

State of 911

Webinar Series

NATIONAL 911 PROGRAM
September 18, 2018

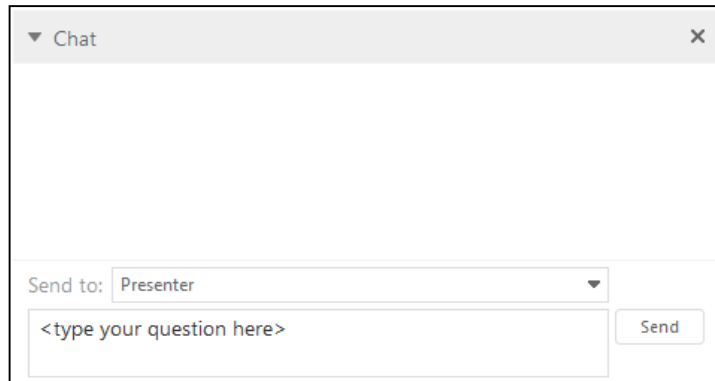
State of 911 Webinar Series

- Designed to provide useful information about Federal and State participation in the planning, design, and implementation of Next Generation 911 (NG911) coupled with real experiences from leaders overseeing these transitions throughout the country
- Webinars are typically held every other month and include presentations from a Federal-level 911 stakeholder and State-level 911 stakeholder, each followed by a 10-minute Q&A period
- For more information on future webinars, to access archived recordings and to learn more about the National 911 Program, please visit 911.gov
- Feedback or questions can be sent to: National911Team@mcp911.com

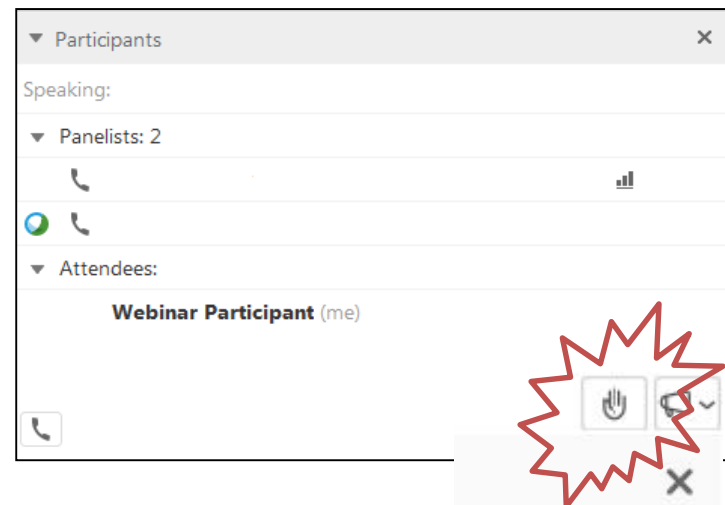
Questions?

For WebEx Technical Assistance, please call: (866) 229-3239, Option 1

To ask a question, please use WebEx's "Chat" feature. Please click the chat icon located near the bottom of your screen to open the chat window.



During the Q&A portion of the webinar, please click on "Raise Hand" and your phone line will be unmuted.





Digital Next Generation 9-1-1 Readiness Self-Assessment

September 18, 2018

TFOPA -- Introduction

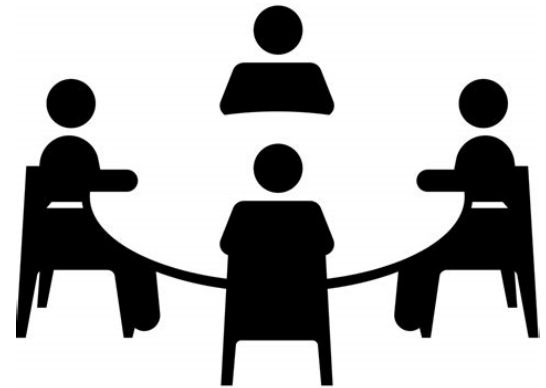
- **TFOPA (Task Force on Optimal PSAP Architecture)** was a federal advisory committee chartered by the FCC from 2014-2016
- Task Force Mission – to provide guidance and recommendations for PSAPs and 911 authorities transitioning from legacy 911 to Next Generation 911
- TFOPA members included PSAPs; Federal, state, Tribal, and local authorities; wireline and wireless carriers; 911 system service providers; technology vendors
- Three Working Groups
 - Cybersecurity (Working Group 1)
 - NG911 Architecture Implementation (Working Group 2)
 - Funding/Optimal Resource Allocation (Working Group 3)

TFOPA – Output

- **January 2016 - Consolidated Final Report and Recommendations**
 - Consolidated guidance and recommendations from the three Working Groups
- **December 2016 - Supplemental Reports**
 - Optimal Cybersecurity Approach for PSAPs (Working Group 1)
 - **NG911 Readiness Scorecard (Working Group 2) – focus of this webinar**
 - NG911 Funding Sustainment Model (Working Group 3)
- All TFOPA Reports are available at <https://www.fcc.gov/about-fcc/advisory-committees/general/task-force-optimal-public-safety-answering-point>

SAFECOM-NCSWIC NG9-1-1 WG

The SAFECOM- National Council of Statewide Interoperability Coordinators (NCSWIC) NG9-1-1 WG was established to utilize stakeholder feedback from multiple levels of government to identify, document, and develop work products that will facilitate the transition to NG9-1-1.



Work Products

- The Working Group developed a document that analyzed Cyber Risks to NG9-1-1. This document provides an introduction to NG9-1-1 systems, discusses the NG9-1-1 cybersecurity risk landscape, and provides readers with resources to improve their cybersecurity posture.

- The Working Group is currently assisting the development of a NG9-1-1 Readiness Self-Assessment based on the reports published by TFOPA.

Cyber Risks to Next Generation 9-1-1

Next Generation 9-1-1 (NG9-1-1) systems, which operate on an Internet Protocol (IP) platform, enable interconnection with a wide range of public and private networks, such as wireless networks, the Internet, and regular phone networks. NG9-1-1 systems will enhance the capabilities of today's 9-1-1 networks, allowing compatibility with more types of communication, providing greater situational awareness to dispatchers and emergency responders, and establishing a level of resilience not previously possible. NG9-1-1 will allow Public Safety Answering Points (PSAPs) to accept and process a range of information from responders and the public, including text, images, video, and voice calls.

How to Use this Document

This document provides introduction to:

- Next Generation 9-1-1 (NG9-1-1) systems
- The NG9-1-1 cybersecurity risk landscape
- Resources to improve cybersecurity posture

Public safety managers and officials can use this document to familiarize themselves with NG9-1-1 systems and best practices to maintain and improve cybersecurity posture. This document provides sample risk reduction strategies, actions, and resources. It does not contain specific, system-unique instructions or address governance considerations.

Traditional 9-1-1 services typically operate over standard voice-based telephone networks and use software, such as computer-aided dispatch systems, that operate on closed, internal networks with little to no interconnection with other systems. The relatively limited means of entry into legacy 9-1-1 systems reduces the potential attack vectors. However, cyber risk is still a concern and must be actively managed, even with legacy systems. NG9-1-1 interconnections enable new benefits, as shown in Figure 1. However, they also represent new vectors for attack that can disrupt or disable PSAP operations, broadening the concerns of—and complicating the mitigation and management of—cyber risks across all levels of government.

Potential cyber risks to NG9-1-1 systems do not undermine the benefits of NG9-1-1. Nevertheless, cyber risks present a new level of exposure that PSAP administrators must understand and actively manage as a part of a comprehensive risk management program. Systems are already under attack. As cyber threats grow in complexity and sophistication, attacks could be more severe against NG9-1-1 systems as attackers can launch multiple distributed attacks with greater automation, from a broader geography, and against more targets. This document provides an overview of cyber risk landscape, offers an approach for assessing and managing risk, and provides additional cybersecurity resources.

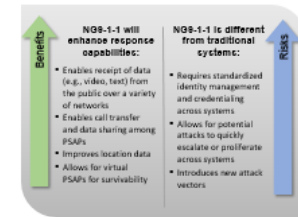
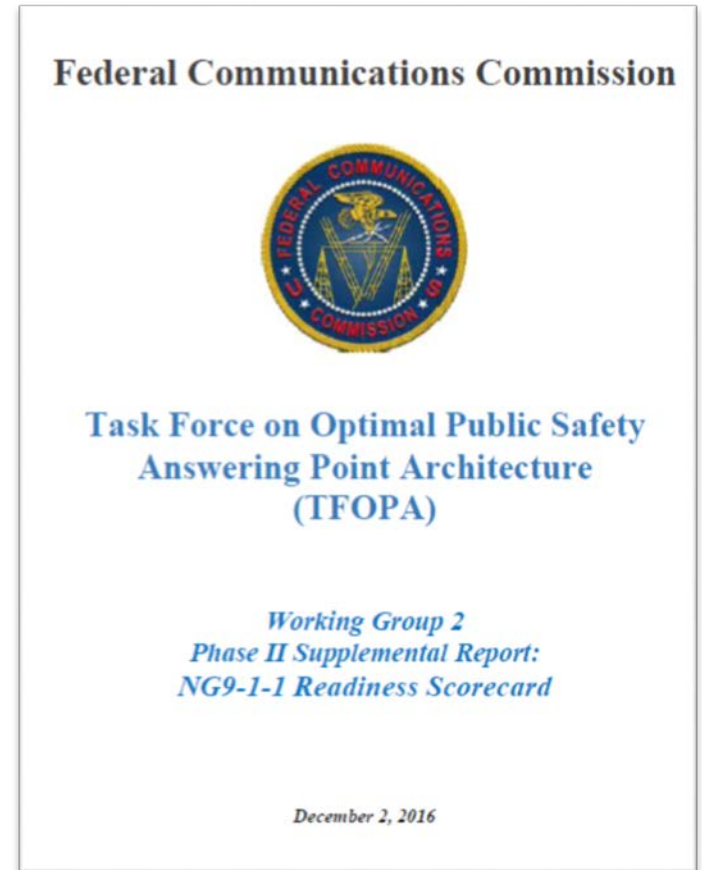


Figure 1. NG9-1-1 Benefits and Risks

NG9-1-1 Readiness Self-Assessment

- TFOPA was a federal advisory committee chartered by the FCC and represents subject matter expertise throughout the 9-1-1 industry.
- TFOPA delivered a tool for public safety entities to assess their level of NG9-1-1 readiness.
- Supporting Documents:
 - Working Group 2, Phase II Supplemental Report (December 2, 2016)
 - Working Group 1, Optimal Cybersecurity Approach for PSAPs (December 10, 2015)



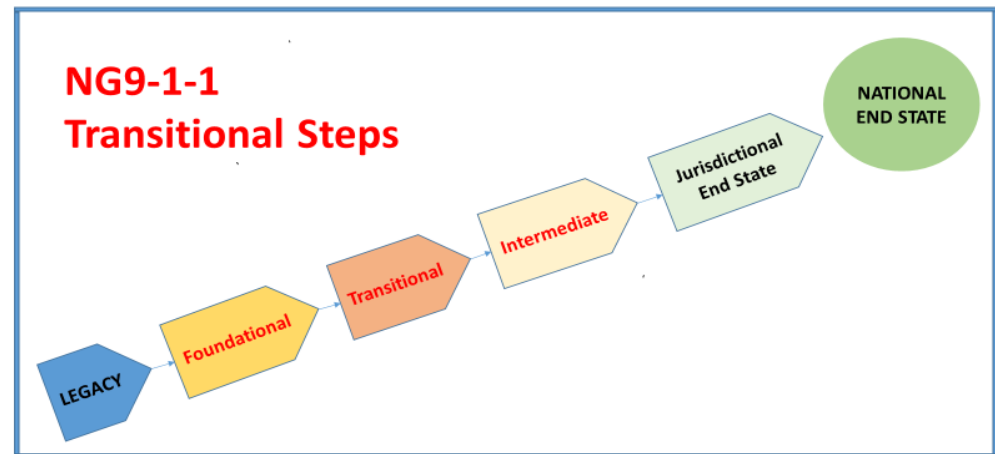
NG9-1-1 Readiness Self-Assessment

- The NG9-1-1 Readiness Self-Assessment provides a 9-1-1 Authority Stakeholder with a more granular **understanding of essential NG9-1-1 system elements** and enables a 911 Authority Stakeholder to **assess their position within the NG9-1-1 Implementation Maturity Continuum.**
- This understanding will allow a 911 Authority Stakeholder to **better plan transition steps** to move from legacy 911 through being in a fully functional NG9-1-1 end state.
- It also provides the community with **consistent terminology regarding NG9-1-1 maturity.**

NG9-1-1 Readiness Self-Assessment

- The NG9-1-1 self-assessment uses a multi-step implementation model consisting of the following implementation maturity states:

- Legacy
- Foundational
- Transitional
- Intermediate
- Jurisdictional End State
- National End State



- The NG9-1-1 self-assessment is broken down into nine areas of interest: Governance, Routing & Location, GIS Data, NG Core Service Elements, Network, PSAP Call Handling System and Applications, Security, Operations, and Optional Interfaces.

Static NG9-1-1 Readiness Self-Assessment

Next Generation 9-1-1 Self-Assessment

<u>Category</u>	<u>NG9-1-1 Maturity State Self-Assessment</u>		
	<u>Status</u>	<u>Maintained/Provided by</u>	<u>Notes</u>
<u>Governance</u>			
Governance Structure Design & Framework			
Strategic Planning			
Coordination			
Funding & Resources			
<u>Routing & Location</u>			
Selective (ESN) Routing			
IP Selective (ESN) Routing			
Geospatial Routing (utilizing best available location)			
ALI DBMS			
LIS			
National Forest Guide contains Jurisdictional ESInet Authoritative Boundary			

NG9-1-1 Readiness Self-Assessment Update

- After Self-Assessment trials, it became evident that further instruction would be valuable.
- The SAFECOM/NCSWIC working group is modifying the static Self-Assessment with:
 - Editable fields
 - Cross-referenced content
 - Specific instructions
 - User-friendly formatting (e.g., drop-down menus, Linked descriptive text)
 - Automated Summary of Findings
- The working group is collaborating with past TFOPA membership and the National 9-1-1 Program Office.



NG9-1-1 Readiness Self-Assessment Update

Task Force on Optimal Public Safety Answering Point (PSAP) Self-Assessment Scorecard



Overview Questions

- . Are you a state, regional, or local PSAP operator?
- . Are you connected to a larger jurisdiction?
- 2a. If yes, do you have a Location Information Server (LIS) or its equivalent with each of your originating service providers?

Dropdown Response

State
No
No

Click To Clear

Submit

Governance State	Architecture Maturity State	Cybersecurity State
FOUNDATIONAL	Legacy	3.03%
	Foundational	15.15%
	Transitional	33.33%
	Intermediate	48.48%
		LEGACY

Dropdown Options		Maturity State	Documentation	
Status		Maintained/Provided by	Notes	
State Governance				
Governance Structure Design & Framework				
Name, Authority & Purpose	Planning to Implement NG911 Dataset Creation	#N/A		
Governance Body Design	Planning to Implement NG911 Dataset Creation	#N/A		
Charter & Bylaws	Planning and Beginning to Implement (Beginning to Create a Dataset)	#N/A		
Reporting Mechanism	ECRF Implemented. Geospatial Routing Capable	#N/A		
Membership	PRF Optional - Planning to Implement Geospatial Routing	#N/A		

Instructions

Overview

NG 911 Readiness Scorecard

Self-Assessment

Data Backend



NG9-1-1 Readiness Self-Assessment Update

- Hyperlinked information
- Drop-down menus with unique descriptions per maturity state
- Automatically populated maturity levels
- Acronyms spelled out

Routing & Location		
Selective (ESN) Routing	Using ESN Routing and Planning Replacement	Foundational
IP Selective (ESN) Routing	Using ESN Routing and Not Planning Replacement	Transitional
Geospatial Routing (Utilizing Best Available Location)	Using ESN Routing and Planning Replacement N/A Implemented	Intermediate
ALI DBMS	Using ALI, and Planning to Implement Location Object	Foundational
LIS	Processing with Both ALI and Location Object	Intermediate
GIS Data		
NG911 Dataset Creation Project Planned	N/A	N/A
NG911 Dataset Creation Project In-Progress	Planning and Beginning to Implement (Beginning to Create a Dataset)	Transitional
NG911 Dataset Complete	Dataset Is Complete and Implemented	Intermediate
Data Formatted for Location Verification Function (LVF)	LVF May Be Implemented and Has at Least Been Tested, If Not in Use	Intermediate
Data Formatted for Emergency Call Routing Function (ECRF)	ECRF Implemented, Geospatial Routing Capable	Intermediate
Data Formatted for Policy Routing Function (PRF)	PRF Optional - Planning to Implement Geospatial Routing	Transitional
NG Core Service Elements		
Legacy Selective Router Gateway (LSRG)	Implemented Everything within My Control Regarding LSRG	Intermediate
Location Verification Function (LVF)	N/A	N/A
Emergency Services Routing Proxy (ESRP)	Beginning to Implement ESRP. Not All Routing Is Being Done by ESRP	Transitional
Emergency Call Routing Function (ECRF)	Beginning to Implement ECRF. Not All Routing Is Being Done by ECRF	Transitional
Legacy Network Gateway	UNC May or May Not Be Implemented	Transitional

Next Steps

- The WG requests volunteers to review the self-assessment sub-element descriptions.
- If you are interested, please email NG911wg@hq.dhs.gov.

Contact Information

Mark Buchholz (Chair)

mbuchholz@cityofsalem.net

Steve Verbil (Vice Chair)

Stephen.Verbil@ct.gov

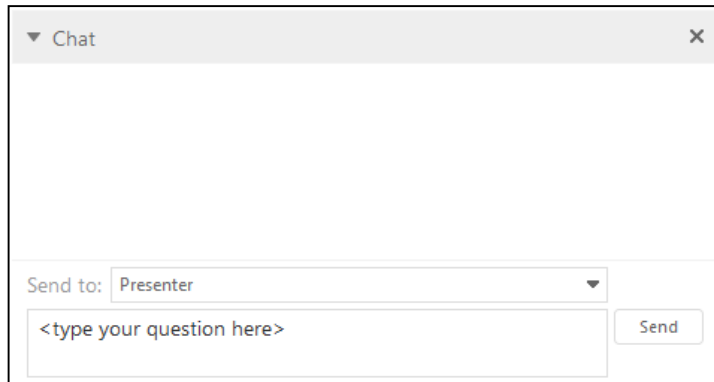
Gerald Jaskulski (Federal Lead)

Gerald.Jaskulski@hq.dhs.gov

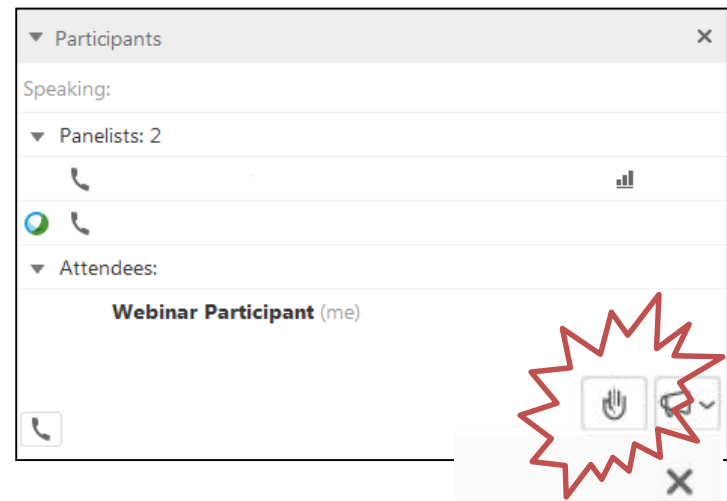
Q&A Period

For WebEx Technical Assistance, please call: (866) 229-3239, Option 1

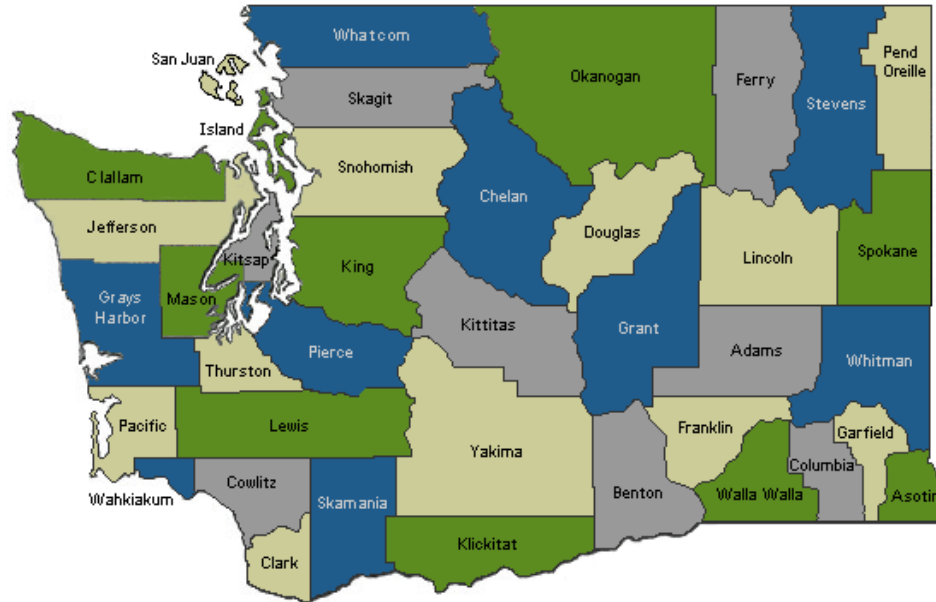
To ask a question, please use WebEx's "Chat" feature. Please click the chat icon located near the bottom of your screen to open the chat window.



During the Q&A portion of the webinar, please click on "Raise Hand" and your phone line will be unmuted.



9-1-1 Washington State Department of Defense



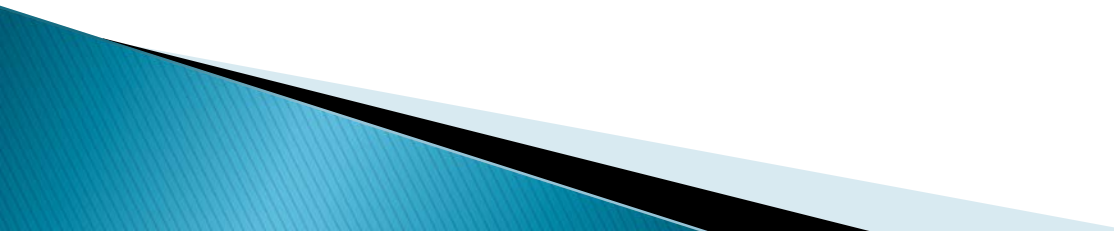
Adam Wasserman, State E911 Coordinator



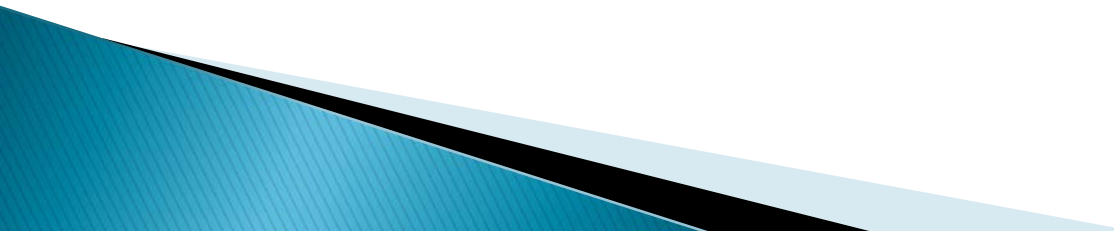
Washington Military Department

Emergency Management Division

Background

- ▶ 39 Counties (Home Rule)
 - ▶ 83 Public Safety Answering Points (PSAPs)
 - Primary – Secondary – Backup
 - County
 - Washington State Patrol
 - Tribal
 - DoD/Federal
- 

Different Perspectives

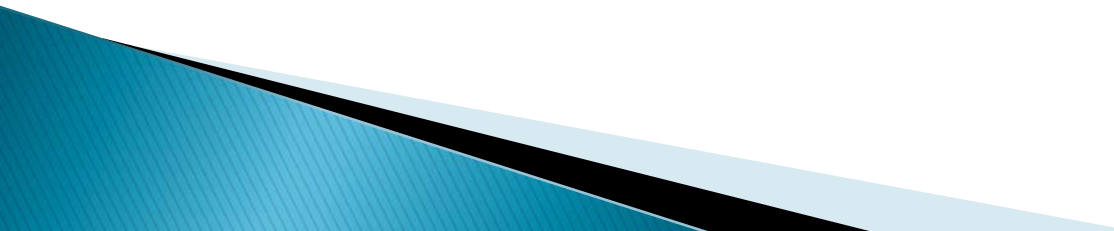
- ▶ Several DoD installations of varying size and complexity
 - ▶ 3 Different relationships
 - Limited
 - Working alongside
 - Integrated
- 

Limited

- ▶ Fairchild AFB
- ▶ Spokane County

- ▶ Limited interaction

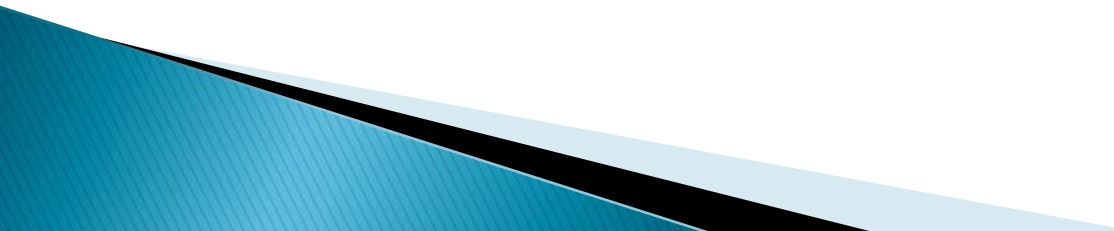
Working Together

- ▶ Navy Region
 - ▶ Kitsap/Island/Snohomish Counties
 - ▶ Jurisdictional overlap
 - ▶ Joint responsibility
- 


Integrated

- ▶ Joint Base Lewis McChord (JBLM)
 - ▶ Pierce County

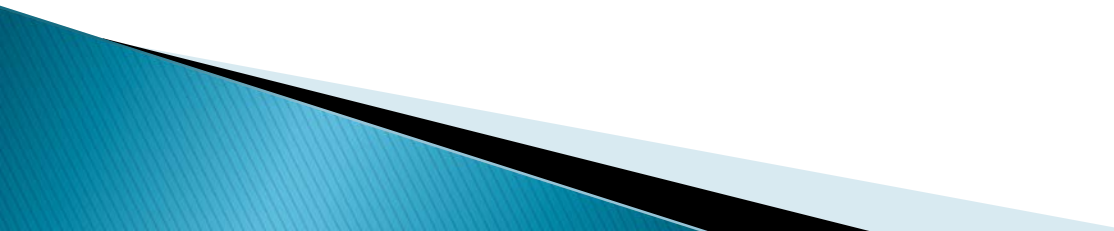
 - ▶ Integrated response

 - ▶ Integrated systems and support
- 

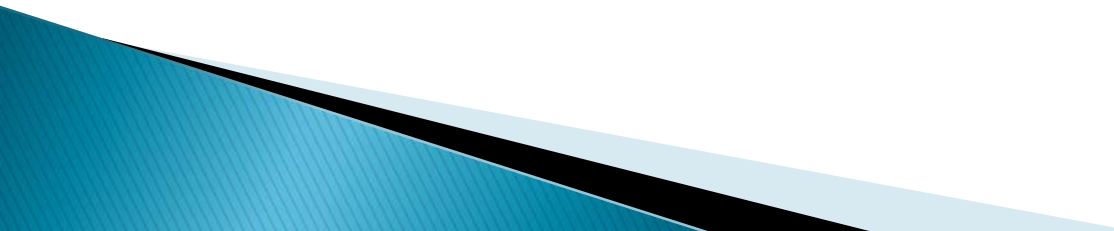
Challenges and Obstacles

- ▶ Political
 - ▶ Desire for, and presumption of, control
 - ▶ Perception of the 'other' side of the fence
 - ▶ Overlapping AOR and jurisdiction
 - ▶ Lack of continuity
 - ▶ Technology (GIS, cell vs landline)
- 

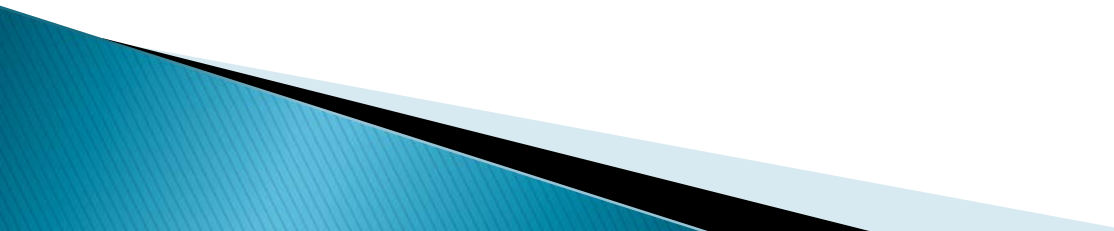
Best Practices

- ▶ Top down guidance (Pentagon)
 - ▶ Standards and consistency
 - ▶ Importance
 - ▶ Partnerships
 - ▶ Inclusion
 - ▶ Clear responsibilities (base, state, county, city)
 - ▶ MOUs
- 

Strategies Going Forward

- ▶ DoD pilot project
 - ▶ ‘One style does not fit all’
 - ▶ ‘One system and standard can’
- 

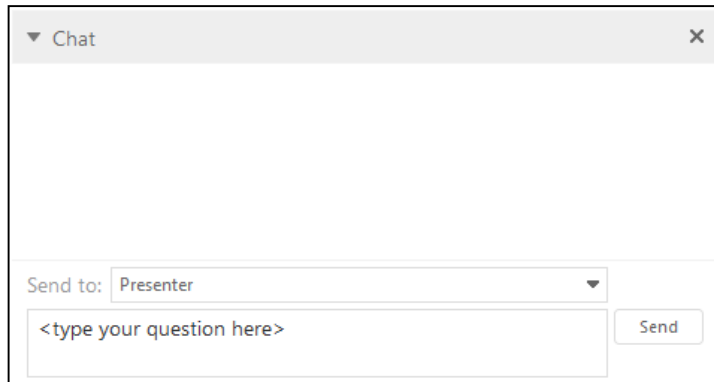
Closing

- ▶ Relationships
 - ▶ Relationships
 - ▶ Relationships
- 

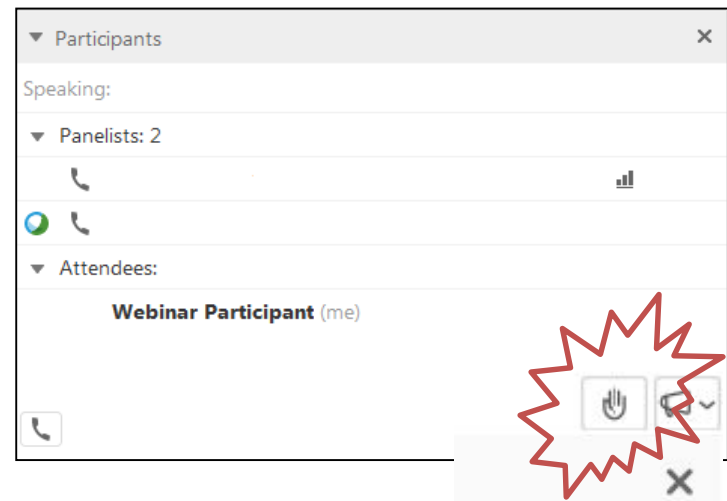
Q&A Period

For WebEx Technical Assistance, please call: (866) 229-3239, Option 1

To ask a question, please use WebEx's "Chat" feature. Please click the chat icon located near the bottom of your screen to open the chat window.



During the Q&A portion of the webinar, please click on "Raise Hand" and your phone line will be unmuted.



Previous Webinars

- Previous State of 911 webinars are available at:
www.911.gov/webinars.html

National 911 Program

- Laurie Flaherty
Program Coordinator
202-366-2705
laurie.flaherty@dot.gov
- Feedback or questions can be sent to:
National911Team@mcp911.com