

International Telecommunication Union

ITU-T

TELECOMMUNICATION
STANDARDIZATION SECTOR
OF ITU

T.808

Amendment 2

(08/2007)

SERIES T: TERMINALS FOR TELEMATIC SERVICES

Still-image compression – JPEG 2000

Information technology - JPEG 2000 image coding
system: Interactivity tools, APIs and protocols

Amendment 2: JPIP extensions

ITU-T Recommendation T.808 (2005) – Amendment 2



ITU-T T-SERIES RECOMMENDATIONS
TERMINALS FOR TELEMATIC SERVICES

| | |
|---|--------------------|
| Facsimile – Framework | T.0–T.19 |
| Still-image compression – Test charts | T.20–T.29 |
| Facsimile – Group 3 protocols | T.30–T.39 |
| Colour representation | T.40–T.49 |
| Character coding | T.50–T.59 |
| Facsimile – Group 4 protocols | T.60–T.69 |
| Telematic services – Framework | T.70–T.79 |
| Still-image compression – JPEG-1, Bi-level and JBIG | T.80–T.89 |
| Telematic services – ISDN Terminals and protocols | T.90–T.99 |
| Videotext – Framework | T.100–T.109 |
| Data protocols for multimedia conferencing | T.120–T.149 |
| Telewriting | T.150–T.159 |
| Multimedia and hypermedia framework | T.170–T.189 |
| Cooperative document handling | T.190–T.199 |
| Telematic services – Interworking | T.300–T.399 |
| Open document architecture | T.400–T.429 |
| Document transfer and manipulation | T.430–T.449 |
| Document application profile | T.500–T.509 |
| Communication application profile | T.510–T.559 |
| Telematic services – Equipment characteristics | T.560–T.649 |
| Still-image compression – JPEG 2000 | T.800–T.849 |
| Still-image compression – JPEG-1 extensions | T.850–T.899 |

For further details, please refer to the list of ITU-T Recommendations.

**Information technology – JPEG 2000 image coding system:
Interactivity tools, APIs and protocols**

Amendment 2

JPIP extensions

Summary

This amendment adds a multi-component transformation resolution level flag to JPIP. This is useful for remote browsing of an image that was compressed with a wavelet based multiple-component transform at a sub-resolution in the component direction.

As of the approval of this Amendment, ISO/IEC JTC 1/SC 29 was also preparing ITU-T Rec. T.808 (2005) | ISO/IEC 15444-9:2005 Amd.2, which had not progressed to FDAM stage; therefore, it could not be considered for AAP. Since this Amendment on "JPIP extensions" to ITU-T Rec. T.808 | ISO/IEC 15444-9 was balloted by ISO/IEC JTC 1/SC 29 as PDAM 3, FPDAM 3, FDAM 3, it was kept as for the ITU-T approval process purposes also numbered as Amendment 3, even though Amendment 2 was neither approved or yet available for consideration under AAP. *After approval, in order to keep the temporal numbering approach of the approved Recommendations | International Standards, this Amendment was renumbered as Amendment 2 for publication purpose.*

Source

Amendment 2 to ITU-T Recommendation T.808 (2005) was approved on 29 August 2007 by ITU-T Study Group 16 (2005-2008) under the ITU-T Recommendation A.8 procedure. An identical text is also published as ISO/IEC 15444-9, Amendment 2.

FOREWORD

The International Telecommunication Union (ITU) is the United Nations specialized agency in the field of telecommunications. The ITU Telecommunication Standardization Sector (ITU-T) is a permanent organ of ITU. ITU-T is responsible for studying technical, operating and tariff questions and issuing Recommendations on them with a view to standardizing telecommunications on a worldwide basis.

The World Telecommunication Standardization Assembly (WTSA), which meets every four years, establishes the topics for study by the ITU-T study groups which, in turn, produce Recommendations on these topics.

The approval of ITU-T Recommendations is covered by the procedure laid down in WTSA Resolution 1.

In some areas of information technology which fall within ITU-T's purview, the necessary standards are prepared on a collaborative basis with ISO and IEC.

NOTE

In this Recommendation, the expression "Administration" is used for conciseness to indicate both a telecommunication administration and a recognized operating agency.

Compliance with this Recommendation is voluntary. However, the Recommendation may contain certain mandatory provisions (to ensure e.g. interoperability or applicability) and compliance with the Recommendation is achieved when all of these mandatory provisions are met. The words "shall" or some other obligatory language such as "must" and the negative equivalents are used to express requirements. The use of such words does not suggest that compliance with the Recommendation is required of any party.

INTELLECTUAL PROPERTY RIGHTS

ITU draws attention to the possibility that the practice or implementation of this Recommendation may involve the use of a claimed Intellectual Property Right. ITU takes no position concerning the evidence, validity or applicability of claimed Intellectual Property Rights, whether asserted by ITU members or others outside of the Recommendation development process.

As of the date of approval of this Recommendation, ITU had not received notice of intellectual property, protected by patents, which may be required to implement this Recommendation. However, implementers are cautioned that this may not represent the latest information and are therefore strongly urged to consult the TSB patent database at <http://www.itu.int/ITU-T/ipr/>.

© ITU 2008

All rights reserved. No part of this publication may be reproduced, by any means whatsoever, without the prior written permission of ITU.

CONTENTS

| | <i>Page</i> |
|------------------------|-------------|
| 1) Clause C.4.7 | 1 |
| 2) Clause C.4.11 | 1 |

INTERNATIONAL STANDARD
ITU-T RECOMMENDATIONInformation technology – JPEG 2000 image coding system:
Interactivity tools, APIs and protocols

Amendment 2

JPIP extensions

1) Clause C.4.7

Rewrite the second sentence of the paragraph in C.4.7 that reads (with the changes underlined):

If the `jpm-context` parameter appears in a request without a Frame Size request (`fsiz`) then the Frame Size values `fx` and `fy` are set to the page width and page height. If the `jpm-context` parameter appears in a request without a Region Size request (`rsiz`) then the Region Size values ~~`rx`~~ `sx` and ~~`ry`~~ `sy` are set to the frame size values `fx` and `fy` (after `fx` and `fy` have been set to the page width and height if necessary).

2) Clause C.4.11

Add the following new clause:

C.4.11 Multi-component transformation (MCT) Resolution Value

```
mctres = "mctres" "=" UINT
```

This field specifies the desired multi-component transformation resolution level. This field is only applicable if for all tile-components, exactly one of the multi-component transformations that are applied on this tile-component (and iteratively on the resulting intermediate components to create generated components) is a multi-component wavelet-transformation. It shall not be used otherwise. If this field is not present, it will be assumed that the full resolution representation of the image data is desired. The full number of resolution levels is one more than the number of wavelet transform levels N_L in the multi-component transformation, given by T_{mcc}^i (see Table A.39 in ITU-T Rec. T.801 | ISO/IEC 15444-2). For full resolution, this field should be set to 1. For half resolution, the field should be set to 2, for quarter resolution, the field should be set to 3, etc. If the value of `mctres` exceeds $N_L + 1$ for one tile or codestream, the lowest available resolution of that tile or codestream shall be transmitted. The same value of `mctres` shall apply simultaneously to all multi-component wavelet transformations found in the codestream(s).

SERIES OF ITU-T RECOMMENDATIONS

| | |
|-----------------|---|
| Series A | Organization of the work of ITU-T |
| Series D | General tariff principles |
| Series E | Overall network operation, telephone service, service operation and human factors |
| Series F | Non-telephone telecommunication services |
| Series G | Transmission systems and media, digital systems and networks |
| Series H | Audiovisual and multimedia systems |
| Series I | Integrated services digital network |
| Series J | Cable networks and transmission of television, sound programme and other multimedia signals |
| Series K | Protection against interference |
| Series L | Construction, installation and protection of cables and other elements of outside plant |
| Series M | Telecommunication management, including TMN and network maintenance |
| Series N | Maintenance: international sound programme and television transmission circuits |
| Series O | Specifications of measuring equipment |
| Series P | Telephone transmission quality, telephone installations, local line networks |
| Series Q | Switching and signalling |
| Series R | Telegraph transmission |
| Series S | Telegraph services terminal equipment |
| Series T | Terminals for telematic services |
| Series U | Telegraph switching |
| Series V | Data communication over the telephone network |
| Series X | Data networks, open system communications and security |
| Series Y | Global information infrastructure, Internet protocol aspects and next-generation networks |
| Series Z | Languages and general software aspects for telecommunication systems |