

---

---

**Information technology — MPEG  
systems technologies —**

**Part 18:  
Event message track format for the  
ISO base media file format**

*Technologies de l'information — Technologies des systèmes MPEG —  
Partie 18: Format de la piste du message d'événement pour le format  
ISO de base pour les fichiers médias*



This document is a preview generated by ELS



**COPYRIGHT PROTECTED DOCUMENT**

© ISO/IEC 2022

All rights reserved. Unless otherwise specified, or required in the context of its implementation, no part of this publication may be reproduced or utilized otherwise in any form or by any means, electronic or mechanical, including photocopying, or posting on the internet or an intranet, without prior written permission. Permission can be requested from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

# Contents

Page

|                                                                                       |           |
|---------------------------------------------------------------------------------------|-----------|
| Foreword.....                                                                         | iv        |
| <b>1 Scope.....</b>                                                                   | <b>1</b>  |
| <b>2 Normative references.....</b>                                                    | <b>1</b>  |
| <b>3 Terms, definitions, abbreviated terms and notations.....</b>                     | <b>1</b>  |
| 3.1 Terms and definitions.....                                                        | 1         |
| 3.2 Abbreviated terms.....                                                            | 2         |
| 3.3 Notation.....                                                                     | 2         |
| <b>4 General.....</b>                                                                 | <b>2</b>  |
| <b>5 Background.....</b>                                                              | <b>2</b>  |
| <b>6 Event message track structure.....</b>                                           | <b>3</b>  |
| 6.1 <b>EventMessageInstanceBox.....</b>                                               | <b>3</b>  |
| 6.1.1 Definition.....                                                                 | 3         |
| 6.1.2 Syntax.....                                                                     | 3         |
| 6.1.3 Semantics.....                                                                  | 3         |
| 6.2 <b>EventMessageEmptyBox.....</b>                                                  | <b>3</b>  |
| <b>7 Event message track format.....</b>                                              | <b>3</b>  |
| 7.1 Track format.....                                                                 | 3         |
| 7.2 Sample entry format.....                                                          | 4         |
| 7.3 Scheme identifier list box.....                                                   | 4         |
| 7.3.1 Definition.....                                                                 | 4         |
| 7.3.2 Syntax.....                                                                     | 4         |
| 7.3.3 Semantics.....                                                                  | 4         |
| 7.4 Sample format.....                                                                | 4         |
| 7.5 Codecs parameter.....                                                             | 5         |
| <b>8 Timing constraints.....</b>                                                      | <b>5</b>  |
| <b>9 Processing.....</b>                                                              | <b>5</b>  |
| 9.1 Client processing.....                                                            | 5         |
| 9.2 Conversion of <b>DASHEventMessageBox</b> to <b>EventMessageInstanceBox</b> .....  | 6         |
| 9.2.1 General.....                                                                    | 6         |
| 9.2.2 Example 1: Algorithm for finding sample boundaries in a segment of [T,T+D]..... | 6         |
| 9.2.3 Example 2: Algorithm for finding the samples and the sample contents.....       | 7         |
| 9.3 Track conversion.....                                                             | 7         |
| 9.3.1 General.....                                                                    | 7         |
| 9.3.2 De-multiplex a CMAF track file with <b>DASHEventMessageBoxes</b> .....          | 7         |
| 9.3.3 Multiplex a CMAF track file with <b>DASHEventMessageBoxes</b> .....             | 8         |
| 9.3.4 Fragmentation and de-fragmentation of event message tracks.....                 | 8         |
| 9.4 Examples.....                                                                     | 9         |
| 9.4.1 General.....                                                                    | 9         |
| 9.4.2 Example 5: Input list of DASH event messages events.....                        | 9         |
| <b>Bibliography.....</b>                                                              | <b>10</b> |

## 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.

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](http://www.iso.org/directives) or [www.iec.ch/members\\_experts/refdocs](http://www.iec.ch/members_experts/refdocs)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)) or the IEC list of patent declarations received (see <https://patents.iec.ch>).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of 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 [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html). In the IEC, see [www.iec.ch/understanding-standards](http://www.iec.ch/understanding-standards).

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

A list of all parts in the ISO/IEC 23001 series can be found on the ISO and IEC websites.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html) and [www.iec.ch/national-committees](http://www.iec.ch/national-committees).

# Information technology — MPEG systems technologies —

## Part 18:

### Event message track format for the ISO base media file format

#### 1 Scope

This document specifies the format of the event message track.

#### 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, *Information technology — Coding of audio-visual objects — Part 12: ISO base media file format*

ISO/IEC 23009-1, *Information technology — Dynamic adaptive streaming over HTTP (DASH) — Part 1: Media presentation description and segment formats*

#### 3 Terms, definitions, abbreviated terms and notations

##### 3.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <https://www.electropedia.org/>

##### 3.1.1

###### active event

*event* (3.1.2) with a start time up to start time plus duration overlapping the current media time

##### 3.1.2

###### event

aperiodic sparse metadata information that is intended for a specific interval of media-time

##### 3.1.3

###### event duration

duration when the *event* (3.1.2) is applicable

##### 3.1.4

###### event instance

representation of the *event* (3.1.2) in the track represented by an event message instance box

##### 3.1.5

###### event start time

start of the interval in media-time when event information is applicable