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Information technologies — JPEG systems —

Part 5: JPEG universal metadata box format (JUMBF)

Technologies de l'information — Systèmes JPEG —

Partie 5: Format universel de fichier de métadonnées pour JPEG (JUMBF)

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Contents

Page

Foreword ... **iv**
Introduction ... **v**
1 Scope ... **1**
2 Normative references ... **1**
3 Terms, definitions and abbreviated terms ... **1**
3.1 Terms and definitions ... 1
3.2 Abbreviated terms ... 2
4 Conventions ... **2**
4.1 Conformance language ... 2
4.2 Naming conventions for numerical values ... 3
4.3 Boxes and superboxes ... 3
4.4 Graphical descriptions ... 4
5 Implementation ... **4**
Annex A (normative) **JUMBF Box file format** ... **5**
Annex B (normative) **JUMBF Content Types** ... **9**
Annex C (normative) **JUMBF references and requests** ... **15**
Annex D (informative) **JUMBF backwards compatibility and integration** ... **17**
Bibliography ... **21**

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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 SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This second edition cancels and replaces the first edition (ISO/IEC 19566-5:2019), which has been technically revised. It also incorporates the Amendment ISO/IEC 19566-5:2019/Amd 1.

The main changes are as follows:

— Content Type for the Concise Binary Object Representation (CBOR) data as specified by RFC 8949;

— new box, the Padding Box;

— new Private entry in the JUMBF Description Box.

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.

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Introduction

The JPEG universal metadata box format (JUMBF) provides a mechanism to embed and refer generic metadata in JPEG files. Specific content types can be assigned to identify the specific type of the embedded metadata. In addition to the content types defined in this document, other types can be defined by other standards or by third parties. ISO/IEC 19566-4 and ISO/IEC 19566-6 both use JUMBF to embed additional metadata in JPEG images. The JPEG XT file format (see ISO/IEC 18477-3) is used to embed JUMBF boxes in JPEG-1 images (see Rec. ITU-T T.81 | ISO/IEC 10918-1).

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Information technologies — JPEG systems —

Part 5: JPEG universal metadata box format (JUMBF)

1 Scope

This document describes the JPEG universal metadata box format (JUMBF), which provides a universal format to embed any type of metadata in any box-based JPEG file format. This document defines the syntax of the JUMBF box and the mechanism to assign specific content types. In particular, this document specifies XML, JSON, CBOR, Embedded File, codestream and UUID types. In addition, this document defines the syntax to reference or request the embedded metadata content within or outside the image.

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 10646, *Information technology — Universal coded character set (UCS)*

ISO/IEC 11578, *Information technology — Open Systems Interconnection — Remote Procedure Call (RPC)*

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

FIPS PUB 180-4, *Secure Hash Standard (SHS)*

W3C, *Extensible Markup Language (XML 1.0)*,

IETF RFC 8949, *Concise Binary Object Representation (CBOR)*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For the purposes of this document, the following terms and definitions 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
box
binary structure that encapsulates an object embedded in a file

3.1.2
codestream
sequence of bits representing a compressed image and associated metadata

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