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Information technology — Scalable compression and coding of continuous-tone still images —

Part 4: Conformance testing

Technologies de l'information — Compression échelonnable et codage d'images plates en ton continu —

Partie 4: Essai de conformité

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ISO copyright office
Ch. de Blandonnet 8 • CP 401
CH-1214 Vernier, Geneva, Switzerland
Tel. +41 22 749 01 11
Fax +41 22 749 09 47
copyright@iso.org
www.iso.org

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Foreword

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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 ISO documents 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).

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For an explanation on the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

A list of all parts in the ISO/IEC 18477 series can be found on the ISO website.

Introduction

The ISO/IEC 18477 series, also known under the term JPEG XT, specifies lossy and lossless codestream formats for storage of continous-tone high and low dynamic range photographic content. All parts of the ISO/IEC 18477 series are compatible to the Recommendation ITU-T T.81 | ISO/IEC 10918, also commonly known as JPEG. That is, any decoder conforming to the latter standard will be able to reconstruct codestreams from the ISO/IEC 18477 series to an 8 bits/sample image. Additional features offered by ISO/IEC 18477, such as representation of intermediate or high-dynamic range images, or lossless reconstruction require an extended decoder that implements, in addition to the Rec. ITU-T T.81 | ISO/IEC 10918-1, also one or multiple members of ISO/IEC 18477.

This document provides the framework, concepts and methodology for testing codestreams and implementations, and the criteria to be achieved to claim conformance to the parts and profiles of ISO/IEC 18477. The objective of this document is to promote interoperability between JPEG XT decoders, and to test these systems for conformance to one or multiple specifications that are part of the JPEG XT. Conformance testing is the testing of a candidate implementation for the existence of specific characteristics required by a standard. It involves testing the capabilities of an implementation against the conformance requirements in the relevant standard.

The purpose of this document is to define a common test methodology, to provide a framework for specific abstract test suites (ATS) and to define the procedures to be followed during conformance testing.

Any organization contemplating the use of the test methods defined in this document should carefully consider the constraints on their applicability. Conformance testing does not include robustness testing, acceptance testing, and performance testing, all of which are outside the scope of this text.