M-EAS

Mobile Emergency Alert System

WBA Clinic

Madison, Wisconsin

October 11, 2012

Wayne Luplow, Zenith/LG

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Agenda

- Overview of US/ATSC Mobile DTV
  - As just provided by Jay Adrick
- Mobile Emergency Alert System (M-EAS)
- What the User/Consumer Sees
- IPAWS/M-EAS Integration
- Summary of M-EAS Team's Activities and Actions
- Questions?
- Live Demonstration

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MOBILE EMERGENCY ALERT SYSTEM (M-EAS)

The best way to reach citizens – any time, anywhere, anyplace

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Each Broadcast TV Station can serve all kinds of users ...using only its regular DTV channel

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M-EAS – a Decade in the Making

- 2001 – 9/11 Attacks
- 2004 – PBS/APTS/FEMA test datacast / IP Alerts
- 2006 – FEMA announces support for an EAS
- 2006 – Pres. Bush creates IPAWS (**I**ntegrated **P**ublic **A**lert and **W**arning **S**ystem)
- 2007 – DHS Grant to APTS for D-EAS
- 2007 – WARN Act for PBS to provide back-up link
- 2009 – MDTV Standard adopted (ATSC A/153)
- 2011 – Great Japanese Earthquake and tsunami
- 2011 – PBS and LG/Zenith initiate M-EAS

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What is M-EAS?

M-EAS

Mobile Emergency Alert System

- M-EAS is a new service that adds CAP-based emergency messaging to Mobile DTV
- M-EAS has two components:
  1. The text-based message similar to EAS on TV
  2. Rich media additions (photos, videos, evacuation maps, radar images, HTML, etc.)
- M-EAS has a wake-up function
- M-EAS is a low-cost addition to Mobile DTV
- Provide secure tactical video to first responders

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Project Description

M-EAS

Mobile Emergency Alert System

- The M-EAS Project seeks to:
  - Assess the potential of public and commercial television stations to use MDTV to broadcast rich-media emergency messages to the public
  - Evaluate capabilities for delivering multimedia (e.g., video, audio, text, graphics) alerts to citizens *on-the-go* (cellphones, tablets, in-vehicle)
  - Create standards-based design for M-EAS that is readily adoptable by broadcasters and receiver-device makers

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Project Participants

M-EAS
Mobile Emergency Alert System

- Lead Partners
  - PBS
  - LG Electronics/Zenith
- Additional Technology Providers
  - Harris Broadcast
  - Roundbox
- Participating Stations
  - VegasPBS (KLVX)
  - WGBH (Boston)
  - Alabama Public Television Stations
  - WRAL (Raleigh) – the first commercial station to support

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Funding and Supporters

- Corporation for Public Broadcast (CPB)
- Zenith Electronics (subsidiary of LG)
- NAB Laboratories

- OMVC/OTAG
- MCV and Mobile 500

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M-EAS Project Specifics

M-EAS
Mobile Emergency Alert System

- M-EAS project uses terrestrial broadcasting rather than cellular network connectivity (no overload)
- M-EAS requires no additional spectrum or bandwidth and is a "dual use" of existing transmitters and towers
- The pilot utilizes existing standards for implementation
  - ATSC A/153 MDTV standard
  - ATSC NRT (Non-Real-Time) Standard ("NRT 1.0")
    - "File transmission"
  - **C**ommon **A**lerting **P**rotocol (CAP)
  - ATIS J-STD-101 and -102 (CAP – CMAC)

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M-EAS Compatibility

M-EAS
Mobile Emergency Alert System

- M-EAS is designed to integrate seamlessly with IPAWS and become an extension of IPAWS
- M-EAS will be compatible with existing FEMA/DHS IPAWS systems, as well as compatible with local alerting capabilities
- Backwards compatibility through A/153 MDTV standard (does not affect existing MDTV receivers)

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Milestones Completed

M-EAS
Mobile Emergency Alert System

- April 2011 – M-EAS Pilot Project Announced
- October 2011 – First Discussions* with FCC & FEMA
- November 2011 – Three Pilot Stations Named
- January 2012 – First Public Demonstration
  (CES – Consumer Electronics Show)
- Feb/March 2012 – Trials with participating PBS stations
- April 2012 – NAB show demonstrations
- May 2012 – Standards changes underway at ATSC
- September 2012 – Use at first Commercial station (WRAL)

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* Discussions are on-going

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Demonstration in Las Vegas At CES & NAB

M-EAS

Mobile Emergency Alert System

- Over-the-air transmission from KLVX (Ch. 11)
- Reception in Mobile DTV TechZone
  - Modified LG MDTV receivers
  - Four examples of use-cases shown were:

  - Each use case was developed by the local station and the pilot project team

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M-EAS

Mobile Emergency Alert System

Recent Demonstration by WRAL

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M-EAS

Mobile Emergency Alert System

What the User/Consumer Sees

On Prototype LG MDTV / M-EAS Receivers

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Update Message

M-EAS

Mobile Emergency Alert System

Assets Loading

Update Message

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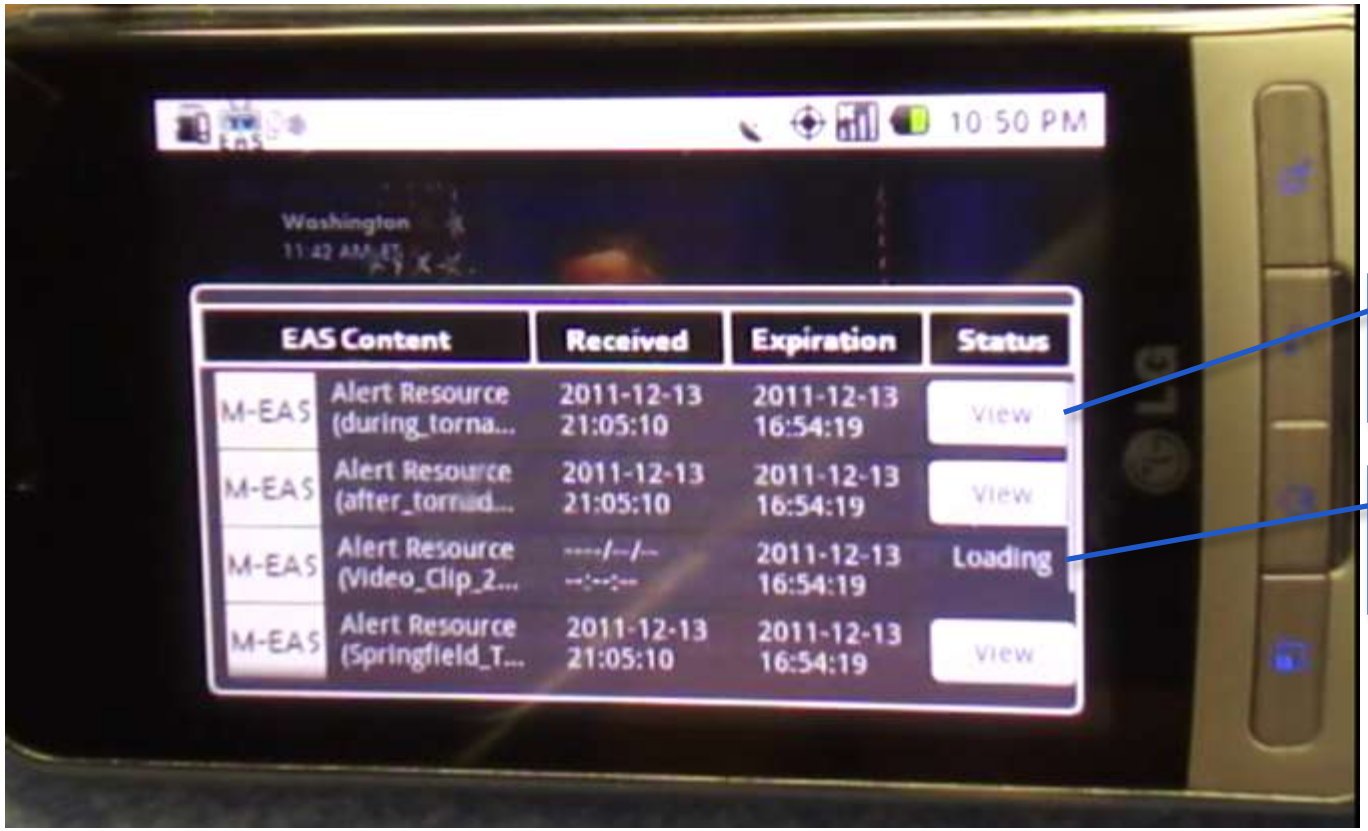
Content Loading Screen

M-EAS

Mobile Emergency Alert System



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Viewing Video Clips

M-EAS

Mobile Emergency Alert System

Play Controls

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Next Steps

M-EAS

Mobile Emergency Alert System

- In the first part of this project:

  We developed the system,

  we demonstrated it, and

  we started the standardization process…

  But… How do we actually put it into operation?

- The second part is an "Operationalization" project and will include:
  - **Commercial** and public TV stations
  - Professional and consumer equipment manufacturers

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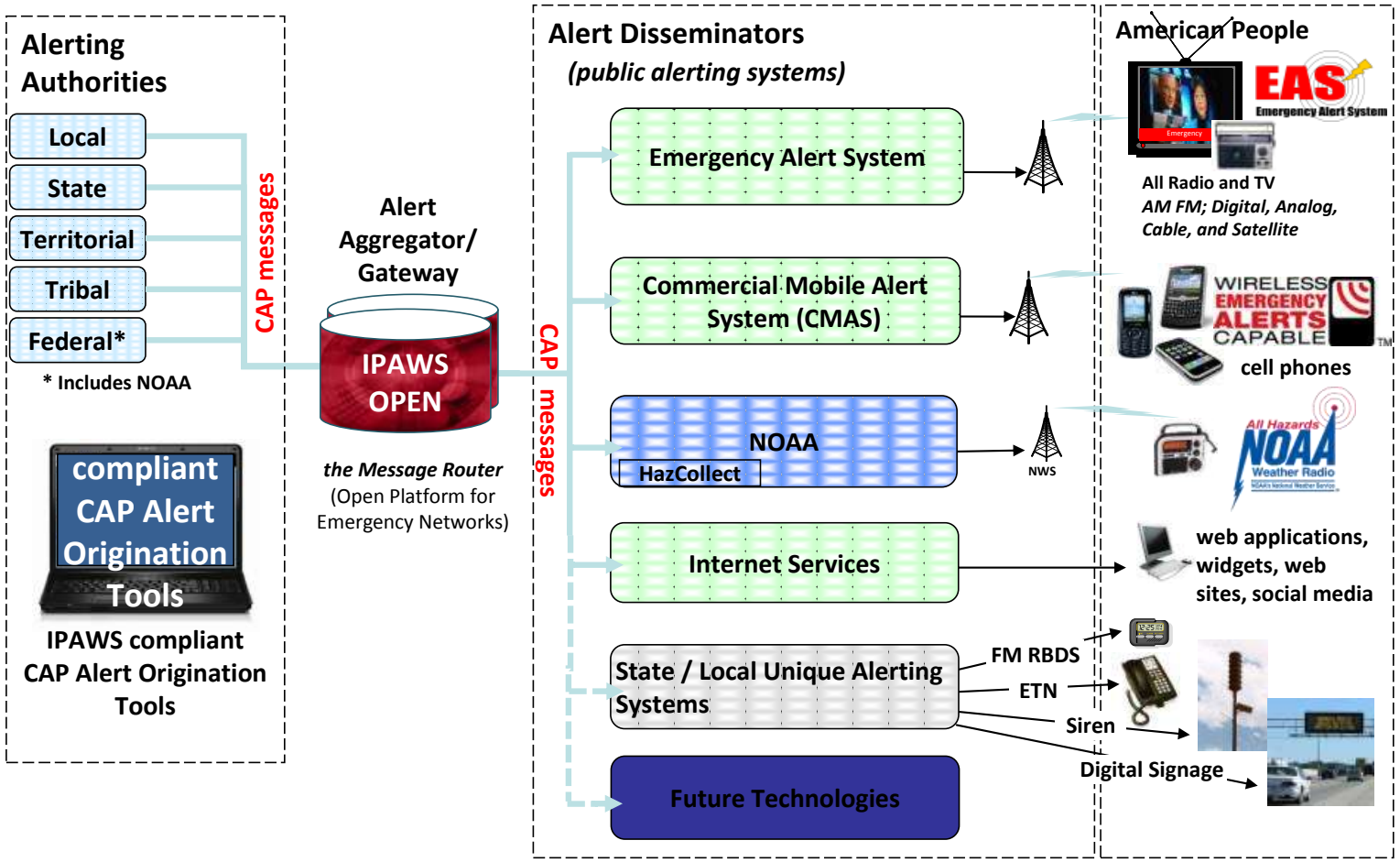
IPAWS/M-EAS Integration

IPAWS –M-EAS Integration

M-EAS

Mobile Emergency Alert System

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



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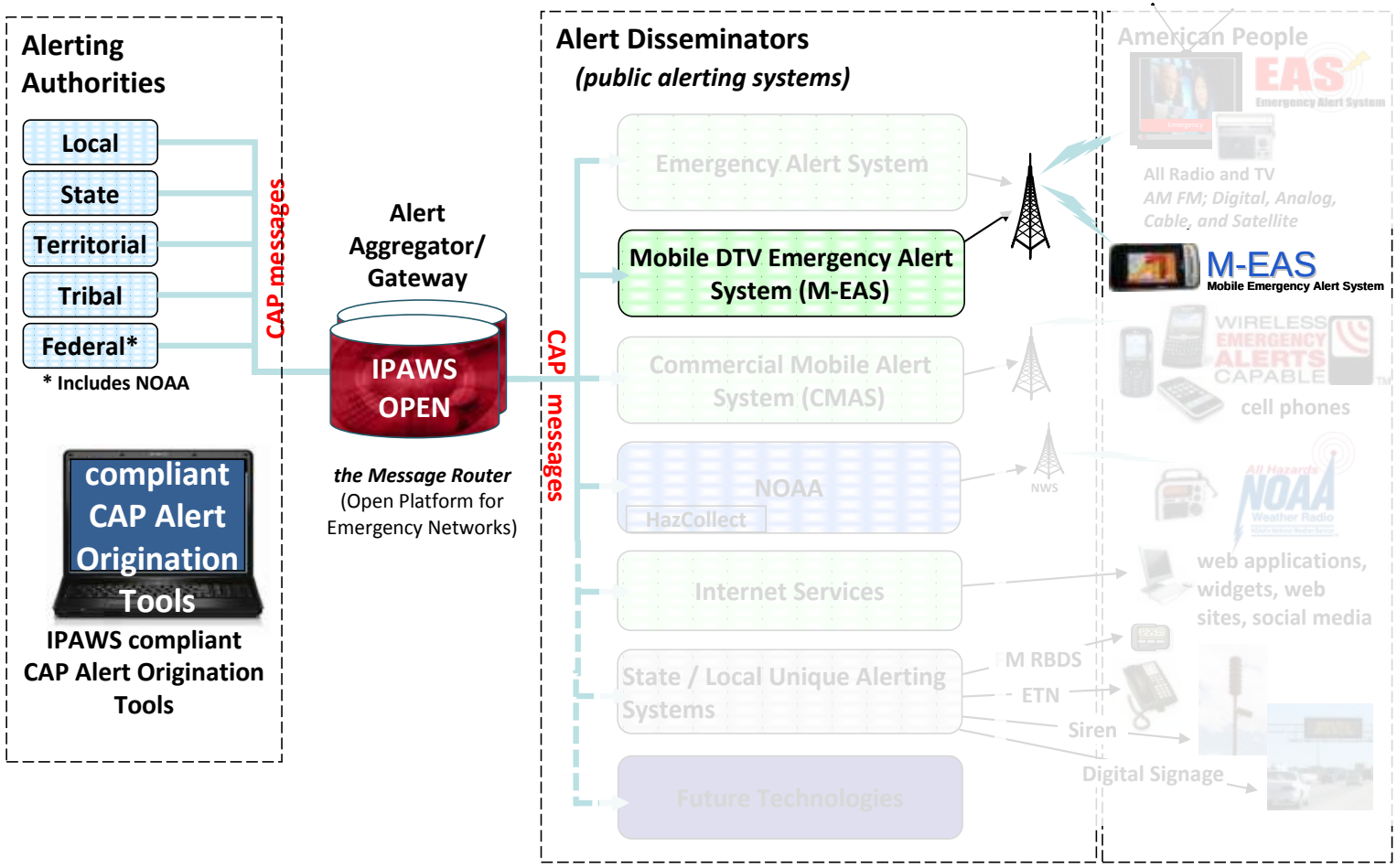
IPAWS –M-EAS Integration

M-EAS
Mobile Emergency Alert System

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



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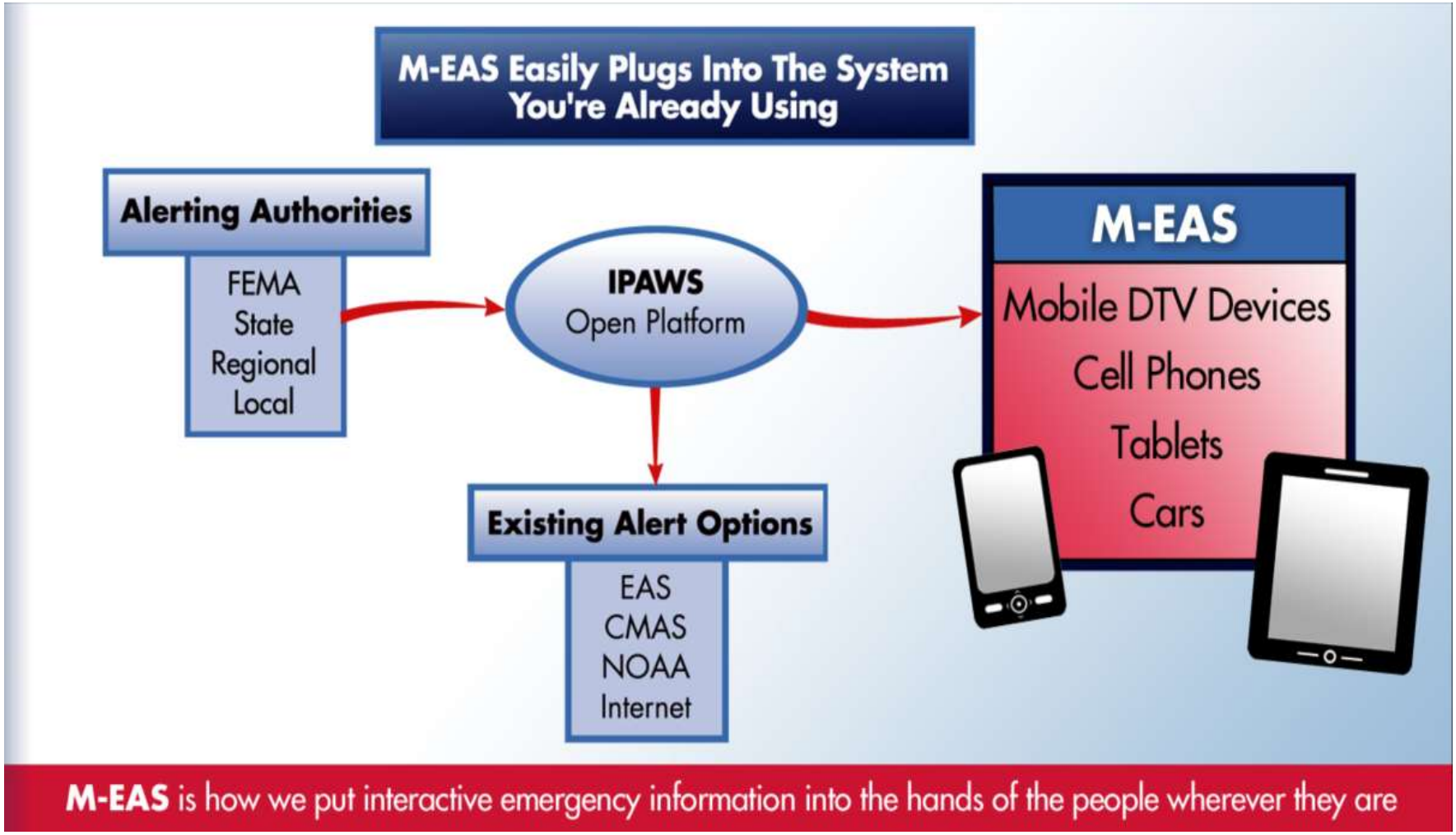
Mobile Emergency Alert System



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Questions?

M-EAS

Mobile Emergency Alert System

Demonstration

…showing operation of M-EAS on a hand-held receiver

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