





Improving the Emergency Alert System (EAS) and Wireless Emergency Alerts (WEA)

**Public Safety and Homeland Security Bureau
Federal Communications Commission**

**APCO Emerging Technology Forum
November 1, 2018**

Email Questions to: Alerting@fcc.gov



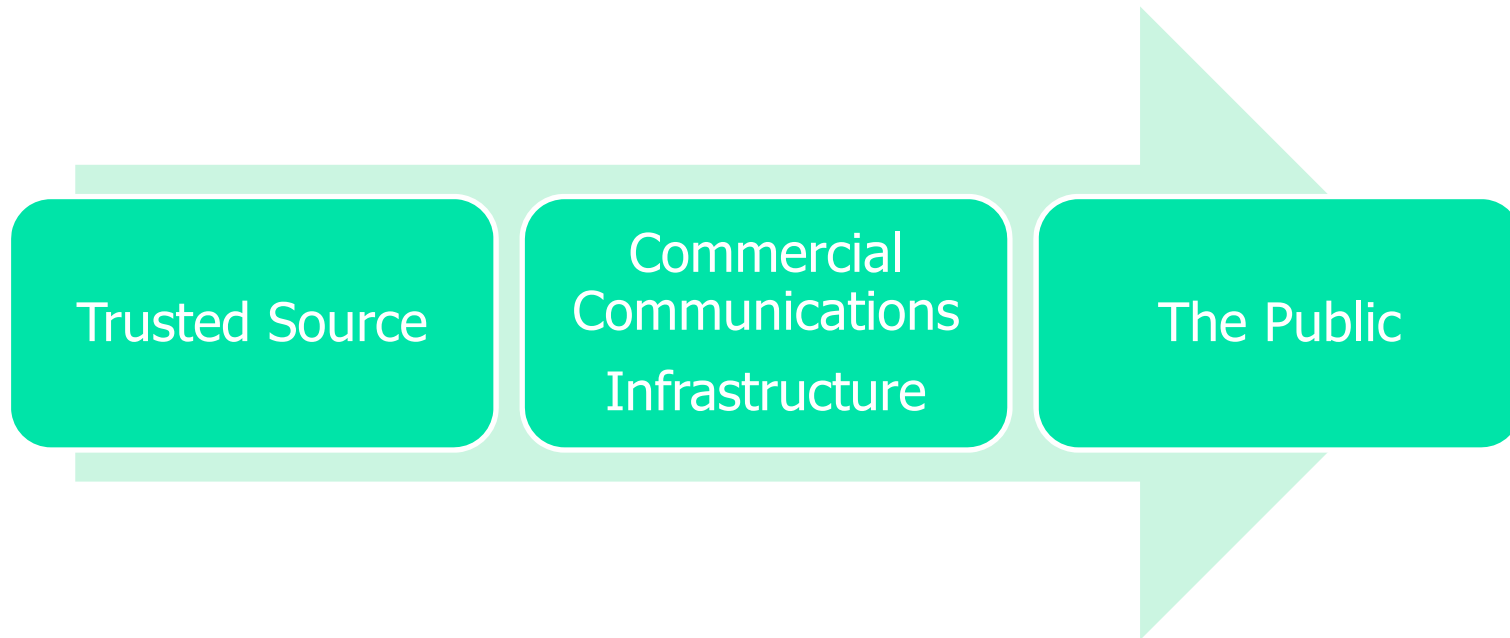
Alerting is a Priority



- **Integral to the FCC's mission:**
 - Promoting safety of life and property through the use of wire and radio communication. 47 U.S.C. § 151.
- **U.S. National Policy**
 - Policy of the United States to have an effective reliable, integrated, flexible, and comprehensive system to alert and warn the American people in situations of war, terrorist attack, natural disaster, or other hazards to public safety and well-being (public alert and warning system), taking account of functions, capabilities, and needs and to ensure that under all conditions the President can communicate with the American people. Executive Order 13407 (June 26, 2006).
- **FCC Policy**
 - Adopt rules and regulations that facilitate the delivery of effective and technologically current life and property saving alerts and warnings to the public.



Basic Alerting Model



Both the EAS and WEA follow this approach



Trusted Sources



- Who or what are trusted sources?
 - The President of the United States
 - The National Weather Service
 - State, local, county governments
 - Emergency management agencies
 - State police
 - National Center for Missing and Exploited Children (NCMEC) for AMBER Alerts



Alerting Systems

(Commercial Communications Infrastructure)



- The **Emergency Alert System (EAS)** - National public warning system commonly used by state and local authorities to deliver important emergency information, such as weather and AMBER alerts, to affected communities.
 - EAS Participants – radio and television broadcasters, cable systems, satellite radio and television providers, and wireline video providers – deliver all alerts on a voluntary basis, except for nationwide alerts and tests, which are mandatory.
- The **Wireless Emergency Alert (WEA)** system delivers critical warnings and information to the public on their wireless devices.
 - Participation by wireless providers is voluntary, but those that offer the service must adhere to the technical and operational requirements established by the FCC.



The Emergency Alert System (EAS)



- EAS Rules – 47 CFR § 11.1, *et seq.*
- EAS Participants must deliver Presidential alerts and nationwide, monthly and weekly tests.
 - Delivery of other alerts (weather, state, AMBER) is voluntary.
 - EAS Alerts must be accessible to people with disabilities.
- EAS Distribution:
 - EAS alerts are delivered to EAS Participants either over the internet from FEMA’s Integrated Public Alert and Warning System (IPAWS) gateway or by over-the-air broadcast.
 - EAS Participants are required to monitor both systems for redundancy, but IPAWS offers digital sound, enhanced text, non-English alerts, multi-media, and urls



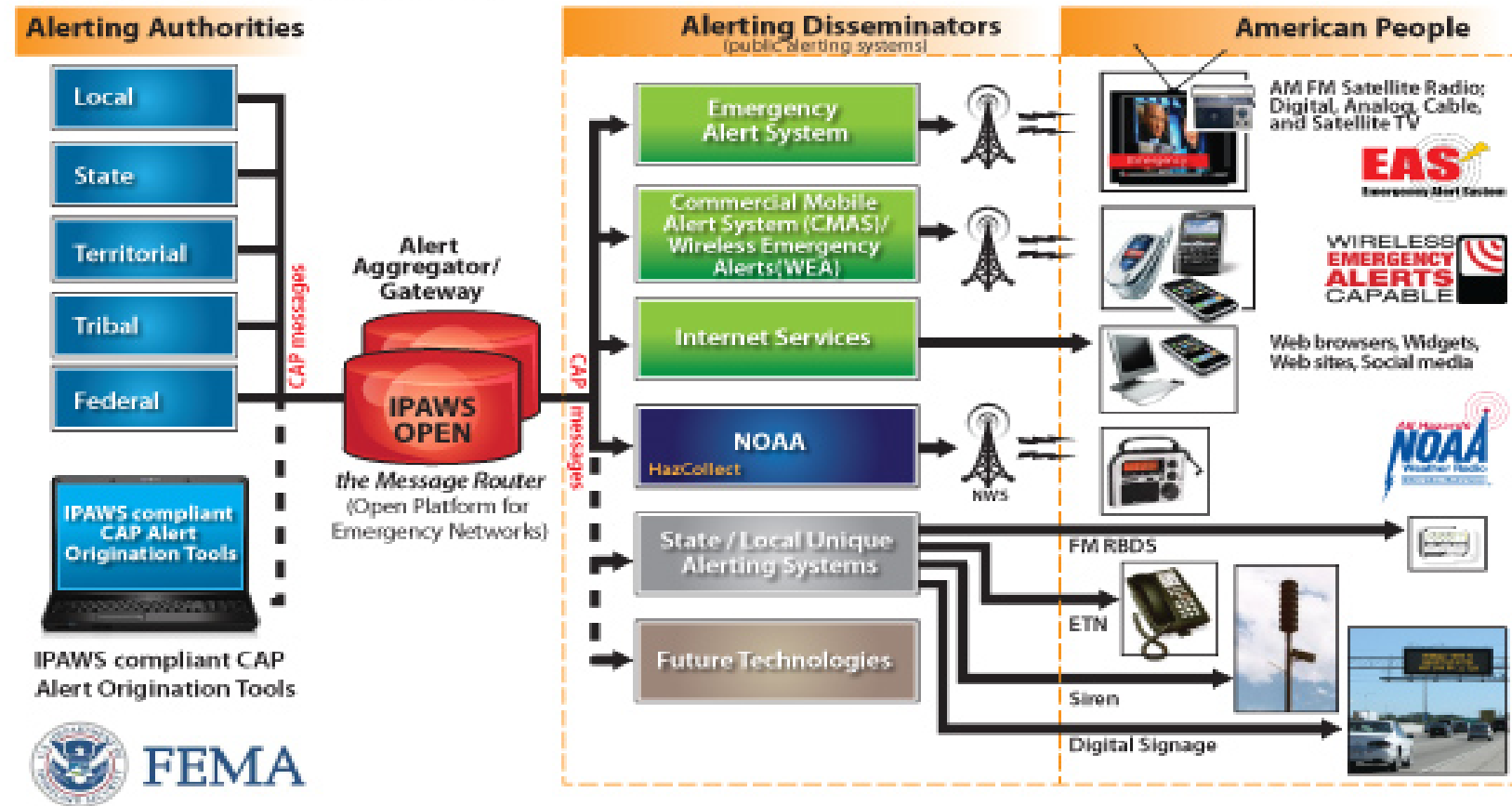
IPAWS-Based EAS Distribution



Integrated Public Alert and Warning System (IPAWS)

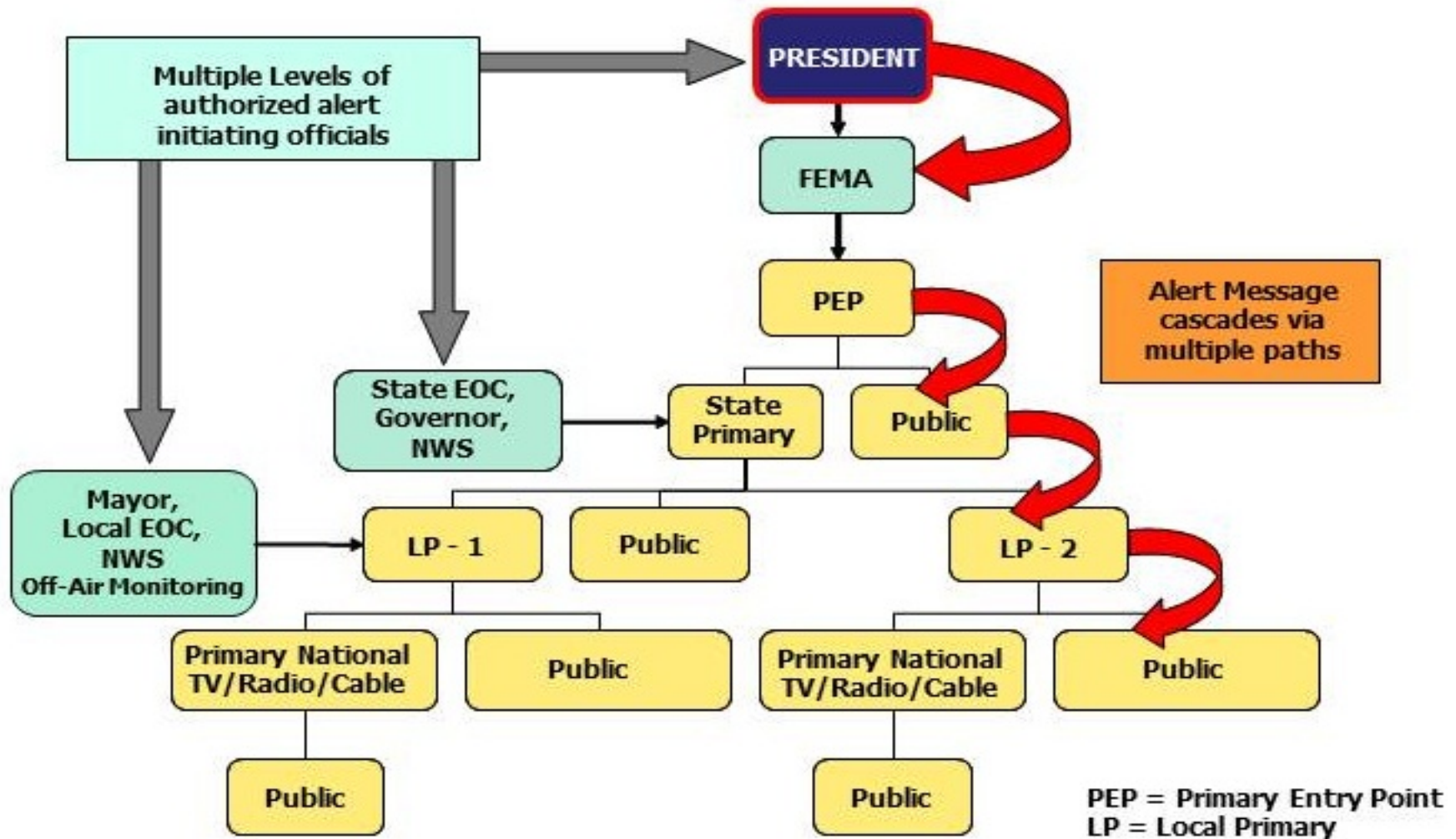
IPAWS Architecture

Standards based alert message protocols, authenticated alert message senders, shared, trusted access & distribution networks, alerts delivered to more public interface devices





Broadcast-based EAS Distribution





EAS - Recent Commission Actions



- Emergency Alert Reliability Report and Order and FNPRM
The Report and Order:
 - Adopts requirements for performing “Live Code Tests.”
 - Permit EAS Participants to deliver public service announcements (PSAs) that use the EAS Attention Signal (the 8-second, two-tone audio signal) and a simulation of the Header Code tones (three audible tones that follow the Attention Signal).
 - Requires EAS Participants to configure their EAS equipment to reject Common Alerting Protocol-based alerts that contain an invalid digital signature and legacy (over-the-air)-based alerts whose expiration time falls outside of specific time limits.
 - Requires an EAS Participant to email the FCC’s 24/7/365 Operations Center within 24 hours of its discovery that it has sent a false alert.



EAS - Recent Commission Actions



- Emergency Alert Reliability Report and Order and FNPRM
Further Notice of Proposed Rulemaking:
 - Seeks further comment on whether there is a need for additional false alert and lockout reporting beyond that required by the Order.
 - Proposes that the EAS rules should be revised to require State EAS Plans to include procedures for preventing and correcting false alerts.
- Automating State EAS Plans
 - The FCC adopted rules creating a new, streamlined electronic system for the filing of State EAS Plans that will increase the effectiveness and efficiency of the EAS, while reducing burdens on stakeholders.
- Blue Alerts
 - A new EAS category that will allow state and local authorities to notify the public of threats to law enforcement and to help apprehend dangerous suspects
 - Must be implemented for EAS by January 19, 2019
 - Must be implemented for WEA by July 19, 2019



EAS – The Future



- Greater adoption of IPAWS to take advantage of CAP-based alerts.
- ATSC 3.0 – Next Generation broadcast standard
 - Fully IP
 - Larger broadband downstream pipe
 - Can deliver hyper local alerts
 - Can offer datacasting capabilities
 - FCC rules require that implementation comply with EAS rules.



Wireless Emergency Alerts (WEA)



- WEA Rules – 47 CFR Sections 10.1, et seq.
- Established pursuant to Warning, Alert and Response Network (WARN) Act
- Uses the IPAWS architecture
- Three categories of WEA alerts: Presidential, Imminent Threat and AMBER



WEA - Recent Commission Actions



- *Improved geo-targeting* so that the alerts reach communities affected by an emergency without disturbing others:
 - Participating wireless providers are currently required to “best approximate” the area to be alerted
 - Participating wireless providers will be required to match the area within 1/10 of a mile by November 2019
- *Improved alert message content* to help communities communicate clearly and effectively:
 - Active URLs (web sites and telephone numbers)
 - Five largest wireless providers (AT&T, Verizon, T-Mobile, Sprint and U.S. Cellular) are currently required to support active links
 - All other providers will be required to support links by May 1, 2019
 - Message length will increase from 90 to 360 characters by May 1, 2019
 - Participating wireless providers must support Spanish language alerts by May 1, 2019
- *End-to-end WEA testing* will be allowed in May 1, 2019
 - Some waivers have been granted to permit end-to-end WEA tests prior to May 1, 2019



2018 Nationwide EAS Test



- On Wednesday, October 3, 2018, FEMA, in coordination with the FCC, conducted a scheduled nationwide test of Wireless Emergency Alerts and the Emergency Alert System.
- Next steps are to assess the results and identify areas for improvement.



Hawaii False Alert Report and Recommendations



- Recommendations include:
 - Establishing redundant and effective lines of communication with key stakeholders during emergencies
 - Conducting regular internal tests in a controlled and closed environment, such as FEMA's Integrated Public Alert and Warning System (IPAWS) Test Lab
 - Requiring more than one credentialed person to validate message content prior to transmission of a high-impact alert, as well as all tests
 - Implementing specific upgrades to alerting software and developing standard operating procedures for responding to false alerts
 - Consult with SECCs on a regular basis—at least annually—to ensure that EAS procedures, including initiation and cancellation of actual alerts and tests, are mutually understood, agreed upon, and documented in the State EAS Plan.



Questions?



Thank You!

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