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Information technology — Coded representation of immersive media —

Part 36: Conformance and reference software for V-DMC

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Foreword

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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 23090 series can be found on the ISO and IEC websites.

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Introduction

This document outlines the conformance testing specification for ISO/IEC 23090-29:2025.

ISO/IEC 23090-29:2025 was developed to support compression of 3D mesh data utilizing the ISO V3C standard (ISO/IEC 23090-5:2025).

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Information technology — Coded representation of immersive media —

Part 36:
Conformance and reference software for V-DMC

1 Scope

This document[1)] specifies a set of tests and procedures designed to indicate whether encoders or decoders meet the requirements specified in ISO/IEC 23090-29:2025. The reference software includes both encoder and decoder functionality.

2 Normative reference

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/CD 23090-29, *Information technology — Coded Representation of Immersive Media — Part 29: Video-based dynamic mesh coding (V-DMC)*

ISO /IEC 23090-5, *(2E), Information technology — Coded Representation of Immersive Media — Part 5: Visual Volumetric Video-based Coding (V3C) and Video-based Point Cloud Compression (V-PCC)*

3 Terms and definitions

For the purposes of this document, the terms, definitions, abbreviations and symbols specified in ISO/IEC 23090-29:2025, and the following 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/

The following terms are further clarified for purposes herein as follows.

3.1
bitstream
sequence of bits that conforms to the syntax requirements specified by ISO/IEC 23090-29:2025 or sequence of bits to be tested for conformance to those syntax requirements

3.2
decoder
an embodiment of the decoding process specified by ISO/IEC 23090-29:2025

Note 1 to entry: The decoder does not include the rendering and display process, which is outside the scope of this document.

1) This document includes an electronic attachment containing the conformance bitstreams identified within the text. The bitstreams can also be downloaded from the ITU-T Test Signal Database.

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3.3
encoder
an embodiment of a process, not specified in this International Standard (except in respect to identification of the reference software encoder), that produces a bitstream

3.4
reference software decoder
particular *decoder* (3.2) provided as a software package for use as an example available for study, as a potential starting basis for the development of other *decoders* (3.2), as a way of testing bitstreams for conformance, and as a reference for comparison with the behaviour of other *decoders* (3.2)

3.5
reference software encoder
particular *encoder* (3.3) provided as a software package for use as an example available for study, as a potential starting basis for the development of other *encoders* (3.3), and as a reference for comparison with the behaviour of other *encoders* (3.3)

3.6
V3C output unit
particular structure containing decoded and nominal format converted V3C components that correspond to a specific composition time.

3.7
V-DMC reconstruction
specific recommendation for the reconstruction process to be tested for conformance with the reconstruction process specification.

4 Abbreviations

The relevant abbreviations and acronyms are specified in clause 4 of ISO/IEC 23090-29:2025.

5 Conventions

The relevant conventions are specified in clause 5 of ISO/IEC 23090-29:2025.

6 Conformance for ISO/IEC 23090-29:2025

6.1 Introduction

The following clauses specify normative tests for verifying the conformance of bitstreams as well as decoders. Those normative tests make use of test data (bitstream test suites) provided as an electronic annex to this document and the reference software decoder specified in ISO/IEC 23090-29:2025.

6.2 Bitstream conformance

The bitstream conformance of ISO/IEC 23090-29:2025 is specified by clause E.4, subclause H.13.4, and subclause J.11.4 of ISO/IEC 23090-29:2025.

6.3 Decoder conformance

The decoder conformance of ISO/IEC 23090-29:2025 is specified by clause E.5, subclause H.13.5, and subclause J.11.5 of ISO/IEC 23090-29:2025.

6.4 Reconstruction conformance

The reconstruction conformance of ISO/IEC 23090-29:2025 is specified by Annex B and clauses 10, 11, and 12 according to the chosen reconstruction profile indicated in Annex A of ISO/IEC 23090-29:2025.

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