Command, Control and Interoperability

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What is Public Alert and Warning?

- Provides information to the public about an impending disaster or threat
- Uses available information and expert judgment of associated risk
- Issued by authorized officials as part of incident preparedness or response
- Aimed to prevent loss of life and property

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The Emergency Alert System (EAS)

- In 1994, the Emergency Alert System (EAS) replaced the Emergency Broadcast System.
- The EAS was intended to allow the president to communicate with the public during a national emergency.
- The system interrupts regular television and radio broadcasts to communicate emergency information to the public.

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Integrated Public Alert and Warning System (IPAWS)

In 2006, Executive Order 13407 established IPAWS to:

"Establish 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."

Commercial Mobile Alert Service (CMAS)

- The Warning, Alert, and Response Network (**WARN**) Act of 2006 authorized several executive agencies, including the Science and Technology (S&T) Directorate, within the U.S. Department of Homeland Security (DHS), and the Federal Communications Commission (FCC), to initiate activities toward the development of a commercial mobile alert service (CMAS).

- The WARN Act required the FCC to establish a Commercial Mobile Service Alert Advisory Committee (CMSAAC) to develop initial recommendations for the development of CMAS.

TITLE VI—COMMERCIAL MOBILE SERVICE ALERTS

SEC. 601. SHORT TITLE.

This title may be cited as the "Warning, Alert, and Response Network Act".

SEC. 602. FEDERAL COMMUNICATIONS COMMISSION DUTIES.

(a) COMMERCIAL MOBILE SERVICE ALERT REGULATIONS.—Within 180 days after the date on which the Commercial Mobile Service Alert Advisory Committee, established pursuant to section 603(a), transmits recommendations to the Federal Communications Commission, the Commission shall complete a proceeding to adopt relevant technical standards, protocols, procedures, and other technical requirements based on the recommendations of such Advisory Committee necessary to enable commercial mobile service alerting capability for commercial mobile service providers that voluntarily elect to transmit emergency alerts. The Commission shall consult with the National Institute of Standards and Technology regarding the adoption of technical standards under this subsection.

(b) COMMERCIAL MOBILE SERVICE ELECTION.—

(1) AMENDMENT OF COMMERCIAL MOBILE SERVICE LICENSE.—Within 120 days after the date on which the Federal Communications Commission adopts relevant technical standards and other technical requirements pursuant to subsection (a), the Commission shall complete a proceeding

(A) to allow any licensee providing commercial mobile service (as defined in section 332(d)(1) of the Communications Act of 1934 (47 U.S.C. 332(d)(1)) to transmit emergency alerts to subscribers to, or users of, the commercial mobile service provided by such licensee;

(B) to require any licensee providing commercial mobile service that elects, in whole or in part, under paragraph (2) not to transmit emergency alerts to provide clear and

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CMAS (continued)

SEC. 604. RESEARCH AND DEVELOPMENT.

(a) IN GENERAL.—The Under Secretary of Homeland Security for Science and Technology, in consultation with the director of the National Institute of Standards and Technology and the chairman of the Federal Communications Commission, shall establish a research, development, testing, and evaluation program based on the recommendations of the Commercial Mobile Service Alert Advisory Committee, established pursuant to section 603(a), to support the development of technologies to increase the number of commercial mobile service devices that can receive emergency alerts.

(b) FUNCTIONS.—The program established under subsection (a) shall—

    (1) fund research, development, testing, and evaluation at academic institutions, private sector entities, government laboratories, and other appropriate entities; and
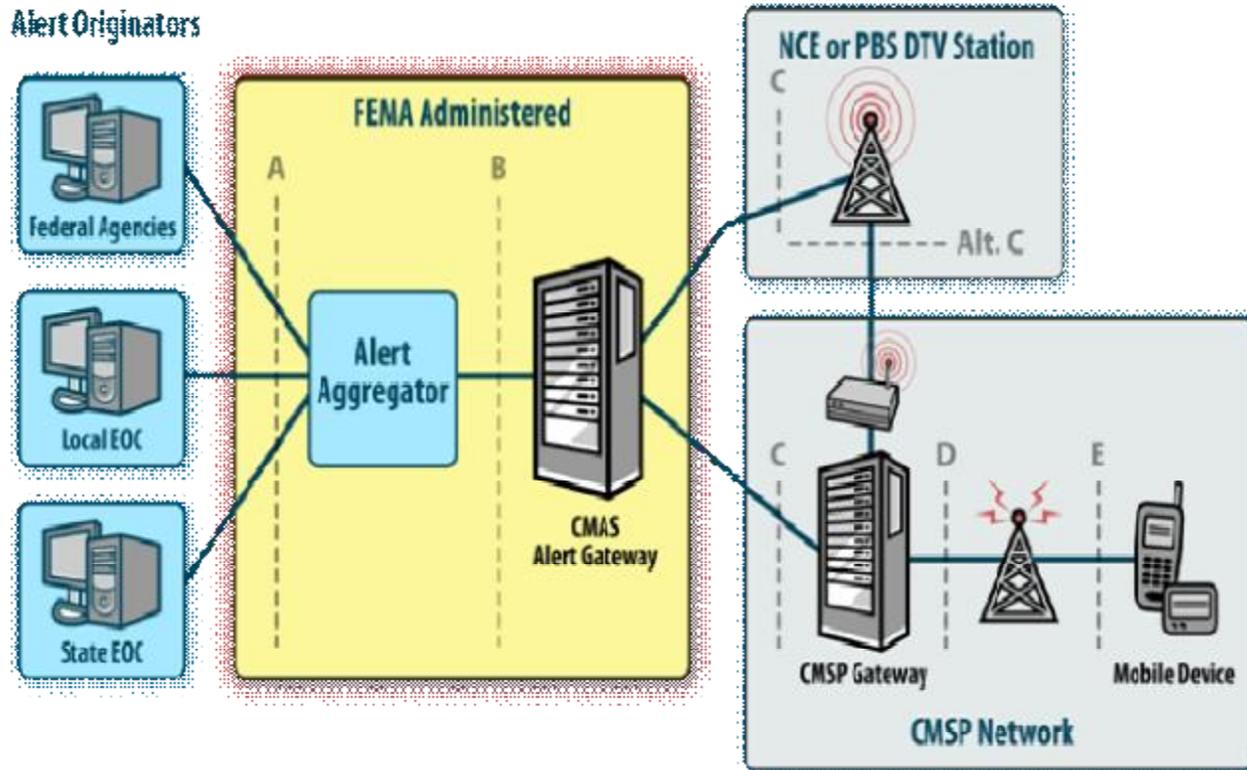
    (2) ensure that the program addresses, at a minimum—

        (A) developing innovative technologies that will transmit geographically targeted emergency alerts to the public; and

        (B) research on understanding and improving public response to warnings.

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CMAS Reference Architecture

CMAS (continued)

Three types of alerts:

- Presidential
- Imminent threat to life and property
- Child abduction emergency or "AMBER Alert"

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CMAS (continued)

CMAS enables a national capability to deliver relevant, timely, effective, and targeted alert messages to mobile devices.

Alert content:
- What is happening (event type or event category)
- Area affected ("in this area")
- Time with time zone (represented as a distinct time - e.g., until 9:30 AM EST)
- Recommended action (response description)
- Sending agency (agency type - e.g., police, fire, National Weather Service)

CMAS (continued)

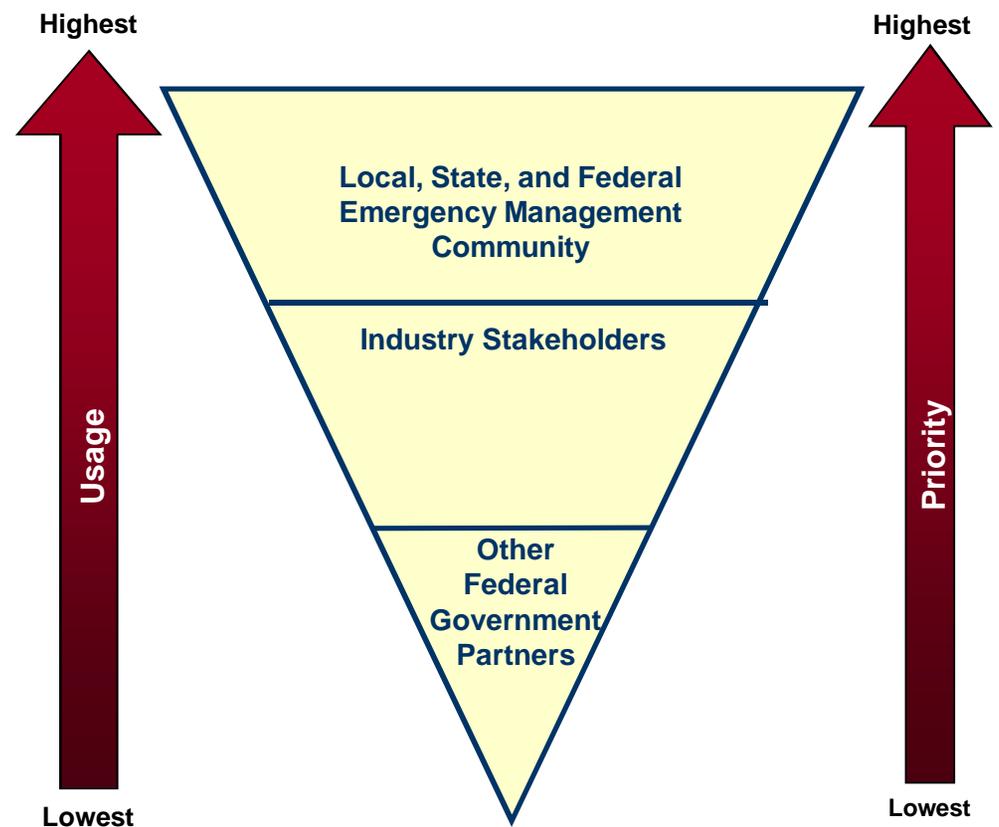| Service Capability	SMS	Cell Broadcast
Geo-targeting	Point-to-point	Point-to-location
Message latency	Typically < 1 minute	Typically < 30 seconds
Mobile device updates required to support CMAS alerts	Yes	Yes
Supports notifications to the entire U.S.	No	Yes
Supports notifications to multiple locations in the U.S.	No	Yes
Supports notifications to an individual mobile device	Yes	No
Potential network congestion for CMAS alerts	Yes	No
Ability to prevent duplicate alerts	No	Yes
Text character limit	≤ 160	≤ 93
Multilingual support	Devices support various character sets for multiple languages; however, English is the standard for U.S. carriers.	Devices support various character sets for multiple languages; however, English is the standard for U.S. carriers.

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The Practitioner-Driven Strategy

CCI and the CMAS RDT&E Program believe that a successful strategy for improving emergency response must be based on user needs and driven from the bottom up.

The CMAS RDT&E Program:

- Uses a practitioner-driven governance structure
- Benefits from the critical input of the emergency management community, and from local, tribal, state, Federal, and industry stakeholders

Highest

Highest

Usage

Priority

Local, State, and Federal Emergency Management Community

Industry Stakeholders

Other Federal Government Partners

Lowest

Lowest

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The Public Response Workshop

- ## Workshop goals:
  - – To comprehensively address the current state of public response to alerts and warnings
  - – To apply what is and what is not known about public response to mobile emergency alerts in order to identify research gaps unique to a mobile emergency alerting capability

- ## The Workshop and follow-up report will provide:
  - – An understanding of the current state of research into public response to alerts and warnings, with a specific focus on mobile alerting
  - – An understanding of the gaps in current research
  - – An identified pool of experts in the field of alerts and warnings

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Workshop Outcomes

Your input and the results of the Workshop will impact CMAS by:

- Influencing how alert messages are crafted
- Informing what needs to be provided to the public in terms of education and training
- Shaping what types of academic grants are funded to address gaps in research *(pending funding approval)*

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