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SERIES H: AUDIOVISUAL AND MULTIMEDIA SYSTEMS

IPTV multimedia services and applications for IPTV – IPTV metadata

Multimedia content provisioning interface for IPTV services

Recommendation ITU-T H.752

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Recommendation ITU-T H.752

Multimedia content provisioning interface for IPTV services

Summary

Recommendation ITU-T H.752 describes the metadata elements that are necessary for multimedia content provisioning, such as content description, distribution conditions and the usage log report. Compared to the high-level specification of metadata for Internet protocol television (IPTV) services defined in Recommendation ITU-T H.750, multimedia content provisioning interface for IPTV services focuses on the metadata elements to be used at the interface between content providers and IPTV service providers. This Recommendation specifies the requirement for audio and video (AV) content metadata provisioning, AV content metadata elements and data structure, procedure of exchanges for content between the content providers and IPTV service providers.

History

Edition	Recommendation	Approval	Study Group	Unique ID*
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Content description, content provider, IPTV services, metadata, service provider, VoD.

* 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

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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.752

Multimedia content provisioning interface for IPTV services

1 Scope

This Recommendation identifies the metadata elements which are necessary for multimedia content provisioning. Two types of audio and video (AV) content metadata are content catalogue metadata and business metadata. Content catalogue metadata describes AV content description and the rights holder of the content. Business metadata describes basic business description and the usage log report.

This Recommendation describes the messages and procedures of exchanges for content between content providers and service providers in the two communication modes (push mode and pull mode).

[ITU-T H.750] already identifies essential elements and attributes concerning content. This Recommendation focuses on the content metadata to be used at the interface between content providers and Internet protocol television (IPTV) service providers.

2 References

The following ITU-T Recommendations and other references contain provisions which, through reference in this text, constitute provisions of this Recommendation. At the time of publication, the editions indicated were valid. All Recommendations and other references are subject to revision; users of this Recommendation are therefore encouraged to investigate the possibility of applying the most recent edition of the Recommendations and other references listed below. A list of the currently valid ITU-T Recommendations is regularly published. The reference to a document within this Recommendation does not give it, as a stand-alone document, the status of a Recommendation.

[ITU-T H.720] Recommendation ITU-T H.720 (2008), *Overview of IPTV terminal devices and end systems*.

[ITU-T H.750] Recommendation ITU-T H.750 (2008), *High-level specification of metadata for IPTV services*.

[ITU-T Y.1910] Recommendation ITU-T Y.1910 (2008), *IPTV functional architecture*.

[ETSI TS 102 471] ETSI TS 102 471 V1.4.1 (2010), *Digital Video Broadcasting (DVB); IP Datacast over DVB-H: Electronic Service Guide (ESG).*

[ETSI TS 102 822-3-1] ETSI TS 102 822-3-1 V1.8.1 (2012), *Broadcast and On-line Services: Search, select and rightful use of content on personal storage systems ("TV-Anytime"); Part 3: Metadata; Sub-part 1: Phase 1 – Metadata schemas*.

[ETSI TS 102 822-3-2] ETSI TS 102 822-3-2 V1.6.1 (2010), *Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime"); Part 3: Metadata; Sub-part 2: System aspects in a uni-directional environment*.

[ETSI TS 102 822-3-3] ETSI TS 102 822-3-3 V1.6.1 (2012), *Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime"); Part 3: Metadata; Sub-part 3: Phase 2 – Extended Metadata Schema*.

[ETSI TS 102 822-5-1] ETSI TS 102 822-5-1 V1.7.1 (2012), *Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime"); Part 5: Rights Management and Protection (RMP) Sub-part 1: Information for Broadcast Applications*.

[ETSI TS 102 822-6-3] ETSI TS 102 822-6-3 V1.6.1 (2012), *Broadcast and On-line Services: Search, select, and rightful use of content on personal storage systems ("TV-Anytime"); Part 6: Delivery of metadata over a bi-directional network; Sub-part 3: Phase 2 – Exchange of Personal Profile*.

[ISO/IEC 15938-5] ISO/IEC 15938-5 (2003), *Information technology – Multimedia content description interface – Part 5: Multimedia description schemes*.

3 Definitions

3.1 Terms defined elsewhere

This Recommendation uses the following terms defined elsewhere:

3.1.1 IPTV [b-ITU-T Y.1901]: Multimedia services such as television/video/audio/text/graphics/ data delivered over IP-based networks managed to support the required level of QoS/QoE, security, interactivity and reliability.

3.1.2 metadata [b-ITU-T IPTV FG]: Structured, encoded data that describe characteristics of information-bearing entities to aid in the identification, discovery, assessment and management of the described entities.

3.1.3 metadata schema [ITU-T H.750]: A metadata schema is the representation format for a specifying data model describing target instances.

3.1.4 video-on-demand (VoD) [b-ITU-T Y.1901]: A service in which the end-user can, on demand, select and view a video content and where the end-user can control the temporal order in which the video content is viewed (e.g., the ability to start the viewing, pause, fast forward, rewind, etc.)

3.2 Terms defined in this Recommendation

None.

4 Abbreviations and acronyms

This Recommendation uses the following abbreviations and acronyms:

AV Audio and Video

CP Content Provider

DNS Domain Name System

ECG Electronic Content Guide

EPG Electronic Programme Guide

HTTP Hypertext Transfer Protocol

ID IDentification

IP Internet Protocol

IPTV Internet Protocol Television

ISAN International Standard Audio-visual Number

SP Service Provider

TLS Transport Layer Security

TVA TV-Anytime

URI Uniform Resource Indicator

URL Uniform Resource Locator

VoD Video on Demand

5 Conventions

None.

6 Introduction

[ITU-T H.750] identifies AV content metadata elements and attributes for IPTV services, for content discovery from IPTV terminal devices based on [ITU-T Y.1910] and [ITU-T H.720].

This Recommendation identifies the requirements for AV content metadata provisioning and the metadata elements and attributes which could be provided by AV content providers. This Recommendation describes AV content metadata elements and attributes which could be transferred from content providers to IPTV service providers, and be integrated by the IPTV service in electronic programme guide (EPG)/electronic content guide (ECG) for content discovery. It also describes the requirements for AV content usage log information of end-user and payment details transferred from an IPTV service provider to content provider.

Two communication modes are specified between content providers and IPTV service providers for the delivery and management of content metadata and content:

1) A push mode in which the content providers take the initiative to declare their content to the IPTV service providers.
2) A pull mode in which the IPTV service providers, having a reference to particular content, request information about this content.

7 Requirements for AV content metadata provisioning

The metadata schema for the contents to be transferred between the content provider and IPTV service provider is required to support:

– Req1: the intention of the metadata set (new, replace, append).
– Req2: the identification of the content provider, source of the metadata set.
– Req3: the content description with elements such as content identification used by the content provider, title, description, keywords, genre. These elements should be taken from the elements already included in metadata schemas specified for ECG/EPG delivery to end-user terminals.
– Req4: the business information of the content, such as price, charge type.
– Req5: the possibility to describe several contents in the same set.
– Req6: the possibility to group features common to all content such as AV attributes. but also to allow individual contents to have different values for these common features.
– Req7: the possibility to give content location to allow the transfer of the content itself.
– Req8: the possibility to give content delivery information, such as distribution area and terminal device to be allowed to receive.
– Req9: the possibility to get the usage information of the content from the end user.

– Req10: the possibility to get the payment detail of the content from the end user.

– Req11: the procedure of exchanging content metadata between a content provider and service provider.

NOTE – These requirements are not for a metadata instance, but for a metadata schema. Metadata instances will vary depending on the agreements between an IPTV service provider and content provider.

8 AV content metadata elements and attributes

8.1 AV content metadata structure

The two primary classes of metadata for AV content structure are: "Content Catalogue Metadata" which provides content titles and descriptions, and "Business Metadata" which is used to describe contract details, device control information for distribution, and logs used after content is distributed.

The following are described in Content Catalogue Metadata.

– Element groups indicating the content title and description, which is described in clause 8.2;

– Element groups representing the rights holder of the content, which is described in clauses 8.3 and 8.4.

Because these elements are pieces of information widely open or available to users, they are public information. These elements are also specific to content, thus they do not vary between usage transactions for the content.

Business Metadata is primarily divided into Permissions Metadata and Usage Log Metadata. Permissions Metadata provides information concerning content usage permissions. Usage Log Metadata is a metadata group containing information used to report usage log information, and to describe usage fee details after actual content is used.

The following are described in Permissions Metadata.

– Element group that provides basic business metadata of the AV content assigned by content providers, which is described in clause 8.5;

– Element group element group providing transaction conditions, which is described in clause 8.6.

The following are described in Usage Log Metadata.

– Element group metadata group that provides usage logs information, which is described in clause 8.7;

– Element group element group addressing payment accounting information, which is described in clause 8.8.

Business Metadata consists of element groups necessary for content distribution. Generally, information that comprises Business Metadata is shared only between the content administrator and the content user; it is private information.

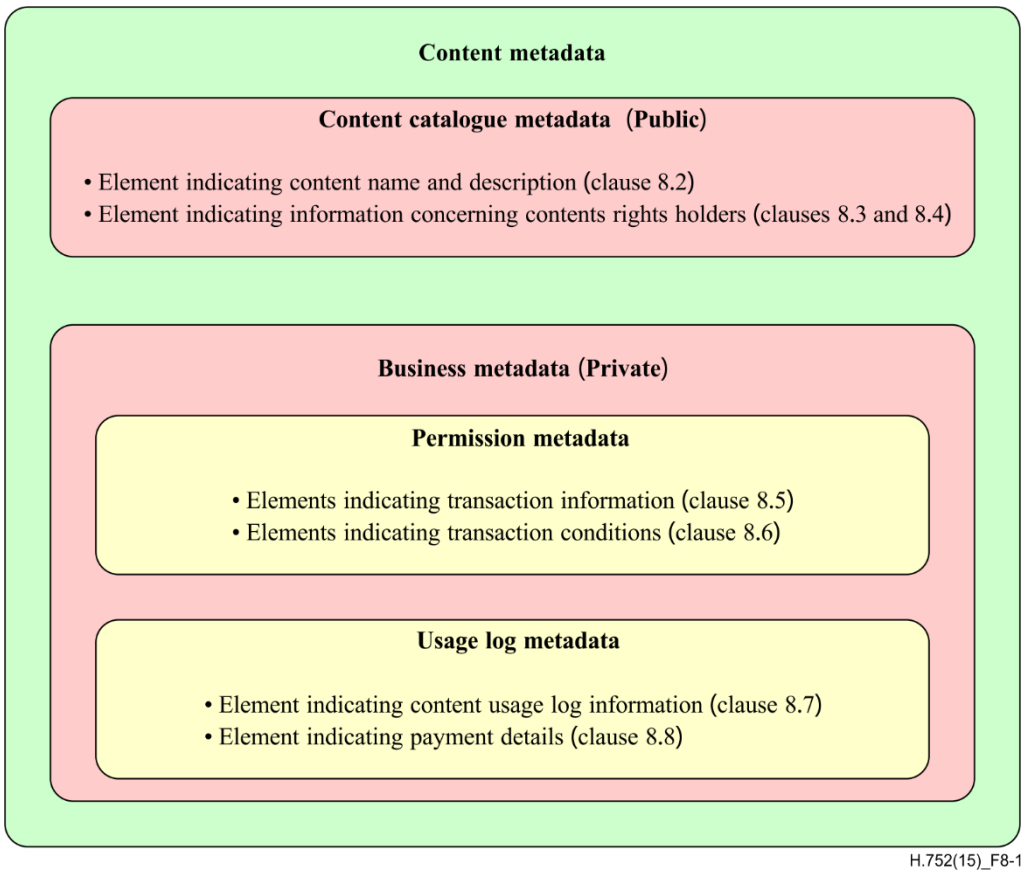

Figure 8-1 – AV content metadata structure

In the following clauses, many tables describe the metadata for AV content; every table includes the following domains:

– **Element/attribute name**: describes the element or attribute name.

– **Description**: describes a detailed description of the element or attribute.

– **Support**: clarifies if the element is present, how many instances, default value if any, meaning if element is not present.

NOTE – For example: if the support is (0-1), this means that in the actual data, this element may not be present or present just once.

– **Type**: describes the type or format of the element's value.

– **Notes or value domain**: describes the notes that need to specifically explain or the possible value of the domain.

NOTE – If the domain of the element is blank, the domain has no particular rule.

8.2 Data structure for specific AV content elements

Data structure for specific AV content elements define descriptive attributes of the AV content. It includes a detailed description, such as title, synopsis, genre and other descriptive metadata about the content.

Table 8-1 – Data structure for specific AV content elements

Element/attribute name	Element or attribute description	Support	Type	Notes or value domain
Identifier	Content identifier allocated by the content provider.	1	String	
Title	A title of the AV content. An AV content can have multiple titles, e.g., in different languages.	1-*	String	
MediaTitle	A media asset (e.g., image) that can be used as a "title" for the AV content. Content that is not part of the original AV content can be specified and used as a (promotional) AV title.	0-*	String	
ShortTitle	A shortened version of the AV content title that defines how the title should be truncated for presentation purposes.	0-*	String	
Synopsis	A textual description of the AV content.	0-1	Container	
PromotionalInformation	A textual description containing promotional information.	0-*	Container	
Keyword	A list of keywords for the AV content. A keyword can be a single word or an entire phrase made up of multiple words.	0-*	Container	
Genre	A genre for the AV content.	0-*	Container	
TVAParentalGuidance	A parental rating code for the AV content.	0-1	Container	
Language	Describes one spoken language for the AV content. There may be more than one spoken language specified for an AV content.	0-*	Enumeration	
CaptionLanguage	Describes one language of the caption information included with the programme. The type of the caption information associated with the programme is denoted by the closed attribute. Closed captions can be turned on or off by the user, while open captions (or subtitles) are part of the picture itself and remain visible.	0-*	Enumeration	
SignLanguage	Specifies the sign language provided for the multimedia content and, optionally, qualifies the use of signing as a primary language and/or as a translation of the spoken dialogue.	0-*	Enumeration	

Table 8-1 – Data structure for specific AV content elements

Element/attribute name	Element or attribute description	Support	Type	Notes or value domain
CreditsList	The list of credits for the AV content.	0-*	Enumeration	e.g., actor/ actress, director, producer, scenario writer
AwardsList	The list of awards and/or award nominations for the AV content.	0-*	Container	
RelatedMaterial	A reference to any other material related to the AV content.	0-*	Container	
ProductionDate	The date or time period when the AV content was produced.	0-1	Datetime	
ProductionLocation	The country in which the AV content was produced.	0-*	String	e.g., CHN, USA
CreationCoordinates	Describes the location(s) and date(s) of creation of the AV content (optional).	0-*	Container	
DepictedCoordinates	Describes the location(s) and date(s) depicted in the AV content.	0-1	Container	
ReleaseInformation	Information about the country and date of release of the AV content.	0-*	Container	
Duration	Indicates the approximate duration of the AV content.	0-1	Datetime	
OtherIdentifier	A code that can be used in addition to the Content Provider Identifier to identify a piece of content.	0-*	String	e.g., an ISAN [b-ISO 15706-1] to identify a piece of content or an episode or a version thereof
MemberOf	Indicates group membership of the AV content – for a reason other than the special cases of derivation or being an episode of a series.	0-*	Container	
DerivedFrom	Indicates that the AV content is derived from another AV content (e.g., by reducing violent scenes) or possibly an AV content concept.	0-1	Container	
EpisodeOf	Indicates a series from which the current AV content is an episode.	0-1	Container	

Table 8-1 – Data structure for specific AV content elements

Element/attribute name	Element or attribute description	Support	Type	Notes or value domain
PartOfAggretatedProgram	An element used to specify that content is part of an aggregated AV content.	0-1	Enumeration	e.g., an Omnibus or a Magazine.
AggregationOf	An element used to describe an aggregated AV content.	0-1	Container	

NOTE – Container type means a class or a structure defined in the original reference documents, the standards referred to in Annex A.

8.3 Content location

The content location in Table 8-2 specifies the location of the current AV content, which is a uniform resource locator (URL). It also specifies the features and capabilities of the AV content protection.

Table 8-2 – Content location

Element/attribute name	Element or attribute description	Support	Type	Notes or value domain
Location	URL to get the content	1	URL	
ContentProtection	An element used to specify the features and capabilities of the different AV content protection.	0-*	Container	e.g., Authentication, transport layer security (TLS) streaming

8.4 Content provider identification

The content provider identification in Table 8-3 specifies the information of content provider.

Table 8-3 – Content provider identification

Element	Description	Support	Type	Notes or value domain
ContentProvider	Container for all information related to a content provider.	1	Container	
CPID	Element of ContentProvider. The unique identifier given to the content provider.	1	String	e.g., an Internet domain name system (DNS) domain name, an URI.
CPName	Usual name of the content provider.	1	String	

8.5 Transaction information elements and attributes

The transaction information elements and attributes given in Table 8-4 define basic business metadata of the AV content assigned by content providers. It includes the area of delivery, price,

receiving devices and other information. A service provider could provide a related service according to the transaction information received from a content provider. Only one of the elements "Price" or "PriceCategory" should be present in the transaction information.

Table 8-4 – Transaction information elements and attributes

Element	Description	Support	Type	Notes or value domain
AVAttributes	Container for audio-visual attributes that are applicable to the content as originated.	0-1	Container	Value include: – Codec or format – Aspect ratios, resolution, bit rate, frame rate for video – Mono, stereo, multi-channel indication for audio
Distribution/ Conditions	Container for all elements related to the distribution conditions for a specific content or a set of contents.	1	Container	
Price	Element of DistributionConditions It indicates the price to be charged for the content.	0-1	Float	
PriceCategory	Element of DistributionConditions It indicates the price category of the content. The values are to be agreed between content provider and service provider.	0-1	String	
Currency	Attribute of Price. It indicates the currency.	0-1	String	Restriction of string Pattern value = "[a-zA-Z]{3}"
Distribution Area	Element of DistributionConditions It indicates where the content is allowed to be made available.	0-1	Container	Default: everywhere
Distribution StartDate	Element of DistributionConditions It indicates the time at which the content can start to be made available.	0-1	Datetime	Default: now
Distribution EndDate	Element of DistributionConditions It indicates the time at which the content should stop to be made available.	0-1	Datetime	Default: without limit

Table 8-4 – Transaction information elements and attributes

Element	Description	Support	Type	Notes or value domain
TerminalDevice	Element of DistributionConditions It indicates terminal devices which the content is allowed to be received.	0-*	Container	

8.6 Exchange purpose information

The exchange purpose information in Table 8-5 is used to give the purpose of the current content metadata instance. It includes three purposes, new, replace and append.

Table 8-5 – Exchange purpose information

Element	Description	Support	Type	Notes or value domain
ExhangePurpose	An attribute used to give the purpose of the current content metadata instance: New: for a new set of metadata. Replace: for a set of metadata intended to replace another set of metadata already available to the service provider (e.g., to correct typing errors in the synopsis or to add new values to elements. Metadata elements present in the previous version will be removed if they are not present in the new version. Append: for a set of metadata intended to be incorporated in another set of metadata already available to the service provider (e.g., to provide titles in other languages, additional awards). It is also a solution to replace just a few elements instead of resending the full set of metadata.	Default: new	Enumeration	Values: new, replace, append

8.7 Usage log metadata

Usage Log Metadata is transferred from service provider to content provider to report usage log, hence the content provider can use the usage log to analyse the usage information. Based on the usage information, a content provider can know which kind of content is the most popular by the end user, so a content provider could adjust the policy of content providing. Table 8-6 give the content usage log information of a certain period.

Table 8-6 – Usage Log Metadata

Element/attribute name	Description	Support	Type	Notes or value domain
ContentIdentifier	Content identifier allocated by the content provider.	1	String	
NumberOfPaid Customers	The total number of customers that viewed and paid for the content.	0-1	Int	
NumberOf TrailerViews	The total number of times that trailers of the content has been viewed.	0-1	Int	
TotalIncome	The total fee earned from customers.	0-1	Container	
PaymentDetails	Payment details from customers.	0-*	Container	

8.8 Payment details elements

Payment detail elements in Table 8-7 provide details concerning usage fees based on the usage log and transaction conditions.

Table 8-7 – Payment details elements

Element/attribute name	Description	Support	Type	Notes or value domain
UserID	It indicates which user has selected this content.	1	String	
ChargeType	It indicates the type which the user is charges for the content.	1	Enumeration	Values: free, package, times
ChargedFee	The total fee the user pay for the content.	0-1	Container	

9 Data structures and messages

A number of data structures are identified to convey content declaration, content information requests and responses and usage log report.

9.1 Data structure of the content declaration

Data structure of the content declaration in Table 9-1 describes the request message information which is what content providers send to service providers. It includes the content provider ID, exchange purpose, content location, and so on.

Content declaration information is sent by content providers. It is initiated when content providers would pull or push a content to service provider.

Table 9-1 – Data structure for content declaration

Element	Description	Support	Type	Notes or value domain
ContentDeclaration	Container for the content declaration. It includes all elements related to a specific content or to several contents.	1	Container	
ExchangePurpose	Attribute of ContentDeclaration This element indicates how the ContentDeclaration should be considered.	0-1	Enumeration	Values: new, replace, append Default:new
ContentProvider	Element of ContentDeclaration It contains information about the content provider.	1	Container	
GeneralAVAttributes	Element of ContentDeclaration Container for Audio-visual attributes that are applicable to a set of content.	0-1	Container	
GeneralDistribution Conditions	Element of ContentDeclaration Container for the distribution conditions applicable to a set of contents.	0-1	Container	
ContentDescription	Element of ContentDeclaration It is a container for all elements related to a specific content.	1-*	Container	
AVAttributes	Element of ContentDescriptionElements Container for Audio-visual attributes that are applicable to the specific content here declared.	0-1	Container	
Distribution Conditions	Element of ContentDescriptionElements Container for the distribution conditions applicable to the specific content declared here.	0-1	Container	
ContentLocation	Element of ContentDescriptionElements It indicates from where the content can be acquired.	1	AnyURI	
AdInsertionControl ProviderURL	Element of ContentDeclaration It indicates an URL to be called when the content is requested for viewing by an end user, to get information about ad insertion.	0-1	AnyURI	

9.2 Data structure of the usage log report

Data structure of the usage log report in Table 9-2 describes the usage report information that service providers send to content providers. It includes the content provider ID, usage log, and period of the usage log recorded.

The usage log report is usually sent to content providers by service providers, and is sent based on a schedule that they have determined.

Table 9-2 – Data structure of the usage log report

Element	Description	Support	Type	Notes or value domain
ContentProvider ID	Element of ContentProvider. The unique identifier given to the content provider.	1	String	Defined in clause 8.4
UsageLog	Container for usage log. It includes all elements related to a usage log in the specific period.	1-*	Container	Defined in clause 8.7
PeriodStartTime	It indicates the time at which the usage log starts to be recorded.	1	Datetime	
PeriodEndTime	It indicates the time at which the usage log stops being recorded.	1	Datetime	
UsageLog Location	It indicates from where the usage log can be acquired.	1	AnyURI	

10 Exchanges for content

10.1 Declaration mode (push mode)

IPTV content providers initiate an exchange for content request, and for IPTV service providers' response and get the content from content location.

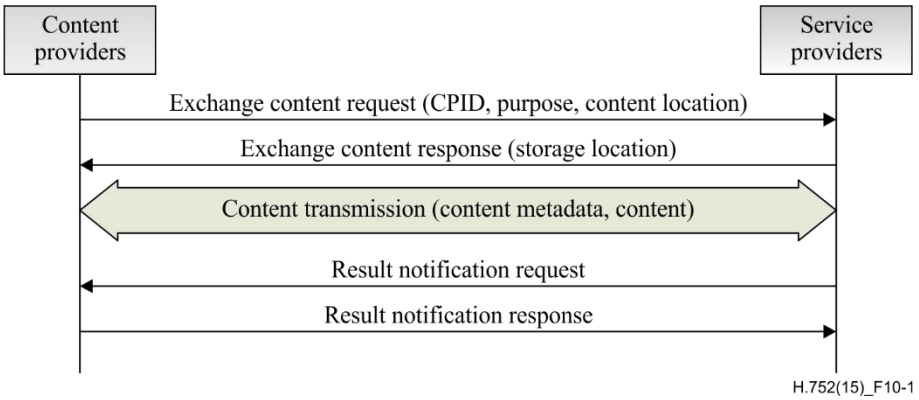

Figure 10-1 – Steps of declaration mode (push mode)

The diagram in Figure 10-1 gives the general steps of the declaration mode:

1) Content providers will push content to service providers. Content providers initiate an exchange content request message to service providers. Service providers receive the request message and send back an exchange content response message.

2) If negotiation between content providers and service providers is successful, service providers will get the content metadata and files from content location.

3) When the content transmission is over, service providers will send a result notification request to content providers. Then content providers reply to the service provider with a result notification response.

10.2 Content information request mode (pull mode)

IPTV service providers initiate an exchange for content request, and for IPTV content providers' response. Service providers get the content from content location.

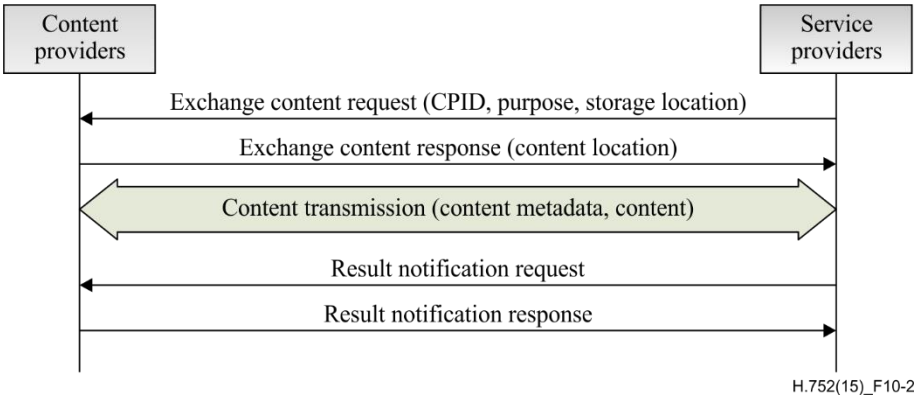

Figure 10-2 – Steps of content information request mode (pull mode)

The diagram in Figure 10-2 gives the general steps of the content information request mode (pull mode):

1) Service providers will pull content from content providers. Service providers initiate an exchange content request message to content providers. Content providers receive the request message and send back an exchange content response message.

2) If negotiations between content providers and service providers are successful, service providers will get the content metadata and files from content location.

3) When the content transmission is over, service providers will send a result notification request to content providers. Then content providers reply to the service provider with a result notification response.

Annex A

Content provisioning metadata schema: Elements and attributes

(This annex forms an integral part of this Recommendation.)

This annex lists the reference source of elements and attributes of the tables in clauses 8 and 9.

Data structure for specific AV content elements

- Identifier:
  - [ITU-T H.750] clause 8.1: Elements for content: Identifier
- Title:
  - [ITU-T H.750] clause 8.1: Elements for content: Title/name (secondary title)
- MediaTitle:
  - [ISO/IEC 15938-5] clause 9.2.2
- ShortTitle:
  - [ETSI TS 102 822-3-1] clause 6.3.4 ShortTitleType
- Synopsis:
  - [ETSI TS 102 822-3-1] clause 6.3.4 Synopsis
- PromotionalInformation:
  - [ETSI TS 102 822-3-1] clause 6.3.4 PromotionalInformation
- Keyword:
  - [ITU-T H.750] clause 8.1: Elements for content: Keyword
- Genre:
  - [ITU-T H.750] clause 8.1: Elements for content: Genre
- TVAParentalGuidance:
  - [ISO/IEC 15938-5] clause 9.2.3
- Language:
  - [ITU-T H.750] clause 8.1: Elements for content: Primary (secondary) spoken language
- CaptionLanguage:
  - [ITU-T H.750] clause 8.1: Elements for content: Primary (secondary) caption language (with speed parameter)
- SignLanguage:
  - [ISO/IEC 15938-5] clause 9.2.3
- CreditsList:
  - [ITU-T H.750] clause 8.1: Elements for content: Credits (e.g., actor/actress, director, producer, scenario writer)
- AwardsList:
  - [ITU-T H.750] clause 8.1: Elements for content: Awards
- RelatedMaterial:
  - [ITU-T H.750] clause 8.1: Elements for content: Preview, supplementary video and descriptive audio

  - [ETSI TS 102 822-3-1] 6.3.4 RelatedMaterial (Program, Group), 6.6.2 RelatedMaterial (Segment, SegmentGroup).
  - [ITU-T H.750] clause 8.1: Elements for content: Related web site
- ProductionDate:
  - [ITU-T H.750] clause 8.1: Elements for content: Location and time of production
- ProductionLocation:
  - [ITU-T H.750] clause 8.1: Elements for content: Location and time of production
  - [b-ISO 3166]
- CreationCoordinates:
  - [ETSI TS 102 822-3-1] clause 6.3.4 CreationCoordinates
- DepictedCoordinates:
  - [ETSI TS 102 822-3-1] clause 6.3.4 DepictedCoordinates
- ReleaseInformation:
  - [ITU-T H.750] clause 8.1: Elements for content: Acquisition or delivery schedule, start/end availability, protocol and address
  - [ETSI TS 102 471] clause 5.7.1 PublishedStartTime, PublishedEndTime.
- Duration:
  - [ITU-T H.750] clause 8.1: Elements for content: Duration
- OtherIdentifier:
  - [ITU-T H.750] clause 8.1: Elements for collective content: IDs for sub-contents
  - [ETSI TS 102 822-3-2] clause 4.3.1.3 OtherIdentifier (ProgramInformation)
- MemberOf:
  - [ETSI TS 102 822-3-2] clause 4.3.1.3 MemberOf (ProgramInformation)
- DerivedFrom:
  - [ETSI TS 102 822-3-2] clause 4.3.1.3 DerivedFrom (ProgramInformation)
- EpisodeOf:
  - [ETSI TS 102 822-3-2] clause 4.3.1.3 EpisodeOf (ProgramInformation)
- PartOfAggretatedProgram:
  - [ETSI TS 102 822-3-2] clause 4.3.1.3 PartOfAggretatedProgram (ProgramInformation)
- AggregationOf:
  - [ETSI TS 102 822-3-2] clause 4.3.1.3 AggregationOf (ProgramInformation)

Content location

- Location:
  - [ETSI TS 102 822-3-1] clause 6.3.4 ProductionLocation
  - [b-ISO 3166]
- ContentProtection:
  - [ITU-T H.750] clause 10 Rights and security-related metadata for IPTV

Content provider identification

- ContentProvider:
  - [ITU-T H.750] clause 8.1: Elements for content: Name of content provider, service provider

- CPId:
  - [ITU-T H.750] clause 8.1: Elements for content: Name of content provider, service provider
- CPName:
  - [ITU-T H.750] clause 8.1: Elements for content: Name of content provider, service provider

Transaction information elements and attributes

- AVAttributes:
  - [ETSI TS 102 822-3-1 V1.8.1] clause 6.3.5
- DistributionConditions:
  - [ITU-T H.750] clause 8.1: Elements for usage restrictions, usage rule
- Price:
  - [ITU-T H.750] clause 8.1: Elements for collective content: Price and conditions of availability of collective content
- PriceCategory:
  - [ITU-T H.750] clause 8.1: Elements for service (or channel): Free or subscribed
- Currency:
  - [ETSI TS 102 822-3-1] clause 6.3.3 CurrencyCodeType
  - [b-ISO 4217]
- DistributionArea:
  - [ITU-T H.750] clause 8.1: Elements for usage restrictions, usage rules: Restricted area
  - [ETSI TS 102 471] clause 5.8.1 UsageConstraints
- DistributionStartDate:
  - [ITU-T H.750] clause 8.1: Elements for usage restrictions, usage rules: Expiration date or deletion management information
- DistributionEndDate:
  - [ITU-T H.750] clause 8.1: Elements for usage restrictions, usage rules: Expiration date or deletion management information
- TerminalDevice:
  - [ETSI TS 102 822-3-2] clause 4.3.1.19 TargetingInformationType TerminalInformation

Exchange purpose information

- ExhangePurpose:
  - [ETSI TS 102 822-6-3] clause 5.3 Modifying Data

Usage Log Metadata

- ContentIdentifier:
  - [ITU-T H.750] clause 8.1: Elements for content: Identifier
- NumberOf PaidCustomers:
  - No reference, new in ITU-T H.752
- NumberOfTrailerViews:
  - [ITU-T H.750] clause 8.1: Elements for user profile or preference: Viewing behaviour

- TotalIncome:
  - [ISO/IEC 15938-5] clause 10.2.3.3 Financial datatype semantics
- PaymentDetails:
  - [ETSI TS 102 822-3-1] clause 6.3.4 PurchaseItem

Payment details elements

- UserID:
  - [ETSI TS 102 822-3-1] clause 6.5.2.3 UserIdentifier
- ChargeType:
  - [ITU-T H.750] clause 8.1: Elements for service (or channel): Free or subscribed
- ChargedFee:
  - [ISO/IEC 15938-5] clause 10.2.3.3 Financial datatype semantics

Data structure of the content declaration

- ContentDeclaration:
  - [ETSI TS 102 822-3-3] clause 8.2 Declarations
- ExchangePurpose:
  - [ITU-T H.750] clause 9.1: Metadata for content provisioning
- ContentProvider:
  - [ITU-T H.750] clause 8.1: Elements for content: Name of content provider, service provider
- GeneralAVAttributes:
  - [ETSI TS 102 822-3-1] clause 6.3.5 AVAttributes
- GeneralDistributionConditions:
  - [ITU-T H.750] clause 8.1: Elements for usage restrictions, usage rule
- ContentDescription:
  - [ITU-T H.750] clause 8.1: Elements for content: Description (synopsis, abstract)
- AVAttributes:
  - [ETSI TS 102 822-3-1] clause 6.3.5 AVAttributes
- DistributionConditions:
  - [ITU-T H.750] clause 8.1: Elements for usage restrictions, usage rule
- ContentLocation:
  - [ETSI TS 102 822-3-1] clause 6.3.5 AVAttributes
- AdInsertionControlProviderURL:
  - [ITU-T H.750] clause 8.1: Elements for content: Related web site

Data structure of the of the usage log report

- ContentProviderID:
  - [ITU-T H.750] clause 8.1: Elements for content: Name of content provider, service provider
- Usage Log:
  - [ETSI TS 102 822-3-1] clause 6.5.1.1 Usage history

- PeriodStartTime:
  - [ETSI TS 102 822-5-1] clause 5.3 Time Window Start Date and Time Window End Date
- PeriodEndTime:
  - [ETSI TS 102 822-5-1] clause 5.3 Time Window Start Date and Time Window End Date
- UsageLogLocation:
  - No reference, new in ITU-T H.752

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