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Information technology — Multimedia application format (MPEG-A) — Part 19: Common media application format (CMAF) for segmented media, AMENDMENT 2: New Structural Profile and Other Technologies

WD stage

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The committee responsible for this document is ISO/IEC JTC1 SC29.

# Introduction to Amendment 2

This amendment adds support for

* A new structural media profile.

Information technology — Multimedia application format (MPEG-A) — Part 19: Common media application format (CMAF) for segmented media, AMENDMENT 2: New Structural Profile and Other Technologies

# Change 1: New Structural Profile

## Update 7.1 Overview

The CMAF track format is derived from the ISO base media file format in this clause and structural brands are specified. At this point, the 'cmfc', the 'cmf1' and the 'cmf2' CMAF structural brands are defined. The 'cmf2' brands further restricts the 'cmfc' brand. The ‘cmf1' brand extends and restricts ‘cmfc’.

Several CMAF media objects are derived from the CMAF track format.

## 7.2 CMAF brands

[…]

Table 1 — CMAF brands

|  |  |  |
| --- | --- | --- |
| **Brand** | **Location** | **Conformance requirements** |
| cmfc | FileTypeBox and SegmentTypeBox | 7.6 |
| cmf1 | FileTypeBox and SegmentTypeBox | 7.8 |
| cmf2 | FileTypeBox and SegmentTypeBox | 7.7 |
| cmfs | SegmentTypeBox | 7.3.3.1 |
| cmfl | SegmentTypeBox | 7.3.3.2 |
| cmff | SegmentTypeBox | 7.3.2.3 |
| cmfr | SegmentTypeBox | 7.3.2.4 |

## Add a new Clause

## 7.8 The structural CMAF Brand 'cmf1'

### 7.8.1 General

A CMAF track conforming to the CMAF structural brand 'cmf1' shall conform to constraints of the CMAF structural brand 'cmfc' and all remaining constraints and exceptions in subclause 7.8.

These constraints introduced to signal that the CMAF tracks and CMAF switching set track headers are conforming as if all CMAF Tracks of the presentation also conforming to this brand would be included in a single ISO BMFF file.

### 7.8.2 Track Header Box ('tkhd')

CMAF TrackHeaderBoxes shall conform to subclause 7.5.4 with the following additional constraints.

— If all CMAF Tracks of the CMAF Presentation are combined into a single ISO BMFF container, then the track header shall be valid. This for example included that

— The track\_ID is set to a unique identifier over within this CMAF presentation;

— All tracks within one CMAF Switching Set have alternate\_group shall be set to the same value. Each CMAF Switching Set in the CMAF Presentation shall have a unique value for the alternate\_group.

— For a video track, every decoder output signal shall have decoded and cropped image size in video spatial samples measured on a uniformly sampled square grid identical to the value of width and height defined in the Track Header.

**Update to B.1 HEVC video CMAF tracks**

This annex defines HEVC video tracks and specific CMAF media profiles with HEVC elementary stream constraint sets. Applications that do not conform to the HEVC video track or any of these CMAF media profiles can either specify their own HEVC video track definition or CMAF media profile or both. Applications can also signal brand conformance to just a CMAF structural brand defined in this document (e.g. 'cmfc' ,'cmf1' or 'cmf2').