

## Emergency Data Exchange Language (EDXL) Distribution Element Version 2.0

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#### Additional artifacts:

This prose specification is one component of a Work Product which also includes:

- XML ~~schema directory:~~ [schemas](#): <http://docs.oasis-open.org/emergency/edxl-de/v2.0/csprd02/schema/>
- XML ~~example directory:~~ [examples](#): <http://docs.oasis-open.org/emergency/edxl-de/v2.0/csprd02/examples/>

#### Related work:

This specification replaces or supersedes:

- *Emergency Data Exchange Language (EDXL) Distribution Element, v. 1.0*. [01 May, 2006](#). OASIS Standard. [http://docs.oasis-open.org/emergency/edxl-de/v1.0/EDXL-DE\\_Spec\\_v1.0.pdf](http://docs.oasis-open.org/emergency/edxl-de/v1.0/EDXL-DE_Spec_v1.0.pdf)

[This specification is related to:](#)

- [Emergency Data Exchange Language \(EDXL\) Hospital Availability Exchange v1.0. Latest version.](http://docs.oasis-open.org/emergency/edxl-have/v1.0/emergency_edxl_have-1.0.html) [http://docs.oasis-open.org/emergency/edxl-have/v1.0/emergency\\_edxl\\_have-1.0.html](http://docs.oasis-open.org/emergency/edxl-have/v1.0/emergency_edxl_have-1.0.html)
- [Emergency Data Exchange Language \(EDXL\) Resource Messaging v1.0. Latest version.](http://docs.oasis-open.org/emergency/edxl-rm/v1.0/EDXL-RM-SPEC-V1.0.html) <http://docs.oasis-open.org/emergency/edxl-rm/v1.0/EDXL-RM-SPEC-V1.0.html>
- [Emergency Data Exchange Language Common Types v1.0. Latest version.](http://docs.oasis-open.org/emergency/edxl-ct/v1.0/edxl-ct-v1.0.html) <http://docs.oasis-open.org/emergency/edxl-ct/v1.0/edxl-ct-v1.0.html>
- [Emergency Data Exchange Language Customer Information Quality v1.0. Latest version.](http://docs.oasis-open.org/emergency/edxl-ciq/v1.0/edxl-ciq-v1.0.html) <http://docs.oasis-open.org/emergency/edxl-ciq/v1.0/edxl-ciq-v1.0.html>

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- urn:oasis:names:tc:emergency:EDXL:DE:2.0

**Abstract:**

This Distribution Element 2.0 (DE 2.0) specification describes a standard message distribution format for data sharing among emergency information systems. The DE 2.0 serves two important purposes: (1) The DE 2.0 allows an organization to wrap separate but related pieces of emergency information, including any of the EDXL message types, into a single “package” for easier and more useful distribution; (2) The DE 2.0 allows an organization to “address” the package to organizations or individuals with specified roles, located in specified locations or those interested in specified keywords. This version of the DE expands the ability to use local community-defined terms, uses a profile of the Geographic Markup Language (GML), follows best practices for naming conventions, provides the capability to link content objects, and is reorganized for increased flexibility and reuse of common types. The DE 2.0 packages and addresses emergency information for effective distribution with improved standardization and [tailorabilityability to be tailored](#) for user needs.

**Status:**

This document was last revised or approved by the OASIS Emergency Management TC on the above date. The level of approval is also listed above. [Check the “Latest version” location noted above for possible later revisions of this document.](#)

Technical Committee members should send comments on this Work Product to the Technical Committee’s email list. Others should send comments to the Technical Committee by using the [“Send A Comment”](#) button on the Technical Committee’s web page at <http://www.oasis-open.org/committees/emergency/>.

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# 1 Introduction

## 1.1 Purpose

The primary purpose of the Distribution Element 2.0 is to facilitate the routing of any properly formatted emergency message to recipients. The Distribution Element may be thought of as a "container". It provides the information to route "payload" message sets (such as Alerts or Resource Messages), by including key routing information such as distribution type, geography, incident, and sender/recipient IDs.

The DE 2.0 specification joins the published EDXL suite of standards. The Emergency Data eXchange Language suite of standards continuing goal is to facilitate emergency information sharing and data exchange across the local, state, tribal, national and non-governmental organizations of different professions that provide emergency response and management services. EDXL accomplishes this goal by focusing on the standardization of specific messages (messaging interfaces) to facilitate emergency communication and coordination particularly when more than one profession or governmental jurisdiction is involved.

The published suite of EDXL Standards includes:

- The Common Alerting Protocol v1.2 specification (EDXL-CAP)
- The Distribution Elements specification v1.0 (EDXL-DE)
- The Hospital AVailability Exchange specification v1.0 (EDXL-HAVE)
- The Resource Messaging specification v1.0 (EDXL-RM)
- The Situation Reporting v1.0 (EDXL-SitRep)

## 1.2 History

The Disaster Management (DM) eGov Initiative of the Department of Homeland Security (DHS) determined in 2004 to launch a project to develop interagency emergency data communications standards. It called together a group of national emergency response practitioner leaders and sought their guidance on requirements for such standards. In June, 2004 the first such meeting identified the need for a common distribution element for all emergency messages. Subsequent meetings of a Standards Working Group developed detailed requirements and a draft specification for such a distribution element (DE).

During the same period the DM Initiative was forming a partnership with industry members of the Emergency Interoperability Consortium (EIC) to cooperate in the development of emergency standards. EIC had been a leading sponsor of the Common Alerting Protocol (CAP). Both organizations desired to develop an expanded family of data formats for exchanging operational information beyond warning.

EIC members participated in the development of the DE, and in the broader design of the design of a process for the development of additional standards. This was named Emergency Data Exchange Language (EDXL).

The goal of the EDXL project is to facilitate emergency information sharing and data exchange across the local, state, tribal, national and non-governmental organizations of different professions that provide emergency response and management services. EDXL will accomplish this goal by focusing on the standardization of specific messages (messaging interfaces) to facilitate emergency communication and coordination particularly when more than one profession is involved. It is not just an "emergency management" domain exercise.

It 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. Just as a data-focused effort targets shared data elements, the EDXL process looks for shared message needs, which are common

43 across a broad number of organizations. The objective is to rapidly deliver implementable standard mes-  
44 sages, in an incremental fashion, directly to emergency response agencies in the trenches, providing  
45 seamless communication and coordination supporting each particular process. The effort first addresses  
46 the most urgent needs and proceeds to subsequent message sets in a prioritized fashion. The goal is to  
47 incrementally develop and deliver standards.

48 EDXL is intended as a suite of emergency data message types including resource queries and requests,  
49 situation status, message routing instructions and the like, needed in the context of cross-disciplinary,  
50 cross-jurisdictional communications related to emergency response.

51 The priorities and requirements are created by the DM EDXL Standards Working Group (SWG) which is a  
52 formalized group of emergency response practitioners, technical experts, and industry.

53 The original draft DE specification was trialed by a number of EIC members starting in October, 2004. In  
54 November, 2004, EIC formally submitted the draft to the OASIS Emergency Management Technical  
55 Committee for standardization.

56 Since its official release, the DE has been adopted and used by a number of communities and applica-  
57 tions and as a result, a few significant enhancements were recommended. The OASIS Infrastructure  
58 Framework Subcommittee took on the task of assembling the list of suggestions, considering potential  
59 solutions, and recommending an evolved version DE 2.0. This document describes the DE 2.0. [Below](#)  
60 [are and contains](#) references to the schema and ~~where they can be downloaded with~~ examples [for down-](#)  
61 [load](#).

## 62 **1.3 Structure of the EDXL Distribution Element**

63 The EDXL Distribution Element (DE) comprises an <EDXLDistribution> element as described hereafter,  
64 optional <TargetArea> elements describing geospatial or political target area for message delivery, and a  
65 set of <ContentObject> elements each containing specific information regarding a particular item of con-  
66 tent. The included content may be any XML or other content type or a URI to access the content.

67 The <EDXLDistribution> block may be used without content to form the body of a routing query to, or re-  
68 sponse from, a directory service.

### 69 **1.3.1 <EDXLDistribution>**

70 The <EDXLDistribution> element asserts the originator's intent as to the dissemination of that particular  
71 message or set of messages.

72 Note that use of the <EDXLDistribution> element does not guarantee that all network links and nodes will  
73 implement the asserted dissemination policy or that unintended disclosure will not occur. Where sensitive  
74 information is transmitted over distrusted networks, it should be encrypted in accordance with the Web  
75 Services Security (WSS) standard [http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-](http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf)  
76 [message-security-1.0.pdf](http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf) with any updates and errata published by the OASIS Web Services Security  
77 Technical Committee [http://www.oasis-open.org/committees/tc\\_home.php?wg\\_abbrev=wss](http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wss), or some  
78 other suitable encryption scheme.

### 79 **1.3.2 <Descriptor>**

80 [The <Descriptor> element enables the user to describe the message with information useful for routing](#)  
81 [the message, including elements such as SenderRole, RecipientRole and Keyword.](#)

82

### 83 **1.3.2—1.3.3 <TargetArea>**

84 The <TargetArea> is a container element for a geospatial or political area representing the source, target,  
85 or other area relevant for distributing the message content. It contains data necessary to the originator's  
86 intent, based on location targeting, as to the dissemination of that particular message or set of messages.

87 Multiple <TargetArea> elements are allowed, ~~as well as multiple geo locations within a <TargetArea>.~~  
88 ~~and can be grouped under a <TargetAreas> element, specifying the <AreaKind> and the type of <Ar-~~  
89 ~~eaGrouping>, such as union or intersection .~~ If multiple <TargetArea> elements are used, then the order  
90 top-to-bottom represents precedence, with the top <TargetArea> preferred. ~~If multiple geo locations are~~  
91 ~~used within one <TargetArea>, then those should be unioned to determine the entire <TargetArea> refer-~~  
92 ~~enced.~~

### 93 **1.3.3—1.3.4**            <ContentObject>

94 The <ContentObject> is a container element for specific messages. The <ContentObject> element MUST  
95 either contain a <ContentXML> content container or a <OtherContent> container. Additional elements  
96 (metadata) used for specific distribution of the <ContentObject> payload or hints for processing the pay-  
97 load are also present in the <ContentObject> container element.

### 98 **1.3.5**            ValueLists and Defaults

99 The EDXL-DE 2.0 uses a ValueList structure to enable communities to have user-defined lists of values  
100 for elements such as SenderRole, DistributionStatus, Confidentiality, and many others. The first example  
101 is a user-defined Valuelist specifying recipient roles:

```
102     <RecipientRole>  
103     <ct:ValueListURI>urn:myagency:gov:sensors:recipientRole</ct:ValueListURI>  
104     <ct:Value>Situational Awareness Apps</ct:Value>  
105     <ct:Value>Warning Devices</ct:Value>  
106 </RecipientRole>
```

107 This first example contains two recipient roles, one role whose value is “Situational Awareness Apps” and  
108 one role whose value is “Warning Devices”. These are notional roles created for this example. The roles  
109 are identified as values from a list whose unique Uniform Reference Identifier (URI) is  
110 “urn:myagency:gov:sensors:recipientRole”. When using a ValueList the user can specify a user-  
111 defined list by URI (either using the “urn:...” format or the more familiar “http://...” format) and then include  
112 user-defined values from that list. This ValueList structure has several advantages, the ValueList: (a) pro-  
113 vides flexibility for local communities to use community-defined terms and vocabulary; (b) allows for the  
114 external maintenance of local or standardized lists; and (c) avoids the problems inherent in attempting to  
115 constantly update hardcoded enumerations in a specification.

116 The ValueList is supplemented for many of the EDXL-DE 2.0 elements with an optional default list and  
117 values. These defaults are useful when no community-defined or standardized lists are available. This  
118 second example is a default for a ValueList specifying the type or kind of DE 2.0 message:

```
119     <DistributionKind>  
120     <DistributionKindDefault>  
121  
122     <ct:ValueListURI>urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:DistributionType</ct:Val  
123     ueListURI>  
124     <ct:Value>Report</ct:Value>  
125     </DistributionKindDefault>  
126 </DistributionKind>
```

127 This example specifies a default value of “Report” from the default list whose URI is  
128 “urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:DistributionType”. When utilizing the default, a  
129 specific URI must be used and only the specified values can be included. The default URIs and values  
130 are specified in the schema and mentioned in the data dictionary, where applicable.

131 The EXDL-DE 2.0 ValueList and default mechanism provide a reasonable compromise between allowing  
132 flexibility for using local or standardized lists and enabling the convenience of utilizing default values with  
133 schema validation as needed.

### 1.3.6 Linking Content Objects and Other DE 2.0 Components

A new feature of the EDXL-DE 2.0 is the ability to specify links between content objects. This linking ability is a useful new feature of the DE 2.0, allowing users to specify meaningful connections among content objects.

For example, if a DE 2.0 message contains two alerts and three images, it's now possible to specify by links that two of the images go with the first alert and the third image is tied to the other alert.

The linking feature can also be used to link separable parts of a DE 2.0 message. These separable parts are the global elements, EDXLDistribution, Descriptor, Content, ContentDescriptor, and ContentObject.

For example, the new EDXL-DE 2.0 allows the Descriptor portion of the DE 2.0 to be used independently of the Content portion of the DE 2.0, as would be commonly done when using a "wrapper" other than the DE-provided EDXLDistribution element. In a SOAP message, the DE 2.0 Descriptor might appear in the SOAP header while the DE 2.0 Content appears in the SOAP body. If needed or desired, a link can be used to tie the Descriptor to the Content to make the connection between the two explicit. The new DE 2.0 linking feature supports two use cases: one where the user wants to show a connection between or among content objects and the other where the user wants to explicitly link other separable DE 2.0 components.

The new linking feature is enabled using the W3C standard Xlink. For example, here is a link tying a DE 2.0 Descriptor element to a DE 2.0 Content element:

```
<de:Link xlink:from="de_descriptor" xlink:to="de_content"
xlink:arcrole="http://www.oasis.org/de/arcroles/isDescriptorOf" xlink:title="is Descriptor of"/>
```

Here are a few examples linking content objects:

```
<de:Link xlink:from="contentObject_1" xlink:to="contentObject_2"
xlink:arcrole="http://www.oasis.org/de/arcroles/isImageOf" xlink:title="is Image of"/>
```

```
<de:Link xlink:from="contentObject_3" xlink:to="contentObject_4"
xlink:arcrole="http://www.oasis.org/de/arcroles/isVideoOf" xlink:title="is Video of"/>
```

```
<de:Link xlink:from="contentObject_5" xlink:to="contentObject_6"
xlink:arcrole="http://www.oasis.org/de/arcroles/isAudioOf" xlink:title="is Audio of"/>
```

Xlink is a standard specification providing several attributes which can be added to elements to support linking. In the examples above, the "from" and "to" attributes reference the values of xlink label attributes that have been added to the DE 2.0 components or content objects respectively. In the second example, the link is referring to a content object whose xlink:label attribute has been set to "contentObject\_2" and is also referring to another content object whose xlink:label attribute has been set to "contentObject\_1". By using these labels as element identifiers, the link connects one to another. Users can specify user-defined labels and roles, and thereby create meaningful connections among content objects or among DE 2.0 components.

This section is merely an introduction to the linking concept. For more details, see the examples and also see the Xlink specification itself and referenced tutorials.

### 1.3.7 Common Types

Several Element Types, such as TargetArea, borrow re-usable elements from the EDXL Common Types that apply to and support multiple areas of the DE 2.0 messages. For instance TargetArea relies on the EDXL-CIQ profile for geopolitical info and on the EDXL-GSF profile for geographical information.



176 | [The Supporting Elements Model distinguishes three groups of elements: CommonTypes \(EDXL-CT\),](#)  
177 | [Contact Information \(EDXL-CIQ\) and Location Information \(EDXL-GSF\).](#)

178 | [The following elements are used in this specification and can be found at the locations cited in the norma-](#)  
179 | [tive references in Section 1.6 below.](#)

<i>Supporting Element</i>	<i>Defined In</i>
EDXLLocationType	EDXL-CT
EDXLGeoLocationType	EDXL-GSF
EDXLGeoPoliticalLocationType	EDXL-CT
ValueListURI	EDXL-CT
Value	EDXL-CT

180

## 181 | **1.4 Applications of the EDXL Distribution Element**

182 | The primary use of the EDXL Distribution Element is to identify and provide information to enable the  
183 | routing of encapsulated payloads, called Content Objects. It is used to provide a common mechanism to  
184 | encapsulate content information.

## 185 | **1.5 Terminology**

186 | The keywords "MUST", "MUST NOT", "REQUIRED", "SHALL", "SHALL NOT", "SHOULD", "SHOULD  
187 | NOT", "RECOMMENDED", "MAY", and "OPTIONAL" in this specification are to be interpreted as de-  
188 | scribed in IETF RFC 2119.

189 | In addition, within this Specification, the keyword "CONDITIONAL" should be interpreted as potentially  
190 | "REQUIRED" or "OPTIONAL" depending on the surrounding context. The term payload refers to some  
191 | body of information contained in the distribution element. The term "REQUIRED" means that empty ele-  
192 | ments or NULL values are NOT allowed.

## 193 | **1.6 Normative References**

### 194 | **[RFC 2119]**

S. Bradner. *Key words for use in RFCs to Indicate Requirement Levels*.  
<http://www.ietf.org/rfc/rfc2119.txt>, IETF RFC2119, March 1997.

### 195 | **[RFC2046]**

196 | N. Freed, *Multipurpose Internet Mail Extensions (MIME) Part Two: Media Types*,  
197 | <http://www.ietf.org/rfc/rfc2046.txt>, IETF RFC 2046, November 1996.

### 198 | **[RFC2119]**

199 | S. Bradner, *Key words for use in RFCs to Indicate Requirement Levels*,  
200 | <http://www.ietf.org/rfc/rfc2119.txt>, IETF RFC 2119, March 1997.

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202 | H. Alvestrand, *Tags for the Identification of Languages*,  
203 | <http://www.ietf.org/rfc/rfc3066.txt>, IETF RFC 3066, January 2001.

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205 | National Geospatial Intelligence Agency, Department of Defense World Geodetic  
206 | System 1984, [http://earth-info.nga.mil/GandG/publications/tr8350.2/tr8350\\_2.html](http://earth-info.nga.mil/GandG/publications/tr8350.2/tr8350_2.html),  
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212 T. Bray, *Namespaces in XML*, <http://www.w3.org/TR/REC-xml-names/>, W3C REC-  
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- 214 **[dateTime]**  
215 N. Freed, XML Schema Part 2: Datatypes Second Edition,  
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217 2004.
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- 221 **[EDXL-CIQ]**  
222 W. Joerg, OASIS Committee Specification Draft Emergency Data Exchange Lan-  
223 guage Customer Information Quality [http://docs.oasis-open.org/emergency/edxl-  
ciq/v1.0/csd02/](http://docs.oasis-open.org/emergency/edxl-<br/>224 ciq/v1.0/csd02/) , September, 2011
- 225 **[EDXL-CT]**  
226 [W. Joerg, OASIS Committee Specification Draft Emergency Data Exchange Lan-  
227 guage Common Types <http://docs.oasis-open.org/emergency/edxl-ct/v1.0/csd02/> ,  
228 November, 2011](http://docs.oasis-open.org/emergency/edxl-ct/v1.0/csd02/)
- 229 **[EDXL-GSF]**  
230 [W. Joerg, OASIS Committee Specification Draft Emergency Data Exchange Lan-  
231 guage GML Simple Features \[http://docs.oasis-open.org/emergency/edxl-  
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## 256 2 Design Principles & Concepts (non-normative)

### 257 2.1 Design Philosophy

258 Below are some of the guiding principles of the Distribution Element:

- 259 1. Provide an Open Container Model to enable dissemination of one or more emergency messages
- 260 ~~1.2.~~ Provide flexible mechanisms to inform message routing and/or processing decisions
- 261 ~~2.3.~~ Enable dissemination of messages based on geographic delivery area
- 262 ~~3.4.~~ Use and re-use of data content and models developed by other initiatives
- 263 ~~4.5.~~ Support business process-driven specific messaging needs across emergency professions
- 264 ~~5.6.~~ Support everyday events and incident preparedness, as well as disasters
- 265 ~~6.7.~~ Facilitate emergency information sharing and data exchange across the local, state, tribal, na-  
266 tional and non-governmental organizations of different professions that provide emergency response  
267 and management services
- 268 ~~7.8.~~ Multi-use format - One message schema supports multiple message types (e.g., alert / update /  
269 cancellations / acknowledgments / error messages) in various applications (actual / exercise / test /  
270 system message.)

### 271 2.2 Requirements for Design

272 The Distribution Element specification should:

- 273 1. Define a compound XML structure (or an equivalent single structure if transcoded into another  
274 format) including the required and optional elements defined below.
- 275 2. Specify a desired delivery area, expressed in geospatial coordinates or using politi-  
276 cal/administrative codes.
- 277 3. Allow the ability to encapsulate a payload or set of payloads
- 278 4. Take a modular approach to the enumerations of element values which may evolve over time,  
279 e.g. by referring to a separate schema for those enumerations.
- 280 5. Specify unique distribution and sender identifiers
- 281 6. Specify the date and time the distribution was sent
- 282 7. Specify the actionability of the distribution message (e.g., real-world, test, exercise)
- 283 8. Specify the functional type of the distribution message (e.g., report, request, update, cancellation,  
284 etc.)
- 285 9. Specify that the following elements may be present in a valid payload:

- 286 | (a) A specification of the format of the distribution message (e.g., the URI of an XML Schema for the  
287 | message)
- 288 | (b) The functional role and/or type of the sender of the distribution message
- 289 | (c) One or more functional role and/or type of desired recipients of the distribution message
- 290 | ~~(d)~~ A reference to one or more previous distribution messages
- 291 | ~~(e)~~(d) One or more types of response activity involved
- 292 | ~~(f)~~(e) A reference to the type of incident
- 293 | ~~(g)~~(f) One or more characterizations of the etiology of the subject event or incident (e.g., terrorism, nat-  
294 | ural, under investigation, etc.)
- 295 | ~~(h)~~(g) The incident name or other identifier of one or more event or incident
- 296 | ~~(i)~~(h) A reference to one or more response types.
- 297 | ~~(j)~~(i) One or more specific recipient addresses (as a URI).
- 298 | ~~(k)~~(j) Specify an assertion of the confidentiality level of the combined payloads.
- 299 | 10. In addition, the Content Object element contained within the Distribution Element SHOULD:
- 300 | (a) Allow the encapsulation of one or more payloads in each of the Content Object elements.
- 301 | (b) Specify the functional role and/or type of the sender of each payload
- 302 | (c) Specify one or more functional roles and/or types of desired recipients of each payload
- 303 | (d) Specify an assertion of the confidentiality level of each payload.
- 304 | 11. Provide or refer to specific lists (enumerations) of values and ~~their~~ definitions for:
- 305 | (a) Types of incidents
- 306 | (b) Types of hazards and/or events
- 307 | (c) Types of agencies
- 308 | (d) Types of response activity
- 309 | (e) The functional role and/or type of the sender
- 310 | (f) The functional roles and/or types of desired recipients
- 311 | (g) The incident name or other identifier of one or more event or incident.

## 312 **2.3 Example Usage Scenarios**

313 Note: The following examples of use scenarios were used as a basis for design and review of the EDXL  
314 Distribution Element Message format. These scenarios are non-normative and not intended to be exhaus-  
315 tive or to reflect actual practices.

### 316 **2.3.1 Distribution of Emergency Messages or Alerts Based on** 317 **Geographic Delivery Area and Incident Type**

318 The terror alert level has been raised to RED. Credible intelligence indicates that terrorist groups in the  
319 Mid-Atlantic region are seeking to conduct an attack in the next 48 hours. The Department of Homeland  
320 Security sends an emergency alert message, and using the Distribution Element, distributes it to all  
321 emergency agencies in the specified area.

### 322 **2.3.2 Encapsulation and Distribution of One or More Emergency** 323 **Messages or Alerts or Notifications**

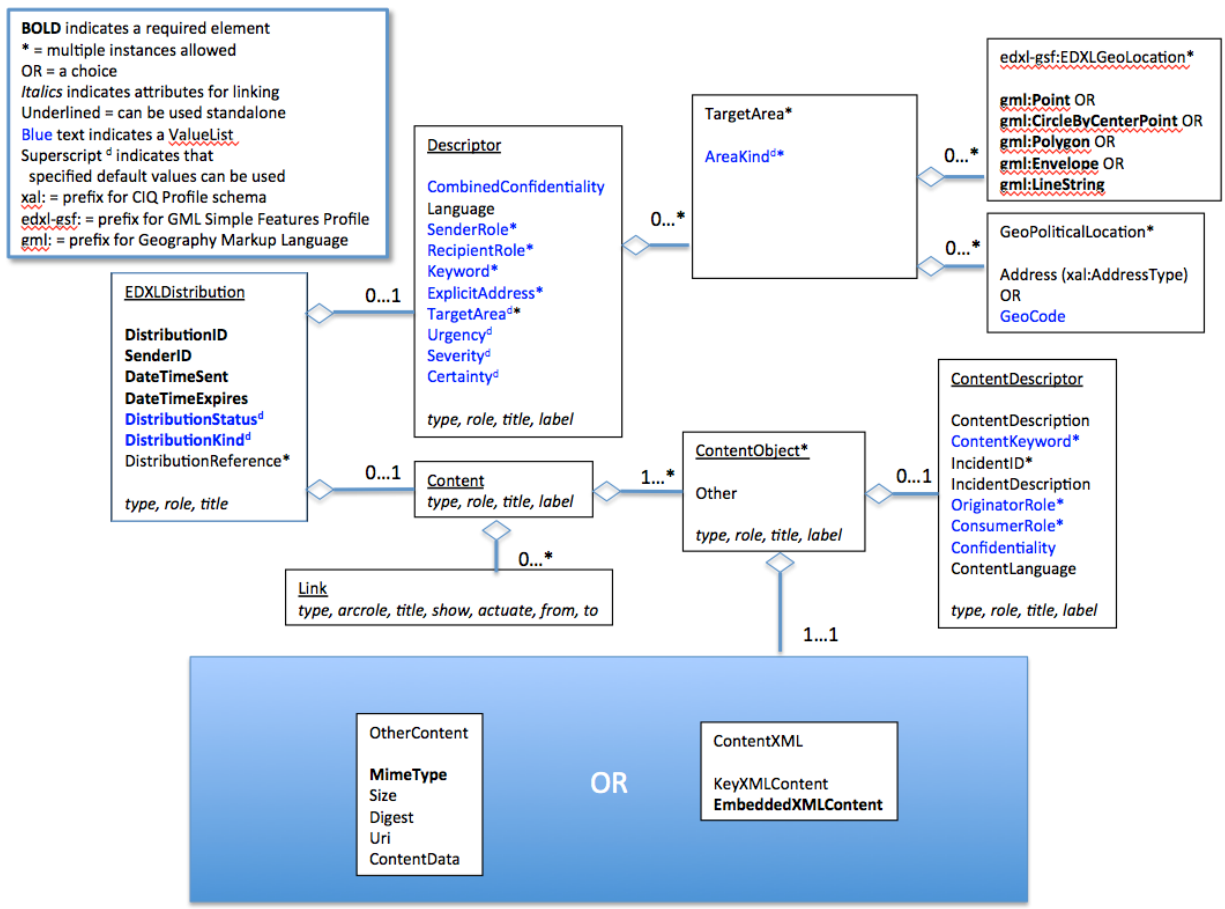
324 A Radiological sensor triggered at a prominent Tunnel toll booth. Radiation alarm levels indicates possi-  
325 ble dirty bomb. Authorities decide to send multiple messages to a number of jurisdictions. [They send](#)  
326 [The user sends](#) an EDXL Distribution Element with two encapsulated CAP messages. The first one notifies  
327 the area where the sensor has been triggered. The second one is an alert to emergency response agen-  
328 cies that the state Emergency Operation Center (EOC) has been activated, and requests the agencies to  
329 be on alert.

### 330 **2.3.3 Distribution of Resource Messages or Reports**

331 The Local EOC has a need for additional resource/support, but is unsure what specifically to request. A  
332 free-form request for information and resource availability is prepared, and is sent to the state EOC and  
333 other organizations (person to person) using the Distribution Element. The Local EOC receives an ac-  
334 knowledgment message from the State EOC, as well as a request for Information on additional details of  
335 the requested resource. Both of these messages are contained within a single Distribution Element.

### 336 **2.3.4 Distribution of Well-Formed XML Messages**

337 A huge crash, involving a car and a HAZMAT truck, occurs at a busy junction on an inter-state freeway.  
338 Separate automatic notifications of both the car crash and the HAZMAT carrier are sent using the Vehicu-  
339 lar Emergency Data Set (VEDS), contained in the Distribution Element. The Transportation Management  
340 Center (TMC) shares information (related to the above incident) with the adjacent TMC, using the IEEE  
341 1512 Incident Management Message Set. These sets of messages are exchanged using the EDXL Dis-  
342 tribution Element.



343 **3 EDXLDistribution Element Structure (normative)**

344 **3.1 Document Object Model**

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350 **3.2 Data Dictionary**

351 **3.2.1 EDXLDistribution Element and Sub-elements**

352 The Distribution Element, <EDXLDistribution> is the container element for all data necessary to the origi-  
 353 nator's intent as to the dissemination of the contained message or set of messages.

<b>Element</b>	<b>EDXLDistribution</b>
Type	XML Structure
Usage	<b>CONDITIONAL</b> , MUST be used once and only once when an EDXL envelope is desired, top level container
Definition	A container of all of the elements related to the distribution of the content messages.

Comments	<p>1. The &lt;EDXLDistribution&gt; element includes administrative envelope information as well as optionally one &lt;Descriptor&gt; block and one &lt;Content&gt; block.</p> <p>2. Use of the &lt;EDXLDistribution&gt; element does not guarantee that all network links and nodes will implement the asserted dissemination policy or that unintended disclosure will not occur. Where sensitive information is transmitted over untrusted networks, it should be encrypted in accordance with the Web Services Security (WSS) standard (&lt;<a href="http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf">http://docs.oasis-open.org/wss/2004/01/oasis-200401-wss-soap-message-security-1.0.pdf</a>&gt;) with any updates and errata published by the OASIS Web Services Security Technical Committee (&lt;<a href="http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wss">http://www.oasis-open.org/committees/tc_home.php?wg_abbrev=wss</a>&gt;), or some other suitable encryption scheme.</p> <p>3. This element can be the source or destination for a link. See Section 1.3.5.</p>
Sub-elements	<p><a href="#">DistributionID [1..1]</a></p> <p><a href="#">SenderID [1..1]</a></p> <p><a href="#">DateTimeSent [1..1]</a></p> <p><a href="#">DateTimeExpires [1..1]</a></p> <p><a href="#">DistributionStatus [1..1]</a></p> <p><a href="#">DistributionKind [1..1]</a></p> <p><a href="#">DistributionReference [0..*]</a></p> <p><a href="#">Descriptor [0..1]</a></p> <p><a href="#">Content [0..1]</a></p> <p><a href="#">Other [0..*]</a></p>
Used In	top level element

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<b>Element</b>	<b>Descriptor</b>
Type	XML Structure
Usage	<b>OPTIONAL</b> , MAY be used once and only once; can be used as a top level element when used outside of the EDXLDistribution envelope.
Definition	A container of all of the substantive elements related to describing the distribution of the content messages as a whole.
Comments	1. This element can be the source or destination for a link. See Section 1.3.5.
Sub-elements	<p><a href="#">CombinedConfidentiality [0..1]</a></p> <p><a href="#">Language [0..1]</a></p> <p><a href="#">SenderRole [0..*]</a></p> <p><a href="#">RecipientRole [0..*]</a></p> <p><a href="#">Keyword [0..*]</a></p>

	<a href="#">ExplicitAddress [0..*]</a> <a href="#">TargetAreas [0..*]</a> <a href="#">Urgency [0..1]</a> <a href="#">Severity [0..1]</a> <a href="#">Certainty [0..1]</a> <a href="#">IncidentID [0..*]</a> <a href="#">IncidentDescription [0..*]</a> <a href="#">Link [0..*]</a>
Used In	<a href="#">EDXLDistribution</a> or independently if an alternative envelope is used.

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<b>Element</b>	<b>Content</b>
Type	XML Structure
Usage	<b>OPTIONAL</b> , MAY be used once and only once; may be used outside of <a href="#">EDXLDistribution</a> if an alternative envelope to <a href="#">&lt;EDXLDistribution&gt;</a> is used.
Definition	A container for the <a href="#">ContentObject</a> and any <a href="#">Links</a> among content objects
Comments	<p>1.The <a href="#">&lt;Content&gt;</a> block must contain one or more <a href="#">&lt;ContentObject&gt;</a> blocks and optionally one or more <a href="#">&lt;Link&gt;</a> elements.</p> <p>2. This element can be the source or destination for a link. See <a href="#">Section 1.3.5</a>.</p>
Sub-elements	<a href="#">ContentObject [1..*]</a> <a href="#">Link [0..*]</a>
Used In	<a href="#">EDXLDistribution</a> or independently if an alternative envelope is used.

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<b>Element</b>	<b>Link</b>
Type	XML Structure
Usage	<b>OPTIONAL</b> , MAY be used multiple times
Definition	A method for linking <a href="#">&lt;ContentObject&gt;</a> elements or other elements
Comments	<p>1.The <a href="#">Link</a> element includes attributes from the <a href="#">xlink:arcLink</a> attributeGroup, consisting of <a href="#">type="arc"</a>, <a href="#">xlink:arcrole</a>, <a href="#">xlink:title</a>, <a href="#">xlink:show</a>, <a href="#">xlink:actuate</a>, <a href="#">xlink:from</a>, and <a href="#">xlink:to</a>. The <a href="#">role</a> attribute indicates a property of the resource, the <a href="#">title</a> indicates a human-readable description of the resource, and the <a href="#">label</a> attribute provides a way for an arc-type element to refer to it. The <a href="#">xlink:from</a> attribute defines the start of a link by referencing a resource's "label" attribute while the <a href="#">xlink:to</a> attribute defines the endpoint of a link by referencing the ending resource label. Since <a href="#">label</a> attributes are available in the <a href="#">DE Content</a>, <a href="#">ContentObject</a>, and <a href="#">Descriptor</a> elements, the <a href="#">Link</a> element can be used to link any of these elements. For example, content objects can be linked to each other and to descriptor elements. The linkage is useful to associate content objects when multiple pieces of content are included in one <a href="#">DE</a> or to link a descriptor to content when the two elements are separated, as when using an alternative envelope to the <a href="#">EDXLDistribution</a> element, for example when using a <a href="#">SOAP</a> envelope. For more information on <a href="#">xlink</a>, see the <a href="#">XLINK</a> speci-</p>



	<p>fication referenced in Section 1.</p> <p>2. See Section 1.3.5 for a summary overview of the new DE linking capability.</p> <p>3. &lt;Descriptor&gt; elements can utilize the resourceLink attributes defined in Xlink 1.1.</p>
Used In	<p>Content</p> <p><a href="#">Descriptor</a></p>

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<b>Element</b>	<b>DistributionID</b>
Type	ct:EDXLStringType
Usage	<b>REQUIRED</b> , MUST be used once and only once
Definition	The unique identifier of this distribution message.
Comments	<p>1.Uniqueness is assigned by the sender to be unique for that sender.</p> <p>2.The identifier MUST be a properly formed -escaped if necessary- XML string.</p> <p>3.The string length of the identifier MUST be less than 1024.</p>
Used In	<a href="#">EDXLDistribution</a>

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<b>Element</b>	<b>SenderID</b>
Type	ct:EDXLStringType
Usage	<b>REQUIRED</b> , MUST be used once and only once
Definition	The unique identifier of the sender.
Comments	<p>1.Uniquely identifies human parties, systems, services, or devices that are all potential senders of the distribution message.</p> <p>2. In the form actor@domain-name.</p> <p>3.Uniqueness of the domain-name is guaranteed through use of the Internet Domain Name System, and uniqueness of the actor name enforced by the domain owner.</p> <p>4.The identifier MUST be a properly formed -escaped if necessary- XML string.</p>
Used In	<a href="#">EDXLDistribution</a>

361

<b>Element</b>	<b>DateTimeSent</b>
Type	ct:EDXLDateTimeType
Usage	<b>REQUIRED</b> , MUST be used once and only once
Definition	The date and time the distribution message was sent.
Comments	<p>1. The Date Time combination must include the offset time for time zone. Must be in the restricted W3C format for the XML [dateTime] data type, see ct:EDXLDateTimeType.</p>
Used In	<a href="#">EDXLDistribution</a>

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<b>Element</b>	<b>DateTimeExpires</b>
Type	ct:EDXLDateTimeType
Usage	<b>REQUIRED</b> , MUST be used once and only once

Definition	The date and time the distribution message should expire.
Comments	1. The Date Time combination must include the offset time for time zone. Must be in the restricted W3C format for the XML [dateTime] data type, see ct:EDXLDateTimeType.
Used In	<a href="#">EDXLDistribution</a>

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<b>Element</b>	<b><a href="#">DistributionStatus</a></b>
Type	A choice between a user-defined value or a default value
Usage	<b>REQUIRED</b> , MUST be used once and only once
Definition	The action-ability of the message.
Comments	1. If the default value list is used, then the ValueListURI must be: "urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:StatusType" and the Value must be one of:  a. Actual - "Real-world" information for action b. Exercise - Simulated information for exercise participants c. System - Messages regarding or supporting network functions d. Test - Discardable messages for technical testing only. 2. The status MUST be a properly formed -escaped if necessary- XML string.
Sub-elements	Either <a href="#">StatusKindValueList</a> or <a href="#">StatusKindDefault</a>
Used In	<a href="#">EDXLDistribution</a>

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<b>Element</b>	<b><a href="#">StatusKindDefault</a></b>
Type	ct:StatusKindDefaultType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default distribution status list and value, for example "Actual" or "Exercise".
Comments	1. The list and associated value(s) are in the form:  <StatusKindDefault> <ct:ValueListURI>urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:StatusKind</ct:ValueListURI> <ct:Value>value</ct:Value> </StatusKindDefault>  2. The Value must be Actual, Exercise, System, or Test
Sub-elements	ct:ValueListURI  ct:Value
Used In	<a href="#">DistributionStatus</a>

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<b>Element</b>	<b>StatusKindValueList</b>
Type	ct:ValueKeyType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the distribution status of the message”.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;StatusKindValueList&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/StatusKindValueList&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. One and only one instance of &lt;ct:Value&gt; MUST occur.</p>
Sub-elements	<a href="#">ct:ValueListURI [1..1]</a> <a href="#">ct:Value [1..1]</a>
Used In	<a href="#">DistributionStatus</a>

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<b>Element</b>	<b>DistributionKind</b>
Type	A choice between a user-defined value or a default value
Usage	<b>REQUIRED</b> , MUST be used once and only once
Definition	The function of the message.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;DistributionType&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/DistributionType&gt;</pre> <p>The content of &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and the content of &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. Only a single value may be specified  3. If the default value list is used, the ValueListURI must be:”urn:oasis:names:tc:emergency:EDXL:DE2.0:Defaults:StatusType” and the Value must be one of:</p> <ol style="list-style-type: none"> <li>a. Report - New information regarding an incident or activity</li> <li>b. Update - Updated information superseding a previous message</li> </ol>

	<p>c. Cancel - A cancellation or revocation of a previous message</p> <p>d. Request - A request for resources, information or action</p> <p>e. Response - A response to a previous request</p> <p>f. Dispatch - A commitment of resources or assistance</p> <p>g. Ack - Acknowledgment of receipt of an earlier message</p> <p>h. Error - Rejection of an earlier message (for technical reasons)</p> <p>i. SensorConfiguration - These messages are for reporting configuration during power up or after Installation or Maintenance.</p> <p>j. SensorControl - These are messages used to control sensors/sensor concentrator components behavior.</p> <p>k. SensorStatus - These are concise messages which report sensors/sensor concentrator component status or state of health.</p> <p>l. SensorDetection - These are high priority messages which report sensor detections.</p> <p>4. The status MUST be a properly formed -escaped if necessary- XML string.</p>
Sub-elements	Either <a href="#">DistributionKindDefault</a> or <a href="#">DistributionKindValueList</a>
Used In	<a href="#">EDXLDistribution</a>

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<b>Element</b>	<b><a href="#">DistributionKindDefault</a></b>
Type	ct:DistributionDefaultType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default kind of distribution list and value, for example "Report" or "Update".
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;DistributionKindDefault&gt; &lt;ct:ValueListURI&gt;urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:DistributionType&lt;/ ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/DistributionKindDefault&gt;</pre> <p>2. The Value must be one of Report, Update, Cancel, Request, Response, Dispatch, Ack, Error, SensorConfiguration, SensorControl, SensorStatus, SensorDetection.</p>
Sub-elements	<a href="#">ct:ValueListURI</a> [1..1] <a href="#">ct:Value</a> [1..1]
Used In	<a href="#">DistributionKind</a>

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<b>Element</b>	<b>DistributionKindValueList</b>
Type	ct:ValueKeyType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the kind of distribution of the message".
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;DistributionKindValueList&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/DistributionKindValueList&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. One and only one instance of &lt;value&gt; MUST occur.</p>
Sub-elements	<a href="#">ct:ValueListURI</a> <a href="#">ct:Value</a>
Used In	<a href="#">DistributionKind</a>

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<b>Element</b>	<b>CombinedConfidentiality</b>
Type	A choice between a user-defined value or a default value
Usage	<b>CONDITIONAL</b> , Must be present when confidentiality is used in a content object
Definition	Confidentiality of the combined distribution message's content.
Comments	<p>1. The list and associated value are in the form:</p> <pre>&lt;CombinedConfidentiality&gt;   &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt;   &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/CombinedConfidentiality&gt;</pre> <p>2. Only one value can be specified</p> <p>3. When present, the combined ContentObjects MUST use the same &lt;ct:ValueListURI&gt; where the values in the referenced list are ordered from highest confidentiality at the top to the lowest at the bottom.</p> <p>4. The &lt;CombinedConfidentiality&gt; indicates the confidentiality of the combined &lt;ContentObject&gt; sub-elements. Generally the combined confidentiality is the most restrictive of the &lt;Confidentiality&gt; elements in the container &lt;ContentObject&gt; element, but it can be more restrictive than any of the individual &lt;Confidentiality&gt; elements.</p> <p>5. The &lt;CombinedConfidentiality&gt; element MUST be present if a &lt;Confidentiality&gt; element is present in any of the &lt;ContentObject&gt; elements.</p> <p>6. The confidentiality MUST be a properly formed -escaped if necessary- XML string.</p>

	<p>7. If the default value list is used, the ValueListURI must be: "urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:ConfidentialityType" and the Value must be one of:</p> <p>a. Unclassified</p> <p>b. Classified</p>
Sub-elements	<p><a href="#">ConfidentialityDefault [1..1]</a></p> <p><a href="#">ConfidentialityValueList [1..1]</a></p>
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">ConfidentialityDefault</a></b>
Type	ct:ConfidentialityDefaultType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default confidentiality list and value, for example "Classified" or "Unclassified".
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;ConfidentialityDefault&gt; &lt;ct:ValueListURI&gt;urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:ConfidentialityType &lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/ConfidentialityDefault&gt;</pre> <p>2. The Value must be Classified or Unclassified</p>
Sub-elements	<p>ct:ValueListURI</p> <p>ct:Value</p>
Used In	<a href="#">CombinedConfidentiality</a> , <a href="#">Confidentiality</a>

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<b>Element</b>	<b><a href="#">ConfidentialityValueList</a></b>
Type	ct:ValueKeyType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the confidentiality of the message.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;ConfidentialityValueList&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt;&lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/ConfidentialityValueList&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and</p>

	<p>definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. One and only one instance of &lt;ct:Value&gt; MUST occur.</p>
Sub-elements	<p><a href="#">ct:ValueListURI [1..1]</a></p> <p><a href="#">ct:Value [1..1]</a></p>
Used In	<a href="#">CombinedConfidentiality</a> , <a href="#">Confidentiality</a>

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<b>Element</b>	<b>Language</b>
Type	xsd:language
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	The primary language (but not necessarily exclusive) used in the payloads.
Comments	<p>1. Valid language values are supplied in the ISO standard [RFC3066].</p> <p>2. The language MUST be a properly formed -escaped if necessary- XML string.</p>
Used In	<p>Descriptor</p> <p><a href="#">ContentObject</a></p>

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<b>Element</b>	<b>SenderRole</b>
Type	ct:ValueListType
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The functional role of the sender, as it may determine message routing decisions.
Comments	<p>1. The list and associated value(s) is in the form:</p> <pre>&lt;SenderRole&gt; &lt;ct:ValueListURI&gt;valueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/SenderRole&gt;</pre> <p>2. The &lt;ValueListURI&gt; is the Uniform Resource Name of a published list of values and definitions, and &lt;value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>3. Multiple instances of the &lt;ct:Value&gt;, May occur with a single &lt;ct:ValueListURI&gt; within the &lt;senderRole&gt; container.</p> <p>4. Multiple instances of &lt;SenderRole&gt; MAY occur within a single &lt;Descriptor&gt; container</p> <p>5. Numerous organizations provide role definitions; the external role references provided are examples only. The IF committee does not endorse and/or approve any particular role definition -external references.</p>

	<p>Example Role External References:  <a href="http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf">http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf</a>  <a href="http://www.ccc.ca.gov/emer/Pages/RolesCapabilities.aspx">http://www.ccc.ca.gov/emer/Pages/RolesCapabilities.aspx</a>  <a href="https://www.niem.gov/training/Documents/Mod09_NIEM_PI_How_NIEM_uses_XML.pdf">https://www.niem.gov/training/Documents/Mod09_NIEM_PI_How_NIEM_uses_XML.pdf</a></p>
Sub-elements	<p><a href="#">ValueListURI [1..1]</a>   <a href="#">Value [1..*]</a></p>
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">RecipientRole</a></b>
Type	ct:ValueListType
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The functional role of the recipient, as it may determine message routing decisions.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;RecipientRole&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/RecipientRole&gt;</pre> <p>2. The &lt;ValueListURI&gt; is the Uniform Resource Name of a published list of values and definitions, and the &lt;value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>3. Multiple instances of the &lt;ct:Value&gt;, MAY occur with a single &lt;ct:ValueListURI&gt; within the &lt;recipientRole&gt; container.</p> <p>4. Multiple instances of &lt;RecipientRole&gt; MAY occur within a single &lt;Descriptor&gt; container.</p> <p>5. Numerous organizations provide role definitions; the external role references provided are examples only. The IF committee does not endorse and/or approve any particular role definition -external references.</p> <p>Example Role External References:  <a href="http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf">http://www.fema.gov/pdf/emergency/nims/NIMS_core.pdf</a>  <a href="http://www.ccc.ca.gov/emer/Pages/RolesCapabilities.aspx">http://www.ccc.ca.gov/emer/Pages/RolesCapabilities.aspx</a>  <a href="https://www.niem.gov/training/Documents/Mod09_NIEM_PI_How_NIEM_uses_XML.pdf">https://www.niem.gov/training/Documents/Mod09_NIEM_PI_How_NIEM_uses_XML.pdf</a></p>
Sub-elements	<p><a href="#">ct:ValueListURI [1..1]</a>   <a href="#">ct:Value [1..*]</a></p>
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">Keyword</a></b>
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Type	ct:ValueListType
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The topic related to the distribution message, as it may determine message routing decisions.
Comments	<p>1. The list and associated value(s) is in the form:</p> <pre>&lt;Keyword&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/Keyword&gt;</pre> <p>2. The &lt;ct:ValueListURI&gt; is the Uniform Resource Name of a published list of values and definitions, and the &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>3. Multiple instances of the &lt;ct:Value&gt;, MAY occur with a single &lt;ct:ValueListURI&gt; within the &lt;Keyword&gt; container.</p> <p>4. Multiple instances of &lt;Keyword&gt; MAY occur within a single &lt;EDXLDistribution&gt; container.</p> <p>5 Examples of things &lt;Keyword&gt; might be used to describe include event type, event etiology, incident ID and response type.</p>
Sub-elements	<a href="#">ct:ValueListURI [1..1]</a> <a href="#">ct:Value [1..*]</a>
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">ExplicitAddress</a></b>
Type	XML Structure
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The identifier of an explicit recipient.
Comments	<p>1. Identifies human parties, systems, services, or devices that are all potential recipients of the distribution message.</p> <p>2. The explicit address of a recipient in the form:&lt;ExplicitAddress&gt;  &lt;ExplicitAddressScheme&gt; explicitAddressScheme &lt;/ExplicitAddressScheme&gt;  &lt;ExplicitAddressValue&gt; explicitAddressValue &lt;/ExplicitAddressValue&gt;  &lt;/ExplicitAddress &gt;</p> <p>The content of &lt;ExplicitAddressScheme&gt; is the distribution addressing scheme used, and the content of &lt;ExplicitAddressValue&gt; is a string denoting the addressees value.</p> <p>3. Multiple instances of the &lt; ExplicitAddressValue &gt; MAY occur with a single &lt; ExplicitAddressScheme &gt; within the &lt;ExplicitAddress &gt; container.</p> <p>4. Multiple instances of &lt;ExplicitAddress &gt; MAY occur within a single &lt;Descriptor&gt; container.</p>

Sub-elements	<a href="#">ExplicitAddressScheme</a> [1..1] <a href="#">ExplicitAddressValue</a> [1..*]
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">Urgency</a></b>
Type	A choice between a user-defined value or a default value
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	The urgency of the content of the message.
Comments	<p>1. The list and associated value are in the form:</p> <pre>&lt;DistributionType&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/DistributionType&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. Only a single value may be specified</p> <p>3. If the default value list is used, then the ValueListURI must be: "urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Urgency" and the Value must be one of:</p> <ul style="list-style-type: none"> <li>a. "Immediate" - Responsive action SHOULD be taken immediately <ul style="list-style-type: none"> <li>b. "Expected" - Responsive action SHOULD be taken soon (within next hour)</li> <li>c. "Future" - Responsive action SHOULD be taken in the near future</li> </ul> </li> <li>d. "Past" - Responsive action is no longer required <ul style="list-style-type: none"> <li>e. "Unknown" - Urgency not known</li> </ul> </li> </ul> <p>4. The value MUST be a properly formed -escaped if necessary- XML string.</p>
Sub-elements	Either <a href="#">UrgencyDefault</a> [0..1] or <a href="#">UrgencyValueList</a> [0..1]
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">UrgencyDefault</a></b>
Type	ct:UrgencyDefaultType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default urgency list and value, for example "Immediate" or "Expected".

Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;UrgencyDefault&gt; &lt;ct:ValueListURI&gt;urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Urgency&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/UrgencyDefault&gt;</pre> <p>2. The Value must be Immediate, Expected, Future, Past, or Unknown</p>
Sub-elements	<p>ct:ValueListURI</p> <p>ct:Value</p>
Used In	<a href="#">Urgency</a>

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<b>Element</b>	<b><a href="#">UrgencyValueList</a></b>
Type	ct:ValueKeyType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the urgency of the message”.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;UrgencyValueList&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt;&lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/UrgencyValueList&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. One and only one instance of &lt;ct:Value&gt; MUST occur.</p>
Sub-elements	<p>ct:ValueListURI [1..1]</p> <p>ct:Value [1..1]</p>
Used In	<a href="#">Urgency</a>

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<b>Element</b>	<b><a href="#">Severity</a></b>
Type	A choice between a user-defined value or a default value
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	The severity of the content of the message.
Comments	<p>1. The list and associated value are in the form:</p> <pre>&lt;DistributionType&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt;</pre>

	<p>&lt;/DistributionType&gt;</p> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. Only a single value may be specified</p> <p>3. If the default value list is used, then the ValueListURI must be: "urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Severity" and the Value must be one of:</p> <p>a. "Extreme" - Extraordinary threat to life or property</p> <p>b. "Severe" - Significant threat to life or property</p> <p>c. "Moderate" - Possible threat to life or property</p> <p>d. "Minor" – Minimal to no known threat to life or property</p> <p>e. "Unknown" - Severity unknown</p> <p>4. The value MUST be a properly formed -escaped if necessary- XML string.</p>
Sub-elements	Either <a href="#">SeverityDefault</a> or <a href="#">SeverityValueList</a>
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">SeverityDefault</a></b>
Type	ct:SeverityDefaultType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default severity list and value, for example "Extreme" or "Severe".
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;SeverityDefault&gt; &lt;ct:ValueListURI&gt;urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Severity&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/SeverityDefault&gt;</pre> <p>2. The Value must be Extreme, Severe, Moderate, Minor, Unknown</p>
Sub-elements	ct:ValueListURI [1..1] ct:Value [1..1]
Used In	<a href="#">Severity</a>

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<b>Element</b>	<b><a href="#">SeverityValueList</a></b>
Type	ct:ValueKeyType

Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the severity of the message”.
Comments	<p>1.The list and associated value(s) are in the form:</p> <pre>&lt;SeverityValueList&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/SeverityValueList&gt;</pre> <p>The content of &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and the content of &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. One and only one instance of &lt;ct:Value&gt; MUST occur.</p>
Sub-elements	ct:ValueListURI [1..1] ct:Value [1..1]
Used In	<a href="#">Severity</a>

402

<b>Element</b>	<b><a href="#">Certainty</a></b>
Type	A choice between a user-defined value or a default value
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	The certainty of the content of the message.
Comments	<p>1. The list and associated value are in the form:</p> <pre>&lt;DistributionType&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/DistributionType&gt;</pre> <p>The content of &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and the content of &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. Only a single value may be specified</p> <p>3. If the default value list is used, then the ValueListURI must be: “urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Certainty” and the Value must be one of:</p> <ul style="list-style-type: none"> <li>a. “Observed” – Determined to have occurred or to be ongoing</li> <li>b. “Likely” - Likely (p &gt; ~50%)</li> <li>c. “Possible” - Possible but not likely (p &lt;= ~50%)</li> <li>d. “Unlikely” - Not expected to occur (p ~ 0)</li> <li>e. “Unknown” - Certainty unknown</li> </ul> <p>4. The value MUST be a properly formed -escaped if necessary- XML string.</p>

Sub-elements	Either <a href="#">CertaintyDefault [0..1]</a> or <a href="#">CertaintyValueList [0..1]</a>
Used In	<a href="#">Descriptor</a>

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<b>Element</b>	<b><a href="#">CertaintyDefault</a></b>
Type	ct:SeverityDefaultType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default certainty list and value, for example “Observed” or “Likely”.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;CertaintyDefault&gt; &lt;ct:ValueListURI&gt;urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Certainty&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/CertaintyDefault&gt;</pre> <p>2. The value must be Observed, Likely, Possible, Unlikely, Unknown</p>
Sub-elements	ct:ValueListURI [1..1] ct:Value [1..1]
Used In	<a href="#">Certainty</a>

405  
406

<b>Element</b>	<b><a href="#">CertaintyValueList</a></b>
Type	ct:ValueKeyType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the certainty of the message”.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;CertaintyValueList&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/CertaintyValueList&gt;</pre> <p>The content of &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and the content of &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. One and only one instance of &lt;ct:Value&gt; MUST occur.</p>
Sub-elements	ct:ValueListURI [1..1] ct:Value [1..1]
Used In	<a href="#">Certainty</a>

407

<b>Element</b>	<b>IncidentID</b>
Type	ct:EDXLStringType
Usage	<b>OPTIONAL</b> , MAY use multiple times
Definition	The human-readable text uniquely identifying the incident/event/situation associated with the Content.
Comments	1. MUST be a properly formed -escaped if necessary- XML string.
Used In	<a href="#">Descriptor</a>

408

<b>Element</b>	<b>IncidentDescription</b>
Type	ct:EDXLStringType
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	The human-readable text describing the incident/event/situation associated with the ContentObject.
Comments	1. MUST be a properly formed -escaped if necessary- XML string.
Used In	<a href="#">ContentDescriptor</a>

409

### 3.2.2 ~~TargetArea Element and Sub-elements~~

411 ~~The <TargetArea~~

### 3.2.2 TargetAreas Element and Sub-elements

413 The <TargetAreas> is a container element for the geospatial or political areas targeting efor describing  
 414 the message content. It indicates the originator's intent based on location targeting as to the dissemina-  
 415 tion of that particular message or set of messages. The <TargetArea> utilizes the EDXL GML Sim-  
 416 pleFeatures Profile, which should be consulted for detailed description of <TargetArea> sub-elements.

417

<b>Element</b>	<b>TargetAreas</b>
Type	<a href="#">XML Structure</a>
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	A container for TargetArea information.
Comments	1. The <TargetAreas> block must contain one <AreaKind> block, one <AreaGrouping> block, and one or more <TargetArea> elements.
Sub-elements	<a href="#">AreaKind [1..1]</a> <a href="#">AreaGrouping [1..1]</a> <a href="#">TargetArea [1..*]</a>
Used In	<a href="#">Descriptor</a>

418

<b>Element</b>	<b>AreaGrouping</b>
Type	XML Structure
Usage	<b>REQUIRED</b> , MAY use multiple
Definition	The container element for location information.
Comments	1. The value must be one of: "Intersection", "Union", "ExclusiveOr", "Complement", "Other-GroupingType".
Used In	TargetAreas

419

<b>Element</b>	<b>TargetArea</b>
Type	XML Structure
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The container element for location information.
Comments	1. If multiple Sub-elements appear in a single <TargetArea> element then it should be in the document order with most accurate representation first. 2. Multiple <TargetArea> blocks may appear in a single <TargetAreas>element.
Sub-elements	edxl-gsf:EDXLGeoLocation [0..*] ct:EDXLGeoPoliticalLocation [0..*]
Used In	TargetAreas

420

<b>Element</b>	<b>AreaKind</b>
Type	A choice between a user-defined value or a default value
Usage	<b>REQUIRED</b> , MUST use once and only once.
Definition	Specifies the kind of area, for example "target" or "source".
Comments	1. The list and associated value(s) are in the form: <pre>&lt;AreaKind&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/AreaKind&gt;</pre> The content of <ct:ValueListURI> is the Uniform Resource Identifier of a published list of values and definitions, and the content of <ct:Value> is a string (which may represent a number) denoting the value itself. 2. One and only one instance of <ct:Value> MUST occur. 3. If the default is used, the ValueListURI must be "urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:AreaKind" and the Value must be "DistributionTargetArea" or "SourceTargetArea"



Sub-elements	Either AreaKindDefault [0..1] or AreaKindValueList [0..1]
Used In	TargetAreas

421  
422

<b>Element</b>	<b>AreaKindDefault</b>
Type	ct:AreaKindDefaultType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default kind of area, for example “target” or “source”.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;AreaKindDefault&gt; &lt;ct:ValueListURI&gt;urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:AreaKind&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/AreaKindDefault&gt;</pre> <p>2. The Value must be “DistributionTargetArea” or “SourceTargetArea”</p>
Sub-elements	<a href="#">ct:ValueListURI [1..1]</a> <a href="#">ct:Value [1..1]</a>
Used In	AreaKind

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424

<b>Element</b>	<b>AreaKindValueList</b>
Type	ct:ValueKeyType
Usage	<b>OPTIONAL</b> , MAY be used once and only once
Definition	Specifies the default kind of area, for example “target” or “source”.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;AreaKindValueList&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/AreaKindValueList&gt;</pre> <p>The content of &lt;ct:ValueListURI&gt; is the Uniform Resource Identifier of a published list of values and definitions, and the content of &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. One and only one instance of &lt;ct:Value&gt; MUST occur.</p>
Sub-elements	<a href="#">ct:ValueListURI [1..1]</a> <a href="#">ct:Value [1..1]</a>

Used In	<a href="#">AreaKind</a>
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### 426 **3.2.3 ContentObject Element and Sub-elements**

427 The <ContentObject> element is the container element for specific messages. The <ContentObject> ele-  
 428 ment MUST either contain a <ContentXML> content container or a <OtherContent> content container.  
 429 Additional elements (metadata) used for specific distribution of the <ContentObject> payload or hints for  
 430 processing the payload are also present in the <ContentObject> container element.

<b>Element</b>	<b><a href="#">ContentObject</a></b>
Type	XML Structure
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The container element for message data and content.
Comments	<p>1. The &lt;ContentObject&gt; is the container element for specific messages.</p> <p>2. The &lt;ContentObject&gt; may have an optional attribute that defines a namespace prefix which resolves ambiguous element names.</p> <p>3. The &lt;ContentObject&gt; contains an optional &lt;ContentDescriptor&gt; to describe the content.</p> <p>4. The &lt;ContentObject&gt; element MUST contain exactly one of the two content formats: &lt;ContentXML&gt;, for valid namespaced XML content</p> <p>or</p> <p>&lt;OtherContent&gt;, containing either a &lt;Uri&gt; element, for reference to the content's location, or a &lt;ContentData&gt; element, for data encapsulated in the message.</p> <p>5. This element can be the source or destination for a link. See Section 1.3.5.</p>
Sub-elements	<p><a href="#">ContentDescriptor</a> [0..1]</p> <p>Either <a href="#">ContentXML</a> [1..1] or <a href="#">OtherContent</a> [1..1])</p> <p><a href="#">Other</a> [0..*]</p>
Used In	<a href="#">EDXLDistribution</a> or Stand-alone

431

<b>Element</b>	<b><a href="#">ContentDescriptor</a></b>
Type	XML Structure
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	The description of the message content object
Comments	1. This element can be the source or destination for a link. See Section 1.3.5.
Sub-elements	<p><a href="#">ContentDescription</a> [0..1]</p> <p><a href="#">ContentKeyword</a> [0..*]</p>

	<a href="#">OriginatorRole [0..*]</a> <a href="#">ConsumerRole [0..*]</a> <a href="#">ContentID [0..*]</a> <a href="#">Confidentiality [0..1]</a> <a href="#">ContentLanguage [0..1]</a>
Used In	<a href="#">EDXLDistribution</a> or Stand-alone

432  
433

<b>Element</b>	<b><a href="#">ContentDescription</a></b>
Type	ct:EDXLStringType
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	The human-readable text describing the content object.
Comments	MUST be a properly formed -escaped if necessary- XML string.
Used In	<a href="#">ContentDescriptor</a>

434

<b>Element</b>	<b><a href="#">ContentKeyword</a></b>
Type	ct:ValueListType
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The topic related to the message data and content, as it may determine message distribution and presentation decisions.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;ContentKeyword&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/ContentKeyword&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Name of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. Multiple instances of the &lt;ct:Value&gt;, MAY occur with a single &lt;ct:ValueListURI&gt; within the &lt;ContentKeyword&gt; container.</p> <p>3. Multiple instances of &lt;ContentKeyword&gt; MAY occur within a single &lt;ContentObject&gt; container.</p>
Sub-elements	<a href="#">ValueListURI [1..1]</a> <a href="#">Value [1..*]</a>
Used In	<a href="#">ContentDescriptor</a>

435

<b>Element</b>	<b>OriginatorRole</b>
Type	ct:ValueListType
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The functional role of the message originator, as it may determine message distribution and presentation decisions.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;OriginatorRole&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/OriginatorRole&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Name of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. Multiple instances of the &lt;Value&gt;, MAY occur with a single &lt;ValueListURI&gt; within the &lt;OriginatorRole&gt; container.</p> <p>3. Multiple instances of &lt;OriginatorRole&gt; MAY occur within a single &lt;ContentObject&gt; container.</p>
Sub-elements	<p><a href="#">ct:ValueListURI</a> [1..1]</p> <p><a href="#">ct:Value</a> [1..*]</p>
Used In	<a href="#">ContentDescriptor</a>

<b>Element</b>	<b>ConsumerRole</b>
Type	ct:ValueListType
Usage	<b>OPTIONAL</b> , MAY use multiple
Definition	The functional role of the message consumer, as it may determine message distribution and presentation decisions.
Comments	<p>1. The list and associated value(s) are in the form:</p> <pre>&lt;ConsumerRole&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt; &lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/ConsumerRole&gt;</pre> <p>The &lt;ct:ValueListURI&gt; is the Uniform Resource Name of a published list of values and definitions, and &lt;ct:Value&gt; is a string (which may represent a number) denoting the value itself.</p> <p>2. Multiple instances of the &lt;ct:Value&gt;, MAY occur with a single &lt;ct:ValueListURI&gt; within the &lt;consumerRole&gt; container.</p> <p>3. Multiple instances of &lt;ConsumerRole&gt; MAY occur within a single&lt;ContentObject&gt; container.</p>
Sub-elements	<p><a href="#">ct:ValueListURI [1..1]</a></p> <p><a href="#">ct:Value [1..*]</a></p>
Used In	<a href="#">ContentDescriptor</a>

437

<b>Element</b>	<b>ContentID</b>
Type	ct:EDXLStringType
Usage	<b>OPTIONAL</b> , MAY be used multiple times.
Definition	An identifier for a ContentObject.
Comments	<p>1. Multiple instances of ContentID MAY occur within a ContentDescriptor.</p> <p>2.The identifier MUST be a properly formed -escaped if necessary- XML string.</p> <p>3.The string length of the identifier MUST be less than 1024.</p>
Used In	<a href="#">ContentDescriptor</a>

438

<b>Element</b>	<b>Confidentiality</b>
Type	A choice between a user-defined value or a default value
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	Special requirements regarding confidentiality of the content of this <ContentObject>.
Comments	<p>1. The list and associated value are in the form:</p> <pre>&lt;Confidentiality&gt; &lt;ct:ValueListURI&gt;ValueListURI&lt;/ct:ValueListURI&gt;</pre>

	<p>&lt;ct:Value&gt;value&lt;/ct:Value&gt; &lt;/Confidentiality&gt;</p> <p>2. MUST be a properly formed -escaped if necessary- XML string.</p> <p>3. Only one ct:Value may be specified.</p> <p>4. If the default value list is used, the ValueListURI must be:”urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:ConfidentialityType” and the Value must be one of:</p> <p>a. Unclassified</p> <p>b. Classified</p>
Sub-elements	Either <a href="#">ConfidentialityDefault [1..1]</a> or <a href="#">ConfidentialityValueList [1..1]</a>
Used In	<a href="#">ContentDescriptor</a>

439

<b>Element</b>	<b><a href="#">ContentLanguage</a></b>
Type	xsd:language
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	Specifies the language of this particular content object
Comments	<p>1. Valid language values are supplied in the ISO standard [RFC3066].</p> <p>2. The language MUST be a properly formed -escaped if necessary- XML string.</p>
Used In	<a href="#">ContentDescriptor</a>

440

<b>Element</b>	<b><i>Other</i></b>
Type	XML content from any namespace other than the DE 2.0 namespace
Usage	<b>OPTIONAL</b> , MAY be use to add an unlimited number of XML elements for enveloped signing process.
Definition	Special requirements allowing for signature of the content of a <ContentObject>.
Comments	<p>1. There is no mandatory validation of the elements if the namespace reference can not be located.</p> <p>2. MUST be a properly formed XML string – escaped, if necessary.</p> <p>3. Element names cannot duplicate other element names in the ContentObject. Such duplication would prevent validation due to the ambiguity introduced.</p> <p>4. This element may be used for signatures. If this element is used for experimental extensions, such extensions may not be supported by all users or in future versions of EDXL-DE.</p>
Used In	<a href="#">ContentObject</a>

### 441 **3.2.4 OtherContent Element and Sub-elements**

<b>Element</b>	<b>OtherContent</b>
Type	XML Structure
Usage	<b>CONDITIONAL</b> , MUST use once if ContentXML is not used
Definition	Container for content provided in a non-XML MIME type.
Comments	1. The <OtherContent> container MUST contain either <ContentData> or <Uri> or both. 2. If the <Uri> element is used in conjunction with the <ContentData> element, it must reference a data location that contains the same data as is contained in the <ContentData> element.
Sub-elements	<a href="#">MimeType [1..1]</a> <a href="#">Size [0..1]</a> <a href="#">Digest [0..1]</a> <a href="#">Uri [0..1]</a> <a href="#">ContentData [0..1]</a>
Used In	<a href="#">ContentObject</a>

442

<b>Element</b>	<b>MimeType</b>
Type	ct:EDXLStringType
Usage	<b>REQUIRED</b> , MUST be used once and only once
Definition	The format of the payload.
Comments	1. MIME content type and sub-type as described in [RFC 2046]. 2. The string length of the identifier MUST be less than 1024. 3. MUST be a properly formed -escaped if necessary- XML string.
Used In	<a href="#">OtherContent</a>

443

<b>Element</b>	<b>Size</b>
Type	xsd:integer
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	The file size of the payload.
Comments	1. Value must be in bytes and represent the raw file size (not encoded or encrypted).
Used In	<a href="#">OtherContent</a>

444

<b>Element</b>	<b>Digest</b>
Type	xsd:base64Binary
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	The digest value for the payload.

Comments	1. Used to ensure the integrity of the payload. 2. Calculated using the Secure Hash Algorithm (SHA-1) 3. MUST be a hexadecimal representation of a SHA-1 Hash followed by a BASE 64-encoding to be carried in a non-CDATA element.
Used In	<a href="#">OtherContent</a>

445

<b>Element</b>	<b>Uri</b>
Type	xsd:anyURI
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	A Uniform Resource Identifier that can be used to retrieve the identified resource.
Comments	1. May be a full absolute URI, typically a Uniform Resource Locator, that can be used to retrieve the resource over the Internet. 2. May be a relative URI naming a file. This may be just a pointer to a file or specifically to the file represented in the <ContentData>.
Used In	<a href="#">OtherContent</a>

446

<b>Element</b>	<b>ContentData</b>
Type	xsd:base64Binary
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	The base-64 encoded data content.
Comments	1. MAY be used either with or instead of the <Uri> element in contexts where retrieval of a resource via a URI is not feasible. 2. MUST be a properly formed -escaped if necessary- XML string.
Used In	<a href="#">OtherContent</a>

### 447 3.2.5 ContentXML Element and Sub-elements

<b>Element</b>	<b>ContentXML</b>
Type	XML Structure
Usage	<b>CONDITIONAL</b> , MUST use once and only once if OtherContent is not used
Definition	Container for valid-namespaced XML data.
Comments	An optional namespace attribute may be included.
Sub-elements	<a href="#">KeyXMLContent</a> [0..1] <a href="#">EmbeddedXMLContent</a> [1..1]
Used In	<a href="#">ContentObject</a>



<b>Element</b>	<b>KeyXMLContent</b>
Type	XML content from any namespace other than the DE 2.0 namespace
Usage	<b>OPTIONAL</b> , MAY use once and only once
Definition	A container element for collected fragments of valid XML.
Comments	<p>1. Extracts must come from the XML document contained within the &lt;EmbeddedXMLContent&gt; element within the current &lt;ContentObject&gt; block.</p> <p>2. All content within this element MUST be explicitly namespaced as defined in the enclosing &lt;ContentObject&gt; tag.</p> <p>3. MUST be a properly formed -escaped if necessary- XML string.</p>
Used In	<a href="#">ContentXML</a>

449

<b>Element</b>	<b>EmbeddedXMLContent</b>
Type	XML content from any namespace other than the DE 2.0 namespace
Usage	<b>CONDITIONAL</b> , REQUIRED if parent element ContentXml is present, MAY use only one per content object
Definition	The <EmbeddedXMLContent> element is an open container for valid XML from an explicit namespaced XML Schema.
Comments	<p>1. The content MUST be a separately-namespaced well-formed XML document.</p> <p>2. The enclosed XML content MUST be explicitly namespaced as defined in the enclosing &lt;EmbeddedXMLContent&gt; tag.</p> <p>3. Enclosed XML content may be encrypted and/or signed within this element.</p> <p>4. This element MUST be present if parent element, ContentXML, is present.</p>
Used In	ContentXML

## 3.2.6 List and Associated Value(s)

The ValueList is an important concept whose XML representation is included in the EDXL Common Types. The ValueList consists of a URI which represents a unique name for a "list" of values. One or more values can then be represented from this list. This structure enables local communities, professions, or organizations to utilize their preferred set of terms in many DE elements, such as keywords, recipient roles, sender roles, kinds of target areas, and other features. In the this upgraded version of the DE, ValueLists are used more to allow greater flexibility. If you don't have a preferred list, default values are provided for many of these DE elements. You can choose to create your own values or use the defaults. The default values are provided in the defaults schema, referenced in Section 1. The examples provided with this document demonstrate how to use these value lists. For more information, see the Common Types specification referenced in Section 1.

### 3.2.76 Explicit Addressing

<b>Element</b>	<b>ExplicitAddressScheme</b>
----------------	------------------------------

Type	ct:EDXLStringType
Usage	<b>REQUIRED</b> , MUST use once and only once
Definition	Identifies the distribution addressing scheme used.
Comments	1. MUST be a properly formed -escaped if necessary- XML string.
Used In	<a href="#">ExplicitAddress</a>

464

<b>Element</b>	<b><a href="#">ExplicitAddressValue</a></b>
Type	ct:EDXLStringType
Usage	<b>REQUIRED</b> , MAY use multiple
Definition	A properly formed -escaped if necessary- XML string denoting the addressees value.
Comments	1. MUST be a properly formed -escaped if necessary- XML string.
Used In	<a href="#">ExplicitAddress</a>

465

## 466 ~~3.2.10~~ **Common Elements**

467 ~~Supporting Element Types borrow re-usable elements from the EDXL-RIM collection that apply to and~~  
468 ~~support multiple areas of the DE messages, such as TargetArea. They rely on different collections. For~~  
469 ~~instance TargetArea relies on the EDXL-CIQ profile (hosted at ) for geopolitical info and on the EDXL-~~  
470 ~~GSF profile for geographical information.~~  
471 ~~The Supporting Elements Model distinguishes three groups of elements: CommonTypes (EDXL-CT),~~  
472 ~~ContactInformation (EDXL-CIQ) and LocationInformation (EDXL-GSF).~~

473 ~~The following elements are used in this specification and can be found at the locations cited above.~~

474

---

## 475 4 Conformance

476 An XML 1.0 element is a conforming EDXL-DE-v2.0 Message if and only if:

477 a) it meets the general requirements specified in Section 3;

478 b) if its namespace name is "urn:oasis:names:tc:emergency:EDXL:DE:2.0", and the element is valid  
479 according to the schema located at [http://docs.oasis-open.org/emergency/EDXL-DE-v2.0/EDXL-DE-  
v2.0.xsd](http://docs.oasis-open.org/emergency/EDXL-DE-v2.0/EDXL-DE-<br/>480 v2.0.xsd)

481 c) if its namespace name is "urn:oasis:names:tc:emergency:EDXL:DE:2.0", then its content(which in-  
482 cludes the content of each of its descendants) meets all the additional mandatory requirements provided  
483 in the specific subsection of Section 3 corresponding to the element's name.

484

## 485 Appendix A Acknowledgments

486 The following individuals have participated in the creation of this specification and are  
487 gratefully acknowledged

### Participants:

488 Rex Brooks, Network Centric Operations Industry Consortium (NCOIC)  
489 Martena Gooch, SAIC, Contractor for the FEMA NPD P-TAC Center  
490 Gary Ham, Individual  
491 Werner Joerg, IEM  
492 Hans Jespersen, Solace Systems  
493 Elysa Jones, Individual  
494 Lew Leinenweber, Evolution Technologies, Inc.  
495 Don McGarry, The MITRE Corporation  
496 Jeff Waters, DOD

497

498

499

500

## 501 Appendix A – Appendix B EDXL-DistributionElement XML Schema

502 The EDXL-DistributionElement XML Schema is provided here for ~~the sake of convenience and as a sepa-~~  
503 ~~rate file that the schema~~ can be downloaded at: [the OASIS website: http://docs.oasis-  
open.org/emergency/](http://docs.oasis-<br/>504 open.org/emergency/)

505

506 <Put URL for DE 2 schema here>

507 Please note that all schemas needed for implementation of this specification can be found at

508 <Put URL for zip file here>

```
509 <?xml version="1.0" encoding="UTF-8"?>  
510 <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"  
511 xmlns:xlink="http://www.w3.org/1999/xlink"  
512 xmlns:edxl-gsf="urn:oasis:names:tc:emergency:edxl:gsf:1.0"  
513 xmlns:ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"  
514 xmlns="urn:oasis:names:tc:emergency:EDXL:DE:2.0"  
515 xmlns:gml="http://www.opengis.net/gml/3.2" target-  
516 Namespace="urn:oasis:names:tc:emergency:EDXL:DE:2.0"  
517 elementFormDefault="qualified" attributeFormDefault="unqualified" ver-  
518 sion="1.0CD">
```

```

519 <!--
520 <xs:import namespace="http://www.opengis.net/gml/3.2w3.org/1999/xlink" schemaLoca-
521 tion="./micro_gml_profile/other-supporting-schema/xlink.xsd"/>
522 />
523 <xs:import namespace="urn:oasis:names:tc:emergency:edxl:gsf:1.0" schemaLoca-
524 tion="./other-supporting-schema/EDXLCT_wd05/edxl-gsf.v1.0.xsd"/>
525
526 <!--<xs:import namespace="http://www.opengis.net/gml/3.2" schemaLoca-
527 tion="./micro_gml_profile.xsd"/>
528 <!--<xs:import namespace="http://www.w3.org/1999/xlink" schemaLoca-
529 tion="./xlinks_additional.xsd"/>
530 <xs:import namespace="urn:oasis:names:tc:emergency:edxl:ct:1.0" schemaLoca-
531 tion="./DE_DefaultValueLists_ver06.xsd"/>
532 <!--<xs:import namespace="urn:oasis:names:tc:emergency:edxl:ct:1-de-dvl-v2.0" schemaLo-
533 cation="./EDXLCT_wd05/edxl-ct-v1.0-wd05-wd09.xsd"/>
534 <xs:element name="EDXLDistribution" type="DEDistributionType"/>
535 <xs:complexType name="DEDistributionType">
536 <xs:complexContent>
537 <xs:extension base="DEEnvelopeType">
538 <xs:sequence>
539 <xs:element ref="Descriptor" minOccurs="0" maxOccurs="1"/>
540 <xs:element ref="Content" minOccurs="0" maxOccurs="1"/>
541 <xs:element name="Other" type="AnyXMLType" minOccurs="0" max-
542 Occurs="unbounded"/>
543 </xs:sequence>
544 <xs:attributeGroup ref="xlink:extendedLinkAttrs"/>
545 </xs:extension>
546 </xs:complexContent>
547 </xs:complexType>
548 <xs:complexType name="DEEnvelopeType">
549 <xs:sequence>
550 <xs:element name="DistributionID" type="ct:EDXLStringType" minOccurs="1"/>
551 <xs:element name="SenderID" type="ct:EDXLStringType" minOccurs="1"/>
552 <xs:element name="DateTimeSent" type="ct:EDXLDateTimeType" minOccurs="1"/>
553 <xs:element name="DateTimeExpires" type="ct:EDXLDateTimeType" minOccurs="1"/>
554 <xs:element name="DistributionStatus" type="DistributionStatusType" minOc-
555 curs="1"/>
556 <xs:element name="DistributionKind" type="DistributionType" minOccurs="1"/>
557
558 <!--<xs:element name="DistributionReference" type="DistributionReferenceType" minOc-
559 curs="0" maxOccurs="unbounded"/>
560 </xs:sequence>
561 </xs:complexType>
562 <xs:element name="Descriptor" type="DEDescriptorType"/>
563 <xs:complexType name="DEDescriptorType">
564 <xs:sequence>
565 <xs:element name="CombinedConfidentiality"
566 type="ct:ValueKeyTypeConfidentialityType" minOccurs="0"/>
567 <xs:element name="Language" type="xs:language" minOccurs="0"/>
568 <xs:element name="SenderRole" type="ct:ValueListType" minOccurs="0" max-
569 Occurs="unbounded"/>
570 <xs:element name="RecipientRole" type="ct:ValueListType" minOccurs="0" max-
571 Occurs="unbounded"/>
572 <xs:element name="Keyword" type="ct:ValueListType" minOccurs="0" max-
573 Occurs="unbounded"/>
574 <xs:element name="ExplicitAddress" type="ValueSchemeType" minOccurs="0" max-
575 Occurs="unbounded"/>
576 <xs:element name="TargetAreas" type="TargetAreasType" minOccurs="0" max-
577 Occurs="unbounded"/>
578 <xs:element name="Urgency" type="UrgencyType" minOccurs="0"/>
579 <xs:element name="Severity" type="SeverityType" minOccurs="0"/>
580 <xs:element name="Certainty" type="CertaintyType" minOccurs="0"/>
581 <!--
582 <xs:element name="DistributionTargetAreaIncidentID"
583 type="TargetAreaTypect:EDXLStringType" minOccurs="0" maxOccurs="unbounded"/>

```

```

584 <!--"/>
585 <xs:element name="SourceTargetAreaIncidentDescription"
586 type="TargetAreaType:EDXLStringType" minOccurs="0" maxOccurs="unbounded"/>
587 </xs:element>
588 <xs:element ref="Link" minOccurs="0" maxOccurs="unbounded"/>
589 </xs:sequence>
590 <xs:attributeGroup ref="xlink:resourceLinkAttrs"/>
591 </xs:complexType>
592
593 <!--xs:annotation/>
594 <!--xs:annotation/>
595 <xs:element name="Content" type="DEContentType"/>
596 <xs:complexType name="DEContentType">
597 <xs:sequence>
598 <xs:element ref="ContentObject" minOccurs="1" maxOccurs="unbounded"/>
599
600 <!--Should this be in the actual content object?-->
601 <xs:element ref="Link" minOccurs="0" maxOccurs="unbounded"/>
602 </xs:sequence>
603 <xs:attributeGroup ref="xlink:resourceLinkAttrs"/>
604 </xs:complexType>
605 <xs:element name="Link" type="DELinkType"/>
606 <xs:complexType name="DELinkType">
607 <xs:attributeGroup ref="xlink:arcLink"/>
608 arcAttrs"/>
609 </xs:complexType>
610 <xs:element name="ContentDescriptor" type="DEContentDescriptorType"/>
611 <xs:complexType name="DEContentDescriptorType">
612 <xs:sequence>
613 <xs:element name="ContentDescription" type="ct:EDXLStringType" minOccurs="0"
614 maxOccurs="1"/>
615 <xs:element name="ContentKeyword" type="ct:ValueListType" minOccurs="0" max-
616 Occurs="unbounded"/>
617
618 <!--xs:element name="IncidentID" type="ct:EDXLStringType" minOccurs="0" max-
619 Occurs="unbounded"/>
620 <!--xs:element name="IncidentDescription" type="ct:EDXLStringType" minOccurs="0"
621 maxOccurs="1"/>
622 <xs:element name="OriginatorRole" type="ct:ValueListType" minOccurs="0" max-
623 Occurs="unbounded"/>
624 <xs:element name="ConsumerRole" type="ct:ValueListType" minOccurs="0" max-
625 Occurs="unbounded"/>
626 <xs:element name="ContentID" type="ct:EDXLStringType" minOccurs="0" max-
627 Occurs="unbounded"/>
628 <xs:element name="Confidentiality" type="ct:ValueKeyConfidentialityType"
629 minOccurs="0" maxOccurs="1"/>
630 <xs:element name="ContentLanguage" type="xs:language" minOccurs="0" max-
631 Occurs="1"/>
632 </xs:sequence>
633
634 <!--xs:attributeGroup ref="xlink:resourceLink"/>
635 </xs:complexType>
636 <xs:element name="ContentObject" type="DEContentObjectType"/>
637 <xs:complexType name="DEContentObjectType">
638 <xs:sequence>
639 <xs:element ref="ContentDescriptor" minOccurs="0" maxOccurs="1"/>
640 <xs:choice minOccurs="1" maxOccurs="1">
641 <xs:element name="ContentXML" type="ContentXmlType"/>
642 <xs:element name="OtherContent" type="OtherContentType"/>
643 </xs:choice>
644 <xs:element name="Other" type="AnyXMLType" minOccurs="0" maxOccurs="unbounded"/>
645 </xs:sequence>
646 <xs:attributeGroup ref="xlink:resourceLinkAttrs"/>
647 </xs:complexType>
648 <xs:complexType name="OtherContentType" mixed="false">
649 <xs:sequence>

```

```

650 <xs:element name="MimeType" type="ct:EDXLStringType" minOccurs="1"/>
651 <xs:element name="Size" type="xs:integer" minOccurs="0"/>
652 <xs:element name="Digest" type="xs:base64Binary" minOccurs="0"/>
653 <xs:element name="Uri" type="xs:anyURI" minOccurs="0"/>
654 <xs:element name="ContentData" type="xs:base64Binary" minOccurs="0"/>
655 " />
656 </xs:sequence>
657 </xs:complexType>
658 <xs:complexType name="ContentXmlType" mixed="false">
659 <xs:sequence>
660 <xs:element name="KeyXMLContent" type="AnyXMLType" minOccurs="0" maxOccurs="1"/>
661 <xs:element name="EmbeddedXMLContent" type="AnyXMLType" minOccurs="1" max-
662 Occurs="1"/>
663 </xs:sequence>
664 </xs:complexType>
665 <xs:complexType name="AnyXMLType">
666 <xs:sequence>
667 <xs:any namespace="##other" processContents="lax" maxOccurs="1"/>
668 </xs:sequence>
669 <xs:anyAttribute namespace="##other" processContents="lax"/>
670 </xs:complexType>
671 </xs:sequence>
672 </xs:complexType>
673 <xs:complexType name="AnyXMLType">
674 TargetAreasType">
675 <xs:sequence>
676
677 <xs:any namespace="##other" processContents="lax" maxOccurs="1"/>
678 </xs:sequence>
679 <xs:anyAttribute namespace="##other" processContents="lax"/>
680 </xs:complexType>
681 <xs:complexType name="TargetAreaType">
682 <xs:sequence>
683 <xs:element name="AreaKind" type="AreaKindType" minOccurs="0" maxOccurs="1"/>
684 <xs:element name="AreaGrouping" type="AreaGroupingType" minOccurs="1" max-
685 Occurs="1"/>
686 <xs:element name="TargetArea" type="TargetAreaType" minOccurs="1" max-
687 Occurs="unbounded"/>
688 </xs:sequence>
689 </xs:complexType>
690 <xs:complexType name="TargetAreaType">
691 <xs:choice>
692 <xs:element ref="edxl-gsf:EDXLGeoLocation" minOccurs="0" max-
693 Occurs="unbounded"/>
694 1"/>
695 <xs:element name="GeoPoliticalLocation" type="ct:EDXLGeoPoliticalLocationType"
696 minOccurs="0" maxOccurs="unbounded"/>
697 1"/>
698 </xs:sequence>
699 </xs:choice>
700 </xs:complexType>
701 <xs:complexType name="ValueSchemeType">
702 <xs:sequence>
703 <xs:element name="ExplicitAddressScheme" type="ct:EDXLStringType"/>
704 <xs:element name="ExplicitAddressValue" type="ct:EDXLStringType" minOccurs="1"
705 maxOccurs="unbounded"/>
706 </xs:sequence>
707 </xs:complexType>
708 <xs:complexType name="AreaKindType">
709 <xs:choice>
710 <xs:element name="AreaKindValueList" type="ct:ValueKeyType"/>
711 <xs:element name="AreaKindDefault" type="ct:AreaKindDefaultType"/>
712 </xs:choice>
713 </xs:complexType>
714
715 </xs:choice>

```

```

716 </xs:complexType>
717 <xs:simpleType name="AreaGroupingType">
718 <xs:restriction base="xs:string">
719 <xs:enumeration value="Intersection"/>
720 <xs:enumeration value="Union"/>
721 <xs:enumeration value="ExclusiveOr"/>
722 <xs:enumeration value="Complement"/>
723 <xs:enumeration value="OtherGroupingType"/></xs:enumeration>
724 </xs:restriction>
725 </xs:simpleType>
726 <xs:complexType name="ConfidentialityType">
727 <xs:choice>
728 <xs:element name="ConfidentialityValueList" type="ct:ValueKeyType"/>
729 <xs:element name="ConfidentialityDefault" type="ct:ConfidentialityDefaultType"/>
730 </xs:choice>
731 </xs:complexType>
732 <xs:complexType name="CertaintyType">
733 <xs:choice>
734 <xs:element name="CertaintyValueList" type="ct:ValueKeyType"/>
735 <xs:element name="CertaintyDefault" type="ct:CertaintyDefaultType"/>
736 </xs:choice>
737 </xs:complexType>
738 <xs:complexType name="DistributionType">
739 <xs:choice>
740 <xs:element name="DistributionKindValueList" type="ct:ValueKeyType"/>
741 <xs:element name="DistributionKindDefault" type="ct:DistributionDefaultType"/>
742 </xs:choice>
743 </xs:complexType>
744 <xs:complexType name="DistributionStatusType">
745 <xs:choice>
746 <xs:element name="StatusKindValueList" type="ct:ValueKeyType"/>
747 <xs:element name="StatusKindDefault" type="ct:StatusKindDefaultType"/>
748 </xs:choice>
749 </xs:complexType>
750
751 <del><xs:complexType name="DistributionReferenceType">
752 <del><xs:sequence>
753 <del><xs:element name="RefSenderID" type="ct:EDXLStringType" minOccurs="1"/>
754 <del><xs:element name="RefDistributionID" type="ct:EDXLStringType" minOccurs="1"/>
755 <del><xs:element name="RefDateTimeSent" type="ct:EDXLDateTimeType" minOccurs="1"/>
756 <del></xs:sequence>
757 <del></xs:complexType>
758 <xs:complexType name="SeverityType">
759 <xs:choice>
760 <xs:element name="SeverityValueList" type="ct:ValueKeyType"/>
761 <xs:element name="SeverityDefault" type="ct:SeverityDefaultType"/>
762 </xs:choice>
763 </xs:complexType>
764 <xs:complexType name="UrgencyType">
765 <xs:choice>
766 <xs:element name="UrgencyValueList" type="ct:ValueKeyType"/>
767 <xs:element name="UrgencyDefault" type="ct:UrgencyDefaultType"/>
768 </xs:choice>
769 </xs:complexType>
770 </xs:schema>
771
772
773 </del></xs:choice>
774 </del></xs:complexType>
775 </del></xs:schema>
776

```

## 777 Appendix B—Appendix C EDXL-DistributionElement 2.0 Defaults 778 XML Schema

779 The EDXL-DistributionElement 2.0 XML Schema imports a separate schema for providing defaults. This  
780 defaults schema is provided below for convenience, but it is also [provided at the following link available](http://docs.oasis-open.org/emergency/)  
781 [at: http://docs.oasis-open.org/emergency/](http://docs.oasis-open.org/emergency/)

782  
783 <Put URL for DE 2 Defaults schema here>  
784

```
785 <?xml version="1.0" encoding="UTF-8"?>
786 <xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"
787 xmlns:ct="urn:oasis:names:tc:emergency:edxl:ct:1.0"
788 targetNamespace="urn:oasis:names:tc:emergency:edxl:ct:1.0" element-
789 FormDefault="qualified" attributeFormDefault="unqualified">
790 <xs:include schemaLocation="./other-supporting-schema/EDXLCT_wd05/edxl-ct-v1.0-
791 wd05.xsd"/>
792 <!--Default ValueLists-->
793 <!-- ***** AREA KIND ***** -->
794 <xs:simpleType name="AreaKindTypeDefaultURI">
795 <xs:restriction base="ct:ValueListURIType">
796 <xs:enumeration val-
797 ue="urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:AreaKindType"/>
798 </xs:restriction>
799 </xs:simpleType>
800 <xs:simpleType name="AreaKindTypeDefaultValues">
801 <xs:restriction base="ct:ValueType">
802 <xs:enumeration value="SourceTargetArea"/>
803 <xs:enumeration value="DistributionTargetArea"/>
804 <xs:enumeration value="OtherTargetArea"/>
805 </xs:restriction>
806 </xs:simpleType>
807 <xs:complexType name="AreaKindDefaultType">
808 <xs:complexContent>
809 <xs:restriction base="ct:ValueKeyType">
810 <xs:sequence maxOccurs="1">
811 <xs:element name="ValueListURI" type="ct:AreaKindTypeDefaultURI"/>
812 <xs:element name="Value" type="ct:AreaKindTypeDefaultValues"/>
813 </xs:sequence>
814 </xs:restriction>
815 </xs:complexContent>
816 </xs:complexType>
817
818 <!-- ***** DISTRIBUTION TYPE ***** -->
819 <xs:simpleType name="DisTypeDefaultURI">
820 <xs:restriction base="ct:ValueListURIType">
821 <xs:enumeration val-
822 ue="urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:DistributionType"/>
823 </xs:restriction>
824 </xs:simpleType>
825 <xs:simpleType name="DistTypeDefaultValues">
826 <xs:restriction base="ct:ValueType">
827 <xs:enumeration value="Report"/>
828 <xs:enumeration value="Update"/>
829 <xs:enumeration value="Cancel"/>
830 <xs:enumeration value="Request"/>
831 <xs:enumeration value="Response"/>
832 <xs:enumeration value="Dispatch"/>
833 <xs:enumeration value="Ack"/>
834 <xs:enumeration value="Error"/>
835 <xs:enumeration value="SensorConfiguration"/>
836 <xs:enumeration value="SensorControl"/>
837 <xs:enumeration value="SensorStatus"/>
838 <xs:enumeration value="SensorDetection"/>
839 </xs:restriction>
840 </xs:simpleType>
```



```

841     <xs:complexType name="DistributionDefaultType">
842         <xs:complexContent>
843             <xs:restriction base="ct:ValueKeyType">
844                 <xs:sequence maxOccurs="1">
845                     <xs:element name="ValueListURI"
846 type="ct:DisTypeDefaultURI"/>
847                     <xs:element name="Value"
848 type="ct:DistTypeDefaultValues"/>
849                 </xs:sequence>
850             </xs:restriction>
851         </xs:complexContent>
852     </xs:complexType>
853     <!-- ***** CONFIDENTIALITY ***** -->
854     <xs:simpleType name="ConfidentialityTypeDefaultURI">
855         <xs:restriction base="ct:ValueListURIType">
856             <xs:enumeration val-
857 ue="urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:ConfidentialityType"/>
858         </xs:restriction>
859     </xs:simpleType>
860     <xs:simpleType name="ConfidentialityTypeDefaultValues">
861         <xs:restriction base="ct:ValueType">
862             <xs:enumeration value="Unclassified"/>
863             <xs:enumeration value="Classified"/>
864         </xs:restriction>
865     </xs:simpleType>
866     <xs:complexType name="ConfidentialityDefaultType">
867         <xs:complexContent>
868             <xs:restriction base="ct:ValueKeyType">
869                 <xs:sequence maxOccurs="1">
870                     <xs:element name="ValueListURI"
871 type="ct:ConfidentialityTypeDefaultURI"/>
872                     <xs:element name="Value"
873 type="ct:ConfidentialityTypeDefaultValues"/>
874                 </xs:sequence>
875             </xs:restriction>
876         </xs:complexContent>
877     </xs:complexType>
878     <!-- ***** STATUS ***** -->
879     <xs:simpleType name="StatusTypeKindDefaultURI">
880         <xs:restriction base="ct:ValueListURIType">
881             <xs:enumeration val-
882 ue="urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:StatusType"/>
883             <StatusKind"/>
884         </xs:restriction>
885     </xs:simpleType>
886     <xs:simpleType name="StatusTypeKindDefaultValues">
887         <xs:restriction base="ct:ValueType">
888             <xs:enumeration value="Actual"/>
889             <xs:enumeration value="Exercise"/>
890             <xs:enumeration value="System"/>
891             <xs:enumeration value="Test"/>
892         </xs:restriction>
893     </xs:simpleType>
894     <xs:complexType name="StatusKindDefaultType">
895         <xs:complexContent>
896             <xs:restriction base="ct:ValueKeyType">
897                 <xs:sequence maxOccurs="1">
898                     <xs:element name="ValueListURI"
899 type="ct:StatusTypeDefaultURI"/>
900                     <StatusKindDefaultURI"/>
901                     <xs:element name="Value"
902 type="ct:StatusTypeKindDefaultValues"/>
903                 </xs:sequence>
904             </xs:restriction>
905         </xs:complexContent>
906     </xs:complexType>

```

```

907 <!-- ***** CERTAINTY ***** -->
908 <xs:simpleType name="CertaintyTypeDefaultURI">
909   <xs:restriction base="ct:ValueListURIType">
910     <xs:enumeration val-
911 ue="urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Certainty"/>
912   </xs:restriction>
913 </xs:simpleType>
914 <xs:simpleType name="CertaintyTypeDefaultValues">
915   <xs:restriction base="ct:ValueType">
916     <xs:enumeration value="Observed"/>
917     <xs:enumeration value="Likely"/>
918     <xs:enumeration value="Possible"/>
919     <xs:enumeration value="Unlikely"/>
920     <xs:enumeration value="Unknown"/>
921   </xs:restriction>
922 </xs:simpleType>
923 <xs:complexType name="CertaintyDefaultType">
924   <xs:complexContent>
925     <xs:restriction base="ct:ValueKeyType">
926       <xs:sequence maxOccurs="1">
927         <xs:element name="ValueListURI"
928 type="ct:CertaintyTypeDefaultURI"/>
929         <xs:element name="Value"
930 type="ct:CertaintyTypeDefaultValues"/>
931       </xs:sequence>
932     </xs:restriction>
933   </xs:complexContent>
934 </xs:complexType>
935 <!-- ***** SEVERITY ***** -->
936 <xs:simpleType name="SeverityTypeDefaultURI">
937   <xs:restriction base="ct:ValueListURIType">
938     <xs:enumeration val-
939 ue="urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Severity"/>
940   </xs:restriction>
941 </xs:simpleType>
942 <xs:simpleType name="SeverityTypeDefaultValues">
943   <xs:restriction base="ct:ValueType">
944     <xs:enumeration value="Extreme"/>
945     <xs:enumeration value="Severe"/>
946     <xs:enumeration value="Moderate"/>
947     <xs:enumeration value="Minor"/>
948     <xs:enumeration value="Unknown"/>
949   </xs:restriction>
950 </xs:simpleType>
951 <xs:complexType name="SeverityDefaultType">
952   <xs:complexContent>
953     <xs:restriction base="ct:ValueKeyType">
954       <xs:sequence maxOccurs="1">
955         <xs:element name="ValueListURI"
956 type="ct:SeverityTypeDefaultURI"/>
957         <xs:element name="Value"
958 type="ct:SeverityTypeDefaultValues"/>
959       </xs:sequence>
960     </xs:restriction>
961   </xs:complexContent>
962 </xs:complexType>
963 <!-- ***** URGENCY ***** -->
964 <xs:simpleType name="UrgencyTypeDefaultURI">
965   <xs:restriction base="ct:ValueListURIType">
966     <xs:enumeration val-
967 ue="urn:oasis:names:tc:emergency:EDXL:DE:2.0:Defaults:Urgency"/>
968   </xs:restriction>
969 </xs:simpleType>
970 <xs:simpleType name="UrgencyTypeDefaultValues">
971   <xs:restriction base="ct:ValueType">
972     <xs:enumeration value="Immediate"/>

```

```

973         <xs:enumeration value="Expected"/>
974         <xs:enumeration value="Future"/>
975         <xs:enumeration value="Past"/>
976         <xs:enumeration value="Unknown"/>
977     </xs:restriction>
978 </xs:simpleType>
979 <xs:complexType name="UrgencyDefaultType">
980     <xs:complexContent>
981         <xs:restriction base="ct:ValueKeyType">
982             <xs:sequence maxOccurs="1">
983                 <xs:element name="ValueListURI"
984 type="ct:UrgencyTypeDefaultURI"/>
985                 <xs:element name="Value"
986 type="ct:UrgencyTypeDefaultValues"/>
987             </xs:sequence>
988         </xs:restriction>
989     </xs:complexContent>
990 </xs:complexType>
991 <!--/Default ValueLists-->
992 </xs:schema>
993
994

```

## 995 ~~Appendix C~~ Appendix D Revision History

Revision	Date	Editor	Changes Made
Edxl-de-v2.0-wd02	26 Sept 2011	Jeff Waters	First Full Working Draft
Edxl-de-v2.0-wd03	11 Oct 2011	Jeff Waters	Added recommended changes by Martena Gooch, as recorded in the document at <a href="http://www.oasis-open.org/apps/org/workgroup/emergency-if/download.php/43842/de-notes-fixed-in-wd02.doc">http://www.oasis-open.org/apps/org/workgroup/emergency-if/download.php/43842/de-notes-fixed-in-wd02.doc</a>
Edxl-de-v2.0-wd04	18 Oct 2011	Jeff Waters	Added recommended changes by Martena Gooch.
Edxl-de-v2.0-wd05	25 Oct 2011	Jeff Waters	Added recommended changes by Werner Joerg, including multiplicities for sub elements
Edxl-de-v2.0-wd08	31 Jul 2012	Jeff Waters	Removed DistributionReference, added AreaGrouping, and addressed other recommended changes to add flexibility and streamline schema
Edxl-de-v2.0-wd09	21 Aug 2012	Jeff Waters	Restored RecipientRole, SenderRole, Keyword, updated diagram, and performed other cleanup

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