



**International
Standard**

ISO/IEC 19566-6

**Information technologies — JPEG
systems —**

**Part 6:
JPEG 360**

Technologies de l'information — Systèmes JPEG —

Partie 6: JPEG 360

**Second edition
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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.

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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*.

This second edition cancels and replaces the first edition (ISO/IEC 19566-6:2019), which has been technically revised. It also incorporates the Amendments ISO/IEC 19566-6:2019/Amd 1:2021 and ISO/IEC 19566-6:2019/Amd 2:2025.

The main changes are as follows:

- incorporates the latest advancements in stereoscopic imaging as well as dealing with accelerated rendering of region of interest viewports.

A list of all parts in the ISO/IEC 19566 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

The ISO/IEC 19566 series is designed primarily for format and metadata storage and protection method of compressed continuous-tone photographic content.

There is increasing use of multi-sensor images from multiple image sensor devices, such as 360° capturing cameras or dual-camera smartphones available to consumers. Images from these cameras are shown on computers, smartphones, and head-mounted displays (HMD).

Because existing JPEG standards do not fully cover these new uses, incompatibilities have reduced the interoperability of these images, and thus reducing the widespread ubiquity which consumers have come to expect when using JPEG-based images.

Additionally, new modalities for interacting with images, such as computer-based augmentation, face-tagging, and object classification require support for metadata that was not part of the original JPEG scope.

This document defines “JPEG 360”, building upon the features of JPEG Universal Metadata Box Format (JUMBF) (see ISO/IEC 19566-5).

This document defines the use of the JPEG 360 Content Type JUMBF superbox with respect to the sub-box components which include the definition of an XML box, the use of other boxes such as unstitched image elements for omnidirectional captures together with the main image and descriptive metadata, and encrypted parts of the image.

Information technologies — JPEG systems —

Part 6: JPEG 360

1 Scope

This document specifies omnidirectional/360° image and motion contents using Rec. ITU-T T.81 | ISO/IEC 10918-1, Rec. ITU-T T.800 | ISO/IEC 15444-1 and ISO/IEC 18477-3.

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 19566-5, *Information technologies — JPEG systems — Part 5: JPEG universal metadata box format (JUMBFF)*

Rec. ITU-T T.81 | ISO/IEC 10918-1, *Information technology — Digital compression and coding of continuous-tone still images: Requirements and guidelines*

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- [4] W3C Recommendation Extensible Markup Language (XML), <https://www.w3.org/XML/>
- [5] ISO 16684-3, *Graphic technology — Extensible metadata platform (XMP) specification — Part 3: JSON-LD serialization of XMP*
- [6] ISO/IEC 18477-3, *Information technology — Scalable compression and coding of continuous-tone still images — Part 3: Box file format*
- [7] Rec. ITU-T T.800 | ISO/IEC 15444-1, *Information technology — JPEG 2000 Image Coding System — Part 1: Core coding system*

1) <https://www.rfc-editor.org/info/rfc2046W3C>