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Withdrawal of EG 37:2001

Node Structure for the SMPTE Metadata Dictionary

A document should be Withdrawn only if there is a significant possibility of its use causing harm. A Withdrawn document shall still be made available and offered for sale by the Society, but it shall be prefaced by a cover page explaining its current status including a statement that some or all of the content is no longer endorsed by the Society.

This Engineering Guideline has been withdrawn and its content is no longer endorsed by the Society. This action has been taken because it is judged that there is a significant possibility that use of the document may cause harm.

The document no longer reflects the normative definitions of the referenced documents.

Following multiple revisions of the Metadata Element Dictionary (RP 210), the outline node structure presented in EG 37 is incomplete and in some cases contradicted by the normative provisions of RP 210.

Readers of this document are cautioned that the information contained in the document is not in complete compliance with the latest Metadata Element Dictionary.

EG 37-2001

SMPTE ENGINEERING GUIDELINE

Node Structure for the SMPTE Metadata Dictionary

1 Scope

This guideline provides supplementary information to the SMPTE metadata dictionary. The metadata dictionary is a complete list of metadata elements identified by the last 8 octets of the SMPTE universal label (UL). The UL defines a tree structure with a multiplicity of branches (called nodes) and the metadata items are defined as leaves. The dictionary specifies which ULs are nodes and which are leaves.

This guideline provides a simplified layout of the metadata dictionary nodes for easy reference. This layout is not a normative reference, but provides sufficient information in a compact form to allow users to both locate metadata items of interest and to provide an easy tool by which new metadata items can be placed within the metadata dictionary.

2 Normative references

The following standards contain provisions which, through reference in this text, constitute provisions of this guideline. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this guideline are encouraged to investigate the possibility of applying the most recent edition of the standards indicated below.

ANSI/SMPTE 298M-1997, Television — Universal Labels for Unique Identification of Digital Data

SMPTE 335M-2001, Television — Metadata Dictionary Structure

SMPTE RP 210.1-2001, Metadata Dictionary

3 Node description

The metadata dictionary register identifies each metadata item with the last 8 octets of the 16-octet SMPTE UL called the item designator. The dictionary is constructed of primary classes as identified in SMPTE 335M (metadata dictionary structure) and subclasses of increasingly fine node definition. The primary classes are defined by the first octet in the dictionary item designator and subclasses are defined by second, third, and fourth octets up to the eighth octet. Node break points are defined by the rightmost octet prior to that which is used to define an individual metadata item. Thus a node appears at each point in the dictionary item designator where one or more metadata items with a common node are defined.

The metadata dictionary includes a column identifying whether a row is a node or a leaf. All leaf rows define metadata items whereas all nodes define the common path for related metadata items. This guideline specifies the node layout in a simple form for ease of access and understanding.

The metadata dictionary register is identified by the first 8 octets of a SMPTE 16-octet UL in which octets 7 and 8 identify the dictionary structure number and version number respectively. A metadata dictionary register has the same value for octet 7 and may have incrementing version numbers defined in octet 8 where each increment only adds nodes and leaves and is therefore backward compatible with previous version numbers of that dictionary. Metadata dictionary registers with different dictionary structure numbers defined in octet 7 are non-backward compatible with dictionary registers having other dictionary structure numbers.

This guideline identifies the node structure of the metadata dictionary register indicated in octets 7 and 8 in table 1.

Approved September 18, 2001

Table 1 – Specification of the metadata dictionary header and designator values

Octet No.	Description	Value (hex)
1	Object identifier	06_h
2	Label size	$0E_h$
3	Designation: ISO	$2B_h$
4	Designation: SMPTE	34_h
5	Registry: Dictionaries	01_h
6	Registry: Metadata dictionaries	01_h
7	Registry: Dictionary structure	01_h
8	Registry: Version number	vv_h

4 Node definition

The dictionary node structure is given in annex A. Each primary class is identified in capitalized bold text and given a number which is the value of the first octet of the dictionary item designator. All subclasses which follow inherit the common class number in the first octet and add their own subclass number. The next class is shifted by one tab space and has a value defined by the second octet of the dictionary item designator. All subclasses which follow with two or more tab spaces inherit the second octet value and add their own subclass number. This process is repeated for all subclasses such that any node with *n* tab spaces defines the value in the nth octet of the metadata dictionary. All numbers are shown in hexadecimal notation [xx_h].

Annex A may be updated at any time to reflect the current status of the metadata dictionary register according to SMPTE RP 210. In order to track additions to the annex, each addition shall include the version number together with the date of the update. Previous version numbers and dates shall be preserved to provide a record of previous updates. If, at any time, there are differences between the nodes in annex A and the metadata dictionary register, the register shall be used as the normative reference.

Annex A (informative)
Node assignments of metadata dictionary structure 1

Version 1, March 17, 2000
Version 2, May 24, 2000

[01] IDENTIFIERS and LOCATORS

[01] Globally unique identifiers
[10] International broadcasting org IDs
[03] Program IDs
[04] Physical media IDs
[01] Tape IDs
[11] ISO IDs
[13] ISO-based compound IDs
[15] Object IDs
[20] Device IDs

[02] Globally unique locators
[01] URLs

[03] Locally unique identifiers
[01] Administration IDs
[02] Physical media IDs
[01] Film codes
[02] Tape IDs
[03] Object IDs
[04] Network and stream IDs

[04] Locally unique locators
[01] Media locators
[07] Film locators
[10] Proxy locators

[05] Titles

[07] Local identifiers
[01] Package IDs

[0A] Organization identifiers
[01] Manufacturer IDs

[10] Unique IPR identifiers
[01] IPI (SUISA/CISAC)
[02] AGICOA/MPAA

[02] ADMINISTRATION

[01] Supplier

[02] Product

[05] Rights
[01] Copyright
[02] Intellectual rights
[03] Legal personalities
[04] IP rights options

[06] Financial Information
[01] Currencies
[02) Payments and costing
[03] Income

[07] Permitted access

[08] Security
[01] System access

[09] Encryption
[01] Film encryption
[01] Scambling keys

[10] Publication outlet
[01] Broadcast
[01] Broadcaster

[20] Broadcast and repeat information
[01] Broadcast flags
[02] Repeat numbers
[03] Ratings

[30] Participating parties
[01] Persons (individuals and groups)
[02] Production
[03] Support and administration
[02] Organizations and public bodies
[02] Production
[03] Support and administration
[05] Job function information
[06] Contact information
[03] Person or organization details
[01] Person names
[02] Group names
[03] Organization names

[03] INTERPRETIVE

[01] Fundamental
[01] Countries and languages
[01] Country and region codes
[02] Language codes
[02] Data interpretations
[01] System interpretations
[02] Property definitions
[03] Property defaults
[03] Type definitions
[10] KLV interpretations
[03] Fundamental dimensions
[01] Length
[02] Angles
[03] Time
[04] Mass
[05] Energy

[02] Descriptive (human assigned)
[01] Categorization
[01] Content classification
[02] Cataloging and indexing
[06] Textual description
[07] Stratum
[02] Assessments
[01] Awards
[02] Qualitative values
[03] Technical comments/descriptions
[01] Object comments/descriptions
[04] Descriptive names
[01] Object names

[01] Generic object names
[02] AAF object names
[05] Editorial comments/descriptions

[03] Descriptors (machine/computer assigned)
[01] Categorization
[01] Content classification
[02] Cataloging and indexing
[06] Textual description
[07] Stratum
[03] Technical comments/descriptions
[01] Object comments/descriptions

[04] PARAMETRIC (Coding parameters)

[01] Video/image essence characteristics
[01] Fundamental image characteristics
[01] Aspect ratios
[02) Image source characteristics
[01] Electro-optical formulation
[01] Transfer characteristics
[03] Video/image scanning parameters
[01] Temporal parameters
[02] Vertical parameters
[03] Horizontal parameters
[04] Analog video coding characteristics
[05] Digital video/image coding parameters
[01] Digital video/image sampling parameters
[02] Digital video/image storage parameters
[03] Digital quantization and level parameters
[06] Digital video/image compression parameters
[02] MPEG coding parameters
[01] MPEG-2 coding parameters
[08] Film-to-video characteristics
[01] Film pulldown characteristics
[02] Film frame rates
[10] Image test parameters
[01] Video test parameters
[02] Film test parameters

[02] Audio essence characteristics
[01] Fundamental audio characteristics
[01] Audio formulation
[10] Audio mix
[02] Analog audio coding parameters
[03] Digital audio coding parameters
[01] Digital sampling parameters
[02) Digital audio storage parameters
[03] Digital quantization and level parameters
[04] Digital audio compression parameters
[03] MPEG coding parameters
[01] MPEG-1 coding parameters
[08] Film sound source
[10] Audio test parameters

[03] Data essence characteristics
[01] Fundamental data essence parameters
[02] Analog data essence coding parameters
[03] Digital data essence coding parameters
[10] Data essence test parameters

[04] Metadata characteristics
[01] Fundamental metadata characteristics
[01] Time code characteristics
[02] Analog metadata coding characteristics
[03] Digital metadata coding characteristics
[10] Metadata test parameters

[05] Monitoring and control characteristics
[01] Fundamental M and C characteristics
[02] Analog M and C coding characteristics
[03] Digital M and C coding parameters
[01] Digital M and C sampling parameters
[10] M and C test parameters

[06] General encoding characteristics
[01] General essence coding characteristics

[07] General essence parameters
[01] General essence coding characteristics

[08] Object characteristics

[10] Medium characteristics
[01] Storage medium parameters
[01] Tape medium parameters
[02] Disc medium parameters
[03] Film medium parameters
[01] Generic film medium parameters
[02] Specific film medium parameters

[18] Storage characteristics
[01] Storage alignment characteristics

[20] Device characteristics
[01] Camera characteristics
[01] Image characteristics
[02] Image devices
[02] Optical characteristics
[01] Optical test parameters
[01] Optical device parameters
[03] Microphone characteristics

[05] PROCESS

[01] General process indicators
[01] Fundamental
[02] Content capture
[02] Video/image capture process
[03] Film capture process
[04] Audio capture process
[05] Data capture process
[03] Manipulation

[02] Compression processing
[01] Video/image compression
[02] MPEG processing
[01] MPEG-2 processing
[03] JPEG processing
[01] TIFF JPEG processing
[01] JFIF JPEG processing
[02] Audio compression
[03] Data essence compression
[04] Metadata compression

[03] Noise-reduction processing
[01] Video noise reduction
[02] Audio noise reduction

[20] Enhancement or modification
[01] Image essence processing
[02] Video processor settings (device specific)
[03] Audio essence processing
[04] Audio processor settings (device specific)

[05] Data essence processing
[06] Data processor settings (device specific)
[07] Metadata processing
[01] Modification information
[08] Metadata processor settings (device specific)
[09] Code processor settings

[30] Editing information
[01] Editing version information
[02] Editing decision information
[03] Editing matte information
[04] Editing event information
[05] Editing effect information
[06] Editing web information
[07] Editing user notes

[40] Processing history
[01] Video compression history
[02) Audio compression history
[03] Data compression history
[04] Metadata compression history
[10] Transfer history
[01] Image transfer history

[06] RELATIONAL

[01] Generic relationships
[01] Essence/metadata relationships
[01] Essence to essence
[02] Metadata to essence
[03] Metadata to metadata
[04] Object to object
[01] ??
[02] ??
[03] ??
[04] ??
[05] ??
[05] Metadata to object
[06] Essence to object
[07] Dictionary to metadata

[02] Related production material

[08] Stream and storage relationships
[01] Stream relationships
[01] Continuity counts
[02] Stream positional relationships
[02] Storage relationships

[10] Numerical sequences

[07] SPATIO-TEMPORAL

[01] Position and Space Vectors
[01] Positional system information
[02] Positional information
[01] Absolute position
[01] Local datum absolute position
[02] Device absolute position
[03] Subject absolute position
[02] Relative position
[01] Local datum relative position
[02] Device relative position
[03] Subject relative position
[03] Image positional information
[03] Rate and direction of positional change
[01] Absolute R&D of positional change
[01] Device R&D of positional change
[02] Subject R&D of positional change
[02] Relative R&D of positional change
[01] Device R&D of positional change
[02] Subject R&D of positional change
[08] Distance measurements
[01] Device to subject distance
[09] Dimensions
[01] Device dimension
[02] Subject dimensions
[03] Location dimensions
(04] Media dimensions
[01] Image dimensions
[01] Pan and scan dimensions
[10] Angular specifications
[01] Device angles
[02] Subject angles
[20] Abstract locations
[01] Place names
[01] Abstract names
[02] Country codes
[03] Regions
[04] Addresses
[01] Postal addresses
[02] Setting addresses
[03] Electronic addresses
[02] Place descriptions

[02] Temporal
[01] Dates and times
[01] General dates and times
[01] User defined date-time stamps
[02] Absolute dates and times
[01] Material start true date-times
[02] Material start time address
[03] Material end true date-times
[04] Material end time address
[05] Material occurrence true date-time
[06] Material occurrence time address
[07] Event start true date-times
[08] Event start time address
[09] Event end true date-times
[0A] Event end time address
[03] Relative times
[01] Material start relative times
[02] Material end relative times
[03] Event start relative times
[04] Event end relative times
[10] Offsets
[01] Material offsets
[02] Edit offsets
[08] Setting dates and times
[10] Process dates and times
[01] Creation dates and times
[02] Modification dates and times
[02] Durations
[01] Absolute durations
[01] Edit timeline durations
[04] Video durations
[05] Audio durations
[02] Material abs. duration
[03] Event abs duration
[02] Relative durations (scaling)
[03] Delay
[01] Encoding/decoding
[01] Codec delays
[02] Encoding delays

- [03] Decoding delays
- [05] Latency
- [06] Temporal shapes
  - [01] Shutter characteristics
    - [01] Shutter speeds
    - [02] Shutter gatings

[0D] USER REGISTERED FOR PUBLIC USE

[0E] USER REGISTERED FOR PRIVATE USE

[01] US DoD metadata

[02] UAV metadata

[03] RQ1A metadata
- [01] RQ1A closed-caption set

[0F] EXPERIMENTAL METADATA