

Australian Standard™

Information technology—JPEG 2000
image coding system

Part 9: Interactivity tools, APIs and
protocols

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OF

AS ISO/IEC 15444.9—2006

**Information technology—JPEG 2000 image coding system
Part 9: Interactivity tools, APIs and protocols**

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PREFACE

This Standard was prepared by the Standards Australia Committee IT-029, Coded Representation of Picture, Audio and Multimedia/Hypermedia Information.

This Standard is identical with, and has been reproduced from ISO/IEC 15444-9:2005, *Information technology—JPEG 2000 image coding system—Part 9: Interactivity tools, APIs and protocols*.

The objective of this Standard is to provide the Australian multimedia design industry with a network protocol that allows for the interactive and progressive transmission of JPEG 2000 coded data and files from a server to a client.

The terms ‘normative’ and ‘informative’ are used to define the application of the annex to which they apply. A normative annex is an integral part of a standard, whereas an informative annex is only for information and guidance.

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<i>Reference to International Standard</i>		<i>Australian Standard</i>	
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15444	Information technology—JPEG 2000 image coding system	15444	Information technology—JPEG 2000 image coding system
15444-1	Part 1: Core coding system	15444.1	Part 1: Core coding system
15444-2	Part 2: Extensions	15444.2	Part 2: Extensions
15444-6	Part 6: Compound image file format	15444.6	Part 6: Compound image file format

Only International references that have been adopted as Australian Standards have been listed.

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INTRODUCTION

ITU-T Rec. T.800 | ISO/IEC 15444-1 (JPEG 2000) is a specification that describes an image compression system that allows great flexibility, not only for the compression of images but also for access into the codestream. The codestream provides a number of mechanisms for locating and extracting portions of the compressed image data for the purpose of retransmission, storage, display, or editing. This access allows storage and retrieval of compressed image data appropriate for a given application without decoding.

The purpose of this Recommendation | International Standard is to provide a network protocol that allows for the interactive and progressive transmission of JPEG 2000 coded data and files from a server to a client. This protocol allows a client to request only the portions of an image (by region, quality or resolution level) that are applicable to the client's needs. The protocol also allows the client to access metadata or other content from the file.

Any organization contemplating the use of this Recommendation | International Standard should carefully consider its applicability.

The International Telecommunication Union (ITU), the International Organization for Standardization (ISO) and International Electrotechnical Commission (IEC) draw attention to the fact that it is claimed that compliance with this Recommendation | International Standard may involve the use of a patent.

The ITU, ISO and IEC take no position concerning the evidence, validity and scope of this patent right.

The holder of this patent right has assured the ITU, ISO and IEC that he is willing to negotiate licences under reasonable and non-discriminatory terms and conditions with applicants throughout the world. In this respect, the statement of the holder of this patent right is registered with the ITU, ISO and IEC. Information may be obtained from the companies listed in Annex M.

Attention is drawn to the possibility that some of the elements of this Recommendation | International Standard may be the subject of patent rights other than those identified in Annex M. ITU, ISO and IEC shall not be held responsible for identifying any or all such patent rights.

AUSTRALIAN STANDARD

Information technology — JPEG 2000 image coding system —

Part 9: Interactivity tools, APIs and protocols

1 Scope

This Recommendation | International Standard defines, in an extensible manner, syntaxes and methods for the remote interrogation and optional modification of JPEG 2000 codestreams and files in accordance with their definition in the following parts of ISO/IEC 15444:

- ITU-T Rec. T.800 | ISO/IEC 15444-1:2004 and its definition of a JPEG 2000 codestream and JP2 file format.
- the JPEG 2000 family of file formats as defined in further parts of ISO/IEC 15444.

In this Recommendation | International Standard, the defined syntaxes and methods are referred to as the JPEG 2000 Interactive Protocol, "JPIP", and interactive applications using JPIP are referred to as "JPIP systems."

JPIP specifies a protocol consisting of a structured series of interactions between a client and a server by means of which image file metadata, structure and partial or whole image codestreams may be exchanged in a communications efficient manner. This Recommendation | International Standard includes definitions of the semantics and values to be exchanged, and suggests how these may be passed using a variety of existing network transports.

With JPIP, the following tasks may be accomplished in varying, compatible ways:

- the exchange of capabilities;
- the negotiation of capabilities to use in a session;
- the request and transfer of the following elements from a variety of containers, such as JPEG 2000 family files, JPEG 2000 codestreams and other container files:
 - selective data segments;
 - selective and defined structures;
 - parts of an image or its related metadata.

2 Normative references

The following Recommendations and International Standards contain provisions which, through reference in this text, constitute provisions of this 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.

- ITU-T Recommendation T.800 (2002) | ISO/IEC 15444-1:2004, *Information technology – JPEG 2000 image coding system: Core coding system*.
- ITU-T Recommendation T.801 (2002) | ISO/IEC 15444-2:2004, *Information technology – JPEG 2000 image coding system: Extensions*.
- ITU-T Recommendation T.802 (2005) | ISO/IEC 15444-3:2005, *Information technology – JPEG 2000 image coding system: Motion JPEG 2000*.
- ISO/IEC 15444-6:2003, *Information technology – JPEG 2000 image coding system – Part 6: Compound image file format*.
- IETF RFC 768 (1980), *User Datagram Protocol*. Available from World Wide Web: <<http://www.ietf.org/rfc/rfc0768.txt>>.