

Common Alerting Protocol (CAP) Information for EAS Participants

- Common Alerting Protocol
- EAS Participant Requirements
- Encoder/Decoder CAP Conformity
- Monitoring IPAWS-OPEN
- Additional References

Common Alerting Protocol

The Common Alerting Protocol (CAP) is an eXtensible Markup Language (XML) standard adopted by the international standards-making body, the Organization for the Advancement of Structured Information Systems (OASIS). CAP grew out of earlier efforts of the Partnership for Public Warning.

FEMA announced the adoption of [Common Alerting Protocol Version 1.2](#) on September 30, 2010. The CAP 1.2 standard is further customized by the [Common Alerting Protocol, v. 1.2 USA Integrated Public Alert and Warning System Profile Version 1.0](#), an OASIS Technical Committee Specification. The IPAWS Profile ensures that CAP data will be compatible with U.S. channels for alert distribution, including the Emergency Alert System (EAS).

FEMA is implementing the IPAWS Open Platform for Emergency Networks (IPAWS-OPEN) to collect CAP alerts issued by authorized public officials and distribute them to EAS Participants via an EAS CAP feed. The EAS CAP feed will be available via the Internet; therefore EAS Participants will require an Internet connection to poll IPAWS-OPEN. In addition, EAS Participants may poll state CAP servers or other CAP-based networks via the Internet where appropriate.

CAP-based networks do not replace traditional, over-the-air methods of monitoring for EAS alerts; instead, they supplement those sources and provide further redundancy. Likewise, CAP does not replace the existing EAS protocol, compatible with the National Weather Service's Weather Radio Specific Area Message Encoding (SAME). EAS Participants will use CAP-based equipment to translate CAP messages to the EAS protocol and message format. CAP-based equipment consists of stand-alone converters, firmware upgrades to existing encoders/decoders, or newer encoder/decoder models with CAP fully integrated.

CAP-based equipment converts Common Alerting Protocol to EAS/SAME protocol using a set of recommendations developed by the EAS CAP Industry Group (ECIG). See the [ECIG Recommendations for a CAP EAS Implementation Guide](#) for specific details.

Benefits of CAP

- CAP alerts are transmitted in digital format; therefore, there is no degradation of quality of the content that may be experienced with analog methods such as radio.
- CAP alerts can be directly available to encoder/decoder equipment within seconds of their creation; therefore delays or disruptions relating to station-to-station, over-the-air relay are reduced.

- The Internet infrastructure has a high level of redundancy and reliability, and may survive when other channels of communication do not.
- In addition to EAS-required data, CAP alerts may carry rich information such as audio, video, geo-location data, etc., that EAS Participants may opt to utilize for supplemental information to provide to their audiences.

EAS Participant Requirements

The Federal Communications Commission's (FCC) [Second Report and Order](#) requires EAS Participants to "accept CAP-based alerts" within 180 days of CAP adoption by FEMA. A subsequent FCC waiver extended the deadline an additional 180 days, to September 30, 2011.

During May 2011, the FCC announced a [Third Further Notice of Proposed Rulemaking](#) (NPRM) to clarify FCC rules relating to CAP implementation. As EAS rules and the CAP Standard evolve over time, IPAWS will be updated to accommodate new requirements.

Encoder/Decoder CAP Conformity

To support EAS Participants in their selection of CAP-capable encoder/decoder equipment, the [IPAWS Conformity Program](#) has been testing voluntarily submitted equipment for conformance to CAP 1.2, the IPAWS CAP Profile, and the ECIG recommendations. Manufacturers whose equipment successfully passed conformity testing may reference this fact through a Supplier's Declaration of Conformity (SDoC) posted on the [Responder Knowledge Base Website](#) (select "IPAWS SDoCs").

Monitoring IPAWS-OPEN

In order to retrieve CAP alerts from the IPAWS-OPEN system when it is fully operational, CAP-capable EAS equipment must be configured to poll an IPAWS EAS Atom feed and filter for geographically relevant alerts. The address of the Atom feed will be provided to EAS Participants in advance of the current FCC deadline.

Additional References

IPAWS Architecture Diagram ([PDF](#) 132KB, [TXT](#) 2KB)

For further technical details regarding IPAWS-OPEN implementation of CAP 1.2, see the *IPAWS-OPEN Common Alerting Protocol Message Construction Guide (DRAFT)* ([PDF](#) 802KB, [TXT](#) 108KB).