

INTERNATIONAL STANDARD

Multimedia home server systems – Digital rights permission code





THIS PUBLICATION IS COPYRIGHT PROTECTED

Copyright © 2008 IEC, Geneva, Switzerland

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 IEC or IEC's member National Committee in the country of the requester.

If you have any questions about IEC copyright or have an enquiry about obtaining additional rights to this publication, please contact the address below or your local IEC member National Committee for further information.

IEC Central Office
3, rue de Varembe
CH-1211 Geneva 20
Switzerland
Email: inmail@iec.ch
Web: www.iec.ch

About the IEC

The International Electrotechnical Commission (IEC) is the leading global organization that prepares and publishes International Standards for all electrical, electronic and related technologies.

About IEC publications

The technical content of IEC publications is kept under constant review by the IEC. Please make sure that you have the latest edition, a corrigenda or an amendment might have been published.

- Catalogue of IEC publications: www.iec.ch/searchpub

The IEC on-line Catalogue enables you to search by a variety of criteria (reference number, text, technical committee,...). It also gives information on projects, withdrawn and replaced publications.

- IEC Just Published: www.iec.ch/online_news/justpub

Stay up to date on all new IEC publications. Just Published details twice a month all new publications released. Available on-line and also by email.

- Electropedia: www.electropedia.org

The world's leading online dictionary of electronic and electrical terms containing more than 20 000 terms and definitions in English and French, with equivalent terms in additional languages. Also known as the International Electrotechnical Vocabulary online.

- Customer Service Centre: www.iec.ch/webstore/custserv

If you wish to give us your feedback on this publication or need further assistance, please visit the Customer Service Centre FAQ or contact us:

Email: csc@iec.ch
Tel.: +41 22 919 02 11
Fax: +41 22 919 03 00

Document generated by EVS



IEC 62227

Edition 1.0 2008-06

INTERNATIONAL STANDARD

Multimedia home server systems – Digital rights permission code

INTERNATIONAL
ELECTROTECHNICAL
COMMISSION

PRICE CODE

XB

ICS 33.160.60; 35.240.99

ISBN 2-8318-9766-1

CONTENTS

FOREWORD.....	6
INTRODUCTION.....	8
1 Scope.....	9
2 Normative references	9
3 Terms, definitions and abbreviations	9
3.1 Terms and definitions	9
3.2 Abbreviated terms	15
4 Permission code framework.....	16
4.1 General.....	16
4.2 Assumptions associated with the permission code.....	17
4.2.1 Binary relationships within the content distribution value chain	17
4.2.2 Permission issued for a group of content	17
4.2.3 Common code center for permissions	18
4.2.4 Usage report	18
4.2.5 Application scenario of the permission code	18
4.2.6 Harmonization with DRM systems.....	19
4.3 Components of a permission code.....	19
4.3.1 Permission actor.....	19
4.3.2 Permission classification	22
4.3.3 Content usage	22
4.3.4 Content data handling	23
5 Permission code configuration	24
5.1 General.....	24
5.2 Notation	25
5.2.1 Numerical values	25
5.3 Permission code system.....	25
5.4 Version unit.....	26
5.4.1 Structure	26
5.4.2 Version unit tag	26
5.4.3 Reserved.....	27
5.4.4 Version.....	27
5.5 Permission actor unit.....	27
5.5.1 Structure	27
5.5.2 Permission actor unit tag	27
5.5.3 Total bytes of identifiers	27
5.5.4 Content identifier	28
5.5.5 Issuer identifier.....	29
5.5.6 Receiver identifier	31
5.6 Permission classification unit	32
5.6.1 Structure	32
5.6.2 Permission classification unit tag	32
5.6.3 Reserved.....	32
5.6.4 Disclosure class	32
5.6.5 Usage purpose class	33
5.6.6 Charge model class	34
5.6.7 Billing class	34

5.6.8	Application class	35
5.6.9	Sponsor class	35
5.6.10	Territory class	36
5.6.11	Usage class	36
5.7	General usage condition unit	39
5.7.1	Unit structure	39
5.7.2	General usage condition header	39
5.7.3	General usage condition descriptor	39
5.8	Extended use condition unit	48
5.9	Data management condition unit	49
5.9.1	Unit structure	49
5.9.2	Data management condition header	49
5.9.3	Data management condition	50
5.10	Data export condition unit	52
5.10.1	Unit structure	52
5.10.2	Data export condition header	52
5.10.3	Data export condition descriptor	52
5.10.4	General export descriptor	53
Annex A (informative)	Permission code requirements for home servers and playback devices	57
Annex B (informative)	Use-case scenario	62
Annex C (informative)	Issuing a permission code	70
Figure 1	– Permission code environment	17
Figure 2	– Permission code environment	23
Figure 3	– Permission code configuration	26
Figure 4	– Basic structure of permission code unit	26
Figure 5	– General usage condition unit	39
Figure 6	– Data management condition unit	49
Figure 7	– Data export condition unit	52
Figure A.1	– Permission code and domain	58
Figure A.2	– Re-issuing permission information	59
Figure A.3	– Re-issuing permission among permission code compliant objects is allowed	60
Figure A.4	– Re-issuing permission within a domain is allowed	60
Figure A.5	– Other conditions	61
Figure B.1	– Permission code structuring (1/2)	62
Figure B.2	– Permission code structuring (2/2)	63
Figure B.3	– Permission code example with respect to FairPlay (1/2)	63
Figure B.4	– Permission code example with respect to FairPlay (2/2)	64
Figure B.5	– Permission code example with respect to CPRM (1/2)	65
Figure B.6	– Permission code example with respect to CPRM (2/2)	65
Figure B.7	– Permission code example with respect to SAFIA (1/2)	66
Figure B.8	– Permission code example with respect to SAFIA (2/2)	66
Figure B.9	– Permission code example with respect to PC distribution (streaming)	67

Figure B.10 – Permission code example with respect to PC distribution (download) (1/2).....	68
Figure B.11 – Permission code example with respect to PC distribution (download) (2/2).....	68
Figure B.12 – Permission code example with respect to ringtones (1/2).....	69
Figure B.13 – Permission code example with respect to ringtones (2/2).....	69
Figure C.1 – The flow of issuing a permission code to grant access to a single piece of content (for access on a home server).....	70
Figure C.2 – The flow of issuing a permission code to grant access to a single piece of content (for access on a client device).....	71
Figure C.3 – The flow of issuing a permission code to grant access to subscription content (for access on a home server).....	72
Figure C.4 – The flow of issuing a permission code to grant access to subscription content (for access on a client device).....	73
Table 1 – Distinct tag interpretation.....	25
Table 2 – Structure of version unit.....	26
Table 3 – Structure of permission actor unit.....	27
Table 4 – Structure of content identifier descriptor.....	28
Table 5 – Content type code interpretation.....	28
Table 6 – Structure of issuer identifier descriptor.....	29
Table 7 – Issuer role code interpretation.....	30
Table 8 – Issuer configuration code interpretation.....	30
Table 9 – Structure of receiver identifier descriptor.....	31
Table 10 – Receiver role code interpretation.....	31
Table 11 – Receiver configuration code interpretation.....	31
Table 12 – Structure of permission classification unit.....	32
Table 13 – Structure of disclosure class.....	33
Table 14 – disclosure_type (DT) interpretation.....	33
Table 15 – Structure of usage purpose class.....	33
Table 16 – usage_purpose_type (UPT) interpretation.....	33
Table 17 – Structure of charge model class.....	34
Table 18 – charge_model_type (CMT) interpretation.....	34
Table 19 – Structure of billing class.....	35
Table 20 – billing_type (BT) interpretation.....	35
Table 21 – Structure of application class.....	35
Table 22 – application_type (AT) interpretation.....	35
Table 23 – Structure of sponsor class.....	36
Table 24 – Configuration of sponsor_type (ST).....	36
Table 25 – Structure of territory class.....	36
Table 26 – Structure of usage class.....	37
Table 27 – Usage_type (UT) interpretation.....	37
Table 28 – Configuration of redistribution_Type.....	38
Table 29 – Structure of general usage condition header.....	39
Table 30 – Tag values of descriptors.....	40

Table 31 – Structure of playback usage condition descriptor.....	40
Table 32 – Structure of print usage condition descriptor.....	43
Table 33 – Structure of execute usage condition descriptor	46
Table 34 – Structure of data management condition header.....	49
Table 35 – Structure of data management condition	50
Table 36 – Structure of encryption flag (EF).....	50
Table 37 – Transcode type interpretation	51
Table 38 – Structure of time-line flag (TF).....	51
Table 39 – Structure of data export condition header	52
Table 40 – Tag values of descriptors	53
Table 41 – Structure of general export descriptor.....	53
Table 42 – storage_media_type (SMT) interpretation	54
Table 43 – encoding_type (ET) interpretation.....	54
Table 44 – protection_type (PT) interpretation	55
Table 45 – control_type (CT) interpretation	55

Copyright © 2008 by IEC. All rights reserved. This document is a preview generated by EVS

INTERNATIONAL ELECTROTECHNICAL COMMISSION

MULTIMEDIA HOME SERVER SYSTEMS – DIGITAL RIGHTS PERMISSION CODE

FOREWORD

- 1) The International Electrotechnical Commission (IEC) is a worldwide organization for standardization comprising all national electrotechnical committees (IEC National Committees). The object of IEC is to promote international co-operation on all questions concerning standardization in the electrical and electronic fields. To this end and in addition to other activities, IEC publishes International Standards, Technical Specifications, Technical Reports, Publicly Available Specifications (PAS) and Guides (hereafter referred to as "IEC Publication(s)"). Their preparation is entrusted to technical committees; any IEC National Committee interested in the subject dealt with may participate in this preparatory work. International, governmental and non-governmental organizations liaising with the IEC also participate in this preparation. IEC collaborates closely with the International Organization for Standardization (ISO) in accordance with conditions determined by agreement between the two organizations.
- 2) The formal decisions or agreements of IEC on technical matters express, as nearly as possible, an international consensus of opinion on the relevant subjects since each technical committee has representation from all interested IEC National Committees.
- 3) IEC Publications have the form of recommendations for international use and are accepted by IEC National Committees in that sense. While all reasonable efforts are made to ensure that the technical Content of IEC Publications is accurate, IEC cannot be held responsible for the way in which they are used or for any misinterpretation by any end user.
- 4) In order to promote international uniformity, IEC National Committees undertake to apply IEC Publications transparently to the maximum extent possible in their national and regional publications. Any divergence between any IEC Publication and the corresponding national or regional publication shall be clearly indicated in the latter.
- 5) IEC provides no marking procedure to indicate its approval and cannot be rendered responsible for any equipment declared to be in conformity with an IEC Publication.
- 6) All users should ensure that they have the latest edition of this publication.
- 7) No liability shall attach to IEC or its directors, employees, servants or agents including individual experts and members of its technical committees and IEC National Committees for any personal injury, property damage or other damage of any nature whatsoever, whether direct or indirect, or for costs (including legal fees) and expenses arising out of the publication, use of, or reliance upon, this IEC Publication or any other IEC Publications.
- 8) Attention is drawn to the Normative references cited in this publication. Use of the referenced publications is indispensable for the correct application of this publication.

International Electrotechnical Commission (IEC) draws attention to the fact that it is claimed that compliance with this document may involve the use of patent.

IEC takes no position concerning the evidence, validity and scope of these patent rights.

The holder of this patent right has assured IEC that it 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 holders of these patent rights are registered with IEC. Information may be obtained from:

DENTSU INC.
Media Marketing Division
1-8-1, Higashi-shimbashi, Minato-ku, Tokyo 105-7001
JAPAN

Attention is drawn to the possibility that some of the elements of this standard may be the subject of patent rights other than those identified above. IEC shall not be held responsible for identifying any or all such patent rights.

International Standard IEC 62227 has been prepared by technical area 8: Multimedia home server systems, of IEC technical committee 100: Audio, video and multimedia systems and equipment.

The text of this standard is based on the following documents:

CDV	Report on voting
100/1287/CDV	100/1374/RVC

Full information on the voting for the approval of this standard can be found in the report on voting indicated in the above table.

This publication has been drafted in accordance with the ISO/IEC Directives, Part 2.

The committee has decided that the contents of this publication will remain unchanged until the maintenance result date indicated on the IEC web site under "<http://webstore.iec.ch>" in the data related to the specific publication. At this date, the publication will be

- reconfirmed;
- withdrawn;
- replaced by a revised edition, or
- amended.

A bilingual version of this publication may be issued at a later date.

This document is a preview generated by EVS

INTRODUCTION

The common ID system is used to systematically identify every entity, device and content that would be involved in the course of digitally distributing content. The permission code can express various sets of permission information and permission conditions necessary for content transmission in a remarkably short code form. The permission code is not defined from a technical perspective, but rather on the basis of permission information that rights holders actually employ in the field, even if the permission code is recognized for its technical effectiveness with respect to digital distribution of content.

This document is a preview generated by EVS

MULTIMEDIA HOME SERVER SYSTEMS – DIGITAL RIGHTS PERMISSION CODE

1 Scope

This International Standard defines the permission code, a set of permission related information in short code form, primarily intended for home server systems. The permission code is comprised of a common ID system (content ID, issuer ID, receiver ID, device ID, etc.) and a narrowly-defined permission code.

The common ID system is used to systematically identify every entity, device and content that would be involved in the course of digitally distributing content. The permission code can express various sets of permission information and permission conditions necessary for content transmission in a remarkably short code form. The permission code is not defined from a technical perspective, but rather on the basis of permission information that rights holders actually employ in the field. Even after, the permission code is recognized for its technical effectiveness with respect to digital distribution of content.

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 3166-1:2006, *Codes for the representation of names of countries and their subdivisions – Part 1: Country codes*

3 Terms, definitions and abbreviations

3.1 Terms and definitions

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

3.1.1 permission

act by a certain issuing entity to authorize use for content to a certain receiving entity under a certain set of permission classifications and usage conditions

NOTE The issuing entity and/or the receiving entity may not only be human, but also a device, storage medium, organization, domain or another entity.

3.1.2 permission management server

a server that issues a permission code based on a permission agreement

NOTE The server is equipped with a

- a) license server,
- b) a function that forwards the permission code to a distribution server, and
- c) a function that receives a content usage report from the license server and the distribution server.

3.1.3 compliant license server

a server that issues a license based on a permission code

NOTE The server is equipped with