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Information technology — Software asset management —

Part 1: Processes

Technologies de l'information — Gestion de biens de logiciel — Partie 1: Procédés

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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. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

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.

ISO/IEC 19770-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and system engineering*.

ISO/IEC 19770 consists of the following parts, under the general title *Software asset management*:

— *Part 1: Processes*

— *Part 2: Tag*

Introduction

This part of ISO/IEC 19770 has been developed to enable an organization to prove that it is performing Software Asset Management (SAM) to a standard sufficient to satisfy corporate governance requirements and ensure effective support for IT service management overall. This part of ISO/IEC 19770 is intended to align closely to, and to support, ISO/IEC 20000. Good practice in SAM should result in the following types of benefits, and certifiable good practice should allow management and other organizations to place reliance on the adequacy of these processes, and the expected benefits should be achieved with a high degree of confidence:

a) **Risk management**: SAM should facilitate the management of business risks including:

   1) risk of interruption to IT services;

   2) risk of deterioration in the quality of IT services;

   3) legal and regulatory exposure;

   4) risk of damage to public image arising from any of the above.

b) **Cost control**: SAM should facilitate cost control including in the following areas:

   1) reduced direct costs of software and related assets, such as by negotiating better pricing through improved use of volume contracting arrangements, and by avoiding purchasing new licenses when old ones can be redeployed;

   2) reduced time and cost for negotiating with suppliers because of better information availability;

   3) reduced costs through improved financial control, such as through better invoice reconciliation and more accurate forecasting and budgeting;

   4) reduced infrastructure costs for managing software and related assets, by ensuring that required processes are efficient and effective;

   5) reduced support costs which are significantly affected by the quality of SAM processes, both directly within IT and indirectly within end-user areas.

c) **Competitive advantage**: SAM should help the organization gain competitive advantage through the following:

   1) better quality decision making because of more complete and more transparent information availability (for example, IT procurement and system development decisions may be made more quickly and more reliably with better quality data);

   2) being able to deploy new systems and functionality more quickly and reliably in response to market opportunities or demands;

   3) providing IT which is more closely aligned to business needs, thus ensuring that all users have access to appropriate software and applications;

   4) being able to handle the IT aspects of business acquisitions, mergers or demergers more quickly;

   5) better personnel motivation and client satisfaction through having less IT problems.

Information technology — Software asset management —

Part 1: Processes

1 Scope

1.1 Purpose

This part of ISO/IEC 19770 establishes a baseline for an integrated set of processes for Software Asset Management (SAM).

1.2 Field of application

This part of ISO/IEC 19770 applies to SAM processes and can be implemented by organizations to achieve immediate benefits. ISO/IEC 19770-2 provides a specification for SAM data, which requires implementation by software manufacturers (external and internal) and by tool developers for its full benefits to be achieved.

It is intended that this part of ISO/IEC 19770 be an implementation standard for organizations. Future editions may provide an assessment framework that is aligned to the requirements in ISO/IEC15504-2.

This part of ISO/IEC 19770 applies to all organizations of any size or sector. This part of ISO/IEC 19770 can only be applied to a legal entity, or to parts of a single legal entity.

NOTE The definition of organizational scope is documented as part of the *Corporate governance process for SAM*.

This part of ISO/IEC 19770 may be applied to an organization which has outsourced SAM processes, with the responsibility for demonstrating conformance always remaining with the outsourcing organization.

This part of ISO/IEC 19770 can be applied to all software and related assets, regardless of the nature of the software. For example, it can be applied to executable software (such as application programs, operating systems and utility programs) and to non-executable software (such as fonts, graphics, audio and video recordings, templates, dictionaries, documents and data).

NOTE The definition of software asset scope (software types to be included within the scope) is documented as part of the SAM Plan developed in the *Planning for SAM* process. It may be defined in any way considered appropriate by the organization, such as for all software, for all program software, for all software on specific platforms, or for the software of specified manufacturers, as long as it is unambiguous.

The following forms of software assets are within the scope of this part of ISO/IEC 19770:

a) software use rights, reflected by full ownership (as for in-house developed software) and licenses (as for most externally sourced software, whether commercial or open-source);

b) software for use, which contains the intellectual property value of software (including original software provided by software manufacturers and developers, software builds, and software as installed and executed); and

c) media holding copies of software for use.

NOTE From a financial accounting point of view, it is primarily category (a) which may be considered an asset, and even then it may have been completely written off. From a financial accounting point of view, category (b) may be viewed as actually creating a liability (rather than an asset) with commercial software if it is not properly licensed. This part of ISO/IEC 19770 considers categories (b) and (c) proper assets to be controlled as well as (a). Licenses may have bookkeeping value, but software in use in particular should have business value and needs to be treated as a business asset.

Related assets within the scope are all other assets with characteristics which are necessary to use or manage software in scope. Any characteristics of these related assets which are not required to use or manage software are outside of the scope. Table 1 provides examples of these.

Table 1 — Application of ISO/IEC 19770-1 to Non-Software Assets

Asset type	*Applicability*	*Example*
Hardware	**Normative** for hardware assets with characteristics required for the use or management of software assets in scope	Physical inventory of equipment on which software can be stored, executed or otherwise used; number of processors or processing power; whether the hardware qualifies for counting for site licensing purposes
	Not applicable for characteristics not required for the use or management of software assets in scope	Cost and depreciation of hardware, preventive maintenance renewal dates
Other assets	**Normative** for other assets with characteristics required for the use or management of software assets in scope	Personnel names for identifying custodianship, personnel counts for licensing done on this basis
	Not applicable for characteristics not required for the use or management of software assets in scope	Other personnel information

1.3 Limitations

This part of ISO/IEC 19770 does not detail the SAM processes in terms of methods or procedures required to meet the requirements for outcomes of a process.

This part of ISO/IEC 19770 does not specify the sequence of steps an organization should follow to implement SAM, nor is any sequence implied by the sequence in which processes are described. The only sequencing which is relevant is that which is required by content and context. For example, planning should precede implementation.

This part of ISO/IEC 19770 does not detail documentation in terms of name, format, explicit content and recording media.

This part of ISO/IEC 19770 is not intended to be in conflict with any organization's policies, procedures and standards or with any national laws and regulations. Any such conflict should be resolved before using this part of ISO/IEC 19770.

2 Conformance

2.1 Intended usage

The requirements in this part of ISO/IEC 19770 are contained in the outcomes of Clause 4. Any claim of conformance shall be a claim of full conformance to the provisions of this part of ISO/IEC 19770 as described below, including for any outsourced processes. It is also possible to selectively choose outcomes for individual agreements, as explained below, but conformance with this part of ISO/IEC 19770 may not then be cited.

2.2 Full conformance

Full conformance is achieved by demonstrating that all of the requirements of this part of ISO/IEC 19770 have been satisfied using the outcomes as evidence.

2.3 Agreement compliance

This part of ISO/IEC 19770 may be used to help develop an agreement between an acquirer and a supplier, in which case clauses of this part of ISO/IEC 19770 can be selected for incorporation in the agreement with or without modification. In this case, it is necessary for the acquirer and supplier to achieve compliance with the agreement rather than conformity with this part of ISO/IEC 19770.

NOTE 1 Supplier agreements usually specify the organizational scope of control, for example across all subsidiaries of a corporate entity, which means the scope of SAM will need to be set up to match this, if the intention is to move into such an agreement.

NOTE 2 ISO/IEC's copyright extends to all of this part of ISO/IEC 19770 and parts thereof. However, for the specific use mentioned in the clause above, there is no need to obtain copyright permission.

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
baseline
formally approved version of a configuration item (3.2), regardless of media, formally designated and fixed at a specific time during the configuration item's life cycle (as also defined in ISO/IEC 12207)

3.2
configuration item
CI
item or aggregation of hardware or software or both that is designed to be managed as a single entity

NOTE Configuration items may vary widely in complexity, size and type, ranging from an entire system including all hardware, software and documentation, to a single module or a minor hardware component.

3.3
corporate board or equivalent body
person or group of people who assumes legal responsibility for conducting or controlling an organization at the highest level

3.4
definitive master version
version of the software that is used to install the software and to create distribution copies

3.5
distribution copy
copy of the software definitive master version, for the purposes of installation onto other hardware, which resides for example on a server, or on physical media such as CDs

3.6
effective full license
license rights for software which allow one full use of the software

NOTE An effective license consists of one or more underlying licenses (3.15).

EXAMPLE An underlying full license for version 1 of a software product, plus an underlying upgrade license to version 2 of the software product, combine to produce one effective full license for version 2 of the software product.

3.7
local SAM owner
individual at any level of the organization below that of the SAM owner (3.11) who is identified as being responsible for SAM for a defined part of the organization

3.8
personnel
any individual expected to perform duties on behalf of the organization, including officers, employees and contractors

3.9
procedure
specified way to carry out an activity or process

NOTE When a procedure is specified as an outcome, the resulting deliverable will typically specify what must be done, by whom, and in what sequence. This is a more detailed level of specification than for a process (3.10).

3.10
process
a set of interrelated activities, which transforms inputs into outputs

NOTE When a process definition is specified as an outcome, the resulting deliverable will typically specify inputs and outputs, and give a general description of expected activities. However, it does not require the same level of detail as for a procedure (3.9).

3.11
SAM owner
individual at a senior organization-wide level who is identified as being responsible for SAM

3.12
software asset management
SAM
effective management, control and protection of software assets within an organization

3.13
software header
information about a software file to facilitate its management, embedded within the file itself

NOTE The software header is one type of information within the more generic category of software tag (3.14) information.

3.14
software tag
information about a software file or package to facilitate its management, some of which information may be held within a software header (3.13)

3.15
underlying license
license for software use as originally purchased or procured, and which can typically be linked directly to purchase records

NOTE An underlying license may have conditions associated with it, requiring it to be used in combination with another license or licenses to create an effective full license (3.6).

4 SAM processes

4.1 General

4.1.1 Definition and relationship to service management

Software asset management is the effective management, control and protection of software assets within an organization.

SAM processes as defined in this part of ISO/IEC 19770 are closely aligned to and intended to closely support IT service management as defined in ISO/IEC 20000.

4.1.2 Overview of SAM processes

Figure 1 below gives the conceptual framework for the SAM processes and is broken down into three main categories:

a) Organizational management processes for SAM;

b) Core SAM processes;

c) Primary process interfaces for SAM.

The processes are described in further detail in 4.2 to 4.7

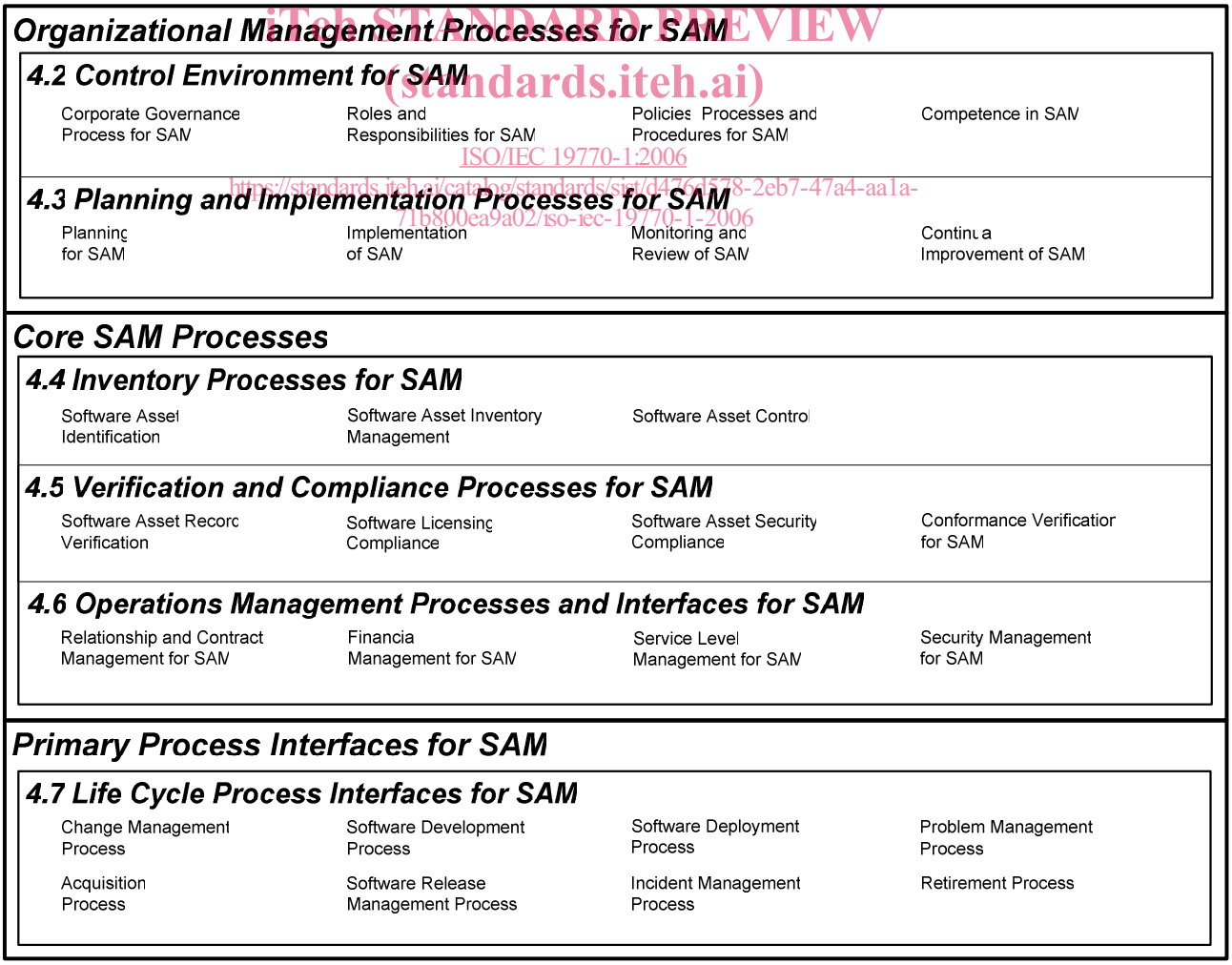

Figure 1 — Framework for SAM processes

4.1.3 Outcomes, activities and interfaces

This part of ISO/IEC 19770 has been written using the process elements of title, objective, and outcomes. This part of ISO/IEC 19770 does not include activities, which are actions which may be used to achieve the outcomes.

The outcomes specified in this part of ISO/IEC 19770 are designed to be readily assessable, but will not necessarily indicate the breadth of activities which may be needed to produce them. For example, the maintenance of inventories in the *Software asset inventory management* process will logically require data validation activities, although this is not cited as an outcome in this part of ISO/IEC 19770. (Data integrity is assured in this part of ISO/IEC 19770 by the *Verification and compliance processes for SAM*.)

Some of the most important activities are interface activities with other processes. For example, when a software asset is purchased (or 'acquired') the objective to be met is "The objective of the *Acquisition process* in respect of software and related assets is to ensure that they are acquired in a controlled manner and recorded." This process, and many others, will require an invoking of the *Software asset inventory management* process to record the data and validate it for required fields etc. Another example is the creation of baselines, which are created in the *Software asset control* process. This process is invoked by the *Software development process* and the *Software release management process*. It is not the objective of this part of ISO/IEC 19770 to specify this type of detail, but such activities or interfaces are implicitly required in order to achieve the stated objectives.

4.2 Control environment for SAM

4.2.1 General

The objective of the *Control environment for SAM* is to establish and maintain the management system within which the other SAM processes are implemented.

The *Control environment for SAM* consists of the following:

a) Corporate governance process for SAM;

b) Roles and responsibilities for SAM;

c) Policies, processes and procedures for SAM;

d) Competence in SAM.

4.2.2 Corporate governance process for SAM

4.2.2.1 Objective

The objective of the *Corporate governance process for SAM* is to ensure that responsibility for management of software assets is recognized at the level of the corporate board or equivalent body, and that appropriate mechanisms are in place to ensure the proper discharge of this responsibility.

NOTE This process could be considered part of overall corporate governance of IT.

4.2.2.2 Outcomes

Implementation of the *Corporate governance process for SAM* will enable the organization to demonstrate that:

a) There is a clear corporate statement for the purposes of this part of ISO/IEC 19770 about:

   1) the legal entity or parts of a legal entity which are included in scope.