TECHNICAL REPORT

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Information technology — Software process assessment —

Part 9:
Vocabulary

Technologies de l'information — Évaluation des procédés du logiciel — Partie 9: Vocabulaire

Reference numbe
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Contents

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.

The main task of technical committees is to prepare International Standards, but in exceptional circumstances a technical committee may propose the publication of a Technical Report of one of the following types:

— type 1, when the required support cannot be obtained for the publication of an International Standard, despite repeated efforts;

— type 2, when the subject is still under technical development or where for any other reason there is the future but not immediate possibility of an agreement on an International Standard;

— type 3, when a technical committee has collected data of a different kind from that which is normally published as an International Standard ("state of the art", for example).

Technical Reports of types 1 and 2 are subject to review within three years of publication, to decide whether they can be transformed into International Standards. Technical Reports of type 3 do not necessarily have to be reviewed until the data they provide are considered to be no longer valid or useful.

ISO/IEC TR 15504-9, which is a Technical Report of type 2, was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology,* Subcommittee SC 7, *Software engineering*.

ISO/IEC TR 15504 consists of the following parts, under the general title *Information technology — Software process assessment* :

— *Part 1: Concepts and introductory guide*

— *Part 2: A reference model for processes and process capability*

— *Part 3: Performing an assessment*

— *Part 4: Guide to performing assessments*

— *Part 5: An assessment model and indicator guidance*

— *Part 6: Guide to competency of assessors*

— *Part 7: Guide for use in process improvement*

— *Part 8: Guide for use in determining supplier process capability*

— *Part 9: Vocabulary*

Information technology — Software process assessment —

Part 9:
Vocabulary

1 Scope

This part of ISO/IEC TR 15504 defines the terms used throughout ISO/IEC TR 15504.

The terms are first presented as an alphabetically ordered list for ease of reference. The same terms are then defined in logical groupings as an aid to understanding. The groupings are arranged to bring together terms which are related to each other.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC TR 15504. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO/IEC TR 15504 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO 8402:1994, *Quality management and quality assurance — Vocabulary.*

ISO/IEC 2382-1:1993, *Information technology — Vocabulary — Part 1: Fundamental terms.*

ISO/IEC 2382-20:1990, *Information technology — Vocabulary — Part 20: System development.*

ISO/IEC 12207:1995, *Information technology — Software life cycle processes.*

3 Terms and definitions

For the purposes of this part of ISO/IEC TR 15504, the terms and definitions given in ISO 8402, ISO/IEC 2382-1, ISO/IEC 2382-20 and ISO/IEC 12207 apply, together with the following definitions.

3.1
assessed capability
the output of one or more recent, relevant process assessments conducted in accordance with the provisions of ISO/IEC TR 15504

3.2
assessment constraints
restrictions placed on the freedom of choice of the assessment team regarding the conduct of the assessment and the use of the assessment outputs

3.3
assessment indicator
an objective attribute or characteristic of a practice or work product that supports the judgment of the performance of, or capability of, an implemented process

3.4
assessment input
the collection of information required before a process assessment can commence

3.5
assessment instrument
a tool or set of tools that is used throughout an assessment to assist the assessor in evaluating the performance or capability of processes and in handling assessment data and recording the assessment results

3.6
assessment output
all of the tangible results from an assessment (see *assessment record*)

3.7
assessment participant
an individual who has responsibilities within the scope of the assessment

NOTE Examples include but are not limited to the sponsor, assessor, organizational unit members, etc.

3.8
assessment purpose
a statement, provided as part of the assessment input, which defines the reason for performing the assessment

3.9
assessment record
an orderly, documented collection of that information which is pertinent to the assessment and adds to the understanding and verification of the *process profiles* generated by the assessment

3.10
assessment scope
a definition of the boundaries of the assessment, provided as part of the assessment input, encompassing the organizational limits of the assessment, the processes to be included, and the context within which the processes operate (see *process context*)

3.11
assessment sponsor
the individual, internal or external to the organization being assessed, who requires the assessment to be performed, and provides financial or other resources to carry it out

3.12
capability dimension
the set of process attributes comprising the capability aspects of the reference model of processes and process capability

NOTE The attributes are organized into capability levels, comprising an ordinal scale of process capability.

3.13
compatible assessment model
an operational model, used for performing assessments, which meets the defined requirements (for model purpose, scope, elements and indicators, mapping to the reference model, and translation of results) for conformance to the reference model

3.14
competent assessor
a person who has demonstrated the necessary skills, competencies and experience for performing process assessments

3.15
constructed capability
a capability constructed from elements of organizational units or of different organizations, that are assembled for the purposes of achieving a particular specified requirement

3.16
customer
recipient of a product provided by the supplier

NOTE 1 In a contractual situation, the customer is called the purchaser.

NOTE 2 The customer may be, for example, the ultimate consumer, user, beneficiary or purchaser.

NOTE 3 The customer can be either external or internal to the organization.

[ISO 8402]

3.17
defined process
the operational definition of a set of activities for achieving a specific purpose

NOTE A defined process may be characterized by standards, procedures, training, tools, and methods.

3.18
enhanced capability
a capability greater than current assessed capability, justified by a credible process improvement programme

3.19
indicator
(see *assessment indicator*)

3.20
objective evidence
qualitative or quantitative information, records, or statements of fact pertaining to the characteristics of an item or service or to the existence and implementation of a process element, which is based on observation, measurement, or test and which can be verified

NOTE Adapted from ISO 10011:1994.

3.21
organizational unit
that part of an organization that is the subject of an assessment

NOTE 1 An organizational unit deploys one or more processes that have a coherent process context (qv.) and operates within a coherent set of business goals.

NOTE 2 An organizational unit is typically part of a larger organization, although in a small organization, the organizational unit may be the whole organization. An organizational unit may be, for example:

- a specific project or set of (related) projects;
- a unit within an organization focused on a specific life cycle phase (or phases) such as acquisition, development, maintenance or support;
- a part of an organization responsible for all aspects of a particular product or product set.

3.22
practice
a software engineering or management activity that contributes to the creation of the output (work products) of a process or enhances the capability of a process

3.23
process
a set of interrelated activities, which transform inputs into outputs

NOTE The term "activities" covers use of resources (see ISO 8402:1994, 1.2).

[ISO/IEC12207]

3.24
process assessment
a disciplined evaluation of an organization's software processes against a model compatible with the reference model

3.25
process attribute
a measurable characteristic of process capability applicable to any process

3.26
process attribute rating
a judgment of the level of achievement of the defined capability of the process attribute for the assessed process

3.27
process capability
the ability of a process to achieve a required goal

3.28
process capability determination
a systematic assessment and analysis of selected software processes within an organization against a target capability, carried out with the aim of identifying the strengths, weaknesses and risks associated with deploying the processes to meet a particular specified requirement

3.29
process capability determination sponsor
the organization, part of an organization or person initiating a process capability determination

3.30
process capability level
a point on the six-point ordinal scale (of process capability) that represents the increasing capability of the performed process; each level builds on the capability of the level below

3.31
process capability level rating
a representation of the achieved process capability level derived from the process attribute ratings for an assessed process

3.32
process category
a set of processes addressing the same general area of activity

NOTE The process categories address five general areas of activity: customer-supplier, engineering, support, management, and organization.

3.33
process context
the set of factors, documented in the assessment input, that influence the judgment, comprehension and comparability of process attribute ratings

3.34
process dimension
the set of processes comprising the functional aspects of the reference model of processes and process capability

NOTE The processes are grouped into categories of related activities.

3.35
process improvement
action taken to change an organization's processes so that they meet the organization's business needs and achieve its business goals more effectively

3.36
process improvement action
an action planned and executed to improve all or part of the software process

NOTE A process improvement action can contribute to the achievement of more than one process goal.

3.37
process improvement programme
all the strategies, policies, goals, responsibilities and activities concerned with the achievement of specified improvement goals

NOTE A process improvement programme can span more than one complete cycle of process improvement.

3.38
process improvement project
any subset of the process improvement programme that forms a coherent set of actions to achieve a specific improvement

3.39
process outcome
an observable result of the successful implementation of a process

NOTE A list of the principal process outcomes forms part of the description of each process in the reference model.

3.40
process performance
the extent to which the execution of a process achieves its purpose

3.41
process profile
the set of process attribute ratings for an assessed process

3.42
process purpose
the high level measurable objectives of performing the process and the likely outcomes of effective implementation of the process

3.43
proposed capability
the process capability that the organization proposes to bring to bear in meeting the specified requirement

NOTE For core process capability determination, the proposed capability is the organization’s current assessed capability, whereas for extended process capability determination, the proposed capability is either an enhanced capability or a constructed capability.