INTERNATIONAL STANDARD

ISO/IEC 21000-10

First edition
2006-01-01

AMENDMENT 1
2006-12-15

Information technology — Multimedia framework (MPEG-21) —

Part 10: Digital Item Processing

AMENDMENT 1: Additional C++ bindings

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

Partie 10: Traitement d'élément numérique

AMENDEMENT 1: Liaisons C++ additionnelles

Reference number
ISO/IEC 21000-10:2006/Amd.1:2006(E)

Documents
Document Sharing Hub
© ISO/IEC 2006

Full document details: ISO_IEC 21000-10_2006_Amd 1_2006

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.

© ISO/IEC 2006

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

Documents
Document Sharing Hub

© ISO/IEC 2006 – All rights reserved

Full document details: ISO_IEC 21000-10_2006_Amd 1_2006

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.

Amendment 1 to ISO/IEC 21000-10:2006 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 29, *Coding of audio, picture, multimedia and hypermedia information*.

This Amendment defines normative C++ bindings for Digital Item Base Operations, informative security and platform dependence considerations, an informative example of a safe DIP profile and an entry to be appended to the Bibliography.

© ISO/IEC 2006 – All rights reserved

Documents
Document Sharing Hub
Full document details: ISO_IEC 21000-10_2006_Amd 1_2006

Documents
Document Sharing Hub

Full document details: ISO_IEC 21000-10_2006_Amd 1_2006

Information technology — Multimedia framework (MPEG-21) —

Part 10:
Digital Item Processing

AMENDMENT 1: Additional C++ bindings

In Clause 1, Scope, second paragraph, replace the text:

three normative annexes

with:

four normative annexes

In Clause 1, Scope, add at the end:

— C++ bindings for Digital Item Base Operations:

  Annex E specifies the C++ bindings for the Digital Item Base Operations described in 5.4.

In Clause 2, Normative references, insert the following normative reference before the reference to ISO/IEC 16262:2002:

ISO/IEC 14882:2003, *Programming languages — C++*

Add a new subclause 5.6:

5.6 Security and platform dependence considerations (informative)

5.6.1 Security considerations

5.6.1.1 Execute DIBO

The use of the `DIP.execute` DIBO can potentially result in security issues, because the DIBO provides means to execute arbitrary code.

5.6.1.2 C++ bindings

The use of the C++ DIBO bindings can potentially result in security issues.

5.6.1.3 DOM Load and Save

The DOM Load and Save API exposes potential security issues, because they provide access to the file system.

© ISO/IEC 2006 – All rights reserved

Documents
Document Sharing Hub
Full document details: ISO_IEC 21000-10_2006_Amd 1_2006

5.6.2 Platform dependence considerations

5.6.2.1 Execute DIBO

The use of the `DIP.execute` DIBO can result in the use of platform dependent code. It is possible to avoid those issues by creating a profile removing `DIP.execute`. This can be done using profiles as demonstrated in subclause Annex I.8.

5.6.2.2 C++ bindings

The use of the C++ DIBO bindings will result in the use of platform dependent code. It is possible to avoid those issues by creating a profile removing the C++ bindings. This can be done using profiles as demonstrated in subclause Annex I.8.

Adjust numbering clauses:

"5.6 Digital Item eXtension Operations" numbering change to "5.7 Digital Item eXtension Operations" numbering.

And change following (sub)clauses numbering accordingly.

Add a new Annex E:

Annex E
(normative)

C++ bindings for Digital Item Base Operations

E.1 Introduction

C++ bindings for DIBOs are specified so that C++ executables can interact with the DIP environment. The way in which C++ executables are executed and the reference to the bindings are obtained, is done in an implementation specific way.

E.2 C++ data type bindings for DIML object types

E.2.1 DIPError

See 5.4.3.2

© ISO/IEC 2006 – All rights reserved
Documents
Document Sharing Hub
Full document details: ISO_IEC 21000-10_2006_Amd 1_2006

```
#ifndef DIPERROR_H
#define DIPERROR_H

/**
 * C++ interface for the DIPError.
 */

class DIPError {
  public:
        /**
         * General DIP error not covered by other defined error codes.
         * The value of this property is 1.
         */
        static const int GENERAL_EXCEPTION;

        /**
         * A parameter provided to a DIBO or other DIP function is invalid.
         * The value of this property is 2.
         */
        static const int INVALID_PARAM;

        /**
         * Permission to execute this operation is unavailable in the host environment.
         * The value of this property is 3.
         */
        static const int INVALID_PERMISSION;

        /**
         * Something needed to complete the operation is not found.
         * The value of this property is 4.
         */
        static const int NOT_FOUND;

        /**
         * An error occurred during an attempt to adapt a resource.
         * The value of this property is 5.
         */
        static const int ADAPTATION_FAILED;

        /**
         * An error occurred during an attempt to play.
         * The value of this property is 6.
         */
        static const int PLAYBACK_FAILED;

        /**
         * An error occurred during an attempt to execute.
         * The value of this property is 7.
         */
        static const int EXECUTE_FAILED;

        /**
         * An error occurred during an attempt to print.
         * The value of this property is 8.
         */
        static const int PRINT_FAILED;

        /**
         * Returns the code of an error caused by an exception.
         * @return int value representing DIPErrorCode or other value specified in ISO/IEC
         *          21000.
         */
        virtual int getDIPErrorCode() const = 0;
};

#endif
```

© ISO/IEC 2006 – All rights reserved

Documents
Document Sharing Hub
Full document details: ISO_IEC 21000-10_2006_Amd 1_2006