

Metadata 2.0 Specifications

Advertising Distribution 2.0 Specification

MD-SP-ADVS2.0-I01-070105

ISSUED

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1 SCOPE

1.1 Introduction and Purpose

This specification uses the constructs of [ADI2] to specify metadata for the distribution of one advertisement within the systems of a cable operator, or from a provider to one or more cable operators.

The information conveyed in the metadata specified here is specific to one advertisement, but does not determine in which show or shows the advertisement may appear.

Ads distributed in this fashion could be used for insertion into VOD shows, or into broadcast (linear or switched) programming.

A set of files referenced in this document contains the definition of the Reference Schema that validates XML documents that conform to this specification. In regards to this specification and the specified Reference Schema, this specification must be the Point of Authority for compliance.

1.2 Requirements

Throughout this document, the words that are used to define the significance of particular requirements are capitalized. These words are:

“MUST”	This word means that the item is an absolute requirement of this specification.
“MUST NOT”	This phrase means that the item is an absolute prohibition of this specification.
“SHOULD”	This word means that there may exist valid reasons in particular circumstances to ignore this item, but the full implications should be understood and the case carefully weighed before choosing a different course.
“SHOULD NOT”	This phrase means that there may exist valid reasons in particular circumstances when the listed behavior is acceptable or even useful, but the full implications should be understood and the case carefully weighed before implementing any behavior described with this label.
“MAY”	This word means that this item is truly optional. One vendor may choose to include the item because a particular marketplace requires it or because it enhances the product, for example; another vendor may omit the same item.

2 REFERENCES

2.1 Normative References

In order to claim compliance with this specification, it is necessary to conform to the following standards and other works as indicated, in addition to the other requirements of this specification. Notwithstanding, intellectual property rights may be required to use or implement such normative references.

- [ADI2] CableLabs ADI 2.0 Specification Asset Structure, MD-SP-ADI2.0-AS-I03-070105, January 5, 2007, Cable Television Laboratories, Inc.
- [VOD2] CableLabs Video-On-Demand Content Specification Version 2.0, MD-SP-VOD-CONTENT2.0-I02-070105, January 5, 2007, Cable Television Laboratories, Inc.
- [VOD-CEP] CableLabs Video-on-Demand Content Encoding Profiles Specification, MD-SP-VOD-CEP2.0-I02-070105, January 5, 2007, Cable Television Laboratories, Inc.

2.2 Informative References

- [ISAN] ISAN User Guide, http://www.isan.org/docs/isan_user_guide.pdf
- [Ad-ID] www.ad-id.org

2.3 Reference Acquisition

CableLabs Specifications:

- Cable Television Laboratories, Inc., 858 Coal Creek Circle, Louisville, CO 80027; Phone 303-661-9100; Fax 303-661-9199; Internet: <http://www.cablelabs.com/>

3 TERMS AND DEFINITIONS

This specification uses the following terms:

- Alpha(4)Num(16)** Format to indicate four initial alpha characters preceding 16 numeric Characters- Base 36 (A-Z, 0-9).
- Alphanumeric (5)** Five alphanumeric characters- Base 36 (A-Z,0-9. Max 5 places).
- ASCII (1-255)** One to 255 ASCII characters.
- ASCII** The subset of Unicode characters comprising U+0000 to U+007F, inclusive.
- AVC** ISO/IEC 14496-10 and ITU-T H.264 for advanced video coding (AVC).

X(1) or String (1) String of length 1 Character. Note there are some characters that may cause problems with XML parsers.

4 ABBREVIATIONS AND ACRONYMS

This specification uses the following abbreviations:

ADI	Asset Distribution Interface
Ad-ID	Advertisement Identifier: 12 Characters- 4 alpha, 8 alpha-numeric
AMS	Asset Management System
ASCII	American Standard Code for Information Interchange
CA	Content Asset
Enum	Enumerated
HD	High Definition
ISAN	International Standard Audiovisual Number
ISCI	Industry Standard Coding Identification: 8 characters- 4 alpha, 4 numeric
MD	Metadata
MPEG	Motion Picture Expert Group
MSO	Multiple System Operator
SD	Standard Definition
VOD	Video-on-Demand

5 OVERVIEW

This document specifies metadata for distributing advertisements.

6 AD DISTRIBUTION SPECIFICATION

An AdDistribution Group instance [ADI2] is composed of instances of the following Metadata Assets:

- AdInfo
- Terms
- DistributionList

The AdTerms asset may in turn reference a number of Content Assets, which are said to be associated with the Group. The Terms, DistributionList, and Content Asset of type Video are defined in [VOD2] and utilized in this specification, but some defined elements may not be used in this asset instance. These elements will be marked down as “Not used for Ads” in the definition field.

A complete AdDistribution MUST at a minimum contain an instance of an AdInfo Asset and AdTerms Asset.

6.1 Common Elements and Attributes

A number of elements and attributes are used repeatedly in this document. Some of these common elements are initially described in [ADI2] and are reproduced here for clarification and understanding of the specification; the authoritative source for these elements or attributes is [ADI2]. Common elements and attributes used repeatedly throughout this document are:

Table 1 - Common Asset Element Fields

Element	Attribute	Definition	Values
[ElementName]		The specific element name, e.g., AdInfo, TargetFileSet, ...	ASCII, UpperCamelCase, initial Alpha
	providerID	A unique identifier for the provider of the Asset. The providerID must be set to a registered Internet domain name restricted to at most 20 lower-case characters and belonging to the provider. For example, a valid providerID for CableLabs is "cablelabs-films.com" (19 chars).	ASCII X(1-20)
	assetID	An identifier for the asset that is unique within a provider's assetID space. The unique global identifier of an asset is the combination of its providerID and assetID.	ASCII String of 20 characters. Alpha(4)Num(16)
	updateNum	Update sequence number for asset replacement.	Numeric
	groupAsset	Optional element that defines an asset as a group asset.	String "Y" or "N"
AssetLifetime (Child of Asset element)		Defines the temporal context for a given asset.	
	startDateTime	Date and time when the Asset begins its life.	DateTime
	endDateTime	Date and time when the Asset ends its life.	DateTime
ContentRef		A Reference to one Content Asset. Each ContentRef must provide a providerID/AssetID, but other attributes are optional and dependent upon type of asset.	ASCII, UpperCamelCase, initial Alpha
	providerID	The providerID of a content asset.	The domain name of a provider: e.g., "cablelabsfilms.com" ASCII X(1-20)

Element	Attribute	Definition	Values
	assetID	The assetID of the content asset.	ASCII String of 20 characters. Alpha(4)Num(16)
	start_npt	Not used for Ads.	
	end_npt	Not used for Ads.	
	amsValidate	If true, this reference should be validated by an AMS.	"Y" or "N"; X(1)
	resumeView Allowed	Not used for Ads.	
	trickModes Restricted		"Y" or "N", X(1)

6.2 AdDistribution Group Asset

The AdDistribution Group Asset is the logical owner of the various metadata assets comprising the distribution of an ad. In accordance with [ADI2], the lifetime of the AdDistribution Group Asset supersedes lifetimes of any of its member metadata assets (e.g., AdInfo).

Table 2 - AdDistribution Group Asset

Element	Attribute	Definition	Values
AdDistribution		The Group organizing asset for all VOD-related metadata and content assets for one release.	
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
	groupAsset	(common)	"Y"; X(1)
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	

```

...
<OpenGroupAsset type="AdDistribution" product="Ads">
  <AdDistribution>
    providerID="modernista.com"
    assetID="MSTA2006023500001254"
    updateNum="1"
    groupAsset="Y">
  <AssetLifetime
    startDateTime="2007-04-21T00:00:00"
    endDateTime="2007-06-15T00:00:00"/>
  </AdDistribution>
  //... other data
</OpenGroupAsset>
...

```

6.3 AdInfo Asset

This asset is analogous to the TitleAsset of a VOD2 Release.

Table 3 - AdInfo Asset

Element	Attribute	Definition	Values
AdInfo			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
Description			X(1-256)
<i>Client</i>		Name of the client.	X(1-32)
<i>AgencyCode</i>		The 4-character standard agency code.	X(4)
<i>ISCI</i>		Industry Standard Coding Identification [Ad-ID].	Alpha(4) Num(4)
<i>AdID</i>		Advertising Digital Identification [Ad-ID].	Alpha(4)Alphanumeric(8)
<i>ISAN</i>		ISAN identifier [ISAN]. e.g., "1881-66C7-3420-0000-7" (no versioning) or "1881-66C7-3420-0000-7-9F3A-0245-U" (with versioning).	X(21) – human readable format without versioning, or X(33) – human readable format with versioning

6.4 Terms Asset

The Terms Asset references the content assets necessary to show all the available variants of a particular ad. The definition is the same as the VOD2 Terms Asset ([VOD2], section 6.5); however, some of the data are not relevant to distributing advertisements.

There are at most two active Terms instances, one for the HD presentation of an ad, and one for SD. Within one Terms instance, there may be references to many content assets. These are partitioned first by the type of encoding (<TargetFileSet type=>), then by the audio and subtitle languages available for that encoding (<LanguageSet>).

Advertisers may have business reasons for restricting the copying of advertisements; if there is no <CopyPrivileges>, then the behavior for this ad is "Copy Never".

Table 4 - Terms Asset Metadata

Element	Attribute	Definition	Possible Values
Terms		The asset dictating the subscriber lease terms.	
	format	High Definition or Standard Definition.	"HD", "SD"; Enum value
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
<i>PreviewPeriod</i>		Not used for Ads.	
<i>RentalPeriod</i>		Not used for Ads.	
<i>Suggested Price</i>		Not used for Ads.	
<i>BillingID</i>		Not used for Ads.	
<i>Distributor Name</i>		Not used for Ads.	
<i>Distributor RoyaltyPercent</i>		Not used for Ads.	
<i>Distributor Royalty Minimum</i>		Not used for Ads.	
<i>CopyPrivileges</i>		See section "Copy Privileges Element".	
<i>CopyProtection</i>		CCI indicator for the content. See section on "CopyProtection".	String "Y" or "N"; X(1)
	verbose	If "Y" asserted, all four (APS, EMI, CIT, and CGMS/A) copy protection fields MUST be included in the content metadata. See table Copy Protection.	String "Y" or "N"; X(1)
TargetFileSet		See section "TargetFileSet Element".	There may be more than one

6.4.1 CopyPrivileges Element

The <CopyPrivileges> element MUST be present to enable any copy privilege, i.e., if this element is absent, then no copies are allowed.

Table 5 - CopyPrivileges Element

Element	Attribute	Definition	Possible Values
CopyPrivileges			
<i>CopyFreely</i>		The suggested additional price for Copy Freely Privileges: for Ads this MUST be zero. Maximum of 3 digits to right of decimal allowed.	Decimal Number
	currency	currency code.	
<i>CopyOnce</i>		Not used for Ads.	

6.4.2 CopyProtection Element

This is identical to ([VOD2], section 6.5).

6.4.3 TargetFileSet Element

The TargetFileSet element is the envelope for references to all the CA segments with a particular encoding profile that are used for the ad. Within a TargetFileSet, there MAY be one or more LanguageSet elements. A LanguageSet is the envelope for all the CA Segments, one per ShowPart, that have the same set of audio and subtitle languages. For ad distribution there is only one ShowPart.

The TargetFileSet element contains data values specific to its type and MUST contain at a minimum, the required fields, identified by non-italic text in the Element and/or Attribute column, as defined in Table 6.

Table 6 - TargetFileSet Element

Element	Attribute	Definition	Possible Values
TargetFileSet			
	type	specifies the kind of encoding profile.	Enum value; "MPEG2SD", "MPEG2HD", "AVC4SD" [TBD], "AVC4HD" [TBD]
LanguageSet			
	audio	semi-colon separated list of language codes [VOD2], section 6.5.3.	FR, EN, ...
	subtitle	semi-colon separated list of subtitles codes [VOD2], section 6.5.3.	DE, IT, ...
ShowPart		(child of LanguageSet) The subordinate ContentRef provides the ad.	
	partNbr	count of ShowParts. Must be "1" for an ad.	Positive Integer, Num(2)
	<i>essential</i>	Nor used for ads.	
ContentRef		(child of ShowPart). See prior section "Common Elements and Attributes".	One instance

Suppose an ad is being distributed in SD only:

There is **one** active Terms Asset.

The ad is distributed with encodings for MPEG2 and AVC video decoders.

Within the Terms Asset, there are **two** TargetFileSet elements.

The ad is distributed with English/Spanish, and English/Hindi audio tracks.

Within the H_264 TargetFileSetElement, there are **two** LanguageSet elements.

Within each of the LanguageSet elements, there is one ShowPart.

Within one ShowPart, there is one ContentRef, which identifies the segment that contains the variant of the ad satisfying the particular combination of encoding/languages.

6.5 DistributionList Asset

The DistributionList ([VOD2], section 6.7) defines the geographical areas in which the ad is to be available. This data is specific to one cable operator, identified by attribute “mso”. The designated cable operator SHOULD be the only one to receive the DistributionList asset.

The DistributionList element contains one or more Market elements. The value of this element is a string that MAY include a "/" character as a part separator. The optional *code* attribute contains an MSO-specific value as an alternate identifier of the market.

Table 7 - DistributionList Asset

Element	Attribute	Definition	Values
DistributionList			
	mso	Targeted MSO for the distribution list.	X(1-20)
	scope	Ads are propagated only as specified.	"Restricted"
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
Market		MSO-specific values.	X(1-32)
	<i>code</i>	Alternate identifier of a Market.	X(1-5)

```
...
<DistributionList
  mso="Comcast"
  scope="Restricted"
  providerID=" modernista.com "
  asset_ID=" MSTA2006023500001255"
  updateNum="1 >
  <AssetLifetime
    startDateTime="2007-04-21T00:00:00"
    endDateTime="2007-06-15T00:00:00"/>
  <Market code= "524">ATLANTA/North</Market>
  <Market code="506">BOSTON/Maynard</Market>
</DistributionList>
```

7 AD CONTENT ASSETS

Ad CAs are of type video ([VOD2], section 7.1). Additional optional attributes for "AdID" (12 characters- 4 alpha, 8 alpha-numeric) and "ISCI" (8 characters- 4 alpha, 4 numeric) are required.

Business practices with regard to the use of AdID identifiers are not established in the industry. If an AdID is to be regarded as identifying "an ad", then the same AdID value should be associated with every CA that provides "the ad". Alternatively, if it is intended to identify a particular variant, then each CA used for "the ad" should be associated with a different AdID.