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Part 1: Binary MPEG format for XML

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Partie 1: Format binaire de MPEG pour XML

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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 23001-1 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 23001 consists of the following parts, under the general title *Information technology — MPEG systems technologies*:

— *Part 1: Binary MPEG format for XML*

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Introduction

This International Standard provides a standardized set of generic technologies for encoding XML documents. It addresses a broad spectrum of applications and requirements by providing generic methods for transmitting and compressing XML documents.

Part 1 – Binary Format for XML: specifies the tools for preparing XML documents for efficient transport and storage and for compressing XML documents.

The International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this document may involve the use of a patent.

The ISO and IEC take no position concerning the evidence, validity and scope of this patent right.

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Information technology — MPEG systems technologies —

Part 1:
Binary MPEG format for XML

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1 Scope

This part of ISO/IEC 23001 provides a standardized set of technologies for encoding XML documents. It addresses a broad spectrum of applications and requirements by providing a generic method for transmitting and compressing XML documents.

This part of ISO/IEC 23001 specifies system level functionalities for the communication of XML documents. It provides a specification which will:

— enable the development of ISO/IEC 23001-1 receiving sub-systems, called ISO/IEC 23001-1 Terminal, or Terminal in short, to receive and assemble possibly partitioned and compressed XML documents

— provide rules for the preparation of XML documents for efficient transport and storage.

The decoding process within the ISO/IEC 23001-1 Terminal is normative. The rules mentioned provide guidance for the preparation and encoding of XML documents without leading to a unique encoded representation of such documents.

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 10646:2003, *Information technology — Universal Multiple-Octet Coded Character Set (UCS)*

Note: The UTF-8 encoding scheme is described in Annex R of ISO/IEC 10646-1:1993, published as Amendment 2 of ISO/IEC 10646-1:1993.

- XML, *Extensible Markup Language (XML) 1.0,* October 2000.
- *XML Schema, W3C Recommendation*, 2 May 2001.
- *XML Schema Part 0: Primer,* W3C Recommendation, 2 May 2001.
- *XML Schema Part 1: Structures*, W3C Recommendation, 2 May 2001.
- *XML Schema Part 2: Datatypes*, W3C Recommendation 2 May 2001.
- XPath, *XML Path Language,* W3C Recommendation, 16 November 1999.
- *Namespaces in XML*, W3C Recommendation, 14 January 1999.

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Note: These documents are maintained by the W3C (http://www.w3.org). The relevant documents can be obtained as follows:

- *Extensible Markup Language (XML) 1.0 (Second Edition),*6 October 2000, http://www.w3.org/TR/2000/REC-xml-20001006
- *XML Schema: W3C Recommendation*, 2 May 2001, http://www.w3.org/XML/Schema
  - *XML Schema Part 0: Primer,* W3C Recommendation, 2 May 2001, http://www.w3.org/TR/xmlschema-0/
  - *XML Schema Part 1: Structures*, W3C Recommendation, 2 May 2001, http://www.w3.org/TR/xmlschema-1/
  - *XML Schema Part 2: Datatypes*, W3C Recommendation 2 May 2001, http://www.w3.org/TR/xmlschema-2/
- *xPath, XML Path Language*, W3C Recommendation, 16 November 1999, http://www.w3.org/TR/1999/REC-xpath-19991116
- *Namespaces in XML*, W3C Recommendation, 14 January 1999, http://www.w3.org/TR/1999/REC-xml-names-19990114

- *RFC 2396, Uniform Resource Identifiers (URI): Generic Syntax.*
- *RFC 1950, ZLIB Compressed Data Format Specification version 3.3.*
- *IEEE Standard for Binary Floating-Point Arithmetic*, Std 754-1985 Reaffirmed1990, http://standards.ieee.org/reading/ieee/std_public/description/busarch/754-1985_desc.html

3 Terms and definitions

3.1 Conventions

3.1.1 Naming convention

In order to specify data types and documents model, this part of ISO/IEC 23001 uses constructs specified in XML Schema, such as “element”, “attribute”, “simpleType” and “complexType”. The names associated with these constructs are created on the basis of the following conventions:

If the name is composed of various words, the first letter of each word is capitalized. The rule for the capitalization of the first word depends on the type of construct and is described below.

— ***Element naming:*** the first letter of the first word is capitalized (e.g. *TimePoint* element of *TimeType*).

— ***Attribute naming:*** the first letter of the first word is **not** capitalized (e.g. *timeUnit* attribute of *IncrDurationType*).

— ***complexType naming:*** the first letter of the first word is capitalized, the suffix “Type” is used at the end of the name.

— ***simpleType naming:*** the first letter of the first word is not capitalized, the suffix “Type” may be used at the end of the name.

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