



The Common Alerting Protocol (CAP) and Emergency Data Exchange Language (EDXL) - Application in Early Warning Systems for Natural Hazard

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The Common Alerting Protocol (CAP) [1] is an XML-based data format for exchanging public warnings and emergencies between alerting technologies. In conjunction with the Emergency Data Exchange Language (EDXL) Distribution Element (-DE) [2] these data formats can be used for warning message dissemination in early warning systems for natural hazards. Application took place in the DEWS (Distance Early Warning System) [3] project where CAP serves as central message format containing both human readable warnings and structured data for automatic processing by message receivers. In particular the spatial reference capabilities are of paramount importance both in CAP and EDXL. Affected areas are addressable via geo codes like HASC (Hierarchical Administrative Subdivision Codes) [4] or UN/LOCODE [5] but also with arbitrary polygons that can be directly generated out of GML [6]. For each affected area standardized criticality values (urgency, severity and certainty) have to be set but also application specific key-value-pairs like estimated time of arrival or maximum inundation height can be specified. This enables – together with multilingualism, message aggregation and message conversion for different dissemination channels – the generation of user-specific tailored warning messages.

[1] CAP, <http://www.oasis-emergency.org/cap>

[2] EDXL-DE, http://docs.oasis-open.org/emergency/edxl-de/v1.0/EDXL-DE_Spec_v1.0.pdf

[3] DEWS, <http://www.dews-online.org>

[4] HASC, "Administrative Subdivisions of Countries: A Comprehensive World Reference, 1900 Through 1998" ISBN 0-7864-0729-8

[5] UN/LOCODE, http://www.unece.org/cefact/codesfortrade/codes_index.htm

[6] GML, <http://www.opengeospatial.org/standards/gml>