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Information technology — Multimedia framework (MPEG-21) —

Part 21: Media Contract Ontology

Technologies de l'information — Cadre multimédia (MPEG-21) —

Partie 21: Ontologie pour contrats de médias

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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 21000-21 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 21000 consists of the following parts, under the general title *Information technology — Multimedia framework (MPEG-21)*:

— *Part 1: Vision, Technologies and Strategy* [Technical Report]

— *Part 2: Digital Item Declaration*

— *Part 3: Digital Item Identification*

— *Part 4: Intellectual Property Management and Protection Components*

— *Part 5: Rights Expression Language*

— *Part 6: Rights Data Dictionary*

— *Part 7: Digital Item Adaptation*

— *Part 8: Reference software*

— *Part 9: File Format*

— *Part 10: Digital Item Processing*

— *Part 11: Evaluation Tools for Persistent Association Technologies* [Technical Report]

— *Part 12: Test Bed for MPEG-21 Resource Delivery* [Technical Report]

— *Part 14: Conformance Testing*

— *Part 15: Event Reporting*

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— *Part 16: Binary Format*

— *Part 17: Fragment Identification of MPEG Resources*

— *Part 18: Digital Item Streaming*

— *Part 19: Media Value Chain Ontology*

— *Part 20: Contract Expression Language*

— *Part 21: Media Contract Ontology*

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Introduction

Today, many elements exist to build an infrastructure for the delivery and consumption of multimedia content. There was, however, no "big picture" to describe how these elements, either in existence or under development, relate to each other. The aim for the ISO/IEC 21000 series has been to describe how these various elements fit together. New standards as appropriate will be developed while other relevant standards may be developed by other bodies.

The result is an open framework for multimedia delivery and consumption, with both the content creator and content consumer as focal points. This open framework provides content creators and service providers with equal opportunities in the ISO/IEC 21000 enabled open market. This will also be to the benefit of the content consumer providing them access to a large variety of content in an interoperable manner. The vision for ISO/IEC 21000 is to define a multimedia framework *to enable transparent and augmented use of multimedia resources across a wide range of networks and devices* used by different communities.

ISO/IEC 21000 aims thus at defining an open framework for multimedia applications, where users distribute, consume, operate on and transact with content represented as Digital Items. These transactions can be automatically governed by the Media Value Chain Ontology (MVCO) from ISO/IEC 21000-19. However, beyond the operative information present in a digital license, the digital representation of the complete business agreements between the parties may prove useful for a number of purposes. The Media Contract Ontology is the ISO/IEC ontology for expressing such contracts in a semantic representation.

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Information technology — Multimedia framework (MPEG-21) —

Part 21:
Media Contract Ontology

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1 Scope

This part of ISO/IEC 21000 specifies an ontology for representing contracts in the Multimedia Framework formed for the transaction of MPEG-21 Digital Items or services related to the MPEG-21 Framework.

The Media Contract Ontology (MCO) aims at digitally expressing the agreements made in an environment of use of ISO/IEC 21000, being these contracts about both transactions of content packed as Digital Items as well as services provided around this content, by means of a semantic representation.

The range of contracts under scope includes:

— Contracts about transactions of content as MPEG-21 Digital Items;

— Contracts about the provision of MPEG-21-based services, such as delivery, identification, encryption, search and others.

The aspects represented by MCO contracts include:

— The textual clauses, in natural language as they are in the narrative contract, duly structured;

— The operative clauses, as computer language expressions.

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 15836, *Information and documentation — The Dublin Core metadata element set*

ISO/IEC 21000-3, *Information technology — Multimedia Framework (MPEG-21) — Part 3: Digital Item Identification*

ISO/IEC 21000-5, *Information technology — Multimedia Framework (MPEG-21) — Part 5: Rights Expression Language*

ISO/IEC 21000-19, *Information technology — Multimedia Framework (MPEG-21) — Part 19: Media Value Chain Ontology*

XML Encryption Syntax and Processing Version 1.1, W3C Working Draft 16 March 2010, http://www.w3.org/TR/xmlenc-core1/

IETF RFC 1738, Uniform Resource Locators (URL), December 1994, http://www.ietf.org/rfc/rfc1738.txt

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IETF RFC 2141, Uniform Resource Name (URN) Syntax, May 1997, http://www.ietf.org/rfc/rfc2141.txt

IETF RFC 2396, Uniform Resource Identifiers (URI): Generic Syntax, Internet Standards Track Specification, August 1998, http://www.ietf.org/rfc/rfc2396.txt

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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
MPEG-21 Contract
representation of agreements formed for the transaction of MPEG-21 Digital Items or services related to the MPEG-21 Framework

3.1.2
MPEG-21 Service
system supplying utility in the Framework of MPEG-21

3.2 Abbreviated terms

For the purposes of this document, the following abbreviated terms apply.

MCO: Media Contract Ontology

CEL: Contract Expression Language

MPEG: Moving Picture Experts Group

MPEG-21: ISO/IEC 21000

MVCO: Media Value Chain Ontology

OWL: Web Ontology Language

RDF: Resource Description Framework

REL: Rights Expression Language

URI: Uniform Resource Identifier (IETF Standard is RFC 3986)

URL: Uniform Resource Locator (IETF Standard is RFC 1738)

URN: Uniform Resource Name (IETF Standard is RFC 2141)

W3C: World Wide Web Consortium

XML: Extensible Markup Language (W3C Recommendation)

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