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Information technology — Coding of audio-visual objects —

Part 4: Conformance testing

Technologies de l'information — Codage des objets audiovisuels —

Partie 4: Essai de conformité

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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.

ISO/IEC 14496-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This second edition cancels and replaces the first edition (ISO/IEC 14496-4:2000), 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: Optimised 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) file format*

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

— *Part 17: Streaming text format*

— *Part 18: Font compression and streaming*

— *Part 19: Synthesized texture stream*

Introduction

Parts 1, 2 and 3 of ISO/IEC 14496 specify a multiplex structure and coded representations of audio-visual information. Parts 1, 2 and 3 of ISO/IEC 14496 allow for large flexibility, achieving suitability of ISO/IEC 14496 for many different applications. The flexibility is obtained by including parameters in the bitstream that define the characteristics of coded bitstreams. Examples are the audio sampling frequency, picture size, picture shape, picture rate, bitrate parameters, synchronisation timestamps, the association of bitstreams and synthetic objects within objects, the association of objects within scenes, the protection of bitstreams, objects and scenes. Part 6 of ISO/IEC 14496 specifies a framework for uniform delivery of MPEG-4 content according to the requested associated QoS, irrespective of their location and the transport technology.

This part of ISO/IEC 14496 specifies how tests can be designed to verify whether bitstreams and decoders meet the requirements as specified in parts 1, 2, 3 and 6 of ISO/IEC 14496 and allow interoperability with remote terminals in interactive, broadcast and local (with stored contents) sessions. These tests can be used for various purposes such as:

- manufacturers of encoders, and their customers, can use the tests to verify whether the encoder produces bitstreams compliant with parts 1, 2 and 3 of ISO/IEC 14496.
- manufacturers of decoders and their customers can use the tests to verify whether the decoder meets the requirements specified in parts 1, 2 and 3 of ISO/IEC 14496 for the claimed decoder capabilities.
- manufacturers and customers of terminals supporting interactive, broadcast and local sessions over a multitude of transport protocols and networks, can use the tests to verify whether the claimed functionalities are compliant with ISO/IEC 14496-6.
- manufacturers of test equipments, and their customers can use the tests to verify compliance with parts 1, 2 and 3 of ISO/IEC 14496.