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Information technology — Coding of audio-visual objects —

Part 13: Intellectual Property Management and Protection (IPMP) extensions

Technologies de l'information — Codage des objets audiovisuels —

Partie 13: Extensions de gestion et protection de la propriété intellectuelle (IPMP)

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 14496-13 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*. ISO/IEC 14496-13:2004, together with ISO/IEC 14496-1:2004, cancels and replaces ISO/IEC 14496-1:2001/Amd.3:2004, which has been technically revised.

ISO/IEC 14496 consists of the following parts, under the general title *Information technology — Coding of audio-visual objects*:

— *Part 1: Systems*

— *Part 2: Visual*

— *Part 3: Audio*

— *Part 4: Conformance testing*

— *Part 5: Reference software*

— *Part 6: Delivery Multimedia Integration Framework (DMIF)*

— *Part 7: Optimized reference software for coding of audio-visual objects*

— *Part 8: Carriage of ISO/IEC 14496 contents over IP networks*

— *Part 9: Reference hardware description*

— *Part 10: Advanced Video Coding*

— *Part 11: Scene description and application engine*

— *Part 12: ISO base media file format*

— *Part 13: Intellectual Property Management and Protection (IPMP) extensions*

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— *Part 14: MP4 file format*

— *Part 15: Advanced Video Coding (AVC)*

— *Part 16: Animation Framework eXtension (AFX)*

— *Part 17: Streaming text format*

— *Part 18: Font compression and streaming*

— *Part 19: Synthesized texture stream*

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Introduction

The International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of a patent.

The ISO and IEC take no position concerning the evidence, validity and scope of this patent right.

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Information technology — Coding of audio-visual objects —

Part 13:
Intellectual Property Management and Protection (IPMP) extensions

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1 Scope

This International Standard specifies :

- The definition, as well as Extension tags, syntax and semantics for an `IPMP_Data_BaseClass` to support the following functionalities.
  - ✧ Mutual Authentication for IPMP tool to IPMP tool as well as IPMP tool to Terminal communication.
  - ✧ The requesting by IPMP tools of the connection/disconnection to requested IPMP tools.
  - ✧ The notification to IPMP tools of the connection/disconnection of IPMP tools.
  - ✧ Common IPMP processing.
  - ✧ IPMP tool to/from User interaction.
- Syntax and semantics for the carriage of IPMP tools in the bit stream.
- Syntax and semantics for IPMP information carriage to and from IPMP tools.
- Syntax and semantics for the requesting and transfer of content and IPMP Tools between Terminals as well as extension tags, syntax and semantics to the `IPMP_Data_BaseClass` ISO/IEC 14496-1 used therein.
- XML syntax and semantics for the description of the environment in which and MPEG-4 Terminal/application is operating.
- A list of registration authorities required for the support of the amended specifications found herein.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 10646-1:1993, *Information technology – Universal Multiple-Octet Coded Character Set (UCS) – Part 1: Architecture and Basic Multilingual Plane*

ISO/IEC 14496-1:2004, *Information technology — Coding of audio-visual objects — Part 1: Systems*

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XML Schema Part 0: Primer, Part 1: Structures, and Part 2: Datatypes, W3C Recommendation, 2 May 2001, available at <http://www.w3.org/TR/2001/REC-xmlschema-0-20010502>, <http://www.w3.org/TR/2001/REC-xmlschema-1-20010502>, and <http://www.w3.org/TR/2001/REC-xmlschema-2-20010502>

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1

Binary Representation
In the context of an IPMP Tool, this is the format of the implementation of that IPMP Tool, Examples: Platform Dependent Native Code, Java ™ bytecode.

3.2

Content
This implies part or whole of an MPEG presentation.

3.3

Content Consumption
Any experience of given Content implies consumption of that content. Access, Playback, Denial of Access and Creation of a Copy are all types of content consumption.

3.4

Content Stream
This is the incoming content, of MPEG-4 format.

3.5

IPMP Device
An implemented application that implements an MPEG-4 Terminal supporting the use of MPEG-4 IPMP.

3.6

IPMP Information
Information directed to a given IPMP Tool to enable, assist or facilitate its operation.

3.7

IPMP System
A monolithic IPMP protection scheme which requires implementation dependant access to protected streams at required Control Points and must provide any intra-communication within an IPMP System on an implementation basis.

3.8
IPMP Tool
IPMP tools are modules that perform (one or more) IPMP functions such as authentication, decryption, watermarking, etc. Conceptually the use of one or more IPMP Tools is combined to perform the functionality of an IPMP System. IPMP Tools, as opposed to IPMP Systems, are normatively identified as to which control points they function at as well as are provided normative methods for secure communications both within as well as outside of a given IPMP Tools comprised functional “IPMP System”. An additional difference between IPMP Tools and IPMP Systems is that IPMP Tools, or a combination thereof, may be used for the protection of Object streams.

In this specification the use of the term “IPMP System” is used in some cases to indicate either an actual IPMP System or a combination of IPMP Tools whose combination provides the functionality of an IPMP System. In cases where the distinction is important the proper respective terms are used.

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