EAS Interoperability

Frank W. Bell

The current EAS has many shortcomings compared with CAP and EDXL-DE. However these can largely be addressed using digital TV, HD radio, and an optional feature capability for consumer receivers.

The emphasis on jurisdiction based alerts ignores the fact that over 70% of radio listeners are in vehicles. Such receivers are highly unlikely to ever be capable of being "aware" of which jurisdiction they are in. They could however receive position information from a navigation or CMRS source. Therefore polygons should be part of most EAS alerts, even if the translation to them is made after the CAP or EDXL-DE message is received.

A success story with EAS is AMBER Alert. However the state and plate of the vehicle of interest is not in the current CAP or EDXL-DE standards. This would be so that information would remain on the radio display after the alert is received. A written example is in my FCC filing, and follows;

<vehicle>

<vehicleGroup> AMBER

<vehicleState> *vvv*

<vehicleID> *vvvvvvv*

</vehicle>

Considerations like this are excluded because an improved or Next-Generation EAS standard is not within scope for CAP or EDXL-DE consideration. This should change and an improved or Next-Generation EAS standard should be started in the process. The example of these two I filed shows that not only can this be implemented, but that there is currently available hardware that should be able to run such code. Furthermore such an improved EAS would be a worthy complement to CAP and EDXL-DE by, as examples;

1) Providing a redundant transmission path for alerts and;
2) Also be a way to send such emergency files to very large numbers of computers without creating internet or server congestion or taking an unduly long time.

These and other capabilities are described in Radio World magazine 2009 November 18 (www nxtbook.com/nxtbooks/newbay/rw_20091118/index.php?startid=44) and at www globalcom123.com/eas. In that article I wrote in favor of the 700 MHz public safety radio proposal for CAP and EDXL-DE messages. While the solutions I have proposed might not always be the most optimal, they take a book to describe, and attempt to provide for the needs of all emergency management jurisdictions as well as the complexities and needs of broadcasting. Improved interoperability with local emergency management is not simply a policy matter, it has implications for the system architecture and standards definitions. One example is the current unsuitability for EAS to be used as part of first responder's exercises because it cannot be sent as a private category alert.

In conclusion, a CAP radio network replacing the EAS daisy chain is desirable, but costly. An alternative would be to use EAS+ alert or CAP broadcast mode, which being primarily software, would be more economical. However it is not expected to be acceptably practical in all situations. Finally, there are also known unknowns regarding the public and the numerous emergency management jurisdictions. A well defined market research project should also be able to ascertain and evaluate these. For example, if the value of each message type or event code (e.g. school weather closing if used by emergency management) could be known, then there should be more ready cooperation amongst all stakeholders. Such a market research project should include all alerting technologies so as to enable a comparison which is more accurate than I have done based on my own observation and analysis.