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Information technology — Multimedia service platform technologies —

Part 3: Conformance and reference software

Technologies de l'information — Technologies de la plate-forme de services multimédia —

Partie 3: Conformité et 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.

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 23006-3 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 23006-3:2011), which has been technically revised.

ISO/IEC 23006 consists of the following parts, under the general title *Information technology — Multimedia service platform technologies*:

— *Part 1: Architecture*

— *Part 2: MPEG extensible middleware (MXM) API*

— *Part 3: Conformance and reference software*

— *Part 4: Elementary services*

— *Part 5: Service aggregation*

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Introduction

ISO/IEC 23006 is a suite of standards that has been developed for the purpose of enabling the easy design and implementation of media-handling value chains whose devices interoperate because they are all based on the same set of technologies, especially MPEG technologies, accessible from the middleware APIs, elementary services and aggregated services.

ISO/IEC 23006 is referred to as MPEG Extensible Middleware (MXM) in its first edition, and it specifies an architecture (Part 1), an API (Part 2), a conformance and reference software (Part 3) and a set of protocols to which MXM Devices had to adhere (Part 4).

ISO/IEC 23006 is referred as Multimedia Service Platform Technologies (also abbreviated as MPEG-M) in its second edition, and it conserves the architecture and design philosophy of the first edition, while stressing the Service Oriented Architecture character. It specifies also how to combine elementary services into aggregated services (Part 5).

ISO/IEC 23006 is subdivided in five parts:

Part 1 – Architecture: specifies the architecture that can be used as a guide to an MPEG-M implementation;

Part 2 – MPEG Extensible Middleware (MXM) Application Programming Interface (APIs): specifies the middleware APIs;

Part 3 – Conformance and Reference Software (the present document): specifies conformance criteria and a reference software implementation with a normative value;

Part 4 – Elementary Services: specifies elementary service protocols between MPEG-M applications; and

Part 5 – Service Aggregation: specifies mechanisms enabling the combination of Elementary Services and other services to build Aggregated Services.

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Information technology — Multimedia service platform technologies — Part 3: Conformance and reference software

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1 Scope

This part of ISO/IEC 23006 describes the reference software implementing the normative clauses of ISO/IEC 23006-1, ISO/IEC 23006-2 and ISO/IEC 23006-4 and specifies conformance criteria. The information provided is applicable for determining the reference software modules available for ISO/IEC 23006-1, understanding the functionality of the available reference software modules and utilizing the available reference software modules.

The conformance profiles apply to MPEG-M Services as defined in ISO/IEC 23006-4:2013 and in ISO/IEC 23006-5.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 23006-1, *Information technology — Multimedia service platform technologies — Part 1: Architecture*

ISO/IEC 23006-2, *Information technology — Multimedia service platform technologies — Part 2: MPEG extensible middleware (MXM) API*

ISO/IEC 23006-4, *Information technology — Multimedia service platform technologies — Part 4: Elementary services*

ISO/IEC 23006-5, *Information technology — Multimedia service platform technologies — Part 5: Service aggregation*

ISO/IEC 15938 (all parts), *Information technology — Multimedia content description interface*

ISO/IEC 21000 (all parts), *Information technology — Multimedia framework (MPEG-21)*

ISO/IEC 23000 (all parts), *Information technology — Multimedia application format (MPEG-A)*

ISO/IEC 23001 (all parts), *Information technology — MPEG systems technologies*

ISO/IEC 23002 (all parts), *Information technology — MPEG video technologies*

ISO/IEC 23003 (all parts), *Information technology — MPEG audio technologies*

ISO 15836:2003[1], *Information and documentation — The Dublin Core metadata element set*

[1] ISO 15836:2003 has been cancelled and replaced by ISO 15836:2009.

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IETF RFC 3986, *Uniform Resource Identifier (URI): Generic Syntax, IETF Request For Comments, January 2005*

W3C XML, *Extensible Markup Language (XML) 1.0 (Fourth Edition), W3C Recommendation, 29 September 2006*

W3C XMLNAMES, *Namespaces in XML 1.0 (Second Edition), W3C Recommendation, 16 August 2006*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply:

3.1.1
Aggregated Service
service resulting from the combination of **Elementary Service**s

3.1.2
Elementary Service
basic unit of **service**

3.1.3
content
Digital Item and its component elements, namely resources (e.g., media, scripts, executable), identifiers, descriptions (e.g., metadata), event reports

3.1.4
contract
set of **metadata**, **licenses**, promises and signers agreed by **Users** of a multimedia value chain, where a promise is a signed collection of statements about, e.g., obligations, prohibitions and assertions, and a signer is a **user** whose signature makes the contract valid

3.1.5
device
hardware/software or simply software apparatus that enables a **user** to play a role in multimedia **value chain**s

3.1.6
event
performance of a specified set of functions or Operations

3.1.7
entity
one of the following elements in the multimedia value chain: **content**, **contract**, **device**, **event**, **license**, **service**, and **user**

3.1.8
license
collection of authorizations, conditions and payment terms granted by a **user** to other **user**s

3.1.9
protocol
set of rules and data format used by two **Device**s to communicate

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