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Information technology — Specification of digital rights management (DRM) technology for digital publications —

Part 1: Overview of copyright protection technologies in use in the publishing industry

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC1, *Information technology,* Subcommittee SC 34*, Document description and processing languages*.

This document cancels and replaces ISO/IEC TS 23078-1:2020, which has been technically revised.

The main changes are as follows:

— in 3.3, the definition has been improved.

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

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 and www.iec.ch/national-committees.

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Introduction

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

While the distribution of digital publications around the world is mostly based on the open EPUB standard, most 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: digital publications are only readable on specific devices or reading applications (a retailer "locked-in" syndrome); digital publications may not be accessed anymore if the 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 digital publications.

In reaction to these hindrances, watermarking and fingerprinting technologies have also been developed for digital publications. These are sometimes called "social DRM" which is a good way to describe the effect of the visible marks embedded into the content. Thanks to their presence and the personal information they contain, the “licensee” cares about the use of the content he/she has acquired: one would not like to see content associated with one's personal information freely shared on the web. But the term “social DRM” is misleading also, as watermarking and fingerprinting techniques do not enforce technical control on the use of digital media.

Requirements related to security levels differ depending on which part of the digital publishing market is addressed. Many trade publishers, in different countries, are satisfied with a protection based on watermarking; but in many other situations, publishers require a solution which technically enforces the digital rights they provide to their users. This is where DRM technologies come into play.

In most use cases, publishers are happy to adopt a DRM solution which guarantees an easy transfer of publications between devices and a certain level of fair-use, and provides permanent access to the publications acquired by their customers. However, in certain use cases, publishers require a stronger protection measure, which limits the capability for users to transfer publications from one device to another.

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Information technology — Specification of digital rights management (DRM) technology for digital publications —

Part 1: Overview of copyright protection technologies in use in the publishing industry

1 Scope

This document describes three types of copyright protection technologies in use in the publishing industry:

— digital rights management (DRM) free protection, i.e. technologies which do not rely on content encryption but rather use content fingerprinting or watermarking, adequate for use cases where user convenience is the top priority;

— user key-based DRM protection, adequate where user constraints are limited;

— device key-based DRM protection, adequate where the transfer of publications from one device to another is severely constrained.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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

ISO and IEC maintain terminology databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
digital publication
set of constituent resources and associated metadata, organized together in a uniquely identifiable grouping

3.2
digital rights management
DRM
systematic approach to copyright protection to prevent unauthorized redistribution of digital media and restrict the ways consumers can use the content they've acquired

3.3
distributor
digital publication (3.1) retailer, public library, academic library or specialized intermediary that facilitates the distribution of electronic content between publishers and retailers

3.4
protected publication
digital publication (3.1) on which a *DRM* (3.2) solution has been applied

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