EBU Technical Recommendation R108-2001
High-level rules for systems implementing the SMPTE UMID (Unique Material Identifier)

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1. Introduction

The Unique Material Identifier (UMID) [1] is defined as Class 1 Metadata in the Standard SMPTE Metadata Dictionary [2].

The UMID will serve an important purpose for EBU Members within future media production because it will provide an unambiguous method of identification of instances of essence and groups of essence, and will thus enable that essence to be linked with its associated metadata.

The EBU is confident that all future media asset management systems[1] will depend on production equipment that is capable of supporting the SMPTE UMID.

However, in order to allow consistent development of future "UMID-enabled" equipment and its integration into media production systems, the EBU has identified the need for:

- Some clarification of the published SMPTE Standard [1] and the accompanying Recommended Practice [3],
- "High-level" rules to support common understanding of users' system requirements for the identification of all material types.

The EBU will attempt to achieve the desired clarification of the SMPTE documents.

The high-level rules are recommended below.

2. Recommendations

The EBU recommends that Members implementing systems using UMIDs should follow the rules below:

1. Both the Material and Instance elements of the UMID shall be regarded as "Dumb Numbers". That is, neither the value of each element, nor their combination, carries any intrinsic meaning.[2]

2. It is not required to parse the UMID at any system interface[3], other than to read the SMPTE Universal Label, Length, the Material number and the Instance number.

   If the UMID is parsed within an application, it is essential that the application should treat the Material and Instance numbers within the UMID as "dumb" – as defined in Rule 1 above.

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1 "Media asset management" is defined as a business function which runs through many processes involved in the creation and distribution of media products, and consists of a defined set of activities concerned with their identification, description, storage, retrieval, up-dating and re-use.

2 It follows from this that the use of "Instance Zero" to convey any specific meaning - such as "original, not-yet-stored material from a sensor" - is deprecated. The EBU advises manufacturers that there are unresolved issues concerning the identification of such un-stored material. Unless material is bounded it cannot be identified without the risk of ambiguity. The development of a label by which to indicate that the identifier is referencing un-stored material may be helpful in this regard.

3 Within a specific device or system, there may be good reason to parse the UMID.

3. When an instance of material is stored, a device or system shall create a new UMID and apply it to the newly stored instance.

   The default rule shall be to create a completely new UMID, that is, both a new material number and a new instance number.

   In those systems where the newly stored material is an exact copy of the original material, it is permissible to create a new UMID that retains the existing material number and creates only a new instance number.

4. The Extended UMID should be used with caution. A single Extended UMID must not be applied to any type of material that has duration and is comprised of more than one Content Unit unless all the data within the signature extension applies to each and every Content Unit.

Section 3 outlines a way to assure unambiguous “signature” data and avoid parsing the extension.

3. Capture/Create set

In many applications, the element values used to generate the extension or "signature" of the UMID will carry useful information about the origin of the material.

In such cases, this metadata can be accommodated as a "Capture/Create" metadata set[4], separately from the UMID. This set will contain information particular to the business requirements of the application. For example, the set may typically contain:

- Information on Time and Date of origination,
- Information on the place of origin,
- A globally-registered code representing the Country of registration of the organisation owning the capture device
- A globally-registered code representing the Organisation
- An organisationally-registered code for the specific capture Device type/number.

Such a Capture/Create set will require a specific definition as a set that makes clear the meaning of the information in the set and its relationship to the material.

Bibliography

[1] SMPTE Standard 330M-2000 for Television — Unique Material Identifier (UMID)

[2] SMPTE Metadata Dictionary as specified in SMPTE RP210a
http://www.smpte-ra.org/mdd/index.html

[3] SMPTE RP 205-2000 — Application of Unique Material Identifiers in Production and Broadcast Environments

[4] SMPTE Standard 336M-2001 for Television — Data Encoding Protocol using Key-Length-Value.

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[4] A candidate specification of Metadata sets in KLV protocol is given in SMPTE 336 [4]. Other implementations, such as XML, are expected.