Open Standards for Emergency Interoperability

Standardized messages are critical for coordinating emergency response. OASIS, a not-for-profit, international consortium, provides the **Emergency Data Exchange Language (EDXL)**, a suite of open standards that make it possible for information to be shared among emergency response and management services providers across local, state, tribal, national, and non-government organizations.

EDXL-CAP

The Common Alerting Protocol (CAP) allows consistent warning messages to be disseminated simultaneously over many different systems. This greatly increases warning effectiveness while simplifying the notification task. CAP addresses the challenges posed by the diversity of communication channels and independently developed warning systems. It serves as a universal adaptor for alert messages, defining one message format with features essential for the broad range of alert systems and sensor technologies. CAP 1.2 was approved as an OASIS Standard in 2010. The CAP 1.1 OASIS Standard is also published as International Telecommunications Union (ITU-T) Recommendation X.1303.

EDXL-CAP Profiles

OASIS Profiles constrain a given Standard to particular needs. The CAP 1.2 U.S. Integrated Public Alert and Warning System (IPAWS) Profile describes an interpretation of OASIS CAP 1.2 necessary to meet the needs of IPAWS, a public alerting "system of systems" created by the U.S. Federal Emergency Management Agency (FEMA).

Other organizations may issue profiles for their particular needs, with or without endorsement by OASIS. For instance, the Canadian Association for Public Alerting and Notification (CAPAN) has specified CAP-CP, a Profile that addresses Canada's need for multi-language service.

EDXL-DE

The EDXL Distribution Element (DE) describes a standard message distribution framework for data sharing among emergency information systems. DE is designed to package and deliver any OASIS EM Standard or other data message. The DE format may be used over any data transmission system, including but not limited to the SOAP HTTP binding. The DE may be thought of as a "container" that carries a "payload" of formatted message sets (such as Alerts or Resource Messages) and facilitates their delivery using key routing information such as distribution type, geography, incident, and sender/recipient IDs. Its key features include an option for policy-based routing and non-repudiation. The current release is DE 1.0. Work on DE 2.0 is underway.

Support for EDXL

OASIS members advancing EDXL standards include:

AtHoc

Avaya

Canadian Association for Public Alerting and Notification

Desktop Alert

Environment Canada

Sandia National Labs

U.S. NOAA National Weather Service

U.S. Department of Defense

U.S. Department of Homeland Security

Warning Systems, Inc.

...and many others

EDXL-RM

Resource Messaging (RM) describes a suite of pre-defined standard messages for sharing data among information systems that coordinate requests for emergency equipment, supplies, and people.

RM specifies a document format that allows communication about resources, such as requests for obtaining resources, responses to these requests by potential suppliers, and information on the status and location of resources. The current release is RM 1.0.

EDXL Product Directory: www.oasis-emergency.org/products

EDXL-HAVE

EDXL Hospital Availability Exchange (HAVE) specifies an XML document format that allows a hospital's status, services, and resources (including bed capacity, emergency department status, and available service coverage) to be communicated. HAVE allows emergency dispatchers and managers to make sound logistics decisions on where to route victims, based on accurate data on availability of hospital beds per department, status, services, and capacity. Although some hospitals currently use proprietary technology to publish this kind of information, access to their data is limited to parties that use the same systems. As an open standard, HAVE enables easier interfacing across many different systems. The current release is HAVE 1.0. Work for a new release is underway.

EDXL-SitRep

EDXL Situation Reporting (SitRep) specifies an XML document format that provides the ability to report on incidents ranging from brief observations of limited locations to full scale planning for response to large disasters. SitRep allows emergency managers and incident commanders to use a set of pre-configured report types or create what they need from a set of common report components. SitRep enables the exchange of clear, well-defined information for accurate, well-informed decisions. The ability to gather critical information in time-critical circumstances is the chief requirement that EDXL SitRep satisfies. Work on the first release is underway.

EDXL-TEP

EDXL Tracking of Emergency Patients (TEP) will be an XML messaging standard primarily for exchange of emergency patient and tracking information during patient encounter from admission to release. TEP supports patient tracking across the Emergency Medical Service (EMS) and emergency medical care continuum, as well as hospital evacuations and day-to-day patient transfers, providing real-time information to incident responders, emergency management, coordinating organizations, and care facilities in the chain of care and transport. The TEP standard will also enable electronic receipt of emergency patient tracking and care data by hospital systems in TEP format prior to patient arrival, which then may be displayed, processed and shared within their native systems and current standards. Work on the first release is underway.

See a complete list of current EDXL standards at:
http://www.oasis-open.org/committees/emergency

Get involved

OASIS is a member-driven consortium open to all. Many opportunities to participate and be represented in EDXL standards are available.

Emergency Interoperability Member Section accelerates the development, adoption, and implementation of emergency interoperability communication standards through coordination and financial support.

Emergency Management Technical Committee develops the standards that enable information exchange through the emergency incident lifecycle, from preparedness and response to remediation, demobilization, and after-action analysis for improving preparedness. It consists of several sub-committees dedicated to individual EM standards and foundational work, such as a Reference Information Model (RIM) and Geospatial Information Systems (GIS).

Emergency Management Adoption Committee supports widespread implementation of EDXL standards through education and market awareness. The group currently works to create informational and promotional materials, organize interoperability demonstrations, and facilitate education and outreach events.