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Information and documentation — Blockchain and distributed ledger technology (DLT) in relation to authoritative records, records systems and records management

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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

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 ISO 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.

This document was prepared by Technical Committee ISO/TC 46, *Information and documentation*, Subcommittee SC 11, *Archives/records management,* in collaboration Technical Committee ISO/TC 308, *Blockchain and distributed ledger technologies*.

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.

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Introduction

Distributed ledger technology (DLT), including blockchain technology, is expected to be widely adopted for business and governance purposes. The viability of this technology is already established in many contexts, and DLT solutions can potentially be used in any industry, sector or context.

Information systems used for business and governance can create, receive and store records. DLT solutions are no different. There can be records in these solutions that need to be managed in compliance with existing legal, regulatory, business, societal and other requirements. Also, DLT solutions or their constituent parts have potential to be designed to manage records.

The need for the analysis of DLT from a records management point of view results from the specific characteristics of this technology (e.g. distributed and decentralized nature, immutability, use of consensus and use of smart contracts) and some of its modes of application (e.g. including the possibility of there being no designated owner, distributed governance, transborder use, and different trust assumptions). The specific characteristics of DLT can both facilitate records management (e.g. maintenance of integrity) and result in difficult records management and legal challenges [e.g. possible absence of a designated authoritative copy of a record, difficulties in disclosing records to authorities and courts including e-discovery, difficulties managing retention and disposition, and challenges managing personally identifiable information (PII) protection].

This document provides a foundation for common understanding among records managers, DLT system designers/developers and related professionals and can inform the development of future standards concerning DLT and records management. This document does not presume in depth knowledge of records management principles or DLT.

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Information and documentation — Blockchain and distributed ledger technology (DLT) in relation to authoritative records, records systems and records management

1 Scope

This document analyses challenges, considerations, and potential benefits of blockchain and distributed ledger technology (DLT) in relation to records management standards and related standards for systems that:

— create records that are required to be authoritative records;

— can be used as records systems; or

— can be used for records management, including records controls.

The target audience of this document includes records managers and allied professionals, IT professionals and application developers, legal and compliance professionals, researchers, educators and other interested parties.

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.

ISO 22739, *Blockchain and distributed ledger technologies — Vocabulary*

ISO 30300, *Information and documentation — Records management — Core concepts and vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22739 and ISO 30300 apply.

ISO and IEC maintain terminological 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/

4 Overview of records management and distributed ledger technology (DLT)

4.1 General

Any governance or business activity heavily relies on authoritative records, rather than on just any information or data. Authoritative records are essential for decision-making, protection of rights, transparency, accountability and memory. As soon as DLT solutions are used for business and governance, they can create, receive and keep records that are subject to legal, regulatory, business and other requirements, and can also have long-term or historical value.

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