MARC 9-1-1
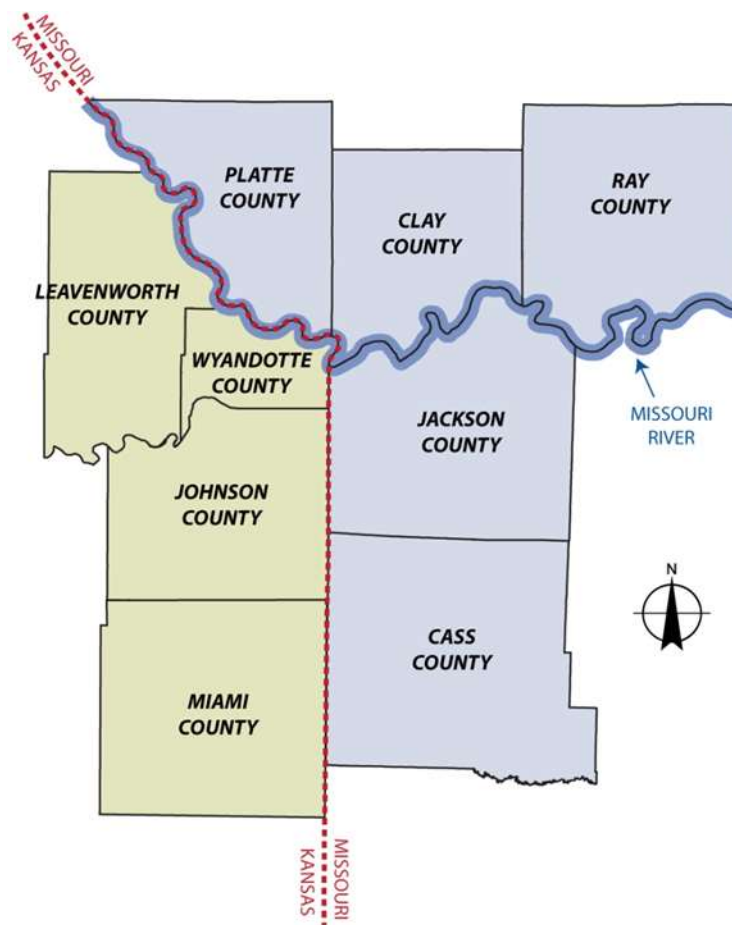
A REGIONAL APPROACH TO 9-1-1, Public safety radio and public safety data communications

WHAT IS MARC?

- Mid- America Regional Council

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

WHAT IS MARC?

- 2 STATES
- 9 COUNTIES
- 119 CITIES
- 4400 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 AGREEEMENTS

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

- Population-based system of cost sharing policies

INTERLOCAL AGREEMENTS

- 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
  - Elected officials
- Public Safety Communications Board
  - Elected officials
  - Police Chiefs/Sheriffs/Fire/EMS
  - PSAP managers
  - Communications Users Committee Co-Chairs

GOVERNANCE

- Public Safety Communications Users Committee
  - Technical Committee
- MARRS Management Council
  - Technical Committee
    - IT Subcommittee
  - Users Committee
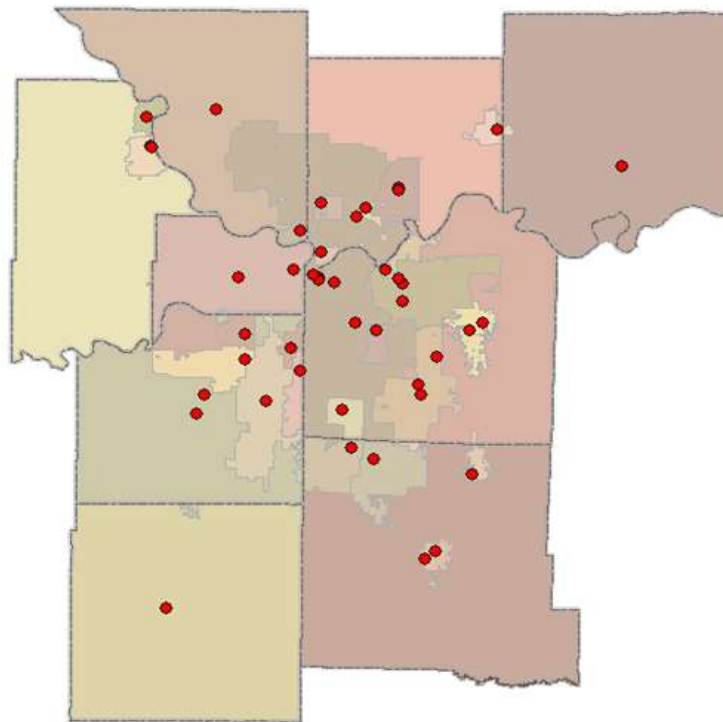
MARC PUBLIC SAFETY

- Contracts
  - Language Line
  - Maintenance
  - Mapping software
  - Telco agreements
- GIS
  - Maintain digital maps for public safety
  - Update 9-1-1 maps for PSAPs
- Database
  - Monitor database for accuracy
- Error Reports
  - Handle all error reports for PSAPs
- Statistics
  - Call volume
  - Trunk usage
  - Position usage

BENEFITS

- Redundancy
    - PSAPs can provide back up services both short and long term
    - Two networks: wireline and wireless
- Improved service to citizens
    - Transferred calls have all ANI/ALI and Phase II info
- Cost effective
    - Duplicate equipment eliminated
- Ease of administration
    - Coordination reduces tasks and workload at PSAP
    - Regional guidelines
- Shared knowledge
    - Users Committee
    - Training for over 600 telecommunicators

MARC PSAPS

- 33 Primary
- 5 Secondary
- 4 Backup
- 1 Training Center
- 226 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)
  - System would allow use of UHF, VHF, and 800 MHz radios to communicate with one another
  - Interoperability was primary goal, connecting PSAPs secondary goal
  - Design began in 2005; all sites completed and operational in 2010
- 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 MOU

- RAMBIS provides interim level of radio interoperability and microwave service for the region
- MARRS provides P-25 capability for the region
- MARRS founded on 9-1-1 governance and regional cooperation
- Regional governance with broad representation to address policy, fiscal and technical administration
- All radio system equipment owned and maintained by agencies
- Sub-agreements executed by public safety agencies interested in participating in system

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**

MARRS COVERAGE

MARC OSPF
Network Diagram

USERS COMMITTEE

- Operational policies and Best Practices
    - Unit Identification
    - Check-in/Check-out
    - Encryption
    - MARRS Regional Recording
    - Multi-agency Regional Response
    - Talkgroup assignments
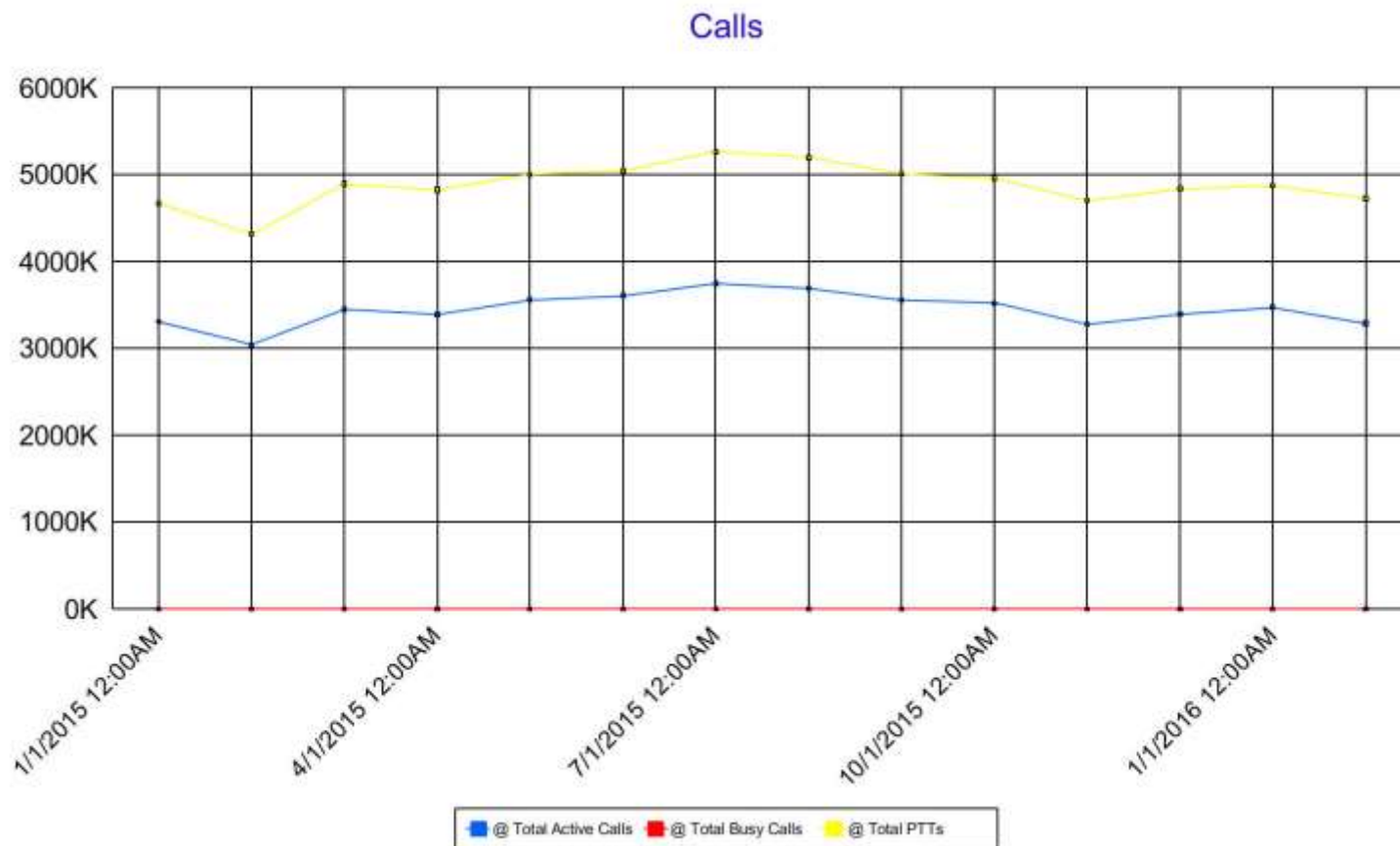- Collaborate with the Technical Committee

TECHNICAL SUBCOMMITTEE

- User site access/roaming
- All PS Users all Sites for Interop Channels
  - PSDISP
  - Regionals
- Agency talkgroups generally restricted to home site
  - Traffic management
  - Channel capacity

TECHNCIAL SUBCOMMITTEE

- Review applications for MARRS
- Recommend approval if no adverse system impact
- Assist new users in joining system

MARRS CALL VOLUME

CHALLENGES

- MARRS System Sustainability
- SUA II Years 1 – 10 Contracted
- SUA II? Years 10+
- Non SUA hardware 10+
  - Microwave
  - Transceivers – Phase II?
  - Generators
  - Batteries
  - Site/Tower

CHALLENGES

- ENCRYPTION
- Local Interoperability
  - Agency Talkgroups
  - Interoperability Talkgroups
  - Regional Assets (Helicopter, etc.)
- Mode
- Cost
- State/Federal compatibility

QUESTIONS?

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Regional Microwave Network