
**Information technology — High efficiency
coding and media delivery in
heterogeneous environments —**

**Part 1:
MPEG media transport (MMT)**

*Technologies de l'information — Codage à haute efficacité et livraison
des médias dans des environnements hétérogènes —*

Partie 1: Transport des médias MPEG

Withdrawn



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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 23008-1 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 23008 consists of the following parts, under the general title *Information technology — High efficiency coding and media delivery in heterogeneous environments*:

- *Part 1: MPEG media transport (MMT)*
- *Part 2: High efficiency video coding (HEVC)*
- *Part 5: HEVC Conformance testing and reference software*
- *Part 8: Conformance Specification for HEVC*
- *Part 10: MPEG Media Transport Forward Error Correction (FEC) codes*
- *Part 11: MPEG Media Transport Composition Information (CI)*

Introduction

This part of ISO/IEC 23008 specifies the MPEG Media Transport (MMT) technologies for the transport and delivery of coded media data for multimedia services over heterogeneous packet-switched networks including Internet Protocol (IP) networks and digital broadcasting networks. In this specification, “coded media data” includes both timed audiovisual media data, and non-timed data.

MMT is designed under the assumption that the coded media data will be delivered over a packet-switched delivery network. Several characteristics of such delivery environment, such as non-constant end-to-end delay of each packet from the sending entity to the receiving entity, have been taken into consideration.

For efficient and effective delivery and consumption of coded media data over packet-switched delivery networks, this specification provides the following elements:

- the logical model to construct contents composed of components from various sources, for example components of mash-up applications;
- the formats to convey information about the coded media data, to enable delivery layer processing, such as packetization;
- the packetization method and the structure of the packet to deliver media content over packet-switched networks supporting media and coding independent hybrid delivery over multiple channels;
- the format of the signalling messages to manage delivery and consumption of media content.

Information technology — High efficiency coding and media delivery in heterogeneous environments —

Part 1: MPEG media transport (MMT)

1 Scope

This part of ISO/IEC 23008 specifies MPEG Media Transport (MMT) technologies, which include a single encapsulation format, delivery protocols and signalling messages for transport and delivery of multimedia data over heterogeneous packet-switched networks for multimedia services. Types of packet-switched networks supported by this specification include bidirectional networks such as IP (Internet Protocol) networks and unidirectional networks such as digital broadcast networks (which may or may not use the IP).

The technologies specified by this specification belong to one of three functional areas of MMT: Media Processing Unit (MPU) format, signalling messages and delivery protocol.

Media Processing Unit format specifies the 'mpuf' branded ISO Based Media File Format encapsulating both timed and non-timed media contents. The MPU format is a self-contained ISOBMFF structure enabling independent consumption of media data, which hides codec specific details from the delivery function.

Signalling functional area specifies the formats of signalling messages carrying information for managing media content delivery and consumption, e.g. specific media locations and delivery configuration of media contents.

Delivery functional area specifies the payload formats that is independent of media and codec types, which allows fragmentation and aggregation of contents encapsulated as specified by this specification for delivery using packet-switched oriented transport protocols. The delivery functional area also provides an application layer transport protocol that allows for advanced delivery of media contents.

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 14496-12, *Information technology — Coding of audio-visual objects — Part 12: ISO base media file format* (technically identical to ISO/IEC 15444-12)

IETF RFC 1738, *Uniform Resource Locators (URL)*, December 1994.

IETF RFC 2141, *URN Syntax*, May 1997.

IETF RFC 3406, *Uniform Resource Names (URN) Namespace Definition Mechanisms*, October 2002.

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

IETF RFC 4122, *A Universally Unique Identifier (UUID) URN Namespace*, July 2005.

W3C XML *Extensible Markup Language (XML) Version 1.0*, W3C Recommendation 26, Nov 2008.

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