
**Information technology — Coded
representation of immersive media —
Part 14:
Scene description**

*Technologies de l'information — Représentation codée de média
immersifs —*

Partie 14: Description de scènes





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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 or www.iec.ch/members_experts/refdocs).

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A list of all parts in the ISO 23090 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 and www.iec.ch/national-committees.

Introduction

This document defines the MPEG-I Scene Description. It provides an architecture for the MPEG-I Scene Description, a set of extensions based on ISO/IEC 12113, a set of APIs, and storage formats for scene description documents and scene description updates documents.

Information technology — Coded representation of immersive media —

Part 14: Scene description

1 Scope

This document specifies extensions to existing scene description formats in order to support MPEG media, in particular immersive media. MPEG media includes but is not limited to media encoded with MPEG codecs, media stored in MPEG containers, MPEG media and application formats as well as media provided through MPEG delivery mechanisms. Extensions include scene description format syntax and semantics and the processing model when using these extensions by a Presentation Engine. It also defines a Media Access Function (MAF) API for communication between the Presentation Engine and the Media Access Function for these extensions. While the extensions defined in this document can be applicable to other scene description formats, they are provided for ISO/IEC 12113.

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 12113, *Information technology — Runtime 3D asset delivery format — Khronos glTF™ 2.0*

ISO/IEC 14496-12, *Information technology — Coding of audio-visual objects — Part 12: ISO base media file format*

ISO/IEC 21778, *Information technology — The JSON data interchange syntax*

IEEE 754-2019, *IEEE Standard for Floating-Point Arithmetic*

IETF RFC 6902, *JavaScript Object Notation (JSON) Patch*

IETF RFC 8259, *The JavaScript Object Notation (JSON) Data Interchange Format*

3 Terms, definitions, abbreviated terms, and conventions

3.1 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 12113 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/>

3.1.1 asset

3D scene described by a *scene description document* (3.1.10) together with corresponding *scene description data* (3.1.9)