

Using PSBN for Public Alerts and Warnings

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Public alerts and warnings play an important role in public safety. We believe that the Public Safety Broadband Network (PSBN) can and should facilitate dissemination of public alerts and warnings by implementing appropriate interfaces with the Integrated Public Alert and Warning System (IPAWS)¹. This would increase situational awareness throughout the emergency response community about issued alerts and warnings, increase robustness of all public alert dissemination channels, including the Commercial Mobile Alert Service (CMAS) and the Emergency Alert System (EAS), and enhance system performance by reducing alert transmission delays.

In the IPAWS architecture, public alerts and warnings originating at Federal, state, and local Emergency Operations Centers (EOCs) are sent to the IPAWS Aggregator by the public Internet. The IPAWS Aggregator then processes these alerts and disseminates them via appropriate channels like CMAS and EAS. The reliability of this system depends on the Internet backbone and the Internet Service Provider (ISP) utilized by each EOC. In the case of a major disaster, ISPs can fail or the connectivity can be too slow due to Internet congestion, which may result in very large transmission delays in public alerts and warnings. On the other hand, if the PSBN is utilized for connectivity between EOCs and the IPAWS Aggregator, then it would provide an alternative channel which can be relatively unaffected by ISP outages and traffic congestion. PSBN can be used as a backup path, so that it can restore connectivity if the existing channel over the public Internet fails. Alternatively, PSBN can be the primary path between EOCs and IPAWS Aggregator, and other Internet connections can be used as the backup path. In either case, the reliability of IPAWS would considerably be increased by the presence of a redundant network path.

The second use of PSBN for public alerts and warnings could be sharing these alerts and warnings with appropriate emergency management officials. With this functionality, any individual public safety official/PSBN authorized user can sign up for alerts and warnings that fit certain criteria (such as geographical region, category, severity, etc.), and receive them from IPAWS via the PSBN. This would allow them to receive these alerts directly at their mobile device, therefore improving information flow to this audience and potentially reducing response time.

Implementation of this functionality is expected to have no significant technological issues. It simply requires defining and implementing a PSBN interface for IPAWS, and allowing public alert and warning messages to be carried by PSBN. Specific applications can then be developed to handle these alert and warning messages at the mobile devices, further enhancing the end-user experience for the public safety and PSBN user community.

¹ We refer the reader to <http://www.fema.gov/integrated-public-alert-warning-system> for detailed information about IPAWS