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Systems and software engineering — Lifecycle profiles for Very Small Entities (VSEs) —

Part 1-2: Vocabulary

Ingénierie des systèmes et du logiciel — Profils de cycle de vie pour très petits organismes (TPO) —

Partie 1-2: Vocabulaire

Reference number
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ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

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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 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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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. In the IEC, see www.iec.ch/understanding-standards.

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

This first edition of ISO/IEC 29110-1-2, together with ISO/IEC 29110-1-1, cancels and partially replaces ISO/IEC TR 29110-1:2016, which has been technically revised.

The main changes are as follows:

— terms have been added after the publication of new documents in the ISO/IEC 29110 series since the publication of ISO/IEC TR 29110-1:2016.

A list of all parts in the ISO/IEC 29110 series can be found on the ISO and IEC websites.

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.

Introduction

For the purpose of the ISO/IEC 29110 series, a very small entity (VSE) is an enterprise, organization (e.g. government agency, non-profit organization), department or project having up to 25 people. Since many VSEs develop and/or maintain system and software components used in systems, either as independent products or incorporated in larger systems, a recognition of VSEs as suppliers of high-quality products is required.

VSEs around the world are creating valuable products and services. According to the World Bank, small and medium-sized enterprises (SMEs) account for about 90 % of enterprises worldwide. According to the Organisation for Economic Co-operation and Development (OECD), SMEs represent 99 % of all businesses and generate about 60 % of employment. Almost one person out of three is employed in a micro firm with less than 10 employees. The European Union reports that micro firms, with fewer than 10 persons, account for 93,5 % of all enterprises and small firms, with 10 to 49 employees, account for 5,5 % of all enterprises. The challenge facing OECD governments is to provide a business environment that supports the competitiveness of this large heterogeneous business population and that promotes a vibrant entrepreneurial culture.

From studies and surveys conducted, it is clear that the majority of International Standards do not address the needs of VSEs. Implementation of and conformity with these standards is difficult, if not impossible.

Consequently, VSEs have no, or very limited, ways to be recognized as entities that produce quality systems/system elements including software in their domain. Therefore, VSEs are excluded from some economic activities.

It has been found that VSEs find it difficult to relate International Standards to their business needs and to justify the effort required to apply standards to their business practices. Most VSEs can neither afford the resources, in terms of number of employees, expertise, budget and time, nor do they see a net benefit in establishing over-complex systems or software life cycle processes. To address some of these difficulties, a set of guidelines has been developed based on a set of VSE characteristics. The guidelines are based on subsets of appropriate standards processes, activities, tasks, and outcomes, referred to as profiles. The purpose of a profile is to define a subset of international standards relevant to the VSEs' context; for example, processes, activities, tasks, and outcomes of ISO/IEC/IEEE 12207 for software; and processes, activities, tasks, and outcomes of ISO/IEC/IEEE 15288 for systems; and information products (documentation) of ISO/IEC/IEEE 15289 for software and systems.

VSEs can achieve recognition through implementing a profile and by being audited against the specifications of the ISO/IEC 29110 series.

The ISO/IEC 29110 series can be applied at any phase of system or software development within a life cycle. The ISO/IEC 29110 series is intended to be used by VSEs that do not have experience or expertise in adapting/tailoring ISO/IEC/IEEE 12207 or ISO/IEC/IEEE 15288 standards to the needs of a specific project. VSEs that have expertise in adapting/tailoring ISO/IEC/IEEE 12207 or ISO/IEC/IEEE 15288 are encouraged to use those standards instead of the ISO/IEC 29110 series.

The ISO/IEC 29110 series is intended to be used with any life cycle such as: waterfall, iterative, incremental, evolutionary or agile.

Systems, in the context of the ISO/IEC 29110 series, are typically composed of hardware and software components.

The ISO/IEC 29110 series, targeted by audience, has been developed to improve system or software and/or service quality, and process performance. Figure 1 describes the ISO/IEC 29110 series and positions the parts within the framework of reference.

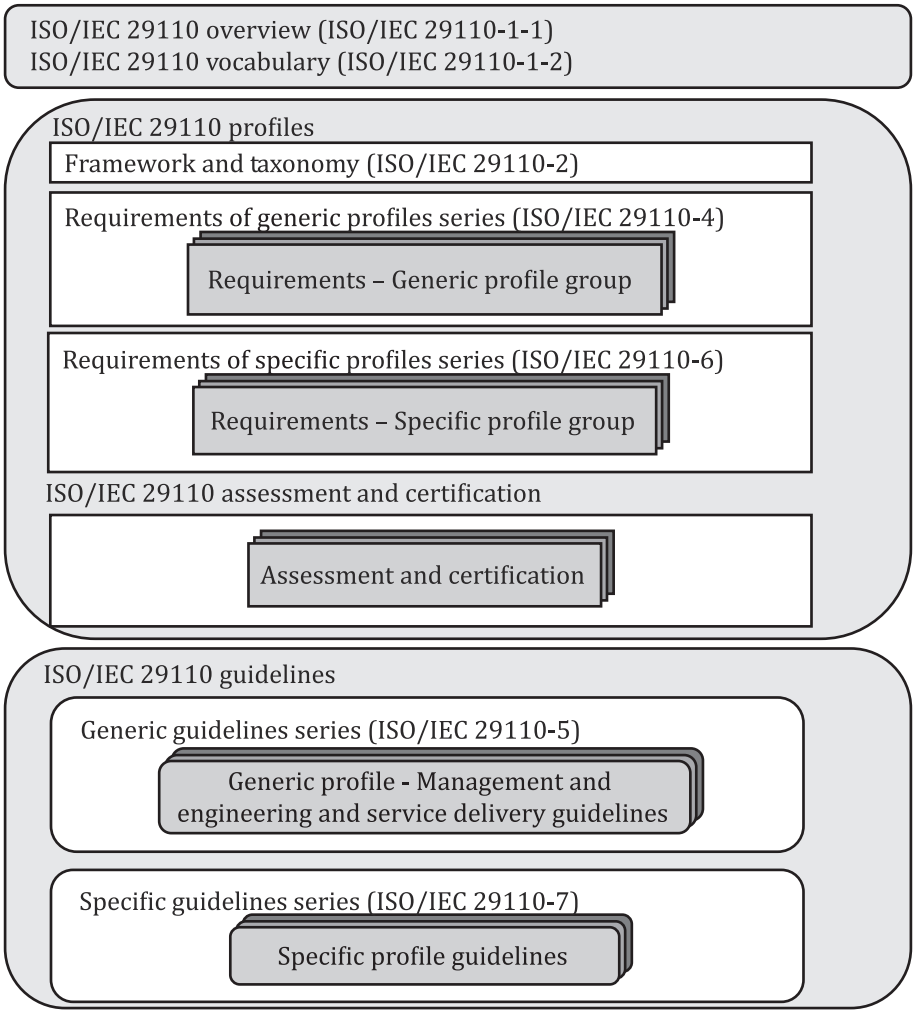

Figure 1 — The ISO/IEC 29110 series

ISO/IEC 29110-1-1 introduces processes, life cycle and standardization concepts, the taxonomy (catalogue) of ISO/IEC 29110 profiles and the ISO/IEC 29110 series. ISO/IEC 29110-1-1 also introduces the characteristics and needs of a VSE, and clarifies the rationale for specific profiles, documents, standards and guidelines. ISO/IEC 29110-1-2 defines the terms common to the ISO/IEC 29110 series. ISO/IEC 29110-1-1 and ISO/IEC 29110-1-2 are targeted at VSEs and their customers, assessors, standards producers, tool vendors and methodology vendors.

ISO/IEC 29110-2 introduces the concepts for systems and software engineering profiles for VSEs. It establishes the logic behind the definition and application of profiles. For standardized profiles, it specifies the elements common to all profiles (structure, requirements, conformance, and assessment). For domain-specific profiles (profiles that are not standardized and developed outside of the ISO process), it provides general guidance adapted from the definition of standardized profiles. ISO/IEC 29110-2 is targeted at profile producers, tool vendors and methodology vendors.

ISO/IEC 29110-3 defines certification schemes, assessment guidelines and compliance requirements for process capability assessment, conformity assessments, and self-assessments for process improvements. ISO/IEC 29110-3 also contains information that can be useful to developers of certification and assessment methods and developers of certification and assessment tools. ISO/IEC 29110-3 is addressed to people who have direct involvement with the assessment process, e.g. the auditor, certification and accreditation bodies and the sponsor of the audit, who need guidance on ensuring that the requirements for performing an audit have been met. ISO/IEC 29110-3 is targeted at VSEs and their customers, assessors, accreditation bodies.

ISO/IEC 29110-4 provides the specifications for all generic profiles of the generic profile group that are based on subsets of appropriate standards elements. ISO/IEC 29110-4 is targeted at VSEs, customers, standards producers, tool vendors and methodology vendors.

ISO/IEC 29110-5 provides a management, engineering and service delivery guidelines for profiles of the generic profile group. ISO/IEC 29110-5 is targeted at VSEs and their customers.

ISO/IEC 29110-6 provides the specifications for specific profiles that are based on subsets of appropriate standards elements. ISO/IEC 29110-6 is targeted at VSEs, customers, standards producers, tool vendors and methodology vendors.

ISO/IEC 29110-7 provides a guide for each profile of the specific profile group. ISO/IEC 29110-7 is targeted at VSEs and their customers.

If a new profile is needed, ISO/IEC 29110-4 or ISO/IEC 29110-6 and/or ISO/IEC 29110-7, ISO/IEC 29110-5 can be developed with minimal impact to existing documents.

This document is targeted both at the general audience wishing to understand the ISO/IEC 29110 series, and more specifically, at users of the ISO/IEC 29110 series. It should be read first when initially exploring VSE profile documents. While there is no specific prerequisite to read this document, it is helpful to the user in understanding the terms used in the other parts.

Systems and software engineering — Lifecycle profiles for Very Small Entities (VSEs) —

Part 1-2: Vocabulary

1 Scope

This document defines the terms common to the ISO/IEC 29110 series.

This document is applicable to very small entities (VSEs), and their customers, assessors, standards producers, tool vendors and methodology vendors.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

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
activity
set of cohesive *tasks* (3.110) of a *process* (3.60)

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.3]

3.2
acquirer
stakeholder (3.101) that acquires or procures a product or *service* (3.85) from a *supplier* (3.105)

Note 1 to entry: Other terms commonly used for an acquirer are buyer, *customer* (3.33), owner, purchaser or internal/organizational sponsor.

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

3.3
Advanced profile
profile (3.70) targeted at *VSEs* (3.124) which want to sustain and grow as a competitive *system* (3.107) and/or *software* (3.93) development organization

3.4
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* (3.101) feedback

[SOURCE: ISO/IEC/IEEE 26515:2018, 3.1, modified — Note 1 to entry has been removed.]

3.5
agile environment
organizational culture, infrastructure, and methodologies that support *agile development* (3.4)

[SOURCE: ISO/IEC/IEEE 26515:2018, 3.2]

3.6
agile team
organization (3.54) or team using *agile development* (3.4) methods and approaches

Note 1 to entry: Typically with roles such as team lead, project manager, *user* (3.119) or user representative, *software* (3.93) and information developers, and testers.

[SOURCE: ISO/IEC/IEEE 26515:2018, 3.3]

3.7
agreement
mutual acknowledgement of terms and conditions under which a working relationship is conducted

EXAMPLE Contract, memorandum of agreement.

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.5]

3.8
assessment indicator
sources of objective evidence used to support the *assessors'* (3.9) judgment in rating *process* (3.60) attributes

EXAMPLE *Work products* (3.127), practice, or *resource* (3.78).

[SOURCE: ISO/IEC 33001:2015, 3.3.1, modified — Note 1 to entry has been replaced by EXAMPLE.]

3.9
assessor
individual who participates in the rating of *process* (3.60) attributes

[SOURCE: ISO/IEC 33001:2015, 3.2.11]

3.10
audit
independent examination of a *work product* (3.127) or set of work products to assess compliance with specifications, standards, contractual agreements, or other criteria

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.10]

3.11
auditee
organization (3.54) being audited

[SOURCE: ISO 19011:2018, 3.13]

3.12
auditor
person who conducts an *audit* (3.10)

[SOURCE: ISO 19011:2018, 3.15]

3.13
audit team
one or more *auditors* (3.12) conducting an *audit* (3.10), supported if needed by technical experts

Note 1 to entry: One auditor of the audit team is appointed as the audit team leader.

Note 2 to entry: The audit team may include auditors-in-training.

[SOURCE: ISO 19011:2018, 3.14, modified — In the definition, "persons" has been replaced by "auditors"; in note 2 to entry, "can" has been replaced by "may".]

3.14
autonomy-based improvement
self-motivated and self-determined professional *process improvement* (3.65) with an understanding of the work (process) objectives, latest technology, and outcomes from product use

3.15
backlog
collection of agile *features* (3.42) or stories of both functional and nonfunctional requirements that are typically sorted in an order based on value priority

[SOURCE: ISO/IEC/IEEE 26515:2018, 3.4]

3.16
baseline
formally approved version of a *configuration item* (3.29), regardless of media, formally designated and fixed at a specific time during the configuration item's *life cycle* (3.51)

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.11]

3.17
base standard
approved International Standard or ITU-T Recommendation

[SOURCE: ISO/IEC TR 10000-1:1998, 3.1.1]

3.18
Basic profile
profile (3.70) targeted at *VSEs* (3.124) developing a single product by a single work team

3.19
build
operational version of a *system* (3.107) or component that incorporates a specified subset of the capabilities that the final product will provide

[SOURCE: IEEE 828:2012, 2.1, IEEE dictionary]

3.20
burndown chart
graph that represents the work remaining to do on a *project* (3.72)

[SOURCE: ISO/IEC/IEEE 26511:2018, 3.1.6]

3.21
business critical product
product that is essential to the operation of a business or *organization* (3.54), whose sustained failure would result in significant business impacts e.g., loss of revenue or loss of reputation

3.22
certification
third-party attestation related to an object of *conformity assessment* (3.30), with the exception of accreditation

[SOURCE: ISO/IEC 17000:2020, 7.6]

3.23
certification body
third-party *conformity assessment* (3.30) body operating *certification schemes* (3.24)

[SOURCE: ISO/IEC 17065:2012, 3.12, modified — Note 1 to entry has been removed.]

3.24
certification scheme
certification (3.22) *system* (3.107) related to specified products, to which the same specified requirements, specific rules and *procedures* (3.59) apply

Note 1 to entry: A “certification system” is a "conformity assessment system", which is defined in ISO/IEC 17000:2020, 4.8.

Note 2 to entry: The rules, procedures and *management* (3.52) for implementing product, *process* (3.60) and *service* (3.85) are stipulated by the certification scheme.

[SOURCE: ISO/IEC 17065:2012, 3.9, modified — Note 1 to entry has been removed; the other two notes to entry have been renumbered.]

3.25
certification scheme owner
person or *organization* (3.54) responsible for developing and maintaining a specific *certification scheme* (3.24)

Note 1 to entry: The certification scheme owner can be the *certification body* (3.23) itself, a governmental authority, a trade association, a group of certification bodies or others.

[SOURCE: ISO/IEC 17065:2012, 3.11, modified — The term has been changed from "scheme owner" to "certification scheme owner".]

3.26
change
modification of an existing application comprising additions, alterations and deletions

[SOURCE: ISO/IEC 20968:2002, Clause 10, modified — In the definition, "changes" has been replaced by "alterations".]

3.27
client
<certification> *organization* (3.54) or person responsible to a *certification body* (3.23) for ensuring that *certification* (3.22) requirements, including product requirements, are fulfilled

[SOURCE: ISO/IEC 17065:2012, 3.1, modified — The domain "certification" has been added.]

3.28
conditional task
task (3.110) that can be mandatory under some specified condition(s), can be optional under other specified conditions, and can be out of scope or not applicable under other specified conditions

Note 1 to entry: These shall be observed if the specified condition(s) apply.

3.29
configuration item
CI
item or aggregation of hardware, *software* (3.93), or both, that is designated for configuration *management* (3.52) and treats as a single *entity* (3.39) in the configuration management *process* (3.60)

Note 1 to entry: Configuration items can vary widely in complexity, size and type, ranging from an entire *system* (3.107) including all hardware, software and documentation, to a single module or a minor hardware component.

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.11, modified — The abbreviated term "CI" and note 1 to entry have been added.]

3.30
conformity assessment
demonstration that specified requirements are fulfilled

Note 1 to entry: The *process* (3.60) of conformity assessment as described in the functional approach in ISO/IEC 17000:2020, Annex A can have a negative outcome, i.e. demonstrating that the specified requirements are not fulfilled.

Note 2 to entry: Conformity assessment includes activities defined elsewhere in this document, such as but not limited to testing, inspection, validation, verification, certification, and accreditation.

Note 3 to entry: Conformity assessment is explained in ISO/IEC 17000:2020, Annex A as a series of functions. Activities contributing to any of these functions can be described as conformity assessment activities.

Note 4 to entry: This document does not include a definition of "conformity". "Conformity" does not feature in the definition of "conformity assessment". Nor does this document address the concept of compliance.

[SOURCE: ISO/IEC 17000:2020, 4.1]

3.31
continuous deployment
automated *process* (3.60) of deploying changes to production by verifying intended *features* (3.42) and *validations* (3.121) to reduce risk

[SOURCE: ISO/IEC/IEEE 32675:2022, 3.1]

3.32
continuous integration
technique that continually merges artefacts, including source code updates from all developers on a team, into a shared mainline to build and test the developed *system* (3.107)

[SOURCE: ISO/IEC/IEEE 32675:2022, 3.1]

3.33
customer
person or *organization* (3.54) that could or does receive a product or a *service* (3.85) that is intended for or required by this person or organization

EXAMPLE Consumer, client, end-user, retailer, receiver or product or service from an internal *process* (3.60), beneficiary and purchaser.

Note 1 to entry: A customer can be internal or external to the organization.

[SOURCE: ISO 9000:2015, 3.2.4]

3.34
definition of done
regarded by the *agile team* (3.6) as complete and ready to use

[SOURCE: ISO/IEC/IEEE 26515: 2018]

3.35
deployment package
DP
set of artefacts developed to facilitate the implementation of a set of practices, of the selected framework, in a *very small entity* (3.124)

3.36
document
information and the medium on which it is contained

EXAMPLE *Record* (3.74), specification, *procedure* (3.59) document, drawing, *report* (3.76), standard.

Note 1 to entry: The medium can be paper, magnetic, electronic or optical computer disc, photograph or master sample, or combination thereof.

Note 2 to entry: A set of documents, for example specifications and records, is frequently called "documentation".

Note 3 to entry: Some requirements (e.g. the requirement to be readable) relate to all types of documents. However, there can be different requirements for specifications (e.g. the requirement to be revision controlled) and for records (e.g. the requirement to be retrievable).

[SOURCE: ISO 9000:2015, 3.8.5]

3.37
effectiveness
extent to which planned activities are realized and planned results achieved

[SOURCE: ISO 9000:2015, 3.7.11, modified — Note 1 to entry has been removed.]

3.38
efficiency
relationship between the result achieved and the *resources* (3.78) used

[SOURCE: ISO 9000:2015, 3.7.10]

3.39
entity
individual, group, or organizational function that can be tasked with a given responsibility

[SOURCE: IEEE 7002:2022, 3.1, IEEE dictionary]

3.40
Entry profile
profile (3.70) targeted at start-up *VSEs* (3.124) (i.e. VSEs who started their operation fewer than three years ago) and/or at VSEs working on a single small *project* (3.72) (e.g. project size of less than 6 person-months)

3.41
external service provider
person or *organization* (3.54) providing *services* (3.85) commercially to external *customers* (3.33)

3.42
feature
functional or non-functional distinguishing characteristic of a *system* (3.107)

Note 1 to entry: A feature is usually an enhancement to an existing system.

[SOURCE: ISO/IEC/IEEE 26515: 2018, 3.7, modified — The original note 1 to entry has been replaced by a new one.]

3.43
generic profile group
profile group (3.71) applicable to *VSEs (very small entities)* (3.124) that do not develop critical *systems* (3.107) or *software products* (3.96)

3.44
governance
human-based *system* (3.107) comprising directing, overseeing and accountability

[SOURCE: ISO/IEC 38500:2024, 3.3]

3.45
incident
anomalous or unexpected event, set of events, condition, or situation at any time during the *life cycle* (3.51) of a *project* (3.72), product, *service* (3.85), or *system* (3.107)

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.17, modified — Note 1 to entry has been removed.]

3.46
increment
tested, deliverable version of a *software product* (3.96) that provides new or modified capabilities

[SOURCE: Software Extension to the PMBOK® Guide Fifth Edition]

3.47
information security policy
document (3.36) that states, in writing, how an *organization* (3.54) plans to protect its physical and information technology assets

[SOURCE: ISO/TS 21547:2010, 3.2.25]

3.48
Intermediate profile
profile (3.70) targeted at *VSEs* (3.124) involved in the development of more than one *project* (3.72) in parallel with more than one work team

3.49
internal service provider
person or *organization* (3.54) providing *services* (3.85) internal to the *VSE* (3.124)

3.50
iteration
short time frame in which a set of *software* (3.93) *features* (3.42) is developed, leading to a working product that can be demonstrated to *stakeholders* (3.101)

Note 1 to entry: Different agile methodologies use different terms for an iteration.

Note 2 to entry: Some agile methodologies are not based on iterations.

[SOURCE: ISO/IEC/IEEE 26515:2018, 3.10]

3.51
life cycle
evolution of a *system* (3.107), product, *service* (3.85), *project* (3.72) or other human-made *entity* (3.39) from conception through retirement

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.21]

3.52
management
coordinated activities to direct and control an *organization* (3.54)

Note 1 to entry: Management can include establishing policies and objectives, and *processes* (3.60) to achieve these objectives.

Note 2 to entry: The word "management" sometimes refers to people, i.e. a person or group of people with authority and responsibility for the conduct and control of an organization. When "management" is used in this sense, it should always be used with some form of qualifier to avoid confusion with the concept of "management" as a set of activities defined above. For example, "management shall." is deprecated whereas "*top management* (3.115) shall." is acceptable. Otherwise, different words should be adopted to convey the concept when related to people, e.g. managerial or managers.

[SOURCE: ISO 9000:2015, 3.3.3]

3.53
operator
individual or *organization* (3.54) that performs the operations of a *system* (3.107)

Note 1 to entry: The role of operator and the role of *user* (3.119) can be vested, simultaneously or sequentially, in the same individual or organization.

Note 2 to entry: An individual operator combined with knowledge, skills and *procedures* (3.59) can be considered as an element of the system.

Note 3 to entry: An operator can perform operations on a system that is operated, or within a system that is operated, depending on whether or not operating instructions are placed within the system boundary.

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.29]

3.54
organization
person or a group of people that has its own functions responsibilities, authorities and relationships to achieve its objectives

[SOURCE: ISO 9000:2015, 3.2.1, modified — Notes to entry have been removed.]

3.55
organizational management profile
profile (3.70) targeted at *VSEs* (3.124) to provide additional organizational *management* (3.52) guidance

3.56
pair programming
practice from eXtreme Programming (XP) that typically involves one developer writing source code or configuring a *system* (3.107) while a second developer observes their work to look for errors and to determine whether the work completed is accurate and meets its requirements

3.57
planning poker
team-based estimation approach whereby relative estimates of the effort required to develop and test each *user story* (3.120) are set via consensus

Note 1 to entry: The approach uses poker cards that are typically based on a Fibonacci sequence (i.e. 1, 2, 3, 5, 8, 13).

3.58
practitioner
person or team performing the activities within one or more *process* (3.60) areas

3.59
procedure
specified way to carry out an *activity* (3.1) or a *process* (3.60)

Note 1 to entry: Procedure can be documented or not.

[SOURCE: ISO 9000:2015, 3.4.5]

3.60
process
set of interrelated or interacting activities which transforms inputs into outputs

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.33]

3.61
process assessment
disciplined evaluation of an organizational unit's *processes* (3.60) against a *process assessment model* (3.62)

[SOURCE: ISO/IEC 33001:2015, 3.2.15]

3.62
process assessment model
PAM
model suitable for the purpose of assessing a specified *process* (3.60) quality characteristic, based on one or more *process reference models* (3.68)

[SOURCE: ISO/IEC 33001:2015, 3.3.9, modified — The abbreviated term "PAM" has been added; note 1 to entry has been removed.]

3.63
process capability
characterization of the ability of a *process* (3.60) to meet current or projected business goals

[SOURCE: ISO/IEC 33020:2019, 3.4]

3.64
process capability level
characterization of a *process* (3.60) on an ordinal measurement scale of *process capability* (3.63)

[SOURCE: ISO/IEC 33020:2019, 3.5]

3.65
process improvement
result of activities that better the performance and maturity of the *organization*'s (3.54) processes

[SOURCE: ISO/IEC/IEEE 24765:2017, 3.3058]

3.66
process outcome
observable result of the successful achievement of the *process* (3.60) purpose

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

3.67
process profile
set of process attribute ratings for an assessed *process* (3.60)

[SOURCE: ISO/IEC 33001:2015, 3.2.18]

3.68
process reference model
model comprising definitions of *processes* (3.60) in a *life cycle* (3.51) described in terms of process purpose and outcomes, together with an architecture describing the relationships between the processes

[SOURCE: ISO/IEC 33001:2015, 3.3.16, modified — "domain of application" has been replaced by "life cycle".]

3.69
product backlog
list of all requirements, normally represented as *user stories* (3.120) that need to be "done" for a given product

3.70
profile
subset of appropriate standards' *processes* (3.60) and their outcomes, activities and tasks combined to accomplish a particular function

Note 1 to entry: The base standards used to develop profiles for VSEs are ISO/IEC/IEEE 12207, ISO/IEC/IEEE 15288 and ISO/IEC/IEEE 15289.

3.71
profile group
collection of *profiles* (3.70) which are related either by composition of *processes* (3.60) [e.g. activities and *tasks* (3.110)], or by capability level, or both

3.72
project
endeavour with defined start and finish dates undertaken to create a product or *service* (3.85) in accordance with specified *resources* (3.78) and requirements

Note 1 to entry: A project is sometimes viewed as a unique *process* (3.60) comprising coordinated and controlled activities and composed of activities from the technical *management* (3.52) processes and technical processes defined in ISO/IEC/IEEE 12207.

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.37, modified — "criteria" has been replaced by "dates".]

3.73
quality assurance
part of quality *management* (3.52) focused on providing confidence that quality requirements will be fulfilled

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.40)]

3.74
record
set of related data items treated as a unit

[SOURCE: ISO/IEC/IEEE 15289:2019, 3.1.21]

3.75
relationship manager
RM
role that develops and manages interactions with *customers* (3.33) or *suppliers* (3.105)

3.76
report
information item that describes the results of activities such as investigations, observations, assessments, or tests

[SOURCE: ISO/IEC/IEEE 15289:2019, 3.1.22]

3.77
repository
organized and persistent data storage that allows data retrieval

[SOURCE: ISO/IEC/IEEE 26511:2018, 3.1.24]

3.78
resource
asset that is utilized or consumed during the execution of a *process* (3.60)

EXAMPLE Diverse *entities* (3.39) such as funding, personnel, facilities, capital equipment, tools, and utilities such as power, water, fuel and communication infrastructures.

Note 1 to entry: Resources include those that are reusable, renewable or consumable.

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.45]

3.79
review
process (3.60) or meeting during which a *work product* (3.127), or a set of work products, is presented to *project* (3.72) personnel, managers, *users* (3.119), *customers* (3.33), or other *stakeholders* (3.101) for comment or approval

3.80
safety-critical product
system (3.107) whose failure or malfunction can result in one (or more) of the following outcomes: death or serious injury to people, loss or severe damage to equipment or property, or environmental harm

[SOURCE: ISO/IEC 23643:2020, 3.15]

3.81
scrum
iterative *project* (3.72) *management* (3.52) framework used in *agile development* (3.4), in which a team agrees on development items from a requirements *backlog* (3.15) and produces them within a short duration of a few weeks

[SOURCE: ISO/IEC/IEEE 24765:2017, 3.3637]

3.82
scrum lead
person who facilitates the *scrum* (3.81) *process* (3.60) within a team or *project* (3.72)

[SOURCE: ISO/IEC/IEEE 24765:2017, 3.3638]

3.83
scrum meeting
brief daily *project* (3.72) status meeting or other planning meeting in *agile development* (3.4) methodologies

Note 1 to entry: The scrum meeting is usually chaired by the *scrum lead* (3.82).

[SOURCE: ISO/IEC/IEEE 24765:2017, 3.3639]

3.84
self-organizing team
group composed of motivated individuals working together toward meeting a goal

Note 1 to entry: They have the ability and authority for decision-making, they manage their work and readily adapt for changing demands.

Note 2 to entry: Principles of self-organizing teams are competency, collaboration, motivation, trust, respect and continuity.

3.85
service
output of an *organization* (3.54) with at least one activity necessarily performed between the organization and the *customer* (3.33)

Note 1 to entry: The dominant elements of a service are generally intangible.

Note 2 to entry: A service is coherent, discrete, and can be composed of other services.

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.42]

3.86
service catalogue
documented information about *services* (3.85) that an *organization* (3.54) provides to its *customers* (3.33)

3.87
service change request
formal *procedure* (3.59) for submitting a request for an adjustment of a *configuration item* (3.29)

[SOURCE: ISO/IEC TR 18018:2010, 3.5, modified — The term has been changed from "change request" to "service change request"; the abbreviated term has been removed.]

3.88
service delivery policy
formal, brief, and high-level statement that embraces an *organization's* (3.54) general beliefs, ethics, goals, and objectives of *service(s)* (3.85)

3.89
service design
creation of a *service* (3.85) solution(s), typically including the components which create the desired functionality, technology architecture that supports the components, the *processes* (3.60) to support and manage the solution, the associated measures (internal performance or *customer* (3.33) agreed measures), and the supply chain interfaces

3.90
service level agreement
SLA
documented *agreement* (3.7) between a service provider and a *customer* (3.33) that identifies *services* (3.85) and service targets

Note 1 to entry: A service level agreement can also be established between the service provider and a *supplier* (3.105) or an internal group or a customer acting as a supplier.

Note 2 to entry: A service level agreement can be included in a contract or another type of documented agreement.

[SOURCE: ISO/IEC 20000-10:2018, 3.2.20, modified — "organization" has been replaced by "service provider"; note 1 to entry has been updated.]

3.91
service manager
SM
role that directly oversees the delivery of *services* (3.85) and provides leadership and direction; has decision-making authority on all activities; is a direct report or peer to the highest level of the *organization* (3.54)

Note 1 to entry: The service manager may have more than one role in the delivery of services (assign the responsibilities of the *control manager* (3.34) and service manager to the same individual).

3.92
small and medium enterprise
SME
enterprises with less than 250 persons employed

3.93
software
computer programs, *procedures* (3.59), and possibly associated documentation and data pertaining to the operation of a computer *system* (3.107)

[SOURCE: IEEE 828:2012, 2.1, IEEE dictionary]

3.94
software component
entity (3.39) with discrete structure, such as an assembly or *software* (3.93) module, within a *system* (3.107) considered at a particular level of analysis

[SOURCE: ISO/IEC 19770-5:2015, 3.36, modified — Note 1 to entry has been removed.]

3.95
software engineering
application of a systematic, disciplined, quantifiable approach to the development, operation, and maintenance of *software* (3.93); that is, the application of engineering to software

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.52]

3.96
software product
set of computer programs, *procedures* (3.59), and possibly associated documentation and data

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.54, modified — Note 1 to entry has been removed.]

3.97
space-VSE
enterprise, *organization* (3.54) (e.g. government agency, non-profit organization), department or *project* (3.72) having up to 25 people that develops or maintain *systems* (3.107) and/or *software* (3.93) in the space domain

3.98
specific profile group
profile group (3.71) applicable to *VSEs* (3.124) that develop critical *systems* (3.107) or critical *software* (3.93) and have untypical situational factors

3.99
sprint
short time frame, in which a set of *software* (3.93) *features* (3.42) is developed, leading to a working product that can be demonstrated to *stakeholders* (3.101)

Note 1 to entry: In some *organizations* (3.54), a sprint is known as an *iteration* (3.50).

[SOURCE: ISO/IEC/IEEE 24765:2019, 3.3914]

3.100
sprint backlog
set of *backlog* (3.15) items [e.g. *user stories* (3.120)] that are selected for inclusion in a given *iteration* (3.50)

Note 1 to entry: Sprint backlogs are also referred to as "iteration backlogs" and "sprint catalogues".

3.101
stakeholder
individual or *organization* (3.54) having a right, share, claim, or interest in a *system* (3.107) or in its possession of characteristics that meet their needs and expectations

EXAMPLE End *users* (3.119), end user organizations, supporters, developers, trainers, maintainers, disposers, *acquirers* (3.2), *supplier* (3.105) organizations and regulatory bodies.

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.44]

3.102
standardized profile
internationally agreed-to, harmonized *document* (3.36) which describes one or more *profiles* (3.70)

[SOURCE: ISO/IEC TR 10000-1:1998, 3.1.2, modified — The term has been changed from "international standardized profile" to "standardized profile".]

3.103
statement of work
SOW
narrative description of products, *services* (3.85), or results to be delivered by the *project* (3.72)

[SOURCE: A Guide to the Project Management Body of Knowledge (PMBOK® Guide) - Sixth Edition]

3.104
story points
relative measure of the effort needed to develop a *user story* (3.120), compared with what is considered a typical user story by the *project* (3.72) team

[SOURCE: Software Extension to the PMBOK® Guide Fifth Edition]

3.105
supplier
organization (3.54) or an individual that enters into an *agreement* (3.7) with the *acquirer* (3.2) for the supply of a product or *service* (3.85)

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 15288:2023, 3.45]

3.106
surveillance
systematic *iteration* (3.50) of *conformity assessment* (3.30) activities as a basis for maintaining the validity of the statement of conformity

[SOURCE: ISO/IEC 17000:2020, 8.1]

3.107
system
arrangement of parts or elements that together exhibit a stated behaviour or meaning that the individual constituents do not

Note 1 to entry: A system is sometimes considered as a product or as the *services* (3.85) it provides.

Note 2 to entry: In practice, the interpretation of its meaning is frequently clarified by the use of an associative noun, e.g. aircraft system. Alternatively, the word “system” is substituted simply by a context-dependent synonym (e.g. aircraft), though this potentially obscures a system principles perspective.

Note 3 to entry: A complete system includes all of the associated equipment, facilities, material, computer programs, firmware, technical documentation, services, and personnel required for operations and support to the degree necessary for self-sufficient use in its intended environment.

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.46]

3.108
systems engineering
transdisciplinary and integrative approach to enable the successful realization, use, and retirement of engineered systems using systems principles and concepts and scientific, technological and *management* (3.52) methods

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.50]

3.109
systems engineering management plan
SEMP
top level technical plan for managing the systems engineering effort which defines how the technical aspects of the *project* (3.72) will be organized, structured, and conducted and how the systems engineering *processes* (3.60) will be controlled to provide a product that satisfies *stakeholder* (3.101) requirements

[SOURCE: ISO/IEC/IEEE 24748-4:2016, 4.14]

3.110
task
required, recommended, or permissible action, intended to contribute to the achievement of one or more outcomes of a *process* (3.60)

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.66]

3.111
task board
visual representation of an *agile team's* (3.6) progress within an *iteration* (3.50)

Note 1 to entry: Task boards are also referred to as "Kanban boards" and "Scrum™ boards".

3.112
taxonomy
classification scheme for referencing *profiles* (3.70) or sets of profiles unambiguously

[SOURCE: ISO/IEC TR 10000-1:1998, 3.1.5]

3.113
test-driven development
TDD
technique where tests are defined before work is begun, so that work in progress is validated continuously, enabling work with a zero defect mindset

[SOURCE: Agile Practice Guide, Project Management Institute, 2017]

3.114
timebox
prescribed duration limit for a *project* (3.72) *task* (3.110)

[SOURCE: Adapted from Software Extension to the PMBOK Guide Fifth Edition]

3.115
top management
person or group of people who directs and controls an *organization* (3.54) at the highest level

Note 1 to entry: Top management has the power to delegate authority and provide *resources* (3.78) within the organization.

Note 2 to entry: If the scope of the management system covers only part of an organization, then top management refers to those who direct and control that part of the organization.

Note 3 to entry: This definition is only included to support wording used in quoted definitions; with 25 or less people in a *VSE* (3.124), the concept of top management may not be applicable.

[SOURCE: ISO 9000:2015, 3.1.1, modified — The original note 3 to entry has been replaced by a new one.]

3.116
traceability
discernable association among two or more logical *entities* (3.39), such as requirements, *system* (3.107) elements, *verifications* (3.123), or *tasks* (3.110)

[SOURCE: ISO/IEC/IEEE 15288:2023, 3.52]

3.117
trade-off
decision-making actions that select from various requirements and alternative solutions on the basis of net benefit to the *stakeholders* (3.101)

[SOURCE: ISO/IEC/IEEE 12207:2017, 3.1.68]

3.118
unit test
testing of individual routines and modules by the developer or an independent tester

[SOURCE: ISO/IEC/IEEE 24765:2019, 3.4429, definition 1]

3.119
user
individual or group that interacts with a *system* (3.107) or benefits from a system during its utilization

Note 1 to entry: The role of user and the role of *operator* (3.53) are sometimes vested, simultaneously or sequentially, in the same individual or *organization* (3.54).

[SOURCE: ISO/IEC 25010:2011, 4.4.12, modified — "interacts with a system or" has been added; note 1 to entry has been added.]

3.120
user story
simple narrative illustrating a *user* (3.119) requirement from the perspective of a persona

Note 1 to entry: A persona is a model with defined characteristics, based on research

[SOURCE: ISO/IEC/IEEE 26515:2018, 3.16, modified — Note 1 to entry has been added.]

3.121
validation
confirmation, through the provision of objective evidence, that the requirements for a specific intended use or application have been fulfilled

Note 1 to entry: A *system* (3.107) is able to accomplish its intended use, goals and objectives [i.e. meet *stakeholder* (3.101) requirements] in the intended operational environment. The right system was built.

Note 2 to entry: In a *life cycle* (3.51) context, validation involves the set of activities for gaining confidence that a system is able to accomplish its intended use, goals and objectives in an environment like the operational environment.

[SOURCE: ISO 9000:2015, 3.8.13, modified — The original notes to entry have been removed; note 1 to entry and note 2 to entry have been added.]

3.122
velocity
rate of current work unit completion, measured as work units completed per fixed time period, such as *story points* (3.104), delivered *features* (3.42), functions, function points, *user stories* (3.120), use cases, or requirements completed in a given time period

Note 1 to entry: Used as a measure of burndown rate or burnup rate.

[SOURCE: ISO/IEC/IEEE 32675:2022, 3.1]

3.123
verification
confirmation, through the provision of objective evidence, that specified requirements have been fulfilled

Note 1 to entry: Verification is a set of activities that compares a *system* (3.107) or system element against the required characteristics. This includes, but is not limited to, specified requirements, design, descriptions, and the system itself. The system was built right.

[SOURCE: ISO 9000:2015, 3.8.12, modified — The original notes to entry have been removed; note 1 to entry has been added.]

3.124
very small entity
VSE
enterprise, *organization* (3.54), department or *project* (3.72) having up to 25 people

3.125
vital business service
service (3.85) that is critical to the success of the business

3.126
work breakdown structure
WBS
deliverable-oriented hierarchical decomposition of the work to be executed by the *project* (3.72) team to accomplish the project objectives and create the required deliverables

Note 1 to entry: It organizes and defines the total scope of the project.

[SOURCE: ISO/IEC/IEEE 24765:2019, 3.4603, definition 2, modified — Note 1 to entry has been added.]

3.127
work product
artefact produced by a *process* (3.60)

[SOURCE: ISO/IEC 15940:2013, 2.5, modified — Note 1 to entry has been removed.]

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