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**Information technology —
Specification of DRM technology for
digital publications —**

**Part 2:
User key-based protection**



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Contents

	Page
Foreword	v
Introduction	vi
1 Scope	1
2 Normative references	1
3 Terms and definitions	1
4 Abbreviated terms	3
5 Overview	3
5.1 General.....	3
5.2 Protecting the publication.....	4
5.3 Licensing the publication.....	5
5.4 Reading the publication.....	5
6 License document	6
6.1 General.....	6
6.2 Content conformance.....	6
6.3 License information.....	6
6.3.1 General.....	6
6.3.2 Encryption (transmitting keys).....	7
6.3.3 Links (pointing to external resources).....	8
6.3.4 Rights (identifying rights and restrictions).....	9
6.3.5 User (identifying the user).....	10
6.3.6 Signature (signing the license).....	11
6.4 User key.....	12
6.4.1 General.....	12
6.4.2 Calculating the user key.....	12
6.4.3 Hints.....	13
6.4.4 Requirements for the user key and user passphrase.....	13
6.5 Signature and public key infrastructure.....	13
6.5.1 General.....	13
6.5.2 Certificates.....	14
6.5.3 Canonical form of the license document.....	14
6.5.4 Generating the signature.....	15
6.5.5 Validating the certificate and signature.....	17
7 License status document	17
7.1 General.....	17
7.2 Content conformance.....	18
7.3 License status information.....	18
7.3.1 General.....	18
7.3.2 Status.....	18
7.3.3 Updated (timestamps).....	19
7.3.4 Links.....	19
7.3.5 Potential rights.....	20
7.3.6 Events.....	20
7.4 Interactions.....	21
7.4.1 General.....	21
7.4.2 Handling errors.....	21
7.4.3 Checking the status of a license.....	21
7.4.4 Registering a device.....	21
7.4.5 Returning a publication.....	22
7.4.6 Renewing a license.....	23
8 Encryption profile	25
8.1 General.....	25

8.2	Encryption profile requirements	25
8.3	Basic encryption profile 1.0	26
9	Integration in EPUB	26
9.1	General	26
9.2	Encrypted resources	26
9.3	Using META-INF/encryption.xml for LCP	27
10	Reading system behavior	28
10.1	Detecting LCP protected publication	28
10.2	License document processing	28
	10.2.1 Overall	28
	10.2.2 Validating the license document	28
	10.2.3 Acquiring the publication	28
	10.2.4 License status processing	28
10.3	User key processing	29
10.4	Signature processing	29
10.5	Publication processing	29
	Annex A (informative) Examples	30
	Annex B (informative) Use case scenarios for library lending model	33
	Bibliography	36

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

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A list of all parts in the ISO/IEC TS 23078 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

Ever since ebooks have grown in popularity, copyright protection has been an important issue for authors and publishers.

While the distribution of ebooks around the world is mostly based on the open EPUB standard, most ebook retailers are using proprietary technologies to enforce usage constraints on digital publications in order to impede oversharing of copyrighted content. The high level of interoperability and accessibility gained by the use of a standard publishing format is therefore cancelled by the use of proprietary and closed technologies: ebooks are only readable on specific devices or software applications (a retailer "lock-in" syndrome), cannot be accessed anymore if the ebook distributor which protected the publication goes out of business or if the DRM technology evolves drastically. As a result, users are deprived of any control over their ebooks.

Requirements related to security levels differ depending on which part of the digital publishing market is addressed. In many situations, publishers require a solution which technically enforces the digital rights they provide to their users; most publishers are happy to adopt a DRM solution which guarantees an easy transfer of publications between devices, a certain level of fair-use and provides permanent access to the publications acquired by their customers.

This is where this document comes into play.

Information technology — Specification of DRM technology for digital publications —

Part 2: User key-based protection

1 Scope

This document defines a technical solution for encrypting resources in digital publications (especially EPUB) and for securely delivering decryption keys to reading systems, included in licenses tailored to specific users. It also defines a simple passphrase-based authentication method for reading systems to verify the license and access the encrypted resources of such digital publications.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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.

EPUB Open Container Format (OCF) 3.2, W3C, available at <https://www.w3.org/publishing/epub32/epub-ocf>

ISO 8601-1, *Date and time — Representations for information interchange — Part 1: Basic rules*

ISO/IEC 8824-1, *Information technology — Abstract Syntax Notation One (ASN.1): Specification of basic notation — Part 1:*

RFC 4627, The application/json Media Type for JavaScript Object Notation (JSON), The Internet Society, available at <https://www.ietf.org/rfc/rfc4627>

RFC 5280, Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile, Network Working Group, available at <https://tools.ietf.org/html/rfc5280>

RFC 7807, Problem Details for HTTP APIs, The Internet Engineering Task Force, available at <https://tools.ietf.org/html/rfc7807>