This is a preview - click here to buy the full publication

INTERNATIONAL STANDARD

ISO/IEC 21000-14

First edition
2007-12-15

Information technology — Multimedia framework (MPEG-21) —

Part 14: Conformance Testing

Technologies de l'information — Cadre multimédia (MPEG-21) —

Partie 14: Essais de conformité

Reference number
ISO/IEC 21000-14:2007(E)

© ISO/IEC 2007

This is a preview - click here to buy the full publication

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

COPYRIGHT PROTECTED DOCUMENT

© ISO/IEC 2007

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

© ISO/IEC 2007 – All rights reserved

This is a preview - click here to buy the full publication

Contents

Page

Foreword ... vii

1 Scope ... 1

2 Normative references ... 1

3 DID Conformance ... 2
3.1 DIDL Document Conformance ... 2
3.2 DIDL Parser Conformance ... 2

4 DII Conformance ... 2
4.1 Digital Item Identification Document Conformance ... 2
4.2 Digital Item Identification Parser Conformance ... 2

5 IPMP Components Conformance ... 2
5.1 Digital Item Declaration Document Conformance ... 2
5.2 IPMP Parser Conformance ... 3

6 IPMP Amd.1 Conformance ... 3
6.1 IPMP DIDL ... 3
6.2 IPMP Conformance Parser ... 3

7 REL Conformance ... 3
7.1 Rights Expression Conformance ... 3
7.1.1 General ... 3
7.1.2 Rules extracted from subclause 6.3 of ISO/IEC 21000-5:2004 ... 3
7.1.3 Rules extracted from subclauses 6.5.2 and 6.6 of ISO/IEC 21000-5:2004 ... 5
7.1.4 Rules extracted from subclause 7.4.1 of ISO/IEC 21000-5:2004 ... 6
7.1.5 Rules extracted from subclause 7.3.6 of ISO/IEC 21000-5:2004 ... 8
7.2 REL Parser Conformance ... 8

8 REL Amd.1 Conformance ... 8
8.1 Introduction ... 8
8.2 Rules extracted from subclause 6.3 of ISO/IEC 21000-5:2004 ... 8
8.3 Rules extracted from subclauses 6.5.2 and 6.6 of ISO/IEC 21000-5:2004 ... 9
8.4 Rules extracted from subclause 7.4.1 of ISO/IEC 21000-5:2004 ... 10
8.5 Rules for the DrmSystem condition ... 10

9 REL Amd.2 Conformance ... 10
9.1 Introduction ... 10
9.2 LicensePartId and LicensePartIdRef ... 10
9.3 Variable reference and conceptually abstract elements and types ... 14
9.4 LicensePart optional content model ... 16

10 RDD Conformance ... 17

11 DIA Conformance ... 17
11.1 DIA Description Conformance ... 17
11.2 Bitstream Syntax Schema Conformance ... 17
11.3 DIA Parser Conformance ... 17
11.4 DIA BintoBSD Parser Conformance ... 18
11.5 DIA BSDtoBin Parser Conformance ... 18
11.6 DIA gBSDtoBin Parser Conformance ... 19
11.7 DIA gBSDtoAU Conformance ... 19

12 DIA Amd.1 Conformance ... 20

13 DIA Amd.2 Conformance ... 20
13.1 Simple_Mode_XML_Fragmenter ... 20

© ISO/IEC 2007 – All rights reserved

This is a preview - click here to buy the full publication

14 File Format Conformance 20
14.1 Introduction 20
14.2 Process 20
14.3 Areas tested 20
14.4 File Documentation 20

15 DIP Conformance 21
15.1 Introduction 21
15.2 DIP schema conformance 21
15.2.1 Introduction 21
15.2.2 Testing DIP schema conformance 21
15.2.3 DIP engine conformance 22
15.2.4 Introduction 22
15.2.5 Testing DIP engine conformance 22
15.3 DIML syntax conformance 23
15.3.1 Introduction 23
15.3.2 Testing DIML syntax conformance 23
15.4 DIM engine conformance 24
15.4.1 Introduction 24
15.4.2 DIBOs with non-deterministic results 24
15.4.3 Testing DIM engine conformance 26
15.5 J-DIXO conformance 27
15.5.1 Introduction 27
15.5.2 J-DIXO inclusion in DID Conformance 27
15.5.3 J-DIXO conformance 27

16 DIP Amd.1 Conformance 28
16.1 Terminal conformance: C++ binding implementation 28
16.2 C++ executable conformance 28

17 Event Reporting Conformance 28
17.1 Event Report Request Description Conformance 28
17.2 Event Report Description Conformance 28
17.3 Event Report Request Parser Conformance 28
17.4 Event Report Parser Conformance 29
17.5 Draft List of Conformance Tests 29

18 Binary Format Conformance 29

19 Fragment Identification Conformance 30
19.1 Introduction 30
19.2 Syntax Conformance 30
19.3 FID Parser conformance 30
19.4 Logical Model conformance 30
19.5 Logical Model Parser conformance 30

Annex A (normative) Tests for DIDL Documents 31
A.1 Introduction 31
A.2 Test 1 31
A.3 Test 2 33
A.4 Test 3 34
A.5 Test 4 34
A.6 Test 5 36
A.7 Test 6 36
A.8 Test 7 37
A.9 Test 8 37
A.10 Test 9 38
A.11 Test 10 39
A.12 Test 11 40
A.13 Test 12 40
A.14 Test 13 41
A.15 Test 14 42
A.16 Test 15 42

© ISO/IEC 2007 – All rights reserved

This is a preview - click here to buy the full publication

A.17 Test 16 43
A.18 Test 17 44
A.19 Test 18 44
A.20 Test 19 45
A.21 Test 20 45
A.22 Test 21 46
A.23 Test 22 46
A.24 Test 23 47
A.25 Test 24 48
A.26 Test 25 48
A.27 Test 26 49
A.28 Test 27 50
A.29 Test 28 50

Annex B (normative) **Tests for Digital Item Identification Documents** 52
B.1 Test 1 52
B.2 Test 2 52
B.3 Test 3 52
B.4 Test 4 53

Annex C (normative) **Tests for DIDL Documents with protected elements** 54
C.1 Introduction 54
C.2 Test 1 54
C.3 Test 2 56
C.4 Test 3 57
C.5 Test 4 59
C.6 Test 5 60

Annex D (normative) **Tests for IPMP Amd.1** 62
D.1 Introduction 62
D.2 Test 1 62
D.3 Test 2 63
D.4 Test 3 64
D.5 Test 4 65
D.6 Test 5 66
D.7 Test 6 67

Annex E (normative) **Tests for Rights Expressions** 69
E.1 Test 1 69
E.2 Test 2 70
E.3 Test 3 71
E.4 Test 4 71
E.5 Test 5 72
E.6 Test 6 73
E.7 Test 7 74
E.8 Test 8 74
E.9 Test 9 75
E.10 Test 10 76
E.11 Test 11 76
E.12 Test 12 77
E.13 Test 13 77
E.14 Test 14 78
E.15 Test 15 79
E.16 Test 16 79
E.17 Test 17 80
E.18 Test 18 80
E.19 Test 19 81
E.20 Test 20 81
E.21 Test 21 82
E.22 Test 22 82
E.23 Test 23 83
E.24 Test 24 84

© ISO/IEC 2007 – All rights reserved

This is a preview - click here to buy the full publication

E.25 Test 25 84
E.26 Test 26 85
E.27 Test 27 85
E.28 Test 28 86
E.29 Test 29 87

Annex F (normative) Tests for REL Amd.1 88
F.1 Test 1 88
F.2 Test 2 89
F.3 Test 3 89
F.4 Test 4 90
F.5 Test 5 91
F.6 Test 6 91
F.7 Test 7 92
F.8 Test 8 93
F.9 Test 9 94
F.10 Test 10 94
F.11 Test 11 95
F.12 Test 12 96
F.13 Test 13 96
F.14 Test 14 97

Annex G (normative) Tests for REL Amd.2 98

Annex H (normative) Tests for DIA Descriptions 99

Annex I (normative) Tests for DIA Amd.1 112
I.1 Introduction 112
I.2 Conformance for Conversion Link 112
I.3 Conformance for Composite Conversion 114
I.4 Conformance for Cross Conversion QoS 116
I.5 Conformance for Conversion URI 118

Annex J (normative) Tests for DIA Amd.2 121
J.1 Simple_Mode_XML_Fragmenter 121

Annex K (normative) Tests for File Format 122
K.1 Areas tested 122

Annex L (normative) Tests for DIP 123
L.1 Tests for DIP engine 123
L.2 Tests for DIM engine 123

Annex M (normative) Tests for DIP Amd.1 124
M.1 C++ data type bindings for DIML object types 124
M.2 C++ DIBO factory interface 124
M.3 C++ global environment interface 124
M.4 C++ interface bindings for DIBOs 124

Annex N (normative) Tests for ER 125
N.1 Introduction 125

Annex O (normative) Tests for Binary Format 126
O.1 Introduction 126

Annex P (normative) Tests for FID 127
P.1 Test Fragment Identifiers 127
P.2 Test Logical Model Schemas 130

© ISO/IEC 2007 – All rights reserved

This is a preview - click here to buy the full publication

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. 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.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 21000-14 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

ISO/IEC 21000 consists of the following parts, under the general title *Information technology — Multimedia framework (MPEG-21)*:

— *Part 1: Vision, Technologies and Strategy* [Technical Report]

— *Part 2: Digital Item Declaration*

— *Part 3: Digital Item Identification*

— *Part 4: Intellectual Property Management and Protection Components*

— *Part 5: Rights Expression Language*

— *Part 6: Rights Data Dictionary*

— *Part 7: Digital Item Adaptation*

— *Part 8: Reference Software*

— *Part 9: File Format*

— *Part 10: Digital Item Processing*

— *Part 11: Evaluation Tools for Persistent Association Technologies* [Technical Report]

— *Part 12: Test Bed for MPEG-21 Resource Delivery* [Technical Report]

— *Part 14: Conformance Testing*

— *Part 15: Event Reporting*

— *Part 16: Binary Format*

— *Part 17: Fragment Identification of MPEG Resources*

— *Part 18: Digital Item Streaming*

© ISO/IEC 2007 – All rights reserved

This is a preview - click here to buy the full publication

Information technology — Multimedia framework (MPEG-21) —

Part 14:
Conformance Testing

1 Scope

This International Standard specifies conformance points and conformance tests for different parts of ISO/IEC 21000. Based on the various conformance points, it is identified which requirements defined in ISO/IEC 21000 apply to those conformance points. The tests are developed to ascertain whether a particular artifact (such as a piece of software or hardware or a document) meets all the requirements for a specific conformance point or not.

ISO/IEC 21000-14:2007 specifies conformance points and tests for ISO/IEC 21000-2:2005, ISO/IEC 21000-3:2003, ISO/IEC 21000-4:2006, ISO/IEC 21000-4:2006/Amd.1:2007, ISO/IEC 21000-5:2004, ISO/IEC 21000-5:2004/Amd.1:2007, ISO/IEC 21000-5:2004/Amd.2:2007, ISO/IEC 21000-7:2004, ISO/IEC 21000-7:2004/Amd.1:2006, ISO/IEC 21000-7:2004/Amd.2:2007, ISO/IEC 21000-9:2005, ISO/IEC 21000-10:2006, ISO/IEC 21000-10:2006/Amd.1:2006, ISO/IEC 21000-15:2006, ISO/IEC 21000-16:2005, and ISO/IEC 21000-17:2006.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 21000 (all parts), *Information technology – Multimedia framework (MPEG-21)*

Namespaces in XML, W3C Recommendation, 14 January 1999

Extensible Markup Language (XML) 1.0 (Second Edition), W3C Recommendation, 6 October, 2000

XML Schema Part 1: Structures, W3C Recommendation, May 2, 2001

XML Schema Part 2: Datatypes, W3C Recommendation, May 2, 2001

XML Information Set, W3C Recommendation, 24 October 2001

XML Base, W3C Recommendation, 27 June 2001

Canonical XML, Version 1.0, W3C Recommendation, 15 March 2001

© ISO/IEC 2007 – All rights reserved