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Information technology — Coding of audio-visual objects —

Part 4: Conformance testing

AMENDMENT 45: Conformance Testing for the Multi-resolution Frame Compatible Stereo Coding with Depth Maps Extension of AVC

Technologies de l'information — Codage des objets audiovisuels —

Partie 4: Essai de conformité

AMENDEMENT 45: Essai de conformité de cadre multi-résolution stéréo compatible avec l'extension carte de profondeur de l'AVC

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Amendment 45 to ISO/IEC 14496-4:2004 was prepared by ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This Amendment establishes conformance test requirements for conformance to ITU-T Rec. H.264 | ISO/IEC 14496-10.

In this Amendment, additional text to ITU-T Rec. H.264 | ISO/IEC 14496-4 is specified for testing the conformance of ITU-T Rec. H.264.1 | ISO/IEC 14496-10 video decoders including, in particular, the MFC Depth High Profiles.

The following subclauses specify the normative tests for verifying conformance of ITU-T Rec. H.264 | ISO/IEC 14496-10 video bitstreams and decoders. These normative tests make use of test data (bitstream test suites) provided as an electronic annex to this document and of the reference software decoder specified in ITU-T Rec. H.264.2 | ISO/IEC 14496-5 with source code available in electronic format.

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In 10.6.5.7

Add the following text at the end of the subclause:

A decoder that conforms to the MFC Depth High profile at a specific level shall be capable of decoding the specified bitstreams in Table-AMD45-1. A decoder that conforms to the MFC Depth High profile shall also be capable of decoding all bitstreams that are required to be decoded by a Main, High, Stereo High and MFC High profile decoder of the same level. In addition to the specified bitstreams in Table-AMD-45-1, a decoder that conforms to the MFC Depth High profile shall be capable of decoding the bitstreams in Tables 1, 2, 5 and 7 that correspond to these requirements.

After 10.6.6.37.12

Add the following text:

10.6.6.38 Test bitstreams – MFC Depth High Profile

10.6.6.38.1 Test bitstream # MFCDDR-1

Specification: All slices are coded as I, P or B slices. Only the first picture is coded as an IDR access unit. Each view component contains only one slice. num_views_minus1 is equal to 1. NumDepthViews is equal to 2. The base layer texture view is in SbS frame compatible format. Both the texture view and depth view components are progressive. The coding order of texture view and depth view is specified as "T0D0D1T1", i.e. texture from view point 0, followed by depth from view point 0, followed by depth from view point 1, and followed by texture from view point 1. The width and the height of depth view components are equal to the texture view components. All NAL units are encapsulated into the byte stream format specified in ITU-T H.264 | ISO/IEC 14496-10, Annex B.

Functional stage: Decoding of the base and enhancement texture view component and depth view component and reconstruction of the enhanced resolution stereo texture views.

Purpose: Check that the decoder can properly decode the base and enhancement texture view components and the same resolution depth view components, and reconstruct the enhanced resolution stereo texture views.

10.6.6.38.2 Test bitstream # MFCDDR-2

Specification: All slices are coded as I, P or B slices. Only the first picture is coded as an IDR access unit. Each view component contains only one slice. num_views_minus1 is equal to 1. NumDepthViews is equal to 2. The base layer texture view is in SbS frame compatible format. Both the texture view and depth view components are progressive. The coding order of texture view and depth view is specified as "T0D0D1T1", i.e. texture from view point 0, followed by depth from view point 0, followed by depth from view point 1, and followed by texture from view point 1. The width and the height of the depth

view components are half of the texture view components. All NAL units are encapsulated into the byte stream format specified in ITU-T H.264 | ISO/IEC 14496-10, Annex B.

Functional stage: Decoding of the base and enhancement texture view component and depth view component and reconstruction of the enhanced resolution stereo texture views.

Purpose: Check that the decoder can properly decode the base and enhancement texture view components and lower resolution depth view components, and reconstruct the enhanced resolution stereo texture views.

10.6.6.38.3 Test bitstream #MFCDFLD-1

Specification: All slices are coded as I, P or B slices. Only the first picture is coded as an IDR access unit. Each view component contains only one slice. num_views_minus1 is equal to 1. NumDepthViews is equal to 2. The base layer texture view is in SbS frame compatible format. The coding order of texture view and depth view is specified as "T0D0D1T1", i.e. texture from view point 0, followed by depth from view point 0, followed by depth from view point 1, and followed by texture from view point 1. field_pic_flag is equal to 1 in texture view components. field_pic_flag is equal to 0 in depth view components. All NAL units are encapsulated into the byte stream format specified in ITU-T H.264 | ISO/IEC 14496-10, Annex B.

Functional stage: Decoding of the base and enhancement interlaced texture view component and interlaced depth view component and reconstruction of the enhanced resolution stereo texture views.

Purpose: Check that the decoder can properly decode the interlaced base and enhancement texture view component and progressive depth components, and reconstruct the enhanced resolution stereo texture views.

10.6.6.38.4 Test bitstream #MFCDFLD-2

Specification: All slices are coded as I, P or B slices. Only the first picture is coded as an IDR access unit. Each view component contains only one slice. num_views_minus1 is equal to 1. NumDepthViews is equal to 2. The base layer texture view is in SbS frame compatible format. The coding order of texture view and depth view is specified as "T0D0D1T0", i.e. texture from view point 0, followed by depth from view point 0, followed by depth from view point 1, and followed by texture from view point 1. field_pic_flag is equal to 1 for both texture view components and depth view components. All NAL units are encapsulated into the byte stream format specified in ITU-T H.264 | ISO/IEC 14496-10, Annex B.

Functional stage: Decoding of the base and enhancement interlaced texture view component and progressive depth view component and reconstruction of the enhanced resolution stereo texture views.

Purpose: Check that the decoder can properly decode the interlaced base and enhancement texture view component and interlaced depth view components, and reconstruct the enhanced resolution stereo texture views.

10.6.6.38.5 Test bitstream #MFCDTDC-1

Specification: All slices are coded as I, P or B slices. Only the first picture is coded as an IDR access unit. Each view component contains only one slice. num_views_minus1 is equal to 1. NumDepthViews is equal to 2. The base layer texture view is in SbS frame compatible format. Both the texture view and depth view components are progressive. The coding order of texture view and depth view is specified as "T0D0T1D1", i.e. texture from view point 0, followed by depth from view point 0, followed by texture from view point 1, followed by depth from view point 1. All NAL units are encapsulated into the byte stream format specified in ITU-T H.264 | ISO/IEC 14496-10, Annex B.

Functional stage: Decoding of the base and enhancement texture view component and depth view component and reconstruction of the enhanced resolution stereo texture views.

Purpose: Check that the decoder can properly decode the base and enhancement texture view components and depth view components with various coding order, and reconstruct the enhanced resolution stereo texture views.

