
**Information technology — Multimedia
framework (MPEG-21) —**

**Part 19:
Media Value Chain Ontology**

*Technologies de l'information — Cadre multimédia (MPEG-21) —
Partie 19: Ontologie de chaîne de valeur de média*

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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 21000-19 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*

- *Part 16: Binary Format*
- *Part 17: Fragment Identification of MPEG Resources*
- *Part 18: Digital Item Streaming*
- *Part 19: Media Value Chain Ontology*

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 set of standards ISO/IEC 21000 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.

This part of ISO/IEC 21000 specifies a machine readable ontology of the media value chain defining a minimal set of kinds of intellectual property, the roles of the users interacting with them, and the relevant actions regarding intellectual property among other features.

Information technology — Multimedia framework (MPEG-21) —

Part 19: Media Value Chain Ontology

1 Scope

This Part of ISO/IEC 21000 describes MPEG-21 Media Value Chain Ontology (MVCO). The MVCO may be used to capture knowledge about media value chains and to represent, in a computer readable way, concepts in the domain and the relationships between those concepts.

This Part of ISO/IEC 21000 consists of seven Clauses and two Annexes. This technology is described in the following sections of this Part of ISO/IEC 21000.

- Model:
the model is described in Clause 6, by way of a narrative description of the Value Chain, its main elements and relations.
- Representation:
the MVCO has been formalised as a normative OWL Ontology, and the description of which is given in this Clause. The description consists of listing the classes, the object properties, the datatype properties, and the class individuals. Classes are described by giving the name, an English definition, the class hierarchy, and the restrictions imposed on the class. The representation is given in Clause 7. Annex B contains the normative OWL (XML/RDF) comprising the entire semantics of the elements in the model.
- Ontology use:
an Informative section is provided with non normative descriptions of use, extensions and an API (Annex A).

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 TR 21000-1, *Information technology — Multimedia framework (MPEG-21) — Part 1: Vision, Technologies and Strategy*