TECHNICAL SPECIFICATION

ISO/TS 23258

Blockchain and distributed ledger technologies — Taxonomy and Ontology

Technologies des chaînes de blocs et technologies de registre distribué — Taxinomie et ontologie

Contents

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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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.

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.

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┌─────────────────┐   ┌─────────────────┐   ┌─────────────────┐
│  ISO 22739,     │   │  ISO 23257      │   │  ISO/TR 3242,   │
│  Blockchain and │   │  Blockchain and │   │  Blockchain and │
│  distributed    │   │  distributed    │   │  distributed    │
│  ledger         │   │  ledger         │   │  ledger         │
│  technologies   │   │  technologies   │   │  technologies   │
│  - Vocabulary   │   │  – Reference    │   │  – Use Cases    │
│                 │   │  Architecture   │   │                 │
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Key

- – – → feedback
- ⟹ direction of input
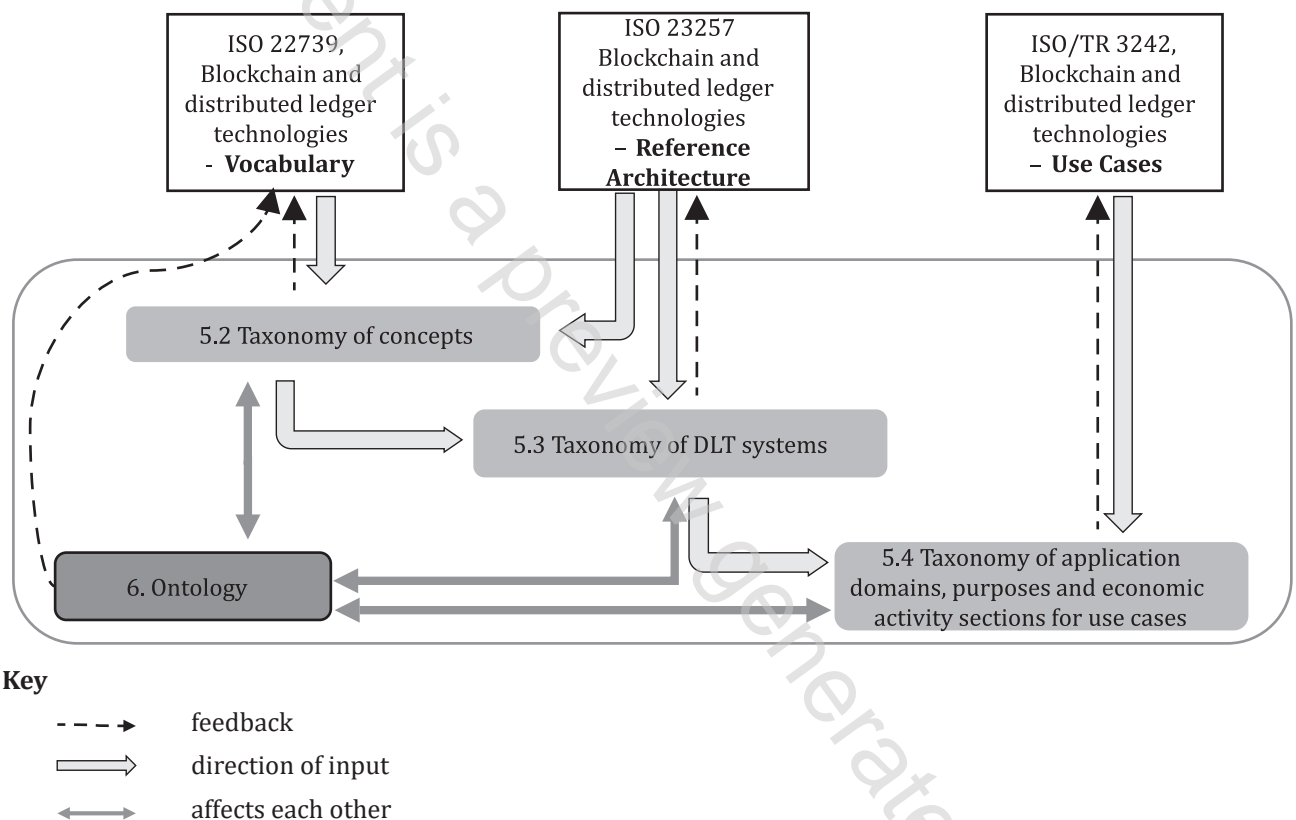- ↔ affects each other

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

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