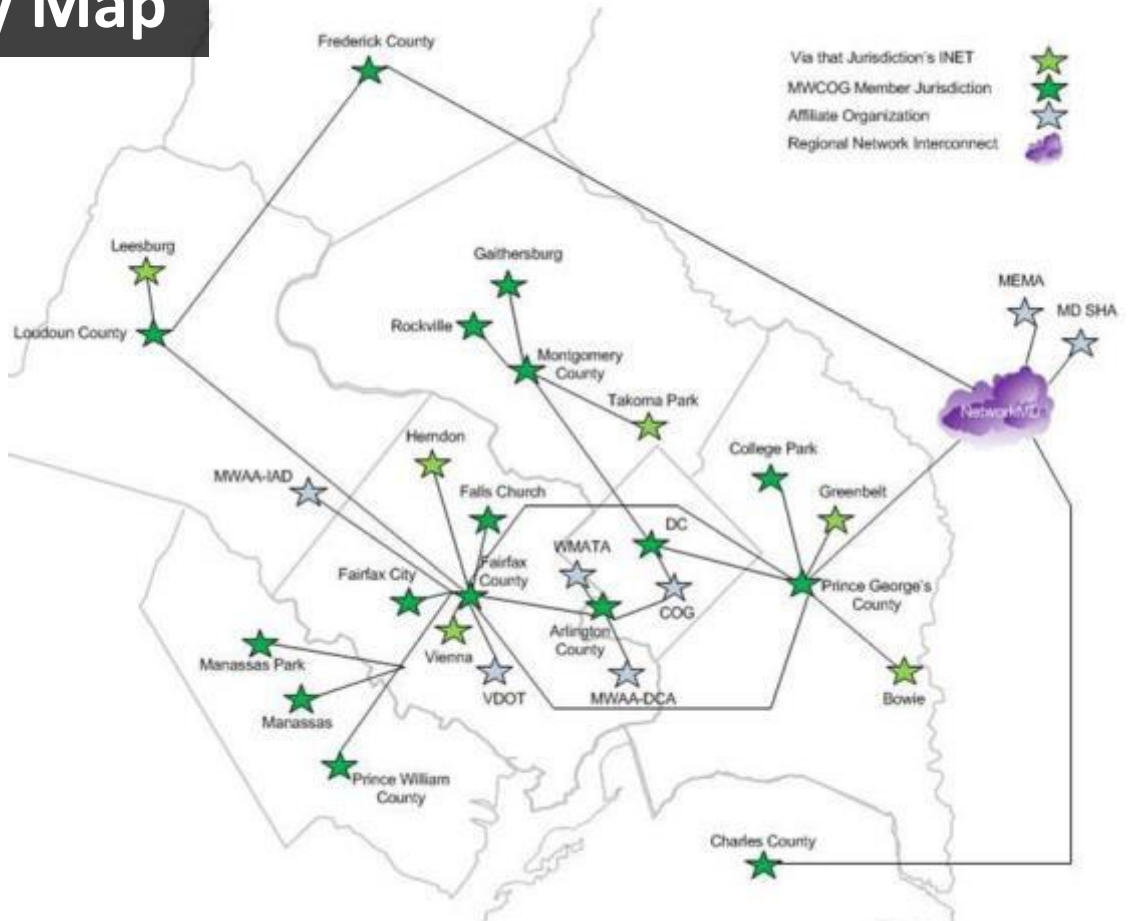




# Public Safety Communications

## NCRnet Connectivity Map

- Region-wide, physical interoperable network infrastructure
- Scalable
- Does not share bandwidth with any other users
- Controlled Access
- 24x7 monitoring



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## Pre-FirstNet: Public Safety Broadband

- In 2005, Wireless Broadband was initiated to secure communication infrastructure for data and video between the 9-1-1 center and field units

## Post-FirstNet: Where are we now?

- Individual State decision required to Opt-in or Opt-out
- Uses similar technical architecture to NCR ICI
- On July 29, 2014 MD became the first state to begin the FirstNet Consultation process and stakeholder Education, Outreach and Data Collection



# 9-1-1 Technology Support

## Local 9-1-1 Center Technologies

- Secure locality controlled environments
- Common Carrier 9-1-1 distribution
- Computer Aided Dispatch (CAD) software solution
- Geospatial Information Systems (GIS)
- Voice radio systems



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# 9-1-1 Technology Support

## Next Gen 9-1-1 Opportunities

- Optimize local & regional cost and investments
- Eliminate duplicate systems
- Provide regional views and information
- Enhance 9-1-1 Center operations with voice, data, texting, web, and visual information
- Shared Back-up Center
- Better use of Social Media
- Enhance Mobile experience
- Improve overall response



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# NG 9-1-1 Operations

## 9-1-1 Operations

### Local Challenges

- Rapid use of wireless by public with less accurate location information
- Penetration of in-building wireless not optimal
- Required investment and funding
- Adoption into new business culture
- Limited market availability of next gen platform providers

### Regional Challenges

- Overcoming discrete independent jurisdictional and state legal boundaries
- Uniform response protocols
- Different Public Service Commission regulatory authorities
- Giving up local control over system preferences
- Individual states' planning (MD, VA, DC)



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# NG 9-1-1 Operations

**What is NG 9-1-1?**

**Why is it Necessary?**

**What Did We Learn from Previous Technology Crossroads?**



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# NG 9-1-1 Operations

**When and How Do We Start?**

**What's Most Important?**

**What Legal Changes Might be Necessary?**



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## Text-to-911 Rules

- August 8, 2014, FCC *Second Report and Order*
- Supporting text-to-911 by December 31, 2014
- Routing 911 text messages to the appropriate PSAP
- FCC also adopted a *Third Further Notice*, which sought comment on:
  - Enhanced location for text-to-911
  - Roaming support for text-to-911

## Text-to-911 Deployment

- As of August 8, 2014, 121 PSAPS support text-to-911, and at least 48 others plan to go live this year or in early 2015
- Early adopters have had positive experiences with text-to-911





## E911 Location Accuracy

- Consumer habits changed since the Commission first adopted E911 rules

## Wireless Alerting and 911

- Logical nexus between 911 and wireless alerting
- Encourage the full exploitation of wireless alerting protocols and systems
  - Wireless Emergency Alerts (WEA)
  - Emergency Alert System (EAS)
  - Integrated Public Alert and Warning System (IPAWS)
- PSAPs are uniquely positioned to make the best use of wireless alerts

## Questions

- *What are the impediments to PSAPs making greater use of WEA/EAS?*
- *How can we overcome them?*





## 9-1-1 Governance

- **The Commission is working to protect 911 service both before and during the approaching Technology Transition**
- **Recent 911 Outages**
  - April multi-state outage has provided insight into the challenges for 911 service in an all-IP environment
    - NG911 transition architectures pose greater risk to 911 reliability than legacy 911 or full NG911
    - System providers and state/local authorities need to coordinate on respective responsibilities
    - Growing imperative for clarity in 911 governance, situational awareness, and coordination of service restoration
  - Subsequent Vermont and nationwide T-Mobile outages further validated this imperative



## 9-1-1 Governance

### FCC & MWCOG can and should work together towards secure and efficient deployment of NG911

#### Cybersecurity

- The Commission's core mission - To protect the safety of life and property, including the security of IP networks
- The National Institute for Standards and Technology (NIST) has developed a Cyber Security Framework (CSF)
- Cyber threats are real, and it takes only one hacker to create a major public safety hazard

#### FirstNet

- FirstNet and the ESNets that will support NG911 may be able to use some of the same infrastructure
- State and local governments have an opportunity to leverage the limited resources

#### Task Force for Optimal PSAP Architecture

- PSHSB has been tasked with conducting a study on optimal PSAP architecture.
- Studying the makeup of an ideal 21<sup>st</sup> Century PSAP





# North Central Texas NG 9-1-1

## North Central Texas Council of Governments 9-1-1

### SIZE & AREA COVERED

- 14 counties (include 134 cities) surrounding Dallas/Fort Worth Metroplex
- 44 Public Safety Answering Points (PSAP)
- 12,800 square miles (rural and urban)
- 9-1-1 Program covers 1.7 million population

### GOVERNANCE

- 9-1-1 Program – in house staff – set up based on legislation 1989
- Regional Advisory Committee – Executive Board – CSEC (state 9-1-1 agency)
- Local Control and Autonomy – some standardization of technology
- Regional 9-1-1 System – one network (shared and disparate technology)
  - No consolidation of centers or people



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# North Central Texas NG 9-1-1

## Drivers for NG9-1-1

- Limitations of current system – 1968 Infrastructure
  - Didn't have connectivity – transfer problems
  - Lack of contingency options in a disaster or outages
  - Lack of equal access for deaf, hard of hearing and & speech impaired community
  - Need a consistent level of 9-1-1 service throughout the Metroplex
- Provide improved 9-1-1 service to our citizens
- Shared costs and services



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# North Central Texas NG 9-1-1

## Process

- Started by developing a plan
- Conducted studies and analysis (third party)
- Multi-year, phased plan based on our diversity/complexity and funding model
- Design, testing and implementation roadblocks
  - Regulatory and Legislative /funding issues (mitigation in plan)
- NG9-1-1 is not a project, it is a journey



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# North Central Texas NG 9-1-1

## The New 9-1-1 Network

- RFI – network analysis to find options
  - Network must be public safety grade
  - Other states have utilized existing networks
  - Standards based solution - strong requirements for RFP
- Digital network is the foundation for features, applications, functionality
  - Text, videos, intelligent medical devices, sensors, telematics, etc.
- Added redundancy and diversity



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# North Central Texas NG 9-1-1

## Geospatial Information Systems

- GIS went from a “nice to have” to a “must have” with NG9-1-1
- Regional maps
  - Leveraging the existing geographic data from our counties
- Using 3<sup>rd</sup> party vendors to supplement staff/resources
  - Analyze current GIS, Compare, Gap Analysis, Clean data project



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# North Central Texas NG 9-1-1

## Text to 9-1-1

- Drivers
  - Equal level of service for the Deaf/hard of hearing/speech impaired
  - Increase in school and public active shooters/domestic violence – not safe to speak
  - Citizen expectations
- Fear of the Unknown
- Facts – low volume of texts, not seeing language barrier, technology has limitations, but is working for interim solution
- Need a Plan – technology, training, public education and SOPs
  - National Emergency Number Association has resource materials
- It's the RIGHT thing to do!



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Questions?



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