



Alert

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## 1. INTRODUCTION

Alert profile describes how alerts and notifications can be represented digitally and exchanged among all kinds of emergency information systems. It describes a series of activities for the exchange of effective public warning messages.

## 2. OBJECTIVES

The objectives of implementing this profile are:

1. Providing a single input to activate all kinds of alerting and public warning systems.
2. Ensuring consistency in the information transmitted over multiple delivery systems for warning effectiveness.
3. Normalizing warnings from various resources so they can be aggregated and compared in tabular or graphic form as an aid to situational awareness and pattern detection.
4. Providing one message schema supporting multiple message types in various applications.
5. Facilitating emergency information sharing and data exchange across different organizations of different professions that provide emergency response and management services..

## 3. SCOPE

This profile supports a process of exchanging all types of alerts and notifications. It is intended to reduce operational complexity by eliminating the need for multiple custom software interfaces to the many warning resources and dissemination systems involved in all-hazard warning. The intended scope for this profile includes:

- Before, during and after emergency situations
- Among warning systems, emergency information systems, sensor systems, and dissemination systems

The transactions, specified in this profile are intended to be exchanged between organizations taking part in emergency operations. It is expected that sender and receiver organizations have had necessary infrastructure, which is specified in the profile, to enable them to send and receive the messages in a secured way, using an agreed syntax.

## 4. PROFILE DETAILED DESCRIPTION

### 4.2. Roles Involved

Actor	Description
Alert Sender	The Alert Sender is the legal person or organization who creates and disseminates an alert message.
Alert Receiver	The Alert Receiver is the legal person or organization who receives the alert message.

### 4.3. Actor Diagram

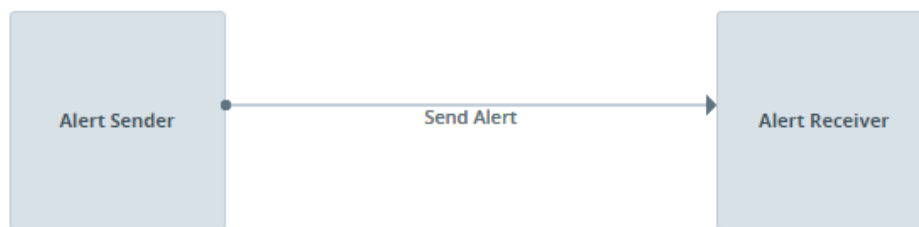


Figure above shows the actors directly involved in the Alert Profile and the possible messages to be exchanged between them.

### 4.4. Transaction Information

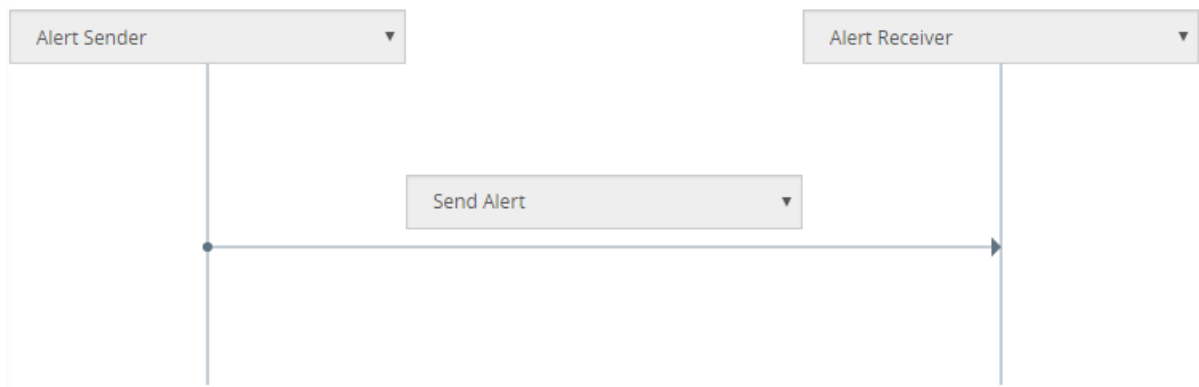
#### 4.4.1. Send Alert

##### 4.4.1.1. Description

Categories	Description and Values
Identifier	ba741172-e68d-4ea4-b75f-17c0deb39e65
Description	The Alert Sender creates an alert message and sends it to Alert Receiver.

Actors	Alert Sender, Alert Receiver
Pre-conditions	<p>The Alert Sender and the Alert Receiver have already identified each other.</p> <p>The Alert Receiver has agreed to accept digital alert messages.</p>
Post-conditions	The Alert Receiver has received an alert message.

#### 4.4.1.2. Interaction Diagram



#### 4.4.1.3. Send Alert Message

##### 4.4.1.3.1. Message Semantics

```

<?xml version="1.0" encoding="UTF-8"?>
<schema xmlns="http://www.w3.org/2001/XMLSchema" xmlns:cap="urn:oasis:names:tc:emergency:cap:1.2"
xmlns:xs="http://www.w3.org/2001/XMLSchema"
targetNamespace="urn:oasis:names:tc:emergency:cap:1.2" elementFormDefault="qualified"
attributeFormDefault="unqualified" version="1.2">
  <element name="alert">
    <annotation>
      <documentation>CAP Alert Message (version 1.2)</documentation>
    </annotation>
    <complexType>
      <sequence>
        <element name="identifier" type="xs:string"/>
        <element name="sender" type="xs:string"/>
        <element name="sent">

```

```

    <simpleType>
      <restriction base="xs:dateTime">
        <pattern value="\d\d\d\d-\d\d-\d\dT\d\d:\d\d:\d\d[-,+] \d\d:\d\d"/>
      </restriction>
    </simpleType>
  </element>
  <element name="status">
    <simpleType>
      <restriction base="xs:string">
        <enumeration value="Actual"/>
        <enumeration value="Exercise"/>
        <enumeration value="System"/>
        <enumeration value="Test"/>
        <enumeration value="Draft"/>
      </restriction>
    </simpleType>
  </element>
  <element name="msgType">
    <simpleType>
      <restriction base="xs:string">
        <enumeration value="Alert"/>
        <enumeration value="Update"/>
        <enumeration value="Cancel"/>
        <enumeration value="Ack"/>
        <enumeration value="Error"/>
      </restriction>
    </simpleType>
  </element>
  <element name="source" type="xs:string" minOccurs="0"/>
  <element name="scope">
    <simpleType>
      <restriction base="xs:string">
        <enumeration value="Public"/>
        <enumeration value="Restricted"/>
        <enumeration value="Private"/>
      </restriction>
    </simpleType>
  </element>
  <element name="addresses" type="xs:string" minOccurs="0"/>
  <element name="code" type="xs:string" minOccurs="0" maxOccurs="unbounded"/>
  <element name="note" type="xs:string" minOccurs="0"/>
  <element name="incidents" type="xs:string" minOccurs="0"/>
  <element name="info" minOccurs="0" maxOccurs="unbounded">
    <complexType>
      <sequence>
        <element name="category" maxOccurs="unbounded">
          <simpleType>
            <restriction base="xs:string">
              <enumeration value="Geo"/>
              <enumeration value="Met"/>
            </restriction>
          </simpleType>
        </element>
      </sequence>
    </complexType>
  </element>

```

```
<enumeration value="Safety"/>
<enumeration value="Security"/>
<enumeration value="Rescue"/>
<enumeration value="Fire"/>
<enumeration value="Health"/>
<enumeration value="Env"/>
<enumeration value="Transport"/>
<enumeration value="Infra"/>
<enumeration value="CBRNE"/>
<enumeration value="Other"/>
</restriction>
</simpleType>
</element>
<element name="event" type="xs:string"/>
<element name="responseType" minOccurs="0">
  <simpleType>
    <restriction base="xs:string">
      <enumeration value="Shelter"/>
      <enumeration value="Evacuate"/>
      <enumeration value="Prepare"/>
      <enumeration value="Execute"/>
      <enumeration value="Avoid"/>
      <enumeration value="Monitor"/>
      <enumeration value="Assess"/>
      <enumeration value="AllClear"/>
      <enumeration value="None"/>
    </restriction>
  </simpleType>
</element>
<element name="urgency">
  <simpleType>
    <restriction base="xs:string">
      <enumeration value="Immediate"/>
      <enumeration value="Expected"/>
      <enumeration value="Future"/>
      <enumeration value="Past"/>
      <enumeration value="Unknown"/>
    </restriction>
  </simpleType>
</element>
<element name="severity">
  <simpleType>
    <restriction base="xs:string">
      <enumeration value="Extreme"/>
      <enumeration value="Severe"/>
      <enumeration value="Moderate"/>
      <enumeration value="Minor"/>
      <enumeration value="Unknown"/>
    </restriction>
  </simpleType>
</element>
```

```
</element>
<element name="certainty">
  <simpleType>
    <restriction base="xs:string">
      <enumeration value="Observed"/>
      <enumeration value="Likely"/>
      <enumeration value="Possible"/>
      <enumeration value="Unlikely"/>
      <enumeration value="Unknown"/>
    </restriction>
  </simpleType>
</element>
<element name="audience" type="xs:string"/>
<element name="eventCode" minOccurs="0">
  <complexType>
    <sequence>
      <element ref="cap:valueName"/>
      <element ref="cap:value"/>
    </sequence>
  </complexType>
</element>
<element name="effective" minOccurs="0">
  <simpleType>
    <restriction base="xs:dateTime">
      <pattern value="\d\d\d\d-\d\d-\d\dT\d\d:\d\d:\d\d[-,+] \d\d:\d\d"/>
    </restriction>
  </simpleType>
</element>
<element name="onset" minOccurs="0">
  <simpleType>
    <restriction base="xs:dateTime">
      <pattern value="\d\d\d\d-\d\d-\d\dT\d\d:\d\d:\d\d[-,+] \d\d:\d\d"/>
    </restriction>
  </simpleType>
</element>
<element name="expires" minOccurs="0">
  <simpleType>
    <restriction base="xs:dateTime">
      <pattern value="\d\d\d\d-\d\d-\d\dT\d\d:\d\d:\d\d[-,+] \d\d:\d\d"/>
    </restriction>
  </simpleType>
</element>
<element name="senderName" type="xs:string" minOccurs="0"/>
<element name="headline" type="xs:string" minOccurs="0"/>
<element name="description" type="xs:string" minOccurs="0"/>
<element name="instruction" type="xs:string" minOccurs="0"/>
<element name="contact" type="xs:string" minOccurs="0"/>
<element name="area" minOccurs="0" maxOccurs="unbounded">
  <complexType>
    <sequence>
```



```

        <element name="areaDesc" type="xs:string"/>
        <element name="polygon" type="xs:string" minOccurs="0"
maxOccurs="unbounded"/>
        <element name="geocode" minOccurs="0" maxOccurs="unbounded">
          <complexType>
            <sequence>
              <element ref="cap:valueName"/>
              <element ref="cap:value"/>
            </sequence>
          </complexType>
        </element>
        <element name="altitude" type="xs:decimal" minOccurs="0"/>
      </sequence>
    </complexType>
  </element>
  <any namespace="http://www.w3.org/2000/09/xmlsig#" processContents="lax"
minOccurs="0" maxOccurs="unbounded"/>
</sequence>
</complexType>
</element>
<element name="valueName" type="xs:string"/>
<element name="value" type="xs:string"/>
</schema>

```

#### 4.4.1.3.2. Protocol Requirements

```

<?xml version="1.0" encoding="UTF-8"?>
<definitions xmlns:soap="http://schemas.xmlsoap.org/wsdl/soap/"
xmlns:edxIde="urn:oasis:names:tc:emergency:EDXL:DE:1.0" xmlns="http://schemas.xmlsoap.org/wsdl/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:tns="urn:eu:c2sense:emergency:distribution:1.0"
xmlns:soap12="http://schemas.xmlsoap.org/wsdl/soap12/" name="EmergencyDistribution"
targetNamespace="urn:eu:c2sense:emergency:distribution:1.0">
  <documentation>C2SENSE Distribution Web Service</documentation>
  <types>
    <xsd:schema>
      <xsd:import namespace="urn:oasis:names:tc:emergency:EDXL:DE:1.0"
schemaLocation="../../DE/EDXL-DE.xsd"/>
    </xsd:schema>
  </types>
  <message name="SendMessage_Message">
    <documentation>Send Message</documentation>
    <part name="body" element="edxIde:EDXLDistribution"/>
  </message>

```

```
</message>
<message name="ReceiveResponseMessage_Message">
  <documentation>Receive Response Message</documentation>
  <part name="body" element="edxide:EDXLDistribution"/>
</message>
<portType name="Distribution_PortType">
  <operation name="SendMessage">
    <input message="tns:SendMessage_Message"/>
    <output message="tns:ReceiveResponseMessage_Message"/>
  </operation>
</portType>
<binding name="Distribution_Binding_Soap12" type="tns:Distribution_PortType">
  <soap12:binding style="document" transport="http://schemas.xmlsoap.org/soap/http"/>
  <operation name="SendMessage">
    <soap12:operation soapAction="urn:oasis:names:tc:emergency:EDXL:DE:1.0:SendMessage"/>
    <input>
      <soap12:body use="literal"/>
    </input>
    <output>
      <soap12:body use="literal"/>
    </output>
  </operation>
</binding>
<service name="Distribution">
  <port name="Distribution_PortType" binding="tns:Distribution_Binding_Soap12">
    <soap12:address location="https://localhost:8080/Distribution"/>
  </port>
</service>
</definitions>
```