NG9-1-1 Town Hall Meeting for Contractors

VITA Integrated Services Program

Chester, Virginia
March 8, 2018
Agenda

- Welcome and Introductions
- Deployment Plan & Scheduling
- AT&T Solution & Contract Vehicle
- PSAP/GIS Migration Proposal
- GIS Data Preparation
- Next Steps
- Guiding Principles

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Legacy E9-1-1 Network

- Originating Service Providers
  - PSTN
  - MLTS PBX/VoIP
  - Mobile Switch
  - Text Control Center

- Internet
  - VOIP Switch

- Tandem Switch (Selective Router)
  - E9-1-1 Service Provider
    - MSAG
    - ALI DB

- CHE
  - Call Handling Equipment (CHE)
  - Computer Aided Dispatch (CAD)
  - Voice Logging
  - Radio System
  - Mobile Data

- PSAP
  - CAD

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NG9-1-1 Network

Originating Service Providers
- PSTN
- CO Switch
- MLTS PBX/VoIP
- Mobile Switch
- Positioning Center
- Text Control Center
- Internet
- VOIP Switch

ESInet
- Road Centerline
- Address Points
- PSAP Boundary

NG9-1-1 Core Services

PSAP

CHE
- Call Handling Equipment (CHE)
- Computer Aided Dispatch (CAD)
- Voice Logging
- Radio System
- Mobile Data

CAD

Emergency Services

Fire Department

Police Department

Ambulance Service
Deployment Plan

- Local decision what to deploy
- Fairfax County contract with AT&T recommended
- VITA will not be conducting another RFP
- Deployment needs to be by selective router region to manage costs
- 36-month deployment by population
- Significant preparatory work may be required
## Selective Routers 9-1-1 Service Provider Population

<table>
<thead>
<tr>
<th>Selective Routers</th>
<th>9-1-1 Service Provider</th>
<th>Population</th>
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</thead>
<tbody>
<tr>
<td>Fairfax/Alexandria</td>
<td>Verizon</td>
<td>2,494,184</td>
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<tr>
<td>Monterey-Highland Telephone</td>
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Deployment Plan

- Gantt chart

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<tr>
<th>ID</th>
<th>Task Name</th>
<th>Q4 17</th>
<th>Q1 18</th>
<th>Q2 18</th>
<th>Q3 18</th>
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<td>Nov</td>
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<td>Develop State Level Plan</td>
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<td>Develop PSAP Specific Plans</td>
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• Overall Budget
  – Transitional costs – limited in duration

<table>
<thead>
<tr>
<th>Category</th>
<th>Amount</th>
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<tbody>
<tr>
<td>NG9-1-1 non-recurring cost</td>
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<td>Legacy 9-1-1 service provider transition costs</td>
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• Overall Budget
  – Recurring costs – annual ongoing costs

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<td><strong>Total</strong></td>
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• Sufficient funding exists within $69M planned by the Board, borrowing authority and existing local funding
Deployment Plan (continued)

• 9-1-1 is a local service so decision is local
• Local decision impacts neighboring localities, entire state and surrounding
• Use of Fairfax County contract only a recommendation
• Locality can issue own RFP for services
• VITA will not be conducting a procurement
• Still much to learn
• PSAP migration proposal next major step
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AT&T Solution

- Selected by Fairfax County through Competitive Procurement
- Extensive ESInet experience
- Implements NENA i3 standard
- Nationally distributed, geodiverse system
- Six core solution using West technology
- Additional aggregation points including one in Northern Virginia
- Comprehensive in-state Carrier POIs
AT&T Solution (Continued)

- Services based
- End-to-end management
- 99.999% available
- No single point of failure
- Redundant ALI database
- Interim Solutions

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AT&T Solution

Legacy Premise Gateway

- This solution uses SIP for Voice to the PSAP Gateway.
- Gateway converts the media to CAMA and is passed off to the PSAP.
- PSAP would use a legacy ALI dip.
- ALI dip would use the standard Serial connection (in this case to the ESInet routers) to retrieve ALI/ESN ELT information.

PSAP IMPACTS
- No impacts to PSAP call handling
- No impacts to PSAP operations

Transitional SIP (RFAI)

- This solution uses SIP for Voice.
- The ESInet router hands off to the PSAP LAN/WAN equipment (Router or firewall)
- The CPE receives the voice via SIP.
- The PSAP would use a legacy ALI dip.
- This dip would use the standard Serial connection (as above) to retrieve ALI/ESN ELT information.

PSAP IMPACTS
- Call handling CPE hardware and/or software upgrades may be required
- Call handling CPE SIP software license may be required
- No impacts to PSAP operations
- RFAI (Request for Assistance Interface) provides a transitional step from legacy environment to an IP environment.
- (ESIF-NGES-2009-028R17.doc)

i3

- This solution uses all the i3 standards for Voice and Data
- 9-1-1 call routing is based off the customer provided GIS data.
- The ESInet router hands off to the PSAP LAN/WAN equipment (Router or firewall)
- The CPE receives voice via SIP
- Location data delivered via SIP using PIDF-LO, and would perform all the i3 protocols such as LoST and HELD.

PSAP IMPACTS
- Call handling CPE hardware and/or software upgrades may be required
- Call handling CPE SIP software license may be required
- Call handling demarcation router and/or firewall may be required
- Other operational impacts
## AT&T Solution

### Selective Routers

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<tr>
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<th>2019</th>
<th>2020</th>
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PSAP Migration Proposal

- Collaborative Effort
  - Local PSAP/GIS/IT
  - VITA
  - AT&T/E9-1-1 Service Provider/CHE Maintenance

- Delayed or Cancelled if PSAP RFP

- Provides all information to PSAP about costs/funding, process and schedule

- Intended to help PSAP determine how this solution would be provided
• Sections of Plan
  – PSAP Systems (CHE, CAD, etc.)
    • Identifies current versions, etc.
    • Assess NG9-1-1 readiness and required upgrades
  – GIS Data Preparation
    • Updated ALI/MSAG/GIS analysis
    • Spatial Interface process
    • Administrative Readiness
  – Call Routing
    • Method of Routing
    • Geospatial routing readiness
• Sections of Plan
  – Network
    • Redundancy/Diversity
    • Special construction required
    • Schedule of deployment
  – Cost Estimates/Funding
    • Non-recurring
    • Recurring
    • Projected funding from the Board
GIS Data Preparation

- Virginia GIS standards
  - Address Points, Road Center Line, PSAP and Emergency Service Boundaries
- ALI / MSAG / GIS
  - 2016 / 2018
  - 98% agreement / match rate
- Authoritative GIS provider designation
- PSAP Boundary agreement
GIS Data and Call Routing

- GIS data transfer to service provider
- Service provider *provisions* GIS data to functional elements
  - Location Validation Function (LVF)
  - Emergency Call Routing Function (ECRF)
- ECRF uses location of caller to determine correct PSAP
- Ongoing data maintenance

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Next Steps

• VITA/AT&T to start meeting with PSAPs
  – PSAPs with diversity issues
  – Starting with first to deploy in March
• MSAG/ALI request to Verizon/CenturyLink for updated analysis
• Draft PSAP migration proposal delivered as completed
• NG9-1-1 Deployment Decision
• Support and outreach thru entire process
Guiding Principles

- 9-1-1 is an essential, local/regional, public safety service
- Need to address ALL of 9-1-1 not just NG
- Full stakeholder engagement is needed
- Services must not be degraded
- Economies need to be leveraged
- Doing nothing is NOT an option