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SMPTE RECOMMENDED PRACTICE

Nonsynchronized Mapping of KLV Packets into MPEG-2 Systems Streams



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1 Scope

This practice describes a means for mapping SMPTE metadata and other data essence, encoded in the SMPTE KLV protocol, into MPEG-2 systems streams. Use of synchronized streams and their syntax and semantics is beyond the scope of this practice.

2 Normative references

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

SMPTE 336M-2001, Television — Data Encoding Protocol using Key-Length-Value

ITU-T H.222.0 / ISO/IEC 13818-1:2000, Information Technology — Generic Coding of Moving Pictures and Associated Audio Information: Systems

3 Introduction

This practice describes a means for mapping SMPTE metadata and/or essence encoded in the SMPTE 336M KLV protocol into MPEG-2 systems streams. A strong interest exists to carry audio/visual data, metadata, and/or essence multiplexed together within the same digital stream. The use of one data stream facilitates delivery of the overall multimedia presentation to the consumer. Metadata is classified as information about the content or essence. An example of metadata is information such as camera angle, scene identifier, or

property rights. Other essence is supplemental content to the audio and video such as closed captioning, sports statistics, or hyperlinked advertisements.

For some applications, it may not be appropriate for large amounts of data essence and metadata to be mixed together in the same stream. For example, applications intended for simple realtime decoders may wish to carry data essence and metadata in separate streams using the specifications in this practice.

4 Transport and program stream mapping

The MPEG-2 systems specification describes a transport stream and a program stream. The transport stream is tailored for communicating or storing one or more programs of coded video and other data in environments where significant errors may occur. Examples include wireless communications, broadcast, and Internet delivery. Alternatively, the program stream is tailored for communicating or storing one program of coded video and other data in environments where errors are very unlikely. Examples include DVD, video archives, Intranet, and FTP.

Both protocols allow for the multiplexing of other data with the audio and video stream.

The MPEG-2 systems stream protocol is primarily a methodology for multiplexing multiple streams of audio/visual/data information into a single program. Data may be carried in MPEG-2 systems streams similar to the way video and audio data are carried.

The value of the ISO/IEC 13818-1 *stream_id* field associated with an SMPTE KLV program element shall be equal to 0xBD (private_stream_1).