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Commonwealth of Virginia

## Internet Protocol (IP)-Based 9-1-1 Network Feasibility Study – Overview

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# Agenda

- Project Drivers
- Project Goal / Objectives
- Statement of Requirements (SOR) Review
  - Technical, Operational, and Economical Feasibility, and Policy Considerations
- High-Level Schedule
- Accomplishments To Date
- PSAP Data Collection Efforts
- State-level ESInet Development Efforts

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# Project Drivers

- Existing legacy technologies impact 9-1-1 service
- Widespread, significant limitations exist, including:
  - Length of 9-1-1 call setup time
  - Limited ability to transfer 9-1-1 calls between PSAPs
- Carriers transitioning to IP
- Consumer expectations / changes in behaviors
- Advances in technologies



# Project Goal

- Complete a feasibility study that will provide multiple solutions for the design of a single statewide IP-based 9-1-1 network to the E-911 Services Board
- The study will address system design, procurement, implementation, operation, and any necessary modifications to the existing governance structure inherent to the E-911 Services Board
- ***This study is the first step in a long-term strategic approach to improve 9-1-1 service in the Commonwealth***

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# Project Objectives

- Present a **technical statewide design** that will support the creation of a single statewide IP-based 9-1-1 network, which can be achieved from the solutions provided
- Address **local management of PSAP data**, allowing call routing to be done by policy that reflects the current call delivery process within the 9-1-1 network
- Provide a **migration plan** to the statewide IP network for existing NG9-1-1 pilots and PSAPs that are currently transitioning to an IP-based solution
- Evaluate the practicability of **regional IP-based 9-1-1 networks** as identified in previous E-911 Services Board planning documents
- Recommend how **secondary PSAPs** should interconnect with the statewide IP network to maintain current network relationships with primary PSAPs

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# Statement of Requirements (SOR)

- Technical Feasibility
- Operational Feasibility
- Economic Feasibility
- Policy and Political Considerations



# Technical Feasibility

- Develop an inventory of relevant NG9-1-1 standards
- Provide a listing of the key elements for the design of a single statewide IP-based 9-1-1 network
- Provide a **technical inventory** of:
  - Existing PSAP capability & CPE capacity
  - Services accessing 9-1-1 (wireline, wireless, VoIP...)
  - 9-1-1 service provider capability
  - 9-1-1 database provider capability
  - Existing networks

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# Operational Feasibility

- Assessment of and recommendations for system operations and management
- Provide an **operational inventory** of PSAP capabilities
- Identify the system user's needs, including:
  - Interoperability for PSAPs
  - Communications providers' connectivity into the system
  - Options for system security and redundancy



# Economical Feasibility

- Evaluate the economic aspects of an IP-based 9-1-1 system, including:
  - Cost projections for the design, implementation and ongoing maintenance, security, and operations
  - A listing of quantified benefits, such as: long-term cost savings, enhanced interoperability between PSAPs, redundancy, and system flexibility
  - Analysis on how much an IP-based 9-1-1 solution will cost versus the benefits that will be obtained
  - An estimate of legacy 9-1-1's cost considerations



# Policy and Political Considerations

- Plan for system implementation and migration
  - Phased Schedule
  - Project Management Plan
- Review of policy and legislation within the existing 9-1-1 funding mechanism (Va. Code)



# Accomplishments To Date

- Project Kickoff Meeting Held – August 13, 2014
- Stakeholder Webinar Conducted – September 4, 2014 (nearly 50 PSAP / local govt. participants)
- Data Requirements Developed
- Survey Tool Identified
- Regional Town Hall Meetings Scheduled



# Upcoming Regional Meetings

- October 27 – Region VII (Fairfax)
- November 3 – Region II (Culpeper)
- November 5 – Region IV (Abingdon)
- November 6 – Region VI (Roanoke)
- November 7 – Region III (Appomattox)
- November 12 – Regions I and V (Chester)

*RC's will be coordinating specific meeting logistics*

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# PSAP Data Collection Efforts

SOR Category	Requirement Highlights
<b>Technical Feasibility</b>	<ul style="list-style-type: none"><li>• Current PSAP Inventory: CPE, GIS, Database Providers</li><li>• Existing Networks</li><li>• Pilot Programs</li></ul>
<b>Operational Feasibility</b>	<ul style="list-style-type: none"><li>• Mutual Aid Agreements</li><li>• Staffing Levels</li><li>• Call Volume</li></ul>
<b>Economical Feasibility</b>	<ul style="list-style-type: none"><li>• Current PSAP costs/expenditures</li><li>• Cost projections</li><li>• Equipment life cycle costs</li></ul>
<b>Policy and Political Feasibility</b>	<ul style="list-style-type: none"><li>• End of life cycle for current equipment (for migration schedule)</li><li>• Issue and risk identification</li><li>• Current policies and regulations</li></ul>

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# PSAP Participation is Critical

- Timely input from PSAPs will directly impact how we can target efforts to improve delivery of 9-1-1 service:
  - Determine recommendations for improvements needed in technology, operations, and governance to meet the realities of the next generation of networking
  - Identify increased efficiencies and enhanced communications capabilities
  - Identify capabilities extended to every county and PSAP in the Commonwealth
  - Determine means to enhance interoperability, situational awareness, and mutual aid across public safety agencies
  - Identify ways to facilitate multiple agencies and applications on a shared network while enhancing overall system reliability and resiliency

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# State-level ESInet Development

- States across the U.S. have studied (or are in the process) development of a state-level ESInet
- Benefits of a statewide broadband public safety network include –
  - Decreased costs through shared services, modernization of infrastructure, elimination of legacy services, and purchasing efficiencies
  - Improved access to data between PSAPs and at the state for planning/situational awareness purposes
  - Ability to implement text-to-911 and other components of NG9-1-1, enhancing equal access and responder safety

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# Next Steps

- Perform gap analysis against existing PSAP data
- Conduct data collection in coordination with RCs
- Prepare for and hold Regional Meetings (Oct/Nov)



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