

Metadata 2.0 Specifications

Video-On-Demand Content Specification Version 2.0

MD-SP-VOD-CONTENT2.0-I02-070105

ISSUED

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- Work in Progress** An incomplete document, designed to guide discussion and generate feedback, that may include several alternative requirements for consideration.
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1 SCOPE

1.1 Introduction and Purpose

This specification uses the constructs of the CableLabs ADI 2.0 Specification Asset Structure [ADI2] to specify metadata for the distribution of a Video-On-Demand show from a Provider to one or more cable operators.

A set of files referenced in this document contains the definition of the VOD2 Reference Schema that validates XML documents that conform to this specification. In regards to this specification and the VOD2 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] MD-SP-ADI2.0-AS-I03-070105, CableLabs ADI 2.0 Specification Asset Structure, January 5, 2007, Cable Television Laboratories, Inc.
- [VOD1.1] MD-SP-VOD-CONTENT1.1-I05-060831, CableLabs Video-On-Demand Content Specification Version 1.1, Annex A–Ratings and Advisories, August 31, 2006, Cable Television Laboratories, Inc.
- [VOD-CEP] MD-SP-VOD-CEP2.0-I02-070105 CableLabs Video-On-Demand Content Encoding Profiles Specification, January 5, 2007, Cable Television Laboratories, Inc.
- [XML] W3C REC: eXtensible Markup Language (XML) 1.1, February 4, 2004.
- [XML DATE/TIME] The date and time representation specified in XML Schema Part 2: Datatypes, October 28, 2004, World Wide Web Consortium, <http://www.w3.org/TR/xmlschema-2/#dateTime>
- [RFC 3066] IETF RFC 3066, Tags for the identification of Languages, January 2001, Internet Engineering Task Force.
- [RFC 3629] IETF RFC 3629 UTF-8 A Transformation Format of ISO 10646, November 2003, Internet Engineering Task Force.
- [MPEG2-PT1] ISO/IEC 13818-1, Information Technology-Generic Coding of Moving Pictures and Associated Audio Information: Systems.
- [ISO4217] ISO 4217:2001, Codes for the representation of currencies and funds, International Organization for Standardization.
- [ISO639-2] ISO 639-2, Codes for the Representation of Names of Languages-Part 2: Alpha-3 Code, International Organization for Standardization.
- [ISO3166-1] Alpha-2 code Elements - English - Country Names and Code Elements, International Organization for Standardization.

2.2 Informative References

This specification uses the following informative references.

- [ISAN] ISAN User Guide, http://www.isan.org/docs/isan_user_guide.pdf
- [MPEG2-PT6] ISO/IEC 13818-6: 1998(E) Information Technology- generic Coding of Moving Pictures and Associated Audio Information – Part 6: Extensions for DSM-CC.
- [GENRES] Genres list can be found at: <http://www.cablelabs.com/projects/metadata/>
- [ISRC] International Standard Recording Code (ISRC) FAQ: http://www.riaa.com/issues/audio/isrc_faq.asp
- [VOD-SCHEMA] VOD schemas can be found at: <http://www.cablelabs.com/projects/metadata/specifications/specifications20.html>
- [STUDIO] Studio list can be found at: <http://www.cablelabs.com/projects/metadata/>

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/>

IETF Specifications:

- Internet Engineering Task Force (IETF) Secretariat, c/o Corporation for National Research Initiatives, 1895 Preston White Drive, Suite 100, Reston, VA 20191-5434, Phone 703-620-8990, Fax 703-620-9071, Internet: www.ietf.org

ISO Specifications:

- ISO Central Secretariat: International Organization for Standardization (ISO), 1, rue de Varembe, Case postale 56, CH-1211 Geneva 20, Switzerland; Internet: <http://www.iso.ch/>

WC3 Specifications:

- XML Specifications: Worldwide Web Consortium, <http://www.w3c.org>

3 TERMS AND DEFINITIONS

This specification uses the following terms:

Alpha(4)Num(16)	Format to indicate 4 initial alpha characters preceding 16 numeric characters- Base 36 (A-Z, 0-9).
Alphanumeric(5)	5 alphanumeric characters- Base 36 (A-Z,0-9. Max 5 places).
ASCII (1-255)	1 to 255 ASCII characters.
ASCII	The subset of Unicode characters comprising U+0000 to U+007F, inclusive.
Decimal	A number in the base-ten numeral system. These digits are often used with a decimal separator that indicates the start of a fractional part (digits to the right of decimal separator). Unless otherwise noted, this is a positive number.
Hexadecimal (32)	32 Hexadecimal characters.
Numeric (64 bits)	Extended numeric format to allow for very large numbers whose value range can be represented by 64 bits.
Numeric(long)	Extended numeric format to allow for very large numbers whose value range can be represented by value range indicate by type long.
OS Independent Filename	For specification only -definition of filename is unrestricted, as filename sizes continue to expand. There is a reasonable expected size of no greater than 128-byte name, but documents containing filenames greater than 128 bytes are valid. Valid characters are uppercase and lowercase letters, digits, the underscore (_), the hyphen (-), and the period (.).
Provider	A Party responsible for allocating asset identifiers.
String(1) or X(1)	String of length 1. Note there are some characters that may cause problems with XML parsers.
UpperCamelCase	Format to read a small group of words without using spaces. e.g., "read this one" becomes "ReadThisOne".
X(1-25)	Format to indicate string of 1-25 characters. Note there are some characters that may cause problems with XML parsers.
XML Date Time	The date and time representation specified in XML Schema Part 2: Datatypes, http://www.w3.org/TR/xmlschema-2/#dateTime .

4 ABBREVIATIONS AND ACRONYMS

This specification uses the following abbreviations:

AMS	Asset Management System
APS	Analog Protection System
BOS	Beginning of Stream
CA	Content Asset
CGMS_A	Copy Generation Management System - Analog
CIT	Constrained Image Trigger
CMYK	Cyan, Magenta, Yellow, Key
EMI	Encryption Mode Indicator
ENUM	Enumerated
EOS	End of Stream
EPG	Electronic Program Guide
FF	Fast Forward
GA	Group Asset
HD	High Definition
ID	Identifier
ISRC	International Standard Recording Code
MA	Metadata Asset
MD	Metadata
MPAA	Motion Picture Association of America
MSO	Multiple System Operator
NPT	Normal Playback Time
PID	Packet Identifier
RGB	Red, Green, Blue
RIAA	Recording Industry Association of America

RW	Rewind
SD	Standard Definition
STB	Set Top Box
SVOD	Subscription Video-on-Demand
TBD	To Be Determined
TMS	Tribune Media Systems
TV	Television
TVG	TV Guide
UI	User Interface
URI	Uniform Resource Identifier
URL	Uniform Resource Locator
VOD	Video-on-Demand
XML	Extensible Markup Language

5 OVERVIEW

This specification defines the Group, Metadata and Content Assets that are used to distribute a single-title VOD release from a Provider to a number of cable operators. It conforms to the ADI 2.0 Platform specification [ADI2].

The term "single title" means that a subscriber selects a single "show" to watch. The "show" could in fact be a movie double feature, or a sequence of "hockey highlights".

6 VOD2 SPECIFICATION

A VODRelease Group instance [ADI2] comprises instances of the following Metadata Assets:

- Title
- Terms
- ChapterList
- DistributionList
- ProviderContentTierList
- CategoryPath
- Preview
- Poster

These MAs may in turn reference a number of Content Assets, which are said to be associated with the Group.

The MAs and CAs are defined in tabular form. Where an element name or attribute name is in *italics*, that element or attribute is optional. Where an element name or attribute name is in normal, or a non-*italic* font format, that element or attribute **MUST** be present. Unless mentioned differently elements and attributes instances occurs at most once. Elements or attributes are all one word names, but in tabular form the word may be wider in length than the column and split into a second line at a point to allow for easier readability (e.g., it is ChapterListImage not ChapterList Image).

A complete VODRelease must at a minimum contain an instance of a Title Asset, Terms Asset, and a CategoryPath Asset.

6.1 XML Usage

See Annex A for the representation of intervals of time, the use of currency codes, and metadata in multiple languages.

6.2 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 and at a minimum **MUST** include all required fields. A required field can be identified by non-italic text in the Element and/ or Attribute column in Table 1.

Table 1 - Common Asset Element Fields

Element	Attribute	Definition	Values
[ElementName]		The specific element name, e.g., Title, Movie, Posterboard, Category...	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.	[XML] Date Time
	endDateTime	Date and time when the Asset ends its life.	[XML] Date Time
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)
	assetID	The assetID of the content asset.	ASCII String of 20 characters. Alpha(4)Num(16)
	start	Time, which is the same precision as NPT value in milliseconds, that specifies the start point within the content file. The token "BOS" signifies "beginning of stream" and is equivalent to NPT=0. Default value is "BOS". Both start and end attributes MUST be present, or neither. Used for video or audio assets.	Integer, or "BOS"; NUM(long) or ENUM value

Element	Attribute	Definition	Values
	<i>end</i>	Time, which is the same precision as NPT value, in milliseconds, that specifies the end point within the content file. The token "EOS" signifies "end of stream" and is equivalent to final NPT value of file. Default value is "EOS". Both <i>start</i> and <i>end</i> attributes MUST be present, or neither. Used for video or audio assets.	Integer, or "EOS"; NUM(long) or ENUM value
	<i>amsValidate</i>	If true, this reference should be validated by an AMS.	"Y" or "N"; X(1)
	<i>resumeView Allowed</i>	A flag indicating that the content asset can be resumed, at a later time. If this element is not present, the default behavior is to allow resumes. Used for video or audio assets	"Y" or "N"; X(1)
	<i>trickModes Restricted</i>	Single string comma separated list of restricted trick modes. An enumeration indicating that the referenced content asset may have restricted on trick modes (fast forward/rewind, etc.) and in the event it does, these are what is restricted. Used for video or audio assets.	"FF, RW, Pause"; ENUM string list

The definition and values of these **common** elements and attributes will not be repeated in subsequent tables.

6.3 VODRelease Group Asset

The VODRelease Group Asset is the logical owner of the various MD assets comprising the distribution of a VOD show. In accordance with [ADI2], the lifetime of the VODRelease Group Asset supersedes lifetimes of any of its member metadata assets (e.g., Title).

A VODRelease group 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 2.

Table 2 - VODRelease Group Asset

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

Example:

```

...
<adi:OpenGroupAsset type="VODRelease" product="VOD">
  <vod:VODRelease providerID="indemand.com" assetID="INDR000000000037000" updateNum="1"
groupAsset="Y">
  <adi:AssetLifetime startDateTime="2006-02-09T12:00:00" endDateTime="2007-03-09T12:00:00"/>
  </vod:VODRelease>
</adi:OpenGroupAsset>
...

```

6.4 Title Asset

In one VODRelease Group, there SHOULD be at most one active Title asset. The Title Asset contains data primarily used by the UI of a STB.

A Title Asset 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 3.

Table 3 - Title Asset Metadata

Element	Attribute	Definition	Possible Values
Title			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
<i>TitleCross Reference</i>		This is intended to identify an equivalent show distributed using ADI 1.1.	
	providerID	(common)	
	assetID	(common)	
Provider		A unique identifier for the provider of the show- represents the business relationship between the MSO and the show owner. This element occurs once	X(1-32)
<i>Provider Reference</i>		Additional identifier that may be of use in reporting.	X(1-20)
ISAN		See [ISAN]. This can be different than CA ISAN. e.g., "1881-66C7-3420-0000-7" or "1881-66C7-3420-0000-7-9F3A-0245-U" (with Versioning)	X(21) or X(33) with Version Suffix
TitleFull		Feature title (for display).	X(1-128)
TitleBrief		A brief version of the feature title (for display) that is up to a maximum length of 19 chars. All UIs SHOULD be able to support display of this field.	X(1-19)
<i>TitleDisplay</i>		An alternate display version from TitleBrief for those UIs that can support longer fields than 19 Characters	X(1-128), zero or more elements

Element	Attribute	Definition	Possible Values
	maxLength	Indicates the maximum length that the UI should support	Positive Integer value up to 128 Num(3)
<i>TitleSortable</i>		A sortable version of the feature title, e.g., "Incredibles, The" separated by commas.	X (1-32)
<i>ShowType</i>		Indicate usage of the release. See suggestions in [GENRES]	ENUM values: "Series", "Miniseries", "Movie", "Sports", "Ad", "Music", "OTHER"
<i>EpisodeName</i>		The name of an individual episode of a series, e.g., "Rosebud".	X(1-128)
<i>EpisodeID</i>		A unique identifier given to each individual episode of a series, e.g., "#59- Homer's New Job".	X(1-32)
<i>TVIdentifier</i>		Identifies existing linear TV IDs.	Zero or more elements
	authority	Source of TVIdentifier.	TVG,TMS
	<i>seriesID</i>	ID value; only 1 ID attribute to be used with an authority.	X(1-16)
	<i>programID</i>	ID Value; only 1 ID attribute to be used with an authority.	X(1-16)
<i>AdAllowed</i>		Indicates that other Ads are allowed to be placed with the VOD Show.	"Y" or "N", X(1)
<i>SummaryLong</i>		The title description – multi-paragraph.	X(1-1024)
	<i>cast</i>	Flag to indicate if cast is or is not included in summary description	"Y" or "N", X(1)
<i>SummaryMedium</i>		The title description -one paragraph, could be used as description in EPG.	X(1-256)
	<i>cast</i>	Flag to indicate if cast is or is not included in summary description.	"Y" or "N", X(1)
<i>SummaryShort</i>		The title description – sentence.	X(1-64)
	<i>cast</i>	Flag to indicate if cast is or is not included in summary description	"Y" or "N", X(1)
<i>Rating</i>		See section "Rating Element".	one to many Elements
<i>ReviewRating</i>		See section "Review Rating".	zero or more elements
<i>Review</i>		See section "Review".	zero or more elements
<i>Audience</i>		Indicates target audience. See [VOD1.1] A.6	X(1-16), one string per element, at most 6 elements
<i>RunTime</i>		The run time of the show. It is precise time to be used for calculation purposes if needed.	hh:mm:ss format; [XML] Time
<i>DisplayRunTime</i>		The run time of the show, for display.	hh:mm format. ; [XML] Time
<i>Year</i>		The year of release (Gregorian calendar). e.g., "2005"	YYYY format
<i>CountryOfOrigin</i>		The country from where the title originates, e.g., "US" for United States [ISO3166-1].	X(2)

Element	Attribute	Definition	Possible Values
<i>Actor</i>		See section "PersonName"	at most 10 elements
<i>ActorsDisplay</i>		A human-readable string of actors (for display).	X(1-128)
<i>Director</i>		See section "PersonName"	at most 4 elements
<i>Producer</i>		See section "PersonName"	At most 4 elements.
<i>StudioDisplay</i>		The studio name, for display e.g., "Mega Films".	X(1-32)
<i>StudioName</i>		The studio name.	X(1-64)
	<i>studioCode</i>	A code utilized for billing purposes, typically three digits [STUDIO].	X(1-8)
<i>Display Indicators</i>		Indicators that MAY affect UI display.	"CC":Closed Captioning "F": Season Finale "P": Season Premiere "DD": Dolby "SAP" Second Audio Programming Maximum occurrences is equal to the number of distinct values for the element.
<i>DaysDisplayAs New</i>		The number of days from the start of the Title asset lifetime that this show should be categorized as "new".	Positive Integer value Num(2)
<i>DaysDisplayAs LastChance</i>		The number of days from the end of the Title asset lifetime that this asset should be categorized as "last chance".	Positive Integer value Num(2)
<i>Genre</i>		Subject-matter classification of the show.	X(1-32), at most 5 elements in descending order of rank.
<i>BoxOffice</i>		Box office revenue in millions.	Decimal Value
	<i>currency</i>	Currency code	X (3) See A.3, "Currency Attribute"

Example:

...

```

<vod:Title providerID="indemand.com" updateNum="1" assetID="INTL0206000000037955" >
  <adi:AssetLifetime startDateTime="2006-05-01T12:00:00" endDateTime="2007-06-01T12:00:00"/>
  <vod:TitleCrossReference providerID="indemand.com" assetID="INTL0206110000037954"
amsValidate="false"/>
  <vod:Provider>iN_DEMAND</vod:Provider>
  <vod:ProviderReference>iN_DEMAND</vod:ProviderReference>
  <vod:ISAN>1881-66C7-3420-0000-7</vod:ISAN>
  <vod:TitleFull>Serenity</vod:TitleFull>
  <vod:TitleBrief>Serenity</vod:TitleBrief>
  <vod:TitleDisplay maxLength="8">Serenity</vod:TitleDisplay>
  <vod:TitleSortable>Serenity</vod:TitleSortable>

```

```

<vod:ShowType>movie</vod:ShowType>
<vod:TVIDentifier authority="TMS" programID="MV46407980000"/>
<vod:AdAllowed>Y</vod:AdAllowed>
<vod:SummaryLong cast="Y">Serenity (2005): A crew hiding a fugitive on their ship find
themselves in a battle between a totalitarian regime and bloodthirsty creatures. But, the greatest danger may be on
their ship! Nathan Fillion, Gina Torres.</vod:SummaryLong>
<vod:SummaryMedium cast="Y">A crew hiding a fugitive on their ship find themselves in a battle
between a totalitarian regime and bloodthirsty creatures. But, the greatest danger may be on their ship! Nathan
Fillion, Gina Torres.</vod:SummaryMedium>
<vod:SummaryShort cast="N">A crew in a battle with a totalitarian regime</vod:SummaryShort>
<vod:Rating authority="MPAA">PG-13</vod:Rating>
<vod:Rating labels="D;S;V" viewerAdvisories="V;AC;SC" authority="MSO">TV-
MA</vod:Rating>
<vod:ReviewRating measure="Stars" source="metromix.com: Chicago Tribune"
possible="4">3.5</vod:ReviewRating>
<vod:Review author="John Doe" source="metromix.com: Chicago Tribune">With "Serenity,"
Whedon has his cake and eats it too—wrapping up most of the major plots and themes of "Firefly," while leaving
the door open (just a crack) for a new series—maybe even another film. This second chance deserves a
third.</vod:Review>
<vod:Review author="Les Wright" source="culturevuture.net">A visually captivating, and darkly
mirthful Robert Heinleinesque episodic trial of picaresque delights.</vod:Review>
<vod:Audience>Adult</vod:Audience>
<vod:Audience>Mature</vod:Audience>
<vod:RunTime>7259</vod:RunTime>
<vod:DisplayRunTime>01:59</vod:DisplayRunTime>
<vod:Year>2005</vod:Year>
<vod:CountryOfOrigin>USA</vod:CountryOfOrigin>
<vod:Actor>
<vod:LastNameFirst>Fillion, Nathan</vod:LastNameFirst>
<vod:LastName>Fillion</vod:LastName>
<vod:FirstName>Nathan</vod:FirstName>
</vod:Actor>
<vod:Actor>
<vod:LastNameFirst>Torres, Gina</vod:LastNameFirst>
<vod:LastName>Torres</vod:LastName>
<vod:FirstName>Gina</vod:FirstName>
</vod:Actor>
<vod:ActorsDisplay>Capt. Malcolm "Mal" Reynolds - Nathan Fillion, Zoe - Gina Torres, Hoban
"Wash" Washburn - Alan Tudyk</vod:ActorsDisplay>
<vod:Director>
<vod:LastNameFirst>Whedon, Joss</vod:LastNameFirst>
<vod:LastName>Whedon</vod:LastName>
<vod:FirstName>Joss</vod:FirstName>
</vod:Director>
<vod:Producer>
<vod:LastNameFirst>Mendel, Barry</vod:LastNameFirst>
<vod:LastName>Mendel</vod:LastName>
<vod:FirstName>Barry</vod:FirstName>
</vod:Producer>
<vod:Producer>
<vod:LastNameFirst>Lester, David</vod:LastNameFirst>
<vod:LastName>Lester</vod:LastName>
<vod:FirstName>David</vod:FirstName>
</vod:Producer>
<vod:StudioDisplay>Universal Studios</vod:StudioDisplay>

```

```

<vod:StudioName studioCode="UST">Universal Studios</vod:StudioName>
<vod:DisplayIndicators>CC</vod:DisplayIndicators>
<vod:DisplayIndicators>SAP</vod:DisplayIndicators>
<vod:DaysDisplayAsNew>7</vod:DaysDisplayAsNew>
<vod:DaysDisplayAsLastChance>7</vod:DaysDisplayAsLastChance>
<vod:Genre>SCI-FI</vod:Genre>
<vod:Genre>Thriller</vod:Genre>
<vod:BoxOffice>38847062</vod:BoxOffice>
</vod:Title>
...

```

6.4.1 Genre Element

The Genre element is the subject matter classification of the show. Since shows could be classified in more than one way, the genre element has a primary value, but also has secondary, and tertiary values up to 5 element instances that can be used as alternate classifications or further description of the show. The order of the genre element instances determines if it is primary, secondary, tertiary, etc. Suggested values for genres can be gotten from [GENRES]. Values of genres are case-insensitive. Primary genres may be displayable.

Example 1:

```

<vod:Genre>Comedy</vod:Genre> //First one is primary
<vod:Genre>horror</vod:Genre> //Second one is secondary
<vod:Genre>Documentary</vod:Genre> //Third one is tertiary

```

6.4.2 Rating Element

The rating element denotes the rating from an authority such as MPAA, TV, others as denoted in [VOD1.1], Annex A. There can be multiple ratings with different authorities.

Example 1:

```

<vod:Rating authority="TV" labels="D;S;L;V"/>TV-MA</vod:Rating>

```

Table 4 - Rating Element

Element	Attribute	Definition	Values
Rating		Rating values.	See [VOD1.1], A; X(1-16)
	authority	The source of the rating.	TV, MPAA, MSO,RIAA Other; X(1-16)
	labels	Extension of "TV" rating. A semicolon-separated list of values.	See [VOD1.1], A.2, X(1-16)
	viewer Advisories	Advisories, as used by Cinemax, HBO, The Movie Channel and Showtime. A semicolon-separated list of values	See [VOD1.1], A.4, X(1-16)

6.4.3 ReviewRating Element

The ReviewRating Element denotes the value and measure of a rating awarded to a title, typically for use in the display.

Example 1:

```

<vod:ReviewRating source="TVGuide" measure="Stars" possible="4">3.5</vod:ReviewRating>

```

Example 2:

```
<vod:ReviewRating source="Ebert & Roeper" measure="Thumbs"
possible="2">1</vod:ReviewRating>
```

Table 5 - ReviewRating Element

Element	Attribute	Definition	Values
ReviewRating		The number of stars received by the title. MUST be equal to or less than "possible".	Decimal number
	source	The source of the rating.	"TMS", "New York Times", others; X(1-32)
	measure	The scoring unit used for the rating.	"Thumbs", "Stars, Points", others; X(1-32)
	possible	The total number of stars possible to receive.	Decimal number

6.4.4 Review Element

The Review Element provides editorial commentary about a Title.

Example 1:

```
<vod:Review source="Variety">Its unwieldy title notwithstanding, "Zathura: A Space
Adventure" is arguably the best adaptation of a Chris Van Allsburg book to date. A
visually resplendent adventure about two brothers and an enchanted board game that
beams them into outer space, Sony's unofficial follow-up to its 1995 hit "Jumanji"
benefits from helmer Jon Favreau's amiably low-key sense of humor and assured handling
of well-trod emotional territory. Absent the star power of a Robin Williams or a
"Jumanji"-sized marketing push, pricey pic looks to draw midrange rather than
astronomical numbers, with better prospects in ancillary. - Justin Chang</vod:Review>
```

Table 6 - Review Element

Element	Attribute	Definition	Values
Review		The content of a written review.	CDATA, X(1-1024)
	source	The publication source of the review.	"TMS", "New York Times", "Variety", others.; X(1-32)
	author	Person who wrote the review.	X(1-32)

6.4.5 PersonName

The PersonName construct is applicable to Directors, Actors, and Producers in the TitleAsset and other elements that MAY be assigned to PersonName. The PersonName construct separates out the traditional format of lastName, firstName (i.e., "Montalban, Ricardo") from lastName separately from firstName. firstName and lastName can be used by any specified language characters, whereas the lastNameFirst element MUST use ASCII. For one-name individuals, the name is assigned to the lastName with firstName optional left out.

Example 1:

```
<vod:Actor>
  <vod:LastNameFirst>Montalban, Ricardo</vod:LastNameFirst>
```

```

    <vod:LastName>Montalban</vod:LastName>
    <vod:FirstName>Ricardo</vod:FirstName>
</vod:Actor>

```

Table 7 - Actor, Director, or Producer Element

Element	Attribute	Definition	Values
Actor/Director/Producer		The occurrence of an Actor, Director, or Producer to be listed	
LastNameFirst (child of PersonName element)		The traditional listing of LastName, FirstName [Middle Initial]. Example: Montalban, Ricardo.	ASCII (1-32) [lIlIlIl, fffff]
LastName (child of PersonName element)		The Last name of the person	X(1-32)
<i>FirstName</i> (child of PersonName Element)		The First name of the person	X(1-32)

6.5 Terms Asset

The Terms Asset includes rental period and price, and references the content assets necessary to provide the user experience. There SHOULD be at most two active Terms instances, one for the HD presentation of a show, and one for SD. If there are multiple active Terms instances overlapping for a particular format because of distribution circumstances, the valid active terms asset for that format is the terms asset with the latest start date.

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>).

The example exhibits a Terms asset for the release of a movie double feature. Once format, codec, and language set are fixed, there are two content asset references, one for each of the movies.

For a given format, there may be surcharges reflecting different levels of copy privileges. Thus an SVOD show will not have a <SuggestedPrice>, but may nevertheless have a billable amount if a copy privilege is exercised. The surcharge value should "0.00" if there is no charge incurred to exercise the copy privilege.

If there is no <CopyPrivileges>, then the behavior for this show is "Copy Never".

The Terms Asset 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 8.

Table 8 - 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>		The number of seconds into the show before a billing event is issued.	Positive Integer value, in seconds, Num(3)
<i>RentalPeriod</i>		Duration of time defining the amount of time a title can be made available once selected for lease by a subscriber.	dd:hh:mm time format; [[XML] Time]
<i>Suggested Price</i>		The suggested price. If not present then price defaults to 0.00.	Decimal number. Maximum of 3 digits to right of decimal allowed.
	<i>currency</i>	Currency code.	X(3), See A.3, "Currency Attribute"
<i>BillingID</i>		The 5-char alphanumeric value used for royalty reporting. Only for "Transactional" pay-to-watch shows.	Alphanumeric(5)
<i>Distributor Name</i>		The name of the distributor (for reporting).	X(1-32)
<i>Distributor RoyaltyPercent</i>		Percentage split of the royalty over the minimum that goes to the Distributor (e.g., InDemand). e.g., "52.50"	Decimal number Maximum of 2 digits right of decimal allowed.
<i>Distributor Royalty Minimum</i>		Minimum royalty in currency that goes to the Distributor (e.g., InDemand). e.g., "1.995"	Decimal number Maximum of 3 digits right of decimal allowed.
	<i>currency</i>	Currency code.	X(3), See A.3, "Currency Attribute"
<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".	one or more elements

Example:

...

```

<vod:Terms format="SD" providerID="hbo.com" updateNum="1" assetID="TITL000000000001355" >
  <adi:AssetLifetime startDateTime="2006-05-01T12:00:00" endDateTime="2006-06-
01T23:59:59"/>
  <vod:PreviewPeriod>30</vod:PreviewPeriod>
  <vod:RentalPeriod>10:00:00</vod:RentalPeriod>
  <vod:SuggestedPrice currency="USD">0.00</vod:SuggestedPrice>
  <vod:BillingID>04297</vod:BillingID>
  <vod:DistributorName>Columbia TriStar</vod:DistributorName>
  <vod:DistributorRoyaltyPercentage>25.00</vod:DistributorRoyaltyPercentage>
  <vod:DistributorRoyaltyMinimum currency="USA">3.00</vod:DistributorRoyaltyMinimum>
  <vod:CopyPrivileges>
    <vod:CopyFreely currency="USD">25.00</vod:CopyFreely>
    <vod:CopyOnce currency="USD">9.99</vod:CopyOnce>
  </vod:CopyPrivileges>
  <vod:CopyProtection verbose="Y">
  <vod:AnalogProtectionSystem>2_AGC_Process_On_2_Line_Split_Burst_On</vod:AnalogProtectionSystem
>
    <vod:EncryptionModeIndicator>0_Copying_Is_Permitted</vod:EncryptionModeIndicator>

  <vod:ConstrainedImageTrigger>1_Image_Constraint_Required</vod:ConstrainedImageTrigger>
    <vod:CGMS_A>3_No_Copying_Is_Permitted</vod:CGMS_A>
  </vod:CopyProtection>
  <vod:TargetFileSet type="MPEG2SD">
    <!-- French & English language set -->
    <vod:LanguageSet subtitle="fr;en" audio="fr;en">
      <vod:ShowPart essential="Y" partNbr="1">
        <vod:ContentRef providerID="hbo.com" resumeViewAllowed="Y" start="BOS"
assetID="HBOD1000000000001355" amsValidate="false" end="EOS" trickModeRestricted="FF"/>
      </vod:ShowPart>
    </vod:LanguageSet>
    <!-- Russian language set -->
    <vod:LanguageSet subtitle="ru" audio="ru">
      <vod:ShowPart essential="Y" partNbr="1">
        <vod:ContentRef providerID="hbo.com" resumeViewAllowed="Y" essential="Y"
assetID="HBOD2000000000001255" amsValidate="false" trickModeRestricted="FF"/>
      </vod:ShowPart>
    </vod:LanguageSet>
  </vod:TargetFileSet>
</vod:Terms>
...

```

6.5.1 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.

For a given format, there MAY be surcharges in addition to <SuggestedPrice> or <CategoryPrice> reflecting different levels of copy privileges. Furthermore, the type of copy protection is also asserted. Thus an SVOD show will not have a <SuggestedPrice>, but may nevertheless have a billable amount if a copy privilege is exercised. The surcharge value SHOULD be "0.00" if there is no charge incurred to exercise the copy privilege.

Table 9 - CopyPrivileges Element

Element	Attribute	Definition	Possible Values
CopyPrivileges			
<i>CopyFreely</i>		The suggested additional price for Copy Freely Privileges.	Decimal Number Maximum of 3 digits to right of decimal allowed.
	<i>currency</i>	Currency code.	X(3), See A.3, "Currency Attribute"
<i>CopyOnce</i>		The suggested additional price for Copy Once Privileges.	Decimal Number Maximum of 3 digits to right of decimal allowed.
	<i>currency</i>	Currency code.	X(3), See A.3, "Currency Attribute"

6.5.2 CopyProtection

The CopyProtection Element provides suggested CCI information in a text-based format to be sent with the VOD Release.

Table 10 - Video Content Asset Copy Protection

Element	Attribute	Definition	Possible Values
Analog Protection System		Optional Required if CopyProtection and verbose attribute are asserted.	ENUM value; CDATA (one of the following): 0_Analog_Protection_Off 1_AGC_Process_On_Split_Burst_Off 2_AGC_Process_On_2_Line_Split_Burst_On 3_AGC_Process_On_4_Line_Split_Burst_On
Encryption ModeIndicator		Optional Required if CopyProtection and verbose attribute are asserted.	ENUM Value; CDATA (one of the following): 0_Copying_Is_Permitted 1_No_Further_Copying_Is_Permitted 2_One_Generation_Copy_Is_Permitted 3_Copying_Is_Prohibited
ConstrainedImage Trigger		Optional Required if CopyProtection and verbose attribute are asserted.	ENUM Value; CDATA (one of the following): 0_No_Image_Constraint_Asserted 1_Image_Constraint_Required
CGMS_A		Optional Required if CopyProtection and verbose attribute are asserted.	ENUM Value; CDATA (one of the following): 0_Copying_Is_Permitted_Without_Restriction 1_No_Further_Copying_Permitted 2_One_Generation_Of_Copies_May_Be_Made 3_No_Copying_Is_Permitted

6.5.3 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 show. Within a TargetFileSet, there MAY be one or more LanguageSet elements. A LanguageSet is the envelope for all the CA segments that have the same set of audio and subtitle languages. The CA segments are sequentially ordered within this LanguageSet envelope.

Table 11 - TargetFileSet Element

Element	Attribute	Definition	Possible Values
TargetFileSet			
	type	Specifies the kind of encoding profile.	ENUM value; "MPEG2SD", "MPEG2HD", "OTHER"
LanguageSet			one or more elements
	audio	Semi-colon separated list of language codes. (see [RFC 3066] for values) e.g., "fr;en"	X(1-64)
	subtitles	Semi-colon separated list of subtitles codes. (see [RFC 3066] for values) e.g., "de;it"	X(1-64)
ShowPart		(Child of LanguageSet) The subordinate ContentRef provides a part of the Show.	one or more elements
	partNbr	Count of ShowParts. Starts at 1.	Positive Integer, Num(2)
	<i>essential</i>	If "N", legitimate to start session even when particular part (content ref) not available to be streamed. Optional element that defaults to "Y".	"Y" or "N"; X(1)
ContentRef		(Child of ShowPart). See prior section "Common Elements and Attributes".	one or more elements

6.5.4 ShowPart Element

A VOD Release is delivered to the subscriber as a sequence of content file segments. The number of segments is the same for all LanguageSets and TargetFileSets. ShowPart abstracts the division into parts.

6.5.5 trickModesRestricted attribute

Element ContentRef (Section 6.2 on Common Elements and Attributes) has an optional attribute "trickModesRestricted". For TargetFileSets, the restrictions on trick modes are the same for a particular ShowPart, regardless of the language/encoding delivered to the subscriber.

6.6 ChapterList Asset

A ChapterList enables "jump to" Chaptering, or Extra Scenes. There may be multiple ChapterLists within one VOD Release; each must have a different value for the "name" attribute.

A Chapter consists of one and only one content segment. Distributions **MUST** be homogeneous, such that if Chapters are provided, they **MUST** be the same chapters for all variants of a show. If a show is available in HD with English/Spanish audio tracks, and in SD with Danish/Finnish audio tracks, both variants must have the same chapters.

The ChapterList 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 12.

Table 12 - ChapterList Asset Metadata

Element	Attribute	Definition	Possible Values
ChapterList			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
	name		X(1-32)
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
Description		Text description of chapterlist.	X(1-128)
<i>ChapterList Image</i>		See table "Chapterlist Image".	
DisplayText		For UI	X(1-128)
Chapter		Multiple occurrences. See table "Chapter Element".	

Table 13 - ChapterListImage Element

Element	Attribute	Definition	Possible Values
ChapterList Image		Image associated with the ChapterList asset.	
ContentRef		References a CA of type "Image". There MAY be many occurrences of ContentRef to accommodate more than 1 physical file type, size, or bit depth of image (common)	one or more elements

Table 14 - Chapter Element

Element	Attribute	Definition	Possible Values
Chapter		Multiple occurrences.	
	partNbr	This Chapter is in this ShowPart. Allows for Chaptering across multiple physical files.	Positive Integer, Num(2)
DisplayName		For UI.	X(1-32)
<i>ChapterImage</i>		See table "Chapter Image".	
<i>InfoText</i>		Info about the chapter for UI.	X(1-128)
ContentRef		References a CA segment corresponding to this Chapter. There MAY be many occurrences of ContentRef, corresponding to the number of TargetFileSet / LanguageSet combinations in the Terms asset. (common)	one or more elements

Table 15 - ChapterImage Element

Element	Attribute	Definition	Possible Values
ChapterImage		Image associated with the chapter element.	
ContentRef		References a CA of type "Image". There MAY be many occurrences of ContentRef to accommodate more than 1 physical file type, size, or bit depth of image (common).	One or more elements

Example:

```

...
<vod:ChapterList providerID="indemand.com" updateNum="1" assetID="INTL020600000037955"
name="SerenityChapters" >
  <AssetLifetime startDateTime="2006-05-01T12:00:00" endDateTime="2006-06-01T12:00:00"/>
  <vod:Description>Serenity Chapters</vod:Description>
  <vod:ChapterListImage>
    <vod:ContentRef providerID="indemand.com" assetID="INPO040600000038303"
amsValidate="false"/>
    </vod:ChapterListImage>
    <vod:DisplayText>Serenity Chapters</vod:DisplayText>
    <!-- chapter 1 : partNbr corresponds to ShowPart partNbr-->
    <vod:Chapter partNbr="1">
      <vod:DisplayName> Chapter1: Living Weapon</vod:DisplayName>
      <vod:ChapterImage>
        <vod:ContentRef providerID="indemand.com" assetID="INPO040600000038304"/>
      </vod:ChapterImage>
      <vod:InfoText>Chapter information beyond title description</vod:InfoText>
      <!--English & French-->
      <vod:ContentRef providerID="indemand.com" resumeViewAllowed="Y" start ="BOS"
assetID="INTL020600000037955" amsValidate="false" end ="300000" trickModeRestricted="FF"/>
      <!-- Russian -->
      <vod:ContentRef providerID="indemand.com" resumeViewAllowed="Y" start ="BOS"
assetID="INTL020600000037855" amsValidate="false" end ="300000" trickModeRestricted="FF"/>
    </vod:Chapter>
    <!-- chapter 2 -->
    <vod:Chapter partNbr="1">
      <vod:DisplayName> Chapter2: Better World</vod:DisplayName>
      <vod:ChapterImage>
        <vod:ContentRef providerID="indemand.com" assetID="INPO040600000038305"/>
      </vod:ChapterImage>
      <vod:InfoText>Chapter information beyond title description</vod:InfoText>
      <!--English & French -->
      <vod:ContentRef providerID="indemand.com" resumeViewAllowed="Y" start ="300001"
assetID="INTL020600000037955" amsValidate="false" end ="600000" trickModeRestricted="FF"/>
      <!-- Russian -->
      <vod:ContentRef providerID="indemand.com" resumeViewAllowed="Y" start ="300001"
assetID="INTL020600000037855" amsValidate="false" end ="600000" trickModeRestricted="FF"/>
    </vod:Chapter>
    <!-- chapter 3 -->
    <vod:Chapter partNbr="1">
      <vod:DisplayName>Chapter3: Aboard Serenity (Main Titles)</vod:DisplayName>
      <vod:ChapterImage>

```

```

        <vod:ContentRef providerID="indemand.com" assetID="INPO040600000038306"/>
    </vod:ChapterImage>
    <vod:InfoText>Chapter information beyond title description</vod:InfoText>
    <!--English & French-->
    <vod:ContentRef providerID="indemand.com" resumeViewAllowed="Y" start="600001"
assetID="INTL0206000000037955" amsValidate="false" end="EOS" trickModeRestricted="FF"/>
    <!-- Russian -->
    <vod:ContentRef providerID="indemand.com" resumeViewAllowed="Y" start="600001"
assetID="INTL0206000000037855" amsValidate="false" end="EOS" trickModeRestricted="FF"/>
    </vod:Chapter>
</vod:ChapterList>
...

```

6.7 Distribution List

The DistributionList defines the geographical areas in which the show is to be available. This data is specific to one MSO, identified by attribute "mso". The designated MSO 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.

The DistributionList *scope* attribute MAY have values as follows:

"Open": the show may be viewed by subscribers outside the specified market areas once show is propagated into specified market areas.

"Restricted": the show should only be viewed by subscribers within the specified market areas.

The DistributionList 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 16.

Table 16 - DistributionList Asset

Element	Attribute	Definition	Values
DistributionList			
	mso	Targeted MSO for the distribution list.	X(1-20)
	scope	May limit viewing of the show to specific Markets.	ENUM values: "Open", "Restricted"
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
Market		MSO-specific values.	X(1-32), one or more elements
	<i>code</i>	Alternate identifier of a Market.	X(1-5)

Example:

```

...
<vod:DistributionList mso="Comcast" scope="Restricted" providerID="indemand.com"
assetID="TVNA0000200400024701" updateNum="1">
  <adi:AssetLifetime startDateTime="2006-04-21T00:00:00" endDateTime="2006-06-
15T00:00:00"/>
  <vod:Market code="524">ATLANTA/North</vod:Market>
  <vod:Market code="506">BOSTON/Maynard</vod:Market>
</vod:DistributionList>
...

```

6.8 CategoryPath Asset

The CategoryPath metadata asset specifies a time interval, menu folder, and folder-specific price for the show transmitted as part of the VOD Release.

In the following example, there are three CategoryPath instances, all members of the same VODRelease Group. In one asset, the <Path> element contains the MSO-specific "path string" which identifies the "folder" in a VOD menu. The <Price> element MAY be used to provide a folder-specific value that overrides that conveyed in the Terms asset.

The <AssetLifetime> is used to specify the interval of visibility of the show in the folder. The designated MSO SHOULD be the only one to receive the CategoryPath asset. MSOs can have multiple CategoryPath assets for each release.

The CategoryPath 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 17.

Table 17 - CategoryPath Asset Metadata

Element	Attribute	Definition	Possible Values
CategoryPath			
	mso	Targeted MSO for the distribution list.	X(1-20)
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
Path		A human readable string representing a hierarchy, which affects how a UI presents the asset. The value will contain an ordered sequence of components delimited by a "/", e.g., <Path>/Movies/Comedy</Path>	X(1-256), one string per element, at most 10 elements
<i>CategoryPrice</i>		The suggested price. Max. 2 elements for HD and SD.	Decimal number Maximum of 3 digits to right of decimal allowed. At most 2 elements
	format	High Def. or Standard Def.	ENUM values: "SD", "HD"
	<i>currency</i>	Currency code.	X(3), See A.3, "Currency Attribute"

Example:

```

...
<vod:CategoryPath providerID="indemand.com" updateNum="1" assetID="INTL020600000037955" mso="Time Warner Cable">
  <adi:AssetLifetime startDateTime="2006-05-01T12:00:00" endDateTime="2006-06-01T12:00:00"/>
  <vod:Path>/Movies A-Z/</vod:Path>
  <vod:CategoryPrice format="SD" currency="USD">3.95</vod:CategoryPrice>
  <vod:CategoryPrice format="HD" currency="USD">5.95</vod:CategoryPrice>
</vod:CategoryPath>
...
<vod:CategoryPath providerID="indemand.com" updateNum="1" assetID="INTL020600000037955" mso="Time Warner Cable">
  <adi:AssetLifetime startDateTime="2006-05-01T12:00:00" endDateTime="2006-06-01T12:00:00"/>
  <vod:Path>/All New!/</vod:Path>
  <vod:CategoryPrice format="SD" currency="USD">3.95</vod:CategoryPrice>
  <vod:CategoryPrice format="HD" currency="USD">5.95</vod:CategoryPrice>
</vod:CategoryPath>
...
<vod:CategoryPath providerID="indemand.com" updateNum="1" assetID="INTL020600000037955" mso="Time Warner Cable">
  <adi:AssetLifetime startDateTime="2006-05-01T12:00:00" endDateTime="2006-06-01T12:00:00"/>
  <vod:Path>/Movies/Sci-Fi/</vod:Path>
  <vod:CategoryPrice format="SD" currency="USD">3.95</vod:CategoryPrice>
  <vod:CategoryPrice format="HD" currency="USD">5.95</vod:CategoryPrice>
</vod:CategoryPath>
...
<vod:CategoryPath providerID="indemand.com" updateNum="1" assetID="INTL020600000037955" mso="Time Warner Cable">
  <adi:AssetLifetime startDateTime="2006-05-01T12:00:00" endDateTime="2006-06-01T12:00:00"/>
  <vod:Path>/Movies/Thriller/</vod:Path>
  <vod:CategoryPrice format="SD" currency="USD">3.95</vod:CategoryPrice>
  <vod:CategoryPrice format="HD" currency="USD">5.95</vod:CategoryPrice>
</vod:CategoryPath>
...

```

6.9 Preview Asset

For a given title, there MAY be only one active Preview asset of a specific PreviewUsage.

The Preview Asset 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 18.

Table 18 - Preview Asset Metadata

Element	Attribute	Definition	Possible Values
Preview			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime			
	startDateTime	(common)	
	endDateTime	(common)	
Description		Text description of the Preview Asset.	X(1-128)
Rating		See prior section "Rating Element". Note that a preview can have a rating that is different from the show.	one or more elements
PreviewUsage		Indicates usage of the preview. Current "primary" is only value for this.	ENUM value; "Primary", "OTHER"
	format		ENUM values; "HD", "SD"
TargetFileSet		See prior section "TargetFileSet Element".	

Example:

```

...
<vod:Preview providerID="indemand.com" assetID="TVNA0000200400025701" updateNum="1">
  <adi:AssetLifetime startDateTime="2006-04-21T00:00:00" endDateTime="2006-06-
15T00:00:00"/>
  <vod:Description>HD Preview of Serenity</vod:Description>
  <vod:Rating authority="MPAA">PG-13</vod:Rating>
  <vod:PreviewUsage format="HD">Primary</vod:PreviewUsage>
  <vod:TargetFileSet type="MPEG2HD">
    <!-- French & English language set -->
    <vod:LanguageSet subtitle="fr;en" audio="fr;en">
      <vod:ShowPart essential="Y" partNbr="1">
        <vod:ContentRef providerID="hbo.com" resumeViewAllowed="N" start="BOS"
assetID="HBOD1000000000002355" amsValidate="false" end="EOS" />
      </vod:ShowPart>
    </vod:LanguageSet>
    <!-- Russian language set -->
    <vod:LanguageSet subtitle="ru" audio="ru">
      <vod:ShowPart essential="Y" partNbr="1">
        <vod:ContentRef providerID="hbo.com" resumeViewAllowed="N"
assetID="HBOD2000000000002455" amsValidate="false"/>
      </vod:ShowPart>
    </vod:LanguageSet>
  </vod:TargetFileSet>
</vod:Preview>
...

```

6.10 Poster Asset

For a given title, there MAY be only one active Poster asset of a specific PosterType.

The Poster Asset 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 19.

Table 19 - Poster Asset Metadata

Element	Attribute	Definition	Possible Values
Poster			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime			
	startDateTime	(common)	
	endDateTime	(common)	
<i>Description</i>		Text Description of Poster Asset.	X(1-128)
PosterType		Indicates format of the poster. Current "standard" is only value for this.	
	type		ENUM value; "Standard", "OTHER"
ContentRef (Child of PosterType)		References a CA of type "Image" There MAY be many occurrences of ContentRef to accommodate more than 1 physical file type, language, size, or bit depth of Poster image (common)	one or more elements
	providerID	(common)	
	assetID	(common)	
	<i>amsValidate</i>	(common)	

Example:

```

...
<vod:Poster providerID="indemand.com" assetID="TVNA0000200400023701" updateNum="1">
  <adi:AssetLifetime startDateTime="2006-04-21T00:00:00" endDateTime="2006-06-
15T00:00:00"/>
  <vod:Description >Poster for Serenity Show</vod:Description>
  <vod:PosterType type="Standard">
    <vod:ContentRef providerID="indemand.com" assetID="TVNX0406000000037303"
amsValidate="false"/>
  </vod:Postertype>
</vod:Poster>
...

```

6.11 Provider Content Tier

The Provider Content Tier List represents a list of destinations where the show is to be available. This data is optionally specific to one cable operator, identified by attribute "mso". The designated MSO SHOULD be the only one to receive the ProviderContentTier asset.

The ProviderContentTier element contains only a simple string, defining which provider content tiers are to be identified with the Asset. It can be used to propagate Assets to specific servers.

Table 20 - Provider Content Tier List

Element	Attribute	Definition	Values
ProviderContentTierList			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
AssetLifetime			
	startDateTime	(common)	
	endDateTime	(common)	
ProviderContentTier		A string representing which provider content tiers are to be identified with the Asset – Can be used to propagate Assets to specific servers.	X(1-32), one or more elements
	<i>mso</i>	Targeted MSO for the Provider Content Tier.	X(1-20)

7 CONTENT ASSETS

Content Assets represent the metadata of the physical media. The CA is a reusable asset and not part of the release. The release can reference the assets through an asset referencing mechanism. More than one release can reference a CA. Typical main CA types for a VOD release are mentioned in this section. The interpretation of what is valid depends on the CA type outlined below.

A number of additional elements and attributes described in [ADI2] content operation section are repeated here again. Some of these common elements are initially described in the [ADI2] and are reproduced here for clarification and understanding of the specification; the authoritative source for these elements or attributes is [ADI2]. These attributes and elements are:

Table 21 - Common Asset Element Fields

Element	Attribute	Definition	Values
[ElementName]		The specific element name type of content asset.	ASCII, UpperCamelCase, initial Alpha
	fileName	Name of the content file. e.g., "analyzethis.mpg"	ASCII, Expected to be 128, MUST be OS independent
	fileSize	Size of the Content file in bytes.	Numeric (64 bits)
	md5Checksum	MD5 checksum of the content file, as lowercase hexadecimal digits.	Hexadecimal (32)
	<i>transferContentURL</i>	URL to obtain content file. The URL scheme must be "ftp" or "http" or "https" or "file" or "pgm" e.g., ftp://unam123@ftp.movies.com/etc/analyzethis.mpg	URL
	<i>assetAckTo</i>	An optional URL to which a separate acknowledgement for events in the asset MAY be posted.	URL

7.1 Type Video

A CA of type video describes metadata for video physical media. The video can contain one or more audio tracks and one or more sets of subtitles. The Video Content Asset group 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 22.

Table 22 - Video Content Asset Metadata

Element	Attribute	Definition	Possible Values
Video		Video Content Asset.	
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
	fileName	(common)	
	fileSize	(common)	
	mD5Checksum	(common)	
	<i>transferContentURL</i>	(common)	
	encodingProfile	The encoding profile of this content asset. The details of each specific encoding profile will be outlined in [VOD-CEP].	ENUM Values; Profiles "MPEG2SD", "MPEG2HD", "OTHER"
	<i>ISAN</i>	Human Readable ISAN number for this CA. See [ISAN]. e.g., "1881-66C7-3420-0000-7" or "1881-66C7-3420-0000-7-9F3A-0245-U" (with Versioning)	X(21) or X(33) with Version Suffix
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
<i>ScreenFormat</i>		Indicates the picture size format of the picture from the viewer perspective.	ENUM values; "Letterbox", "Fullscreen", "Widescreen"
<i>Encryption Required</i>		Indicates if encryption protection of content is required.	"Y", "N", X(1)
<i>Bitrate</i>		The overall bit rate of the included content, in kilobits per second . This is an optional informative hint useful for estimation of required resources. Content MUST comply with [VOD-CEP]. Ex. 3750	Numeric
<i>Description</i>		A human readable description of the content.	X(1-128), one string per element, max 1 element.
StreamTime		Total run time of the video asset. This time has same precision as NPT values in milliseconds.	Integer NUM(long)
<i>Rating</i>		See prior section "Rating Element". Note that a preview can have a rating that is different from the show.	zero or more elements
<i>AudioType</i>		Defines multiple alternative audio tracks that MAY be present. If not present, use default offered by profile. See AudioType	zero or more elements

Element	Attribute	Definition	Possible Values
<i>Subtitle</i>		Defines multiple alternative subtitles that MAY be present. If not present, use default offered by profile. See Subtitle	zero or more elements
<i>PrivatePid</i>		Identifies and describes additional PIDs for private or additional data that are encoded with the video.	X(1-32) zero or more elements
	PID	The PID for this private data in hexadecimal form. PID= "0x1E1" which is PID 481 in decimal	X(5)
<i>PreEncryption</i>		This element MUST be present if this Video content asset is pre-encrypted	

Some content files are ingested in the encrypted form ("pre-encrypted") that is then streamed to the receiving subscriber's equipment; in other circumstances encryption is performed "on the fly". When pre-encryption is used, the element "PreEncryption" MUST be present:

Table 23 - Video Content Asset PreEncryption Metadata

Element	Attribute	Definition	Possible Values
PreEncryption			
<i>DerivedFrom</i>		This element is present if the Content asset Provider did not produce the encrypted file. Holds the ContentRef of the content asset from which this pre-encrypted asset was derived.	
ContentRef (child of DerivedFrom)			
	providerID		
	assetID		
EncryptionDate		Date that content was encrypted	[XML Date/Time]
<i>Format Authority</i>		Name of the entity / vendor responsible for the file format used for this CA.	X(1-32)
TargetSystem Type		Type of decryption environment for this CA. e.g., "Moto", "SA".	X(1-32)
<i>TargetVersion</i>		Version of the decryption environment.	X(1-8)
<i>EncryptionClass</i>		Nature of the encryption system, e.g., "Symmetric", "PublicKey".	X(1-16)
<i>Encryption Algorithm</i>		Algorithm used, e.g., "DES", "3DES", "RC5".	X(1-32)
<i>Encrypting System Info</i>		Info regarding the system performing the encryption	X(1-32)
<i>Encryption KeyBlock</i>		For decryption use.	X(1-4096)

Table 24 - Video Content Asset Audio Metadata

Element	Attribute	Definition	Possible Values
AudioType		Specific types of Audio.	ENUM values; "Dolby Digital", "Dolby Prologic", "Stereo", "Mono", "Dolby 5.1"
	defaultTrack	Indicates whether this is the default audio track for this asset.	X(1). ENUM values: "Y", "N"
	audioDesc	Indicates if this audio track contains audio description for the visually impaired.	X(1). ENUM values: "Y", "N"
	class	Optional classification to support additional audio tracks with specific content and/or purpose, e.g., "Censored", "AltCommentary", "DirectorCommentary"	X(20)
	languageCode	Language codes as defined in [ISO639-2]. Examples: "eng", "fre", "spa"	X(3)
	PID	The PID for this audio in hexadecimal form. PID = "0x1E2" which is PID 482 in decimal	X(5)

Table 25 - Video Content Asset Subtitle Metadata

Element	Attribute	Definition	Possible Values
Subtitle			
	languageCode	Language codes as defined in [ISO639-2]. Examples: "eng", "fre", "spa"	X(3)
	PID	The PID for this subtitle in hexadecimal form. PID = "0x1EA" which is PID 490 in decimal.	X(5)

Example:

```

<!-- Encoding profile defined separately. Entire asset in one profile -->
...
<vod:Video providerID="indemand.com" updateNum="1" assetID="INMV000000000037438"
encodingProfile="MPEG2SD" fileSize="2536046492" mD5Checksum="808a51f65c2203e264c395327b04f40b"
transferContentURL="/" fileName="subzero.mpg">
  <adi:AssetLifetime startDateTime="2006-02-05T00:00:00" endDateTime="2006-03-
08T00:00:00"/>
  <vod:Bitrate>3750</vod:Bitrate>
  <vod:Description>SD Content</vod:Description>
  <vod:StreamTime>3205685545</vod:StreamTime>
  <vod:Rating authority="MPAA">PG-13</vod:Rating>
</vod:Video>
...

```

7.2 Type Trick File

MSO VOD services enable subscribers to use "VCR like" capabilities, i.e., to "pause", "fast forward", and "rewind". Some VOD delivery systems rely on one or more files, known as "trick files", produced from the content file to

implement this capability. An MSO MAY obtain operational efficiencies by producing the necessary trick files prior to the ingest processing of a VOD server. The TrickFile metadata provides the necessary information for a VOD server to make use of externally-produced trick files.

The TrickFile Asset group 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 26.

Table 26 - TrickFile Content Asset Metadata

Element	Attribute	Definition	Possible Values
TrickFile		Video Content Asset.	
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
	fileName	(common)	
	fileSize	(common)	
	mD5Checksum	(common)	
	<i>transferContentURL</i>	(common)	
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
TrickMode		the mode / usage of the trick file	"FFWD", "FREV", "Index", "All", "Archive".
<i>Description</i>		A human readable description of the content.	X(1-128), one string per element
TargetServer		Defines the VOD server environment in which this trick file is usable.	
	serverType	The name of the video server product for which this trick file was generated. e.g., "MediaCluster", "MediaHawk".	X(1-16)
	<i>serverVendor</i>	The vendor name, e.g., "SeaChange", "Concurrent".	X(1-32)
	<i>serverVersion</i>	If needed to ensure trick file / server compatibility.	X(1-16)
DerivedFrom		Holds ContentRef of the Video file from which this trick file is derived.	
ContentRef (child of DerivedFrom)			
	providerID		
	assetID		

Example:

...

```
<vod:TrickFile providerID="mso.com" assetID="TKPH3221290000001021"
  filename="analyzehis.trk" fileSize="314616308"
  mD5Checksum="4D2BFBCA4DCD70CBDB1968D79424C907"
```

```

        transferContentURL= "ftp://server@ftp.server.com/etc/analyzethis.trk" >
    <adi:AssetLifetime  startDateTime="2004-04-15T00:00:00"
        endDateTime="2005-04-15T00:00:00"/>
    <vod:TrickMode>FFWD</vod:TrickMode>
    <vod:TargetServer  serverType="MediaHawk" serverVendor="Concurrent"/>
    <vod:DerivedFrom>
        <vod:ContentRef providerID="indemand.com" assetID="INTL0206000000037855"/>
    </vod:DerivedFrom>
</vod:TrickFile>
...

```

7.3 Type Audio

A CA of type audio describes metadata for audio physical media. The audio can contain one or more alternate audio tracks. The Audio Content Asset group 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 27.

Table 27 - Audio Content Asset Metadata

Element	Attribute	Definition	Possible Values
Audio			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
	fileName	(common)	
	fileSize	(common)	
	mD5Checksum	(common)	
	transferContentURL	(common)	e.g., file:/xyz.mpg
	audioEncodingProfile	The encoding profile of this content asset. The details of each specific encoding profile will be outlined in [VOD-CEP].	ENUM Values; "OTHER"
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
<i>WorkIdentifier</i>			
	authority	Group that provides the identifier of the content work, e.g., ISRC. Authorities TBD.	X(1-16)
	value	Identification value of the work.	X(1-32)
<i>Bitrate</i>		The overall bit rate of the included content, in kilobits per second . This is an optional informative hint useful for estimation of required resources. Content MUST comply with [VOD-CEP]. Ex. 3750	Numeric
<i>Description</i>		A human readable description of the content.	X(1-128), one string per element

Element	Attribute	Definition	Possible Values
StreamTime		Total run time of the audio asset. This time has same precision as NPT values in milliseconds.	Integer NUM(long)
<i>Rating</i>		See prior section "Rating Element". e.g., "RIAA".	zero or more elements
<i>AudioType</i>		Defines multiple alternative audio tracks that MAY be present. If not present, use default offered by profile. See AudioType.	zero or more elements

Example:

```

<!-- Encoding profile defined separately. Entire asset in one profile -->
...
<vod:Audio providerID="indemand.com" updateNum="1" assetID="INMA0000000000055555"
fileSize="36046492" transferContentURL="/" fileName="subzerostr.mp3"
mD5Checksum="808a51f65c2203e264c395327b04f40b" audioEncodingProfile="OTHER">
  <adi:AssetLifetime startDateTime="2006-02-05T00:00:00" endDateTime="2006-03-
08T00:00:00"/>
  <vod:Bitrate>384</vod:Bitrate>
  <vod:StreamTime>207685545</vod:StreamTime>
  <vod:Rating authority="RIAA">Adult</vod:Rating>
  <vod:AudioType LanguageCode="en" PID="0x888">Dolby 5.1</vod:AudioType>
</vod:Audio>
...

```

7.4 Type Image

A CA of type image describes metadata for image physical media.

The Image Content Asset group 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 28.

Table 28 - Image Content Asset Metadata

Element	Attribute	Definition	Possible Values
Image			
	providerID	(common)	
	assetID	(common)	
	updateNum	(common)	
	fileName	(common)	
	<i>transferContent URL</i>	(common)	
	fileSize	(common)	
	mD5Checksum	(common)	
	imageEncoding Profile	The encoding profile of this content asset. The details of each specific encoding profile will be outlined in [VOD-CEP].	ENUM values: "OTHER"

Element	Attribute	Definition	Possible Values
AssetLifetime		(common)	
	startDateTime	(common)	
	endDateTime	(common)	
<i>WorkIdentifier</i>			
	authority	Group that provides the identifier of the content work.	X(1-16)
	value	Identification value of the work.	X(1-32)
<i>Description</i>		A human readable description of the content.	X(1-128), one string per element
<i>Rating</i>		See prior section "Rating Element". Authorities are TBD.	zero to many elements
<i>Caption</i>		Short Display Text about the Image.	X(1-32)
<i>ColorType</i>		Color Format of Image.	ENUM List: "Greyscale", "RGB", "CMYK", "OTHER"
	<i>bitDepth</i>	Number of total bits per a pixel. This is the combined total for each color component (e.g., RGB 24bpp).	Decimal number
ImagePixels		See table on "ImagePixels".	
<i>languageCode</i>		Language codes as defined in [ISO639-2]. Examples: "eng", "fre", "spa"	X(3)

Table 29 - ImagePixels Element Metadata

Element	Attribute	Definition	Possible Values
ImagePixels		Number of square pixels in image. Description indicates file type	description – e.g., .bmp, .jpg, .tiff, others; X(1-8)
	horizontalPixels	Pixel count in horizontal dimension.	Positive Integer, Num (1-8). Value will be 0 if no pixel size information is available.
	verticalPixels	Pixel count in vertical dimension.	Positive Integer, Num (1-8). Value will be 0 if no pixel size information is available.

Example:

```

<!-- Encoding profile defined separately. Entire asset in one profile -->
...
<vod:Image providerID="indemand.com" updateNum="1" assetID="INMA000000000055556" fileSize="12000"
mD5Checksum="bd11596299d5fe551e9f47e38dca5a70" imageEncodingProfile="OTHER" fileName="jub.jpg"
transferContentURL="/">
  <adi:AssetLifetime startDateTime="2004-04-15T00:00:00" endDateTime="2005-04-15T00:00:00"/>
  <vod:Caption> The Wedding Gift</vod:Caption>
  <vod:ColorType bitDepth="5">RGB</vod:ColorType>
  <vod:ImagePixels horizontalPixels="1920" verticalPixels="1080">.jpg</vod:ImagePixels>
</vod:Image>
...

```

8 TRIAL USE EXTENSIBILITY

All asset types defined by this specification (Group, Metadata, Content) **MUST** provide for extensibility. Beginning with this specification, any associated specification implementation should provide for the ability of older implementations to read newer documents and ignore any unrecognized extensions based upon older specification versions that are part of the newer specification version.

Any extensions announced to the VOD metadata group for trial use **MAY** at a future point become candidates to be included in future versions of this specification.

Annex A XML Usage (Normative)

A.1 Values of Date and Time

Date and Time representations are as specified in [XML Date/Time][XML].

A.1.1 Absolute Time

Here is an XML datetime value: "2005-10-10T12:00:00-05:00".

It represents Oct 10, 2005 at a time of 12 noon, 5 hours behind "Greenwich time" (UTC). The suffix "-05:00" is a time zone specifier representing hours and minutes "ahead" (East) or "behind" UTC. The time zone specifier for the UTC time zone (aka "Greenwich Mean Time") is represented by the special value "Z".

When a date time value includes a timezone specifier, "-05:00", the value is "absolute", corresponding to the same instant anywhere in the world; e.g., 12 Noon U.S. Eastern Standard Time is the same instant as 9am U.S. Pacific Standard Time.

A.1.2 Local Time

The value "2005-10-10T12:00:00" represents a "local" time value; e.g., 12 Noon U.S. Eastern Standard Time and 12 Noon U.S. Pacific Standard Time.

A.2 Time Intervals

An AssetLifetime has the form:

```
<AssetLifetime
  startDateTime="2006-08-17"
  endDateTime="2006-09-17" />
```

This is interpreted as representing the **interval** of time between start and end. More precisely, an interval is always regarded as having "closed,open" boundaries. Thus in the example above the first instant of August 17, 2006 is **included** in the lifetime ("closed") but the first instant of September 17 is **not included** ("open").

A.2.1 Active Instances of Assets

VOD2 enables multiple asset instances of the same type, e.g., Preview assets, to be members of the Group. The time interval represented by AssetLifetime is used by receiving systems to determine which instance is to be used at a particular time, according to the following rule:

```
Find the instance
  with the greatest value of startDateTime less than or equal to Time(Now)
  AND endDateTime is greater than Time(Now).
```

A.3 Currency Attribute

If a monetary amount, e.g., the value of <SuggestedPrice>, is not expressed in U.S. dollars, then the currency attribute MUST have a value of a three-letter currency code as specified in [ISO4217]. Prices MAY have decimal increments typically of 1/100 or 1/1000 depending on currency type.

Examples:

CAD	Canadian dollar
EUR	Euro
GBP	British pound
JPY	Japanese Yen
USD	US Dollar

A.4 Multi-lingual Metadata

Metadata, such as that for UI display, MAY occur in multiple languages. This is effected on a per-element basis. An element containing data in a language other than English MUST have the attribute "xml:lang" as defined in Table 30:

Table 30 - Attribute xml:lang

Attribute	Definition	Values
xml:lang	Language specifier for the data of an element. Codes are normally expected to be limited to the subset defined in [ISO639-2].	Language codes as defined in [RFC 3066]. Examples: "eng", "fre", "spa"

Example:

```
<vod:TitleBrief>The Titanic</vod:TitleBrief>
<vod:TitleBrief xml:lang="es">El Titanic</vod:TitleBrief>
<vod:TitleFull>The Titanic</vod:TitleFull>
<vod:TitleFull xml:lang="es">El Titanic</vod:TitleFull>
<vod:SummaryShort>Fictional romantic tale of a rich girl and poor boy who
meet on the ill-fated voyage of the 'unsinkable' ship</vod:SummaryShort>
<vod:SummaryShort xml:lang="es"> Una cuenta rom'antica y aficionada de una
jovena rica y un joven pobre los quienes se encontraron durante el viaje
traj'ico de 'El Titantic', el barco de los sue-nos o lo qu'e no podr'ia
hundirse.'</vod:SummaryShort>
```

Appendix I Revision History

The following ECNs were incorporated into version I02 of this specification:

ECN Identifier	Author	ECN Accepted Date	Description
VOD-CONTENT2.0-N-06.0040-4	Paul Stallard	12/20/06	Support for Audio Description
VOD-CONTENT2.0-N-06.0041-4	Paul Stallard	12/20/06	Poster Language Attribute
VOD-CONTENT2.0-N-06.0042-3	Paul Stallard	12/20/06	Removal of restriction on supported languages
VOD-CONTENT2.0-N-06.0043-1	Yasser Syed	12/20/06	Small technical changes to studio and country code
VOD-CONTENT2.0-N-06.0044-1	Yasser Syed	12/20/06	Small edits to genre and showtype
VOD-CONTENT2.0-N-06.0046-2	Yasser Syed	12/20/06	Definition of decimal
VOD-CONTENT2.0-N-06.0049-2	Jeffrey Sherwin	12/20/06	Image Pixels Default Requirement
VOD-CONTENT2.0-N-06.0050-5	Jeffrey Sherwin	12/20/06	Addition of Provider Content Tier
VOD-CONTENT2.0-N-06.0052-1	Jeffrey Sherwin	12/20/06	Unrestricted Filename Lengths