



Public-Private Standards Development Collaboration

Case Study: OASIS

Executive Summary

In November 2000, the National Science and Technology Council (NSTC) report on “Effective Disaster Warnings” (PDF) acknowledged that, while the technology existed to add a warning-receiving capability feature to radios, television, phones, etc., that could provide effective warnings in the event of a disaster, what did not exist at the time was “a public/private partnership that can work out the details to deliver such disaster warnings effectively.” In view of that, it therefore recommended that “a standard method should be developed to collect and relay instantaneously and automatically all types of hazard warnings and reports locally, regionally and nationally for input into a wide variety of dissemination systems.”

Results:

In 2001, an international, independent group of over 120 emergency managers began specifying and prototyping the Common Alerting Protocol (CAP) data structure based on the recommendations of the NSTC report. The project was embraced by the non-profit Partnership for Public Warning and a number of international warning system vendors.

In February 2003, a draft CAP specification was submitted to the Organization for the Advancement of Structured Information Systems (OASIS) through the OASIS Emergency Management Technical Committee. Version 1 of CAP became an official OASIS standard in early 2004.

CAP is used as the foundation technology for the proposed "Integrated Public Alert and Warning System," (IPAWS), an all-hazard, all-media national warning architecture being developed by DHS, the National Weather Service and the FCC.

In Canada, a working group composed of public alerting practitioners and government agencies has developed a CAP Canadian Profile (CAP-CP) based on CAP but specialized to address the needs of Canadian public alerting stakeholders, such as bilingualism, “geo-coding” for Canada, managed lists of locations and events, etc. The Canadian government has adopted CAP-CP for its National Public Alerting System (NPAS) project. The CAP-CP working group, along with stakeholders and projects such as the Canadian Association for Public Alerting and Notification (CAPAN), are now working with and refining CAP-CP for national application in Canada.

CAP has been implemented for a small-scale, grassroots hazard information system in Sri Lanka following the 2004 Indian Ocean Tsunami. This implementation was part of the "HazInfo Project" funded by Canada's International Development Research Centre.

Today, CAP is part of the Emergency Data Exchange Language (EDXL) suite of standards. Currently, EDXL includes the following specifications, all developed at the OASIS Emergency Management Technical Committee:

- EDXL Common Alerting Protocol (EDXL-CAP)

- EDXL Distribution Element (EDXL-DE)
- EDXL Hospital Availability Exchange (EDXL-HAVE)
- EDXL Resource Message (EDXL-RM)
- EDXL Reference Information Model (EDXL-RIM)
- EDXL Situation Reporting (EDXL-SitRep)

The Emergency Management TC membership has members from the Canadian Association for Public Alerting and Notification (CAPAN), Sandia National Laboratories, US Department of Defense (DoD), US Department of Homeland Security and a number of private organizations and individuals (see its roster).

Background

After the ratification of CAP as an OASIS Standard in May 2004, the US Department of Homeland Security (DHS) and the Emergency Interoperability Consortium (EIC) signed a Memorandum of Agreement in January 2005 for the collaborative design and development of a suite of specifications under the name "Emergency Data Exchange Language."

The EDXL initiative is a national effort including a diverse and representative group of local, state and federal emergency response organizations and professionals, following a multi-step process. A group of practitioners from leading emergency response organizations prioritize specific message sets and define base requirements.

On the governmental side, DHS coordinates the development of high-level requirements through the Disaster Management eGov Initiative. Prototyping and proof-of-concept testing falls under the aegis of EIC. On the private side, OASIS is in charge of producing format specifications based on the above through the Emergency Management Technical Committee.

CAP has been adopted as a payload within EDXL messages.

Based on experience with CAP 1.0, the OASIS Emergency Management Technical Committee adopted an updated CAP 1.1 specification in October 2005 (version 1.2 is scheduled to be submitted for approval in mid-2010). At a meeting in Geneva in October 2006, the CAP 1.1 specification was taken under consideration by the International Telecommunications Union for adoption, and ITU-T then adopted it as Recommendation X.1303.

CAP implementations have been demonstrated by government agencies including: the DHS; the National Weather Service; the US Geological Survey; the California Office of Emergency Services; the Virginia Department of Transportation and others.

During early 2005, the DHS, in partnership with the Association of Public Television Stations, demonstrated CAP-based "digital EAS" broadcasts over public television digital TV transmitters and satellite links in the Washington, D.C. area and nationwide.

For more information, please contact the Information Technology Industry Council at 202.626.5752