

Superseded

CableLabs[®] Video-On-Demand Content Specification Version 1.1

MD-SP-VOD-CONTENT1.1-01-020927

Issued

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Document Status Sheet

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Key to Document Status Codes:

Work in Progress	An incomplete document, designed to guide discussion and generate feedback, that may include several alternative requirements for consideration.
Draft	A document in specification format considered largely complete, but lacking review by Members and vendors. Drafts are susceptible to substantial change during the review process.
Issued	A stable document, which has undergone rigorous member and vendor review and is suitable for product design and development, cross-vendor interoperability, and for certification testing.
Closed	A static document, reviewed, tested, validated, and closed to further engineering change requests to the specification through CableLabs.

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1 INTRODUCTION

1.1 Purpose

This specification describes how to create content for the Video on Demand service.

1.2 Scope

This document describes the requirements for content and metadata associated with the VOD service that can be distributed using the Association of Vendors Interface. This document does not specify a distribution method.

1.3 Requirements

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

“MUST”	This word or the adjective “REQUIRED” 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 or the adjective “RECOMMENDED” 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 or the adjective “OPTIONAL” 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.

- [1] ATSC A/52 Digital Audio Compression (AC-3) Standard
- [2] ATSC A/53 Digital Television Standard
- [3] CableLabs Asset Distribution Interface Specification Version 1.1, MD-SP-ADI1.1-01-020927
- [4] Extensible Markup Language (XML) 1.0 (Second Edition)
- [5] IETF RFC 1321, The MD5 Message-Digest Algorithm (April 1992)
- [6] ISO 639.1, 639.2 – Codes for the Representation of Names of Languages- Part 1: Alpha-2 Code, Part 2: Alpha-3 Code
- [7] ISO/IEC 13818-2 Information Technology-Generic Coding of Moving Pictures and Associated Audio Information : Video
- [8] ISO/IEC 13818-4:1998/Cor-2:1998 Information Technology – Generic Coding of Moving Pictures and Associated Audio Information – Part 4: Conformance Testing, Technical Corrigendum 2
- [9] ANSI/SCTE 20 2001 (formerly DVS 157), SCTE Standard Methods for Carriage of Closed Captions Non-Real Time Sampled Video
- [10] SCTE 27 1996 (formerly DVS 026) SCTE Method – Subtitling Methods for Broadcast Cable

2.2 Informative References

None

2.3 Reference Acquisition

- 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
- The Society of Cable Telecommunications Engineers (SCTE) 140 Philips Road, Exton, PA. 19341-1318 Phone 800-542-5040 (toll free), Fax (610) 363-5898, Internet: www.scte.org/standards/
- Cable Television Laboratories, Inc. (CableLabs), 400 Centennial Parkway, Louisville, CO, 80027, www.cablelabs.com/projects/metadata/
- 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/>

3 TERMS AND DEFINITIONS

This specification uses the following terms:

Metadata	Metadata is descriptive data associated with a content asset package or file. It may vary in depth from merely identifying the content package title or information to populate an EPG to providing a complete index of different scenes in a movie or providing business rules detailing how the content package may be displayed, copied, or sold. Separate uses for metadata have originated from the studios, distribution networks (Cable, Satellite), down to the CPE (STBs, PVRs).
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4 ABBREVIATIONS AND ACRONYMS

This specification uses the following abbreviations:

ADI	Asset Distribution Interface
CA	Conditional Access
CBR	Constant Bit Rate
CPE	Customer Premise Equipment
DTS	Decoding Time Stamp
GOP	Group of Pictures
MOD	Movies on Demand
MPEG	Motion Picture Expert Group
NTSC	National Television System Committee
PAT	Program Association Table
PCR	Program Clock References
PES	Packetized Elementary Stream
PID	Program Identification
PMT	Program Mapping Table
PTS	Presentation Time Stamp
PVR	Personal Video Recorder
SI	Systems Information
SPTS	Single Program Transport Stream
STB	Set-Top Box
SVOD	Subscription Video on Demand
VOD	Video on Demand

5 ASSET STRUCTURE

The format of the asset structure within the ADI package for the Title asset is defined as follows:

```

Package
|   package metadata
+---title asset
|   |   title asset metadata
|   +--movie asset
|   |   movie asset metadata
|   |   movie asset content
|   +--still-image asset(box-cover, poster)
|   |   box cover asset metadata
|   |   box cover asset content
|   +--preview asset
|   |   preview asset metadata
|   |   preview asset content

```

5.1 Package

This describes the VOD content and metadata for each asset that is part of a Title asset. The names and values of some package-level metadata items are specified here, but the exact format for transmission purposes is described in the appropriate Asset Distribution Interface document. General asset metadata items specified in the ADI are designated with “AMS” and are placed here for informational purposes only. If any discrepancies occur between this specification and the ADI document for the “AMS” fields, the ADI document is the authoritative source. The App Data App element is determined from the “Spec” Column table and has allowed values of “MOD” or “SVOD” to indicate application. Metadata items are identified with “MOD” per prior practice, as they have been specific to the MOD application; however, most of these can be considered to be “VOD” under this specification, where similar assets are used in conjunction with other applications. A subsequent version of this specification will delineate content-specific metadata with “VOD”, effectively assigning this “application” tag to the asset repository.

Although specifically addressed by the ADI specification, the following items are re-stated for the purposes of clarity:

- The XML file shall be named ADI.XML.
- The DTD file shall be named ADI.dtd

FORMAT: Metadata should be in XML format that is compatible with the W3C Extensible Markup Language (XML) version 1.0 (Second Edition).

5.1.1 Package Metadata

Table 1 – Package Metadata

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Provider	A unique identifier for the provider of the Asset – represents the business relationship between the MSO and the Asset Provider	String – ex. “iN Demand” or “HBO”	Req
AMS	Product	An identifier for the product offering.	String (Max 20 Chars)	Req
AMS	Asset_Name	A string containing the identifying name of the asset. Asset names must be unique within a product.	String (Max 50 chars) Ex. “WesCravensDracula2000 package”	Req
AMS	Version_Major	An integer representing the major version number	Integer	Req
AMS	Version_Minor	An integer representing the minor version number	Integer	Req
AMS	Description	A human-readable string describing the Asset.	String Ex. “Wes Craven’s Dracula 2000 asset package”	Req
AMS	Creation_Date	A string representing the date on which the Asset was created.	String – “yyyy-mm-dd”	Req
AMS	Provider_ID	A unique identifier for the provider of the Asset. The Provider_ID shall be set to the provider’s registered internet domain name.	String- Ex. “indemand.com”	Req
AMS	Asset_ID	An identifier for the asset that is unique within a provider’s asset ID space. The unique portable identification of an asset is the combinations of its Provider_ID and its Asset_ID.	String (Max 20 chars)-Ex. “ABCD1234567890123456”	Req
AMS	Asset_Class	A system-level type for the asset. This is intended to be helpful for the application mapping and routing, and expected to be more general than the Type value for the content. Expected Value is “package”	String	Req
AMS	Verb	A string containing an action to be performed on the asset. The only valid values for the Verb are the empty string (“”), and “DELETE”.	String	Opt

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Provider_Content_Tier	A string representing which provider content tiers are to be identified with the Asset – Can be used to propagate Assets to specific servers	String – one tier per element. Ex. <App_Data App=“MOD” Name=“Provider_Content_Tier” Value=“HBO1”/> <App_Data App=“MOD” Name=“Provider_Content_Tier” Value=“HBO8”/>	Opt
MOD or SVOD	Metadata_Spec_Version	A string representing the version of the VOD Content Specification for this package	String “CableLabsVOD1.1”	Req

5.1.2 Content

None.

5.1.3 Assets

Title asset.

5.2 Title asset

5.2.1 Title Metadata

Table 2 – Title Metadata

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Provider	A unique identifier for the provider of the Asset – represents the business relationship between the MSO and the Asset Provider	String – ex. “iN Demand” or “HBO”	Req
AMS	Product	An identifier for the product offering.	String (Max 20 Chars)	Req
AMS	Asset_Name	A string containing the identifying name of the asset. Asset names must be unique within a product.	String (Max 50 chars) Ex. “WesCravensDracula2000title”	Req
AMS	Version_Major	An integer representing the major version number	Integer	Req
AMS	Version_Minor	An integer representing the minor version number	Integer	Req
AMS	Description	A human-readable string describing the Asset.	String – ex. “Wes Craven’s Dracula 2000 title asset”	Req
AMS	Creation_Date	A string representing the date on which the Asset was created.	String – “yyyy-mm-dd”	Req

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Provider_ID	A unique identifier for the provider of the Asset. The Provider_ID shall be set to the provider's registered internet domain name.	String- Ex. "indemand.com"	Req
AMS	Asset_ID	An identifier for the asset that is unique within a provider's asset ID space. The unique portable identification of an asset is the combinations of its Provider_ID and its Asset_ID.	String (Max 20 chars)-Ex. "ABCD1234567890123456"	Req
AMS	Asset_Class	A system-level type for the asset. This is intended to be helpful for the application mapping and routing, and expected to be more general than the Type value for the content. Expected Value is "title"	String	Req
AMS	Verb	A string containing an action to be performed on the asset. The only valid values for the Verb are the empty string ("") and "DELETE".	String	Opt
MOD or SVOD	Type	The asset or content type that determines how or where it is stored.	"title"	Req
MOD or SVOD	Title_Sort_Name	A string to be used when sorting the title.	String – (max 22 chars) ex. "Blob, The"	Opt
MOD or SVOD	Subscriber_View_Limit	A string representing a period of time and the maximum number of views over the period of time. The separator shall be a "," between the period start date, period end date and maximum views.	String containing the three components (period start date, period end date, maximum views), one per element Ex. <App_Data App="MOD" Name="Subscriber_View_Limit" Value="2001-11-01,2001-11-15,5"/> <App_Data App="MOD" Name="Subscriber_View_Limit" Value="2001-12-01,2001-12-15,5"/>	Opt
MOD or SVOD	Title_Brief	A brief version of the movie title (for display)	String – (max 19 chars)	Req
MOD or SVOD	Title	Movie title (for display)	String – (Max 128 chars—special characters allowed) ex. "Wes Craven's Dracula 2000".	Req
MOD or SVOD	Episode_Name	The name of an individual episode of a series.	String – ex. "Hot Child in the City"	Opt

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Episode_ID	A unique identifier given to each individual episode of a series.	String – ex. “Episode #45”	Opt
MOD or SVOD	Summary_Long	Movie summary in full	String – (Max 4096 chars—special characters allowed)	Opt
MOD or SVOD	Summary_Medium	Movie summary paragraph -- for EPG-like description	String – (Max 1024 chars—special characters allowed)	Opt
MOD or SVOD	Summary_Short	Movie summary: sentence	String – (Max 256 chars—special characters allowed) – ex “Samantha is hired to plan a bat mitzvah; Charlotte tries to improve life with Trey.”	Req
MOD or SVOD	Rating	MPAA or TV Rating, whichever is appropriate (see Appendix of MPAA and TV Ratings)	String, one rating per element, <App_Data App=“MOD” Name=“Rating” Value=“TV-G”/> <App_Data App=“MOD” Name=“Rating” Value=“G”/>	Req
MOD or SVOD	Advisories	A list of objectionable content (see Appendix of Advisories)	String, one advisory per element (max 1024 chars for all advisories) <App_Data App=“MOD” Name=“Advisories” Value=“BN”/> <App_Data App=“MOD” Name=“Advisories” Value=“L”/>	Opt
MOD or SVOD	Closed_Captioning	A “Y” or “N” flag indicating Closed Captioning encoding	String “Y” or “N”	Opt
MOD or SVOD	Run_Time	Run time	String – “hh:mm:ss”	Req
MOD or SVOD	Display_Run_Time	Run time (for display)	String – “hh:mm”	Req
MOD or SVOD	Year	Year of release	String – “yyyy”	Opt
MOD or SVOD	Country_of_Origin	Country of origin (France, Japan, etc.)	String	Opt

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Actors	Actors – Last Name,First Name (for searching) The separator shall be a “,” between the last name and the first name.	String – (Max 35 per actor) – one actor per element. Ex. <App_Data App=“MOD” Name=“Actors” Value=“Willis,Bruce”/> <App_Data App=“MOD” Name=“Actors” Value=“Gere,Richard”/>	Opt
MOD or SVOD	Actors_Display	Actors -- A human-readable string (for display)	String (1024 chars total all Actors) Ex: “Voices of Tom Hanks, Robin Williams”	Opt
MOD or SVOD	Writer_Display	Writer(s)—A human-readable string (for display)	String (1024 chars total all Writers) Ex: “Francis Ford Coppola, Mario Puzo”	Opt
MOD or SVOD	Director	Directors– Last Name,First Name The separator shall be a “,” between the last name and the first name.	String – (Max 35 per director) – one director per element. <App_Data App=“MOD” Name=“Director” Value=“Puzo,Mario”/> <App_Data App=“MOD” Name=“Director” Value=“Lucas,George”/>	Opt
MOD or SVOD	Producers	Producers– Last Name,First Name The separator shall be a “,” between the last name and the first name.	String – (Max 91 per producer, 1024 all producers) – one producer per element. <App_Data App=“MOD” Name=“Producers” Value=“Barrymore,Drew”/> <App_Data App=“MOD” Name=“Producers” Value=“Lucas,George”/>	Opt
MOD or SVOD	Studio	Studio (for display)	String - (Max 256 chars) ex. “Buena Vista”	Opt
MOD or SVOD	Category	A nested list of human readable categories and sub-categories which effect how the UI presents the asset. The value will contain an ordered sequence of components, each component separated using a “/”. Each line effectively represents a “categorization” for the Title.	String – (Max 20 per category component), one category per element. <App_Data App=“MOD” Name=“Category” Value=“Movies/Movies a-z”/> <App_Data App=“MOD” Name=“Category” Value=“Movies/Comedy”/>	Opt
MOD or SVOD	Season_Premiere	A flag indicating Title is a Season Premiere	String “Y” or “N”	Opt

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Season_Finale	A flag indicating Title is a Season Finale	String “Y” or “N”	Opt
MOD or SVOD	Genre	Genres – attributes that describe the asset .	String – (Max 20 per genre), one genre per element. <App_Data App=“MOD” Name=“Genre” Value=“Action”/> <App_Data App=“MOD” Name=“Genre” Value=“Comedy”/>	Opt
MOD or SVOD	Chapter	Chapter Location and Heading pair, the location formatted in SMPTE format (HH:MM:SS:FF). The separator shall be a “,” between the code and heading. Note that SMPTE time codes must be monotonically increasing although ordering of elements in SMPTE time code order is not required.	String (max 128 chars, 1024 total for all headings) containing the two components (SMPTE time code, heading), one per element. Ex. <App_Data App=“MOD” Name=“Chapter” Value=“01:01:01:01,Opening Scene”/> <App_Data App=“MOD” Name=“Chapter” Value=“01:30:01:01,Max Encounters A Problem”/>	Opt
MOD or SVOD	Box_Office	Box office dollars of revenue.	Integer	Opt
MOD or SVOD	Propagation_Priority	An integer from 1(high) to 10(low) that can be used to assist with determining the priority of propagation within an MSO network. NOTE: This value is set within a Provider/Product, therefore it cannot be used to compare assets outside of that group.	Integer	Opt
MOD or SVOD	Billing_ID	Content provider asset ID to tie into royalty reporting.	Integer (Max 5 digits)	Req
MOD or SVOD	Licensing_Window_Start	First day of licensing window	String – “yyyy-mm-dd”	Req
MOD or SVOD	Licensing_Window_End	Last day of licensing window	String – “yyyy-mm-dd”	Req
MOD or SVOD	Preview_Period	Preview period in seconds	Integer	Req (*Opt for SVOD)

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Home_Video_Window	Number of days between Home Video release to PPV/MOD Release	Integer	Opt
MOD or SVOD	Display_As_New	Number of days from the Licensing_Window_Start date that the application should show this title as “New” or similar marking.	Integer – number of days	Opt
MOD or SVOD	Display_As_Last_Chance	Number of days from the Licensing_Window_End date that the application should show this title as “Last Chance” or similar marking.	Integer – number of days	Opt
MOD or SVOD	Maximum_Viewing_Length	Duration of time defining the maximum amount of time a title can be made available for viewing once selected for purchase by a customer.	String – “DD:HH:MM” ex. “00:24:00”	Opt
MOD or SVOD	Provider_QA_Contact	A contact identifier in case there are quality issues relating to this movie	String	Req (*Opt for SVOD)
MOD or SVOD	Contract_Name	Identifying name of the contract under which this title is licensed	String	Opt
MOD or SVOD	Suggested_Price	Suggested Price to assist in determining the retail pricing	Currency – ex. 3.95	Opt
MOD or SVOD	Distributor_Royalty_Percent	Percentage split of the royalty over the minimum that goes to the Distributor (i.e. iN DEMAND) Maximum of 2 digits right of decimal allowed.	Numeric-percentage – ex. 52.5	Opt
MOD or SVOD	Distributor_Royalty_Minimum	Minimum royalty in currency that goes to the Distributor (i.e. iN DEMAND). Maximum of 3 digits right of decimal allowed.	Currency – ex. 1.995	Opt
MOD or SVOD	Distributor_Royalty_Flat_Rate	Flat rate royalty in currency that goes to the Distributor (i.e. iN DEMAND). Maximum of 3 digits right of decimal allowed.	Currency – ex. 1.995	Opt
MOD or SVOD	Distributor_Name	The name of the distributor (for reporting)	String (Max 128 Chars)	Opt

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Studio_Royalty_Percent	Percentage split of the royalty over the minimum that goes to the Studio (i.e. Warner Brothers) Maximum of 2 digits right of decimal allowed.	Numeric-percentage – ex. 52.5	Opt
MOD or SVOD	Studio_Royalty_Minimum	Minimum royalty in currency that goes to the Studio (i.e. Warner Brothers). Maximum of 3 digits right of decimal allowed.	Currency – ex. 1.995	Opt
MOD or SVOD	Studio_Royalty_Flat_Rate	Flat rate royalty that goes to the Studio (i.e. Warner Brothers). Maximum of 3 digits right of decimal allowed.	Currency – ex. 1.995	Opt
MOD or SVOD	Studio_Name	The name of the studio (for reporting)	String (Max 128 Chars)	Opt

5.2.2 Title Content

None.

File name should be OS independent (i.e., alpha numeric, underscore).

5.2.3 Title Assets

- Movie asset.
- Poster asset.
- Box cover asset.
- Preview asset.

5.3 Movie asset

5.3.1 Movie Metadata

Table 3 – Movie Metadata

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Provider	A unique identifier for the provider of the Asset – represents the business relationship between the MSO and the Asset Provider	String – ex. “iN Demand” or “HBO”	Req
AMS	Product	An identifier for the product offering.	String (Max 20 Chars)	Req

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Asset_Name	A string containing the identifying name of the asset. Asset names must be unique within a product.	String (Max 50 chars) Ex. "WesCravensDracula2000movie"	Req
AMS	Version_Major	An integer representing the major version number	Integer	Req
AMS	Version_Minor	An integer representing the minor version number	Integer	Req
AMS	Description	A human-readable string describing the Asset.	String – ex. "Wes Craven's Dracula 2000 movie asset"	Req
AMS	Creation_Date	A string representing the date on which the Asset was created.	String – "yyyy-mm-dd"	Req
AMS	Provider_ID	A unique identifier for the provider of the Asset. The Provider_ID shall be set to the provider's registered internet domain name.	String- Ex. "indemand.com"	Req
AMS	Asset_ID	An identifier for the asset that is unique within a provider's asset ID space. The unique portable identification of an asset is the combinations of its Provider_ID and its Asset_ID.	String (Max 20 chars)-Ex. "ABCD1234567890123456"	Req
AMS	Asset_Class	A system-level type for the asset. This is intended to be helpful for the application mapping and routing, and expected to be more general than the Type value for the content. Expected value is "title"	String	Req
AMS	Verb	A string containing an action to be performed on the asset. The only valid values for the Verb are the empty string ("") and "DELETE".	String	Opt
MOD or SVOD	Encryption	"Y" or "N" flag indicating encryption is required.	String "Y" or "N" <App_Data App="MOD" Name="Encryption" Value="Y"/>	Opt
MOD or SVOD	Type	The asset type that determines how or where it is stored (e.g. in the repository). Values are expected to be: "movie", "box cover", "poster", and "preview" for the corresponding assets. Other asset types can be specified.	"movie"	Req

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Audio_Type	Audio Types available for this content (Dolby ProLogic, Dolby Digital, Stereo, Mono, Dolby 5.1) NOTE: Per Section 6.9 all audio shall be encoded Dolby Digital AC-3 not MPEG-2 Audio.	String – one audio type per element. <App_Data App="MOD" Name="Audio_Type" Value="Stereo"/> <App_Data App="MOD" Name="Audio_Type" Value="Mono"/>	Req
MOD or SVOD	Screen_Format	Screen format (Standard, Widescreen, Letterbox, OAR) (for display)	String	Opt
MOD or SVOD	Languages	Available languages. NOTE: Audio PID(s) shall correspond with Languages. Two character language code from 639.1.	String – (Max 20 per language, 1024 total), one language per element. <App_Data App="MOD" Name="Languages" Value="en"/> <App_Data App="MOD" Name="Languages" Value="es"/>	Opt
MOD or SVOD	Subtitle_Languages	Languages of sub-titles. Two character language code from 639.1	String – (Max 20 per language, 1024 total), one language per element. <App_Data App="MOD" Name="Subtitle_Languages" Value="en"/> <App_Data App="MOD" Name="Subtitle_Languages" Value="es"/>	Opt
MOD or SVOD	Dubbed_Languages	Available dubbed languages – absent if not dubbed. Two character language code from 639.1	String – (Max 20 per language, 1024 total), one language per element. <App_Data App="MOD" Name="Dubbed_Languages" Value="en"/> <App_Data App="MOD" Name="Dubbed_Languages" Value="es"/>	Opt
MOD or SVOD	Copy_Protection	A "Y" or "N" flag indicating copy protection is required	String "Y" or "N"	Opt
MOD or SVOD	Content_FileSize	File Size (in bytes) of the included content for Quality Assurance & processing	Integer – unsigned 64 bit	Req

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Content_CheckSum	A string containing a hex number representing a MD5 (RFC 1321) message digest value for Quality Assurance.	String - Hex (32 chars)	Req

5.3.2 Movie Content

A single MPEG transport stream encoded as described in Section 6 of this document.

This asset contains the feature of this movie title. Any trailers for other titles or advertising is included in this transport stream.

File name should be OS independent (i.e., alpha numeric, underscore).

5.3.3 Movie Assets

None.

5.4 Still-Image asset

5.4.1 Still-Image Metadata

Table 4 – Still Image Metadata

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Provider	A unique identifier for the provider of the Asset – represents the business relationship between the MSO and the Asset Provider	String – ex. “iN Demand” or “HBO”	Req
AMS	Product	An identifier for the product offering.	String (Max 20 Chars)	Req
AMS	Asset_Name	A string containing the identifying name of the asset. Asset names must be unique within a product.	String (Max 50 chars) Ex. “WesCravensDracula2000boxcover”	Req
AMS	Version_Major	An integer representing the major version number	Integer	Req
AMS	Version_Minor	An integer representing the minor version number	Integer	Req
AMS	Description	A human-readable string describing the Asset.	String – ex. “Wes Craven’s Dracula 2000 poster asset”	Req
AMS	Creation_Date	A string representing the date on which the Asset was created.	String – “yyyy-mm-dd”	Req

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Provider_ID	A unique identifier for the provider of the Asset. The Provider_ID shall be set to the provider's registered internet domain name.	String- Ex. "indemand.com"	Req
AMS	Asset_ID	An identifier for the asset that is unique within a provider's asset ID space. The unique portable identification of an asset is the combinations of its Provider_ID and its Asset_ID.	String (Max 20 chars)-Ex. "ABCD1234567890123456"	Req
AMS	Asset_Class	A system-level type for the asset. This is intended to be helpful for the application mapping and routing, and expected to be more general than the Type value for the content. Expected value is "box cover" or "poster".	String	Req
AMS	Verb	A string containing an action to be performed on the asset. The only valid values for the Verb are the empty string ("") and "DELETE".	String	Opt
MOD or SVOD	Type	The asset type that determines how or where it is stored (e.g. in the repository). Values are expected to be: "movie", "box cover", "poster", and "preview" for the corresponding assets. Other asset types can be specified.	"box cover" or "poster"	Req
MOD or SVOD	Image_Aspect_Ratio	The pixel aspect ration for the image (e.g. "320x240")	String	Opt
MOD or SVOD	Content_FileSize	File Size (in bytes) of the included content for Quality Assurance & processing	Integer – unsigned 64 bit	Req
MOD or SVOD	Content_CheckSum	A string containing a hex number representing a MD5 (RFC 1321) message digest value for Quality Assurance.	String - Hex (32 chars)	Req

5.4.2 Still-Image Content

A single BMP compressed image.

This image is for the "Additional information" interface or to be shown on the "MOD/VOD" Library screen, and is additionally used as a fallback when the preview is not available. Multiple Still-Image Assets are acceptable, however, only one "box cover" and one "poster" are permitted with this version of the spec.

File name should be OS independent (i.e., alpha numeric, underscore).

5.4.3 Still-Image Assets

None.

5.5 Preview asset

5.5.1 Preview Metadata

Table 5 – Preview Metadata

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Provider	A unique identifier for the provider of the Asset – represents the business relationship between the MSO and the Asset Provider	String – ex. “iN Demand” or “HBO”	Req
AMS	Product	An identifier for the product offering.	String (Max 20 Chars)	Req
AMS	Asset_Name	A string containing the identifying name of the asset. Asset names must be unique within a product.	String (Max 50 chars) Ex. “WesCravensDracula2000 preview”	Req
AMS	Version_Major	An integer representing the major version number	Integer	Req
AMS	Version_Minor	An integer representing the minor version number	Integer	Req
AMS	Description	A human-readable string describing the Asset.	String	Req
AMS	Creation_Date	A string representing the date on which the Asset was created.	String – “yyyy-mm-dd”	Req
AMS	Provider_ID	A unique identifier for the provider of the Asset. The Provider_ID shall be set to the provider’s registered internet domain name.	String- Ex. “indemand.com”	Req
AMS	Asset_ID	An identifier for the asset that is unique within a provider’s asset ID space. The unique portable identification of an asset is the combinations of its Provider_ID and its Asset_ID.	String (Max 20 chars)-Ex. “ABCD1234567890123456”	Req
AMS	Asset_Class	A system-level type for the asset. This is intended to be helpful for the application mapping and routing, and expected to be more general than the Type value for the content. Expected value is “preview”.	String	Req

Spec	Metadata Name	Description	Type	Required vs Optional
AMS	Verb	A string containing an action to be performed on the asset. The only valid values for the Verb are the empty string (“”), and “DELETE”.	String	Opt
MOD or SVOD	Rating	MPAA or TV Rating.	String, one rating per element. <App_Data App=“MOD” Name=“Rating” Value=“TV-G”/> <App_Data App=“MOD” Name=“Rating” Value=“G”/>	Req
MOD or SVOD	Run_Time	Run time for this preview.	String – “hh:mm:ss”	Req
MOD or SVOD	Type	The asset type that determines how or where it is stored (e.g. in the repository). Values are expected to be: “movie”, “box cover”, “poster”, and “preview” for the corresponding assets. Other asset types can be specified.	“preview”	Req
MOD or SVOD	Audio_Type	Audio Types available for this content (Dolby ProLogic, Dolby Digital, Stereo, Mono, Dolby 5.1) NOTE: Per Section 6.9 all audio shall be encoded Dolby Digital AC-3 not MPEG-2 Audio.	String – one audio type per element. <App_Data App=“MOD” Name=“Audio_Type” Value=“Stereo”/> <App_Data App=“MOD” Name=“Audio_Type” Value=“Mono”/>	Req
MOD or SVOD	Screen_Format	Screen format (Standard, Widescreen, Letterbox, OAR) (for display).	String	Opt
MOD or SVOD	Languages	Available languages. Two character language code from 639.1.	String – (Max 20 per language, 1024 total), one language per element. <App_Data App=“MOD” Name=“Languages” Value=“en”/> <App_Data App=“MOD” Name=“Languages” Value=“es”/>	Opt

Spec	Metadata Name	Description	Type	Required vs Optional
MOD or SVOD	Subtitle_Languages	Languages of sub-titles. Two character language code from 639.1.	String – (Max 20 per language, 1024 total), one language per element. <App_Data App=“MOD” Name=“Subtitle_Languages” Value=“en”/> <App_Data App=“MOD” Name=“Subtitle_Languages” Value=“es”/>	Opt
MOD or SVOD	Dubbed_Languages	Available dubbed languages – absent if not dubbed. Two character language code from 639.1.	String – (Max 20 per language, 1024 total), one language per element. <App_Data App=“MOD” Name=“Dubbed_Languages” Value=“en”/> <App_Data App=“MOD” Name=“Dubbed_Languages” Value=“es”/>	Opt
MOD or SVOD	Content_FileSize	File Size (in bytes) of the included content for Quality Assurance & processing.	Integer – unsigned 64 bit	Req
MOD or SVOD	Content_CheckSum	A string containing a hex number representing a MD5 (RFC 1321) message digest value for Quality Assurance.	String - Hex (32 chars)	Req

5.5.2 Preview Content

A single MPEG transport stream encoded as described in Section 6 of this document.

This asset contains the preview for this title.

File name should be OS independent (i.e., alpha numeric, underscore).

5.5.3 Preview Assets

None.

6 ENCODING SPECIFICATIONS

6.1 Video

- MPEG-2, main level, main profile.
- NTSC in 4:3 aspect ratio.
- Possible 16:9 in future.
- 4:2:0 chroma subsampling.
- Frame rate of 29.97 for video-based source material and 23.97 for film-based source material with 3:2 pull down applied.
- Black level of content shall be at 0 IRE.

6.2 Bit Rate

- Content will be delivered as a single program transport stream with a base data rate of no greater than 3.75 Mbps, including video, English audio and PSI data. The sum of the video and any one audio shall not exceed 3.75 Mbps.
- If additional audio streams are included with the content, the delivered transport stream will be at the rate of 3.75 Mbps plus the bit rate associated with the additional audio tracks. It is expected that the VOD system will strip out additional audio tracks before transmission to settop boxes.
- Video data rate shall be no greater than 3.18 Mbps.
- CA and SI are not included.
- Encoding shall be CBR.

6.3 Resolution

- $\frac{3}{4}$ resolution at 528x480 or $\frac{1}{2}$ resolution at 352x480, at the discretion of the compressionist to optimize signal quality.

6.4 Passes

- Inverse telecine pass, followed by encoding.
- QC cleanup if necessary using noise reduction and bandwidth limiting.

6.5 PIDs

- PMT PID 0x1E0 (decimal 480).
- Video PID 0x1E1 (decimal 481), includes the PCR.
- Audio PID one 0x1E2 (decimal 482).
- Audio PID two (optional) 0x1E3 (decimal 483).
- Audio PID three (optional) 0x1E4 (decimal 484).
- Additional audio tracks, if available, shall have audio PIDs that follow the same numbering pattern.

- All content must have accurate PAT and PMT prior to delivery to settop, and language must be encoded with the ISO639.2 language descriptor.
- All video PMTs must be identified with stream_type=0x02 (MPEG-2).
- All audio PMTs must be identified with stream_type=0x81 (Dolby Digital).

6.6 Transport Stream Requirements

- The transport stream must carry only a single program (SPTS).
- The transport stream must consist of 188 byte packets.
- The transport stream must start on a packet boundary and contain an integral number of transport packets.
- Encoded material shall be delivered in one continuous transport stream without discontinuities from the beginning of the program through to the end.
- A Program Association Table (PAT) for the program must occur in the transport stream before any Program Mapping Table (PMT) for the program.
- Both PAT and PMT must be inserted in the transport stream greater than 4 times per second (8 times per second recommended) throughout the program to allow rapid program acquisition.
- The Program Clock Reference (PCR) PID of the program must be the same as the video stream PID of the program.
- PCRs must occur with a separation of less than 100 mS.
- PCR accuracy at 27 MHz must be +/- 5ppm.
- A PCR time stamp must be present in any packet containing the start of a video Packetized Elementary Stream (PES) payload.
- The first PCR packet of the stream must have the transport discontinuity_indicator flag set to 1.
- Transport packet at the start of a GOP must have random_access_indicator set to 1.

6.7 General Elementary Stream Requirements

- Each stream within the program must start on an access unit boundary and consist of an integral number of access units.
- Decoding Time Stamps (DTS) and Presentation Time Stamps (PTS) carried in the program stream must be accurate as defined in the MPEG standard and clarified in the Technical Corrigendum 2 to that standard (ISO/IEC 13818-4:1998/Cor-2:1998), which specifies that for most circumstances the values for these must be exact.
- Each stream within the program should start without any significant leader (such as black video frames) and end without any significant trailer to facilitate the seamless back-to-back splicing of separate programs.

6.8 GOP - Video Stream Requirements

- Each GOP must contain an I-frame as the initial picture frame.
- Each GOP must be preceded by a sequence header and a sequence extension.
- GOPs shall nominally be 15 for 30 fps video source material and 12 for 24 fps film material.
- GOPs shall have an M=3.
- GOPs shall be closed to start, open after that if needed.

- The video stream must be encoded to the ISO/IEC 13818-2 standard.
- The video stream must conform to the T-STD buffer model.
- The video stream must not make use of any MPEG-2 scalable extensions (Sequence Scalable Extension, Picture Temporal Scalable Extension or Picture Spatial Scalable Extension).
- Each picture within the video stream must be encoded with a picture_structure of frame.
- Each picture within the video stream must be carried within a single video PES packet.
- Each set of sequence header, sequence extension and GOP header packets within a video stream must occur at the start of a new video PES packet that carries the PTS/DTS of the first picture in the GOP.

6.9 Audio

- Dolby Digital at 384 kbps for Dolby 5.1, when available, and 192 kbps for two channel stereo when Dolby Digital is not available.
- Must conform to the ATSC standard as specified in Document A/52 [1].
- Two channel audio must be Dolby Stereo encoded for compatibility with Pro-Logic decoders.
- 48 kHz sampling.
- AC-3 registration descriptor must be included in the stream information contained within the program PMT.

6.10 Closed Captioning / Alternate Languages / V-chip

- ANSI SCTE 20 2001 (formerly DVS/157) [9], with a future addition (dual carriage) of the ATSC A/53 [2] closed captioning format.

6.11 Subtitles

Subtitles carried in a separate PID per SCTE 27 1996 (formerly DVS/026) [10]. Allocation of bandwidth to be determined.

Annex A MPAA & TV Ratings and Advisories

A.1 MPAA Ratings

Standard MPAA Movie Ratings are as follows:

G
PG
PG-13
R
NC-17
X
XX
XXX
Unrated

Unrated implies a feature such as a director's cut that has been changed from its original version, but the content added does not justify the assignment of a TV Rating.

A.2 TV Ratings

There are six different TV Ratings for programming that has not been rated by the MPAA. They are as follows:

TV-Y
TV-Y7
TV-G
TV-PG
TV-14
TV-MA

These are not content advisories, but should be included as part of the TV ratings. These indicators are as follows:

FV (Fantasy Violence) (Usually only applies to TV-Y7 rating)
D (Dialogue)
L (Language)
S (Sexual Content)
V (Violence)

As an example, one of the longest possible TV ratings (16 characters) would appear like this:

TV-MA D, L, S, V

There are 44 possible combinations of the TV ratings with the indicators. I have a copy of the list, or it can be found at <http://www.tvguidelines.org/iconcombo.html>.

A.3 Content Advisories

The content advisories are separate from the ratings. The indicators listed with the TV Ratings above (FV, D, L, S, V) are **not** content advisories. They are actually part of the TV Rating. Following are the different content advisories:

Table 6 – Content Advisories

V (Violence)	AL (Adult Language)	AC (Adult Content)	SC (Sexual Content)	N (Nudity)	RP (Rape)
MV (Mild Violence)	GL (Graphic Language)			BN (Nudity)	
GV (Graphic Violence)					

Within each of the content advisory categories only one specific content may be used. For example, if a film contains Violence, it cannot also contain Mild Violence or Graphic Violence.

If a GUI were to display the largest possible combination using only 1 space and no commas to separate the different abbreviations, 17 characters would be required.

Annex B Special Characters

B.1 ISO-8859-1 (Latin1)

Latin1 covers most West European languages, such as French (fr), Spanish (es), Catalan (ca), Basque (eu), Portuguese (pt), Italian (it), Albanian (sq), Rhaeto-Romanic (rm), Dutch (nl), German (de), Danish (da), Swedish (sv), Norwegian (no), Finnish (fi), Faroese (fo), Icelandic (is), Irish (ga), Scottish (gd), and English (en), incidentally also Afrikaans (af) and Swahili (sw), thus in effect also the entire American continent, Australia and much of Africa. The most notable exceptions are Zulu (zu) and other Bantu languages using Latin Extended-B letters, and of course Arabic in North Africa, and Guarani (gn) missing GEIUY with ~ tilde. The lack of the ligatures Dutch IJ, French OE and „German`` quotation marks is considered tolerable. The lack of the new C=–resembling Euro currency symbol U+20AC has opened the discussion of a new Latin0.

B.2 Character Set

A0	A1	A2	A3	A4	A5	A6	A7	A8	A9	AA	AB	AC	AD	AE	AF
	í	φ	£	¥	¥	¡	§	¨	©	≡	«	¬	–	®	–
B0	±	²	³	´	µ	¶	·	¸	¹	º	»	¼	½	¾	¿
C0	À	Á	Â	Ã	Ä	Å	Æ	Ç	È	É	Ê	Ë	Ì	Í	Î
D0	Ð	Ñ	Ò	Ó	Ô	Õ	Ö	×	Ø	Ù	Ú	Û	Ü	Ý	Þ
E0	à	á	â	ã	ä	å	æ	ç	è	é	ê	ë	ì	í	î
F0	ð	ñ	ò	ó	ô	õ	ö	÷	ø	ù	ú	û	ü	ý	þ

Appendix I VOD Examples (Informative)

I.1 VOD Example 1

```
<?xml version="1.0" encoding="ISO-8859-1"?>
<ADI>
<Metadata>
<AMS
Provider="InDemand"
Product="First-Run"
Asset_Name="The_Titanic"
Version_Major="1"
Version_Minor="0"
Description="The Titanic asset package"
Creation_Date="2002-01-11"
Provider_ID="indemand.com"
Asset_ID="UNVA2001081701004000"
Asset_Class="package"/>
<App_Data App="MOD" Name="Provider_Content_Tier"           Value="InDemand1"/>
<App_Data App="MOD" Name="Metadata_Spec_Version"
Value="CableLabsVOD1.1"/>
</Metadata>

<Asset>
<Metadata>
<AMS Provider="InDemand"
Product="First-Run"
Asset_Name="The_Titanic_Title"
Version_Major="1"
Version_Minor="0"
Description="The Titanic title metadata"
Creation_Date="2002-01-11"
Provider_ID="indemand.com"
Asset_ID="UNVA2001081701004001"
Asset_Class="title"/>
<App_Data App="MOD" Name="Title_Sort_Name"           Value="Titanic, The"/>
<App_Data App="MOD" Name="Title_Brief"               Value="The Titanic"/>
<App_Data App="MOD" Name="Title"                     Value="The Titanic"/>
<App_Data App="MOD" Name="Type"                       Value="title"/>
<App_Data App="MOD" Name="Episode_Name"              Value="Collision With
destiny"/>
<App_Data App="MOD" Name="Episode_ID"                Value="The only one"/>
<App_Data App="MOD" Name="Summary_Long"              Value="Fictional romantic tale of a
rich girl and poor boy who meet on the ill-fated voyage of the 'unsinkable'
ship"/>
<App_Data App="MOD" Name="Summary_Medium" Value="Fictional romantic tale of
rich girl and poor boy who meet on the ill-fated voyage of the 'unsinkable'
ship"/>
<App_Data App="MOD" Name="Summary_Short" Value="Fictional romantic tale of a
rich girl and poor boy who meet on the ill-fated voyage of the 'unsinkable'
ship"/>
<App_Data App="MOD" Name="Rating"                    Value="R"/>
<App_Data App="MOD" Name="Advisories"                Value="AL"/>
<App_Data App="MOD" Name="Advisories"                Value="N"/>
```

```

<App_Data App="MOD" Name="Closed_Captioning" Value="N"/>
<App_Data App="MOD" Name="Run_Time" Value="03:14:00"/>
<App_Data App="MOD" Name="Display_Run_Time" Value="03:14"/>
<App_Data App="MOD" Name="Year" Value="1997"/>
<App_Data App="MOD" Name="Country_of_Origin" Value="United States"/>
<App_Data App="MOD" Name="Actors" Value="Winslet,Kate"/>
<App_Data App="MOD" Name="Actors" Value="DiCaprio,Leonardo"/>
<App_Data App="MOD" Name="Actors" Value="Zane,Billy"/>
<App_Data App="MOD" Name="Actors_Display" Value="Kate Winslet,Leonardo
DiCaprio, Billy Zane"/>
<App_Data App="MOD" Name="Writer_Display" Value="James Cameron"/>
<App_Data App="MOD" Name="Director" Value="Cameron,James"/>
<App_Data App="MOD" Name="Producer" Value="Cameron,James"/>
<App_Data App="MOD" Name="Studio" Value="Paramount"/>
<App_Data App="MOD" Name="Category" Value="InDemand/Movies A-Z"/>
<App_Data App="MOD" Name="Genre" Value="Drama"/>
<App_Data App="MOD" Name="Genre" Value="Romance"/>
<App_Data App="MOD" Name="Season_Premiere" Value="N"/>
<App_Data App="MOD" Name="Season_Finale" value="N"/>
<App_Data App="MOD" Name="Chapter" Value="00:00:02:00,Opening Scene"/>
<App_Data App="MOD" Name="Chapter" Value="00:15:12:00,They Meet"/>
<App_Data App="MOD" Name="Chapter" Value="02:03:06:00,The Collision"/>
<App_Data App="MOD" Name="Chapter" Value="02:55:15:00,She Goes Under"/>
<App_Data App="MOD" Name="Chapter" Value="03:02:09:00,Final Scene"/>
<App_Data App="MOD" Name="Box_Office" Value="1835000000"/>
<App_Data App="MOD" Name="Propagation_Priority" Value="1"/>
<App_Data App="MOD" Name="Billing_ID" Value="56789"/>
<App_Data App="MOD" Name="Licensing_Window_Start" Value="2002-02-01"/>
<App_Data App="MOD" Name="Licensing_Window_End" Value="2002-03-31"/>
<App_Data App="MOD" Name="Preview_Period" Value="300"/>
<App_Data App="MOD" Name="Home_Video_Window" Value="1000"/>
<App_Data App="MOD" Name="Display_As_New" Value="7"/>
<App_Data App="MOD" Name="Display_As_Last_Chance" Value="7"/>
<App_Data App="MOD" Name="Maximum_Viewing_Length" Value="00:24:00"/>
<App_Data App="MOD" Name="Provider_QA_Contact" Value="John Doe,
JDoe@InDemand.com"/>
<App_Data App="MOD" Name="Contract_Name" Value="InDemand"/>
<App_Data App="MOD" Name="Suggested_Price" Value="5.95"/>
<App_Data App="MOD" Name="Distributor_Royalty_Percent" Value="52.5"/>
<App_Data App="MOD" Name="Distributor_Royalty_Minimum" Value="3.124"/>
<App_Data App="MOD" Name="Distributor_Royalty_Flat_Rate" Value="3.155"/>
<App_Data App="MOD" Name="Distributor_Name" Value="InDemand"/>
<App_Data App="MOD" Name="Studio_Royalty_Percent" Value="47.5"/>
<App_Data App="MOD" Name="Studio_Royalty_Minimum" Value="2.826"/>
<App_Data App="MOD" Name="Studio_Royalty_Flat_Rate" Value="2.795"/>
<App_Data App="MOD" Name="Studio_Name" Value="Paramount"/>
<App_Data App="MOD" Name="Subscriber_View_Limit" Value="2002-02-01,2002-
02-28,5"/>
<App_Data App="MOD" Name="Subscriber_View_Limit" Value="2002-03-01,2002-
03-31,5"/>
</Metadata>

<Asset>
  <Metadata>
    <AMS Provider="InDemand"
    Product="First-Run"
      Asset_Name="The_Titanic.mpg"

```

```

Version_Major="1"
    Version_Minor="0"
Description="The Titanic Movie"
Creation_Date="2002-01-11"
Provider_ID="indemand.com"
Asset_ID="UNVA2001081701004002"
Asset_Class="movie"/>
<App_Data App="MOD" Name="Encryption"           Value="N"/>
<App_Data App="MOD" Name="Type"                 Value="movie"/>
<App_Data App="MOD" Name="Audio_Type"           Value="Dolby Digital"/>
<App_Data App="MOD" Name="Screen_Format"        Value="Widescreen"/>
<App_Data App="MOD" Name="Languages"            Value="en"/>
<App_Data App="MOD" Name="Subtitle_Languages"   Value="es"/>
<App_Data App="MOD" Name="Dubbed_Languages"     Value="es"/>
<App_Data App="MOD" Name="Copy_Protection"      Value="N"/>
<App_Data App="MOD" Name="Content_FileSize"     Value="3907840625"/>
<App_Data App="MOD" Name="Content_CheckSum"
Value="12558D3269D25852BD26548DC2654CA"/>

    </Metadata>
    <Content Value="The_Titanic.mpg"/>
</Asset>

<Asset>
    <Metadata>
<AMS Provider="InDemand"
Product="First-Run"
Asset_Name="The_Titanic_Preview.mpg"
Version_Major="1"
Version_Minor="0"
Description="The Titanic Preview"
Creation_Date="2002-01-11"
    Provider_ID="indemand.com"
    Asset_ID="UNVA2001081701004003"
    Asset_Class="preview"/>
<App_Data App="MOD" Name="Rating"               Value="G"/>
<App_Data App="MOD" Name="Run_Time"             Value="00:00:45"/>
<App_Data App="MOD" Name="Type"                 Value="preview"/>
<App_Data App="MOD" Name="Audio_Type"           Value="Dolby Digital"/>
<App_Data App="MOD" Name="Screen_Format"        Value="Widescreen"/>
<App_Data App="MOD" Name="Languages"            Value="en"/>
<App_Data App="MOD" Name="Subtitle_Languages"   Value="es"/>
<App_Data App="MOD" Name="Dubbed_Languages"     Value="es"/>
<App_Data App="MOD" Name="Content_FileSize"     Value="25284375"/>
<App_Data App="MOD" Name="Content_CheckSum"
Value="A1258D3269D25852BD26548DC2654C1"/>
    </Metadata>
    <Content Value="The_Titanic_Preview.mpg"/>
</Asset>

<Asset>
    <Metadata>
<AMS Provider="InDemand"
Product="First-Run"
Asset_Name="The_Titanic_Box_Cover.bmp"
Version_Major="1"
Version_Minor="0"

```



```
Description="The Titanic Box Cover"
Creation_Date="2002-01-11"
    Provider_ID="indemand.com"
    Asset_ID="UNVA2001081701004004"
Asset_Class="box cover"/>
<App_Data App="MOD" Name="Type" Value="box cover"/>
<App_Data App="MOD" Name="Image_Aspect_Ratio" Value="320x240"/>
<App_Data App="MOD" Name="Content_FileSize" Value="15235"/>
<App_Data App="MOD"
Name="Content_CheckSum"Value="B3258D3269D25852BD26548DC2654CD"/>
  </Metadata>
  <Content Value="The_Titanic_Box_Cover.bmp"/>
</Asset>

</Asset>
</ADI>
```

I.2 VOD Example 2

```

<?xml version="1.0" encoding="ISO-8859-1"?>
<ADI>
<Metadata>
  <AMS
    Provider="InDemand"
    Product="MOD"
    Asset_Name="The_Titanic"
    Version_Major="1"
    Version_Minor="0"
    Description="The Titanic asset package"
    Creation_Date="2002-01-11"
  Provider_ID="indemand.com"
  Asset_ID="UNVA2001081701005000"
  Asset_Class="PACKAGE"/>
  <App_Data App="MOD" Name="Provider_Content_Tier" Value="InDemand1"/>
  <App_Data App="MOD" Name="Metadata_Spec_Version"
    Value="CableLabsVOD1.1"/>
</Metadata>

<Asset>
  <Metadata>
  <AMS Provider="InDemand"
  Product="MOD"
  Asset_Name="The_Titanic_Title"
  Version_Major="1"
  Version_Minor="0"
  Description="The Titanic title metadata"
  Creation_Date="2002-01-11"
  Provider_ID="indemand.com"
  Asset_ID="UNVA2001081701005001"
  Asset_Class="title"/>
  <App_Data App="MOD" Name="Title_Sort_Name" Value="Titanic, The"/>
  <App_Data App="MOD" Name="Title_Brief" Value="The Titanic"/>
  <App_Data App="MOD" Name="Title" Value="The Titanic"/>
  <App_Data App="MOD" Name="Type" Value="title"/>
  <App_Data App="MOD" Name="Summary_Short" Value="Fictional romantic
  tale of a rich girl and poor boy who meet on the ill-fated voyage of the
  'unsinkable' ship"/>
  <App_Data App="MOD" Name="Rating" Value="R"/>
  <App_Data App="MOD" Name="Advisories" Value="AL"/>
  <App_Data App="MOD" Name="Advisories" Value="N"/>
  <App_Data App="MOD" Name="Run_Time" Value="03:14:00"/>
  <App_Data App="MOD" Name="Display_Run_Time" Value="03:14"/>
  <App_Data App="MOD" Name="Year" Value="1997"/>
  <App_Data App="MOD" Name="Actors" Value="Winslet, Kate"/>
  <App_Data App="MOD" Name="Actors" Value="DiCaprio, Leonardo"/>
  <App_Data App="MOD" Name="Actors" Value="Zane, Billy"/>
  <App_Data App="MOD" Name="Director" Value="Cameron, James"/>
  <App_Data App="MOD" Name="Studio" Value="Paramount"/>
  <App_Data App="MOD" Name="Category" Value="InDemand/Movies A-Z"/>
  <App_Data App="MOD" Name="Genre" Value="Drama"/>
  <App_Data App="MOD" Name="Genre" Value="Romance"/>
  <App_Data App="MOD" Name="Billing_ID" Value="56789"/>
  <App_Data App="MOD" Name="Licensing_Window_Start" Value="2002-02-01"/>

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<App_Data App="MOD" Name="Licensing_Window_End" Value="2002-03-31"/>
<App_Data App="MOD" Name="Preview_Period" Value="300"/>
<App_Data App="MOD" Name="Provider_QA_Contact" Value="John Doe,
JDoe@InDemand.com"/>
</Metadata>

<Asset>
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    Asset_Name="The_Titanic.mpg"
    Version_Major="1"
    Version_Minor="0"
    Description="The Titanic Movie"
    Creation_Date="2002-01-11"
    Provider_ID="indemand.com"
    Asset_ID="UNVA2001081701005002"
    Asset_Class="movie"/>
    <App_Data App="MOD" Name="Encryption" Value="N"/>
    <App_Data App="MOD" Name="Type" Value="movie"/>
    <App_Data App="MOD" Name="Audio_Type" Value="Dolby Digital"/>
    <App_Data App="MOD" Name="Content_FileSize" Value="3907840625"/>
    <App_Data App="MOD" Name="Content_CheckSum"
    Value="12558D3269D25852BD26548DC2654CA"/>

  </Metadata>
  <Content Value="The_Titanic.mpg"/>
</Asset>

<Asset>
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    Product="MOD"
    Asset_Name="The_Titanic_Preview.mpg"
    Version_Major="1"
    Version_Minor="0"
    Description="The Titanic Preview"
    Creation_Date="2002-01-11"
    Provider_ID="indemand.com"
    Asset_ID="UNVA2001081701005003"
    Asset_Class="preview"/>
    <App_Data App="MOD" Name="Rating" Value="G"/>
    <App_Data App="MOD" Name="Run_Time" Value="00:00:45"/>
    <App_Data App="MOD" Name="Type" Value="preview"/>
    <App_Data App="MOD" Name="Audio_Type" Value="Dolby Digital"/>
    <App_Data App="MOD" Name="Content_FileSize" Value="25284375"/>
    <App_Data App="MOD" Name="Content_CheckSum"
    Value="A1258D3269D25852BD26548DC2654C1"/>
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</Asset>

<Asset>
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    Product="MOD"
    Asset_Name="The_Titanic_Box_Cover.bmp"
    Version_Major="1"

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Version_Minor="0"
Description="The Titanic Box Cover"
Creation_Date="2002-01-11"
Provider_ID="indemand.com"
Asset_ID="UNVA2001081701005004"
Asset_Class="box cover"/>
<App_Data App="MOD" Name="Type" Value="box cover"/>
<App_Data App="MOD" Name="Image_Aspect_Ratio" Value="320x240"/>
<App_Data App="MOD" Name="Content_FileSize" Value="15235"/>
<App_Data App="MOD" Name="Content_CheckSum"
Value="B3258D3269D25852BD26548DC2654CD"/>
  </Metadata>
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</Asset>

</Asset>
</ADI>

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I.3 SVOD Example

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<?xml version="1.0" encoding="ISO-8859-1"?>
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Product="HOD"
Asset_Name="Arli$$_35"
Version_Major="1"
Version_Minor="0"
Description="Arli$$_35 asset package"
Creation_Date="2002-01-11"
Provider_ID="indemand.com"
Asset_ID="UNVA2001081701006000"
Asset_Class="package"/>
<App_Data App="SVOD" Name="Provider_Content_Tier" Value="HBO1"/>
<App_Data App="SVOD" Name="Metadata_Spec_Version"
Value="CableLabsVOD1.1"/>
</Metadata>

<Asset>
  <Metadata>
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Product="HOD"
Asset_Name="Arli$$_35_Title"
Version_Major="1"
Version_Minor="0"
Description="Arli$$_35 title metadata"
Creation_Date="2002-01-11"
Provider_ID="indemand.com"
Asset_ID="UNVA2001081701006001"
Asset_Class="title"/>
<App_Data App="SVOD" Name="Title_Sort_Name" Value="Arli$$ 35"/>
<App_Data App="SVOD" Name="Title_Brief" Value="Arli$$ 35"/>
<App_Data App="SVOD" Name="Title" Value="Arli$$ 35"/>
<App_Data App="SVOD" Name="Type" Value="title"/>
  
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<App_Data App="SVOD" Name="Summary_Short" Value="'Cause and Effect.' Arliss
has a health scare while Kirby tries to 'assist' an old lady with her
baseball memorabilia."/>
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<App_Data App="SVOD" Name="Advisories" Value="AL"/>
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<App_Data App="SVOD" Name="Display_Run_Time" Value="00:29"/>
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<App_Data App="SVOD" Name="Actors" Value="Turner,Jim"/>
<App_Data App="SVOD" Name="Actors" Value="Oh,Sandra"/>
<App_Data App="SVOD" Name="Actors" Value="Boatman,Michael"/>
<App_Data App="SVOD" Name="Category" Value="HBO/HBO
Series/Arli$$"/>
<App_Data App="SVOD" Name="Genre" Value="Comedy"/>
<App_Data App="SVOD" Name="Billing_ID" Value="01429"/>
<App_Data App="SVOD" Name="Licensing_Window_Start" Value="2002-02-01"/>
<App_Data App="SVOD" Name="Licensing_Window_End" Value="2002-03-31"/>
<App_Data App="SVOD" Name="Subscriber_View_Limit" Value="2002-02-01,2002-
02-28,5"/>
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03-31,6"/>
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    Version_Minor="0"
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    Provider_ID="indemand.com"
    Asset_ID="UNVA2001081701006002"
    Asset_Class="movie"/>
    <App_Data App="SVOD" Name="Encryption" Value="N"/>
    <App_Data App="SVOD" Name="Type" Value="movie"/>
    <App_Data App="SVOD" Name="Audio_Type" Value="Dolby Digital"/>
    <App_Data App="SVOD" Name="Content_FileSize" Value="3907840625"/>
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    </Metadata>
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  </Asset>

<Asset>
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    Description="Arli$$_35 Preview"
    Creation_Date="2002-01-11"

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Provider_ID="indemand.com"
Asset_ID="UNVA2001081701006003"
Asset_Class="preview"/>/>
<App_Data App="SVOD" Name="Rating" Value="TV-MA"/>
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<App_Data App="SVOD" Name="Type" Value="preview"/>
<App_Data App="SVOD" Name="Audio_Type" Value="Dolby Digital"/>
<App_Data App="SVOD" Name="Content_FileSize" Value="25284375"/>
<App_Data App="SVOD" Name="Content_CheckSum"
Value="A1258D3269D25852BD26548DC2654C1"/>
  </Metadata>
  <Content Value="Arli_35_Preview.mpg"/>
</Asset>

<Asset>
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Product="HOD"
Asset_Name="Arli$$_35_Box_Cover.bmp"
Version_Major="1"
Version_Minor="0"
Description="Arli$$_35 Box Cover"
Creation_Date="2002-01-11"
Provider_ID="indemand.com"
Asset_ID="UNVA2001081701006004"
Asset_Class="box cover"/>/>
  <App_Data App="SVOD" Name="Type" Value="box cover"/>
  <App_Data App="SVOD" Name="Image_Aspect_Ratio" Value="320x240"/>
  <App_Data App="SVOD" Name="Content_FileSize" Value="15235"/>
  <App_Data App="SVOD" Name="Content_CheckSum"
Value="B3258D3269D25852BD26548DC2654CD"/>
    </Metadata>
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  </Asset>

</Asset>
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