



NG9-1-1 Deployment Plan

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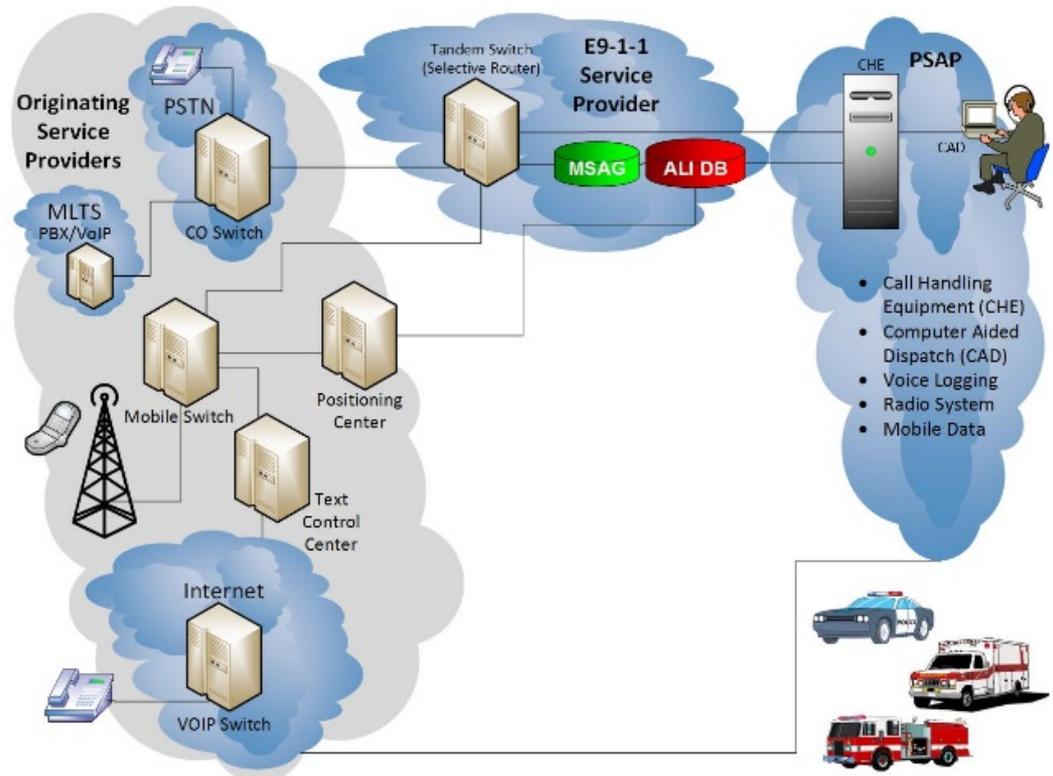
What is NG9-1-1

- Current E9-1-1 Network

- How it works

- Shortcomings

- Nine networks
 - Analog circuits
 - Limited data
 - National OSPs
 - Limited flexibility
 - Limited mobility
 - Infrastructure going away





What is NG9-1-1

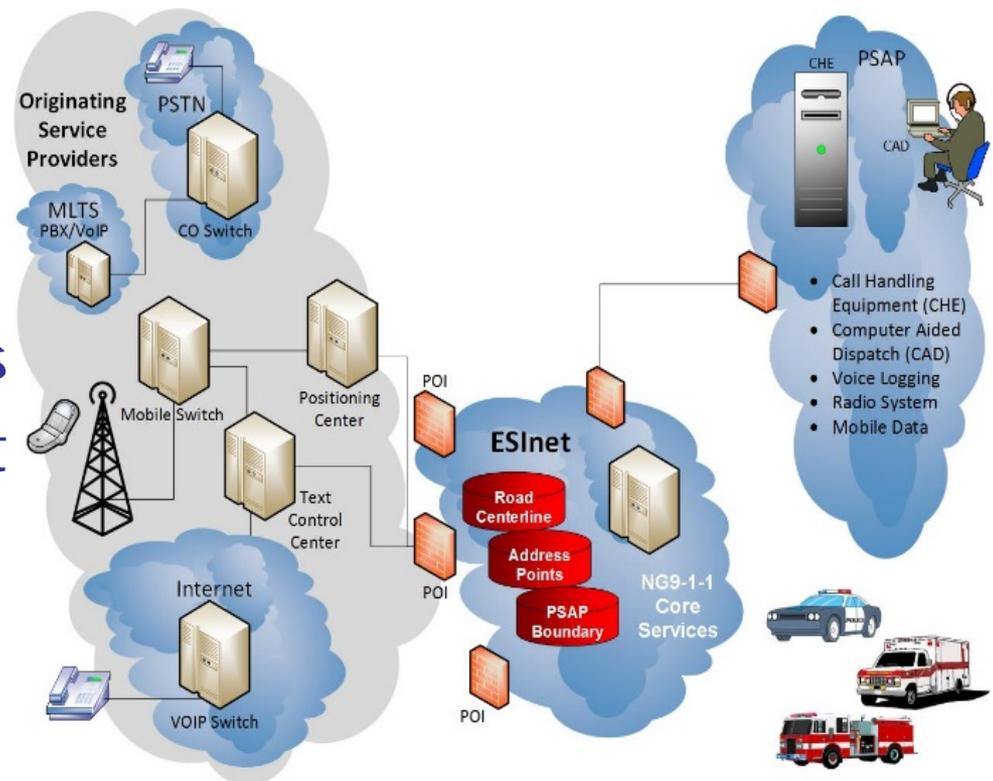
(continued)

- Case for Change
 - Service providers abandoning analog, circuit switched networks
 - Public using IP-based services
 - Texting heavily used especially hearing-impaired
 - NG9-1-1 service:
 - connects call more quickly
 - integrates data and voice
 - allows transfer of call anywhere

What is NG9-1-1

(continued)

- NG9-1-1 Network
 - NENA definition
 - IP network
 - Shared network
 - System of systems
 - Direct replacement for current E9-1-1
 - Not CHE
- How it works





What is NG9-1-1

(continued)

- Benefits of NG9-1-1
 - Integration of voice and data so direct path into PSAP
 - Policy or rule-based routing
 - Additional information about caller, incident or from other PSAPs
 - Replacement of aging infrastructure
 - Ability to transfer calls to any other PSAP needed
 - Limited training impact



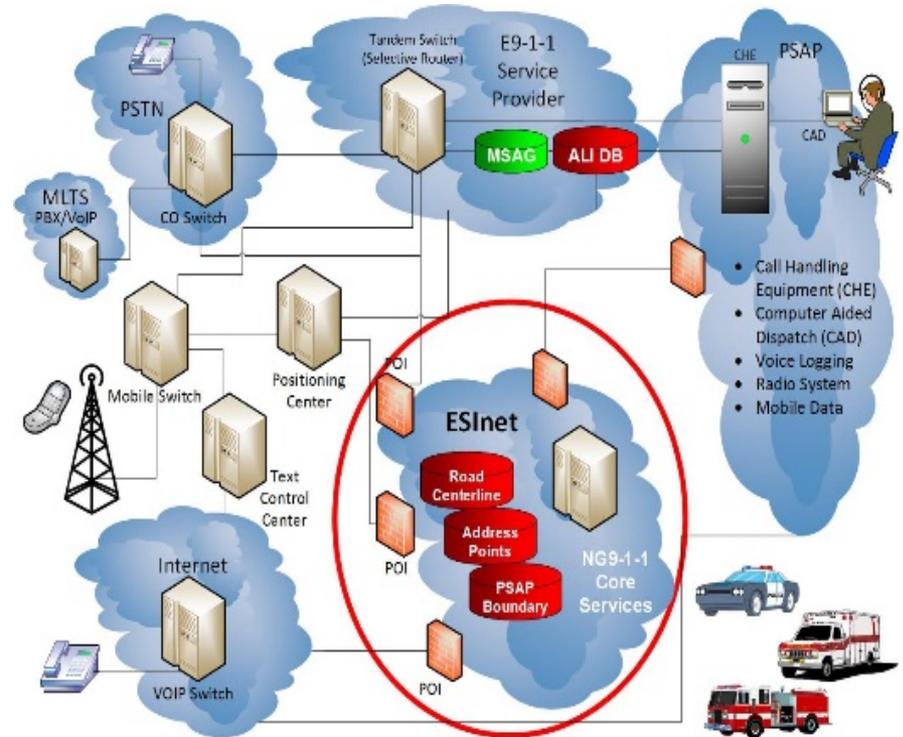
What is NG9-1-1

(continued)

- GIS Data in NG9-1-1
 - MSAG and ALI replaced with road centerline and address points
 - Location information “geocoded” to determine responsible PSAP
 - PSAP Boundary polygons required
 - Maintenance requirements may increase to ensure GIS data is always current and accurate
 - Investment has other positive impacts

Process of Change

- Feasibility Study
 - Stakeholder driven
 - Over 100 task identified
 - Tasks associated with governance completed
 - 9-1-1 Services Board established as governance





Process for Change

(continued)

- 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



Process for Change

(continued)

- Northern Virginia NG9-1-1 Project
 - Two PSAP grants from Board
 - Request for proposals conducted
 - Exhaustive selection process
 - VITA ISP staff as observers
 - Spatial interface awarded to GDIT
 - NG9-1-1 ESInet & core services awarded to AT&T
 - Implementation near end of 2018



Process for Change

(continued)

- Statewide Procurement Decision
 - VITA has planned to issue own RFP
 - Provide statewide contract for localities to use
 - Local RFP still an option
 - Factors impacting decision
 - NG9-1-1 requirements same statewide
 - Increased complexity
 - Same results
 - NOVA contract still available
 - Time commitment
 - Limited resources at VITA



Recommended Solution

- AT&T Solution
 - There are 2 major phases of the AT&T ESInet Service Life Cycle:
 - Implementation and Turn-Up
 - Maintenance and Life Cycle Management
 - Roles and responsibilities of each phase
- Deployment Methodology
 - Managed for no interruption & reduce cost
 - Solution provider is a local decision
 - Migration off selective router
 - Commitment to deployment period



Recommended Solution

(continued)

- Deployment Methodology (continued)
 - 36-month deployment by selective router pair
 - Significant preparatory work required

Selective Routers	9-1-1 Service Provider	Population
Fairfax/Alexandria	Verizon	2,494,184
High St Portsmouth/Jefferson	Verizon	1,662,247
Stuart/Chester	Verizon	1,660,182
Staunton/Salem	Verizon	453,065
Charlottesville/Farmville	CenturyLink	403,369
Fredericksburg/Winchester	Verizon	343,031
Blacksburg/Norton	Verizon	340,101
Johnson City/Wytheville	CenturyLink	338,311
Danville/Lynchburg Church St	Verizon	320,247
Shenandoah County ECC	Shentel	43,175
Covington	Ntelos	21,556
New Castle	TDS Telecom	5,158
Monterey-Highland Telephone	Highland Telephone	2,216



Recommended Solution (continued)

- OSP Transition
 - Moving traffic from selective router to point of interconnection (POI)
 - One POI to replace each selective router
 - OSP transition plan to the 9-1-1 Services Board
 - NENA i3 standard routing encouraged
 - Alternate routing through legacy network gateway permissible initially
 - Must plan for full i3 implementation



Path Forward

- Gantt chart

ID	Task Name	Q4 17				Q1 18			Q2 18			Q3 18			Q4 18			Q1 19						
		Sep	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Jan	Feb	Mar				
1	Develop State Level Plan	█																						
2	Socialize State Level Plan with Stakeholders					█																		
3	Board Approval of Plan																				◆			
4	Develop PSAP Specific Plans					█																		
5	Outreach/Education					█																		
6	PSAP Opt-In/Opt-Out Decision											█												
7	Funding Requests/Determinations														█									
8	NG9-1-1 Deployments															█ Continue through 2022 →								



Path Forward

(continued)

- Major milestones
 - Board approval of plan
 - Develop PSAP & GIS Specific Plans
 - Outreach/Education
 - PSAP Opt-In/Opt-Out Decision
 - Funding Requests/Determination
 - NG9-1-1 Deployments



Path Forward

(continued)

- Opt-In/Opt Out Process
 - PSAP is in control
 - May opt-in or opt-out at any point
 - Opting in
 - Notifying Board through VITA
 - Participation Agreement
 - Opting Out
 - Notifying Board through VITA
 - Encouraged to include cooperative procurement
 - Must be interoperable to existing solutions
 - Can change decision at any time
 - Coordination still required



Path Forward

(continued)

- Funding Process
 - Purpose

Provide funding to Virginia local governments and originating service providers (OSPs) based on cost guidelines for eligible NG9-1-1 implementation expenses during the established implementation and pay-back period



Programmatic Elements

- Program would remain in place through implementation and pay-back period
- Not an annual grant program
- Cost guidelines based on required equipment and services for NG9-1-1 deployment
- Cost estimates to be developed for local governments and OSPs
- No additional local costs to impact budgets



Programmatic Elements

- Localities can choose to “opt out” and select another solution provider
- Funding will be available to localities that select another solution provider
- Adjustments can be made in funding for material change
- Contingency fund for ISP staff to address issues between Board meetings



Eligible Participants

- Virginia local governments
- OSPs



Eligible Uses

- Local Governments
 - One-time costs related to ESInet set-up and transitioning PSAP off SRs
 - GIS data prep work
 - Recurring costs during transition
 - CHE (if End of Life issued by vendor or upgrade necessary to deploy NG9-1-1)



Eligible Uses

- OSPs
 - Connecting to ESInet Points of Interconnection (POIs)
 - ESInet interconnection
 - Database



Continuation of PSAP Grant Program

- Annual PEP would remain in place
- PSAP Grant Program reimbursement requests would continue to be processed for all grant awards
- Begin to discuss transition back to annual grant program during last year of NG9-1-1 deployments
- Consolidation funding would continue to be available



Continuation of PSAP Grant Program

- Board approve FY 20 PSAP Grant Program and NG9-1-1 Funding Program Guidelines at May 2018 meeting



Deployment Milestones

- Create local government implementation plans
- Local governments decide whether or not to utilize Fairfax contract
- Board approve implementation plans and funding estimates
- Participant Agreements



Additional Items

- Definitions and development of specific programmatic details consistent with legislative outcome
- Establish process for OSP funding requests and conduct outreach for carrier community
- Review process for funding requests from localities that decide to not utilize the Fairfax contract



Path Forward

(continued)

- Overall Budget
 - Transitional costs – limited in duration

Category	Amount
NG9-1-1 non-recurring cost	\$476,000
Special construction costs	\$31,830,516
GIS data preparation	\$3,246,226
Originating service provider (OSP) transition cost	\$5,000,000
Legacy 9-1-1 service provider transition costs	\$5,000,000
Project management assistance	\$1,750,000
Data analytics expansion	\$59,500
Total	\$47,362,242



Path Forward

(continued)

- Overall Budget
 - Recurring costs – annual ongoing costs

Category	Amount
NG9-1-1 recurring costs	\$10,749,443
Originating service provider (OSP) recurring cost	\$5,000,000
Data analytics recurring costs	\$561,404
Total	\$16,310,847

- Sufficient funding exists within \$69M planned by the Board, borrowing authority and existing local funding



Conclusion

- Deployment plan lays out statewide approach/methodology
- 9-1-1 is a local service so decision is local
- 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 specific plans next major step



Conclusion

(continued)

- Key to success
 - Cooperation
 - Communications
 - Coordination
- Local decision impacts neighboring localities, entire state and surrounding
- Cost of failure too high
- Must work together as we move forward



Conclusion

(continued)

- What to do now
 - Stay informed/involved
 - Start meeting regionally
 - PSAPs
 - GIS
 - IT
 - Prepare GIS data
- This plan will evolve as we learn more
- Now is the time to start
- Together we can do this!!!