Public Safety Voice and Data Interoperability



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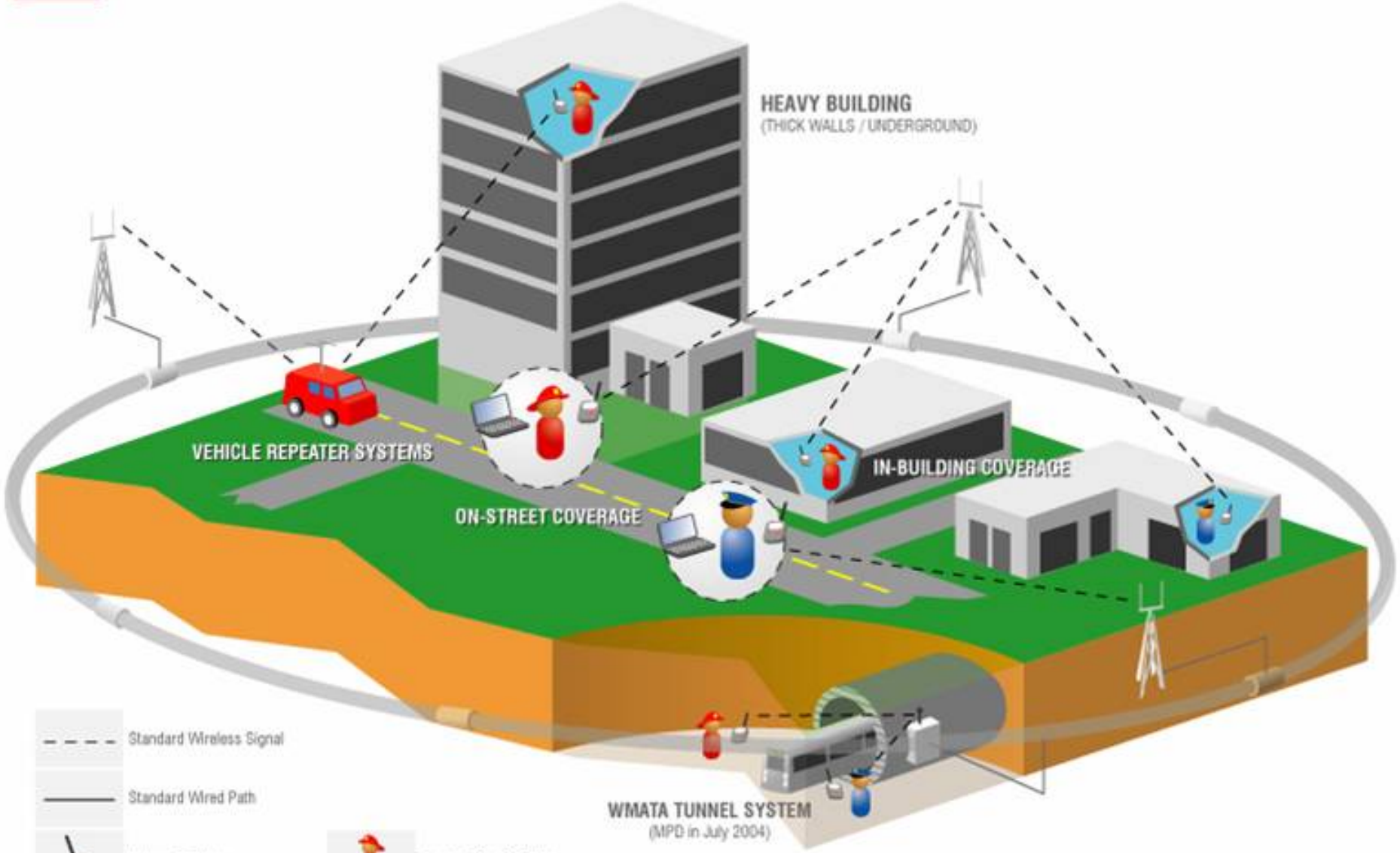
Public Safety Wireless Voice and Data Communications



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Wireless Accelerated Responder Network (WARN) Users and Uses

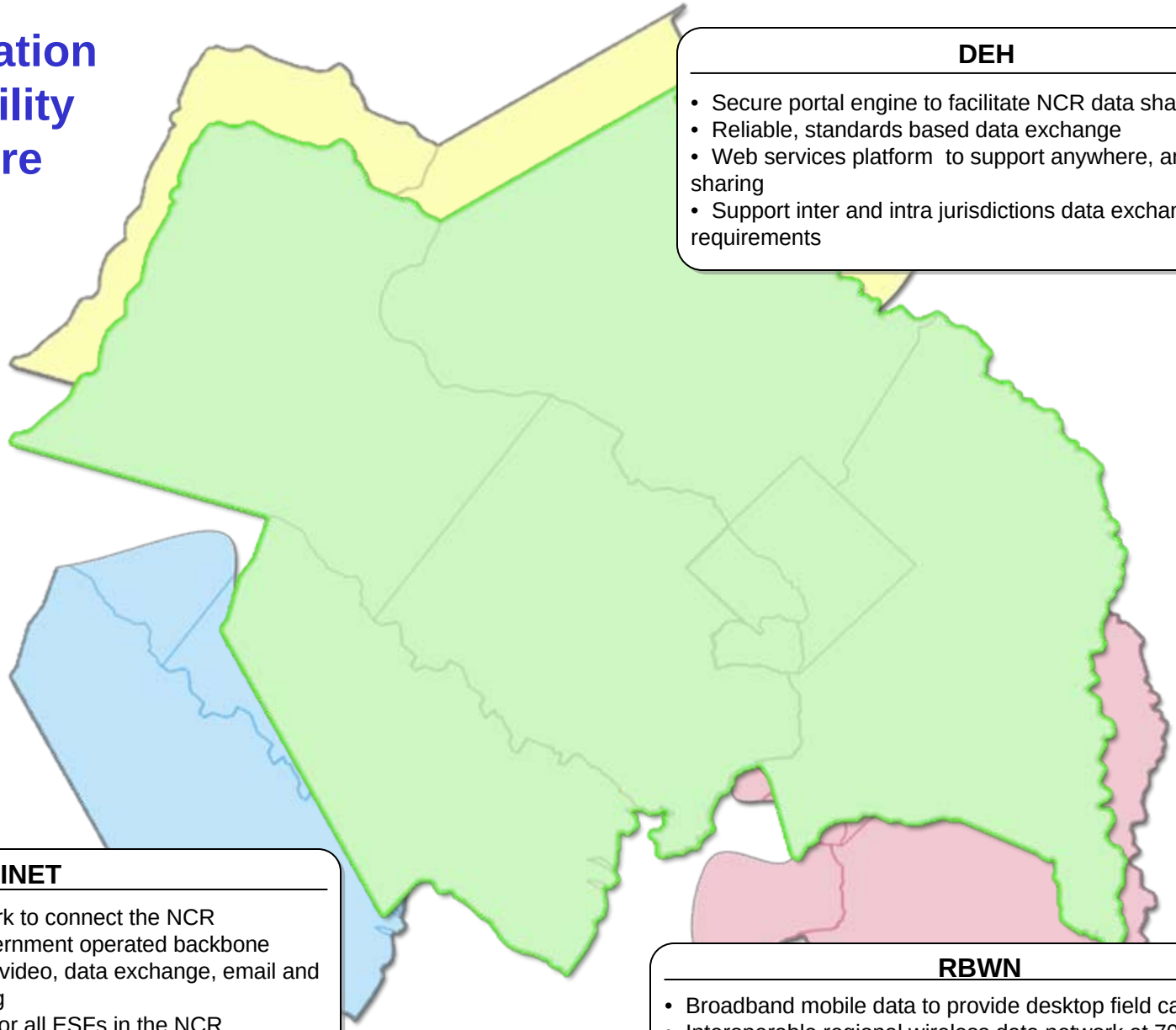
USERS

• DC Metropolitan Police Department • Alexandria VA Police Department • DC Department of Corrections • DC Department of Transportation • DC Deputy Mayor, Children, Youth, Families and Elders • DC Emergency Management Agency • DC Fire and Emergency Medical Service	• DC Office of the Chief Medical Examiner • Department of Homeland Security • DC Hazardous Material First Responders • U. S. Federal Protective Service • U. S. Park Police • U. S. Secret Service • Washington Metropolitan Transit Authority

APPLICATIONS/USES

• CapWIN • Case Management Systems • Cobra • Email • FACTS • Greenhouse Video Surveillance • HSMP Portal	• I/Netviewer • Justis • LiveWave Video Surveillance • Protect (CBEMIS) • SunPro • Traffic Land • Videonext Video Surveillance

Next Generation Interoperability Infrastructure



DEH

- Secure portal engine to facilitate NCR data sharing
- Reliable, standards based data exchange
- Web services platform to support anywhere, anytime info sharing
- Support inter and intra jurisdictions data exchange requirements

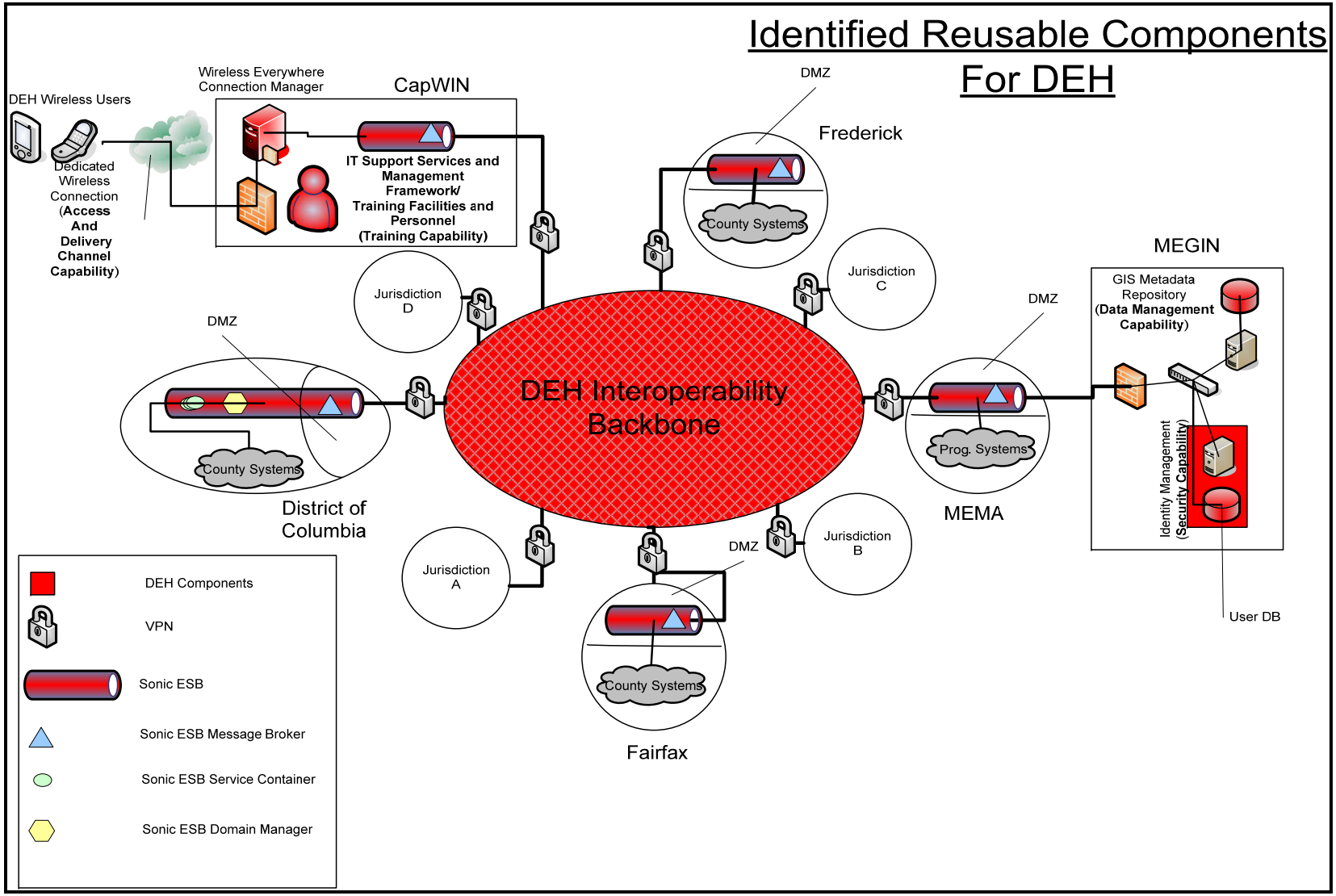
INET

- Secure fiber optic network to connect the NCR
- Reliable, redundant government operated backbone
- Infrastructure to support video, data exchange, email and all NCR application sharing
- Cost effective transport for all ESFs in the NCR

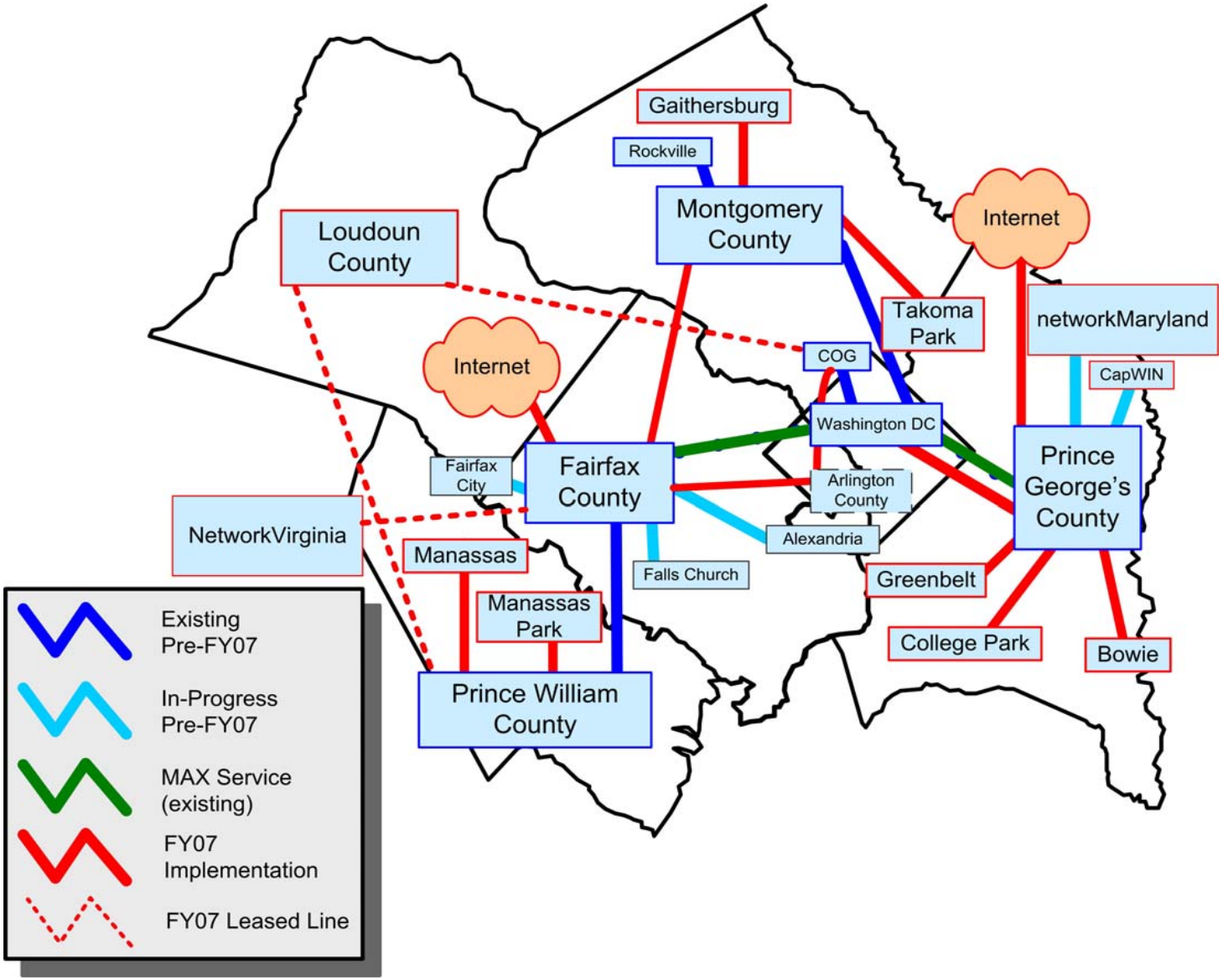
RBWN

- Broadband mobile data to provide desktop field capabilities
- Interoperable regional wireless data network at 700 MHz
- Infrastructure to support voice, video, data exchange, email and all NCR application sharing
- Cost effective wireless transport for all ESFs in the NCR
- Compatible with commercial networks – nationwide interop

NCR DEH Architectural Recommendation
Footprint of Existing Reusable (Currently Deployed)



Overview: INETs Design and Status



RWBN Project Overview

- **The Regional Wireless Broadband Network (RWBN) is the Nation's first operational Public Safety 700 MHz high speed wireless network.**



- **Benefits of Deployment:**
  - Out-of-the-box interoperability
  - Dedication and control
  - Public safety reliability
  - Broadband speeds (1.1 Mbps [FL] and 600 kbps [UL] – Typical; 306 Kbps [FL] and 153 Kbps [UL] – Average
  - Contract that enables Commonwealth and State of MD to procure off of in addition to the NCR.
  - More cost effective than commercial services
  - Potential migration path for voice communications



- **Scope:**
  - **FY05**
    - Coverage in District of Columbia, Demonstrations and testing March through July 2007
    - Acceptance testing and full operating condition in August 2007
  - **FY06**
    - Site preparation of Fairfax County (outdoor coverage)
    - Redundant core network (Fairfax County)
    - Roaming agreements with cellular carriers
    - Operation and Maintenance for Phase I
  - **FY07 Proposed**
    - Build out Fairfax County and Montgomery County (75%)
    - Operate and maintain RWBN for one year after deployment
    - Seed subscriber devices

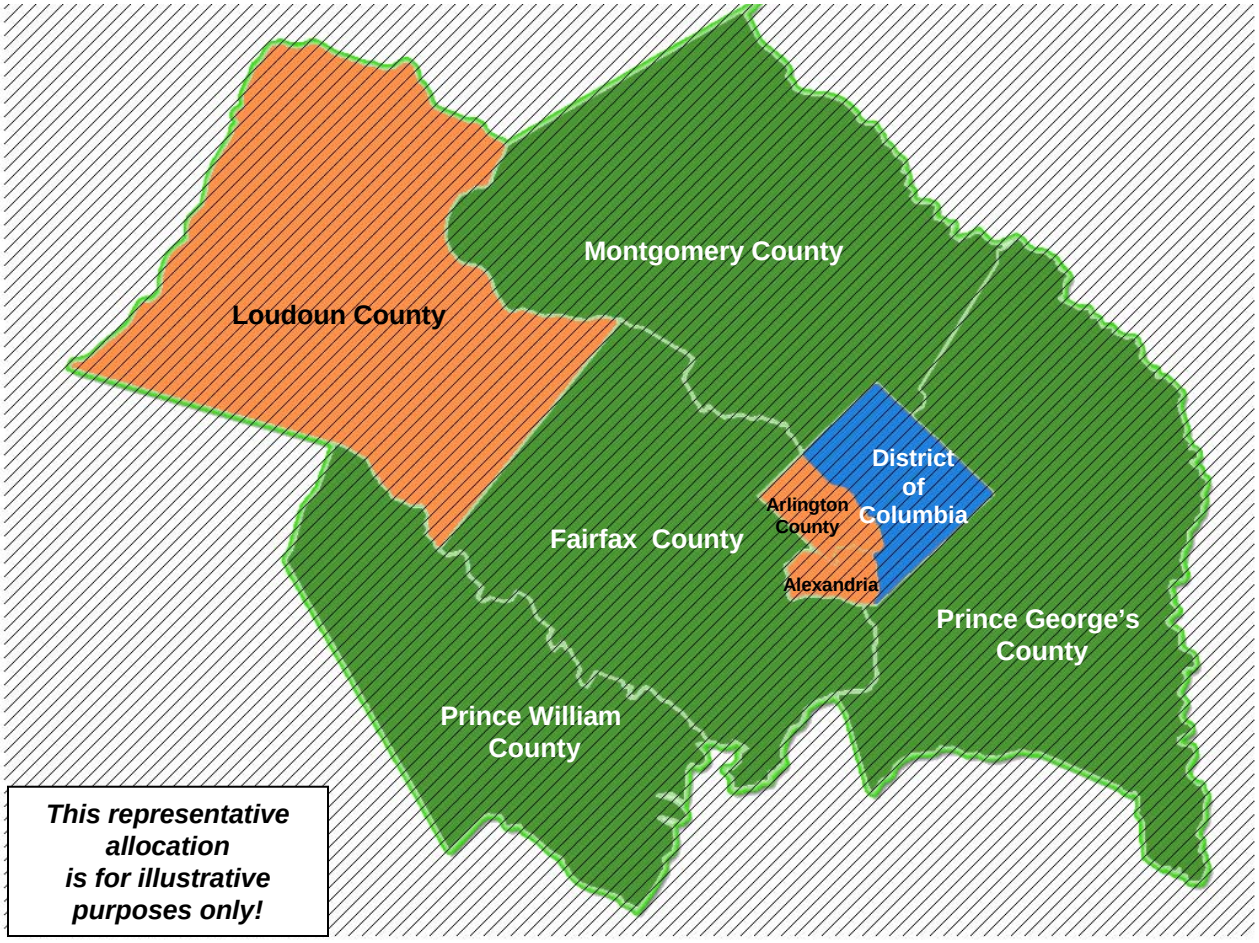




Regional and National Concept of Interoperability

"A CHANGE in Direction"

Public/Private and Private networks working together



Common technology + shared frequencies = ***INTEROPERABILITY***

Legend

- National Network 'E Block' Licensee
- Purchasers of National Network Services
- Regional Network (State & Local Gov.)
- Statewide Public Safety Network

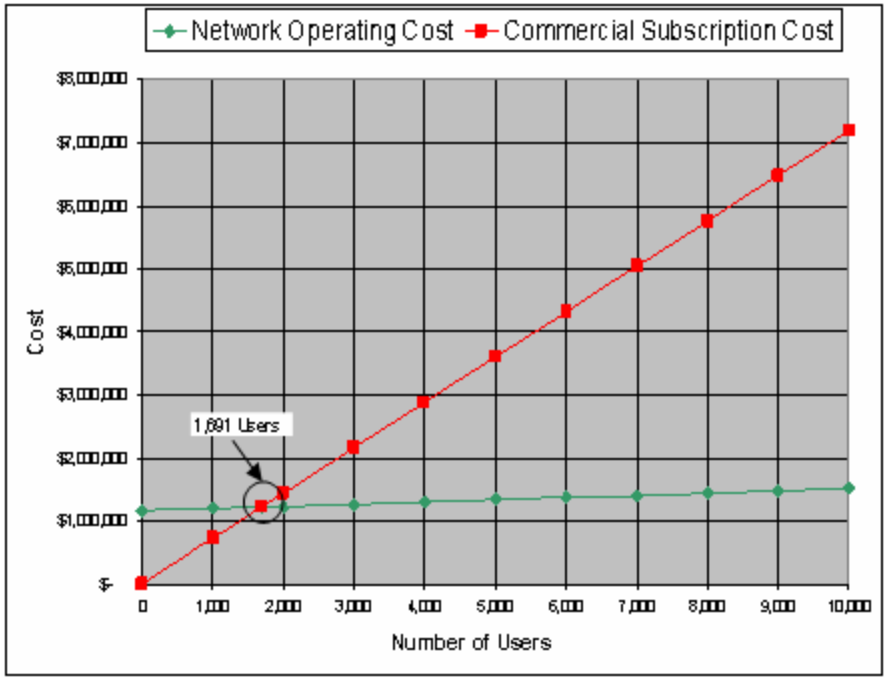
Concept of Interoperability Details

- **Public Safety Spectrum (12 MHz)**
  - **State and Local jurisdictions maintain the right to operate their own broadband network OR purchase National service;**
- **Technology**
  - **Common technology standard for PS Spectrum and Block "E" spectrum;**
  - **Allow Open access and wholesale models**
- **Governance**
  - **FCC issues a National license to Public Safety Trust;**
  - **FCC, National carrier, Trust and RPC authorizes regional sub-licensees based on pre-established standards and rules;**
  - **RPCs are the body through which state and local governments coordinate their election to utilize the National Network or build and operate their own network under a sub-license agreement;**
  - **Bi-lateral roaming agreements**
- **Recommend 3G National Multi-Regional Pilot Deployments**
  - **1-4 years in duration**
  - **Mix of public and public/private networks - where 700 MHz is cleared**
  - **Benefits**
    - **Tests public/private and private business and technology models**
    - **Provide immediate upgrades to our first responders in critical regional areas**
    - **Test voice and data devices**
    - **3-G infrastructure can be fully leveraged when we convert to the new 4G national standard**

Why a National Network is good for “SOME” but not good for “ALL” jurisdictions

Operating Cost Comparison- Single Jurisdiction

- Commercial **data-only** services for 10,000 devices equals **$7.2 million** annually.
- **Annual estimated operating costs for 10,000 users equals **$1.5 million**.
- Most major jurisdictions currently pay approximately **$5 million** annually in commercial service fees.



Choice is the only way to ensure that “ALL” jurisdictions will have a financial incentive to utilize the 700Mhz spectrum.

****Cost calculation assumes 15 site network, 10,000 user devices, and depreciation.**

What if we don't do this together?

- **No Data interoperability**
- **Continued reliance on commercial networks prone to fail during emergencies**
- **No migration path for voice communications**

