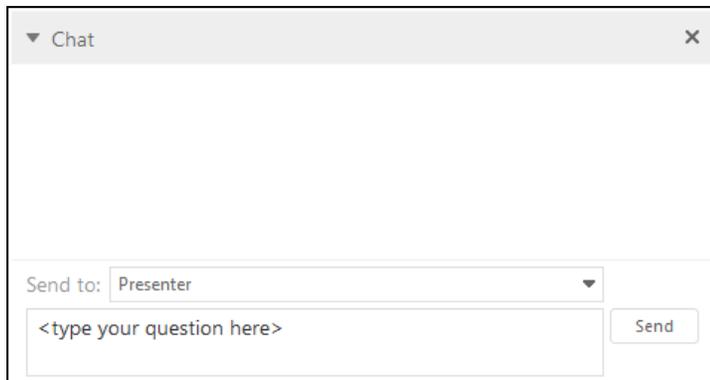NATIONAL 911 PROGRAM

October 11, 2016

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 held every other month and typically 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, access to 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
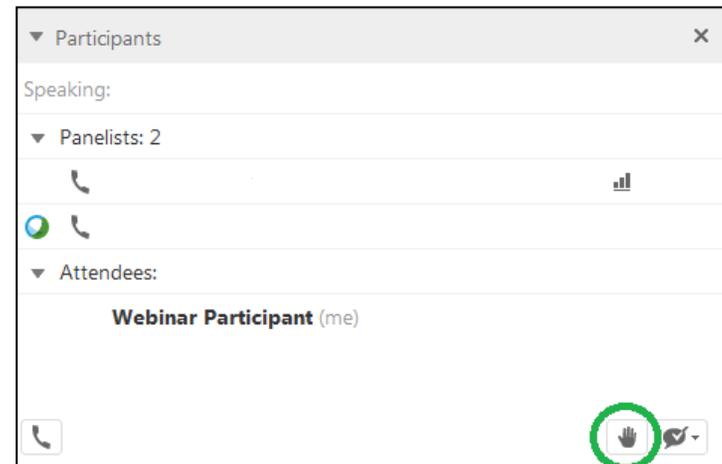
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Federal Communications Commission
Public Safety and Homeland Security Bureau

FCC 911/NG911 Update

State of 911 Webinar Series
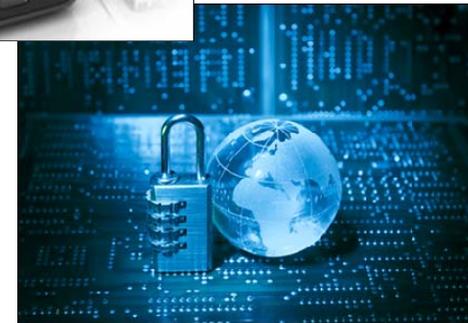## National 911 Program
October 11, 2016

Tim May
Public Safety and Homeland Security Bureau, FCC
timothy.may@fcc.gov
(202) 418-1463

Overview

- Location Accuracy
- CSRIC
- Text-to-911
- 911 Fee Report Data
- TFOPA
- 911 Reliability and Governance
- Emergency Alerting and 911
- FCC 911 Resources

E911 Location Accuracy

Fourth Report and Order (Jan. 2015)

- New location accuracy benchmarks for indoor as well as outdoor wireless 911 calls

- Encourages development of "dispatchable location" as alternative to coordinate-based location

- Adds vertical location (z-axis) requirements for 911 calls from multi-story buildings

- Location technology test bed began testing in August 2016

- Carrier compliance with accuracy standards will be measured based on live 911 call data starting in April 2017

Location Accuracy Timeline

2016	2017	
August	**February**	**April**
Technology test beds launched in Atlanta and San Francisco	Quarterly reporting of live 911 call data from 6 Test Cities (NYC, San Francisco, Atlanta, Chicago, Denver, Philadelphia) and elsewhere at PSAP request	<u>**First Accuracy Benchmark**</u>: 50m accuracy or dispatchable location for 40% of calls

2018	
April	**August**
<u>**Second Accuracy Benchmark:**</u> 50m accuracy or dispatchable location for 50% of calls	Carriers must provide uncompensated barometric data from capable devices Carriers submit proposed z-axis metric to FCC

| 2020	2021	2023
April	**April**	**April**
<u>**Third Accuracy Benchmark**</u>: 50m accuracy or dispatchable location for 70% of calls	<u>**Fourth Accuracy Benchmark**</u>: 50m accuracy or dispatchable location for 80% of calls Z-axis in top 25 markets	Z-axis in top 50 markets

CSRIC Working Group 1
911 Call-Routing Recommendations

- **Task 1 - Cell-Sector Routing Practices**
  - Report (March 2016): Best practices to optimize cell sector-based 911 call routing to correct PSAP

- **Task 2 - Location-based Routing**
  - Report (September 2016): Recommendations on potential location-based 911 routing methods, with pros-cons of each
  - Methods recommended for possible implementation:
    - Interim or "Quick Fix" X/Y routing
    - Geo-code Registered/Provisioned Civic Address
    - Device-Based Hybrid Location
    - Wireless 911 Location Accuracy Emerging Technologies
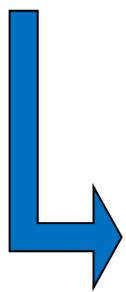 - Location-based routing is a key element for NG911 implementation
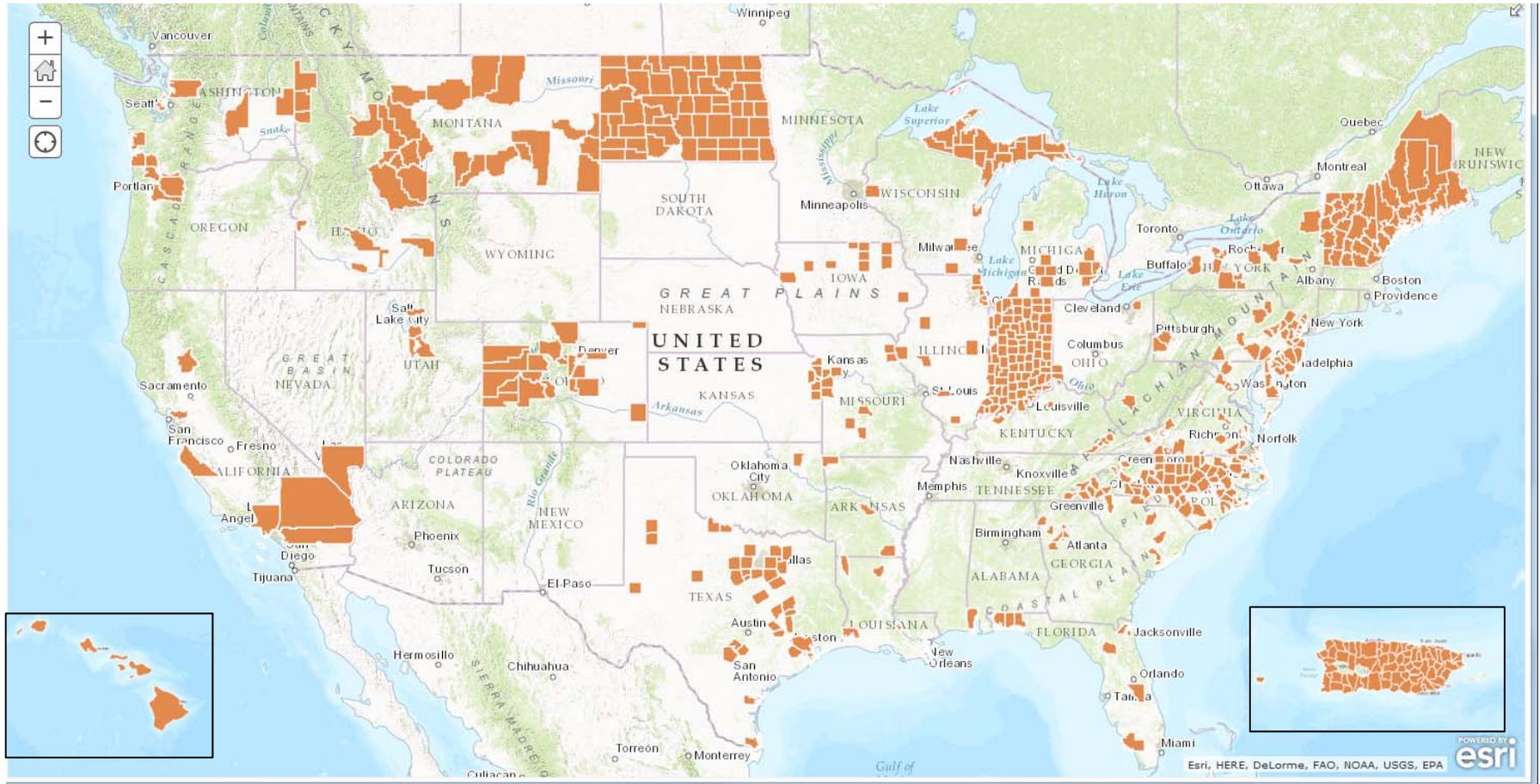
T911 Deployment – Total Counties

State	IN	PR	NJ	ME	VT	NH	DE	ND	HI	NC	MT	CO	MI	NY	VA	OR	ID	PA
Total Counties and Indep Cities	92	78	21	16	14	10	3	53	5	100	56	64	83	62	133	36	44	67
Total Counties Where Text to 911 is Available	92	78	21	16	14	10	3	52	4	61	22	22	28	11	23	6	7	10
%	100%	100%	100%	100%	100%	100%	100%	98%	80%	61%	39%	34%	34%	18%	17%	17%	16%	15%

• • •

TX	SC	WA	MO	IA	FL	CA	UT	IL	LA	WI	NV	GA	KS	AR	MD	OH	KY	WV	OK	AL
254	46	39	114	99	67	58	29	102	64	72	17	159	105	75	23	88	120	55	77	67
34	6	5	12	10	7	6	3	8	5	4	1	6	4	3	1	3	2	1	1	1
13%	13%	13%	11%	10%	10%	10%	10%	8%	8%	6%	6%	4%	4%	4%	4%	3%	2%	2%	1%	1%

• • •

* Based on filings in FCC September 21, 2016 PSAP Text-to-911 Registry

911 Fee Report Data

(7th Annual Report: December 2015 – reporting CY 2014 data)

Report	Key Metrics	
Total States Filing	48 states (Louisiana and Missouri did not file) District of Columbia, American Samoa, the Navajo Nation, and three Bureau of Indian Affairs (BIA) offices	
Total 911 Fees Collected (Calendar Year 2014)	**$2,527,625,360.85**	
Total Fees Diverted	**$223,420,909** (approximately 8.8 percent of total 911/E911 fees collected)	
States Diverting 911 Funds for Non-911 Purposes	*Diverting to support other public safety emergency response-related programs uses* California, New Hampshire, New Jersey, Virginia, and West Virginia	*Diverted a portion of their 911/E911 funds for either non-public safety uses* Illinois, New York, and Rhode Island
Next Generation 911 Expenditures	Twenty-eight states and the District of Columbia reported spending 911/E911 funds on Next Generation 911 programs	
Total NG911 Expenditures	**$227,574,995.97** (approximately 9 percent of total 911/E911 fees collected)	
ESInet Deployments	▪ 11 states reported having deployed state-wide ESInets – 498 total PSAPs ▪ 11 states reported having regional ESInets within the state – 170 total PSAPs ▪ 7 states reported local-level ESInets – 85 total PSAPs	
911 Cybersecurity Preparedness	▪ 38 states spent no 911 funds in 2014 on PSAP–related cybersecurity programs ▪ 5 states and the Navajo Nation stated that they had made cybersecurity-related expenditures ▪ Total - **$25,306,952.16**	

Task Force on Optimal PSAP Architecture (TFOPA)

- Chartered December 2014 – December 2016
- Three Working Groups
    - Cybersecurity
    - Optimal NG911 Architecture Implementation
    - Funding/Optimal Resource Allocation
- January 2016: Task Force unanimously adopted a consolidated report and recommendations based on the recommendations of the three working groups
- Current Tasks (due by December)
    - "NG911-Ready" Scorecard
    - 911 Funding Sustainment Model
    - In-depth review of the Emergency Communications Cybersecurity (EC3) concept
    - Study on NG911 workforce and education challenges NG911 architecture
    - Practical guide to ESInet deployment

# 911 Reliability and Governance

- **911 Reliability Rules (post-Derecho)**
  - Certification of essential 911 facilities
  - First annual compliance certifications filed October 2015, second annual filings due October 2016
- **911 Governance & Accountability (2014)**
  - Proposals to ensure accountability and reduce risk of "sunny day" 911 outages and ensure effective response when outages occur
  - Governance challenges likely to grow more complex in the NG911 environment
- **Part 4 Outage Reporting (2016)**
  - Expands definition of reportable outages to include outages that "degrade" 911 service
  - Proposal to extend outage reporting to broadband networks – potentially important to ensuring NG911 reliability

Emergency Alerting and 911

- There is a logical nexus between 911 and emergency alerting
- We want to encourage the full exploitation of emergency alerting protocols and systems that are already in place, or soon will be:
  - Wireless Emergency Alerts (WEA)
  - Emergency Alert System (EAS)
  - Integrated Public Alert and Warning System (IPAWS)
- PSAPs are uniquely positioned to make the best use of emergency alerts, and we encourage them to do so where possible and appropriate
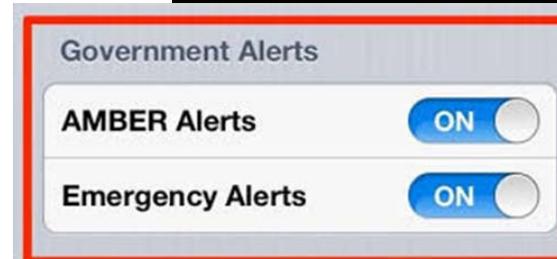
Recent FCC Actions on Alerting

- **Alerting Paradigm NPRM (January 2016)**
  - Proposes to leverage advances in technology to improve EAS and other alerting platforms
- **Nationwide EAS Test (conducted September 28, 2016)**
  - Second national test of EAS (first was in 2011)
- **Wireless Emergency Alerts Order (September 2016)**
  - Increases maximum length of WEA messages from 90 to 360 characters for 4G LTE and future networks
  - Requires wireless providers to support inclusion of embedded phone numbers and URLs in WEA alerts
  - Requires more granular geographic targeting of WEA alerts
  - Creates a "Public Safety Messages" class of WEA alerts to convey essential recommended actions that can save lives or property (e.g., emergency shelter locations or a boil water order)
  - Supports transmission of Spanish-language alerts
  - Enables state and local authorities to test WEA, train personnel, and raise public awareness about the service.

FCC Resources

Indoor Location Accuracy Benchmarks	https://www.fcc.gov/public-safety-and-homeland-security/policy-and-licensing-division/911-services/general/location-accuracy-indoor-benchmarks
FCC Text to 911 PSAP Registry	https://www.fcc.gov/encyclopedia/psap-text-911-readiness-and-certification
FCC Master PSAP Registry	https://www.fcc.gov/general/9-1-1-master-psap-registry
Public Safety Support Center	https://www.fcc.gov/public-safety-support-center
911 Apps Workshop	https://www.fcc.gov/events/911-apps-workshop
911 Fee Reports	https://www.fcc.gov/encyclopedia/911FeeReports
Task Force on Optimal PSAP Architecture	https://www.fcc.gov/encyclopedia/task-force-optimal-public-safety-answering-point-architecture-tfopa
CSRIC	https://www.fcc.gov/encyclopedia/communications-security-reliability-and-interoperability-council

Q&A Period

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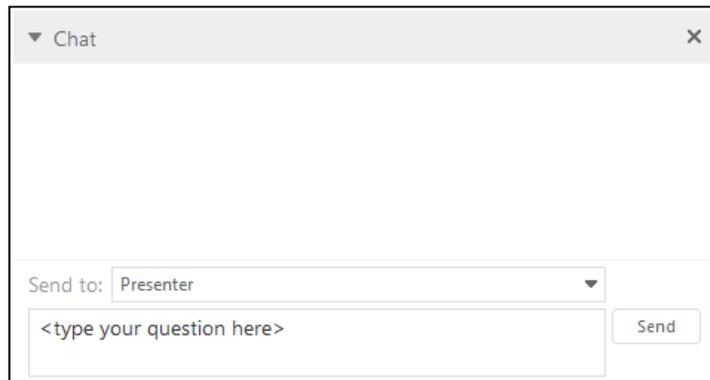
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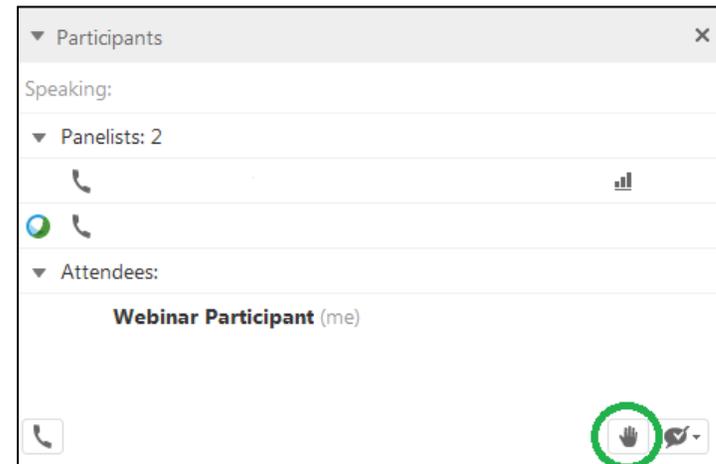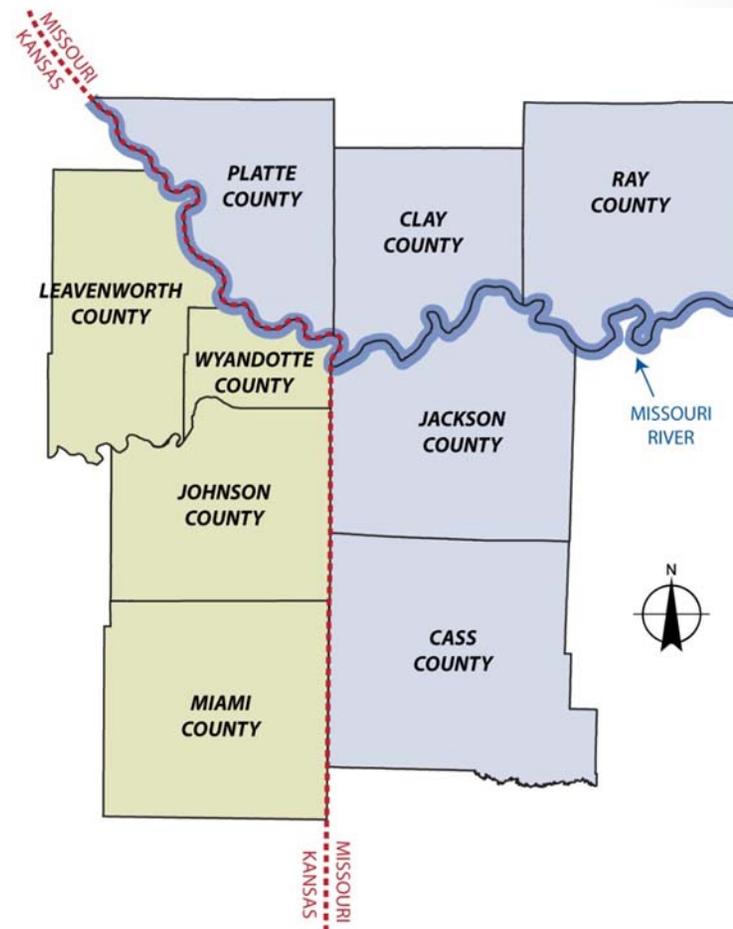
MARC 9-1-1

A REGIONAL APPROACH TO 9-1-1, Public Safety Radio and
Public Safety Data Communications

What is MARC?

- Mid-America Regional Council

- MARC is a nonprofit association of city and county governments and the metropolitan planning organization for the bi-state Kansas City region.

- 2 States
- 9 Counties
- 119 Cities
- 4,400 Square Miles
- 1,913,207 People

MARC Vision

- Provide citizens and public safety professionals with a high quality, financially secure and well-maintained system of 9-1-1, interoperable radio and data communications services.

MARC 9-1-1 History

- 1973: Blue Springs begins 9-1-1 operations
- 1983: MARC Board of Directors agrees to cooperate on 9-1-1 installation
- 1993: First upgrade with agencies selecting equipment and MARC acting as purchasing agent
- 1995: Interlocal agreements with counties
- 2002: MARC purchases selective routers for wireless calls
- 2003: Phase I and II wireless implemented
- 2007: Region-wide upgrade
- 2009: Purchase of first IP-capable answering equipment
- 2016: Texting to 9-1-1 implemented

Interlocal Agreements

- Regional governance with broad representation to address policy and fiscal administration

- Population-based system of cost sharing policies

- Equipment and operating standardization for the region

- MARC staff support for future system planning

- Premise equipment and network owned and managed by MARC

Governance

- MARC Board of Directors

- Public Safety Communications Board

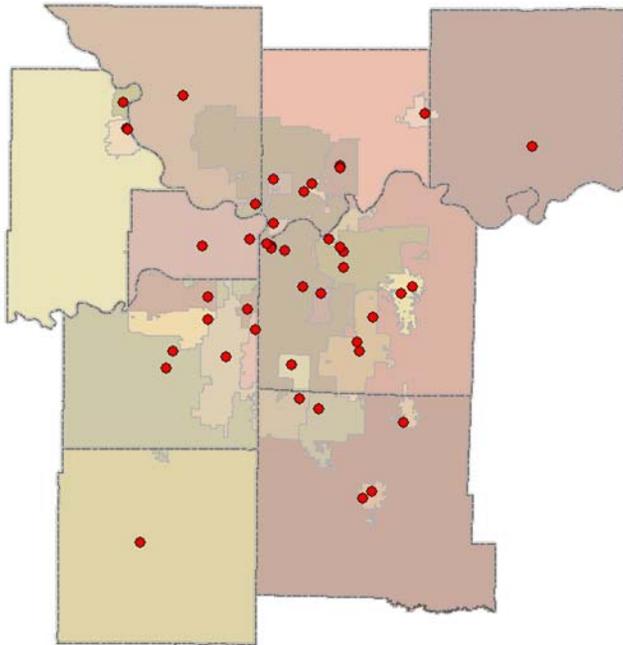- Public Safety Communications Users Committee

- MARRS Management Council

MARC Public Safety

- Contracts

- Database/GIS services

- Error reports

- Statistics

Benefits

- Redundancy

- Improved service to citizens

- Cost effectiveness

- Ease of administration

- Shared knowledge

MARC PSAPs

- 33 Primary
- 5 Secondary
- 4 Backup
- 1 Training Center
- 233 Answering Positions

Activity

- 2015 9-1-1 Calls:
    - VoIP   274,925
    - Wireline   256,550
    - Wireless   1,344,761

- 2015 Admin Calls: 2,832,400

72% of 9-1-1 calls are wireless

RAMBIS and MARRS History

- Initial planning began in 2004 for Regional Area Multi-Band Integrated System (RAMBIS)

- In 2006, a single regional radio system proposed, but the cost was too great

- Three regional agencies were building P-25 networks: Johnson County, KS, Kansas City, MO, Independence, MO

- These agencies agreed to form a "system of systems" and let others join

- This became the Metropolitan Area Regional Radio System (MARRS)

- Goals: improve interoperability, reduce cost, eliminate duplication

MARRS

- **Host Agencies**
  - Kansas City, MO
  - Johnson County, KS
- **Prime Site Agencies**
  - Independence, MO
  - Platte County, MO
  - Wyandotte County, KS
  - Cass County, MO
- **User Agencies**

Questions?

Adam Geffert

Public Safety Administrative Manager

Mid-America Regional Council

816-701-8221

ageffert@marc.org

Kansas City Interoperability Systems

- MARRS "system of systems"
  - 2 Host systems, Johnson County KS Motorola P25 system and KCMO Motorola P25 system
  - Now have over 30,000 users on system regionally
  - Regional channels
    - REGCMN3 - 14

Kansas City Interoperable Usage

- KC has used our regional system resources for multiple events
  - 2012 MLB All Star Game
  - 2013 Bandido's OMG – national "convention"
  - Pursuits
  - Designated usage talk groups

Kansas City Interoperable Usage

- Use of regional talk groups is coordinated
  - 6 COMC's
  - Communications Coordinators rotate being on call
  - Have shared calendar to note usage
  - Keep track of talk groups assigned, resources used
  - Soon will have regional COML on call list
  - Have established COML recognition process

Kansas City Interoperable Usage

- Usage of regional talk groups over last two years has grown
  - Went from a little over 400 uses to over 46,000 uses
  - Now considering second bank of talk groups
  - Also considering regional encryption issues

- Overall, MARRS has been a huge success and has created a stable regional interoperability platform that sees significant usage.
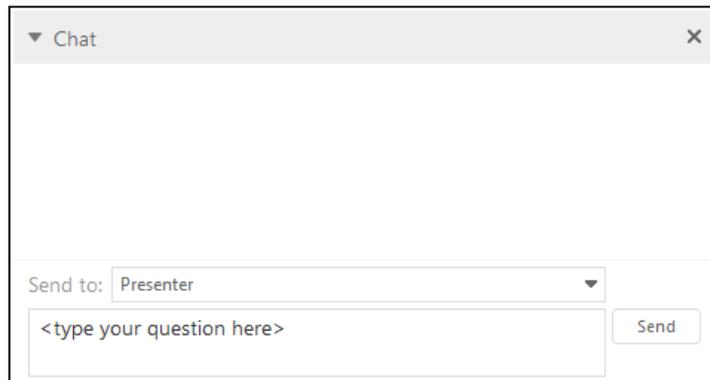
Questions

Steve Hoskins

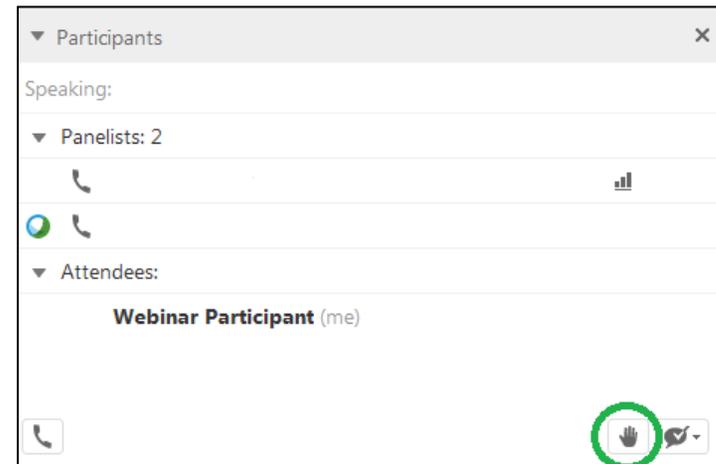KCPD Interoperability Systems Manager

Stephen.Hoskins@kcpd.org

Q&A Period

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Future Webinars

- Next Scheduled Webinar: Tuesday, December 13, 2016 at 12 noon ET

- To register, visit: www.911.gov/webinars.html and click on "Upcoming Webinars"

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

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National 911 Program

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- Feedback or questions can be sent to:
  National911Team@mcp911.com

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