

Regional
PSAP
Managers
Meeting
March 2018



NC 911 Board Members



- Tina Bone – Network Specialist
 - Staff to Standards Committee
 - Text-to-911
 - Back-Up PSAP Plans
 - Social Media



- Pokey Harris – PSAP Liaison
 - Staff to Training Committee
 - Staff To Grant Committee
 - PSAP Managers Newsletter
 - GIS Liaison
 - Selfie Queen



- Gerry Means – Network Engineer
 - Staff to Technology Committee
 - NG911 Guru
 - ~NMAC Creator
 - All Things IP



- Ronnie Cashwell – User Support Specialist
 - A/V Specialist
 - Meeting Logistics
 - Data Support



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PSAP Managers

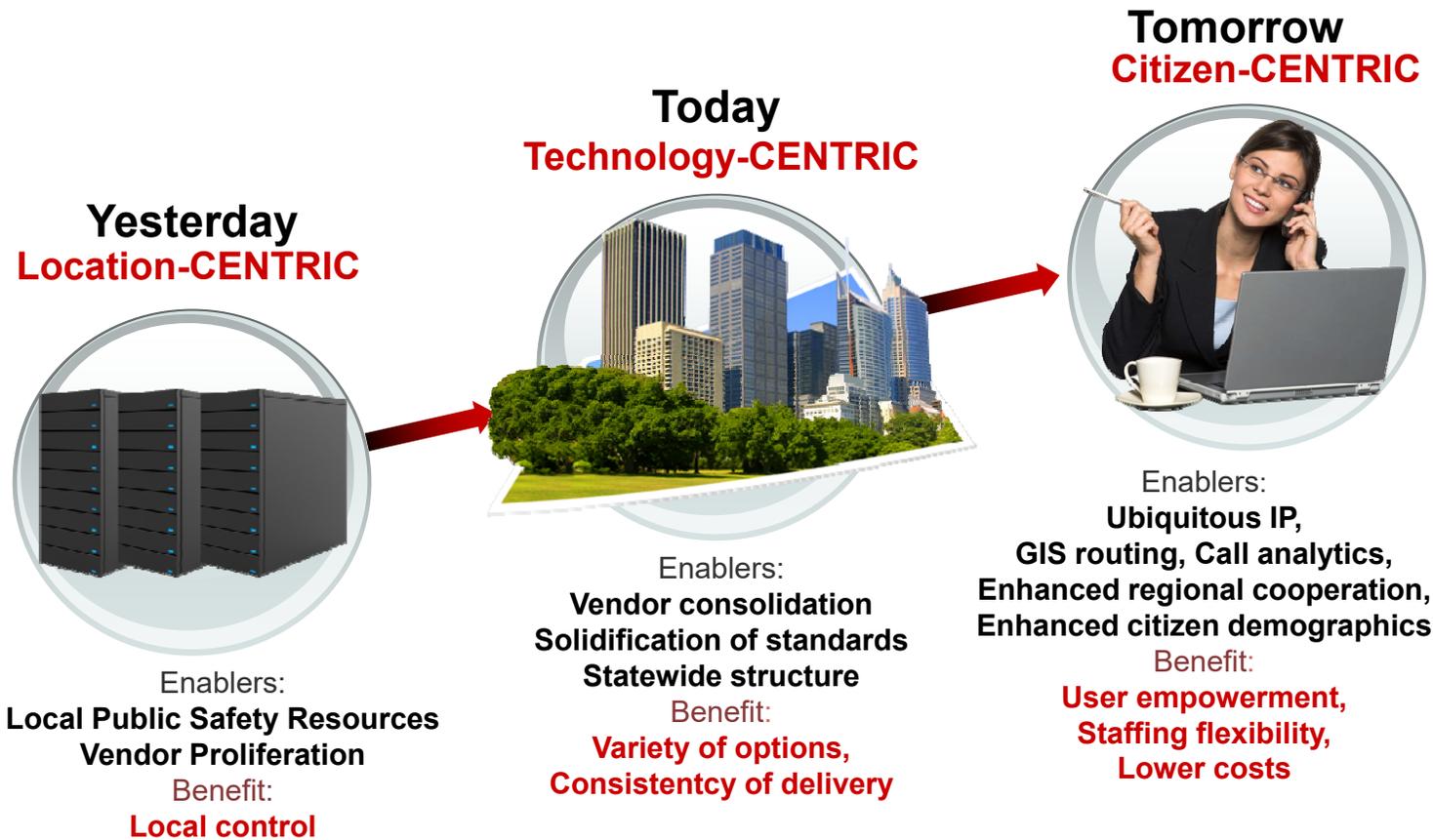


The Basics of NG911
What it is-What it Does
*Developing a Next Gen-
Next Now Mindset*

*Gerry Means
Network Engineer*



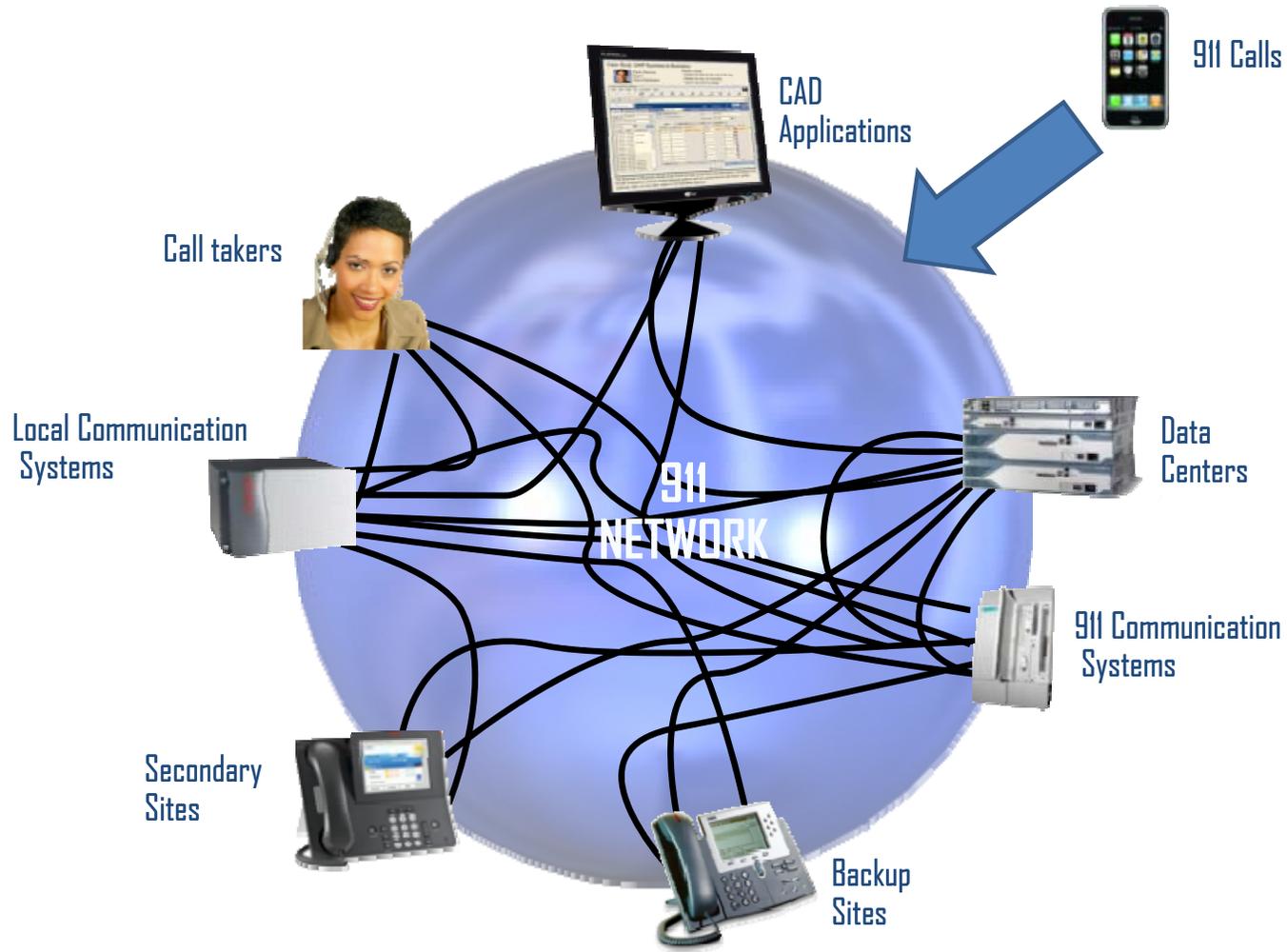
911 Transformation Journey



The Public Demand



Current Generation 911: Extensive Integration Complexity Still Exists



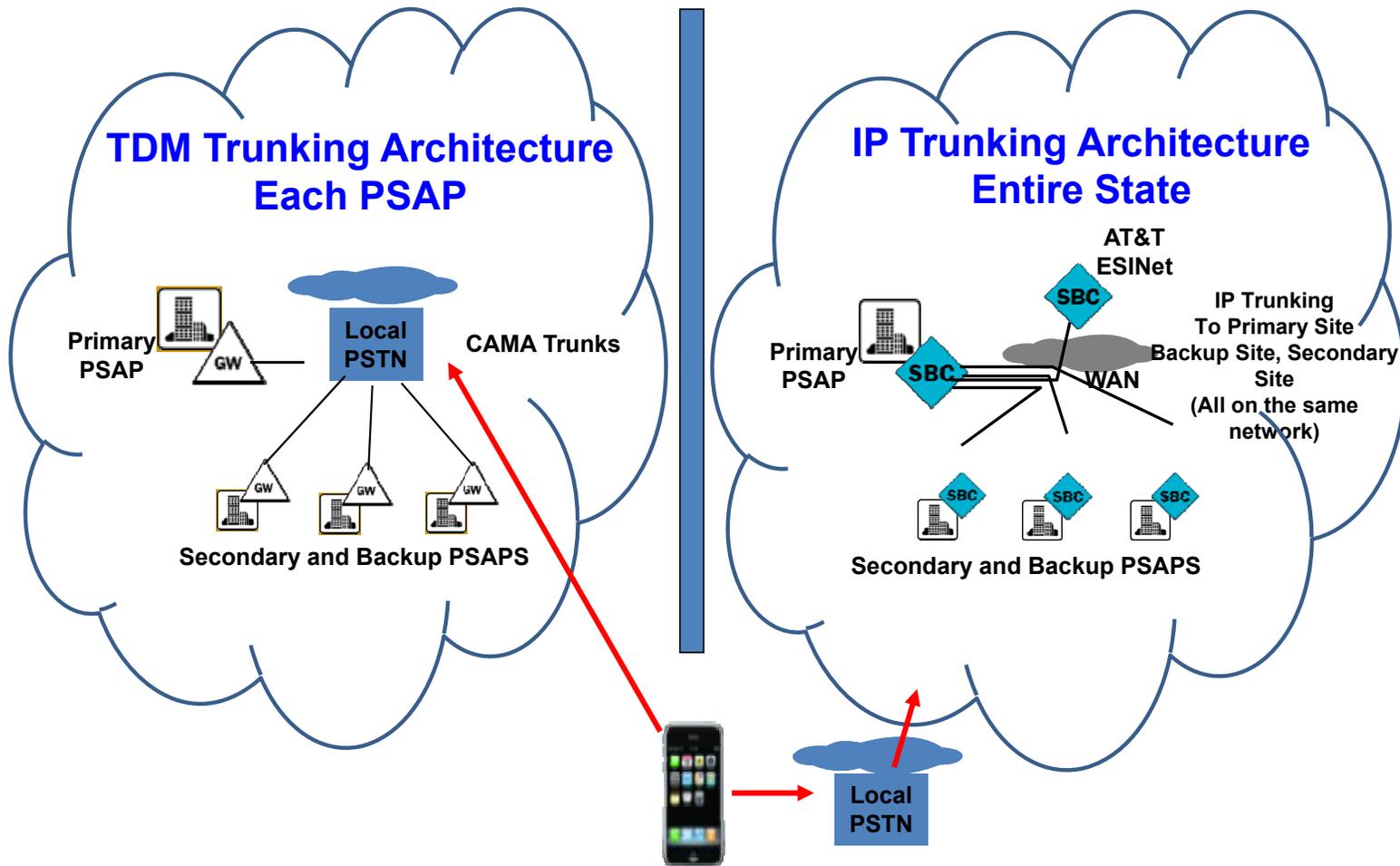
NG911 Brings Order from Chaos, State-wide



Service Oriented IP Architecture
SIP Communication Protocols

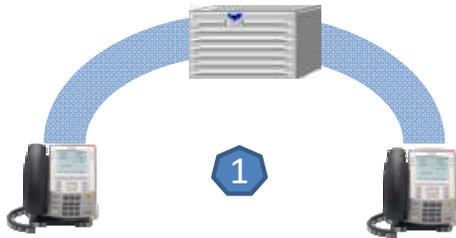
- **One State-wide IP network**
 - Centrally managed
 - Simplified and secure
 - Easily integrate multi-vendor systems
- **Immediate operational efficiency**
 - Local, Regional, Statewide call routing
 - Call routing based on location, traffic levels, skills, call type, etc.
 - Ubiquitous backup arrangements
 - Dedicated diverse network access
 - No location-specific trunking
 - Call traffic across service providers
- **Migrate incrementally**
 - Move to ESINet
 - Upgrade to Hosted
 - Consolidate applications into data centers

Legacy vs. Next Gen: Deployment Architectures



The Boundaries of Legacy 911

When someone calls a local 911 system, it is modeled as a 2 party connection. (CAMA trunks)



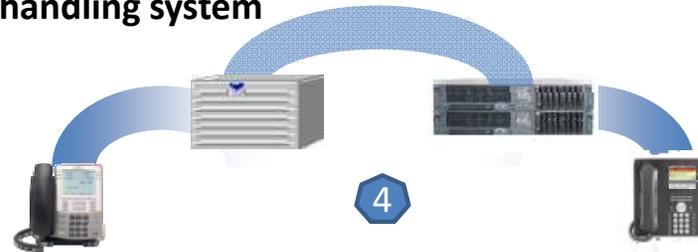
When the call must be redirected to someone else, a number of 2 party connections are created.



When an additional service needs to be added, it also looks like another 2 party connection.



The 2 party connection model adds complexity as you scale out of the call handling system



The NG911 Communication Core

Persistent Collaboration Sessions

When someone calls into a NG911 system, a persistent session is created.



When redirected to another party, the session remains, parties are simply added or removed.



When an additional service needs to be added, it is simply added to the session, the users are not transferred

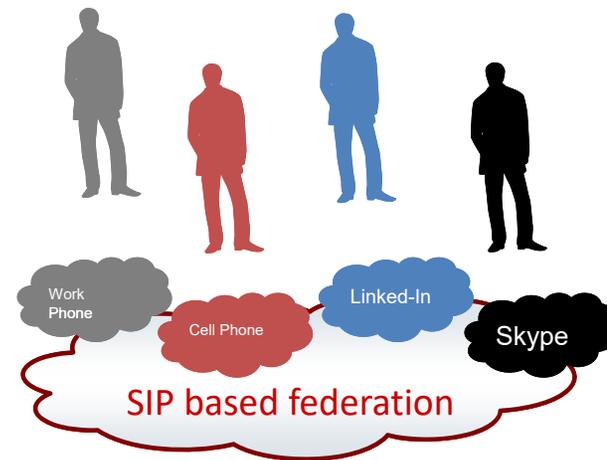
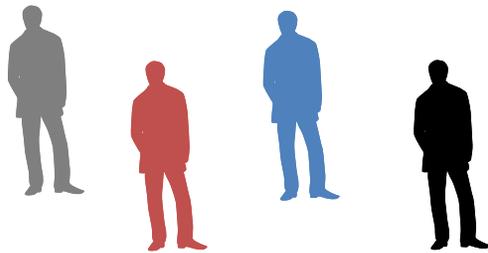


Involving CAD, Voice Recording, or multiple call takers no longer requires trunks or transfers, increasing scale



Federation: To cause to join into a similar association; The distinct advantage of IP based solutions

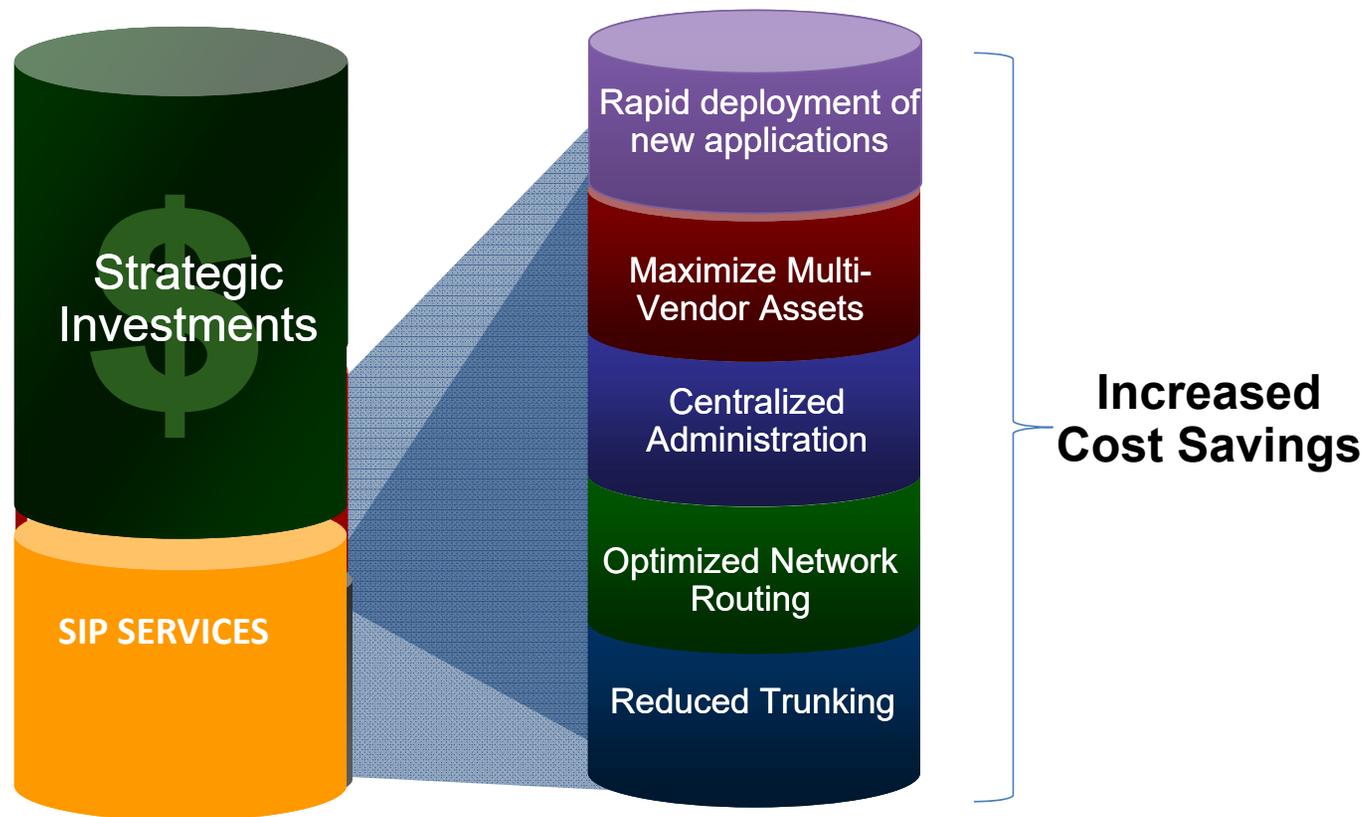
Every person has a different identity based on each device they use. They can have additional identities based on the services they subscribe to. Examples include: Cell Phone, Home Phone, email, IM, Facebook, Twitter, Linked-In, ...



A flexible framework allowing each PSAP to peer with other PSAPs allowing secure controlled access based on PSAP level policy and user level opt-in control, allows for compelling context and information to follow a caller regardless of the devices and services that the caller wishes to have this information on.

The power of federated collaboration will greatly increase 911 efficiency and will transform public safety

IP: The Opportunity To Do More with What We Have



NG9-1-1...

**“Anytime, Any *WHERE*,
Any Device”**

***Developing IP Call Routing
with GIS***

***Pokey Harris
PSAP Liaison***



NG9-1-1: Anytime, AnyWHERE**, Any Device**

NextGen 9-1-1 is NowGen 9-1-1



NG9-1-1: Anytime, Any**WHERE**, Any Device

- ❑ Methods evolving for users to contact 9-1-1
- ❑ Existing 9-1-1 systems constantly in a state of augmentation and upgrade to meet the demands
- ❑ Current, *or legacy*, 9-1-1 systems though performing adequately, becoming obsolete and limited



NG9-1-1: Anytime, Any**WHERE**, Any Device

- ❑ NG9-1-1 is a specialized system of network components and **functional elements** integrated to deliver 9-1-1 services over a flexible Emergency Services IP Network (ESInet)
- ❑ The North Carolina 911 Board implementing a fully functional and standards compliant NG9-1-1 system comprised of an interconnected and interoperable ESInet



NG9-1-1: Anytime, Any**WHERE**, Any Device

What is the primary component
of a 9-1-1 call???

NG9-1-1: Anytime, Any**WHERE**, Any Device

✓ LOCATION

✓ LOCATION

✓ LOCATION

NG9-1-1: Anytime, Any**WHERE**, Any Device

❑ Legacy 9-1-1.....

PSAP “finds” the caller

❑ NG9-1-1.....

Caller “finds” the appropriate PSAP

NG9-1-1: Anytime, Any**WHERE**, Any Device

- ❑ Legacy 9-1-1 call flow uses databases that contain fixed address and fixed databases comprised of:
 - Addresses
 - Address ranges
 - Boundaries
 - Points and landmarks

- ❑ Based on multiple tabular databases for call routing

- ❑ PSAP based for maintaining the mapping **inside their borders**



NG9-1-1: Anytime, Any**WHERE**, Any Device

□ Primary tabular data used in 9-1-1 today

- Selective Routing Database (SRDB)
- Automatic Location Identification Database (ALI)
- Master Street Address Guide (MSAG)



NG9-1-1: Anytime, AnyWHERE, Any Device

MSAG – Streets, Ranges, ESN etc.

A	B	C	D	E	F	G	H	I	J	K
Dir	Street	Community	St	Low	High	O/E	ESN	Exch	Entity	MSAG Sys
2	TAYLOR-PAGE AVE	CLARINDA	IA	1500	1798	E	4970		046	CASSIA
3	TAYLOR-PAGE AVE	NEW MARKET	IA	2050	2138	E	4970		046	CASSIA
4	TAYLOR-PAGE AVE	NEW MARKET	IA	2139	2199		4970		046	CASSIA
5	TAYLOR-PAGE AVE	NEW MARKET	IA	2700	2798	E	4970		046	CASSIA
6	DENVER AVE	VILLISCA	IA	1200	1249		4970		046	CASSIA
7	DENVER AVE	VILLISCA	IA	1400	1425		4970		046	CASSIA
8 E	10TH ST	ATLANTIC	IA	1	1599		4935		046	CASSIA
9 W	10TH ST	ATLANTIC	IA	1	1201		4935		046	CASSIA
10	110TH ST	MASSENA	IA	1935	1935		4954		046	CASSIA
11	11TH ST	ANITA	IA	500	699		4932		046	CASSIA
12 E	11TH ST	ATLANTIC	IA	1	1299		4935		046	CASSIA
13 W	11TH ST	ATLANTIC	IA	1	399		4935		046	CASSIA
14	120TH ST	ANITA	IA	1036	1036		4964		046	CASSIA
15 E	12TH ST	ATLANTIC	IA	1	1299		4935		046	CASSIA
16 E	13TH ST	ATLANTIC	IA	1	1299		4935		046	CASSIA
17 W	13TH ST	ATLANTIC	IA	200	399		4935		046	CASSIA
18	140TH ST	ADAIR	IA	1133	1133		4964		046	CASSIA

ALI – Customer Telco Record

TN	HNO	HNS	RD	STS	POD	COMM
4445551212	3412		10TH	PL	SE	LOPEZVILLE
4445551213	3710		10TH	ST	NW	LOCKARDTOWN
4445551214	510		10TH	ST	NW	MOORE CITY
4445551215	719		10TH	ST	NW	MEANS



NG9-1-1: Anytime, Any**WHERE**, Any Device

- Change will be necessary to accommodate the “**almost real time**” capabilities that NG9-1-1 offers
- NG9-1-1 calls will be routed in similar manner as legacy 9-1-1
- Call still routed through the network to a PSAP
- Call will be routed based upon the:

geographic location of the caller



NG9-1-1: Anytime, Any**WHERE**, Any Device

□ How IP Call Routing is Accomplished

- Caller location validated by engaging NG9-1-1 **functional elements** designed to *identify*, *store*, and *transmit* location information with the call to a PSAP.
- Emergency call routing and location validation occurs through a GIS that has been aggregated into regional or, in the case of North Carolina a **state-level dataset**.



NG9-1-1: Anytime, Any**WHERE**, Any Device

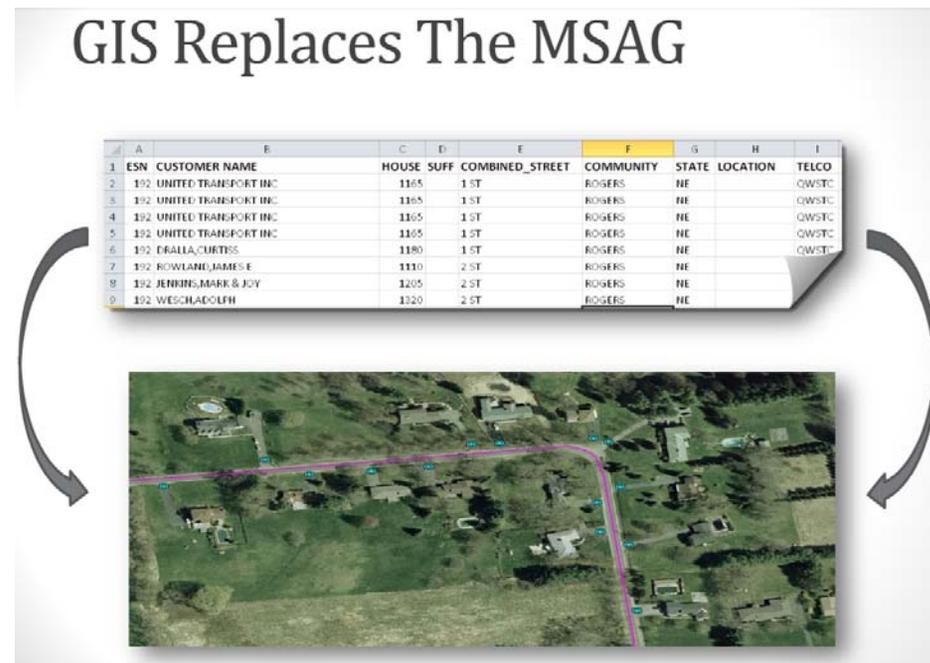
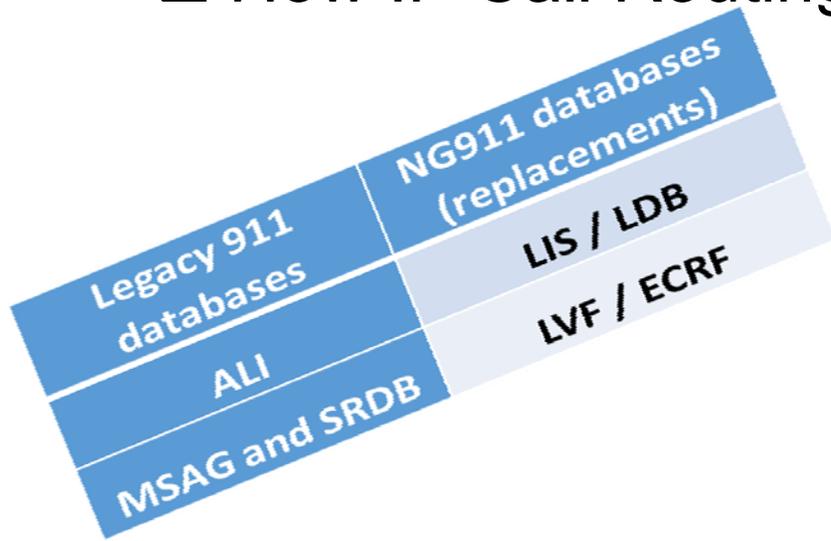
□ How IP Call Routing is Accomplished

- Functional elements are defined in NENA i3 **Standards** as *Emergency Call Routing Function (ECRF)*, *Location Validation Function (LVF)*, and *Spatial Interface (SI)*
 - **ECRF** – dictates where to send the call for service
 - **LVF** – determines if the address is valid for routing and dispatching
 - **SI** - maintains and ensures that the location databases remain in sync



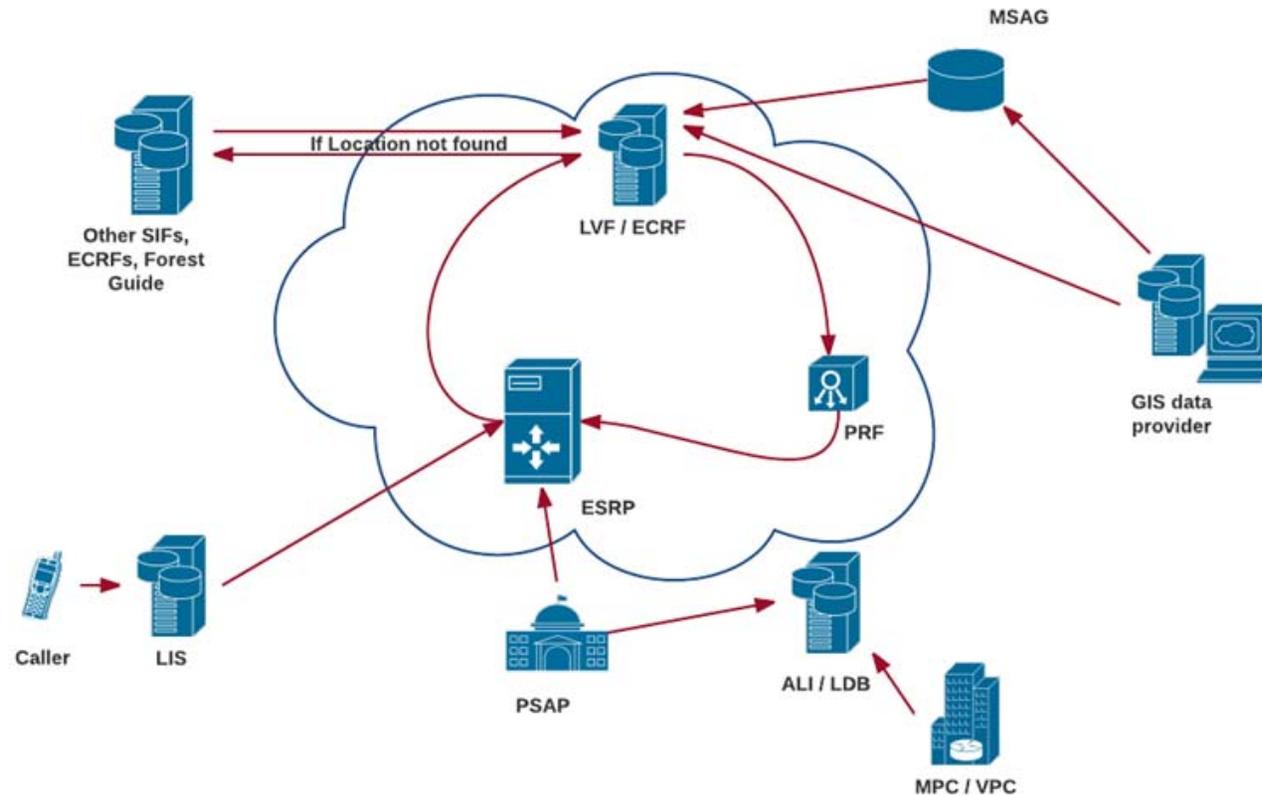
NG9-1-1: Anytime, AnyWHERE, Any Device

□ How IP Call Routing is Accomplished



NG9-1-1: Anytime, Any**WHERE**, Any Device

□ How IP Call Routing is Accomplished



NG9-1-1: Anytime, Any**WHERE**, Any Device

- Developing IP Call Routing with GIS
 - Goal to establish common GIS platform and management/maintenance capability
 - Many GIS mapping applications already established throughout the state
 - *No intention of questioning or changing these existing programs*

NG9-1-1: Anytime, Any**WHERE**, Any Device

□ Developing IP Call Routing with GIS

- GIS systems in operation at the PSAP today are very capable, but are disjointed
- NC 911 Board to employ strategy to integrate GIS systems and spatial information into common seamless system
- Provide statewide 9-1-1 GIS synchronization and 9-1-1 database management services for routing 9-1-1 calls



NG9-1-1: Anytime, Any**WHERE**, Any Device

□ Developing IP Call Routing with GIS

- Local government geospatial programs **remain the authoritative source**
- Encourage modifications and updates to “in house” standards to meet i3 Standard

NG9-1-1: Anytime, Any**WHERE**, Any Device

□ *How do we get **THERE** from **here**?*

- NC 911 Board established GIS work group
- Survey conducted (61% return rate)
- Conceptual Design document developed
 - Strategic outcomes for common platform for the PSAPs in North Carolina
 - Intended provide guidance on current standards and proposed NG9-1-1 data schema



NG9-1-1: Anytime, Any**WHERE**, Any Device

□ How do we get **THERE** from **here**?

- RFP developed to secure services of vendor to provide *statewide 9-1-1 GIS synchronization and 9-1-1 database management services* for 9-1-1 call routing

NG9-1-1: Anytime, Any**WHERE**, Any Device

□ *How do we get **THERE** from **here**?*

- Vendor will provide:
 - Collection of data from all **117 PSAPs**
 - GIS street files, boundaries
 - ALI information
 - MSAG information

NG9-1-1: Anytime, Any**WHERE**, Any Device

□ *How do we get **THERE** from **here**?*

- Vendor will provide:
 - Data synchronization/**normalization** of ALI, MSAG, and GIS provided files
 - Support for discrepancy and error correction with the PSAPs
 - Creation of GIS workflows
 - Ongoing geodatabase management support for period of time

NG9-1-1: Anytime, Any**WHERE**, Any Device

□ *How do we get **THERE** from **here**?*

- Current Status of GIS RFP
 - RFP released
 - Vendor responses received
 - Evaluation team reviewing
 - Vendor selection to be completed
 - Negotiations occur, if applicable
 - Presentations held, if applicable
 - Contract award
 - Work commence

NG9-1-1: Anytime, Any**WHERE**, Any Device

*We are well on our way to **ANYWHERE**, and our journey will require continued collaboration, coordination, and communication.*

Thank you!



***NC 911 Board
Goals / State
911 Plan***

***Richard Taylor
Executive Director***



- ① Explore opportunities to expand con-ed ^(Setup classes for basic TC classes to teach in-house) ^{Instructor ↑}
- ② Legislation to allow fund to pay for overtime for training
- ③ Promote EMD statewide
- ④ Reassess PSAP cybersecurity + utilize DIT Contracts that are already in place
- ⑤ Pursue mandatory TC certification
- ⑥ Explore ~~another~~ ^{other} funding ~~model~~ opportunities / how to simplify reporting
- ⑦ Establishing standards/rules for Next Gen 911

Peer Review Update

*Tina Bone
Network Analyst*



09 NCAC 06C .0216 ASSESSING PSAP OPERATIONS

Outlines procedures to be followed by the 911 Board
when conducting assessments of PSAPs.



Rulemaking hearing was February 26, 2016

No comments

Board voted

Rules passed

Rules took effect July 1, 2016

PSAP Inspections began July 1, 2017



PSAP Reviews

The Compliance Process was voted on and approved in the February 2015 Board Meeting.



PSAP Reviews

DEFINITIONS

- Corrective Action Plan – A plan to correct deficiencies.
- Deficiency – Failure to fulfill a PSAP operation rule.
- Full compliance – Completion of a site review free of deficiencies.



PSAP Reviews

DEFINITIONS

Site review – An examination of a PSAP to determine compliance with Rules.

Written Response – An acknowledgement of deficiencies and statement of deficiencies corrected within 30 days of the site review report.



PSAP Reviews

Site Review Process

1. Every PSAP will be inspected to determine its fulfillment of PSAP operation rules. Site reviews began one year from the date the rules are effective. Failure to fulfill PSAP operation rules is a deficiency. Inspectors will deliver reports to the Executive Director.

PSAP Reviews

Site Review Process

2. Site reviews are performed by peer reviewers supervised by Staff members. Peer reviewers are volunteers selected by the Board from outside the region of the PSAP to be inspected. Staff members may accompany peer reviewers for any site review.



PSAP Reviews

Site Review Process

3. A site review report will be delivered to the PSAP stating whether the PSAP fulfilled PSAP operation rules. The report shall identify any deficiencies.
4. The PSAP will not be re-inspected for 3 years if the site review finds no deficiencies.



PSAP Reviews

Site Review Process

5. If the site review finds a deficiency and that deficiency is corrected to the satisfaction of the Staff reviewer within 30 days' notice of the site review report, the PSAP will not be re-inspected for 3 years.



PSAP Reviews

Site Review Process

6. If the PSAP site review identifies a deficiency and the deficiency is not corrected within 30 days' notice of the deficiency, the next PSAP site review will be conducted within 12 months.



PSAP Reviews

Site Review Process

7. Deficiencies found or reported at the PSAP may result in additional site reviews.



PSAP Reviews

PSAP Written Response And Corrective Action Plan

1. A PSAP shall deliver a Written Response to the Staff reviewer acknowledging any deficiencies reported. The PSAP's response is due within 30 calendar days of receiving the Site review report.
2. The PSAP's Written Response will also identify actions the PSAP has taken to remediate the deficiencies and a statement that the deficiencies have been corrected.



PSAP Reviews

PSAP Written Response And Corrective Action Plan

3. Deficiencies remaining after the PSAP's Written Response shall be the subject of a Corrective Action Plan. A Corrective Action Plan shall be submitted by the PSAP to the Executive Director for approval within 90 calendar days of the PSAP site review report. The Plan may be extended one time if requested up to another 90 calendar days at the discretion of the Executive Director.



PSAP Reviews

PSAP Written Response And Corrective Action Plan

4. If the Corrective Action Plan is approved, the PSAP will correct the deficiencies under the terms, conditions, and time frames stated therein. A Staff reviewer will follow-up to ensure that the PSAP completes the corrective action(s) and verify that the PSAP is in compliance.



PSAP Reviews

PSAP Written Response And Corrective Action Plan

5. If the Corrective Action Plan is not approved by the Executive Director, the PSAP will be requested to submit another Corrective Action Plan within a specified period of time until an approved Corrective Action Plan is submitted and approved by the Executive Director.



PSAP Reviews

Standards Committee Action

1. If no Corrective Action Plan is approved or the PSAP fails to deliver a CAP or there is insufficient activity to implement the approved Corrective Action Plan, the Executive Director will refer the matter to the Standards Committee for action.



PSAP Reviews

Standards Committee Action

1. If no Corrective Action Plan is approved or the PSAP fails to deliver a CAP or there is insufficient activity to implement the approved Corrective Action Plan, the Executive Director will refer the matter to the Standards Committee for action.



PSAP Reviews

Standards Committee Action

2. At its next scheduled meeting, the Standards Committee will discuss any matter referred by the Executive Director. The Standards Committee will provide notice of that meeting to the PSAP. The Standards Committee shall deliver notice of its conclusions and recommended actions to the PSAP Director with a copy to the appropriate supervising or managing authority of that PSAP. Inclusive of the conclusions from the Standards Committee, will be a request for response from the PSAP Director and/or the supervising or managing authority to the Standards Committee.



PSAP Reviews

Standards Committee Action

3. If there is no response from the PSAP as requested by the Standards Committee or if the response is unsatisfactory, the Committee will send a letter to the appropriate supervising or managing authority of that PSAP with a copy to the PSAP Director asking for a reply by a specified date.



PSAP Reviews

Standards Committee Action

4. If there is still no response from the PSAP or the supervising or managing authority or if the response is unsatisfactory the Standards Committee will refer the matter to the 911 Board with a recommendation for further action.
5. The 911 Board will follow the process it has established for PSAPs who fail to comply with the Rules as found in rules.



PSAP Reviews

Alamance County

Burke County

Cherokee County

Clay County

Cumberland County

Forsyth County

Gaston County

Guilford Metro

High Point

Hertford County

Iredell County

Jackson County

Madison County

Martin County

Charlotte PD

Charlotte Fire

Polk County

Richmond County

Surry County

Swain County

Henderson Vance

Raleigh/Wake

Holly Springs



*Lunch
and
Networking*



ESINet / NG911 Next Steps

Brian Smith, AT&T



FAQ's

Tina Bone
Network Analyst



FAQs

When does the Revenue Expenditure Report have to be submitted?

When should I submit a Funding Reconsideration?

When may I apply for a grant?

What is the difference between a funding reconsideration and a grant?

We need your input!



PSAP Survey

Gerry Means
Network Engineer





Microsoft Excel
Worksheet



FY2019 Grant Cycle

Richard Taylor
Executive Director



FY19 Grant Cycle Opens:

March 15, 2018



FY19 Grant Cycle Closes:

June 15, 2018



*PSAP Managers Class
Richmond Community
College*

Tina Bone
Network Analyst



What Would I Learn?

This is a college level class. You'll learn some 911 history, how laws are made, budgets, human resource laws, how to go from peer to supervisor, how networks work, etc.



Inaugural Class

PSAP Executive Management Program





Congratulations!!!!

Christi Colbert - Yadkin County
Stephanie Conner - Surry County
Allen Cress - Rowan County
William Gibbs - Lincoln County
Ronald Hall - Stokes County
Wanda Hall - Jackson County
Kevin Hardy - Town of Boone
Monica Howard - City of Hendersonville
Bridget Klein - Town of Boone
James Lambert - Gaston County
James McGuinn - Polk County
Marty McGuinn - Polk County
Tricia McKnight - Hoke County
Tobie McPherson - Pasquotank County

Allen Moore - City of Rocky Mount
Chanda Morgan - Haywood County
Tammy Myers - Davie County
Teresa Ogle - Madison County
Laura Piche - Orange County
Rodney Pierce - Davie County
Valecia Pike - Columbus County
Ronald Rombs - Lincoln County
Myron Shelor - Gaston County
William Smith - Richmond County
Misty Tabor - Swain County
Mark Von Behren - City of New Bern
Nancy Williams - City of High Point



***Managers
Open Mike***



*Have Safe
Travels*



Regional
PSAP
Managers
Meeting
March 2018

