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Information technology — Lossless and near-lossless compression of continuous-tone still images —

Part 2:
Extensions

Technologies de l'information — Compression sans perte et quasi sans perte d'images fixes à modelé continu —

Partie 2: Extensions

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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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 3.

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

International Standard ISO/IEC 14495-2 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, but is not published as common text at this time.

ISO/IEC 14495 consists of the following parts, under the general title *Information technology — Lossless and near-lossless compression of continuous-tone still images*:

— *Part 1: Baseline*

— *Part 2: Extensions*

Annexes A to I form a normative part of this part of ISO/IEC 14495. Annexes J and K are for information only.

INFORMATION TECHNOLOGY —
LOSSLESS AND NEAR-LOSSLESS COMPRESSION OF CONTINUOUS-TONE
STILL IMAGES — PART 2: EXTENSIONS

1 Scope

This Recommendation | International Standard defines a set of lossless (bit-preserving) and nearly lossless (where the error for each reconstructed sample is bounded by a pre-defined value) compression methods for coding continuous-tone (including bi-level), gray-scale, or colour digital still images.

This Recommendation | International Standard

– specifies extensions (including arithmetic coding, extension of near lossless coding, extension of prediction and extension of Golomb coding) to processes for converting source image data to compressed image data

– specifies extensions to processes for converting compressed image data to reconstructed image data including an extension for sample tranformation for inverse colour transforms

– specifies coded representations for compressed image data

– provides guidance on how to implement these processes in practice

2 Normative references

The following Recommendations and International Standards contain provisions which, through references in this text, constitute provisions of this Recommendation | International Standard. At the time of publication, the editions indicated were valid. All Recommendations and International 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 editions of the Recommendations and International Standards listed below. Members of IEC and ISO maintain registers of currently valid International Standards. The ITU-T Telecommunication Standardization Bureau (TSB) maintains a list of the currently valid ITU-T Recommendations.

2.1 Identical Recommendations | International Standards

– CCITT Recommendation T.81 (1992) | ISO/IEC 10918-1:1994, *Information technology – Digital compression and coding of continuous-tone still images: Requirements and guidelines.*

– ITU-T Recommendation T.83 (1994) | ISO/IEC 10918-2:1995, *Information technology – Digital compression and coding of continuous-tone still images: Compliance testing.*

– ITU-T Recommendation T.84 (1996) | ISO/IEC 10918-3:1997, *Information technology – Digital compression and coding of continuous-tone still images: Extensions.*

– ITU-T Recommendation T.87 (2000) | ISO/IEC 14495-1:2000, *Information technology – Lossless and near-lossless compression of continuous-tone still images: Baseline.*

2.2 Additional references

– ISO/IEC 646:1991, *Information technology - ISO 7-bit coded character set for information interchange.*

– ISO 5807:1985, *Information processing - Documentation symbols and conventions for data, program and system flowcharts, program network charts and system resources charts.*

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