



Integrated Public Alert and Warning System

Using IPAWS for Interoperable Messaging

SIG Presentation

12 September 2012



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Agenda

- ▶ **IPAWS-OPEN Features**
- ▶ **Why is IPAWS-OPEN beneficial for non-Public alerts?**
- ▶ **What is needed to use IPAWS-OPEN?**
- ▶ **COG-to-COG Interoperable Messaging Examples**
- ▶ **Origination Software Capabilities**
- ▶ **Options for sharing Rich Content (EDXL-DE)**
- ▶ **Questions?**

IPAWS-OPEN Features

- ▶ **CMAS – Public receives alerts on carrier handsets**
- ▶ **EAS – Public alerts are disseminated over TV and Radio**
- ▶ **NWEM – Non-weather emergency messages are disseminated on NOAA weather radio**
- ▶ **Public Alert Feed – Alerts published as a service for re-distribution by dissemination systems (New for IPAWS-OPEN 3.02)**
- ▶ **COG-to-COG Interoperable Messaging**
 - **Common Alerting Protocol (CAP) v1.2**
 - **Emergency Data Exchange Language (EDXL) Distribution Element (DE) v1.0**

Why is IPAWS-OPEN beneficial for non-Public alerts?

- ▶ Telephone calls from one organization to another must be answered
- ▶ Radio calls from one organization to another must be heard
- ▶ Emailing another organization requires knowledge of the recipient address
- ▶ **IPAWS-OPEN Distribution is Targeted**
 - Messages are addressed to one or more Collaborative Operating Groups (COGs)
 - Messages are retrievable by all users in the COG
- ▶ **Consistent Daily use of the IPAWS-OPEN system breeds familiarity when the need for public alerting arrives.**



What is needed to use IPAWS-OPEN?

- ▶ **Origination Software that Connects to IPAWS-OPEN**
- ▶ **Organizational MOA with FEMA/IPAWS for use of IPAWS-OPEN**
 - Provides a Collaborative Operating Group (COG) Number
 - Provides a Digital Certificate for authenticity
 - <http://www.fema.gov/alerting-authorities>
- ▶ **Public Alerting Application verified by State alerting authority**
 - Only required for COGs desiring public dissemination of alerts
- ▶ **EMI Training class**
 - EMI IS-247 course for COG Point of Contact and any user with post permission for IPAWS public alerts
 - <http://training.fema.gov/EMIWeb/IS/is247a.asp>



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Interoperability Examples – Setting the Table



Kansas City:

- Spans 2 states:
 - Kansas
 - Missouri
- Spans 5 counties:
 - Kansas (1)
 - Missouri (4)



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Example #1 – Local to State Direct COG-to-COG Messaging



Situation:

- Kansas City, MO Police Dept. confirms incident involving an abducted child that meets AMBER criteria, last seen heading north.

COG Configuration:

- Missouri Highway Patrol COG
 - Vendor 
 - Statewide Alert Authority
- Kansas City, MO Police Dept.
 - Vendor 
 - Local Alert Authority
 - State AMBER plan has all AMBER alerts originated by Missouri Highway Patrol

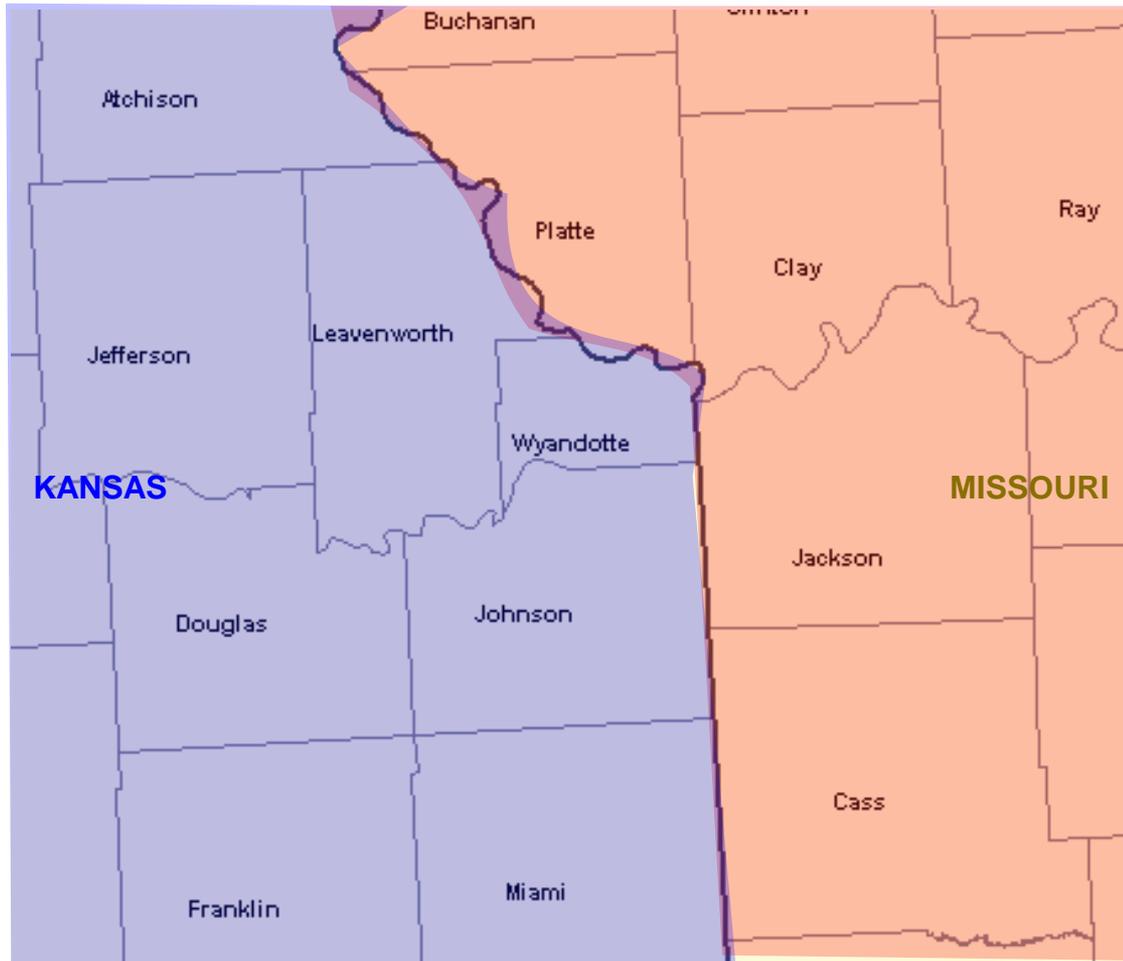
Interoperability:

- Kansas City Police Dept. addresses a CAP message to MO Hwy Patrol with incident particulars, photo of child and requests AMBER Alert be issued for Platte, Clay, and neighboring counties



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Example #2 – State to State Public Alert with COG Notification



Situation:

- Missouri Hwy Patrol has received request for AMBER Alert from Kansas City MO

COG Configuration:

- Kansas Bureau of Investigation COG
 - Vendor ▲
 - Statewide Public Alert Authority
- MO Hwy Patrol COG
 - Vendor ◆
 - Statewide Public Alert Authority

Interoperability:

- MO Hwy Patrol COG issues an AMBER Alert for Platte, Clay, Jackson, and Cass Counties MO
- At the same time KBI COG is added to Addresses field of CAP Message
- KBI receives message and issues AMBER for Wyandotte and neighboring counties



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Example #3 – Local to Local Direct COG-to-COG Messaging



Situation:

- Emergency on the Missouri river with potential water contamination reported by Platte County, MO Health Dept. Residents urged to avoid contact.

COG Configuration:

- Platte Co. Health Dept. COG
 - Vendor 
 - No Public Alerting
- Clay Co. Health Dept. COG
 - Vendor 
 - No Public Alerting
- Jackson Co. Health Dept. COG
 - Vendor 
 - No Public Alerting

Interoperability:

- Platte Co. Health Dept. COG uses direct CAP alert to Clay and Jackson Counties
- Alert is marked “public” in scope so that Clay and Jackson know that they may use for public information



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Interoperability Conclusions

- ▶ **A COG may be established at any geographic level in order to conform to existing emergency management plans:**
 - **National**
 - **Multi-state**
 - **State**
 - **Multi-county**
 - **Single county**
 - **Single city or other local entity**

- ▶ **A COG may be created with or without a Public Alerting authority but all COGs may perform COG to COG messaging.**

- ▶ **IPAWS-OPEN allows information sharing to be origination system independent by using a common alerting protocol standard (CAP 1.2)**



Capabilities of Origination Software

- ▶ Capabilities differ from one product to another
- ▶ Many vendors are in different stages of IPAWS-OPEN integration
- ▶ IPAWS is tracking the intent of the development organizations
 - <http://www.fema.gov/library/viewRecord.do?id=5670>
- ▶ IPAWS does not currently validate the functionality of origination tools. Please do some due diligence and research the capabilities of the software being selected for use with IPAWS-OPEN.

Sharing Rich Content

- ▶ **Many COGs desire to share more than just the Headline, Description, and Instruction information included in an IPAWS-OPEN alert**
 - **CAP 1.2 allows for sharing some rich content as an alert resource**
 - **The Emergency Data Exchange Language Distribution Element (EDXL-DE) was created to provide additional capability for sharing of information.**
- ▶ **What is EDXL-DE?**
 - **Think of it as a BIG Envelope**
 - **Tells you who it is from and what to expect on the inside**
 - **Allows you to send documents, files, multimedia content, etc.**
 - **Maybe an example would help us to see the potential options?**



Comments and Questions

▶ **IPAWS Website** - <http://www.fema.gov/emergency/ipaws>

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Tracking
Emergency
Patients

Integrated Public Alert & Warning System

IPAWS-OPEN

- more than alerting -



Objectives

- Describe the emerging data exchange standard for patient tracking during emergencies
- Describe IPAWS use in secure message routing between multiple jurisdictions and partners





Tracking of Emergency Patients

- Current patient tracking landscape is complex
- Large events require involvement of multiple systems





TN Use Case Scenarios

- Evacuation
- Catastrophic Event
- Large-Scale Outbreak
- Mass Casualty
- Mass Gatherings



Nashville Flooding 2010





What is the TEP Standard?

The **TRACKING OF EMERGENCY PATIENTS** Standard is a protocol for exchanging patient demographics, locations, and care

- First Responder and Healthcare Driven:
 - local, state, and federal
- Co-sponsored publication – OASIS and HL7





IPAWS = *more than alerts*

- Collaborative Operating Groups (COGs) assigned to state and locals
- Allows for federal, state, local data exchange
- Interoperability is key





How is IPAWS used?

- Send/receive secure messages between COGs
- Monitor message traffic
- Publish/Subscribe or Broadcast introduces risk
 - Health information
 - Liability Risk





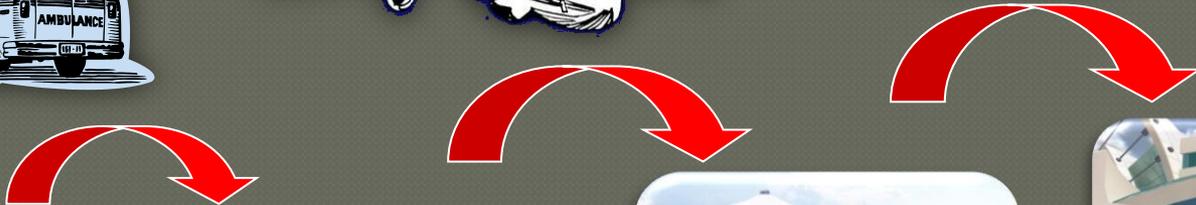
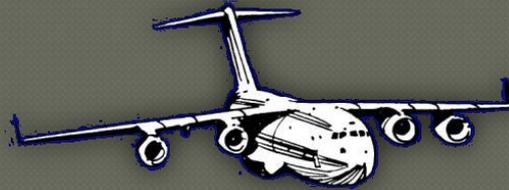
Pilots Conducted

3 Pilots Conducted

- 2010 – Focus on Draft TEP
- 2011 – Focus revised TEP and Routing
- 2012 – National Demonstration of entire solution



2012 Pilot



**Location 1:
Nashville,
TN**



**Location 2:
National Guard
Air Base, TN**

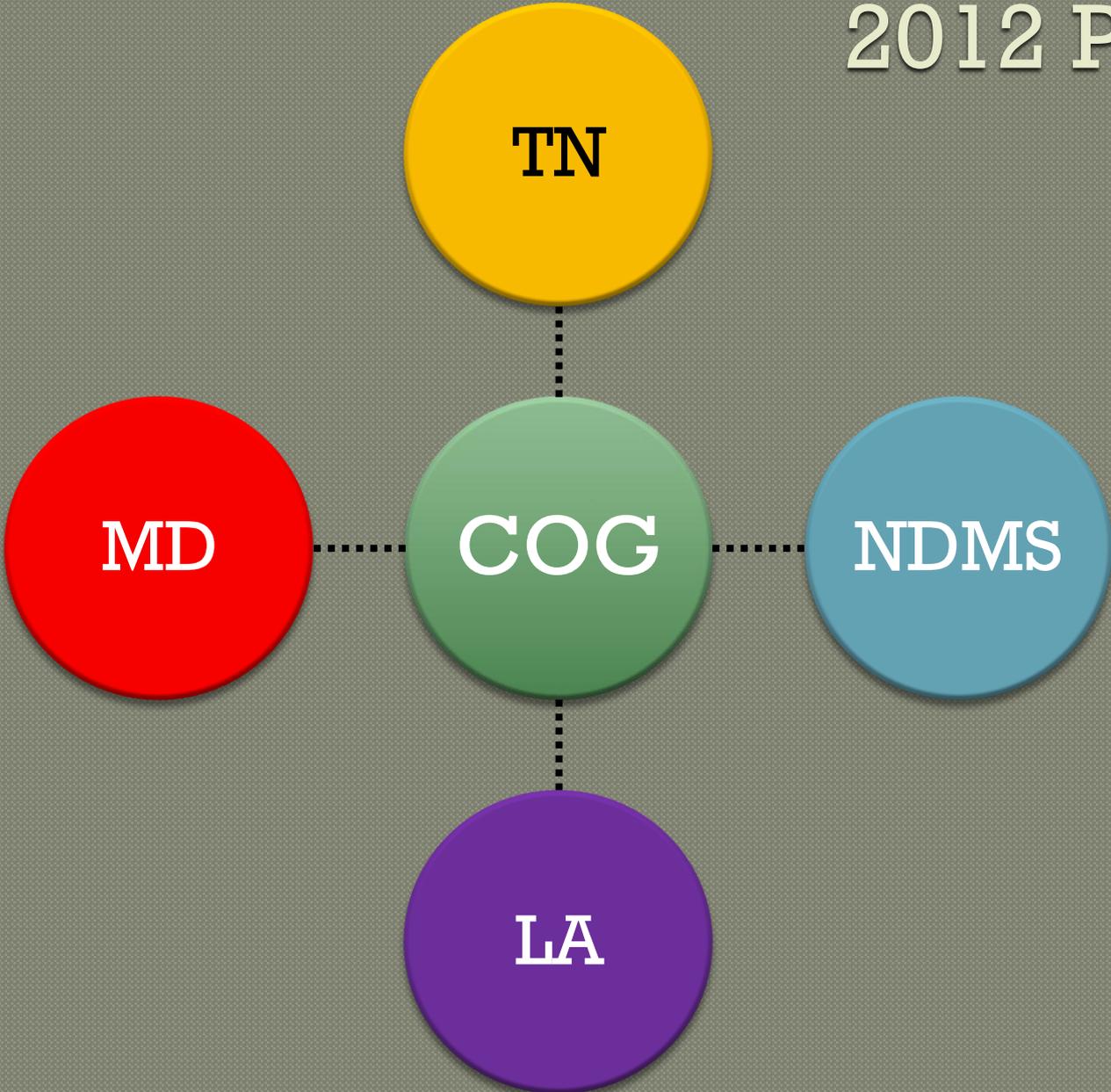


**Locations 3 & 4:
Shreveport, LA
& BWI, MD**



**Locations 5 & 6:
LA Hospital &
MD Hospital**

2012 Pilot



IPAWS Future Enhancements

- Search and Find message exchange partners (COG address)
- Receipt and Acknowledgement
- Message Validation
- IPAWS Connection to the Nationwide Health Information Network (NHIN)





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