



# FEMA

## Developer Special Interest Group

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# Agenda

- Program Overview [0 min]
- Program Update [5 min]
- IPAWS Demo Environment [20 min]
- Getting the Biggest Bang out of Your CAP [5]
- Feedback from Users [5 min]
- Feedback from Developers [5 min]



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# The Evolution of Emergency Broadcasting



**1951 - 1963**  
CONELRAD

**1963 - 1997**  
EBS

**1997 - 2006**  
EAS

**2006**  
IPAWS

Originally called the “Key Station System,” the **CONTROL** of **ELECTROMAGNETIC RADIATION (CONELRAD)** was established in August 1951.

Participating stations tuned to 640 & 1240 kHz AM and initiated a special sequence and procedure designed to warn citizens.

EBS was initiated to address the nation through audible alerts. It did not allow for targeted messaging.

System upgraded in 1976 to provide for better and more accurate handling of alert receptions.

Originally designed to provide the President with an expeditious method of communicating with the American Public, it was expanded for use during peacetime at state and local levels.

EAS jointly coordinated by the FCC, FEMA and NWS.

Designed for President to speak to American people within 10 minutes.

EAS messages composed of 4 parts:

- Digitally encoded header
- Attention Signal
- Audio Announcement
- Digitally encoded end-of-message marker

IPAWS modernizes and integrates the nation’s alert and warning infrastructure.

Integrates new and existing public alert and warning systems and technologies

Provides authorities a broader range of message options and multiple communications pathways

Increases capability to alert and warn communities of all hazards impacting public safety.



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# IPAWS Federal Guidance

## **Executive Order 13407 states:**

“It is the policy of the United States to have an effective, reliable, integrated, flexible, and comprehensive system to alert and warn the American people...”

“establish or adopt, as appropriate, **common alerting and warning protocols, standards,** terminology, and operating procedures for the public alert and warning system to enable interoperability and the secure delivery of coordinated messages to the American people through as many communication pathways as practicable...”

“administer the Emergency Alert System (EAS) as a critical component...”

“ensure that **under all conditions** the President of the United States can alert and warn the American people.”

## **1995 Presidential EAS Statement of Requirements states:**

“The national level EAS must be: Fully integrated from the national to local level, yet capable of independent local (Priority Two) and state (Priority Three) operations”

**The IPAWS PMO was formed to implement Executive Order 13407**



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# Federal **Regulation** & Statutory Guidance

## **CFR 47 Part 11 — EMERGENCY ALERT SYSTEM**

rules and regulations providing for an Emergency Alert System (EAS)

## **CFR 47 PART 10 — WIRELESS EMERGENCY ALERTS**

establish the **requirements for participation** in the Wireless Emergency Alert System

## **WARN Act —**

funds APTS/PBS to distribute alerts from IPAWS to WEA Participants, funds DHS to research more effective alerting

## **Stafford Act —**

“provide technical assistance to State and local government to ensure that timely and effective disaster warning is provided”

“make available to Federal State and Local agencies the facilities of the civil defense communications systems”



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# IPAWS Vision

*“Timely Alert And Warning To American Citizens In The Preservation of Life And Property”*

- Facilitate **single** emergency alert message **delivery to all** available public dissemination channels
- Easier to use by public safety/alerting authorities

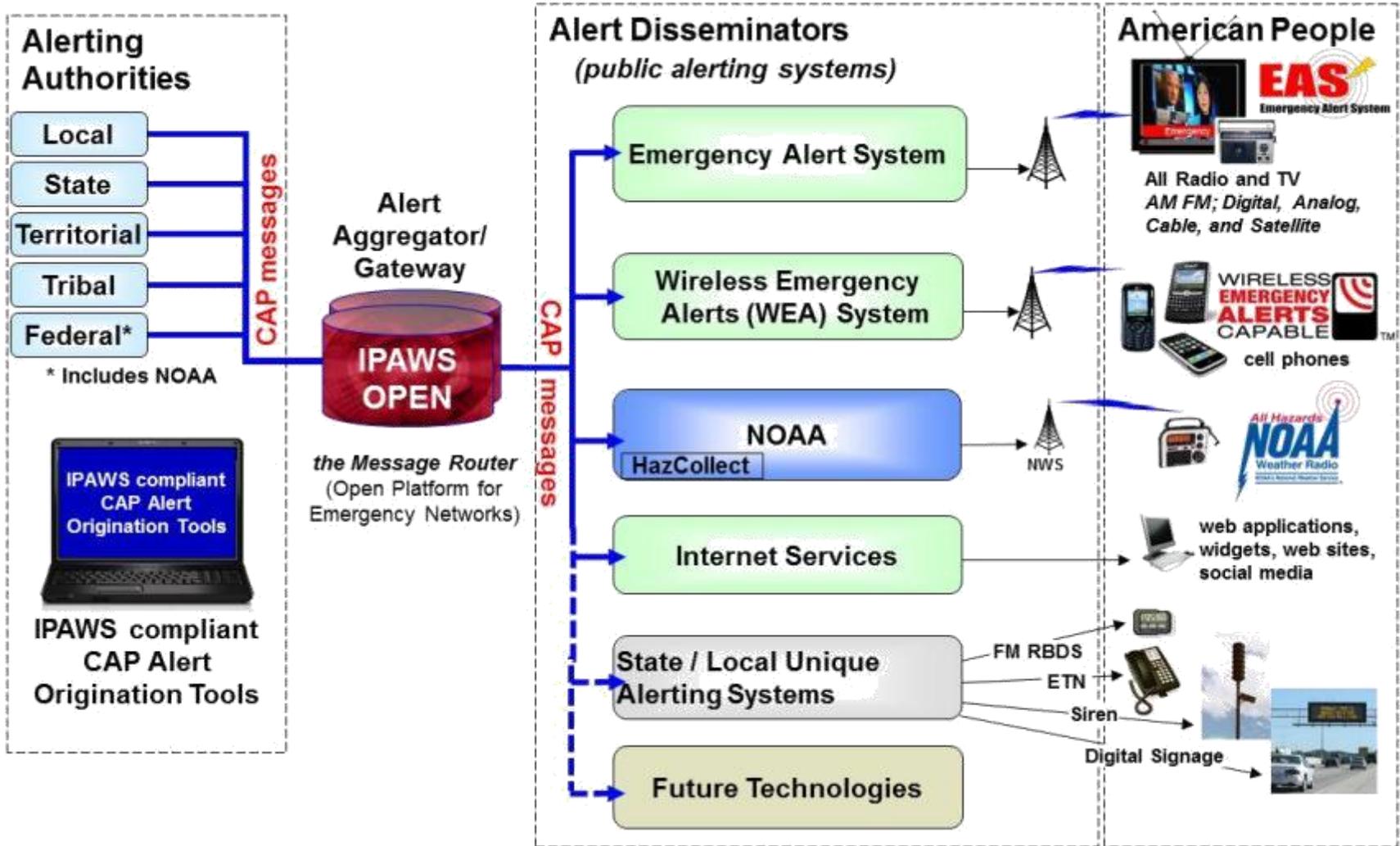


- Improves and Enhances emergency alerting capability in two critical ways:
  - **Reliability** that citizens receive alert via at least one path
  - **likelihood** that citizens react to emergency alerts



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# IPAWS Architecture



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# Alert Origination Update (as of April 12)

124

- Alerting Authorities can send alerts via IPAWS
- Including 28 state-wide EMAs
- AK, AR, AZ, CA, CO, DE, FL, GA, HI, IA, ID, IN, KY, MA, MD, ME, MN, NE, NJ, OK, PA, RI, TN, VA, VT, WA, WI, WV

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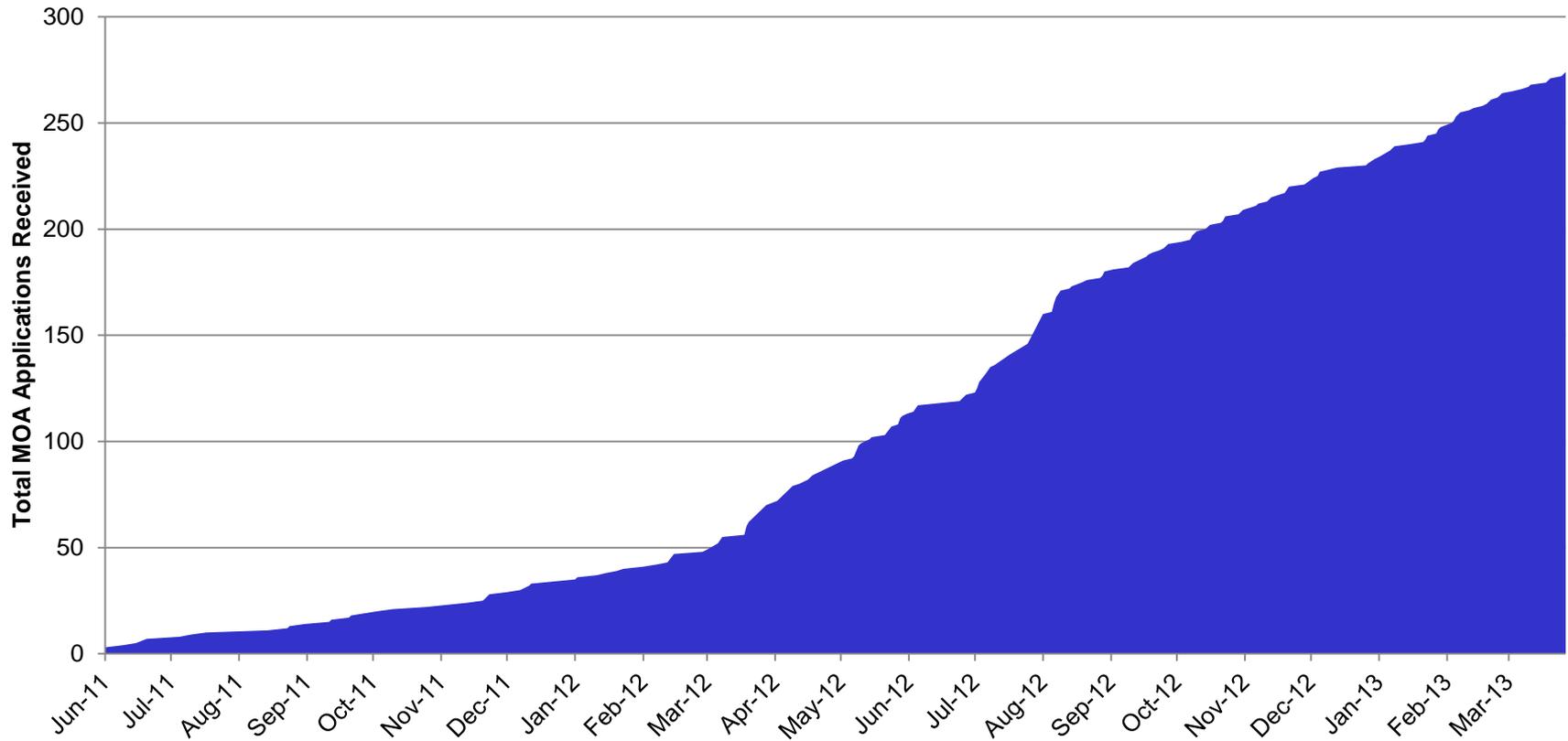
- Alerting Authorities in process
- Including 9 state-wide EMAs
- IL, MI, MO, MS, NC, NH, NM, NY, OH



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# MOA Applications Received (as of April 12)

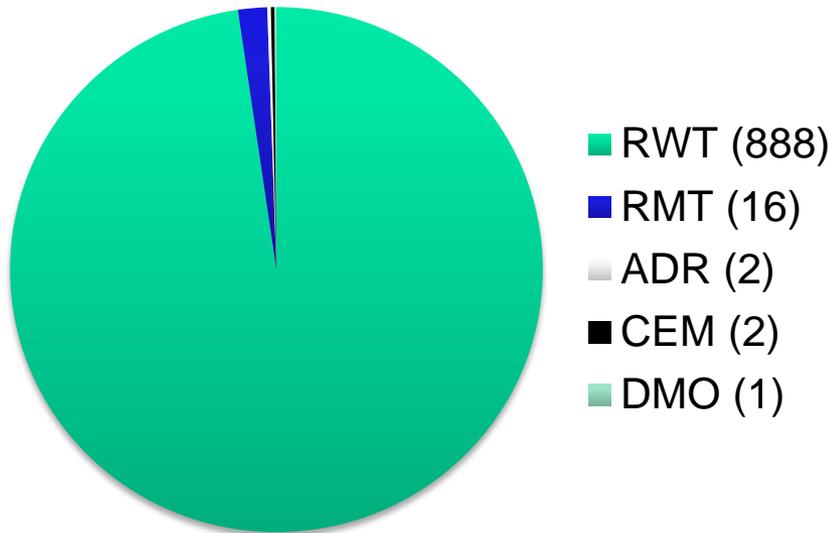
## IPAWS Adoption



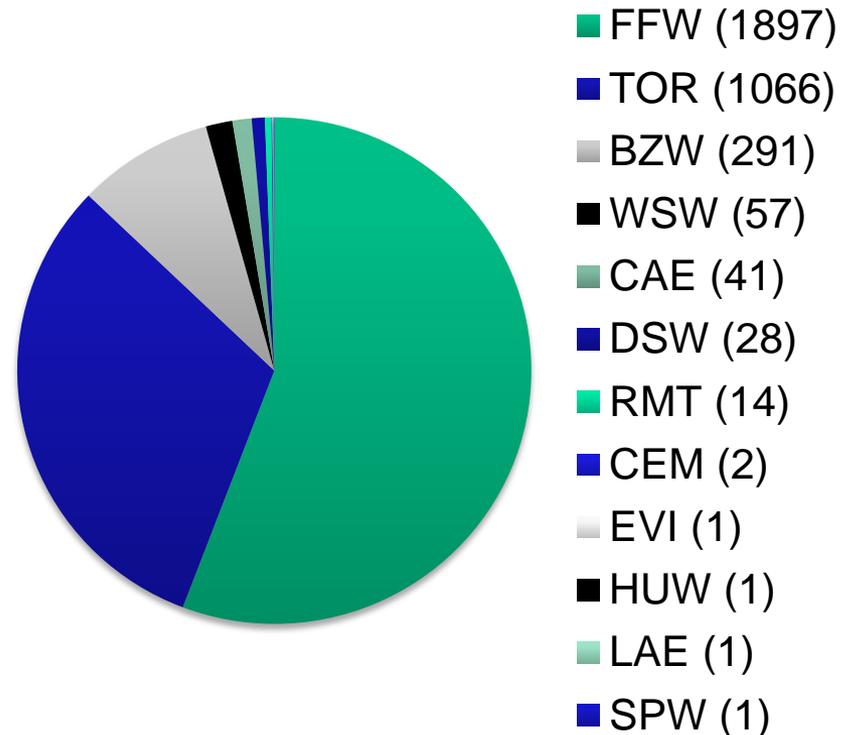
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# Current IPAWS Usage Statistics (as of April 16)

## EAS Messages (909)



## WEA Messages (3400)



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# Three IPAWS Environments

- PROD
  - Live public alerts!
  - EMAs only
- TDL
  - Developmental test site
  - Software developers only
- JITC
  - Train, Drill, Exercise, Demo
  - EMAs and software developers



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# Capabilities at JITC

- IPAWS-OPEN v3.03
  - Full control of COG permissions
  - CMSP gateway, toy cell, WEA-capable handsets
  - EAS Atom Feed and EAS polling devices
  - Public Alert Feed
- Users need your help to train, drill, exercise
  - Install and manage certs
  - Point to JITC endpoint
  - What does train, drill, exercise mean, and why is it important?



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# Capabilities at JITC



- Staffed to support coordinated operational testing, demonstrations, etc.



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# Key Considerations for Switching Between Live and Demo Environments

- Mechanics
  - Handling multiple certificates
  - Toggle between environments
  - Tools must function identically in Demo as in Live
  - Templates should work in both environments
- Safeguards
  - How does the user know which environment they're in?
  - “Are you sure you want to do that?” pop up messages
  - User feedback is critical (alert did/didn't go to EAS)
  - Alert previews are extremely helpful



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# Getting the Biggest Bang out of Your CAP

- CAP is more than just EAS, WEA, NWEM
  - Include **rich content** in addition to just 90 characters
  - Public Feed is consumed by 3<sup>rd</sup> party distributors
    - Apps, subscription-based services, etc
  - Attachments, URLs
- OPEN is more than just “post CAP”
  - getAck: This is the CORRECT way to test connectivity
  - getServerInfo: synchronize time (avoid 303 errors)
  - getCOG: For addressing to your buddies
  - get message status: new elements in v3.04...
    - ipawsprofile = Y/N
    - eventCode = XXX, returns messages with specified event code
    - sourceCog = CogID, returns messages from specified COG
    - getCOGPermissions (future), what permissions does my COG have?



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# Lack of Information = Barrier to Adoption

- Which tools work with IPAWS?
  - Does this tool support EAS/WEA/NWEM/Public?
  - Encourage P-TAC testing ([www.ptaccenter.org/step](http://www.ptaccenter.org/step))
  - Future “live demo” webinars for state and locals
- I need digital certificate assistance!
  - What should the user be expected to do?
- I need an “Alert Guide”
  - Some users are already creating their own
  - What are the required fields for EAS/WEA/NWEM/Public?
  - How do I know if my alert went to EAS/WEA/NWEM/Public?
- Which tools can geotarget with polygons?
- How do I alert in foreign languages?



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# Topics for next time...

- Show me a properly constructed CAP message valid for EAS/WEA/NWEM/Public
- Explain the CMAMtext vs. “auto constructed” WEA message
- Explain the response codes, error codes, status items
- Show me how COG permissions are established and how they influence ack/error
- How do traditionally “non-public alerting” entities play into IPAWS (college, CDC, USGS)?



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