



Common Alerting Protocol Version 1.1

Approved Errata

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OASIS Emergency Management TC

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Related work:

This specification is related to:

- [OASIS Common Alerting Protocol v1.1](#)

Related Schema:

<http://docs.oasis-open.org/emergency/cap/v1.1/errata/approved/cap.xsd>
<http://docs.oasis-open.org/emergency/cap/v1.1/errata/approved/cap-v1.1-asn.1.asn>

Abstract:

This document lists errata for the OASIS Common Alerting Protocol Version 1.1 OASIS Standard produced by the Emergency Management Technical Committee. The standard was approved by the OASIS membership on 1 October 2005.

Status:

This document was last revised or approved by the Emergency Management TC on the above date. The level of approval is also listed above. Check the "Latest Version" or "Latest Approved Version" location noted above for possible later revisions of this document.

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1 List of Changes

2 1.1 Section 1.6 Normative References

3 Added the following Normative References to support an equivalent ASN.1 representation of the CAP
4 message

| | |
|---------------|--|
| 5 ITU-T X.680 | ITU-T Recommendation X.680, <i>Information technology – Abstract Syntax Notation One (ASN.1): Specification of basic notation.</i> |
| 6 ITU-T X.691 | ITU-T Recommendation X.691, <i>Information technology – ASN.1 encoding rules: Specification of Packed Encoding Rules (PER).</i> |
| 7 ITU-T X.693 | ITU-T Recommendation X.693, <i>Information technology – ASN.1 encoding rules: Specification of XML Encoding Rules (XER).</i> |
| 8 ITU-T X.694 | ITU-T Recommendation X.694, <i>Information technology – ASN.1 encoding rules: Mapping W3C XML schema definitions into ASN.1.</i> |

13 1.2 Correction to Section 3.4

14 Insert <enumeration value = “Assess”/ ”> to <element name = “responseType”... in the .xsd files
15 section of the specification around line 337.

17 1.3 Add Section 3.5 for ASN.1

18 3.5 Use of ASN.1 to Specify and Encode the CAP Alert Message

19 3.5.1 General

20 The ASN.1 (see ITU-T Rec X.680) schema in 3.5.3 provides an alternative formulation of the XML
21 schema defined in 3.4. If the ASN.1 Extended XML Encoding Rules (see ITU-T Rec X.693) are applied
22 to this ASN.1 schema, the permitted XML is identical to that supported by the XML schema in 3.4. If the
23 ASN.1 Unaligned Packed Encoding Rules (see ITU-T Rec X.691) are applied to it, the resulting binary
24 encodings are more compact than the corresponding XML encodings.

25 3.5.2 Formal Mappings and Specification

26 The normative specification of the compact binary encoding is in 3.5.3 with the application of the ASN.1
27 Unaligned Packed Encoding Rules (see ITU-T Rec. X.691).

28 The semantics of the fields in the ASN.1 specification are identical to those of the XSD specification, and
29 the mapping of the fields from the XSD specification to the ASN.1 specification is formally defined in ITU-
30 T Rec. X.694.

31 Implementations can produce and process the CAP alert XML messages using either ASN.1-based or
32 XSD-based tools (or other ad hoc software).

33 Implementations can produce and process the CAP alert compact binary messages using ASN.1-based
34 tools (or by other ad hoc software).

35 Any XML encoded CAP alert messages can be converted to compact binary messages by decoding with
36 an ASN.1 tool configured for the Extended XML Encoding Rules and re-encoding the resulting abstract
37 values with an ASN.1 tool configured for Unaligned Packed Encoding Rules.

38 Any compact binary CAP alert messages can be converted to XML encoded messages by decoding with
39 an ASN.1 tool configured for Unaligned Packed Encoding Rules and re-encoding the resulting abstract
40 values with an ASN.1 tool configured for Extended XML Encoding Rules.

43 3.5.3 ASN.1 Schema

```
44 CAP-1-1 {itu-t recommendation x cap(1303) version1-1(1)}
45 DEFINITIONS XER INSTRUCTIONS AUTOMATIC TAGS ::=
46 -- CAP Alert Message (version 1.1)
47 BEGIN
48
49 Alert ::= SEQUENCE {
50     identifier IdentifierString,
51     -- Unambiguous identification of the message
52     -- from all messages from
53     -- this sender, in a format defined by the sender and
54     -- identified in the "sender" field below.
55     sender String,
56     -- The globally unambiguous identification of the sender.
57     -- This specification does not define the root of
58     -- a global identification tree (there is no international
59     -- agreement on such a root), so it relies
60     -- on human-readable text to define globally and
61     -- unambiguously the sender.
62     -- An internet domain name or use of "iri:/ITU-T/..."
63     -- are possible, but
64     -- the choice needs to be clearly stated in human-readable form.
65     sent DateTime,
66     status AlertStatus,
67     msgType AlertMessageType,
68     source String OPTIONAL,
69     -- Not standardised human-readable identification
70     -- of the source of the alert.
71     scope AlertScope,
72     restriction String OPTIONAL,
73     -- Not standardised human-readable restrictions
74     -- on the distribution of the alert message
75     addresses String OPTIONAL,
76     -- A space separated list of addressees for private messages
77     -- (see 3.2.1)
78     code-list SEQUENCE SIZE((0..MAX)) OF code String,
79     -- A sequence codes for special handling
80     -- (see 3.2.1)
81     -- The format and semantics of the codes are not defined in this
82     -- specification.
83     note String OPTIONAL,
84     -- Not standardised human-readable clarifying text for the alert
85     -- (see 3.2.1)
86     references String OPTIONAL,
87     -- Space-separated references to earlier messages
88     -- (see 3.2.1)
89     incidents String OPTIONAL,
90     -- Space-separated references to related incidents
91     -- (see 3.2.1)
92     info-list SEQUENCE SIZE((0..MAX)) OF info AlertInformation }
93
94 AlertStatus ::= ENUMERATED {
95     actual,
96     draft,
97     exercise,
98     system,
99     test }
100
101 AlertMessageType ::= ENUMERATED {
102     ack,
103     alert,
104     cancel,
105     error,
```

```

106         update }
107
108 AlertScope ::= ENUMERATED {
109     private,
110     public,
111     restricted }
112
113 AlertInformation ::= SEQUENCE {
114     language          Language -- DEFAULT "en-US" -- ,
115     -- The language used in this value of the Info type
116     -- (see 3.2.2)
117     category-list    SEQUENCE (SIZE(1..MAX)) OF
118     category InformationCategory,
119     event            String,
120     -- Not standardised human-readable text describing the
121     -- type of the event (see 3.2.2)
122     responseType-list SEQUENCE SIZE((0..MAX)) OF
123     responseType InformationResponseType,
124     urgency          HowUrgent,
125     severity         HowSevere,
126     certainty        HowCertain,
127     audience         String OPTIONAL,
128     -- Not standardised human-readable text describing the
129     -- intended audience for the message (see 3.2.2)
130     eventCode-list  SEQUENCE SIZE((0..MAX)) OF eventCode SEQUENCE {
131         valueName ValueName,
132         value      Value },
133     effective       DateTime OPTIONAL,
134     onset           DateTime OPTIONAL,
135     expires         DateTime OPTIONAL,
136     senderName     String OPTIONAL,
137     -- Not standardised human-readable name of the authority
138     -- issuing the message (see 3.2.2)
139     headline        String (SIZE (1..160,...)) OPTIONAL,
140     -- Not standardised human-readable short statement (headline)
141     -- of the alert (see 3.2.2)
142     description     String OPTIONAL,
143     -- Not standardised human-readable extended description of
144     -- the event (see 3.2.2)
145     instruction     String OPTIONAL,
146     -- Not standardised human-readable recommended action
147     -- (see 3.2.2)
148     web             AnyURI OPTIONAL,
149     contact         String OPTIONAL,
150     -- Not standardised human-readable contact details for
151     -- follow-up (see 3.2.2)
152     parameter-list  SEQUENCE SIZE((0..MAX)) OF parameter SEQUENCE {
153     -- System-specific parameters (see 3.2.2)
154     valueName ValueName,
155     value      Value },
156     resource-list   SEQUENCE SIZE((0..MAX)) OF resource ResourceFile,
157     area-list       SEQUENCE SIZE((0..MAX)) OF Area }
158
159 InformationCategory ::= ENUMERATED {
160     cBRNE,
161     env,
162     fire,
163     geo,
164     health,
165     infra,
166     met,
167     other,
168     rescue,
169     safety,

```

```

170     security,
171     transport }
172
173 InformationResponseType ::= ENUMERATED {
174     assess,
175     evacuate,
176     execute,
177     monitor,
178     none,
179     prepare,
180     shelter }
181
182 HowUrgent ::= ENUMERATED {
183     expected,
184     future,
185     immediate,
186     past,
187     unknown }
188
189 HowSevere ::= ENUMERATED {
190     extreme,
191     minor,
192     moderate,
193     severe,
194     unknown }
195
196 HowCertain ::= ENUMERATED {
197     likely,
198     observed,
199     possible,
200     unknown,
201     unlikely }
202
203 ResourceFile ::= SEQUENCE {
204     -- Information about an associated resource file
205     -- (see 3.2.3)
206     resourceDesc String,
207     -- Not standardised human-readable description of the type
208     -- and content of
209     -- an associated resource file (for example a map or
210     -- photograph)(see 3.2.3)
211     mimeType      String OPTIONAL,
212     size          INTEGER OPTIONAL, -- In bytes
213     uri           AnyURI OPTIONAL,
214     derefUri     String OPTIONAL,
215     -- An alternative to the URI giving the Base64-encoded
216     -- content of the resource file (see 3.2.3)
217     digest       String OPTIONAL
218     -- SHA-1 hash of the resource file for error detection
219     -- (see 3.2.3) -- }
220
221 Area ::= SEQUENCE {
222     -- Identification of an affected area
223     areaDesc      String,
224     -- Not standardised human-readable description of the area
225     polygon-list SEQUENCE OF polygon String,
226     -- Each element is a space-separated list of coordinate pairs
227     -- The complete list starts and ends with the same point and
228     -- defines the polygon that defines the area
229     -- (see 3.2.4).
230     circle-list  SEQUENCE OF circle String,
231     -- A space-separated list of coordinates for a point and a radius
232     geocode-list SEQUENCE SIZE((0..MAX)) OF geocode SEQUENCE {
233     -- A geographic code designating the alert target area

```



```

234     -- (see 3.2.4)
235         valueName ValueName,
236         value      Value },
237 altitude      String OPTIONAL,
238     -- Specific or minimum altitude of the affected area
239 ceiling       String OPTIONAL
240     -- Maximum altitude of the affected area -- }
241
242 ValueName ::= String -- A not standardised name for
243     -- an information event code, a parameter or a geocode
244
245 Value ::= String -- The value of the information event code,
246     -- parameter or geocode
247
248 String ::= UTF8String (FROM (
249     {0,0,0,9} -- TAB
250     | {0,0,0,10} -- CR
251     | {0,0,0,13} -- LF
252     | {0,0,0,32}..{0,0,215,255} -- Space to the start of the S-zone
253     | {0,0,224,0}..{0,0,255,253} -- Rest of BMP after S-zone
254     | {0,1,0,0}..{0,16,255,253} -- Other planes -- ) )
255
256 StringChar ::= String (SIZE(1))
257
258 SpaceAndComma ::= UTF8String (FROM (
259     {0,0,0,32} -- SPACE
260     | {0,0,0,44} -- COMMA -- ) )
261
262 IdentifierString ::= String (FROM (StringChar EXCEPT SpaceAndComma))
263
264 Language ::= VisibleString(FROM ("a".."z" | "A".."Z" | "-" | "0".."9"))
265     (PATTERN "[a-zA-Z]#(1,8)(-[a-zA-Z0-9]#(1,8))*")
266     -- The semantics of Language is specified in IETF RFC 3066
267
268 DateTime ::= TIME (SETTINGS "Basic=Date-Time Date=YMD
269     Year=Basic Time=HMS Local-or-UTC=LD")
270     -- This is the ISO 8601 format using local time and a
271     -- time difference
272
273 stringWithNoCRLFHT ::= UTF8String (FROM (
274     {0,0,0,32}..{0,0,215,255}
275     | {0,0,224,0}..{0,0,255,253}
276     | {0,1,0,0}..{0,16,255,255}))
277
278 AnyURI ::= stringWithNoCRLFHT (CONSTRAINED BY {
279     /* Shall be a valid URI as defined in IETF RFC 2396 */)
280
281 ENCODING-CONTROL XER
282     GLOBAL-DEFAULTS MODIFIED-ENCODINGS
283     GLOBAL-DEFAULTS CONTROL-NAMESPACE
284     "http://www.w3.org/2001/XMLSchema-instance" PREFIX "xsi"
285     NAMESPACE ALL, ALL IN ALL AS "urn:oasis:names:tc:emergency:cap:1.1"
286     PREFIX "cap"
287     NAME Alert, Area AS UNCAPITALIZED
288     UNTAGGED SEQUENCE OF
289     DEFAULT-FOR-EMPTY AlertInformation.language AS "en-US"
290     TEXT AlertStatus:ALL,
291         AlertMessageType:ALL,
292         AlertScope:ALL,
293         InformationCategory:ALL,
294         InformationResponseType:ALL,
295         HowUrgent:ALL,
296         HowSevere:ALL,
297         HowCertain:ALL AS CAPITALIZED

```

298
299

WHITESPACE Language, AnyURI COLLAPSE
END

300
301
302
303
304