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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 medias dans des environnements hétérogènes —

Partie 1: Transport des médias MPEG

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Foreword

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The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by 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 23008-1:2014), which has been technically revised. It also incorporates the Amendment ISO/IEC 23008-1:2014/Amd 1:2015 and the Technical Corrigendum ISO/IEC 23008-1:2014/Cor 1:2015.

The main changes compared to the previous edition are as follows:

— editorial integration of ISO/IEC 23008-1:2014/Amd 1:2015, ISO/IEC 23008-1:2014/FDAmd 2, ISO/IEC 23008-1:2014/Cor 1:2015 and ISO/IEC 23008-1:2014/CD COR 2;

— minor editorial corrections (for example, numbering in Tables and Figures).

A list of all parts in the ISO/IEC 23008 series can be found on the ISO website.

Introduction

This document 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 document, "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 document 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 document 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 document include bidirectional networks such as Internet Protocol (IP) networks and unidirectional networks such as digital broadcast networks (which may or may not use the IP).

The technologies specified by this document belong to one of three functional areas of MMT: media processing unit (MPU) format, signalling messages and delivery protocol.

The MPU format specifies the "`mpuf`" branded ISO-based media file format (ISOBMFF) 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.

The 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.

The delivery functional area specifies the payload formats that are independent of media and codec types, which allow fragmentation and aggregation of contents encapsulated as specified by this document 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 are referred to in the text in such a way that some or all of their content constitutes requirements 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 14496-12:2015, *Information technology — Coding of audio-visual objects — Part 12: ISO base media file format*

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