INTERNATIONAL
STANDARD

**ISO/IEC
15444-5**

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Information technology — JPEG 2000 image coding system: Reference software

Technologies de l'information — Système de codage d'image JPEG 2000: Logiciel de référence

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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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this part of ISO/IEC 15444 may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 15444-5 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*, in collaboration with ITU-T. The identical text is published as ITU-T Rec. T.804.

ISO/IEC 15444 consists of the following parts, under the general title *Information technology — JPEG 2000 image coding system*:

— *Part 1: Core coding system*

— *Part 2: Extensions*

— *Part 3: Motion JPEG 2000*

— *Part 4: Conformance testing*

— *Part 5: Reference software*

— *Part 6: Compound image file format*

— *Part 9: Interactivity tools, APIs and protocols*

— *Part 12: ISO base media file format*

INTERNATIONAL STANDARD
ITU-T RECOMMENDATION

Information technology –
JPEG 2000 image coding system: Reference software

1 Scope

ITU-T Rec. T.800 | ISO/IEC 15444-1 defines a set of lossless and lossy compression methods for coding continuous-tone, bi-level, greyscale or colour digital still images. This Recommendation | International Standard provides two independently created software reference implementations of ITU-T Rec. T.800 | ISO/IEC 15444-1, in order to assist implementers of ITU-T Rec. T.800 | ISO/IEC 15444-1 in testing and understanding its content.

The reference software is informative only. This Recommendation | International Standard does not define any additional part of the JPEG 2000 image coding system.

Each version of the reference software contains source code, which may be compiled to provide the following functionality:

– transcoding from selected, widely available image formats into a JPEG 2000 codestream;

– transcoding from selected, widely available image formats into the JP2 file format;

– selection of a wide range of JPEG 2000 encoding options (as documented in each reference software);

– decoding from a JPEG 2000 codestream to a range of selected widely available image formats;

– partial processing of a JP2 file to extract a JPEG 2000 codestream for decoding to a range of selected widely available image formats;

  NOTE – The reference software does not implement a conforming JP2 file reader. See clause 9.

– some additional tools to help with evaluation and testing.

The reference software is intended for use as a testing and validation tool for other implementations of JPEG 2000, and to help in the understanding of ITU-T Rec. T.800 | ISO/IEC 15444-1. Although components of the reference software may find application in software intended for product development, this was not an objective of the development of this software, and prospective implementors are cautioned against making any estimations of performance or resource usage based on the reference software.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of the Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and Standards are subject to revision, and parties to agreements based on this Recommendation | International Standard are encouraged to investigate the possibility of applying the most recent edition of the Recommendations and Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The Telecommunication Standardization Bureau of the ITU maintains a list of currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

– ITU-T Recommendation T.800 (2002) | ISO/IEC 15444-1:2002, *Information technology – JPEG 2000 Image Coding System: Core coding system*.

2.2 Additional references

– ISO/IEC 9899:1999, *Programming languages – C*.

– ISO/IEC 9945-1:1996, *Information technology – Portable Operating System Interface (POSIX) – Part 1: System Application Program Interface (API) (C language)*.

– ISO/IEC 9945-2:1993, *Information technology – Portable Operating System Interface (POSIX) – Part 2: Shell and utilities*.