

INTERNATIONAL STANDARD

ISO/IEC 14496-13

First edition
2004-09-15

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)*

Reference number
ISO/IEC 14496-13:2004(E)



PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO/IEC 2004

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Contents

Page

Foreword.....	iv
Introduction	vi
1 Scope.....	1
2 Normative References	1
3 Terms and Definitions	2
4 Overview of IPMP Extensions (Informative).....	3
4.1 IPMP Architecture	3
5 Normative Elements.....	8
5.1 Extended MPEG-4 Architecture.....	8
5.2 Extension tags for the IPMP_Data_BaseClass message.....	8
5.3 Mutual Authentication	9
5.4 IPMP Tool connection and disconnection.....	17
5.5 IPMP Tool notification	23
5.6 IPMP Processing	25
5.7 User Interaction Messages	28
5.8 IPMP Information Delivery Functions	31
Annex A (normative) Selective Decryption Configuration Data	35
A.1 Introduction	35
A.2 IPMP_SelectiveDecryptionInit	35
A.3 An example of a selective decryption configuration data (Informative)	38
Annex B (normative) Audio Watermarking Configuration and Notification	41
B.1 Introduction	41
B.2 B.2 IPMP_AudioWatermarkingInit	41
B.3 IPMP_SendAudioWatermark.....	43
Annex C (normative) Video Watermarking Configuration and Notification Data	45
C.1 Introduction	45
C.2 IPMP_VideoWatermarkingInit	45
C.3 IPMP_SendVideoWatermark	47
Annex D (normative) Tool/Content Transfer Messages Among Distributed IPMP Devices	49
D.1 Introduction	49
D.2 Addressing of distributed devices	49
D.3 IPMP_DeviceMessageBase.....	49
D.4 Device to Device IPMP Message	50
D.5 Content Transfer Messages	51
D.6 Tool Transfer Messages	52
D.7 Device ID messages.....	53
Annex E (normative) Schema for Terminal Platform	54
Annex F (normative) Registration Procedure.....	57
F.1 Registered Data.....	57
F.2 Procedure for the request of Registered Data	57
F.3 Responsibilities of the Registration Authority	57
F.4 Contact information for the Registration Authority	58
F.5 Responsibilities of Parties Requesting Registered Data.....	58
F.6 Appeal Procedure for Denied Applications.....	58
F.7 Registration Application Form	59
Annex G (informative) Patent statements	62

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*

- *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*

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.

The holder of this patent right has assured the ISO and IEC that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the ISO and IEC. Information may be obtained from the companies listed in Annex G.

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

Information technology — Coding of audio-visual objects —

Part 13:

Intellectual Property Management and Protection (IPMP) extensions

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*

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>