



PSAP Planning for Success

POST-WORKSHOP REPORT

FEBRUARY 9, 2018

Executive Summary

Workshop Purpose

- ▶ Bringing the statewide PSAP community together on a voluntary basis for the development of a prioritized baseline for the improvement and modernization of 9-1-1 services and technology throughout Oregon

Workshop Objectives

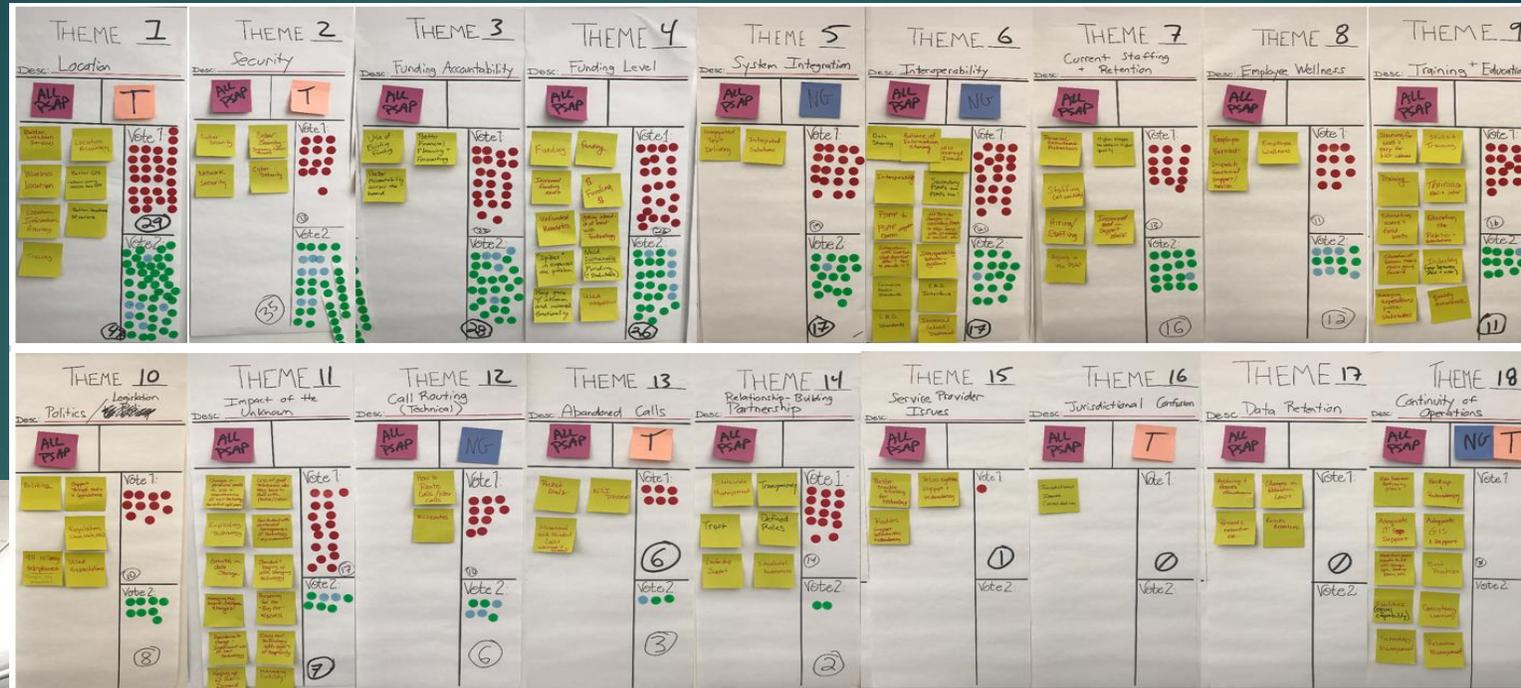
- ▶ Identify and Prioritize PSAP Operational/Technology Issues and Needs
- ▶ Provide Training/Overview of NG9-1-1 System Elements and Capabilities
- ▶ Develop NG9-1-1 vision/definition for Oregon
- ▶ Develop baseline that will support future investment recommendations for the modernization of 9-1-1 services and technology throughout Oregon

PSAP Representation

- ▶ 27 participants represented 15 of the 43 statewide PSAPs (Including OSP as a Secondary PSAP)
- ▶ PSAPs of all sizes and geographic areas throughout Oregon were represented
- ▶ Attendees included PSAP Directors, Managers, Operations, Technical, Telecommunication Staff

Activities

- ▶ PSAP Operational Issue & Need Identification



▶ NG9-1-1 Vision & Definition Work



▶ Priority Voting

Outcome: Prioritized Themes

Priority Sequence	Theme Identification & Priority - Vote 1	Vote #1 Totals	Priority - Vote 2 Post-NG9-1-1 Training (Final Vote)	Vote #2 Totals	Vote 2 Description and/or Observations Between Priority
1	Improved Wireless Location Information	29	Improved Wireless Location Information	47	Maintained highest priority issue/need following votes 1 & 2. After NG9-1-1-1 training, vote count increased.
2	Funding Level	23	Security	35	After NG9-1-1 Training, security significantly moved up in priority from 9th priority to 2nd priority. Although NG9-1-1 is not a dependency, network/cyber security issues were seen as a priority issue or need.
3	Funding Accountability	22	Funding Accountability	28	Greater transparency on how 9-1-1 surcharges are allocated and spent. Concerns were expressed regarding the State 9-1-1 Program budget processes.
4	Interoperability	21	Funding Level	26	In conjunction with Funding Accountability, it was important to ensure adequate funding levels needed to support NG9-1-1 and other priority themes.
5	System Integration	19	System Integration	17	It was important to ensure telecommunicator CPE applications and interfaces are well integrated within each PSAP.
6	Impact of the Unknown	17	Interoperability	17	PSAP to PSAP communication/integration was seen as important. This includes CAD standards and interfaces. Need to formalize radio standards. Secondary PSAP alignment to Primary PSAPs. Minor reduction in priority after vote 2 was observed.
7	Training and Education	16	Current Staffing and Retention	16	Moved up three places in priority after 2nd vote.
8	Relationship Building & Partnership	14	Employee Wellness	12	Moved up three places in priority after 2nd vote.
9	Security	13	Training and Education	11	Moved down two places in priority after 2nd vote.
10	Current Staffing and Retention	13	Politics and Legislation	8	Politics, Regulations and Public Perception was important to the PSAPs
11	Employee Wellness	11	Impact of the Unknown	7	Moved down five places in priority after 2nd vote. Reduction in priority may have been a result of the NG9-1-1 training and Q&A discussions.
12	Politics and Legislation	10	Improved Call Routing to Correct PSAP	6	Priority was closely maintained between vote 1 & 2.
13	Improved Call Routing to Correct PSAP	10	Reducing Abandoned Calls	3	Priority was closely maintained between vote 1 & 2.
14	Reducing Abandoned Calls	6	Relationship Building & Partnership	2	Moved down six places in priority after 2nd vote. Reduction may have been a result of the workshop taking place and the outcomes of the day.
15	Service Provider Issues	1	Service Provider Issues	0	This theme received zero priority votes within second round voting. Theme will be maintained and prioritized once higher priority issues are resolved or met.
16	Jurisdictional Confusion - Between Public Safety Entities	0	Jurisdictional Confusion - Between Public Safety Entities	0	This theme received zero priority votes within second round voting. Theme will be maintained and prioritized once higher priority issues are resolved or met.
17	Data Retention	0	Data Retention	0	This theme received zero priority votes within second round voting. Theme will be maintained and prioritized once higher priority issues are resolved or met.
18	Continually of Operations	0	Continuity of Operations	0	This theme received zero priority votes within second round voting. Theme will be maintained and prioritized once higher priority issues are resolved or met.

General Observations

- ▶ All themes identified were determined to apply and/or benefit all statewide PSAPs
- ▶ NG9-1-1 dependency did not appear until priority #5 theme -System Integration
- ▶ Security (#2 priority) theme moved up 7 places in priority upon second vote
- ▶ Funding accountability and funding level placed #3 and #4 in priority
- ▶ Applying resources to work funding related themes would support successfully achieving many of the lower priority themes
- ▶ Overall, four themes were identified where technology could support PSAP needs/issues without dependency on NG9-1-1
- ▶ Some participants stated that priority was given to themes that could not be addressed by individual PSAPs
- ▶ The theme of Relationship Building & Partnership lowered significantly in priority after the final vote. Participants felt that the opportunity and outcomes of the workshop was a positive step toward building a stronger partnership between OEM and PSAPs
- ▶ Interest was expressed regarding the value of the workshop and hosting this type of event annually

Attendee Feedback

▶ What went well?

- ▶ Opening up greater communication between the OEM 9-1-1 Program and PSAPs
- ▶ Good cross-section of PSAP representation
- ▶ Workshop was well organized and had a good flow/approach
- ▶ NG9-1-1 training & presentation material
- ▶ Relationship & partnership building
- ▶ Facility & LUNCH!

▶ What could have been improved?

- ▶ Did not fully capture or prioritize specific data sources/feeds (i.e. telematics) that could be processed through an NG9-1-1 environment

Next Steps

- ▶ Finalize Oregon vision/definition for NG9-1-1
- ▶ Review Results with OEM Executive and 9-1-1 Program Management
- ▶ Share Workshop Results at Oregon APCO/NENA Quarterly Meeting - March 7, 2018
- ▶ PSAP Advisory Committee Next Steps - TBD

Statewide Vision/Definition of NG9-1-1

(Workgroup Draft Definitions) page 1 of 3

► Workgroup #1

NG9-1-1 for the State of Oregon is a secure interoperable, standards-based, all IP emergency communications infrastructure enabling end to end transmission of all types of data including voice and multimedia communications from the public to an Emergency Communications Center. This network will facilitate the pass through of appropriate data to emergency service organizations within Oregon for the purpose of assisting people in need regardless of the location they need assistance.

► Workgroup #2

Next Generation 9-1-1 (NG9-1-1) modernizes the current 9-1-1 system to allow 9-1-1 customers the ability to send voice and multimedia information to Public Safety Communication Centers, to allow these centers to receive that information securely and in a format that allows the sharing of that information with emergency responders.

Statewide Vision/Definition of NG9-1-1

(Workgroup Draft Definitions) page 2 of 3

▶ Workgroup #3

Next Generation 9-1-1 (NG9-1-1) is a secure, statewide, interoperable standards based system designed to deliver accurate location and data information including voice, text, and multi-media communications from the public to an emergency communications center and other emergency service organizations to initiate an emergency response.

Phew!

▶ Workgroup #4

Next Generation 9-1-1 (NG9-1-1) in Oregon is a secure, standards-based, all-IP Emergency Communications Infrastructure enabling transmission of industry standard data, including voice and multimedia communications from the Public to an Emergency Communications Center. It provides for interoperability between Public Safety Agencies and other Emergency Service Organizations.

Statewide Vision/Definition of NG9-1-1

(Workgroup Draft Definitions) page 3 of 3

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▶ **Workgroup #5**

NG9-1-1 is a secure, interoperable, standards-based, all-IP emergency communications infrastructure enabling end-to-end transmission designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for Public Safety Answering Points (PSAPs) and other emergency service organizations in Oregon.

Following Slides Include
Workshop Presentation &
Training Materials



PSAP Planning for Success

WORKSHOP PRESENTATION MATERIALS

JANUARY 11, 2018

Welcome

- ▶ Workshop Champions:
 - ▶ Kelly Dutra, PSAP Representative, State Executive Steering Committee
 - ▶ Frank Kuchta, Office of Emergency Management, 9-1-1 Program
- ▶ Facilitators:
 - ▶ Claudia Light, Oregon State Data Center, Process Architect
 - ▶ Pat Lustig, Office of Emergency Management, 9-1-1 Program
 - ▶ Michael Gurley, Office of Emergency Management, 9-1-1 Program

Workshop Logistics

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- ▶ Timings – please be on time
 - ▶ Two blocks
 - ▶ 8:00 – 11:30
 - ▶ 13:00 – 17:00
 - ▶ Lunch on your own (Cafeteria within the building on main floor)
- ▶ Facilities
- ▶ Emergency Evacuations
- ▶ DPSST Educational Credits
- ▶ Handouts
 - ▶ Marc Berryman document
 - ▶ Sample needs, issues or themes
 - ▶ More this afternoon

How to Be Here Today

- ▶ Be ready to share and discuss
- ▶ Be open, intentional and connected
- ▶ Be a generous listener
- ▶ Please limit cell phone and computer use
- ▶ At any time, be bold- **Ask Questions, Ask Questions and Ask Questions**

Ice Breaker: Find 10 Things in Common

- ▶ Count off to divide into groups
- ▶ Find the group with your matching number
- ▶ As a group:
 - ▶ Find 10 things that you have in common with every other person in your group, that have nothing to do with work
 - ▶ These CANNOT be things that all people have in common (we all have legs, we all wear shoes)
 - ▶ One person in each group must take notes and be ready to read their list to the whole group at the end of the exercise
 - ▶ Stay in these groups until introductions and uptake of the exercise

Sharing

- ▶ For each group:
 - ▶ Tell us your names and where you work
 - ▶ Tell us your 10 things in common

Break Time

- ▶ Please be back in 15 minutes

Workshop Objectives

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- ▶ Identify PSAP Issues, Needs and Priorities
- ▶ Provide Training/Overview of NG9-1-1 System Elements and Capabilities
- ▶ Develop the Oregon definition of NG9-1-1
- ▶ Develop baseline for supporting future recommendations

Activity 1 – Identify Issues and Needs

- ▶ Working in Groups, brainstorm issues and needs facing PSAPs today
 - ▶ Write each idea on a separate sticky note
 - ▶ Focus on issues and needs, not solutions
 - ▶ Do not limit the ideas to information technology
- ▶ If time permits, group like ideas together into themes

Remember - NG9-1-1 is a Solution, not a Need, Issue or Theme

Activity 2 – Identify Common Themes

- ▶ Taking turns among groups, share one of your issues and needs stickies with everyone, providing more explanation if needed
- ▶ Place each unique idea on one of the theme pages
- ▶ If other groups came up with similar idea, place it on the same theme page
- ▶ Take turns around the room until all stickies are on a theme page
- ▶ Go through the pages, identifying one or two word descriptions of each theme

Theme 1

Desc: _____

Issue	Vote 1:
Need	
Need	
Issue	Vote 2:
Need	

Activity 3 – All PSAP Impact?

- ▶ Review each theme and determine as a group whether the theme applies to all PSAPs
- ▶ Mark the themes that affect all PSAPs with an 'All PSAP' sticky note

Theme 1

Desc: _____

All PSAP (Yes)	
Issue	Vote 1:
Need	
Need	
Issue	Vote 2:
Need	

Activity 4 – Value Dots

- ▶ Hand out a strip of dots to each participant
- ▶ Each person is to distribute their dots to the theme or themes they believe should have the highest priority for resolution
 - ▶ Urgency to solve a particular need or issue
 - ▶ Need to address or pursue a theme as quickly as possible
- ▶ When all dots are distributed, tally the count for each theme
- ▶ Re-sequence themes by tally order
- ▶ Reactions?

Theme 1

Desc: _____

All PSAP (Yes)	
Issue	Vote 1: ● ● ● ● ●
Need	
Need	Vote 2:
Issue	
Need	

Lunch

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▶ 11:30 – 13:00

NG9-1-1 Training

NG9-1-1 Training - Welcome

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- ▶ Various levels of knowledge or understanding of NG9-1-1
- ▶ High level overview
- ▶ NG9-1-1 review materials
- ▶ Interactive, please ask questions

What is Next Generation 9-1-1?

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- ▶ Completely new system, complex network and computing
- ▶ Designed from ground up
- ▶ Support modern communication technologies
- ▶ Will not happen over night
- ▶ Revolutionary shift from today's E9-1-1
- ▶ New way of routing and delivering 9-1-1 calls
- ▶ Bears very little resemblance to E9-1-1
- ▶ Terms such as selective router, MSAG, ALI, and ANI they are not talking about NG9-1-1

Why move to Next Generation 9-1-1?

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- ▶ Today's system cannot meet the public's expectations
- ▶ Present systems cannot accept communications in many of the forms are citizens use daily
- ▶ 9-1-1 centers cannot effectively and efficiently obtain and share critical data with neighboring 9-1-1 centers nor local public safety entities
- ▶ NG91-1- PSAPs will have the ability to receive more information and data
- ▶ Data can be filtered and PSAPs will only need to process information pertinent to the proper disposition and dispatch of the call while preventing information overload

Next Generation 9-1-1 Planning Considerations

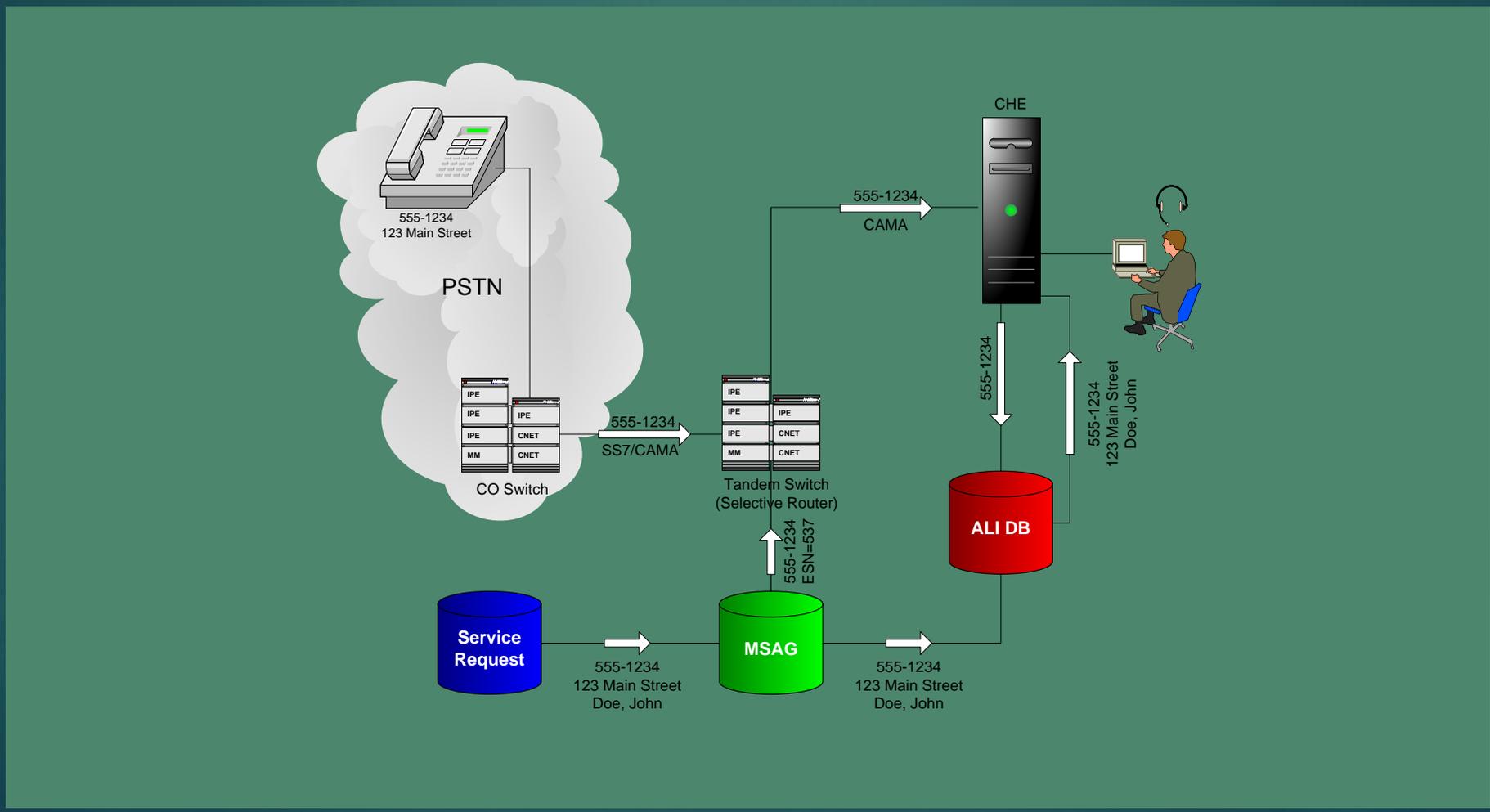
- ▶ Future needs and expectations
- ▶ Focus on Long-term solutions that support real needs of public safety and the public
- ▶ Ensure services are provided and adopted throughout the State in a uniform manner
- ▶ Effective use of existing funds – avoiding interim solutions / rework
- ▶ Important that PSAPs coordinate and plan together

Operational Awareness and Preparation

- ▶ Raising awareness of operational benefits and impacts from implementing components of NG9-1-1
- ▶ Preparing the workforce – Staffing plans, hiring and retention
- ▶ Determine what type of data best serves your call takers
- ▶ Continuing education on NG9-1-1 capabilities
- ▶ Harness and grow Advisory Committee focus and expertise

E9-1-1 System Overview

Existing: E9-1-1 System & Sample Call Delivery



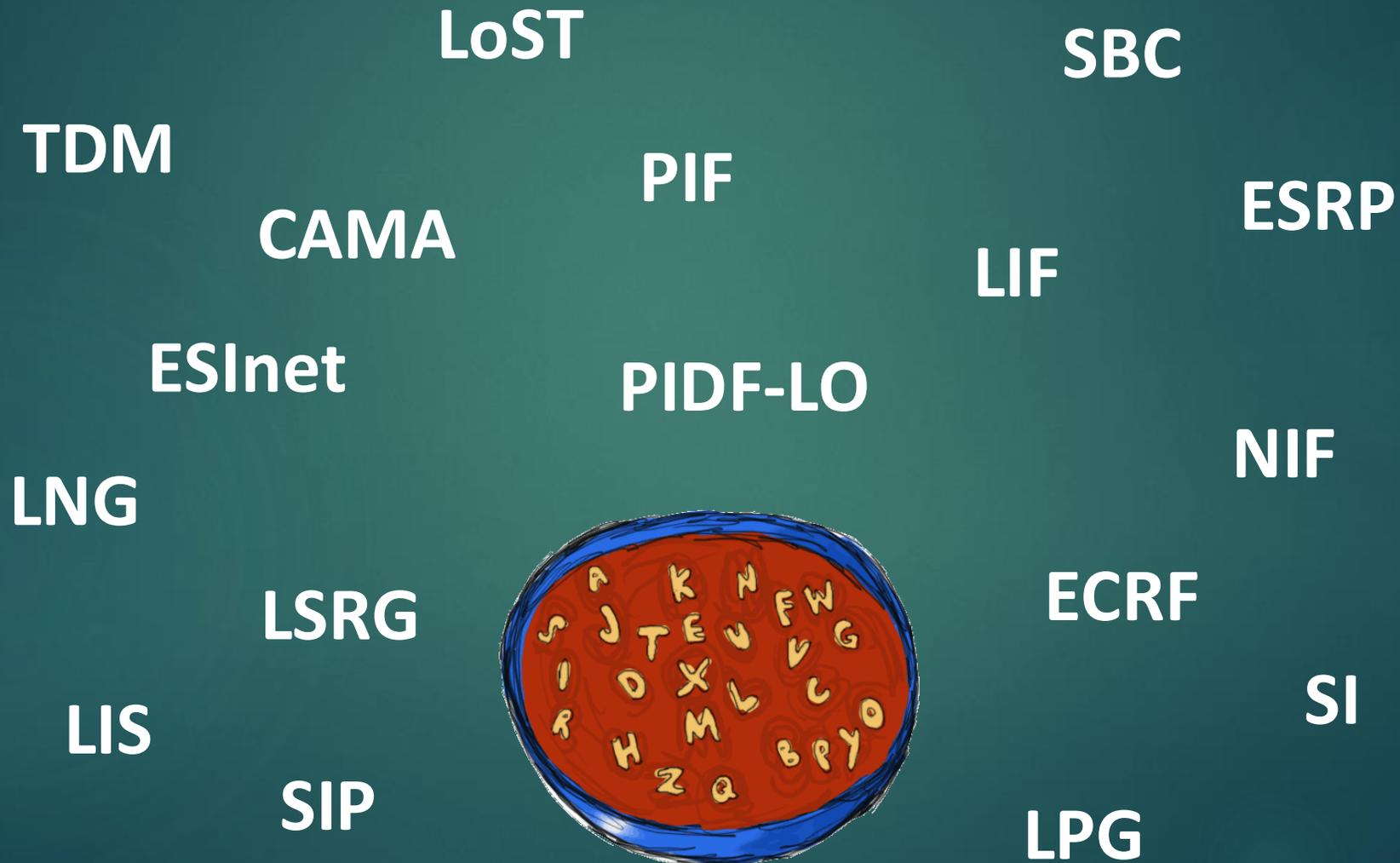
NG9-1-1 System Overview

Next Generation 9-1-1 Brings:

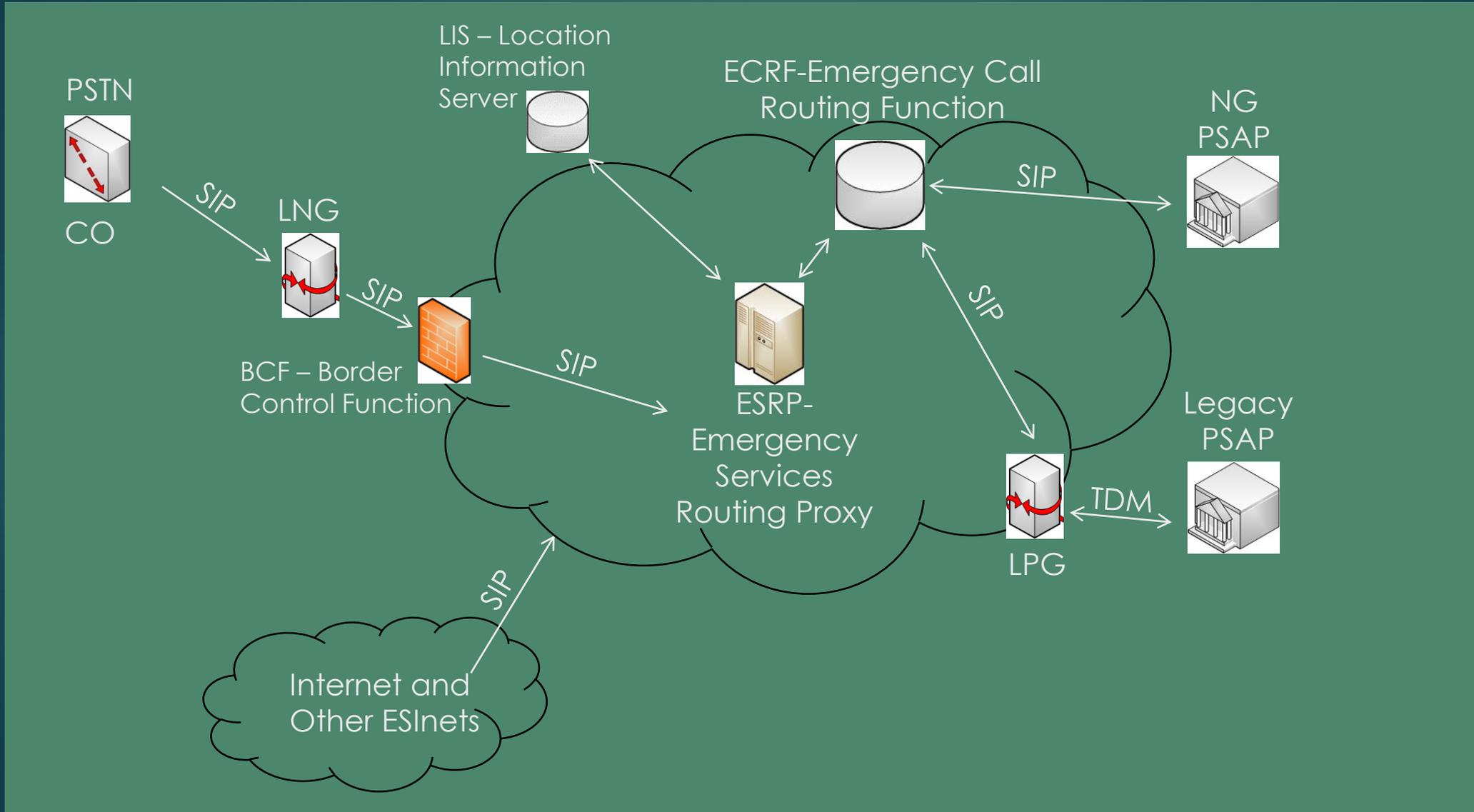
35

- ▶ New technology comes with new acronyms
- ▶ NG9-1-1 is a complex system of networks, servers and databases
- ▶ NG9-1-1 can be deployed in a phased approach supporting operational needs
- ▶ Addresses an aging E9-1-1 System

NG9-1-1 Alphabet Soup



NG9-1-1 Architecture (ESInet)



How is GIS Used in NG9-1-1?

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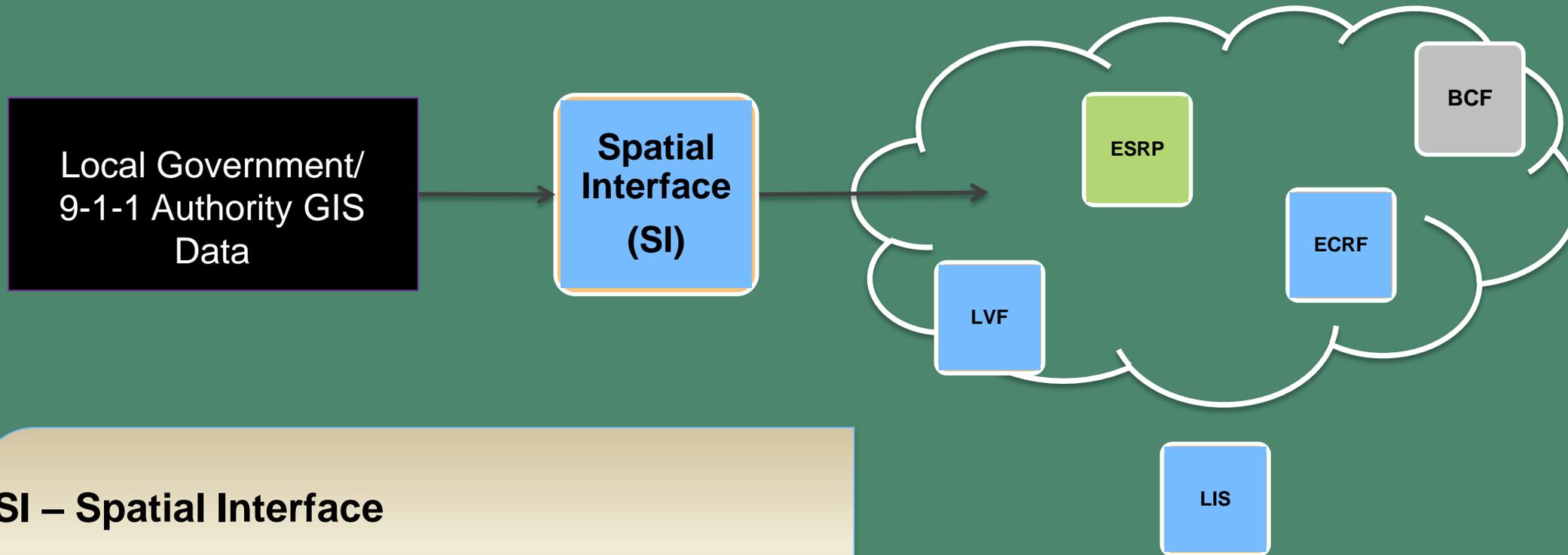
Database

- ▶ Location Validation
- ▶ Geospatial Call Routing

Map Display

- ▶ Confirming/validating emergency caller's location
- ▶ Display emergency caller's location on a map
- ▶ Support improved vehicular routing

GIS Data Provisioning



SI – Spatial Interface

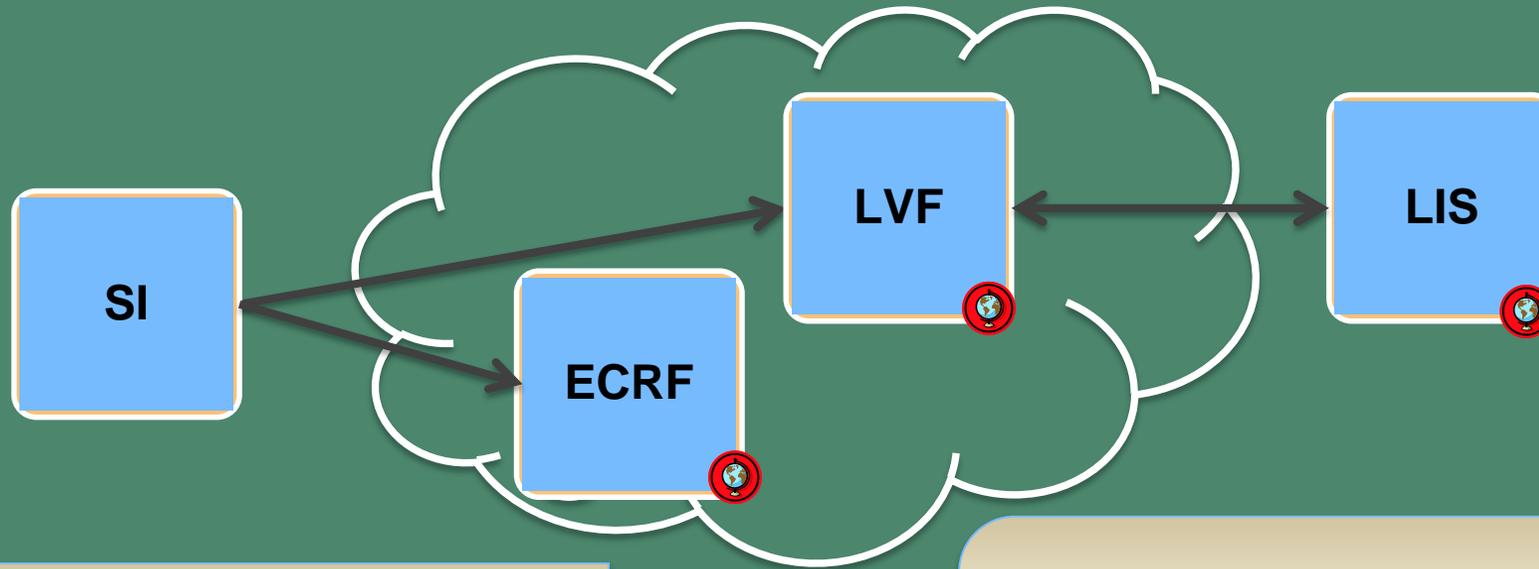
- Provides an interface between an authoritative copy of **GIS** data and **Functional Elements** within the ESInet

Benefits of the SI

- ▶ Contains “built-in” QA/QC mechanisms
- ▶ Normalizes incoming data to NENA Technical Specifications
- ▶ Supports faster and frequent updates

Location Validation

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ECRF – Emergency Call Routing Function

- Replaces legacy selective router databases
- Provides GeoSpatial Call Routing

LIS – Location Information Server

- Replaces the ALI database
- Returns civic address or geo-coordinate when queried by calling device

LVF – Location Validation Function

- Replaces the MSAG
- Checks (PRE-validates) all incoming location information from SI

Location Validation



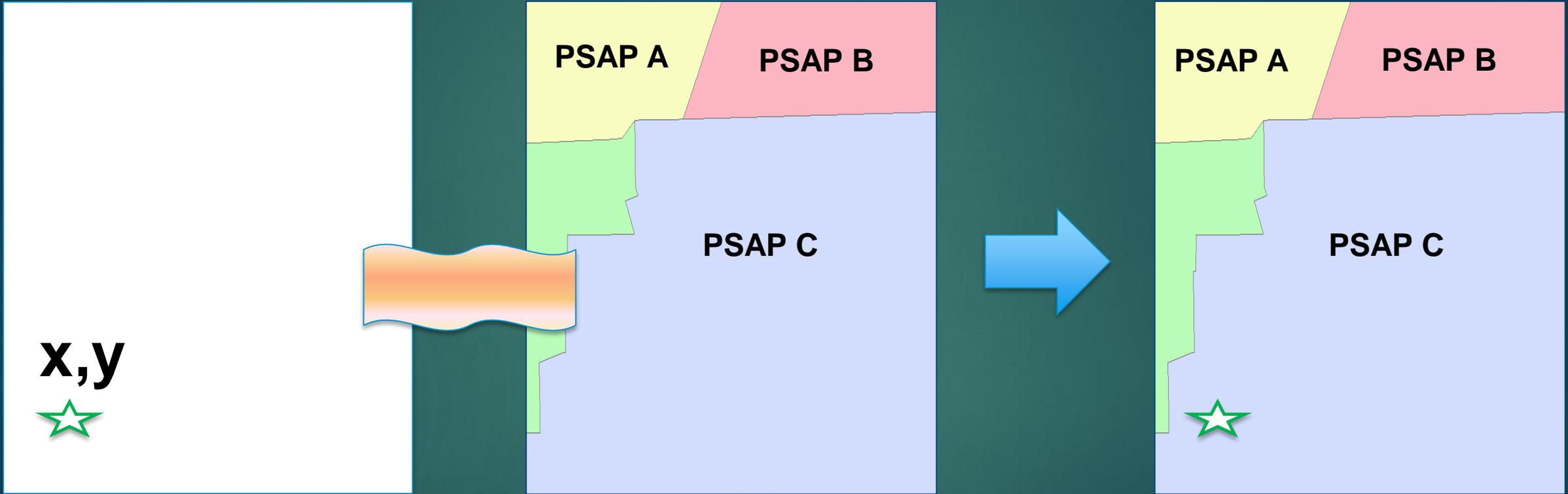
preDir	Street	Low	High	Comm	State	O/E	ESN
NE	5TH PL	920	929	Gainesville	FL	B	1
NE	5TH PL	1004	1035	Gainesville	FL	B	1
NE	5TH PL	1102	1115	Gainesville	FL	B	1

- 920 NE 5TH PL, Gainesville, FL 
- 1020 NE 5TH PL, Gainesville, FL 
- 1107 NE 5TH PL, Gainesville, FL 

Benefits of the LVF/LIS

- ▶ Accommodates “non-standard” addressing
- ▶ Performs pre-check of addressing BEFORE a call hits the location database
- ▶ Ensures more precise civic location is represented in the location database

Geospatial Call Routing



Location coordinate of emergency call

PSAP Boundary (GIS layer)

Call routed to PSAP C

Benefits of Geospatial Routing

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- ▶ Supports flexible and ad-hoc routing needs
- ▶ In conjunction with better caller location, will reduce amount of mis-routed calls

General GIS Benefits

- ▶ Consolidation of data maintenance
- ▶ Supports call transfer between PSAPs
- ▶ Standardized visibility into surrounding jurisdictions

Benefits of Next Generation 9-1-1

- ▶ Increased Quality of Service
- ▶ Faster Call set-up Time
- ▶ Improved alignment with Public expectations
- ▶ Significant adaptability to the unique needs of individual PSAPs
- ▶ Platform flexibility will improve interoperability with local, state and interstate jurisdictions
- ▶ PSAP Directors establish the boundaries of what data is available to whom, when to have access to it and where it is used
- ▶ Ability to transfer calls to any PSAP within Oregon

What is in it for my Agency?

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- ▶ Addresses end-of-life risks with E9-1-1 services
- ▶ NG9-1-1 will interconnect local, regional and state ESNets with individual emergency agencies, including PSAPs
- ▶ Secure call access, transfers and backups among other emergency jurisdictions
- ▶ Sharing of information with public safety agencies to improve response
- ▶ Obtaining near real time information, warnings and instructions for situational awareness

How Does My Agency Prepare?

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- ▶ GIS forms the core database in NG9-1-1, so it's never too soon to standardize your GIS data
- ▶ PSAPs working together to pursue a mutually beneficial system (i.e., Advisory Committee)
- ▶ Preparing the workforce – Staffing plans, hiring and retention
- ▶ Moving forward on a common vision

NG9-1-1 Common Definition

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- ▶ In your groups, review the NG9-1-1 Definitions from:
 - ▶ APCO
 - ▶ NENA
- ▶ What words resonate with your group?
- ▶ Which definition is better?
- ▶ Can you put together something better?
- ▶ Does this definition represent the Oregon PSAP's vision of NG9-1-1?

APCO

NG9-1-1 is a secure, nationwide, interoperable, standards-based, all-IP emergency communications infrastructure enabling end-to-end transmission of all types of data, including voice and multimedia communications from the public to an Emergency Communications Center

NENA

NG9-1-1 (Next Generation 9-1-1) NG9-1-1 is an Internet Protocol (IP)based system comprised of managed Emergency Services IP networks (ESInets), functional elements (applications), and databases that replicate traditional E9-1-1 features and functions and provides additional capabilities. NG9-1-1 is designed to provide access to emergency services from all connected communications sources, and provide multimedia data capabilities for Public Safety Answering Points (PSAPs) and other emergency service organizations.

Oregon's Definition of NG9-1-1

Break Time

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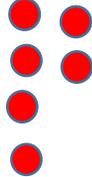
- ▶ Please be back in 15 minutes

Activity 5 – NG9-1-1 Dependency or Requirement?

- ▶ Based on what you now know about NG9-1-1, identify which themes could be supported by NG9-1-1?
- ▶ Mark those themes with a blue NG sticky
- ▶ If not NG9-1-1, could the theme be supported by technology?
- ▶ Technology only required themes will be identified by a peach colored sticky note

Theme 1

Desc: _____

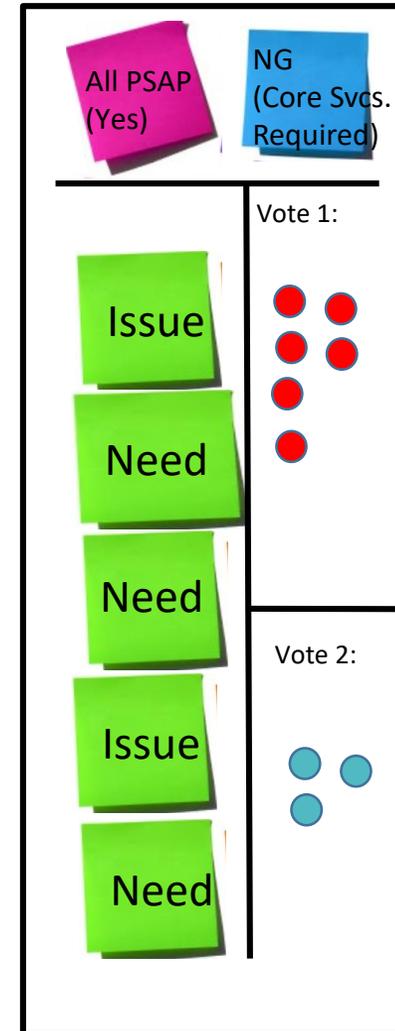
	
	Vote 1: 
	
	
	Vote 2:
	

Activity 6 – Final Prioritization

- ▶ Hand out a strip of dots to each participant
- ▶ Each person is to distribute their dots to the theme or themes they believe should have the highest priority for resolution
 - ▶ Urgency to solve a particular need or issue
 - ▶ Need to address or pursue a theme as quickly as possible
- ▶ When all dots are distributed, tally the count for each theme
- ▶ Re-sequence themes by tally count
- ▶ Reactions?

Theme 1

Desc: _____



Summary and Next Steps

- ▶ Workshop Objectives
 - ▶ Identify PSAP Issues, Needs and Priorities
 - ▶ Provide Training/Overview of NG9-1-1 System Elements and Capabilities
 - ▶ Develop the Oregon definition of NG9-1-1
 - ▶ Develop baseline for supporting future recommendations
- ▶ Next Steps
 - ▶ Develop and Share Post-Workshop Summary Report
 - ▶ Share Results at Next PSAP Quarterly Meeting

Feedback on Today's Workshop

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- ▶ What was good today?
 - ▶ What could have been better?
 - ▶ Do you have any final comments for everyone?
 - ▶ Celebrate Success! Group Photo!
-
- ▶ Send any follow up comments to:
Frank.Kuchta@state.or.us



PSAP Planning for Success

THANK YOU FOR YOUR PARTICIPATION TODAY



Sample Needs, Issues or Themes

