

# Emergency Data Exchange Language (EDXL) Implementer's Guide

## **Working Draft, 19 August 2005**

#### **Document Identifier:**

EDXL Implementer's Guide

Location:

#### **Technical Committee:**

**OASIS Emergency Management TC** 

#### Editor(s):

Patti Iles Aymond, Innovative Emergency Management, Inc. <patti.aymond@ieminc.com>

#### **Abstract:**

The Distribution Element specification describes a standard message distribution framework for data sharing among emergency information systems using the XML-based Emergency Data Exchange Language (EDXL). This format may be used over any data transmission system, including but not limited to the SOAP HTTP binding.

The Distribution Element may be thought of as a "container" which facilitates the "routing" of message sets (any properly formatted XML emergency message) to recipients. The Distribution Element carries and routes "payload" message sets (such as Alerts or Resource Messages), by specifying key routing information such as distribution type, geography, incident, and sender/recipient ID's.

This document is a dynamic collection of potential use cases and implementation guidance identified by the OASIS Emergency Management Technical Committee (EM-TC) in the course of developing the EDXL standard and provided by the EDXL user community.

#### Status:

This document is a Implementer's Guide of the Emergency Management Technical Committee. This document is updated periodically. Send comments about this document to the editor. Committee members should send comments on this specification to the emergency@lists.oasis-open.org list. Others should subscribe to and send comments to the emergency-comment@lists.oasis-open.org list. To subscribe, send an email message to emergency-comment-request@lists.oasis-open.org with the word "subscribe" as the body of the message. For information on whether any patents have been disclosed that may be essential to implementing this specification, and any offers of patent licensing terms, please refer to the Intellectual Property Rights section of the Emergency Management TC web page (http://www.oasis-open.org/committees/emergency/).

#### **Notices**

OASIS takes no position regarding the validity or scope of any intellectual property or other rights that might be claimed to pertain to the implementation or use of the technology described in this document or the extent to which any license under such rights might or might not be available; neither does it represent that it has made any effort to identify any such rights. Information on OASIS's procedures with respect to rights in OASIS specifications can be found at the OASIS website. Copies of claims of rights made available for publication and any assurances of licenses to be made available, or the result of an attempt made to obtain a general license or permission for the use of such proprietary rights by implementors or users of this specification, can be obtained from the OASIS President.

OASIS invites any interested party to bring to its attention any copyrights, patents or patent applications, or other proprietary rights which may cover technology that may be required to implement this specification. Please address the information to the OASIS President.

Copyright © OASIS Open 2005. All Rights Reserved.

This document and translations of it may be copied and furnished to others, and derivative works that comment on or otherwise explain it or assist in its implementation may be prepared, copied, published and distributed, in whole or in part, without restriction of any kind, provided that the above copyright notice and this paragraph are included on all such copies and derivative works. However, this document itself does not be modified in any way, such as by removing the copyright notice or references to OASIS, except as needed for the purpose of developing OASIS specifications, in which case the procedures for copyrights defined in the OASIS Intellectual Property Rights document must be followed, or as required to translate it into languages other than English.

The limited permissions granted above are perpetual and will not be revoked by OASIS or its successors or assigns.

This document and the information contained herein is provided on an "AS IS" basis and OASIS DISCLAIMS ALL WARRANTIES, EXPRESS OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY WARRANTY THAT THE USE OF THE INFORMATION HEREIN WILL NOT INFRINGE ANY RIGHTS OR ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE.

# **Table of Contents**

1 Introduction	4
1.1 Purpose	4
1.2 History	Error! Bookmark not defined.
1.3 Structure of the CAP Alert Message	Error! Bookmark not defined.
1.3.1 <alert></alert>	Error! Bookmark not defined.
1.3.2 <info></info>	Error! Bookmark not defined.
1.3.3 <resource></resource>	Error! Bookmark not defined.
1.3.4 <area/>	Error! Bookmark not defined.
1.4 Applications of the CAP Alert Message	Error! Bookmark not defined.
1.5 Terminology	4
1.6 Normative References	4
2 Design Principles and Concepts (non-norma	tive)Error! Bookmark not defined.
2.1 Design Philosophy	Error! Bookmark not defined.
2.2 Requirements for Design	Error! Bookmark not defined.
2.3 Examples of Use Scenarios	Error! Bookmark not defined.
2.3.1 Manual Origination	Error! Bookmark not defined.
2.3.2 Automated Origination by Autonomou	s Sensor SystemError! Bookmark not defined.
2.3.3 Aggregation and Correlation on Real-	time MapError! Bookmark not defined.
2.3.4 Integrated Public Alerting	Error! Bookmark not defined.
2.3.5 Repudiating a False Alarm	Error! Bookmark not defined.
3 Alert Message Structure (normative)	Error! Bookmark not defined.
3.1 Document Object Model	Error! Bookmark not defined.
3.2 Data Dictionary	Error! Bookmark not defined.
3.2.1 "alert" Element and Sub-elements	Error! Bookmark not defined.
3.2.2 "info" Element and Sub-elements	Error! Bookmark not defined.
3.2.3 "resource" Element and Sub-element	sError! Bookmark not defined.
3.2.4 "area" Element and Sub-elements	Error! Bookmark not defined.
3.3 Implementation Notes	Error! Bookmark not defined.
3.3.1 WGS-84 Note	Error! Bookmark not defined.
3.3.2 Security Note	Error! Bookmark not defined.
3.4 XML Schema	Error! Bookmark not defined.
Appendix A. CAP Alert Message Example	Error! Bookmark not defined.
A.1. Homeland Security Advisory System Aler	tError! Bookmark not defined.
A.2. Severe Thunderstorm Warning	Error! Bookmark not defined.
A.3. Earthquake Report	Error! Bookmark not defined.
A.4. AMBER Alert (Including EAS Activation)	Error! Bookmark not defined.
Appendix B. Acknowledgments	7
OASIS Emergency Management Technical C	ommittee7
Appendix C. Revision History	g

#### 1 Introduction

#### 2 1.1 Purpose

1

#### 3 1.2 EDXL Overview

#### 4 1.3 Terminology

- 5 The key words "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD
- 6 NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this document are to be interpreted as described
- 7 in [RFC2119].
- 8 The words warning, alert and notification are used interchangeably throughout this document.
- 9 The term "coordinate pair" is used in this document to refer to a comma-delimited pair of decimal values
- describing a geospatial location in degrees, unprojected, in the form "[latitude], [longitude]". Latitudes in
- the Southern Hemisphere and longitudes in the Western Hemisphere are signed negative by means of a
- 12 leading dash.

13

#### 1.4 Normative References

14 15	[RFC2119]	S. Bradner, Key words for use in RFCs to Indicate Requirement Levels, http://www.ietf.org/rfc/rfc2119.txt, IETF RFC 2119, March 1997.
16 17 18	[dateTime]	N. Freed, XML Schema Part 2: Datatypes Second Edition, <a href="http://www.w3.org/TR/xmlschema-2/#dateTime">http://www.w3.org/TR/xmlschema-2/#dateTime</a> , W3C REC-xmlschema-2, October 2004.
19 20 21	[FIPS 180-2]	National Institute for Standards and Technology, Secure Hash Standard, http://csrc.nist.gov/publications/fips/fips180-2/fips180-2withchangenotice.pdf, August 2002.
22 23	[namespaces]	T. Bray, Namespaces in XML, http://www.w3.org/TR/REC-xml-names/, W3C REC-xml-names-19990114, January 1999.
24 25	[RFC2046]	N. Freed, Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types, http://www.ietf.org/rfc/rfc2046.txt, IETF RFC 2046, November 1996.
26 27	[RFC2119]	S. Bradner, Key words for use in RFCs to Indicate Requirement Levels, http://www.ietf.org/rfc/rfc2119.txt, IETF RFC 2119, March 1997.
28 29	[RFC3066]	H. Alvestrand, Tags for the Identification of Languages, http://www.ietf.org/rfc/rfc3066.txt, IETF RFC 3066, January 2001.
30 31 32	[WGS 84]	National Geospatial Intelligence Agency, Department of Defense World Geodetic System 1984, http://earth-info.nga.mil/GandG/tr8350_2.html, NGA Technical Report TR8350.2, January 2000.
33 34	[XML 1.0]	T. Bray, Extensible Markup Language (XML) 1.0 (Third Edition), http://www.w3.org/TR/REC-xml/, W3C REC-XML-20040204, February 2004.
35 36 37	[XMLSIG]	Eastlake, D., Reagle, J. and Solo, D. (editors), <i>XML-Signature Syntax and Processing</i> , http://www.w3.org/TR/2002/REC-xmldsig-core-20020212/, W3C Recommendation, February 2002.
38 39 40	[XMLENC]	Eastlake, D. and Reagle, J. (editors), <i>XML Encryption Syntax and Processing</i> , http://www.w3.org/TR/2002/REC-xmlenc-core-20021210/, W3C Recommendation, December 2002.

# 2 Use Cases

# 3 Implementation Guidance

42

## Appendix A. Acknowledgments

#### 44 OASIS Emergency Management Technical Committee

John Aerts, LA County Information Systems Advisory Body\*

46 Patti Aymond, IEM

43

54

68

86

47 William Beavin, The Boeing Company

48 Art Botterell\*, Individual 49 Chris Branton, IEM

50 Rex Brooks, HumanMarkup.org, Inc. 51 Thomas Bui, The Boeing Company

52 Len Bullard, Individual53 Scott Came, Individual

Eliot Christian, US Department of the Interior

55 James Bryce Clark, OASIS \*
Robin Cover, OASIS \*

57 Michael Daconta, US Department of Homeland Security\*

58 David Danko, ESRI

59 Paul Denning, Mitre Corporation

50 John Dias, Lawrence Livermore National Laboratory

61 Mike Dillon, Drummond Group Inc.\* 62 Matthew Dovey, Oxford University\* 63 Sukumar Dwarkanath, Individual

64 Scott Edson, LA County Information Systems Advisory Body\*

David Ellis, IndividualPaul Embley, Individual

67 Jeff Flading, Anteon Corporation

Jack Fox, US Department of Homeland Security\*

69 Lawrence Freudinger, NASA

70 Tim Grapes, Science Applications International Corporation SAIC

71 GIlbert Green, USAMC Logistics Support Activity

72 Gary Ham, Disaster Management Interoperability Services

73 Adam Hocek, Individual

74 Travis Hubbard, Disaster Management Interoperability Services

75 Renato lannella, NICTA\*

Stephen Jepsen, Oracle Corporation\*
Elysa Jones, Warning Systems, Inc.\*
Hong-Eng Koh, Sun Microsystems\*
Jeff Kyser, Warning Systems, Inc.\*
Louis Lagonik, Lockheed Martin

81 Kim Lambert, LMI Government Consulting

Richard Masline, IBM\*
Mary McRae, OASIS \*
Tom Merkle, Lockheed Martin

Peter Miller, US Department of Homeland Security\*

James Morentz, Science Applications International Corporation SAIC

87 Bona Nasution, MTG Management Consultants, LLC.

88 Ash Parikh, Raining Data Corporation\*

89 Walid Ramadan, Individual90 Michelle Raymond, Individual

91 Carl Reed, Open GIS Consortium (OGC)

92 Kent Reed, NIST\*
93 Julia Ridgely, Individual
94 Dave Robinson, Wells Fargo

95 Eleanor Robinson, Anteon Corporation

97 Barry Schaeffer, Individual 98 William Schroeder, ESRI 99 Boris Shur, US Department of Justice* 100 Kwasi Speede, Anteon Corporation 101 William Summers, Science Applications International Corporation SAIC	
<ul> <li>99 Boris Shur, US Department of Justice*</li> <li>100 Kwasi Speede, Anteon Corporation</li> </ul>	
100 Kwasi Speede, Anteon Corporation	
101 William Summers, Science Applications International Corporation SAIC	
To 1 William Guilliners, Guerree Applications international Corporation OAIC	
102 Michael Thompson, The Boeing Company	
Lee Tincher, Science Applications International Corporation SAIC	
104 Rob Torchon, E Team	
105 Brett Trusko, OASIS *	
106 Rick Tucker, Mitre Corporation	
107 Richard Vandame, US Department of Homeland Security*	
108 Winfield Wagner, Crossflo Systems Inc.*	
109 Sylvia Webb, Individual	
110 Jerry Weltman, IEM	
111 Konstantin Wilms, Individual	
112 Bob Wyman, Individual	

# 113 Appendix B. Revision History

Rev	Date	By Whom	What