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

Part 4:
MMT Reference and Conformance Software

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

ICS: 35.040

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Contents

1 Scope 7
2 References 7
3 Terms, Definitions and Abbreviated Terms 7
4 Software Architecture 8
5 Configuration File Format 12
6 Version Control and Compiling 13

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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.

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ISO/IEC 23008-4 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This second/third/... edition cancels and replaces the first/second/... edition (), [clause(s) / subclause(s) / table(s) / figure(s) / annex(es)] of which [has / have] been technically revised.

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 4: MMT Reference Software*
- *Part 7: Conformance for MPEG Media Transport*
- *Part 10: FEC Codes*
- *Part 11: Composition Information (CI)*
- *Part 13: MPEG media transport (MMT) Implementation Guideline*

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Introduction

This part of ISO/IEC 23008 specifies the reference software. The reference software of ISO/IEC 23009 serves two main purposes:

— Validation of the written specification of the several parts of ISO/IEC 23008;

— Clarification of the written specification of the several parts of ISO/IEC 23008

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Information technology — High efficiency coding and media delivery in heterogeneous environments — Part 4: MMT Reference and Conformance Software

1 Scope

This part of ISO/IEC 23008 specifies the reference software implementing the normative clauses of some parts of ISO/IEC 23008.

That is, test vectors comprising MMTP sender and MMTP Receiver that conform or do not conform to the normative clauses of the other parts of ISO/IEC 23008 and corresponding software modules.

2 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) shall apply.

ISO/IEC 23008-1 Information technology — Part 1: MPEG Media Transport

ISO/IEC 23008-10 Information technology — Part 10: MPEG Media Transport FEC Codes

ISO/IEC 23008-11 Information technology — Part 11: MPEG Media Transport CI

ISO/IEC 23008-13 Information technology — Part 13: MPEG Media Transport Implementation Guidelines

3 Terms, Definitions and Abbreviated Terms

This document uses definitions, symbols, and abbreviated terms defined in ISO/IEC 23008-1.

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4 Software Architecture

The reference and conformance software operates according to Figure 1. It takes as input the MPUs, generic files, and signaling messages that are to be transmitted. The MMTP sender then generates the MMTP flow as a multiplex of MMTP packets from the different sources and stores them into a pre-configured location. The MMTP receiver de-multiplexes the MMTP flow based on the *packet_id* and the *mode* and passes the packets to the corresponding reconstruction module. The reconstruction module extracts the payload and reconstructs the resource (i.e. the MPU, the generic file, or the signaling message).

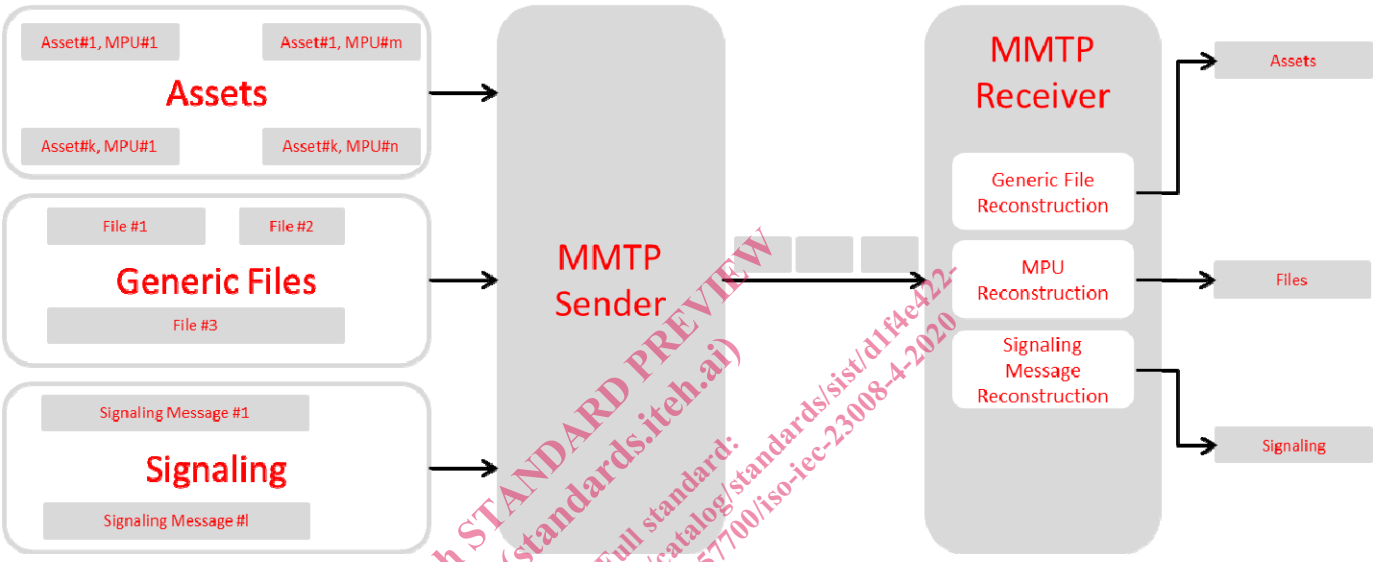

Figure 1 - Operation of reference software

The following figure depicts the structure and class diagram of the reference and conformance software. The yellow, orange, and green boxes indicate classes, general or binary files (MPU, Generic, Configuration, and Packet dump), and XML files respectively.

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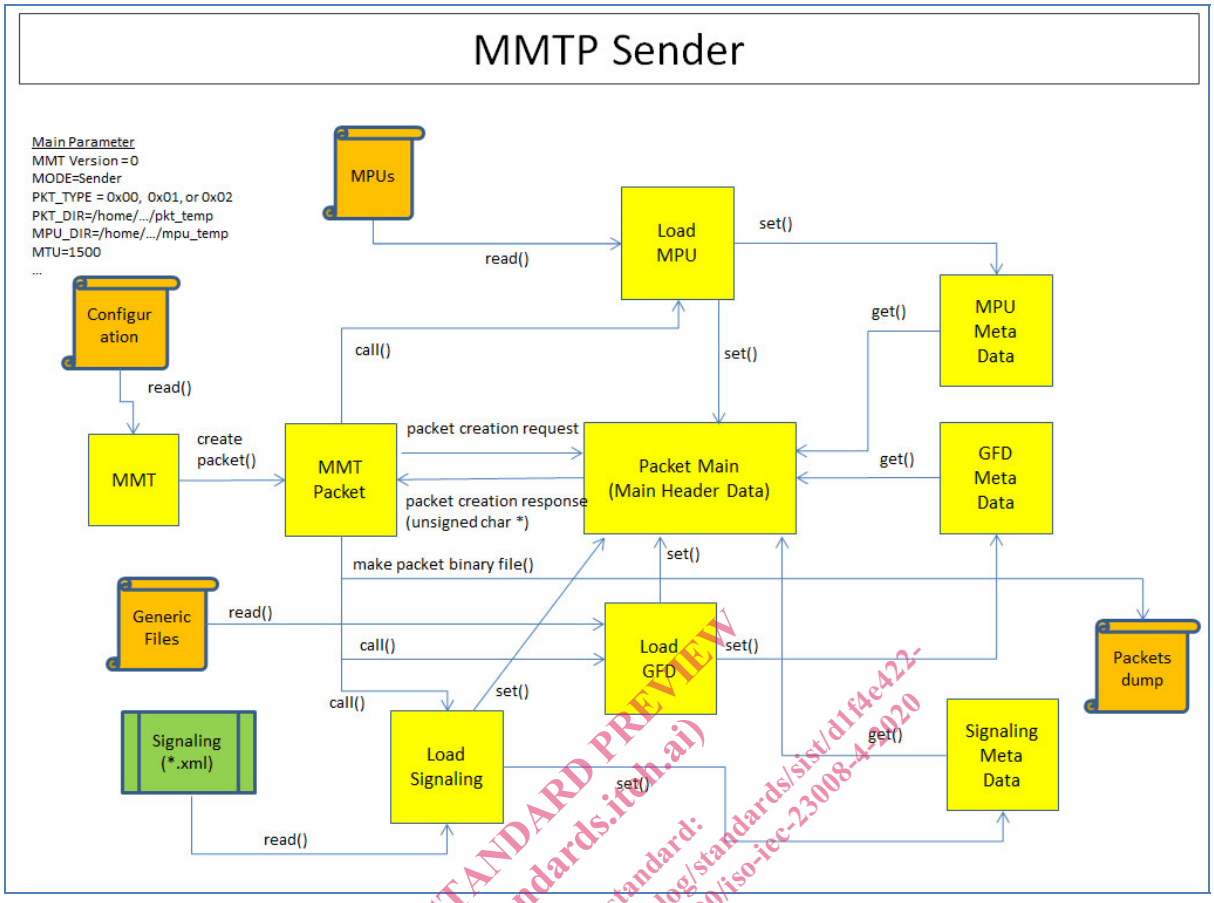

Figure 2 - Class diagram of MMTP sender

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