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S T A N D A R D S

Digital Video Subcommittee

AMERICAN NATIONAL STANDARD

ANSI/SCTE 162 2019

Emergency Alert Signaling for the Home Network

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140 Philips Road
Exton, PA 19341

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FOREWORD

This standard was developed jointly under the auspices of the Consumer Technology Association (CTA) R8 Cable Compatibility Committee and the Society of Cable Telecommunications Engineers (SCTE) Digital Video Subcommittee (DVS).

Emergency Alert Metadata for the Home Network

1. INTRODUCTION AND SCOPE

SCTE 162 standardizes metadata elements describing emergency alert events to devices in a home network, for applications involving the delivery of Commercial Video Services into the home network. Commercial Video Services are sources of audio/video content provided as live or on-demand streams from a particular service provider. Other standards define emergency alert signaling for digital cable receiving devices (ANSI J-STD-042-A [2]) and for IPTV terminal devices (ATIS-0800012 [1]). Receiving devices in the home with access to Commercial Video Services may wish to place such content on a home network. SCTE 162 defines a metadata format usable by these receiving devices to notify client devices in the home network of emergency alert information including text, audio, and specific details about the alert (such as originator and event code, severity, etc.). Some types of alerts are urgent enough that they trigger client devices to immediately switch to another channel offered by that service provider which is a source of live audio/video describing details of the alert (the “Details Channel”). The metadata format described here provides a pointer to the Details Channel for such cases. When outputting live programming on a channel defined in the schema as an “Exception Channel,” client devices remain tuned to that channel to receive details of the alert.

Note that SCTE 162 does not specify required receiver behavior. Guidelines for the use of the metadata standardized here, such as those developed by the Digital Living Network Alliance (DLNA), specify these requirements. The purpose of SCTE 162 is to standardize the delivery format and syntax and semantics of the emergency alert metadata, specified here in the form of an XML Schema and associated element definitions.

Note also that SCTE 162 does not describe transport protocols and methods for the delivery of the emergency alert metadata in the home network. These aspects of the system definition are specified in other guidelines and standards. See for example DLNA guidelines on this topic.

Users of this standard should be aware that EAS is a topic which is subject to regulation and is currently under consideration by the Federal Emergency Management Agency (FEMA).

It should further be noted that service providers may not always provide emergency alert information in a format that is identifiable or translatable to the format required for redistribution within the home network as defined within this document.

2. REFERENCES

2.1 Normative references

The following standards contain provisions that, through reference in this text, constitute normative provisions of the appropriate sections of this standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this standard are encouraged to investigate the possibility of applying for the most recent editions of the standards listed in Sec. 2.1.1.

Note: SCTE 162 incorporates text from ATIS-0800012 [1] by permission of the Alliance for Telecommunications Industry Solutions, Inc., which retains all applicable copyrights to ATIS-0800012 [1].

2.1.1 Normative reference list

[1] ATIS-0800012 IPTV Emergency Alert System Metadata Specification, June, 2008, Alliance for Telecommunications Industry Solutions.

2.1.2 Normative reference acquisition

ATIS - Alliance for Telecommunications Industry Solutions, Inc.

- Alliance for Telecommunications Industry Solutions, 1200 G Street, NW, Suite 500, Washington, D.C. 20005; Ph: 202.628.6380; Fax: 202.393.5453; Internet: <https://www.atis.org/docstore/default.aspx>; E-mail: atispr@atis.org.

2.2 Informative References

2.2.1 Informative Reference List

[2] ANSI J-STD-042-A, Emergency Alert Messaging for Cable, November 2007. Also known as SCTE 18 2007.

[3] ATIS-0800007, IPTV High Level Architecture, Alliance for Telecommunications Industry Solutions, 2007.

[4] ATIS-0800010, Emergency Alert Provisioning Specification, Alliance for Telecommunications Industry Solutions, 2008.

[5] Common Alerting Protocol (CAP) v1.1, OASIS Standard CAP-V1.1, October 2005, http://www.oasis-open.org/committees/download.php/15135/emergency-CAPv1.1-Corrected_DOM.pdf
<http://docs.oasis-open.org/emergency/cap/v1.1/errata/approved/CAP-v1.1-errata.pdf>

[6] ANSI/CTA2009-B R-2016, Performance Specification for Public Alert Receivers, Consumer Technology Association.

[7] INCITS 31-2009[R2014], Information Technology √ Codes for the Identification of Counties and Equivalent Areas of the United States, Puerto Rico, and the Insular Areas.
<https://webstore.ansi.org/Standards/INCITS/INCITS312009R2014>

[8] FCC Rules, 47 C.F.R. Part 11, Emergency Alert System (EAS).
<https://www.ecfr.gov/cgi-bin/text-idx?mc=true&node=pt47.1.11>

2.2.2 Informative reference acquisition

ANSI Standards: United States of America

- American National Standards Institute, Customer Service, 11 West 42nd Street, New York NY 10036; Phone 212-642 4900; Fax 212-302-1286; Internet: <http://www.ansi.org>; E-mail: sales@ansi.org.

ATIS - Alliance for Telecommunications Industry Solutions, Inc.

- Alliance for Telecommunications Industry Solutions, 1200 G Street, NW, Suite 500, Washington, D.C. 20005; Ph: 202.628.6380; Fax: 202.393.5453; Internet: <https://www.atis.org/docstore/default.aspx>; E-mail: atispr@atis.org.

OASIS Standards:

- Organization for the Advancement of Structured Information Standards (OASIS); Internet: <http://www.oasis-open.org/>.

CTA Standards:

- Global Engineering Documents, World Headquarters, 15 Inverness Way East, Englewood, CO USA 80112-5776; Phone 800-854-7179; Fax 303-397-2740; Internet <http://global.ihs.com> ; Email global@ihs.com.

FCC Rules

U.S. Code of Federal Regulations (C.F.R.), U.S. Government Printing Office, Washington, D.C. 2040; also available at: <https://www.fcc.gov/wireless/bureau-divisions/technologies-systems-and-innovation-division/rules-regulations-title-47>

2.3 Definitions

For the purposes of this standard, the following definitions apply.

Details Channel	A source of live, streaming audio/video programming that contains emergency alert information. The Details Channel is delivered as a Single Program Transport Stream, containing possibly multiple (multilingual) audio tracks.
Exception Channel	A channel that receiving devices are not expected to tune away from in an emergency. It may contain alert information equivalent to the Details Channel, thus fulfilling the function of a forced acquisition of a Details Channel. The service provider's designation of a channel as an Exception Channel is limited to the set of audio/video sources provided by that service provider.
Commercial Video Service	Sources of audio/video content provided as live or on-demand streams coming into the home from a service provider.

2.4 Symbols and abbreviations

ANSI	American National Standards Institute
ATIS	Alliance for Telecommunications Industry Solutions
A/V	Audio/Video
CTA	Consumer Technology Association
DLNA	Digital Living Network Alliance
DMP	Digital Media Player
DMR	Digital Media Renderer
DMS	Digital Media Server
DTV	Digital Television
DVR	Digital Video Recorder
EAS	Emergency Alert System
FEMA	Federal Emergency Management Agency
IIF	IPTV Interoperability Forum
ITF	IPTV Terminal Function
NOAA	National Oceanographic and Atmospheric Administration
OASIS	Organization for the Advancement of Structured Information Standards
PTF	Protocol Translator Function
SAME	Specific Area Message Encoding
SCTE	Society of Cable Telecommunications Engineers
SP	Service Provider
WAN	Wide area network
XML	Extensible Markup Language

2.5 Compliance Notation

As used in this document, “*shall*” and “*must*” denote a mandatory provisions of the standard. “*Should*” denotes a provision that is recommended but not mandatory. “*May*” denotes a feature whose presence does not preclude compliance that may or may not be present at the option of the implementer. “*Optional*” denotes items that may or may not be present in a compliant implementation.

3. BACKGROUND (INFORMATIVE)

The following section describes ways in which emergency alert information may arrive in the consumer domain. Next, the different pieces of emergency alert data that may be delivered are described.

3.1 Distribution of Emergency Alert Information to Consumer Devices

Emergency alerts are federally mandated for radio and television broadcasting in the US, and are defined for digital cable and devices marketed as “digital-cable-ready.” Figure 1 is a block diagram of a distribution system showing delivery of EAS information to the consumer domain, with different receiving devices in the home forwarding that information to a home network. As shown, there are several sources of EAS information, including those emanating from telco, satellite, and cable service providers.

A functional block called a Protocol Translator Function (PTF) connects to commercial video services on the WAN provided by a Service Provider (SP), and performs any protocol translations needed to allow it to act as a Digital Media Server (DMS) to offer these services or a subset of these services to clients in the home network. The PTF itself likely does not have any disk storage or decoding/rendering capability or any audio/video direct output for display.

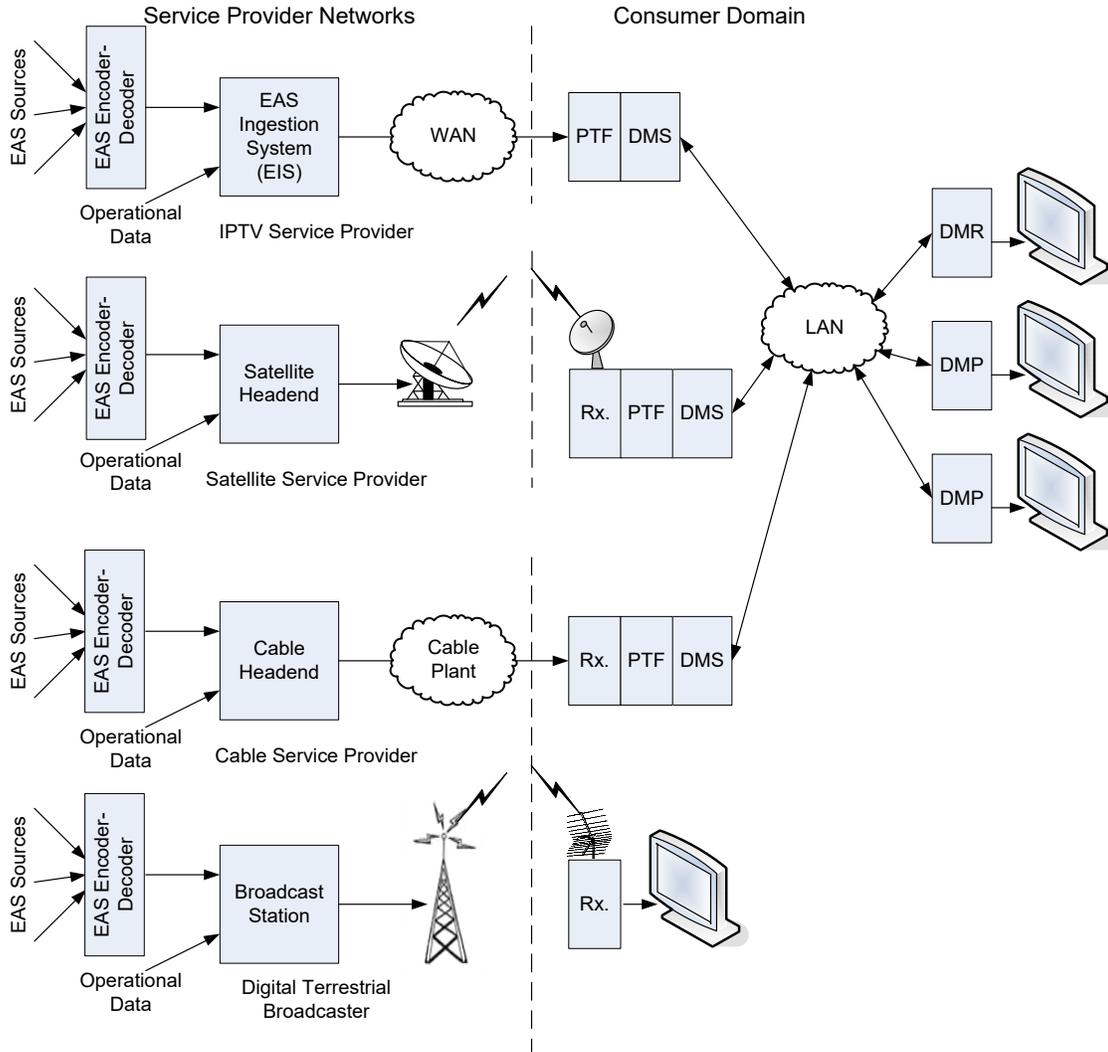


Figure 1 Delivery of Emergency Alert Information into the Consumer Domain

As shown in Figure 1, the EAS Encoder-Decoder is responsible for collecting EAS source messages from governmental agencies or weather services such as National Oceanographic and Atmospheric Administration (NOAA). The SP may add data pertinent to the operation of their system which delivers the EAS signaling messages to consumers. The FCC has indicated their intent to shift from the current audio tone-based signaling method to a method based on the XML-based OASIS CAP v1.1 [5] protocol.

In Figure 1, the PTF (Protocol Translation Function) is an entity that can function to extend the commercial video services offered by a Service Provider (including EAS) to the home network. The PTF can perform protocol translation on multiple network layers.

For IPTV services in the United States, Alliance for Telecommunications Industry Solutions (ATIS) IPTV Interoperability Forum (IIF) has published a set of specifications for the delivery of EAS signaling and content to consumer devices. ATIS-0800010, Emergency Alert Provisioning Specification [4] provides a system-level description of EAS functionality in the IPTV network, including required functionality of consumer-domain IPTV devices. ATIS-0800012, *IPTV Emergency Alert System Metadata Specification* [1], specifies the associated EAS metadata in XML format.

The EAS signaling and content are delivered via IP multicast on an ATIS IIF-compliant IPTV network spanning from the SP to multiple ATIS IIF-defined IPTV Terminal Function (ITF) devices in the home. The ATIS XML schema for EAS is based on CAP v1.1 [5], with additions and exceptions as needed for the IPTV application and signaling to consumer devices.

ATIS IIF includes a PTF block in its high level architecture to allow connectivity to a home network. As described in the ATIS IIF High Level Architecture [3] specification, a PTF includes ITF functionality and can reside on any device in the home network. ATIS IIF specifications do not address the functionality of the PTF.

Protocols defined by ATIS IIF specifications provide delivery of IPTV services, including audio/video and emergency alerts, to ITF devices in the home. Independently, using the same home network physical infrastructure, commercial audio/video and emergency alerts may be delivered to client devices in the home via standard protocols such as those being defined by the Digital Network Living Alliance (DLNA) using devices compliant with such guidelines and following the recommendations given in the present document.

SCTE 162 includes almost all the same data as the ATIS EAS signaling message defined in ATIS-0800012, *IPTV Emergency Alert System Metadata Specification* [1]. The ANSI J-STD-042-A [2] standard, *Emergency Alert Messaging for Cable* contains similar data. Data provided by ANSI-J-STD-042-A [2] can be used by the cable terminal, with appropriate mapping of metadata elements, to create EAS signaling in accordance with SCTE 162.

A/V services offered by a satellite provider can be made available on the home network in a similar fashion.

Note that Figure 1 shows that in the case of commercial video arriving via terrestrial broadcast, separate EAS signaling data is not available for distribution to the home network. However the audio/video contents from terrestrial broadcast sources might be placed on the network. A viewer watching any consumer device capable of receiving and processing an off-air terrestrial broadcast signal (directly or over a local home network) has access to all emergency alert information and announcements simply by viewing program video and listening to program audio. As of the date of publication of this standard, there is no standard method for signaling emergency alert information in a machine-readable format within DTV terrestrial broadcast.

3.2 Public Alert™ Receivers

Readers should be aware that ANSI/CTA2009-B [6] defines minimum performance criteria for consumer electronic products designed to receive Specific Area Message Encoding (SAME) alert signals broadcast by the National Oceanic and Atmospheric Administration’s Weather Radio network and Environment Canada’s Meteorological Services of Canada Radio network. ANSI/CTA2009-B lists a number of alert Event Codes that may be encountered that are not available from other sources.

As defined by FEMA, the designated responsible government office for EAS, Specific Area Message Encoding is simply a category title. SAME consists of approximately 2200 FIPS codes (and 1200 equivalent codes in Canada called CFIPS) which define geographic targeting data.

3.3 The Need for Emergency Alert Signaling in the Home Network

Figure 2 diagrams a PTF and DMS feeding commercial video services to a home network, where a Digital Media Renderer (or Player) receives them. This particular PTF includes a video display output as well as PVR functionality.

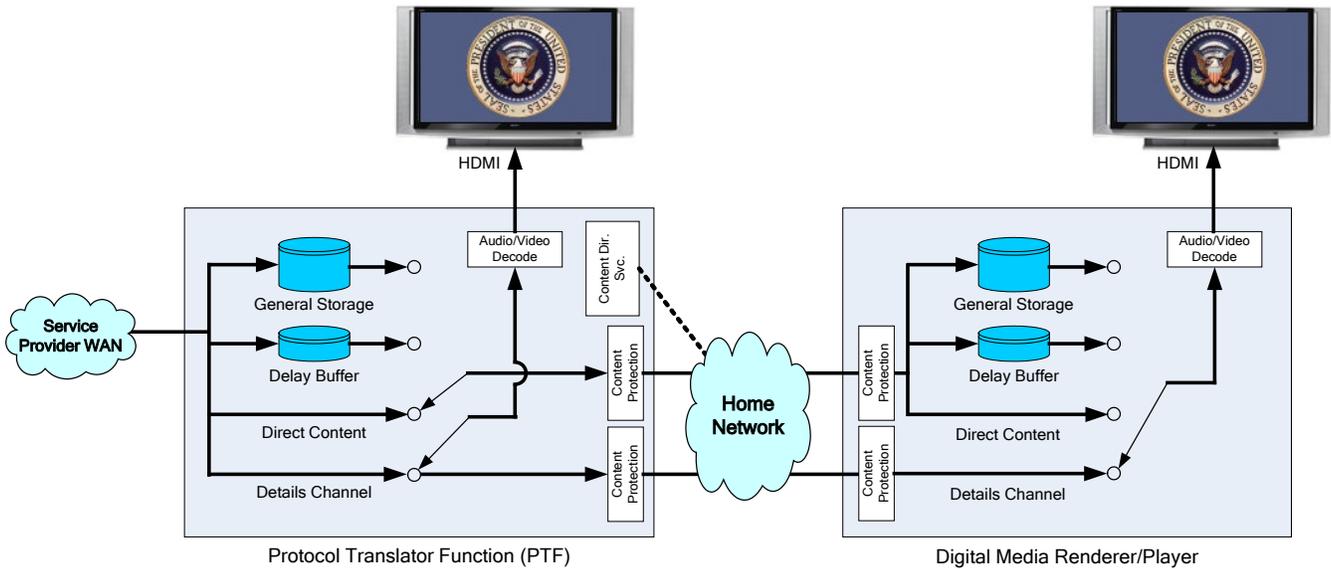


Figure 2 Emergency Alerts in the Home Network

In response to emergency alert signaling from the Service Provider, the PTF may acquire a Details Channel and switch its audio/video display output to that feed. In other situations, it may substitute real-time alert audio for program audio (whether from a live feed or via playback from disk storage). In yet other cases, it may overlay alert text on the video output.

On the right hand side in Figure 2 is a Digital Media Renderer or Player (DMR/DMP) with connectivity through the home network to the PTF/DMS. This client device also has DVR functionality. The desired response to an emergency alert event is the same in the DMR/DMP as it is in the PTF/DMS: depending on the type of alert, the audio/video output from the DMR/DMP is augmented with alert information: text, alert audio, or Details Channel audio/video (or a combination of these). The emergency alert signaling defined in SCTE 162 allows the DMR/DMP to respond to the alert event and produce the same user experience as he or she would have had with the PTF/DMS.

3.4 Overview of Emergency Alert Metadata

The following definitions of elements of emergency alert information are conveyed in the metadata of this standard. Note that some elements are optional, others must always be present, while others must be conditionally present. Textual items may be delivered multilingually.

- **AlertAudioReference** — A reference to an audio stream or file providing alert audio.
- **AlertID** — An identifier for the particular instance of the alert message, assigned by the originator of the message, also used for duplicate message detection. Not intended for display to the user. Required.
- **AlertPriority** — indicates the priority of the alert. Allows receiving devices to disregard certain alerts under certain conditions or user preferences. Priority levels defined are:
 - Test – operator test only; to be disregarded by consumer devices
 - Normal – may be disregarded by consumer devices, at the discretion of the viewer
 - High – must be presented unconditionally
- **AlertText** — If the alert involves text, the actual text to be displayed. The display method for alert text is implementation-dependent. It may involve scrolling or paged text, with or without support for user interaction for control. Requirements for receiver behavior are outside the scope of this standard.
- **AlertTextBackgroundColor** — Indicates the color to be used for the background for text display for this alert. Optional.
- **AlertTextFontColor** — Indicates the color to be used for characters for text display for this alert. Optional.
- **AlertTextPause** — Indicates, when present, the number of seconds to pause between repetitions of the display of repetitions of alert text. For implementations that use methods other than scrolling to display the text, the parameter may be disregarded. If the Alert Text Pause element is not provided, the number of seconds of the pause, if any, is at the discretion of the ITF designer.
- **AlertTextRepeatCount** — Indicates, when present, the number of times the indicated alert text is to be repeated. For implementations that use methods other than scrolling to display the text, the parameter may be disregarded. If the Alert Text Repeat Count element is not provided, the number of repetitions, if any, is at the discretion of the ITF designer.
- **AlertVersion** — Provides an additional indication of uniqueness of a particular emergency alert announcement. Used in conjunction with Sender ID and Alert ID to identify an instance of an emergency alert announcement, and to identify duplicates and announcements that have already been processed in the receiving device. By changing the value of Alert Version, the Service Provider can cause receiving devices to re-display the same alert.
- **AudioComponentRequired** — A flag that indicates, when true, that the response to the alert must involve an audio component. Audio may be derived from a referenced file, or by acquisition of the Details Channel.
- **DetailsChannel** — A reference to a Details channel, used by home network client devices to access the Details Channel audio/video feed from the Digital Media Server (DMS).

- **EventCode** — An abbreviated “event code” signifying the type of alert (for example “HWA” indicating High Wind Advisory). The FCC maintains a list of event code abbreviations in 47 C.F.R. §11.31(e) [8]. New codes may be added at any time. Required.
- **EventExpires** — The time the event is over, for example the time of day the storm watch is concluded. Consumer devices may use this parameter to expire (erase) events from memory, and in screens summarizing active events. Optional; if not present, an expiration time 24 hours after reception of the alert message is assumed.
- **EventOnset** — A date and time of day indicating the time the alert is to be in effect. For example, a Tsunami Warning (TSW) may be in effect starting at 1:00 pm. Optional; if not supplied, the onset is assumed to be the time of reception of the alert message.
- **ExceptionChannel** — A reference to an Exception Channel.
- **GeographicArea** — An indication of the geographic area affected by a given alert. If not provided, it is assumed that the alert is relevant to the location of the home network. Geographic areas are represented using INCITS 31-2009[R2014] [7] state and county codes. Optional.
- **Headline** — A textual “headline” for the event, usable by consumer devices at their discretion. An example headline might be “Thunderstorms in King County.” Optional.
- **InterruptionText** — Optional text notifying the viewer that normal programming has been **interrupted**.
- **InterruptionTextDuration** — Indicates the amount of time the receiver is to display overlaid interruption text. Optional.
- **LockoutDuration** — Indicates the number of seconds the receiving device is to disregard user input after responding to this EAS announcement signal. Optional. Requirements for receiver compliance with this element are outside the scope of this standard.
- **RetuneDuration** — If the alert involves forced acquisition of a Details Channel, the amount of time the consumer receiver is to stay tuned to that channel. The specified time may be indefinite, in which case another subsequent alert message will specify the end point (a finite duration). This parameter must be specified if a valid Details Channel reference is provided. Requirements for receiver compliance with this element are outside the scope of this standard.
- **RetuneHold** — Indicates the time period that the receiving device must disregard user attempts to tune away from the Details Channel. Optional. Requirements for receiver compliance with this element are outside the scope of this standard.
- **SenderID** — A unique identifier associated with the originator of the message, used to detect duplicate transmissions of the same alert. Not intended for display to the user. Required.
- **SenderName** — A human-readable name of the entity originating the alert message (for example “National Weather Service”). Optional.
- **Urgency, Severity, Certainty** — Indications as to the urgency, severity, and certainty of the event. There are no requirements related to these indications. They may be used at the discretion of the consumer device, for example in informative displays. Optional.

- **VisualComponentRequired** — A flag that indicates, when true, that the response to the alert must involve a visual component. The visual component may be derived from provided Alert Text, or by acquisition of the Details Channel.

4. SPECIFICATION (NORMATIVE)

Instances of emergency alert metadata shall conform to the XML schema defined in ATIS-0800012 *IPTV Emergency Alert System Metadata Specification* [1], as provided in the associated XML schema file named "ATIS-0800012.xsd." One **EASMetadata** element containing one **EASData** element shall be present. Metadata element definitions and usage rules shall conform to [1]. The following constraints shall apply:

1. **AlertAudioReference**, **ExceptionChannel**, and **DetailsChannel** shall use the **ResourceURL** choice in **ResourceLocatorType**
2. In the **ResourceURL**:
 - a. The protocol portion shall be http://.
 - b. The domain name portion shall be the dotted-IP address of the server in the home network where the content may be found.
3. **AlertAudioReference**, when present, shall reference a source of alert audio available in the home network.
4. **ExceptionChannel**, when present, shall reference an Exception Channel by means of URLs recognized by the DMS issuing the emergency alert metadata to the home network.
5. **DetailsChannel**, when present, shall reference a Details Channel by means of a URL recognized by the DMS issuing the emergency alert metadata to the home network.

Note that the metadata elements and data types **EIData**, **EIDataType**, and **EIinfoType** are present in the schema and are out of scope with respect to SCTE 162.

ANNEX A. ATIS XML SCHEMA (INFORMATIVE)

The following XML schema is included here by permission of ATIS. It is contained in the file “ATIS-0800012.xsd” (part of the distribution package from ATIS of [1].) The schema in “ATIS-0800012.xsd” is considered normative and takes precedence if any discrepancy is found.

```
<?xml version="1.0" encoding="UTF-8"?>
<schema xmlns="http://www.w3.org/2001/XMLSchema"
  xmlns:cap="http://www.atis.org/iif/0800012/cap/1"
  targetNamespace="http://www.atis.org/iif/0800012/eas/1"
  xmlns:eas="http://www.atis.org/iif/0800012/eas/1"
  xmlns:mps="http://www.atis.org/iif/0800013/mps/1"
  elementFormDefault="qualified" version="0">
  <import namespace="http://www.atis.org/iif/0800012/cap/1"
    schemaLocation="ATIS-0800012_cap.xsd"/>
  <import namespace="http://www.atis.org/iif/0800013/mps/1"
    schemaLocation="ATIS-0800013.xsd"/>

  <simpleType name="AlertPriorityType">
    <restriction base="string">
      <enumeration value="Test"/>
      <enumeration value="Normal"/>
      <enumeration value="High"/>
    </restriction>
  </simpleType>

  <simpleType name="ColorType">
    <restriction base="hexBinary">
      <maxLength value="3"/>
      <minLength value="3"/>
    </restriction>
  </simpleType>

  <complexType name="TargetLocationType">
    <sequence>
      <element name="StateCode" type="eas:StateCodeType"/>
      <element name="CountyCode" type="eas:CountyCodeType"/>
      <element name="SubDivision" type="eas:SubDivisionType"
        minOccurs="0" maxOccurs="8"/>
    </sequence>
  </complexType>
```

```

<simpleType name="StateCodeType">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="99"/>
  </restriction>
</simpleType>

<simpleType name="CountyCodeType">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="999"/>
  </restriction>
</simpleType>

<simpleType name="SubDivisionType">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="9"/>
  </restriction>
</simpleType>

<simpleType name="AlertVersionType">
  <restriction base="integer">
    <minInclusive value="0"/>
    <maxInclusive value="9999"/>
  </restriction>
</simpleType>

<element name="EASMetadata">
  <complexType>
    <choice>
      <element name="EIData" type="eas:EIdataType"/>
      <element name="EASData" type="eas:EASdataType"/>
    </choice>
  </complexType>
</element>

<complexType name="EIdataType">
  <sequence>
    <element name="SenderID" type="string"/>
    <element name="AlertID" type="string"/>
  </sequence>
</complexType>

```

```

<element name="EventCode" type="cap:ValueType"/>
<element name="EventOnset" type="dateTime" minOccurs="0"/>
<element name="EventExpires" type="dateTime"/>
<element name="Urgency" type="cap:urgencyType" minOccurs="0"/>
<element name="Severity" type="cap:severityType" minOccurs="0"/>
<element name="Certainty" type="cap:certaintyType" minOccurs="0"/>
<element name="Info" type="eas:EIinfoType" minOccurs="0" maxOccurs="unbounded"/>
<element name="Area" type="cap:areaType" minOccurs="0" maxOccurs="unbounded"/>
</sequence>
<attribute name="AudioComponentRequired" type="boolean" use="required"/>
<attribute name="VisualComponentRequired" type="boolean" use="required"/>
</complexType>

<complexType name="EIinfoType">
<sequence>
<element name="Language" type="language" default="en-US" minOccurs="0"/>
<element name="SenderName" type="string" minOccurs="0"/>
<element name="Headline" type="string" minOccurs="0"/>
<element name="AlertText" type="string" minOccurs="0"/>
<element name="AlertAudioReference" type="mps:ResourceLocatorType" minOccurs="0"/>
<element name="InterruptionText" type="string" minOccurs="0"/>
<element name="InterruptionTextDuration" type="integer" minOccurs="0"/>
</sequence>
</complexType>

<complexType name="EASdataType">
<sequence>
<element name="SenderID" type="string"/>
<element name="AlertID" type="string"/>
<element name="AlertVersion" type="eas:AlertVersionType"/>
<element name="EventCode" type="cap:ValueType"/>
<element name="EventOnset" type="dateTime" minOccurs="0"/>
<element name="EventExpires" type="dateTime"/>
<element name="AlertPriority" type="eas:AlertPriorityType"/>
<element name="AlertTextBackgroundColor" type="eas:ColorType" minOccurs="0"/>
<element name="AlertTextFontColor" type="eas:ColorType" minOccurs="0"/>
<element name="AlertTextRepeatCount" type="integer" minOccurs="0"/>
<element name="AlertTextPause" type="integer" minOccurs="0"/>
<element name="DetailsChannel" type="mps:ResourceLocatorType" minOccurs="0"/>
<element name="RetuneDuration" type="integer" minOccurs="0"/>
<element name="Urgency" type="cap:urgencyType" minOccurs="0"/>

```

```

<element name="Severity" type="cap:severityType" minOccurs="0"/>
<element name="Certainty" type="cap:certaintyType" minOccurs="0"/>
<element name="ExceptionChannel" type="mps:ResourceLocatorType" minOccurs="0"
  maxOccurs="unbounded"/>
<element name="RetuneHold" type="integer" minOccurs="0"/>
<element name="LockoutDuration" type="integer" minOccurs="0"/>
<element name="TargetLocation" type="eas:TargetLocationType" minOccurs="0"
maxOccurs="unbounded"/>
  <element name="info" type="eas:EASinfoType" minOccurs="0" maxOccurs="unbounded"/>
</sequence>
<attribute name="AudioComponentRequired" type="boolean"
  use="required"/>
<attribute name="VisualComponentRequired" type="boolean"
  use="required"/>
</complexType>

<complexType name="EASinfoType">
  <sequence>
    <element name="Language" type="language" default="en-US" minOccurs="0"/>
    <element name="SenderName" type="string" minOccurs="0"/>
    <element name="Headline" type="string" minOccurs="0"/>
    <element name="AlertText" type="string" minOccurs="0"/>
    <element name="AlertAudioReference" type="mps:ResourceLocatorType" minOccurs="0"/>
    <element name="InterruptionText" type="string" minOccurs="0"/>
    <element name="InterruptionTextDuration" type="integer" minOccurs="0"/>
  </sequence>
</complexType>
</schema>

```

ANNEX B. EXAMPLE XML INSTANCE – EAS SIGNALING MESSAGE (INFORMATIVE)

The following is an example XML instance document containing **EASMetadata** compliant with **SCTE 162**. This example instance provides sufficient information to allow this document to be validated against the underlying ATIS-0800012 EAS XML schema. DMR/DMP clients may be designed such that they do not attempt to pre-validate before parsing and processing. It is the responsibility of the DMS to issue only properly formed XML instance documents.

This example alert is a Child Abduction Emergency (CAE) originated from the Los Angeles police department, and is targeted to all of Los Angeles County, CA. It is normal-priority and has only a visual component required. The alert has a textual and a separate audio component, as well as a Details Channel reference.

```
<?xml version="1.0" encoding="UTF-8"?>
<EASMetadata
  xmlns="http://www.atis.org/schemas/0800012/eas/1"
  xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance"
  xsi:schemaLocation="http://www.atis.org/schemas/0800012/eas/1 ATIS-0800012.xsd"
  xmlns:cap="http://www.atis.org/schemas/0800012/cap/1"
  xmlns:mps="http://www.atis.org/schemas/0800013/mps/1"
  xmlns:xml="http://www.w3.org/XML/1998/namespace">
  <EASData AudioComponentRequired="false"
    VisualComponentRequired="true">
    <SenderID>karo@clets.doj.ca.gov</SenderID>
    <AlertID>KAR0-0306112239-SW</AlertID>
    <AlertVersion>0</AlertVersion>
    <EventCode>
      <cap:valueName>same</cap:valueName>
      <cap:value>CAE</cap:value>
    </EventCode>
    <EventExpires>2008-08-01T12:01:00</EventExpires>
    <AlertPriority>Normal</AlertPriority>
    <AlertTextBackgroundColor>FFFF00</AlertTextBackgroundColor>
    <AlertTextFontColor>000000</AlertTextFontColor>
    <AlertTextRepeatCount>0</AlertTextRepeatCount>
    <AlertTextPause>2</AlertTextPause>
    <DetailsChannel>
      <mps:ResourceURL>
        http://192.168.1.56:57749/tuner1/LAPD-TV.mpg
      </mps:ResourceURL>
    </DetailsChannel>
    <RetuneDuration>2</RetuneDuration>
    <Urgency>Immediate</Urgency>
```

```
<Severity>Severe</Severity>
<Certainty>Likely</Certainty>
<ExceptionChannel>
  <mps:ResourceURL>
    http://192.168.1.56:57760/tuner1/knsd.mpg
  </mps:ResourceURL>
</ExceptionChannel>
<ExceptionChannel>
  <mps:ResourceURL>
    http://192.168.1.56:57766/tuner2/kuow.mpg
  </mps:ResourceURL>
</ExceptionChannel>
<RetuneHold>3</RetuneHold>
<LockoutDuration>3</LockoutDuration>
<TargetLocation>
  <StateCode>06</StateCode>
  <CountyCode>037</CountyCode>
  <SubDivision>0</SubDivision>
</TargetLocation>
<info>
  <Language>en-US</Language>
  <SenderName>LOS ANGELES POLICE DEPT - LAPD</SenderName>
  <Headline>AMBER ALERT – CHILD ABDUCTION</Headline>
  <AlertText>
    VICTIM(S): KHAYRI DOE JR. M/B BLK/BRO 3'0", 40 LBS.
    LIGHT COMPLEXION. DOB 06/24/01. WEARING RED SHORTS,
    WHITE T-SHIRT, W/BLUE COLLAR. LOCATION: 5721 DOE ST.,
    LOS ANGELES, CA. SUSPECT(S): KHAYRI DOE SR. DOB 04/18/71
    M/B, BLK HAIR, BRO EYE. VEHICLE: 81' BUICK 2-DR, BLUE.
  </AlertText>
  <AlertAudioReference>
    <mps:ResourceURL>
      http://192.168.1.56:57770/tuner2/alert-02302.ac3
    </mps:ResourceURL>
  </AlertAudioReference>
</info>
</EASData>
</EASMetadata>
```