Digital Alert Systems

CASE STUDY

Implementing IPAWS in Sedgwick County, Kansas with the DASEOC

1 The Requirement

Sedgwick County Emergency Management (SCEM) is responsible for mitigation, preparedness, response, and recovery from disasters and emergencies regardless of their cause. This includes disasters from natural, man-made, and homeland security related causes. Emergency Management's jurisdiction is a county with a population of more than 500,000, covering more than 1,000 square miles, and is home to Wichita, the largest city in Kansas.

"Digital Alert Systems has opened the world of CAP EAS to a new level of service and providing service to our citizens is what it is all about, having tools that are easy to use, makes issuing the warning a much simpler process..."

John Crosby
Deputy Director,
Sedgwick County
Emergency Management
Sedgwick County, KS

SCEM has authority to activate the EAS in its area, and coordinates various methods used to alert and immediately inform the public during an emergency situation. SCEM needed the ability to send out public alerts in CAP and EAS formats – simultaneously – to broadcast on radio, TV, and mobile devices.

SCEM also needed the ability to monitor a broad range of incoming alerts, including AMBER alerts from the Kansas Bureau of Investigation, alerts from neighboring jurisdictions, and weather alerts and bulletins from the National Weather Service.

This case study illustrates how Sedgwick County deployed Digital Alert Systems DASEOC emergency communications platform to

- Cost-effectively interoperate with both the Emergency Alert System (EAS) and FEMA's new Integrated Public Alert and Warning System (IPAWS).
- Provide a next generation CAP alerting solution that would not only interface with IPAWS, but would ensure simultaneous local origination of broadcast EAS without error, fault or unnecessary duplication.
- Notify county staff of alerts via personalized email notifications
- Ensure flexibility to accommodate future interoperability with additional county messaging systems, and versatility to set the foundation for the county's next-generation digital public alert and warning strategy.

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2 The Solution

SCEM implemented a powerful and economical strategy for implementing an integrated CAP and EAS strategy. For several years, Sedgwick County had been using the DASDEC™ advanced CAP EAS encoder/decoder from Digital Alert Systems for conventional EAS activations. This system was upgraded to the DASEOC to support integrated simultaneous EAS, CAP and IPAWS origination from a single platform.

SCEM's upgraded CAP EAS solution posts the CAP message to IPAWS for broadcast (EAS) and mobile phone wireless alert distribution, while simultaneously issuing legacy EAS transmission to AM/FM radio and broadcast TV locations. This single EAS encoder/CAP server combo provides Sedgwick County with multiple capabilities in one platform:

- Originates CAP for IPAWS
- Originates CAP for local digital alert feeds
- *Simultaneously* originates conventional EAS via broadcast relay
- Monitors inbound messages from both CAP and radio EAS
- Forwards personalized alerts to EOC staff members and other personnel via email and other means

SCEM's new system provides CAP and EAS origination from one simple interface. This one device manages simultaneous messaging to both the IPAWS federal server, as well as the local EAS relay. The DASEOC also provides a powerful monitoring tool that aggregates alerts from both traditional broadcast EAS, and a wide range of next-generation CAP alert sources.

A major consideration was eliminating any possibility that the CAP message may differ from the EAS message. Specifically, SCEM wanted to ensure that when CAP and EAS messages were issued, duplicate detection was ensured across these two very different message types.

SCEM selected the Digital Alert Systems DASEOC platform as the solution to the challenge of eliminating the risk of message duplication. The DASEOC system produces alert message with the same headers via both CAP (XML) and EAS (audio) – this prevents duplicate EAS messages over separate systems being monitored. This is a critical feature for the proper operation of EAS on both the origination and monitoring sides.

The decision to undertake this upgrade was based on the equipment's completion of FEMA CAP conformity testing, which SCEM viewed as a key requirement, as its initial plan was to rely on the IPAWS system for CAP message distribution, alongside the EAS broadcast relay.

3 The Results

The DASEOC has been in daily use for emergency messaging in Sedgwick County, and is by the Office of Emergency Management for all hazards public alert and warning. The DASEOC was successfully integrated with FEMA's IPAWS "system of systems." SCEM found it important to maintain the control and physical presence of this key EAS CAP IPAWS capability within SCEM's local IT infrastructure. Additionally, SCEM found that this integrated solution cost significantly less than separate systems for CAP, EAS and IPAWS – both sending and monitoring.

SCEM used the DASEOC to initiate its first CAP messages into the IPAWS operational environment, successfully activating radio, television and cable sites in the Sedgwick County area monitoring the IPAWS aggregator. Alert messages were sent as CAP XML text to IPAWS, simultaneously with EAS with text-to-speech or live voice generated at the EOC, or EAS with live voice.

The system provides SCEM with a resilient and redundant alerting architecture that ensure that public alerts can be relayed simultaneously over the existing broadcast EAS and the next generation CAP systems.

As a result, local broadcasters and cable operators in Sedgwick County can now receive both CAP Emergency Alerts via IPAWS and the conventional EAS system in a fully coordinated manner. Mobile phone carriers serving the greater Wichita area will also be able to relay urgent messages from SCEM sent via IPAWS and wireless emergency alerts (WEA).