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Information technology — Multimedia Middleware —

Part 2: Multimedia application programming interface (API)

Technologies de l'information — Intergiciel multimédia —

Partie 2: Interface de programmation d'application multimédia (API)

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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

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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 23004-2 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 23004 consists of the following parts, under the general title *Information technology — Multimedia Middleware*:

— *Part 1: Architecture*

— *Part 2: Multimedia application programming interface (API)*

— *Part 3: Component model*

— *Part 4: Resource and quality management*

— *Part 5: Component download*

— *Part 6: Fault management*

— *Part 7: System integrity management*

Introduction

MPEG, ISO/IEC JTC 1/SC 29/WG 11, has produced many important standards (MPEG-1, MPEG-2, MPEG-4, MPEG-7, and MPEG-21). MPEG feels that it is important to standardize an application programming interface (API) for Multimedia Middleware (M3W) that complies with the requirements found in the annex to the Multimedia Middleware (M3W) Requirements Document Version 2.0 (ISO/IEC JTC 1/SC 29/WG 11 N 6981).

The objectives of Multimedia Middleware (M3W) are to allow applications to execute multimedia functions with a minimum knowledge of the middleware and to allow applications to trigger updates to the middleware to extend the middleware API. The first goal can be achieved by standardizing the API that the middleware offers. The second goal is much more challenging, as it requires mechanisms to manage the middleware API and to ensure that this functions according to application needs. The second goal can support the first, by reducing the needed standard API to those that provide middleware management. Consequently, applications can use these standard management APIs to generate the multimedia system they require.

ISO/IEC 23004 provides the following:

1. a *vision* for a multimedia middleware API framework to enable the transparent and augmented use of multimedia resources across a wide range of networks and devices;

2. a method to facilitate the integration of APIs to software components and services in order to harmonise *technologies* for the creation, management, manipulation, transport, distribution and consumption of content;

3. a *strategy* for achieving a multimedia API framework by the development of specifications and standards based on well-defined functional requirements through collaboration with other bodies.

Information technology — Multimedia Middleware —

Part 2:
Multimedia application programming interface (API)

1 Scope

This part of ISO/IEC 23004 defines the Multimedia application programming interface (API) of MPEG Multimedia Middleware. The context of this Multimedia API is described in ISO/IEC 23004-1.

2 Organization of this document

This part of ISO/IEC 23004 has the following high level structure:

— Clause 1 defines the scope of this part of ISO/IEC 23004.

— Clause 3 gives an overview of documents that are indispensable for the application of this part of ISO/IEC 23004.

— Clause 4 gives the terms and definitions used in this part of ISO/IEC 23004.

— Clause 5 gives an overview of the interface suites that are part of the Multimedia API of Multimedia Middleware (M3W).

— Clause 6 contains the specification of the general interface suites used for navigation between interfaces, configuration of IO and verification that objects are still alive.

— Clause 7 contains the specification of the interface suites that are part of the Multimedia API and which deal with audio.

— Clause 8 contains the specification of the interface suites that are part of the Multimedia API and which deal with video.

— Clause 9 contains the specification of the interface suites that are part of the Multimedia API and which deal with security and governance.

3 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 23004-1, *Information technology — Multimedia Middleware — Part 1: Architecture*

ISO/IEC 23004-3, *Information technology — Multimedia Middleware — Part 3: Component model*