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Part 10: Guidance for implementing ITAM

Technologies de l'information — Gestion des actifs informatiques —

Partie 10: Recommandations pour la mise en œuvre de l'ITAM

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Foreword

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This document was prepared by Joint Technical Committee ISO/IEC JTC1, *Information technology*, Subcommittee SC7, *Software and system engineering*.

A list of all parts in the ISO/IEC 19770 series can be found on the ISO and IEC website.

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Introduction

0.1 Purpose

The purpose of this document is to provide guidance for implementing an information technology asset management (ITAM) system, meeting current market demand (determined by a survey and subsequent validation activities). The guidance given in this document is aligned with the requirements for IT asset management systems in ISO/IEC 19770-1.

In this document, the term ITAM by itself is used in a generic sense applicable to all ITAM implementations. The term ISO ITAM is used to describe an ITAM implementation which fully conforms to ISO/IEC 19770-1.

This document is intended to address the most important needs of the majority of ITAM practitioners, but it cannot be fully comprehensive for all situations.

Because this document provides guidance, it does not specify any requirements itself. However, it cites requirements or external constraints in some cases, for example:

— where requirements from ISO/IEC 19770-1 are being cited or discussed;

— where requirements of the organization or its stakeholders are being discussed, or where suggestions are made for how users can specify mandatory requirements of their own, e.g. for use within their own organizations or for requests for proposal (RFPs).

— where requirements of the ITAM system are being discussed, as determined by the organization or by its environment.

0.2 Target audience

The primary audience for this document is organizations that want to improve their ITAM. It is assumed that this audience has a basic knowledge of ITAM and of ISO/IEC 19770-1. This document is focused on guidance for making incremental improvements to an organization's ITAM. Organizations wishing to conform to ISO/IEC 19770-1 are a secondary target audience for this document. However, the content and structure of this document are determined primarily by the needs of ITAM improvers.

For organizations looking for the simplest possible approach to improving their IT asset management system, Annex E should be followed.

For organizations able to fully analyse their environment and requirements, which is the primary target audience of this document, all the guidance in this document should be followed.

For the sake of clarity, it can be helpful to identify certain audiences that are not targeted by this document. These are:

— organizations that are effectively beginners in ITAM;

— organizations that are not directly implementing ITAM for their own use; while such organizations can benefit from the guidance, this document does not address specific issues unique to their requirements, for example:

  — software publishers;

  — ITAM tool and technology vendors;

  — ITAM managed service providers.

0.3 Related documents

Users of this document should also have copies of ISO/IEC 19770-1 and ISO/IEC 19770-5.

— ISO/IEC 19770-1: Given the close alignment of this document to ISO/IEC 19770-1 and to avoid the repetition of large sections of content from ISO/IEC 19770-1, this document assumes that it is being used together with ISO/IEC 19770-1.

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— ISO/IEC 19770-5: ISO/IEC 19770-5 is part of the expected base level of understanding for using this document, providing an overview of ITAM and ISO ITAM, and also providing definitions for many of the terms used in this document.

0.4 Expected base level of understanding

A base level of understanding is expected in order to use this document. See Annex A for a detailed explanation of what is expected as a base level of understanding.

0.5 Mature ITAM and ISO ITAM

0.5.1 Benefits of mature ITAM compared to ISO ITAM

ISO/IEC 19770-5 includes a description of the benefits which can be obtained by implementing ISO/IEC 19770-1, i.e. conforming to ISO/IEC 19770-1, which is referred to in this document as ISO ITAM. However, ITAM can be implemented to achieve many of these benefits without meeting the full requirements of ISO ITAM. This document refers to an effective implementation of ITAM which does not meet the full requirements of ISO ITAM, as mature ITAM. The discussion below differentiates those benefits which can be obtained from mature ITAM, from those further benefits which can be obtained from ISO ITAM. See the detailed discussion of these different types of benefits in ISO/IEC 19770-5.

The benefits listed in ISO/IEC 19770-5 which can be achieved in large part by mature ITAM, i.e. by an effective implementation of ITAM, and which however does not meet the full requirements of ISO ITAM, are:

— cost optimization;

— time and efficiency savings;

— enhanced security;

— software license compliance;

— agility;

— risk management;

— facilitating mergers/acquisitions/divestitures;

— facilitating internal organizational changes;

— improved position with vendors, for contract negotiations and license compliance audits, and for proactive vendor management;

— improved management information;

— improved interoperability;

— facilitation of sustainability improvements;

— increased IT asset utilization and value.

The benefits listed in ISO/IEC 19770-5 which are more directly related to implementing ISO ITAM, i.e. fully meeting the requirements of ISO/IEC 19770-1, are:

— demonstrating good governance;

— enforcing trustworthy data;

— enforced linking to corporate objectives;

— strong coordination with other ISO systems such as information security;

— improved credibility with board-level decision-makers;

— reduced likelihood of license compliance audits from vendors;

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— support of benchmarking to other organizations.

0.5.2 Common misunderstandings about mature ITAM

Mature ITAM is frequently misunderstood. The following are some of the common misunderstandings.

— It's all about license compliance. Wrong. License management is included in the scope of generic ITAM, which should result in license compliance. However, ITAM is much more in scope and benefits e.g. cost savings, risk mitigation, better management information, and competitive advantage. See 0.5.1 for benefits of mature ITAM compared to ISO ITAM.

— ITAM is a cost centre, i.e. a specific unit. Wrong. While there can be a unit with the label "ITAM", The ITAM system (ITAMS) should be implemented throughout the organization, e.g. to provide reliable and trustworthy data, plus the identification and mitigation of risks, and the identification of cost-saving opportunities.

— ITAM is the responsibility of the ITAM manager. Wrong. The ITAM manager has some of the responsibility for ITAM, but ITAM is an integrated discipline, requiring participation by management and many other areas of the organization, as well as external parties (e.g. service providers). The ITAM manager may not be accountable or responsible for many of the aspects related to ITAM, but may need to provide input to or influence related practices in support of the organization's ITAM objectives.

0.5.3 Common misunderstandings about ISO ITAM

There are also misunderstandings about ISO ITAM. ISO ITAM goes beyond mature ITAM. As explained in 0.5.1, ISO ITAM additionally indicates conformity to ISO/IEC 19770-1. The following are some of the common misunderstandings about ISO ITAM.

— ISO ITAM is costly and time-consuming to implement. Compared to what? With the right frameworks and technologies, organizations will significantly reduce the time and resource normally associated with implementation and be able to concentrate on the important practices needed for early success.

— ISO ITAM is only about processes. Wrong. ISO ITAM ensures that all dimensions of the management system work together to achieve desired ITAM outcomes; see 14.5.

— ISO ITAM is a single process. Wrong. ISO ITAM defines a management system which governs how a collection of processes support desired ITAM outcomes. The processes that contribute to ISO ITAM are performed throughout the IT asset lifecycle within IT and the organization, many of which ITAM does not own, but should influence to meet ITAM's requirements.

— Only processes which are to be certified need to be implemented; tiers dictate the process implementation sequence. Wrong. What is certified does not limit what is implemented. For any certification, all processes in the main body of ISO/IEC 19770-1 (including ITAM Tier 1 processes) have to be implemented. However, it is not credible that these would be the only ITAM-specific processes implemented. In general, most of the additional processes from ISO/IEC 19770-1:2017, Annex A will be implemented by any organization, formally or informally, regardless of whether they wish to obtain certification or not, and additional ones not defined there can also be implemented. The main process which some organizations will not implement formally is possibly "development". The concept of tiers is related only to certifications, and not to implementations. Tiers are merely recommended groupings of processes for certification. As such, they may be used for determining priorities of which processes to review and improve, in preparation for such certifications. But the organization can choose which additional processes from ISO/IEC 19770-1:2017, Annex A to include in a certification, irrespective of the tier definitions. See also Annex B.

0.6 Types of assets

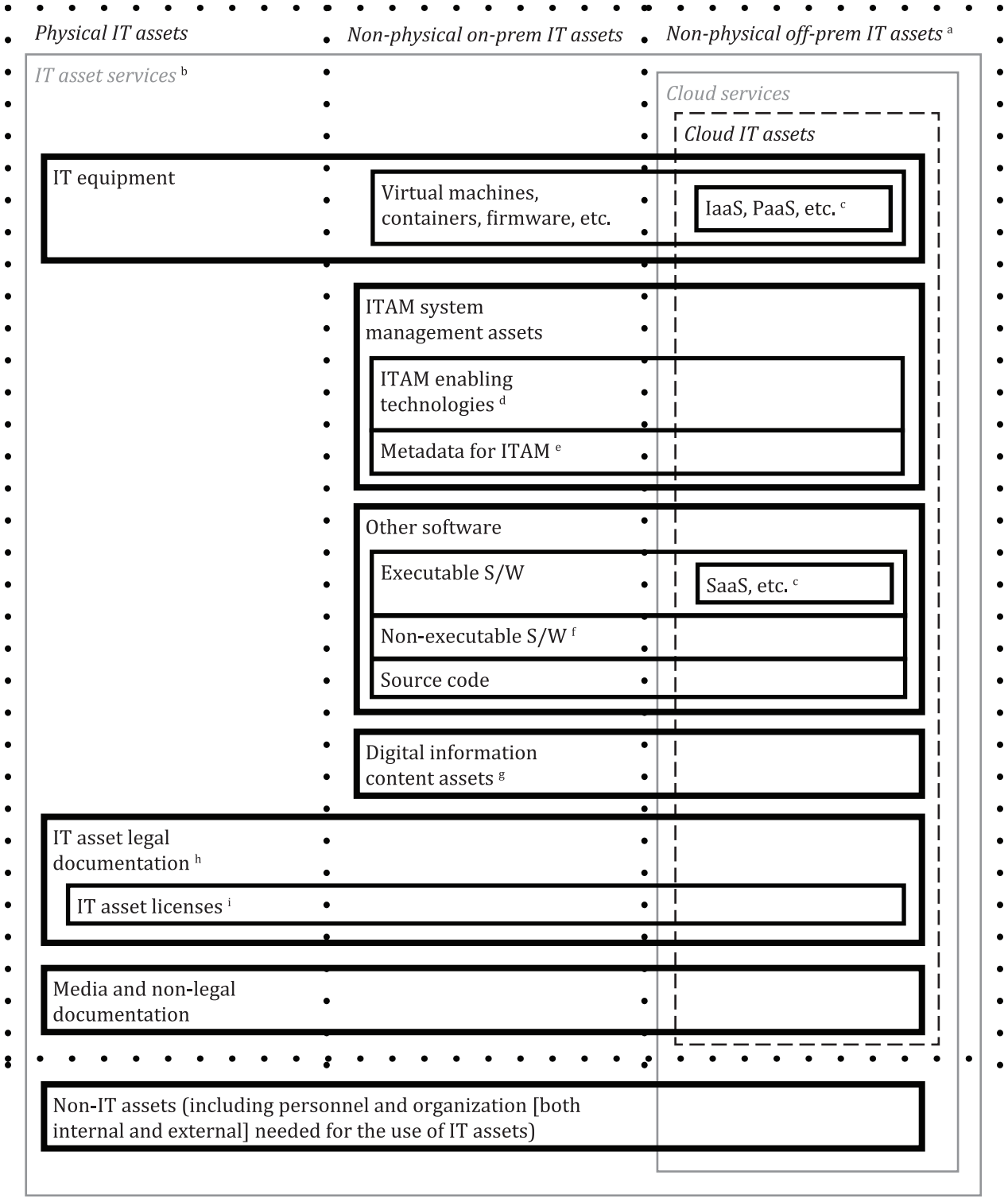
The organization determines to which of its IT assets this document applies. For example, it can be applied to not only IT hardware but also to executable software (such as application programs and operating systems) and non-executable software (such as fonts and configuration information). It can be applied to all technological environments and computing platforms (e.g. infrastructure-as-a-service, platform-as-a-service, virtualized software applications, on-premises datacentres or software-as-a-service); it is equally relevant in cloud computing as it is in legacy computing environments.

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Figure 1 indicates the principal IT asset types diagrammatically. This is an updated version of the diagram included in ISO/IEC 19770-1.

Each implementation of ITAM should clearly define the IT assets which it will include in its scope. There can be significant implications for ITAM in how the scope is defined, including in particular which organizational units will need to be involved. For example, if cloud assets are included, then it will probably be necessary to have close involvement with the engineering teams which typically manage cloud services. Likewise, if open-source software is involved, especially if it is to be distributed outside of the organization, then it will probably be necessary to have close involvement with the development teams responsible for open source to help ensure that they discharge their responsibilities properly. See also 10.4.1 (scoping).

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Key

a Organizations can also implement private cloud services on-prem.

b Combinations of IT assets and non-IT assets, typically externally supplied, such as hardware maintenance and training.

c Shown reflecting how these are managed, rather than as services; include similar products, such as storage as a service and function as a service.

d Includes applications, systems, and tools.

e Information about IT assets, and about non-IT assets needed for the management of IT assets, such as information about personnel and organization.

f Includes fonts, configuration information, dictionaries etc. used by executable software.

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g Digital assets with information content, including documents, audio, video, graphics, databases, and free-standing dictionaries; often licensed. ITAM may include management of these assets overall, e.g. for license compliance, but excludes management of the content.

h Includes contracts, agreements, purchase orders and invoices.

i Includes proof of license and license keys.

Figure 1 — Common types of IT assets

0.7 ISO/IEC 19770-1 process overview

The overall set of processes in ISO/IEC 19770-1 comprise a Deming cycle of Plan-Do-Check-Act (PDCA). Annex B gives an overview of this cycle. However, the detail of that cycle expands considerably to cover what is needed for a comprehensive management system for ITAM.

Figure 2 below shows the detailed basis for how processes are described in this document, related to where they are specified in ISO/IEC 19770-1. Each implementation of ITAM generally should implement most of these processes. However, for an ITAM system to conform to ISO/IEC 19770-1, there should be a selection of the processes to be included, as documented in a statement of applicability.

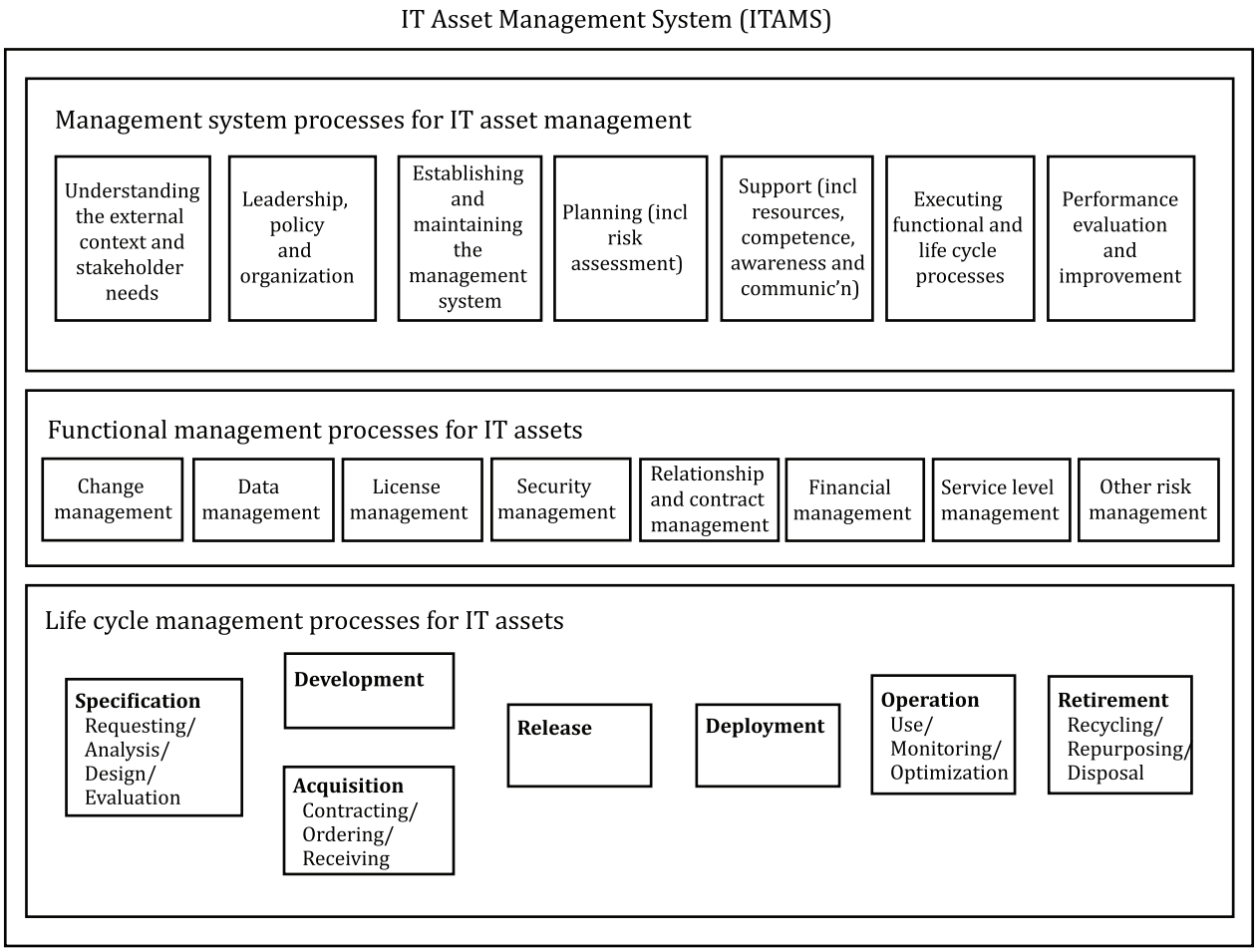


Figure 2 — The IT asset management system

0.8 Structure of this document

While this document is intended to be used together with ISO/IEC 19770-1, it is organized differently

— Clause 4 specifies possible terminology issues (related to Clause 3).

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- Clause 5 specifies the ever-evolving world of ITAM, emphasizing that ITAM practitioners need to evolve with it.
- Clauses 6 and 7 specify mindset issues and provide guidance on selling ITAM.
- Clause 8 specifies major considerations before beginning an ITAM implementation.
- Clause 9 specifies different scenarios which can impact how the organization implements ITAM, including:
  - organizational scenarios;
  - technology scenarios;
  - change scenarios.
- Clauses 10 to 12 specify three major groups of processes as defined by ISO/IEC 19770-1, and as illustrated in Figure 2.
  - Clause 10 specifies management system processes.
  - Clause 11 specifies functional management processes.
  - Clause 12 specifies life cycle processes.
- Clause 13 specifies ITAM data.
- Clause 14 covers special topics to be considered such as assessment or sustainability.
- Annex A specifies expected levels of ITAM understanding.
- Annex B: provides an overview of ISO/IEC 19770-1.
- Annex C provides an overview of related standards.
- Annex D provides checklists.
- Annex E specifies a basic improvement implementation plan.
- Annex F provides asset lifecycle stage suggestions.
- Annex G specifies documented information references in ISO/IEC 19770-1.
- Annex H specifies metrics.
- Annex I specifies OTAM (operational technology asset management) and ITAM.
- Annex J provides cross-references between ISO/IEC 19770-1 and ISO/IEC TS 19770-10.

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Information technology — IT asset management —

Part 10: Guidance for implementing ITAM

1 Scope

This document covers the following information technology asset management (ITAM) system processes:

a) management system processes for the overall system of IT asset management (not described in ISO/IEC 19770-1 in detail), which are specified in this document for comprehensive coverage and consistency of explanations; these include:

- understanding the external context and shareholder needs (7.1, 7.2 and 10.2);
- leadership, policy and organization (10.3);
- establishing and maintaining the management system (10.4);
- planning and risk management (10.5);
- support (including resources, competence, awareness, and communication – 10.6);
- executing functional and life cycle processes (10.7);
- performance evaluation and improvement (10.8);

b) functional management processes for IT assets (not described in ISO/IEC 19770-1 in detail), which are cross-cutting processes that integrate with life-cycle processes for IT assets and which are shared with most IT management system standards, though sometimes slightly differently grouped; these include:

- change management (11.2; also required by ISO/IEC 19770-1);
- data management;
- license management;
- security management;
- relationship and contract management;
- financial management;
- service level management;
- other risk management;

c) life cycle management processes for IT assets as specified in ISO/IEC 19770-1, which are grouped and named slightly differently by different methodologies; these include:

- specification;
- development;
- acquisition;
- release;

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— deployment;

— operation;

— retirement.

This document is applicable to all ITAM implementations. This document can be applied to all types of IT assets and by all types and sizes of 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/IEC 19770-5, *Information technology — IT asset management — Part 5: Overview and vocabulary*

ISO/IEC 22123-1, *Information technology — Cloud computing — Part 1: Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19770-5, ISO/IEC 22123-1 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
agile
agile development
development approach based on iterative development, frequent inspection and adaptation, and incremental deliveries in which requirements and solutions evolve through collaboration in cross-functional teams and through continuous stakeholder feedback

Note 1 to entry: Any use of the word “agile” in this document refers to methodology.

[SOURCE: ISO/IEC TR 24587:2021, 3.1, modified — The original preferred term "agile development" has been changed to an admitted term; "agile" has been added as the preferred term.]

3.2
blockchain
distributed ledger with confirmed blocks organized in an append-only, sequential chain using hash links

[SOURCE: ISO 22739:2024, 3.6]

3.3
book of record
BOR
register which contains the definitive record about the items it describes

3.4
bring your own device
BYOD
policy of being allowed to use one's personally owned device, rather than being required to use an officially provided device

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