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Title of the Session: The Common Alerting Protocol (CAP) and the Challenge of Public Warning

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Summary

Societies around the world are engaged in a profound revolution in emergency alerting. Enabled by uptake of the international standard Common Alerting Protocol, all manner of communications networks can now be leveraged to get alerts to everyone who needs them, wherever they are and whatever they are doing. With these new capabilities, it is clear that many lives can be saved and livelihoods protected as emergency alerting becomes more available, more precise, more reliable, completely secure, and as fast as it can be.

Context

Getting Public Warnings to People Online

To help disseminate public warnings, alerting authorities have long relied on commercial media, such as newswires, broadcast radio and television. Television stations insert "crawl text" with the warning message; radio stations insert a recording. This public-private collaboration has required huge investments in specialized technology.

Now people are using cell phones and online media more and more. Do societies worldwide need a new round of huge investments in specialized technology to get warnings to all these people online?

Actually, huge new investments are not needed. Online media and alerting authorities already developed ways to get warnings to cell phones and people online, at minimal cost.

The Hazard App developed by the Red Cross Global Disaster Preparedness Center (GDPC) is one example. As part of the Universal App Program, GDPC partners with Red Cross and Red Crescent national societies to develop First Aid and Hazard alerting apps. Content for these apps is tailored to the language, culture and context of each country. The Hazards App provides official, life-critical alerts free to mobile app users.

Google also displays alerts in the specific alerting area to online users of Google Search, Google Maps, etc. This Google Public Alerts product today shows warnings in the United States, Canada, and several other countries. But, Google and IFRC can provide the same service for warnings from any alerting authority, **world-wide**.

People online have yet another way to get free CAP alerts displayed. A partnership among some of the world's largest online advertising brokers, the Federation for Internet Alerts (FIA) interrupts commercial ads to display high-priority warnings.

These services, and many others like them, send official alerts just to people in the alerting area, and in their own language. And, the user can choose what alerts to get.

These amazing, free alerting services are possible because of the Common Alerting Protocol standard.

The Common Alerting Protocol (CAP)

Historically, emergency alert messages have been just text, composed like a news story. This kind of unstructured message makes sense for in-person communication, but it is a barrier to automated communications. Without an emergency messaging standard, all hazards public alerting was just not feasible.

The CAP standard is exactly the single standard format needed. It is simple, yet flexible enough to convey the essential facts about any kind of emergency.

One benefit of CAP is that an alerting authority can quickly trigger multiple warning systems, greatly reducing the cost of public alerting. Another benefit is that emergency managers can easily compile alerts from many sources, enabling pattern detection and "situational awareness" on one map.

Yet CAP is not a complex standard to implement. CAP is a kind of "standard form" with fill-in boxes and check boxes for details of the alert. Alerting authorities typically implement CAP as an add-on feature to their current alerting processes. Alert publishers like Google and IFRC then monitor all of these Internet news feeds with CAP alerts so they can help disseminate warnings to online users in the alerting areas.

A WMO Alert Hub Prototype

Any system that gets CAP alerts from more than a few sources needs a way to combine alerts across many news feeds. Just as an Internet search engine helps users find relevant online resources, the World Meteorological Organization (WMO) Alert Hub prototype (<http://alert-hub.org>) is designed to help users get just the CAP alerts they want. For instance, a civic authority needs to get all published alerts, while a private citizen may want only the high-priority alerts. Also, although each CAP alert is a kind of news story, not all alert news feeds are official sources. The WMO Alert Hub prototype would let receivers choose only alerts from sources in the international Register of Alerting Authorities maintained by WMO.

Implemented on an Internet cloud, the WMO Alert Hub would be highly reliable, highly available, and fast enough that an alert can reach online users within a second or two. This speed is crucial for immediate threats such as tornadoes, earthquakes, and tsunami, where seconds can mean the difference between warnings that are life-saving and warnings that arrive too late.

The Opportunity and the Challenge

The spread of CAP-based alerting is bringing dramatic improvements in public warning to societies worldwide. About 50 nations already publish CAP news feeds; dozens of others are implementing CAP right now.

Building on the global Internet infrastructure and amazing innovations, public-private collaboration is providing a very powerful public alerting service in many parts of the world.

The challenge now is for the rest of the world's alerting authorities and media to implement CAP, and so help people everywhere to save lives and property, wherever and whenever warnings are needed.