



ISO/IEC 23090-14:2023/FDAmD 1

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Information technology — Coded representation of immersive media

**Part 14:
Scene description — Amendment 1: Support for immersive media
codecs in scene description**

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DIS AMENDMENT 1: Support for immersive media codecs in scene description

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Field Code Changed

Information technology — Coded representation of immersive media

Part 14: Scene description — Amendment

AMENDMENT 1: Support for immersive media codecs in scene description

Normative references

~~add~~Add the following references:

ISO/IEC 23090-5, *Information technology — Coded Representation of Immersive Media — Part 5: Visual Volumetric Video-based Coding (V3C) and Video-based Point Cloud Compression (V-PCC)*

4.2

Replace ~~figure~~Figure 1 by the following figure

[ISO/IEC 23090-14:2023/FDAmD 1](https://standards.iteh.ai/catalog/standards/sist/18b2a63f-633e-4a82-845a-b84a4f76c505/iso-iec-23090-14-2023-fdamd-1)

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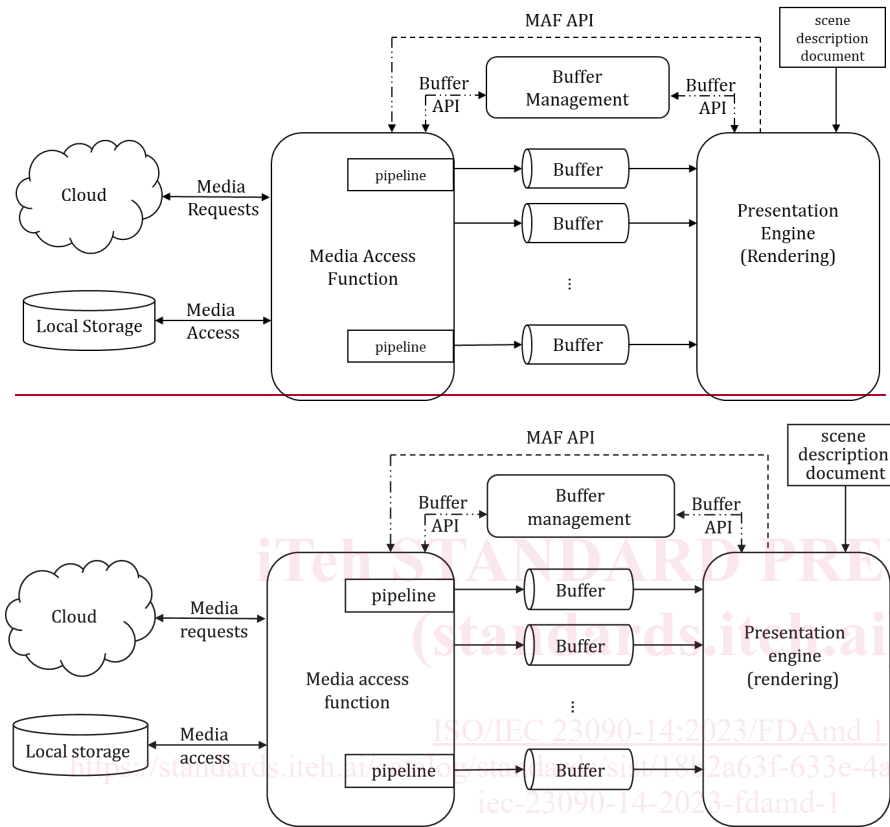


Figure 4-1— Scene description reference architecture

3.2

Add the following ~~abbreviation to clause~~ the list of abbreviated terms in subclause 3.2:

- MIV MPEG immersive video
- ERP Equirectangular projection
- PLR Point Local Reconstruction
- EOM Enhanced Occupancy Mode

5.1.1

Add the following sentence after Figure 3

Additional extensions and buffer formats for the support of MPEG-specified immersive media formats in MPEG-I scene description are specified in Annex G.

5.3.1.2, Table 11

Change the Description of the format attribute as follows:

format	string	RGB	Q	<p>Indicates the format of the pixel data for this video texture. The allowed values are: RED, GREEN, BLUE, RG, RGB, RGBA, BGR, BGRA, DEPTH, COMPONENT. The semantics of these values are defined in Table 8.3 of OpenGL specification [2].</p> <p>Additionally, YCbCr formats are supported. The semantics for the YCbCr formats are defined in Table 76 in Vulkan specification [Vulkan 1.3]. A sampler with the <code>MPEG_sampler_YCbCr</code> extension shall be linked to a YCbCr texture.</p> <p>The number of components shall match the type indicated by the referenced accessor.</p> <p>Normalization of the pixel data shall be indicated by the normalized attribute of the accessor.</p>
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5.2.1.2, Table 6

Change the Description of the track attribute as follows:

Table 6 — Definitions of items in the tracks array of MPEG_media_alternative extension

Name	Type	Default	Usage	Description
MIV	MPEG immersive video			
ERP	Equirectangular projection			
PLR	Point Local Reconstruction			
EOM	Enhanced Occupancy Mode			
track	string	N/A	M	<p>URL fragment to access the track within the media alternative.</p> <p>The URL structure is defined for the following formats:</p> <p><u>DASH: Using MPD Anchors (URL fragments) as defined in ISO/IEC 23009-1:2019:Annex C (Table C.1).</u></p> <p><u>ISOBMFF: URL fragments as specified in ISO/IEC 14496-12:2020:Annex C.</u></p> <p><u>SDP: stream identifier of the media stream as defined in Annex C.</u></p> <p><u>When V3C data is referenced in the scene description document as in item in</u></p>

				<p><u>MPEG media.alternative.tracks and the referenced item corresponds to an ISOBMFF track, the following applies:</u></p> <ul style="list-style-type: none"> <u>— For single-track encapsulated V3C data, the referenced track in MPEG media shall be the V3C bitstream track.</u> <u>— For multi-track encapsulated V3C data, the referenced track in MPEG media shall be the V3C.atlas track.</u> <p><u>When G-PCC data is referenced by the scene description file as an item in MPEG media.alternative.tracks and the referenced item complies with the provisions of track in ISOBMFF, the following applies:</u></p> <ul style="list-style-type: none"> <u>— For single-track encapsulated G-PCC data, the track referenced in MPEG media shall be the G-PCC bitstream track;</u> <u>— For multi-track encapsulated G-PCC data, the track referenced in MPEG media shall be the G-PCC geometry bitstream track.</u>
<u>codecs</u>	<u>string</u>	<u>N/A</u>	<u>M</u>	<p><u>The codecs parameter, as defined in IETF RFC 6381, of the media included in the track. When the track includes different types of codecs (e.g. the AdaptationSet includes Representations with different codecs), the codecs parameter may be signaled by comma-separated list of values of the codecs.</u></p>

Annex B

Add the following entries to Table B.1 in Annex B: Attribute registry

Table 1 in Annex B:

Table B.1 — MPEG attribute registry

Name	Accessor type(s)	Component type(s)	Description	Reference and example shader program
<u>_MPEG_V3C_ATTR_REFLECTANCE</u>	<u>scalar</u>	<u>5123</u>	<u>indicates the reflectance information that is associated with each point in a volumetric frame</u>	<u>-</u>
<u>_MPEG_V3C_ATTR_MATERIAL_ID</u>	<u>scalar</u>	<u>5123</u>	<u>indicates a supplemental information</u>	<u>-</u>

Name	Accessor type(s)	Component type(s)	Description	Reference and example shader program
			that identifies material type of a point in a volumetric frame	
_MPEG_V3C_ATTR_TRANSPARENCY	scalar	5123	indicates the transparency information that is associated with each point in a volumetric frame	-

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Annex F

Add the following ~~clauses~~ subclauses to Annex-F:

F.10—_MPEG_primitive_V3C

In the example downloadable from https://standards.iso.org/iso-iec/23090/-14/ed-1/en/amd/1/example_MPEG_primitive_V3C, https://standards.iso.org/iso-iec/23090/-14/ed-1/en/amd/1/example_MPEG_primitive_V3C, a usage of the MPEG_primitive_V3C is presented.

F.11—_MPEG_sampler_YCbCr

In the example downloadable from https://standards.iso.org/iso-iec/23090/-14/ed-1/en/amd/1/example_MPEG_sampler_YCbCr, https://standards.iso.org/iso-iec/23090/-14/ed-1/en/amd/1/example_MPEG_sampler_YCbCr, a usage of the MPEG_sampler_YCbCr extension is presented.

Add Annex-G with the following content