

PD ISO/IEC/TR 19566-1:2016



BSI Standards Publication

Information technology — JPEG Systems

Part 1: Packaging of information using
codestreams and file formats

National foreword

This Published Document is the UK implementation of ISO/IEC/TR 19566-1:2016.

The UK participation in its preparation was entrusted to Technical Committee IST/37, Coding of picture, audio, multimedia and hypermedia information.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Published by BSI Standards Limited 2016

ISBN 978 0 580 89945 4

ICS 35.040

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This Published Document was published under the authority of the Standards Policy and Strategy Committee on 31 May 2016.

Amendments/corrigenda issued since publication

| Date | Text affected |
|------|---------------|
|------|---------------|

Information technology — JPEG Systems —

Part 1: Packaging of information using codestreams and file formats

Technologies de l'information — Systèmes JPEG —

*Partie 1: Emballage des informations utilisant les flux de codes et les
formats de fichier*



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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.

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 document 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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The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

Introduction

This part of ISO/TR 19566 provides an overview for users of ISO/IEC standards in the use of common JPEG syntax elements at the systems layer for current and future International Standards developed by ISO/IEC.

With the development of coding technologies, ISO/IEC has defined a number of different file formats and multiple variants of codestream syntax. Many of these are specialized to dedicated use cases or compression algorithms. Consequently, it is difficult to maintain an overview about existing file formats, their capabilities and their architectures.

This part of ISO/TR 19566 aims to describe common architectural concepts for file formats and codestream formats. By these means, it lays out guidelines for future file formats and codestream syntax. By observing these guidelines, future International Standards may fit into an overall operable Systems infrastructure that can handle all tools standardized by the ISO/IEC body.

Information technology — JPEG Systems —

Part 1:

Packaging of information using codestreams and file formats

1 Scope

This part of ISO/TR 19566 describes common elements of a system layer for JPEG standards, referred to as JPEG Systems.

This part of ISO/TR 19566 describes the common architecture of file formats and codestream formats used in JPEG standards. It is intended that all future Systems components support codestreams and file formats following these guidelines.

2 Terms, definitions, abbreviated terms and symbols

2.1 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

2.1.1

backward compatibility

inclusive of the old specification within the new specification

Note 1 to entry: Any devices implementing the new standard can also interpret all data compliant with the old version of the standard. However, an old device only compliant with the old version of the standard might not be able to interpret the data compliant with the new version of the standard.

2.1.2

bit stream

partially encoded or decoded sequence of bits comprising an entropy-coded segment

2.1.3

box

structured collection of data describing the image or the image decoding process

Note 1 to entry: See B.2 for the definition of boxes.

2.1.4

box-based file format

file format whose composing elements are well-defined, hierarchically structured boxes

2.1.5

byte

group of 8 bits

2.1.6

coder

embodiment of a coding process