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Blockchain and distributed ledger technologies — Taxonomy and Ontology

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National foreword

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Foreword

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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 documents 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 307, *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

A taxonomy is useful for defining information and data classification rules and for identifying classification items and classification criteria. An ontology aims at clearly showing the concepts that make up the conceptual basis and the vocabulary of the technology under consideration and at creating a foundation that is a prerequisite for understanding the concepts through the definition of their mutual relations (synonyms, inclusions, dependencies, etc.).

A consistent taxonomy is a valuable resource in its own right that also supports and helps to understand other relevant standards.

This document includes a taxonomy of concepts, a taxonomy of DLT systems, and a taxonomy of application domains, purposes and economic activity sections for use cases. This document includes an ontology providing classes and attributes as well as relations between concepts.

Figure 1 shows the relationships between this document and other standards developed by ISO/TC 307.

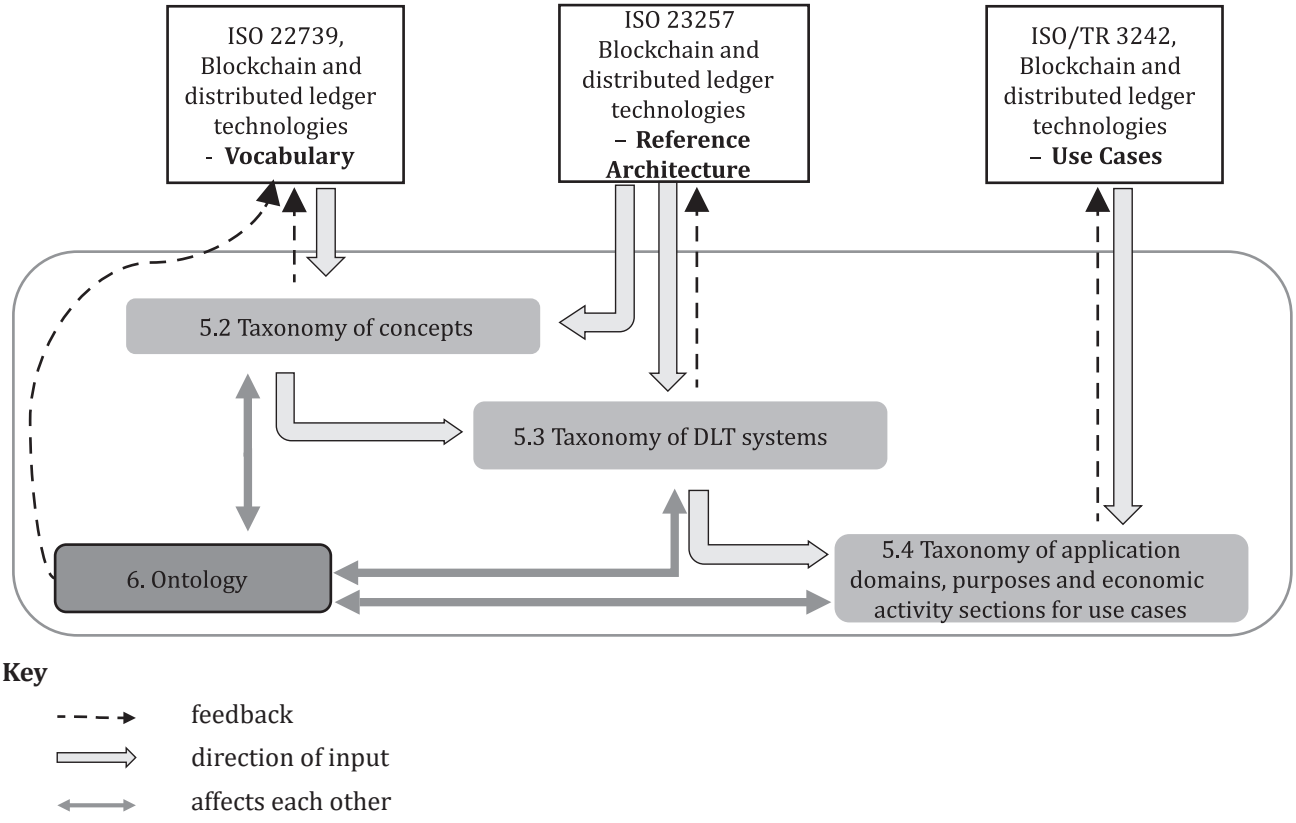


Figure 1 — Relationships between this document and other standards developed by ISO/TC 307

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Blockchain and distributed ledger technologies — Taxonomy and Ontology

1 Scope

This document specifies a taxonomy and an ontology for blockchain and distributed ledger technologies (DLT). The taxonomy includes a taxonomy of concepts, a taxonomy of DLT systems and a taxonomy of application domains, purposes and economy activity sections for use cases. The ontology includes classes and attributes as well as relations between concepts.

The audience includes but is not limited to academics, architects, customers, users, tool developers, regulators, auditors and standards development organizations.

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 22739 and the following 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
taxonomy
scheme of categories and subcategories that can be used to sort and otherwise organize itemized knowledge or information

[SOURCE: ISO 5127:2017, 3.8.6.07]

4 Abbreviated terms

DLT	Distributed Ledger Technology
PoW	Proof-of-Work
PoS	Proof-of-Stake
DPoS	Delegated Proof-of-Stake
BFT	Byzantine Fault Tolerance
PBFT	Practical Byzantine Fault Tolerance
TPS	Transaction Per Second

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