

# INTERNATIONAL STANDARD

**ISO/IEC  
14496-14**

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## Information technology — Coding of audio-visual objects —

### Part 14: **MP4 file format**

*Technologies de l'information — Codage des objets audiovisuels —  
Partie 14: Format de fichier MP4*

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Reference number  
ISO/IEC 14496-14:2003(E)



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Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
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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 14496-14 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 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 (AVC)*

*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)*

## Introduction

### 0.1 Derivation

This specification defines MP4 as an instance of the ISO Media File format [ISO/IEC 14496-12 and ISO/IEC 15444-12].

The general nature of the ISO Media File format is fully exercised by MP4. MPEG-4 presentations can be highly dynamic, and there is an infrastructure — the Object Descriptor Framework —, which serves to manage the objects and streams in a presentation. An Initial Object Descriptor serves as the starting point for this framework. In the usage modes documented in the ISO Media File, an Initial Object Descriptor would normally be present, as shown in the following diagrams.

### 0.2 Interchange

The following diagram gives an example of a simple interchange file, containing two streams.

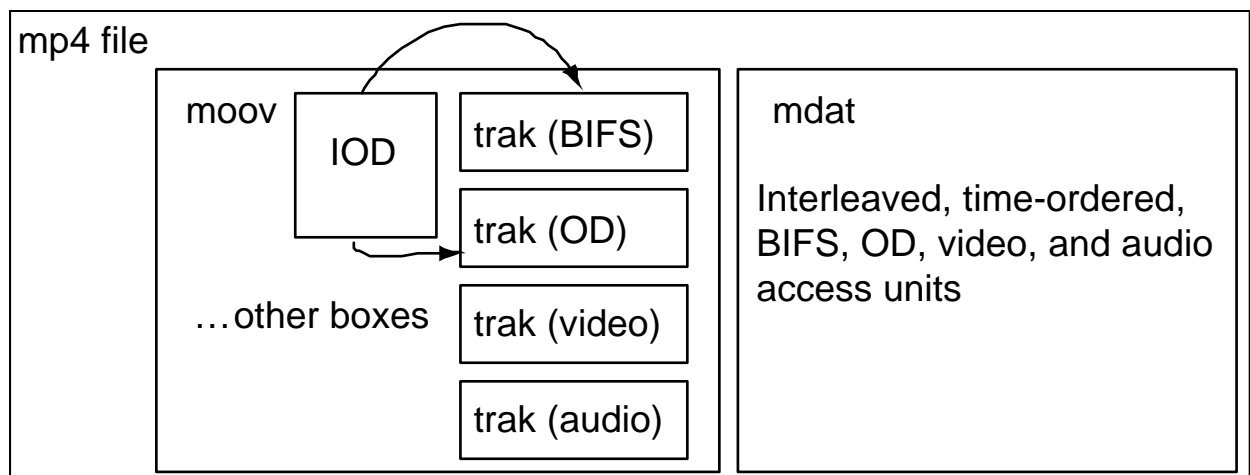


Figure 1 — Simple interchange file

### 0.3 Content Creation

In the following diagram, a set of files being used in the process of content creation is shown.

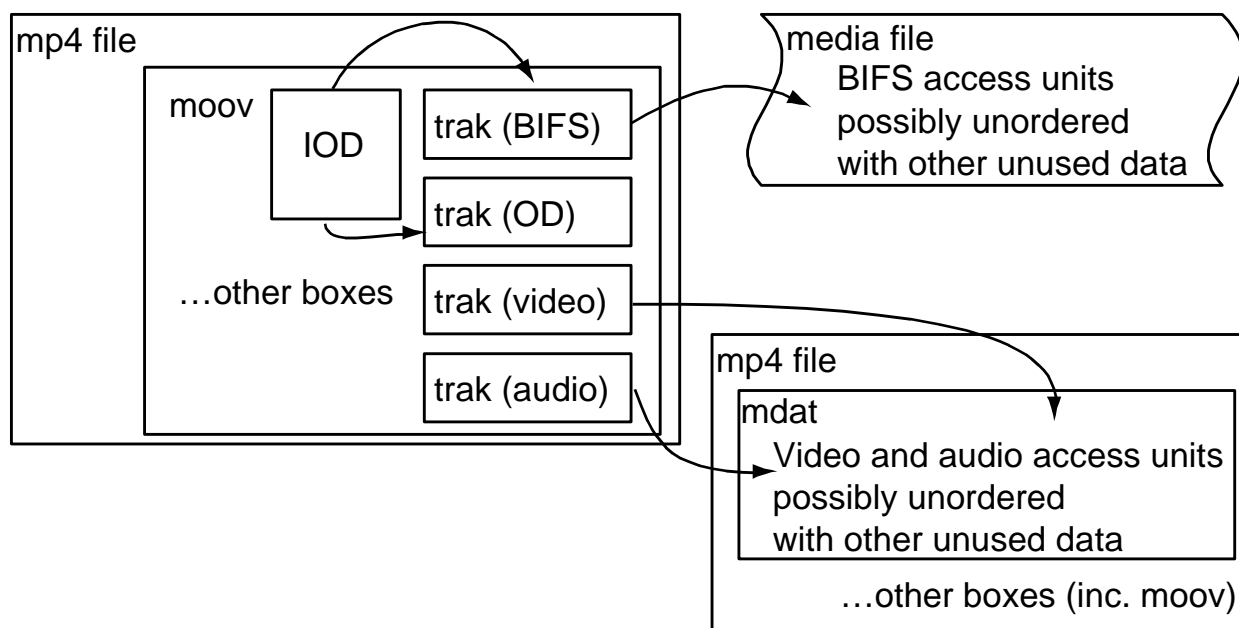


Figure 2 — Content Creation File

#### 0.4 Streamed presentation

The following diagram shows a presentation prepared for streaming over a multiplexing protocol, only one hint track is required.

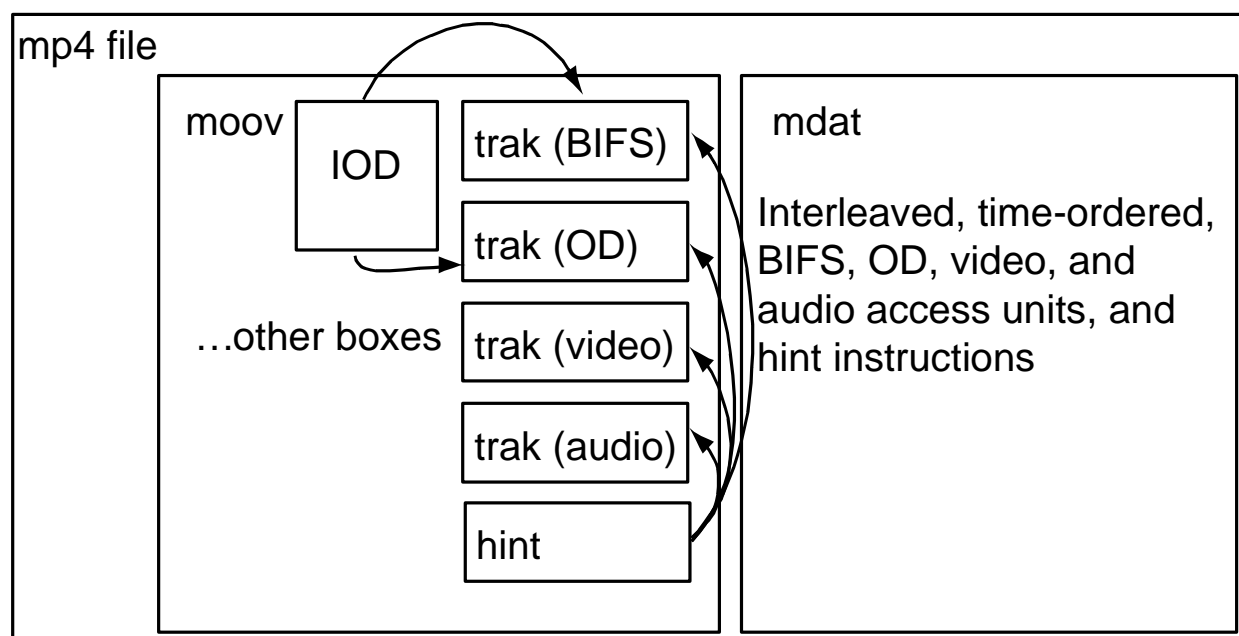


Figure 3 — Hinted Presentation for Streaming

# Information technology — Coding of audio-visual objects —

## Part 14: MP4 file format

### 1 Scope

This International Standard defines the MP4 file format, as derived from the ISO Base Media File format.

### 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 14496-1:2001, *Information technology — Coding of audio-visual objects — Part 1: Systems*

ISO/IEC 14496-12: *Information technology — Coding of audio-visual objects — Part 12: ISO base media file format* (technically identical to ISO/IEC 15444-12)