



**International
Standard**

ISO/IEC/IEEE 41062

**Software engineering — Life cycle
processes — Software acquisition**

*Ingénierie du logiciel — Processus du cycle de vie — Acquisition
des logiciels*

**Second edition
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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 or www.iec.ch/members_experts/refdocs).

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information Technology*, Subcommittee SC 7, *Software and systems engineering*, in cooperation with the Systems and Software Engineering Standards Committee of the IEEE Computer Society, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

This second edition cancels and replaces the first edition (ISO/IEC/IEEE 41062:2019), which has been technically revised.

The main changes are as follows:

- the eight steps of software acquisition were replaced by four sub-processes of software acquisition;
- discussion of the various forms of requirements and their implications was expanded;
- additional attention was given to acquisitions of services;
- alternatives to traditional methods were described for identifying prospective suppliers, structuring requests for proposals (RFPs), evaluating proposals, and negotiating contracts;
- numerous insights and tips are provided to aid in avoiding common acquisition difficulties;

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- the acquisition of operations, maintenance and support services in conjunction with acquiring software products was added.

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 and www.iec.ch/national-committees.

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Introduction

This document describes the management and execution of software acquisition activities and is intended for:

- individuals or organizations that acquire software or software services from external suppliers for operational use, including software implementation, support, and operations services;
- individuals or organizations that acquire software from external suppliers for resale to other individuals or organizations;
- individuals or organizations that influence how software and software services is acquired from suppliers or implemented, operated, and maintained by suppliers;
- suppliers interested in providing high-quality software to acquirers.

This document is designed to help organizations and individuals:

- incorporate quality considerations during the definition, evaluation, selection, implementation, acceptance, operation, and support of supplier software for operational use;
- specify how the external supply of software and software services should be specified, selected, monitored, and accepted on behalf of end users.

This document is intended to satisfy the following objectives:

- enable acquirers to more effectively acquire software that economically meets their needs;
- enable external suppliers to more effectively and economically deliver software that meets acquirers' needs;
- enable acquirers and suppliers to establish fair, understandable, suitable, and sufficient agreements for the acquisition of software;
- promote consistency within and among organizations in acquiring software from external suppliers;
- provide guidance and useful practices for enhancing the quality of acquired software and the software acquisition process;
- provide guidance and useful practices for evaluating and qualifying supplier capabilities to meet the acquirer's business and technical requirements;
- provide guidance and useful practices for evaluating, qualifying, and contracting for proposed supplier software;
- provide guidance and useful practices for evaluating and determining acceptability of software implemented by external suppliers;
- provide guidance and useful practices for specifying, evaluating, and controlling the acceptability of ongoing software services provided by external suppliers.

This document can be helpful if the software acquirer and supplier are both part of the same organization.

While many of the concepts and techniques for acquiring software from external suppliers can also be relevant for internal software development, this document is not intended to address techniques of software development, testing, or operation.

Each organization or individual using this document can identify the specific set of activities to include within the organization's acquisition process, given its legal and regulatory environment, procurement guidelines, and life cycle processes.

Software engineering — Life cycle processes — Software acquisition

1 Scope

This document describes a set of useful activities, tasks, methods, and practices that acquirers of software and related services from unrelated (external) suppliers can apply to help ensure an efficient and effective acquisition of software or software services. These practices can be applied in competitive and in sole source procurements, regardless of the type, size, complexity, and cost of the acquisition. The document can be applied to software that runs on any computer system regardless of its size, complexity, or criticality. The software supply chain can include integration of off-the-shelf (OTS), custom, software as a service (SaaS), or open-source software. Software services can include software development and sustainment (maintenance), integration, verification (testing) and operation. Security and safety are included as attributes to be considered during the acquisition. However, specific requirements for acquisition of information assurance (security), safety, and cloud services are not included.

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 or corrigenda) applies.

ISO/IEC/IEEE 12207, *Systems and software engineering — Software life cycle processes*

ISO/IEC/IEEE 15289, *Systems and software engineering — Content of life-cycle information items (documentation)*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

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

ISO, IEC and IEEE 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/>
- IEEE Standards Dictionary Online: available at: <http://dictionary.ieee.org>

NOTE Definitions for other systems and software engineering terms typically can be found in ISO/IEC/IEEE 24765, available at www.computer.org/sevocab.

3.1.1 acquirer

stakeholder that acquires or procures a product or service from a *supplier* (3.1.19)

Note 1 to entry: Other terms commonly used for an acquirer are buyer, customer, owner, purchaser or internal/organizational sponsor.

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.1]

3.1.2

acquisition

process of obtaining a system, product or service

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.2]

3.1.3

agile development

software 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

[SOURCE: ISO/IEC/IEEE 26515:2018, 3.1, modified — "software" has been added at the beginning of the definition.]

3.1.4

business objective

strategy designed by senior management to help ensure an organization's continued existence and enhance its profitability, market share, and other factors influencing the organization's success

Note 1 to entry: Capability, performance level or *process outcome* (3.1.13) to be achieved to solve a problem, take advantage of an opportunity, or meet a challenge and thereby provide benefit or value.

Note 2 to entry: Identifying business objective(s) is an integral part of the business or mission analysis process described in ISO/IEC/IEEE 12207:2017, 6.4.1.

Note 3 to entry: Business objectives are not the same as *business requirements* (3.1.5); business objectives are accomplished by satisfying business requirements.

[SOURCE: ISO/IEC TR 29110-5-1-4:2018, 3.5, modified — "help" has been added; notes to entry has been added.]

3.1.5

business requirement

requirement that describes in business terms what needs to be delivered or accomplished

Note 1 to entry: The business requirement is a means to achieve *business objectives* (3.1.4) and thereby provide value.

Note 2 to entry: A product, system, or item of software is not and does not determine the business requirements; rather, a product, system or item of software can be used to satisfy the business requirements.

Note 3 to entry: The term "business" here is used broadly and generically, without implying a commercial venture, and can pertain to both personal and work, for-profit and not-for-profit, and production and administrative situations.

[SOURCE: ISO 29481-1:2016, 3.4, modified — Notes to entry have been added.]

3.1.6

COTS

commercial off-the-shelf

product available for purchase and use without the need to conduct development activities

[SOURCE: ISO/IEC/IEEE 90003:2018, 3.4]

3.1.7

defect

fault or deviation from the intended level of performance of a system or software

[SOURCE: ISO/IEC 23643:2020, 3.4]

3.1.8

functional requirement

requirement that specifies a function that a system or system component performs

[SOURCE: IEEE Std 730-2014, 3.2]

3.1.9

hazard

source or situation with a potential for harm in terms of human injury or ill health (both short and long term), damage to property, damage to the environment, or a combination of these

[SOURCE: IEEE 7000:2021]

3.1.10

IT asset management

ITAM

coordinated activity of an organization to realize value from IT assets

[SOURCE: ISO/IEC 19770-1:2017, 3.3, modified — "IT" has been added in the term and the definition; the abbreviated term "ITAM" has been added.]

3.1.11

non-functional requirement

any requirement for a software-intensive system or for a software product, including how it should be developed and maintained, and how it should perform in operation, except any functional user requirement for the software

[SOURCE: ISO/IEC/IEEE 32430:—¹, 3.1.25, modified — The abbreviated term "NFR" has been removed.]

3.1.12

off-the-shelf

OTS

product or system already developed and available

3.1.13

process outcome

observable result of the successful achievement of the *process purpose* (3.1.14)

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.34]

3.1.14

process purpose

high-level objective of performing the process and the likely outcomes of effective implementation of the process

Note 1 to entry: The purpose of implementing the process is to provide benefits to the stakeholders.

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.35]

3.1.15

product requirement

requirement that describes how a product, system, or item of software will satisfy a *business requirement* (3.1.5) and thereby provide value

3.1.16

safety

expectation that a system does not, under defined conditions, lead to a state in which human life, health, property, or the environment is endangered

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.48]

3.1.17

software acquisition

process that begins with the decision to obtain a software product or service with the outcome of acceptance of the software

1) Under preparation. Stage at the time of publication: ISO/IEC/IEEE PRF 32430:2024.

3.1.18

software requirement

software capability needed by a user to solve a problem or to achieve an objective

Note 1 to entry: A software requirement is a form of *product requirement* (3.1.15).

3.1.19

supplier

organization or an individual that enters into an agreement with the *acquirer* (3.1.1) for the supply of a product or service

Note 1 to entry: Other terms commonly used for supplier are contractor, producer, seller, or vendor.

Note 2 to entry: The acquirer and the supplier sometimes are part of the same organization.

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.60]

3.1.20

technical requirement

requirement relating to the technology and environment for the development, maintenance, support and execution of the software

3.2 Abbreviated terms

FOSS free and open-source software

LOU letter of understanding

MOU memo of understanding

NDA non-disclosure agreement

QA quality assurance

RFI request for information

RFQ request for quote

RFP request for proposal

RPP request for prototype proposals

SaaS software as a service

SLA service level agreement

SOI system of interest

SOW statement of work

T&M time and materials

V&V verification and validation

4 Software acquisition process

4.1 General

The acquirer shall perform software acquisition as specified in the process outcomes, activities, and tasks of the acquisition process required in ISO/IEC/IEEE 12207, with additional requirements as specified in

[Clauses 6](#) through [10](#) and [Annexes B](#) and [C](#). Information items (output) shall conform to the required content of ISO/IEC/IEEE 15289.

For convenience in this document, requirements quoted from these normative standards are shown in boxes.

Quoted requirements include the acquisition process purpose, outcomes, activities and tasks.

4.2 Purpose

The purpose of the Acquisition process is to obtain a product or service in accordance with the acquirer's requirements
[ISO/IEC/IEEE 12207:2017, 6.1.1.1]

This document applies primarily to the software acquisition process, for the acquisition of software products and services from external suppliers.

4.3 Outcomes

The following outcomes shall apply to the acquisition of software and software-related services:

- a) A request for supply is prepared.
 - b) One or more suitable suppliers are selected.
 - c) An agreement is established between the acquirer and supplier.
 - d) A product or service complying with the agreement is accepted.
 - e) Acquirer obligations defined in the agreement are satisfied.
- [ISO/IEC/IEEE 12207:2017, 6.1.1.2]

Operation and maintenance of the supplied software or consumption of the supplied services consistent with the contract are examples of delivered software and services. Some or all of such activities can be performed by the acquirer, by the supplier of the acquired software and services, or by a subsequently and separately engaged third-party supplier.

4.4 Structure of the software acquisition process

4.4.1 Software acquisition sub-processes

The software acquisition process consists of four major sub-processes within which relevant activities may be performed in a more flexible, less sequential manner:

- a) planning and request for proposals (RFP);
- b) evaluation, selection, and contracting;
- c) implementation and acceptance;
- d) acquisition of operations, maintenance, and support.

NOTE 1 The acquisition of operations, maintenance, and support sub-process pertain only to essentially an additional acquisition of such services in conjunction with acquisition of an executable software product to which such services pertain. Operations, maintenance, and support services that are obtained in their own right separately from acquiring the executable software product(s) to which the services pertain are treated like any acquisition of software services and are not addressed in the associated operations, maintenance, and support sub-process.

Each sub-process includes its purpose, outcomes, and activities and tasks in addition to activities for security, risk management, process improvement, and verification and validation (V&V).

[Figure 1](#) illustrates the four sub-processes of the software acquisition process, along with supporting life cycle processes.

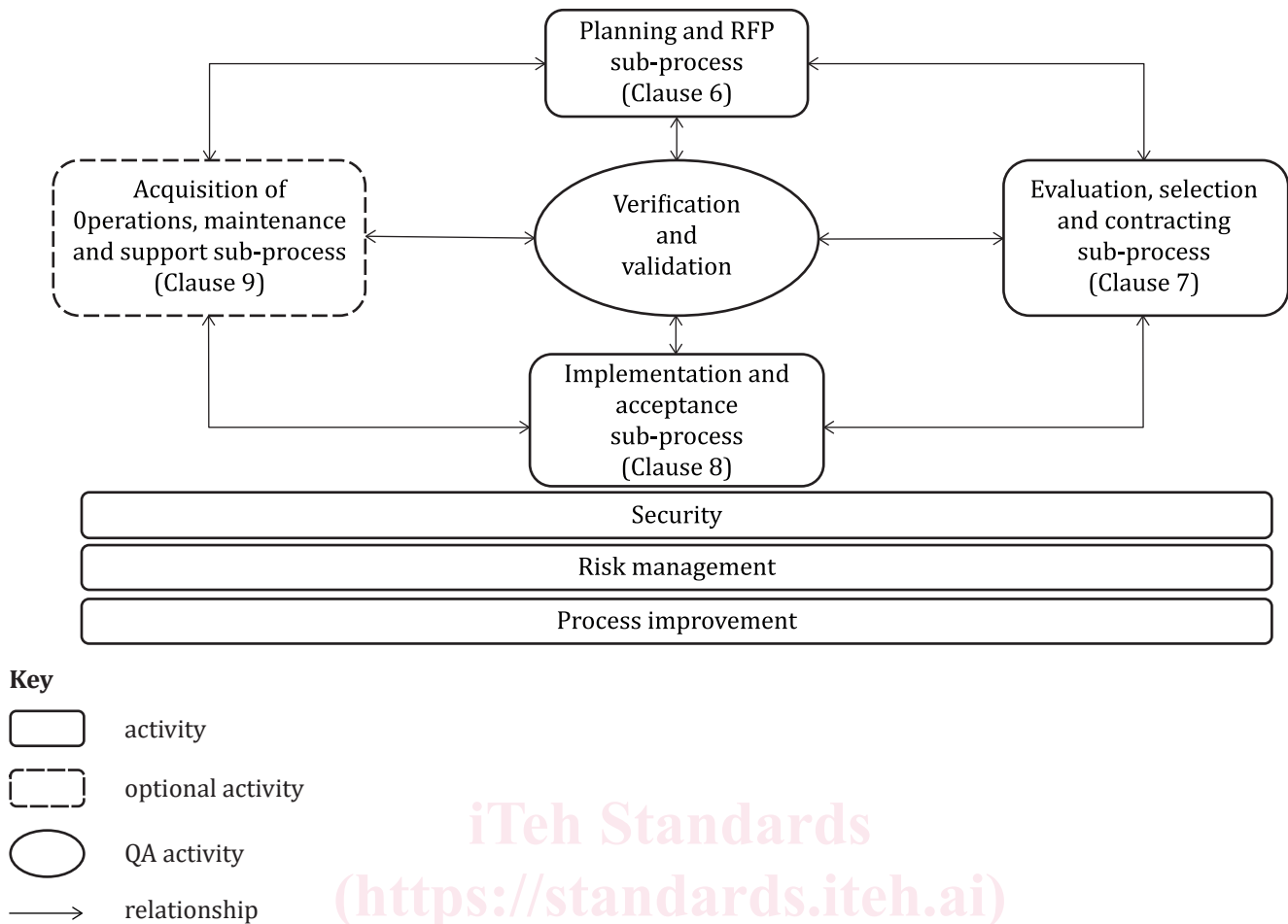


Figure 1 — Software acquisition sub-processes

Table 1 illustrates the alignment of the four sub-processes described in this clause to ISO/IEC/IEEE 12207. <https://standards.iteh.ai/catalog/standards/iso/d1455f65-8a02-4bc9-acb1-b499fac596d0/iso-iec-ieee-41062-2024>

Table 1 — Alignment with the acquisition activities in ISO/IEC/IEEE 12207

ISO/IEC/IEEE 12207 acquisition activities	Sub-processes in this document
a) Prepare for the acquisition	Planning and RFP
b) Advertise the acquisition and select the supplier	Evaluation, selection and contracting
c) Establish and maintain an agreement	
d) Monitor the agreement	Implementation and acceptance
e) Accept the product or service	
a) Prepare for the acquisition b) Advertise the acquisition and select the supplier c) Establish and maintain an agreement d) Monitor the agreement e) Accept the product or service	Acquisition of operations, maintenance and support

NOTE 2 The operations, maintenance and support sub-process pertains to the acquisition of such services for an executable software product or SaaS.

4.4.2 Defining the acquisition process

A software acquisition’s effectiveness and efficiency generally are enhanced by following an explicit and well-conceived acquisition process. Many organizations already have and thus can readily apply a defined software acquisition process. Other organizations may define their software acquisition process, which may