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Amendment 1

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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS
IPTV multimedia services and applications for IPTV –
IPTV application event handling

IPTV application event handling: Audience
measurement for IPTV distributed content services
**Amendment 1: XML schema on the
measurement data structures for linear TV
service**

Recommendation ITU-T H.741.3 (2012) –
Amendment 1

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Recommendation ITU-T H.741.3

IPTV application event handling: Audience measurement for IPTV distributed content services

Amendment 1

XML schema on the measurement data structures for linear TV service

Summary

The ITU-T H.741.x series of Recommendations defines a foundational platform for audience measurement (AM) of IPTV services. They focus on the interface between terminal devices and an audience measurement aggregation function.

The AM platform integrates a method for end users to report personal information, and is designed to easily add time-shifted and interactive services and non-terminal device measurement points. While the ITU-T H.741.x series allows the implementation of audience measurement for IPTV services, its mechanism may be equally applicable to non-IPTV services.

The design philosophy in the ITU-T H.741.x series is focused on scalability, minimizing the use of resources, security, flexibility to support a variety of service provider deployments and rich privacy support to meet emerging regulations and legislation.

Recommendation ITU-T H.741.3 specifies audience measurement for IPTV distributed content services and, in particular, linear TV services. It describes specific configuration for linear TV and metadata and data structures used in the payload of AM messages. The informative appendices discuss specific implementation considerations for linear TV-specific implementation considerations, provide examples and describe capabilities and profiles.

Amendment 1 to Recommendation ITU-T H.741.3 includes XML schema on the measurement data structures for linear TV service in Appendix IV and XML schema instances for TD-AMF configuration, reports for linear TV services in Appendix V.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
1.0	ITU-T H.741.3	2012-06-29	16	11.1002/1000/11662
1.1	ITU-T H.741.3 (2012) Amd. 1	2015-02-20	16	11.1002/1000/12462

Keywords

Audience measurement, audience rating service, audience viewership, contents rating, data structures, distributed content service, engagement metrics, implementation guidelines, IPTV application event handling, linear TV service, metadata, XML schema.

* To access the Recommendation, type the URL <http://handle.itu.int/> in the address field of your web browser, followed by the Recommendation's unique ID. For example, <http://handle.itu.int/11.1002/1000/11830-en>.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications, information and communication technologies (ICTs). The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

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As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

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Recommendation ITU-T H.741.3

IPTV application event handling: Audience measurement for IPTV distributed content services

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XML schema on the measurement data structures for linear TV service

1) Clause 7.2

Modify clause 7.2 as follows:

7.2 Linear TV metadata

The notation used in Tables 1 to 6 facilitates the specification of the corresponding schema:

- *Support*: 1 = mandatory (one instance), 0-1 = optional (maximum one instance), 0-* = (optional and multiple instances possible), 1-* = mandatory and multiple instances possible)
- *Type*: string, integer, float, etc.
- *Container*: elements are defined to group associated elements

In the following tables containing data structures, an alternative representation may be shown which illustrates the data structure. In the event of discrepancy between an alternative representation and the table, the correct information is to be found in the table.

Table 1 summarizes audience measurement elements for linear TV.

Table 1 – Audience measurement elements for linear TV

Element	Definition	Type	Notes or value domain
ServiceInstanceID	Identifies the instance of a specific service. Distinguishes among services when multiple services are displayed.		Defined in [ITU-T H.741.2]
ServiceIdentifier	Contains the "unique name for the service within the service provider's domain" (according to [ITU-T H.770]) which starts to be received.		NOTE – Defined in [ITU-T H.770] with the encoding in Figure 3.
ChannelChangeFilter	Reports channel start and channel stop events only when the time following an event, without either subsequent event occurring, is greater than ChannelChangeFilter ms.	xs:integer	Values: time in milliseconds, 0 means report all channel start and channel stop events. NOTE – This sets the minimum time to report latency for channel start and channel stop events, to at least the specified time in milliseconds.
ControlDevice	Indicates the device type used to navigate to a channel.		Defined in [ITU-T H.741.2]

Table 1 – Audience measurement elements for linear TV

Element	Definition	Type	Notes or value domain
StartNavMethod	Indicates the method used to navigate to a channel.	xs:integer enumeration	Values: 0 = up/down arrow, 1 = channel surfing, 2 = scheduled channel change, 3 = EPG, 4 = Last (previous), 5 = Favourite, 6 = number entry, 7 = unknown, 8 = other
StopNavMethod	Indicates the method used to navigate away from a channel.	xs:integer enumeration	Values: 0 = up/down arrow 1 = channel surfing 2 = scheduled channel change 3 = EPG 4 = Last (previous) 5 = Favourite 6 = number entry 7 = unknown 8 = other 999 = turn off terminal device
ViewMode	Identifies the viewing mode of the linear TV service which starts to be received.	xs:integer enumeration	0 = unknown 1 = full screen 2 = Picture-in-Picture 3 = Mosaic 4 = Other
NOTE – The value of "unknown" for enumerated valued elements indicates that element information is not available; the value of "other" indicates that the element information is available but does not match one of the defined enumerated values.			

```

<xsd:complexType name="IndividualServiceType">
  <xsd:sequence>
    <xsd:element name="ServiceIdentifier" type="H770IdType"/>
    <xsd:element name="ServiceProviderIdentifier" type="H770IdType" minOccurs="0"/>
    <xsd:element name="AdditionalServiceDescriptionLocation" type="anyURI" minOccurs="0"/>
    <xsd:element name="LogicalChannelNumber" type="xsd:positiveInteger" minOccurs="0"/>
  </xsd:sequence>
</xsd:complexType>

```

Figure 3 – XML encoding for ServiceIdentifier in linear TV audience measurement

ViewMode is an element to identify how the channel being received is rendered on the terminal device when started. The display modes are listed below:

- Full screen (means that only the linear TV video is displayed, independent of the percentage of the display covered by the video).