INTERNATIONAL STANDARD

ISO/IEC 15938-6

First edition
2003-07-01

Information technology — Multimedia content description interface —

Part 6:
Reference software

Technologies de l'information — Interface de description du contenu multimédia —

Partie 6: Logiciel de référence

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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 15938-6 was prepared by Technical Committee ISO/IEC/TC JTC1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

ISO/IEC 15938 consists of the following parts, under the general title *Information technology — Multimedia content description interface*:

— *Part 1: Systems*

— *Part 2: Description definition language*

— *Part 3: Visual*

— *Part 4: Audio*

— *Part 5: Multimedia description schemes*

— *Part 6: Reference software*

— *Part 7: Conformance testing*

— *Part 8: Extraction and use of MPEG-7 descriptions*

Introduction

This International Standard, also known as "Multimedia Content Description Interface", provides a standardized set of technologies for describing multimedia content. International Standard addresses a broad spectrum of multimedia applications and requirements by providing a metadata system for describing the features of multimedia content.

The following are specified in this International Standard:

- **Description schemes (DS)** describe entities or relationships pertaining to multimedia content. Description Schemes specify the structure and semantics of their components, which may be Description Schemes, Descriptors, or datatypes.

- **Descriptors (D)** describe features, attributes, or groups of attributes of multimedia content.

- **Datatypes** are the basic reusable datatypes employed by Description Schemes and Descriptors.

- **Systems tools** support delivery of descriptions, multiplexing of descriptions with multimedia content, synchronization, file format, and so forth.

This International Standard is subdivided into eight parts:

Part 1 – Systems: specifies the tools for preparing descriptions for efficient transport and storage, compressing descriptions, and allowing synchronization between content and descriptions.

Part 2 – Description definition language: specifies the language for defining the standard set of description tools (DSs, Ds, and datatypes) and for defining new description tools.

Part 3 – Visual: specifies the description tools pertaining to visual content.

Part 4 – Audio: specifies the description tools pertaining to audio content.

Part 5 – Multimedia description schemes: specifies the generic description tools pertaining to multimedia including audio and visual content.

Part 6 – Reference software: provides a software implementation of the standard.

Part 7 – Conformance testing: specifies the guidelines and procedures for testing conformance of implementations of the standard.

Part 8 – Extraction and use of MPEG-7 descriptions: provides guidelines and examples of the extraction and use of descriptions.

This part of ISO/IEC 15938 contains simulation software for tools defined in parts 1, 2, 3, 4 and 5 of ISO/IEC 15938. This software has been derived from the verification models used in the process of developing the International Standard.

Where multimedia content extraction or multimedia content description software is provided, attention is called to the fact that these software modules are provided for the purpose of creating bit streams of descriptors and description schemes with normative syntax. The performance of these software tools should not be taken as indicative of that which can be obtained from implementations where quality and computational optimization are given priority. The techniques used for extracting descriptors or deriving description schemes are not specified by this document. This information can be found in the corresponding sections of part 1-5.

Information technology — Multimedia content description interface —

Part 6:
Reference software

1 Scope

This International Standard operates on and generates conformant bit streams. This International Standard provides a specific implementation that behaves in a conformant manner. In general, other implementations that conform to ISO/IEC 15938 are possible that do not necessarily use the algorithms or the programming techniques of the reference software.

The software contained in this part of ISO/IEC 15938 is known as experimentation software (XM) and is divided into five categories:

a) **Binary format for MPEG-7 (BiM)**. This software converts DDL (XML) based descriptions to the Binary format of MPEG-7 and vice versa as explained in Clause 5 of this document.

b) **DDL parser and DDL validation parser**. The components of this software module are specified in Clause 6 of this document.

c) **Visual descriptors**. This software creates standard visual descriptions from associated (visual) media content as explained in Clause 7 of this document. The techniques used for extracting descriptors are informative, and the quality and complexity of these extraction tools has not been optimized.

d) **Audio descriptors**. This software creates standard descriptions from associated (audio) media content as explained in Clause 8 of this document. The techniques used for extracting descriptors are informative, and the quality and complexity of these extraction tools has not been optimized.

e) **Multimedia description schemes**. This software modules provide standard descriptions of Multimedia Description Schemes as specified in Clause 9 of this document.

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