Planning for the Integration of FirstNet and NG911 at the PSAP
AGENDA

1:00pm – 1:05pm  Welcoming Remarks and Introductions

1:05pm – 1:30pm  Missing Migrant Program (CBP)

1:30pm – 2:00pm  FirstNet Built by AT&T
                  (Amos Chalmers, Principal Consultant)
                  Arizona Update - Coverage, Capacity, Priority and Preemption

2:00pm – 2:45pm  First Responder Network Authority
                  (Kristi Wilde, Bill Schrier)

2:45pm – 3:45pm  FirstNet/NG911 Integration Planning
                  (Mission Critical Partners)

3:45pm – 4:00pm  Q&A, Closing Remarks, Adjourn
RGV Missing Migrant Program
Presentation

MMP seeks to prevent the loss of life amongst the migrant population traversing through the South Texas Corridor. This complex objective is sought through MMP’s intense efforts and relationships with foreign consulates, medical examiners offices, forensic pathologists, law enforcement partners, electric and gas companies, ranch owners, Non-Governmental Organizations (NGOs), institutions of higher learning and families. Moreover, the establishment processes and relationships seek to meet the MMP’s objectives of prevention, location, identification and reunification.
911 Markers

Border Patrol 911/Missing Migrant Program Pilot will enable operating sectors to utilize geospatial data collected by the field to optimize 911 placards and rescue beacons on the southern border of the U.S., initially in the Rio Grande Valley Sector.

911 Location Marker Project

Preventing Tragedies and increasing rescues of missing migrants

Prevent - Locate - Identify - Reunite
Recent Rio Grande Valley Sector Deaths
RGV 911 Emergency Call Geoform

1. Enter Information

- Date (optional)
  - July 1, 2019 10:16 AM

- Originating Agency
  - Select...

- Other Agency Description
  - If 'Other Agency' was selected, please enter the agency name here

- Subject Name
Technology Transition of Public Safety Communications

• Public safety is transitioning from voice centric to data centric communications
  - Internet Protocol (IP) networks have created a platform for interoperability previously impractical with proprietary technologies
  - Next Generation 911 will eventually permit callers to send multimedia data (text, images and video) to PSAPs and to/from first responders
  - Broadband wireless, such as FirstNet will make the connection between the PSAP and the smartphones and mobile computers of first responders for receipt and transmission of multimedia data, text messaging and location data.
  - FirstNet will provide a standards based platform that permits interoperability between broadband devices and legacy land mobile radio (LMR) systems
**Next Generation 911 and Broadband**

- Next Generation 911 will provide
  - Improved location data on callers using wireless devices
  - Ability for callers to send multimedia data to the PSAP and ultimately to first responders
  - Improved interoperability and data transfer between PSAPs

- Convergence with FirstNet will provide an improved link between the PSAP, callers and first responders
  - Improved situational awareness will be a product of this convergence
Technology Convergence in PSAPs

• Internet Protocol (IP) networking enables communications between systems employed in the PSAP
  - Next Generation 911 (NG911)
  - 911 answering equipment
  - Voice logging systems
  - Computer Aided Dispatch
  - Records Management Systems
  - FirstNet and interoperability with LMR
  - Multimedia data servers, video analytics, situational awareness
  - Fixed video networks – video surveillance
Emergency Communications “Ecosystem” – Legacy (Voice)

Call Delivery
Landline/Cell/VoIP

Call Processing
CPE/CAD

Call Dispatch
LMR

Originating
Service Providers

State 911
Authority

State & PSAPs
PSAP Operations

State 911
Authority

First
Responders
Emergency Communications “Ecosystem” – Future
WHAT DOES IT ALL MEAN FOR THE PSAP?
• Will enable data sharing between agencies, and between agencies and responders such as:
  - Multimedia data from persons reporting emergencies
    - Videos or digital images of the scene
  - Multimedia data from video surveillance and/or traffic camera networks
  - Schools’ panic alarm and video systems
  - Computer-Aided Dispatch (CAD) data sharing agreements
• This will require Memoranda of Understanding (MOU) between agencies
Information and Change Management Framework

- Technology policy requirements
  - Data retention/access

- Technology infrastructure constraints
  - Data storage, cataloging, retrieval

- Workforce implications (both inter- and intra-agency)
  - Data analysis/retrieval/redaction

- Operational workflows, policies, and procedures

- Training needs
Information and Change Management Framework

- Governance policies
- Regulatory and legislative constraints
- Funding
- Facilities structural constraints
- Metrics for measuring success
Key Considerations

• Do the proposed solutions:
  – Improve situational awareness?
  – Improve decision-making capabilities?
  – Decrease response times?
  – Have the potential to save lives?
Basic and Advanced Service Integration

- Basic service integration is the incremental improvement of legacy ECC functionality by the introduction of the NPSBN. The first step involves basic service integration between ECCs and the NPSBN. This step involves wireless data services, interoperability with existing LMR voice systems, and interoperability of PTT functionality with other public safety entities on a Long-Term Evolution (LTE) network. Planning for basic service integration involves the following action steps:
  - Create a planning document, outlining the specific steps, timeline, and task deliverables.
  - Identify the technical, operational, and policy needs of ECCs and field responders pertaining to ECC and NPSBN integration, using a mix of interviews, assessments, and a needs analysis.
  - Develop a model of the integration steps, policies, and costs.
• The second step toward transformation of ECC technology, which involves exploitation of the NPSBN’s broadband capabilities, is advanced service integration. This step is focused on collecting multimedia data from multiple sources and then sharing the data between the ECC and field responders. This segment of the project is focused on the definition of the technologies and processes required to enable the capture, analysis, distribution, display, and archival of text, images, and video content between the 911 caller, 911 call-handling equipment (CHE), and CAD systems at the ECC, and with wireless devices used by field responders that operate on the NPSBN.
• When advanced service integration is completed, examples of multimedia data that could be shared include:
  – Multimedia data from 911 callers, such as video or digital images
  – Field-originated videos, such as from responder body-worn or dashboard cameras
  – Location data of callers and field responders
  – Video from public or private closed-circuit television (CCTV) or surveillance cameras
  – Data received from sensors or other automated systems
Advanced Service Integration – Action Steps

• Create a planning document, outlining the specific steps, timeline, and task deliverables.

• Develop a user-level description of the integration of the NSPN with NG911 and ECC systems under various operational scenarios.

• Gather requirements from the 911 and field responder communities to identify the stakeholders’ specific needs for integrating these systems.

• Based on stakeholder input, determine the technical, operational, policy, and staffing requirements to implement the advanced service integration.
Connecting to FirstNet/AT&T

• Private IP Connection
  – Direct into PSAP or ESINet
  – Network Redundancy
  – Need to work with AT&T to establish the connection
Cyber Security

- Task Force for Optimal PSAP Architecture (TFOPA) Working Group 2 (WG2)
  - Section 4.4 – Security, December 2016
    - Establishes a framework for network security with multiple components
      - Preliminary Actions – Leadership Driven
      - One: Identification/Discovery
      - Two: Assess/Prioritize
      - Three: Implement/Operate
      - Four: Monitor/Evaluate
      - Five: Test/Evaluate
      - Six: Improve/Evolve
Today’s Landscape

The state of today’s cyber threat to public safety:

• Over 200 executed cyber attacks have officially reported against public safety agencies since early 2017
• Ransomware payouts have exceeded $1 billion over the same period
• 95% of breached records within 2016 came from three targeted areas - government, retail, and technology
Legislative/Regulatory

- Laws and regulations need established to control data flows into PSAP’s and ECC’s
  - Types of multi-media which will come into the PSAP/ECC either through FirstNet or NG911
    - IoT
      - Smart Cities
      - Safe Cities
    - Alarms
      - ASAP to PSAP
    - Autonomous vehicles
    - Advanced Data Repositories
      - RapidSOS
      - Carbyne
      - Smart 911
Operational Impacts

- How will video, both recorded and live-streamed, be used?
- Will the new data have an effect on ECC personnel health?
- What training will be required for ECC personnel?
- Will you utilize a special division or position for data and multi-media analytics?
- How will multimedia be associated with the correct incident?
- How will the ECC defend itself against cyber-attacks?
Operational Impacts

• What technical impacts will NG911 have on the ECC environment?

• How will the new data be stored and retained?

• What are the evidentiary or legal ramifications when receiving and disseminating the new data?

• Is staffing adequate?

• What budgetary changes need to be made?
Areas of Future Focus

• How will ECCs integrate with FirstNet regarding technology, operational and non-traditional cost impacts?

• How will ECCs analyze large amounts of data coming in from the public for relevance?

• How can technologies, such as video analytics, be leveraged to prioritize video traffic?

• How will the ECC secure its environment as it becomes more interconnected, and the cost associated with that security?

• What legal, retention, and data-storage issues present themselves from this convergence?
QUESTIONS

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