INTERNATIONAL STANDARD

ISO/IEC 19770-8

First edition
2020-01

Information technology — IT asset management —

Part 8:
Guidelines for mapping of industry practices to/from the ISO/IEC 19770 family of standards

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work.

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 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).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents) or the IEC list of patent declarations received (see http://patents.iec.ch).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

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 Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

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

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

This document defines formats and gives requirements and guidelines on the creation of documents describing the relationships between ISO/IEC 19770-1 and industry practices. The documents are referred to as "mapping documents" throughout the rest of this document.

The intention of this document is that the formats defined are applicable to a wide range of industry practices, including both those published by standards bodies, industry organizations or software publishers, and those defined in a unique manner within organizations.

The formats defined in this document support "bidirectional mappings", where both the industry practice can be mapped to ISO/IEC 19770-1, and ISO/IEC 19770-1 can be mapped to the industry practice. It is expected that many mappings incorporate both aspects for clarity and convenience.

To the extent this document refers to ISO/IEC 19770-1:2012 it supports and builds on, the information contained in Annex C of that standard. ISO/IEC 19770-1:2012, Annex C contains mapping information to and from industry best practice guidance that referenced the following sources:

1) International Association of IT Asset Managers (IAITAM) Best Practice Library;

2) Two documents from the Association of SAM Assessment and Certification (SAMAC) based in Japan;

3) The Information Systems Audit and Control Association (ISACA) Control Objectives for Information and Related Technology CobiT 4.1® framework, used with permission of ISACA/ITGI [www.isaca.org] ©1996-2007 ITGI.

Having this information available no doubt simplifies the learning curve in the adoption of ISO/IEC 19770-1 and enhances its visibility. However, experience with this information highlighted several issues with distributing this information in an annex to ISO/IEC 19770-1, namely:

1) the authors of the source information release revisions and updates in a very different manner, and on a very different schedule, from the update cycle of International Standards;

2) much of the source information is protected as Intellectual Property with copyright, trademarks or sometimes even patents. Getting the permission to quote this information in an International Standard is often tedious, time-consuming and difficult;

3) including references and URLs to external resources in an International Standard is at best unstable, and at worst open to abuse.

This document seeks to ameliorate these issues by taking a different approach, by merely defining formats, guidance and other resources for the creation of these "mappings documents", and relying on the authors of the source information or a related party to create the mappings documents themselves — which then generally remain under their change control. The document also provides guidance on how the originators and authors should interact with JTC 1/SC 7/WG 21 during this process if they choose to do so — such an interaction is not mandatory for using the information in this document. However, guidance on a number of optional styles of interaction is given, and such an interaction is encouraged.

Information technology — IT asset management —

Part 8:
Guidelines for mapping of industry practices to/from the ISO/IEC 19770 family of standards

1 Scope

This document defines requirements, guidelines, formats and approaches for use when producing a mapping document that defines how industry practices map to/from the ISO/IEC 19770 series.

This edition is focused solely on mappings to/from both the second edition of ISO/IEC 19770-1 that was published in 2012, or the third edition of ISO/IEC 19770-1 that was published in 2017. However, the title of this document is deliberately more general as it is expected that future editions of this document also include mapping frameworks related to other parts of the ISO/IEC 19770 series.

In this document where reference is made to ISO/IEC 19770-1 without the specification of an edition number or a publication year, then the text applies to all editions of ISO/IEC 19770-1.

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*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 19770-5 and the following apply.

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

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

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

3.1
mapping document
document that relates ISO/IEC 19770-1 and an existing industry practice

Note 1 to entry: The formats in this document support both mapping the industry practice to ISO/IEC 19770-1:2012 or ISO/IEC 19770-1:2017, and mapping ISO/IEC 19770-1:2012 or ISO/IEC 19770-1:2017 to the industry practice. It is expected that many mappings incorporate both aspects for clarity and convenience.

3.2
source document
ISO/IEC 19770-1 or document defining an existing industry practice

4   Guidance for creating mappings

While each mapping is by definition created with a specific purpose in mind, the following is some general guidance on creating a mapping to a specific industry practice:

1) Be clear about the scope to be addressed by the mapping, and document both the present scope and how and by whom the mapping will be maintained.

2) Take an incremental approach to the creation of the mapping: begin with items that are the simplest and/or most important for the organization involved, and items that are at the highest level and/or provide immediate improvements. Aim to expand the scope over time.

3) Be clear about the high-level purpose of creating the mapping. The purpose can include the following:

   a) to aid in creating an optimized IT asset management scheme that for business reasons has to follow other industry guidance as well as ISO/IEC 19770-1;

   b) to serve as a basis for benchmarking an existing IT asset management scheme against other schemes;

   c) to highlight areas that may not be addressed by an existing asset management scheme and/or industry best practice guidance that may be relevant to the goals of the organization;

   d) to define a customized subset of ISO/IEC 19770-1 that is aligned with the existing industry best practice guidance in order for the two documents together to serve as the basis for a new asset management scheme that is customized to the needs of a specific organization or part of an organization, or sector;

   e) to document an existing management scheme based on the industry best practice for communication with suppliers and/or customers using the terminology and definition with which they may already have some familiarity;

   f) to simplify the learning curve for the adoption of ISO/IEC 19770-1 with the industry and/or a specific organization;

   g) to provide a marketing advantage for the organization in relation to its peers.

4) Identify the goals of the industry best practice guidance that may be enhanced by the existence of the mapping, such as:

   a) IT governance, through simplified benchmarking;

   b) risk management and quality management, through the use of tools designed to support ISO/IEC 19770-1;

   c) user training and education, through the use of existing materials based on ISO/IEC 19770-1.

5) Identify the uses to which the information generated by an existing management scheme aligned with the industry best practice guidance may be enhanced by the existence of the mapping, such as:

   a) activities invoking external parties such as license compliance audits;

   b) financial and resource management;

   c) service-level definition and management.

6) Provide support for the existing organizational and/or legal structures that support the industry practice, such as:

   a) networks of partner organizations that administer, implement, support or enforce the industry practice;

b) training programmes and materials, and accreditation & certification schemes, related to the industry practice.

5 Mapping structure requirements

5.1 Overview

It is assumed that the intended user of the mapping document (be they in the corporate world, academia, or elsewhere) already has access to the original source documents being mapped (i.e. both ISO/IEC 19770-1 and the industry practice). It is not the objective of the mapping document to substitute for the need of the user to reference both source documents. Rather, the only objective of the mapping document is to address the specific question of which elements in one source are mapped against which elements in the other source.

In development of mapping in accordance with this document it could be desirable to interact with the ISO/IEC Working Group which originated ISO/IEC 19770-1. Annex C provide guidelines for such interactions.

The mapping document is a working tool for the user. As such it should be formatted and worded for the maximum ease of use. Specific mapping requirements are provided in the following subclauses.

5.2 Bi-directional mapping

Many-to-many relationships are expected between the various elements of ISO/IEC 19770-1 and the various elements of the industry practice. To maximize clarity and usefulness to the user, any mapping of the industry practice against ISO/IEC 19770-1 should be bi-directional, i.e. include both of the following components:

a) a full listing of all elements in ISO/IEC 19770-1 in their original order, and next to each element a listing of those corresponding elements (one or more) in the industry practice;

b) a full listing of all elements in the industry practice in their original order, and next to each element a listing of those corresponding elements (one or more) in ISO/IEC 19770-1.

Only the combination of the above two mappings may fully address the various use cases relevant to the user.

5.3 Objective, description and structure of each source document

The mapping document shall include an overview of each of the mapped source documents, including the objective, scope, approach and organization.

5.4 Background information about the source documents and their requirements

The following information shall be included in the mapping document:

a) information required of a software asset management scheme by ISO/IEC 19770-1, including the scope, governance, tier supported, etc.;

b) information about the industry practice, including the governing body, version/edition, release date, copyright information, release process for new/updated versions, applicable URLs, etc.

c) information about the organization/individual preparing the mapping, including the identification of the governing body (if not an individual), relationship of the organization preparing the mapping to any of the source documents, release date of the mapping, release process for future updates of the mapping, applicable URLs, etc.

A list of other mappings available between each source document and other standards/industry practices should be included where known. For example, if the mapping is against COBIT, the mapping

document shall list all the other standards and/or industry practices known to have a mapping to COBIT available.

5.5 Electronic version of tables

All tables in this document shall also be made available in an editable electronic format and shall be available through a publicly-accessible URL at http://standards.iso.org/iso-iec/19770/-8/ed-1.

5.6 High-level mapping

An overview of the main concepts in each source document shall be included and contrasted (as applicable).

A discussion of each of the main sections/areas in each source document shall be included and contrasted (as applicable).

See also the guidance in item 3) of Clause 4.

5.7 Detailed mapping

Each of the required two mapping tables (see 5.2) shall include the following 3 segments or groups of columns:

a) "From" segment — this segment shall include details of all elements in the "From" source document. Section numbers in the "From" segment shall appear only once, and in their original order, regardless of whether any mapping against each element is included or not.

b) "To" segment — this segment shall list the relevant mapped elements in the other source document, against the "From" source. Section numbers in the "To" segment may appear in any order, and may appear more than once (if relevant to more than one "From" element).

c) Comment segment — in this segment an explanation and/or additional information should be provided with respect to the mapping of a particular element.

5.8 Required level of mapping detail

The highest applicable level of detail is encouraged, consistent with the structure of both source documents.

Where the "From" source document is ISO/IEC 19770-1:2017, the following structure as defined in Table A.1 shall be followed:

— 7 Requirement areas

— 29 Requirements

Where the "To" structure is ISO/IEC 19770-1:2017, the structure as defined in Table A.2 shall be followed.

Where the "From" source document is ISO/IEC 19770-1:2012, the following structure as defined in Table B.1 shall be followed:

— 3 Level I areas (Major Name)

— 6 Level II areas (Minor Name)

— 27 Level III areas (Process Area Name)

— 71 Level IV areas (Outcome), each attributable to 1 (or more) of 4 implementation Tiers

Where the "To" structure is ISO/IEC 19770-1:2012, the structure as defined in Table B.2 shall be followed.

Annex A
(normative)

Mapping templates to/from ISO/IEC 19770-1:2017

A.1 Mapping template from ISO/IEC 19770-1:2017 to an industry practice

Table A.1 — Mapping template from ISO/IEC 19770-1:2017 to an industry practice

["From" segment] ISO/IEC 19770-1:2017, *Information Technology — IT Asset Management — Part 1: IT asset management systems — Requirements*			["To" segment] XYZ Framework - version X					Comments
Requirement Area	Requirement	Sub-Requirement	Level 1 area name	Level 2 area name	Level 3 area name	Section # reference	Caption	
4 Context of the organization	4.1 Understanding the organization and its context	N/A						
	4.2 Understanding the needs and expectations of stakeholders	N/A						
	4.3 Determining the scope of IT asset management system	N/A						
	4.4 IT asset management system	N/A						
5 Leadership	5.1 Leadership and commitment	N/A						
	5.2 Policy	N/A						
	5.3 Organizational roles, responsibilities and authorities	N/A						
6 Planning	6.1 Actions to address risks and opportunities for the IT asset management system	6.1.1 General						
		6.1.2 IT asset risk assessment						
		6.1.3 IT asset risk treatment						
	6.2 IT asset management objectives and planning to achieve them	6.2.1 IT asset management operation process specification						
		6.2.2 IT asset management objectives for operation processes						
		6.2.3 Overall IT asset management objectives						
		6.2.4 Planning to achieve IT asset management objectives						
7 Support	7.1 Resources	N/A						
	7.2 Competence	N/A						
	7.3 Awareness	N/A						
	7.4 Communication	N/A						
	7.5 Information requirements	N/A						
	7.6 Documented information	7.6.1 General						

Table A.1 *(continued)*

["From" segment] ISO/IEC 19770-1:2017, *Information Technology — IT Asset Management — Part 1: IT asset management systems — Requirements*			["To" segment] XYZ Framework - version X					Com-ments
Requirement Area	Requirement	Sub-Require-ment	Level I area name	Level 2 area name	Level 3 area name	Section # refer-ence	Caption	
		7.6.2 Traceability of ownership and responsibility						
		7.6.3 Audit trails of authorizations and execution of authorizations						
		7.6.4 Creating and updating						
		7.6.5 Control of documented information						
8 Operation	8.1 Operational planning and control	N/A						
	8.2 Management of change	N/A						
	8.3 Core data management	N/A						
	8.4 License management	N/A						
	8.5 Security management	N/A						
	8.6 Other processes	N/A						
	8.7 Outsourcing and services	N/A						
	8.8 Mixed responsibilities between the organization and its personnel	N/A						
9 Performance evaluation	9.1 Monitoring, measure-ment, analysis and evaluation	N/A						
	9.2 Internal audit	9.2.1 General						
		9.2.2 Audit re-quirements						
	9.3 Management review	N/A						
10 Improvement	10.1 Nonconformity and corrective action	N/A						
	10.2 Preventative action	N/A						
	10.3 Continual improvement	N/A						

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A.2 Mapping template from an industry practice to ISO/IEC 19770-1:2017

Table A.2 — Mapping template from an industry practice to ISO/IEC 19770-1:2017

["From" segment] XYZ Framework - version X					["From" segment] ISO/IEC 19770-1:2017, Information Technology — IT Asset Management — Part 1: IT asset management systems — Requirements			Comments
Level I area name	Level II area name	Level III area name	Section # reference	Caption	Requirement Area	Requirement	Sub-Requirement	

Annex B
(normative)

Mapping templates to/from ISO/IEC 19770-1:2012

B.1 Mapping template from ISO/IEC 19770-1:2012 to an industry practice

Table B.1 — Mapping template from ISO/IEC 19770-1:2012 to an industry practice

["From" segment] ISO 19770-1:2012, Information Technology — Software Asset Management — Part 1: Processes and tiered assessment of conformance									["To" segment] XYZ Framework — version X					Comments
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption	
Organizational Management Processes for SAM	4.2 Control Environment for SAM	Corporate Governance Process for SAM	4.2.2.2.a	Organizational scope and overall responsibility		x								
			4.2.2.2.b	Recognition of responsibility for SAM		x								
			4.2.2.2.c	Legislation, regulation and guidance		x								
			4.2.2.2.d	Risk assessment		x								
			4.2.2.2.e	Approval of SAM management objectives				x						
		Roles and Responsibilities for SAM	4.2.3.2.a	Organization-wide SAM responsibilities		x								
			4.2.3.2.b	Local SAM responsibilities		x								
			4.2.3.2.c	Communication of responsibilities		x								
		Policies, Processes and Procedures for SAM	4.2.4.2.a	Structured approach to policies, processes and procedures		x								
			4.2.4.2.b	Organization of policies, processes and procedures		x								
			4.2.4.2.c	Issues covered by policies		x								
			4.2.4.2.d	Communication of policies and procedures		x								
		Competence in SAM	4.2.5.2.a	Availability of training		x								
			4.2.5.2.b	Proof of license				x						
			4.2.5.2.c	Training taken		x								
			4.2.5.2.d	Availability of guidance from software manufacturers		x								
	4.3 Planning and Implementation Processes for SAM	Planning for SAM	4.3.2.2.a	Development of SAM management objectives				x						
			4.3.2.2.b	Development of SAM plans		x								
			4.3.2.2.c	Approval of SAM plans		x								
		Implementation of SAM	4.3.3.2.a	Issue feedback				x						
			4.3.3.2.b	Progress against SAM plan				x						
			4.3.3.2.c	Follow-up on variances				x						

Table B.1 (continued)

["From" segment] ISO 19770-1:2012, Information Technology — Software Asset Management — Part 1: Processes and tiered assessment of conformance									["To" segment] XYZ Framework — version X					Comments
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption	
		Monitoring and Review of SAM	4.3.4.2.a	Annual management review of SAM				x						
			4.3.4.2.b	SAM owner sign-off				x						
			4.3.4.2.c	Software deployment review		partial (quick wins)		full						
		Continual Improvement of SAM	4.3.5.2.a	Suggestions for improvement feedback				x						
			4.3.5.2.b	Suggestions for improvement execution				x						
Core SAM Processes	4.4 Inventory Processes for SAM	Software Asset Identification	4.4.2.2.a	Initial identification of data requirements				x						
			4.4.2.2.b	Master register of stores and inventories	x									
		Software Asset Inventory Management	4.4.3.2.a	Policies and procedures for inventory management	x									
			4.4.3.2.b	Inventories of hardware, installed software, and licenses	x									
			4.4.3.2.c	Inventories of software masters and contractual documentation	1,3-4			2						
			4.4.3.2.d	Measurement mechanisms for all other licensing metrics	x									
			4.4.3.2.e	Continuity of operations				x						
			4.4.3.2.f	Minimum report descriptors				x						
		Software Asset Control	4.4.4.2.a	Audit trail of changes				x						
			4.4.4.2.b	Policies and procedures for version control				x						
			4.4.4.2.c	Policies and procedures for deployment baselines				x						
	4.5 Verification and Compliance Processes for SAM	Software Asset Record Verification	4.5.2.2.a	Policies and procedures for record verification	1-3, 8-9	10 (quick wins)		4-7						
		Software Licensing Compliance	4.5.3.2.a	Policies and procedures for software licensing compliance	x									

Table B.1 *(continued)*

| ["From" segment] ISO 19770-1:2012, *Information Technology — Software Asset Management — Part 1: Processes and tiered assessment of conformance* | | | | | | | | | ["To" segment] XYZ Framework — version X | | | | | Comments |
Major Name	Minor Name	Process Area Name	Outcome	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Section # reference	Caption	
		Software Asset Security Compliance	4.5.4.2.a	Execution of SAM security policy checks			x							
			4.5.4.2.b	Follow-up on exceptions identified			x							
		Conformance Verification for SAM	4.5.5.2.a	Policies and procedures for conformance verification	x	x	x	x						
			4.5.5.2.b	Execution of conformance verification	x	x	x	x						
	4.6 Operations Management Processes and Interfaces for SAM	Relationship and Contract Management for SAM	4.6.2.2.a	Policies and procedures for supplier relationship management			x							
			4.6.2.2.b	Policies and procedures for customer-side relationship management				x						
			4.6.2.2.c	Policies and procedures for contract management		partial (quick wins)	full							
		Financial Management for SAM	4.6.3.2.a	Definition of financial information required			x							
			4.6.3.2.b	Budgets			x							
			4.6.3.2.c	Reporting of actual against budget			x							
			4.6.3.2.d	Availability of asset value information			x							
			4.6.3.2.e	Reviews of actual against budget and follow-up			x							
			4.6.3.2.f	License optimization		partial (quick wins)	full							
		Service Level Management for SAM	4.6.4.2.a	Definition of service level agreements			x							
			4.6.4.2.b	Reporting of actuals against targets			x							
			4.6.4.2.c	Reviews of performance			x							
		Security Management for SAM	4.6.5.2.a	Security policy for SAM resources			x	x						
			4.6.5.2.b	Specification of access controls for SAM resources				x						
			4.6.5.2.c	Execution of access controls				x						
Primary Process Interfaces for SAM	4.7 Life Cycle Process Interfaces for SAM	Change Management Process	4.7.2.2.a	Change management process definition			x	x						

Table B.1 *(continued)*

["From" segment] ISO 19770-1:2012, Information Technology — Software Asset Management — Part 1: Processes and tiered assessment of conformance									["To" segment] XYZ Framework — version X					Comments
Major Name	Minor Name	Process Area Name	Out-come	Caption	Tier 1	Tier 2	Tier 3	Tier 4	Level I area name	Level II area name	Level III area name	Sec-tion # refer-ence	Cap-tion	
		Acquisition Process	4.7.3.2.a	Standard architectures			x							
			4.7.3.2.b	Standard configurations			x							
			4.7.3.2.c	Procurement policies and procedures			x							
			4.7.3.2.d	Policies and procedures for receipt processing			x							
		Software Develop-ment Process	4.7.4.2.a	Software development process definition for consideration of SAM requirements				x						
			4.7.4.2.b	Software development process definition for asset control				x						
		Software Release Management Process	4.7.5.2.a	Software release management process definition				x						
		Software Deploy-ment Process	4.7.6.2.a	Software deployment process definition			x							
		Incident Manage-ment Process	4.7.7.2.a	Incident management process definition				x						
		Problem Manage-ment Process	4.7.8.2.a	Problem management process definition				x						
		Retirement Process	4.7.9.2.a	Retirement process definition			x							