

DASDEC™ -II & SpectraRep® AlertManager™ Integration

Partners in Action

Emergency messaging is serious business. When lives and property are at stake it's critical information MUST be communicated quickly, accurate and completely. Digital Alert Systems has teamed with SpectraRep, a leading provider of managed network solutions, applications and systems for homeland security, public safety, education and mass media sectors, to develop a tightly integrated messaging system encompassing the entire spectrum of emergency communications, from origination through dissemination, and finally delivery to the public.

How it works

Working with SpectraRep, Digital Alert Systems has integrated the DASDEC/DASDEC-II into the Alert Manager information chain completing the final leg in delivering emergency messages to the radio and television viewing audience.

There are three key elements of any emergency communications:

- Origination
- Dissemination
- Delivery

Each element focuses on specific goals to ensure the message is fully communicated to the subsequent stage as described in detail below.

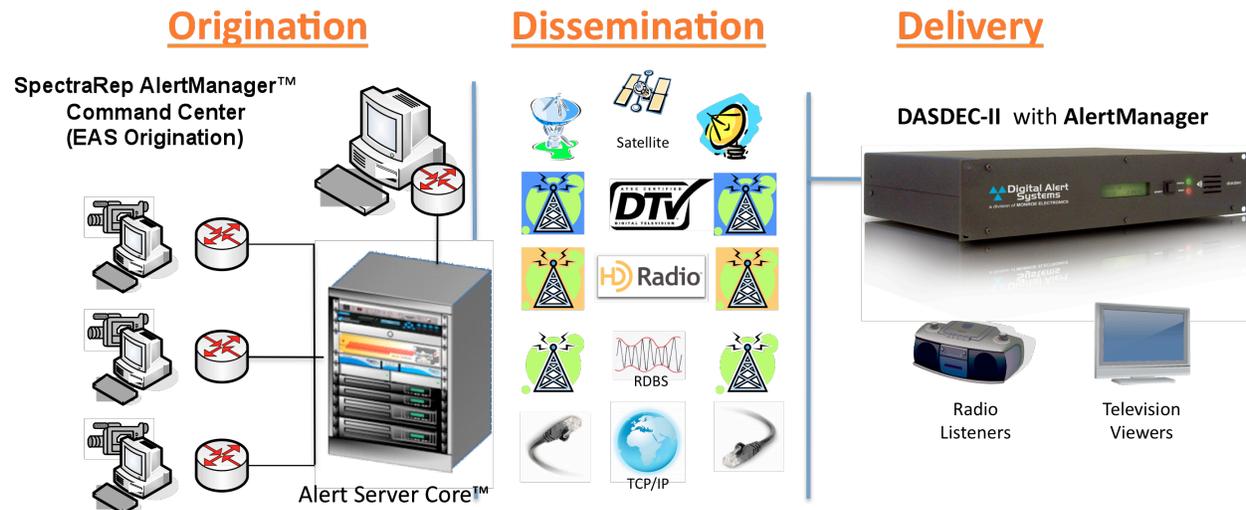


Figure 1. Simple view of a complete "end-to-end" emergency messaging system featuring AlertManager and DASDEC's.

Origination

As the name implies Origination is where the message begins. Collecting the appropriate information, emergency messages are composed with the SpectraRep AlertManager™ Command Center software on one or more workstations. AlertManager is a complete system for composing and delivering multimedia emergency information – including EAS, Amber Alerts, weather and other event notices. Message(s) may include any combination of text, images, audio, video, and hyperlinks. Message formatting follows the well defined Common Alerting Protocol (CAP) structure providing a uniform means to communicate with a variety of devices while offering a greater level of information to devices capable of processing the additional information.

The various AlertManager workstations are tied to the SpectraRep Alert Server Core™ where all the message information is aggregated and formatted for dissemination. The Alert Server Core handles trafficking and routing of the messages based on a number of targeting parameters – ensuring the right groups get the right message while eliminating unnecessary interruptions.

Dissemination

From the Alert Server Core the data is forwarded via TCP/IP to any number of transmission “channels”. The specific channel or channels are determined by the state agencies or emergency management personnel to achieve the best means of communication to the various warning systems – sirens, strobe lights, reverse 911, cell phones, email, digital signs, pagers, radio and television, etc. A transmission channel may encompass satellite transmission links, over-the-air datacasting embedded in standard digital television (DTV) broadcast channels, HD radio stations, or over radio data broadcast system (RDBS) subcarriers. Since the Alert Server Core communicates via TCP/IP, standard Internet transmission may also be considered a “channel”.

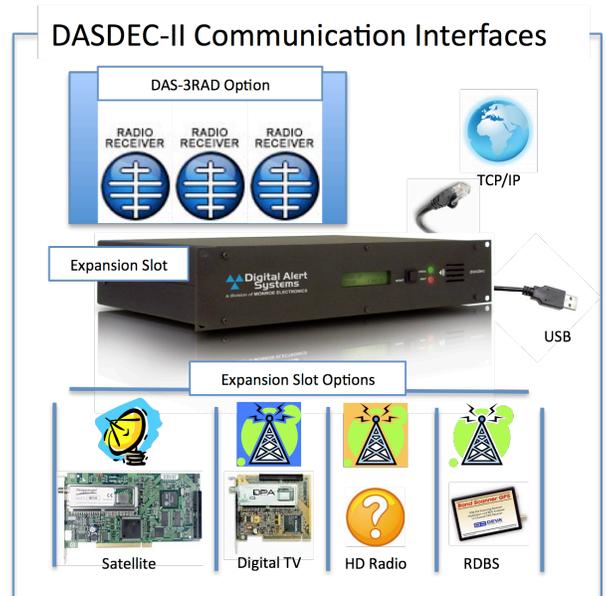
While Internet transmission works well for most applications, typical systems will use at least one form of over-the-air datacasting to ensure transmission of the message to the intended audience. The various receiving sites then require the proper data receiver to convert the over-the-air signal back into a TCP/IP data package. Since these channels are multicast without a return path they're combined with sufficient forward error correction and redundancy to provide robust data communications on the receiving end.

Delivery

Digital Alert Systems developed the DASDEC to exceed EAS requirements and serve as a platform for continued developments in emergency messaging. This is why every DASDEC features a standard Ethernet port capable of directly communicating with the AlertManager Core Server, and an expansion slot to add alternate communication interface boards. In most instances boards are available to match the datacast transmission¹; direct satellite downlinks, ATSC receiver for over-the-air DTV, and Radio Data Broadcast System (RDBS). The interface board fits in the DASDEC's expansion slot being controlled through the standard web-browser interface making it

simple to install and operate. In addition, the DASDEC can simultaneously support the optional internal DAS-3RAD Triple Tri-band (AM/FM/WX) radio receiver module for a truly integrated emergency messaging solution.

The DASDEC internally processes all currently specified CAP v1.1 formatted messages generated by the AlertManager. With a compatible datacasting receiver card and internal CAP message processing means simple integration with no additional hardware, wiring, or rack space requirements. Moreover, CAP protocol updates use the same and simple DASDEC file-based upgrade method; therefore any future FEMA/FCC CAP requirement changes are simple to update and maintain compatibility.



Conclusion

The Digital Alert Systems DASDEC-II and SpectraRep AlertManager system provide a uniquely integrated solution to emergency message communications. The simplified user interface of the AlertManager and its CAP message generation assure emergency managers all forms of important data are available to downstream devices. The DASDEC with its compact and powerful design provide both standard EAS compliance and fully compatible CAP message processing.

More information

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¹ HD Radio receiver boards are currently in a dispute with RIAA over availability.