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Information technology — Process assessment — Concepts and terminology

Technologies de l'information — Évaluation du processus — Concepts et terminologie

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of document should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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

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

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/IEC JTC 1, *Information technology*, SC 7, *Software and systems engineering*.

This second edition cancels and replaces ISO/IEC 15504-1:2004, which has been technically revised.

Introduction

This International Standard provides a glossary of terms related to the performance of process assessment, together with an overall introduction to the concepts and standards framework for process assessment. This International Standard identifies the principal components supporting the performance of process assessment, describes the results of process assessment, and gives an overview of the ways in which the results of assessment can be applied.

This International Standard is part of a set of International Standards designed to provide a consistent and coherent framework for the assessment of process quality characteristics, based on objective evidence resulting from implementation of the processes. The framework for assessment covers processes employed in the development, maintenance, and use of systems across the information technology domain and those employed in the design, transition, delivery, and improvement of services. The set of International Standards, as a whole, addresses process quality characteristics of any type. Results of assessment can be applied for improving process performance, benchmarking, or for identifying and addressing risks associated with application of processes.

The set of International Standards ISO/IEC 33001:2015, ISO/IEC 33099, termed the ISO/IEC 330xx family, defines the requirements and resources needed for process assessment. The overall architecture and content of the series is described in this International Standard. General issues relating to the application of conformity assessment to process capability and organizational process maturity are addressed in ISO/IEC 29169.

Several International Standards in the ISO/IEC 330xx family of standards for process assessment are intended to replace and extend parts of the ISO/IEC 15504 series of Standards[13]. Annex A in this Standard provides a detailed record of the relationship between the ISO/IEC 330xx family and the ISO/IEC 15504 series.

Information technology — Process assessment — Concepts and terminology

1 Scope

This International Standard provides a repository for key terminology relating to process assessment. It gives overall information on the concepts of process assessment, the application of process assessment for evaluating the achievement of process quality characteristics, and the application of the results of process assessment to the conduct of process management. This International Standard provides an introduction to the ISO/IEC 330xx family of standards for process assessment; it describes how the parts of the family of standards for process assessment fit together and provides guidance for their selection and use. It explains the requirements contained within the suite and their applicability to performing assessments.

Readers of this International Standard should familiarize themselves with the terminology and structure of the document suite and then reference the appropriate elements of the suite for the context in which they propose to conduct an assessment.

NOTE   This International Standard addresses terms used in ISO/IEC 33001 to ISO/IEC 33019 of the ISO/IEC 330xx family, as well as key terms used in other documents in the family. Terms specific to documents from ISO/IEC 33020 to ISO/IEC 33099 are defined in each document.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC/IEEE 24765:2010, *Systems and software engineering — Vocabulary*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC/IEEE 24765 and the following apply.

3.1 Terms relating to processes and process management

3.1.1
acquirer
stakeholder that acquires or procures a product or service from a supplier

[SOURCE: ISO/IEC 15288:2008, 4.1]

3.1.2
defined process
implemented process that is managed and tailored from the organization's set of standard processes according to the organization's tailoring guidelines

Note 1 to entry: A defined process has a process description that is documented and maintained and contributes work products, measures, and other process improvement information to the organization's process assets. A project's defined process provides a basis for planning, performing, and improving the project's tasks and activities of the project.

1

3.1.3
effectiveness
extent to which planned activities are realized and planned results are achieved

[SOURCE: ISO 9000:2005, 3.2.14]

3.1.4
information item
separately identifiable body of information that is produced, stored, and delivered for human use

Note 1 to entry: An information item can be produced in several versions during a system, software, or service life cycle. *Syn:* information product.

[SOURCE: ISO/IEC 15289:2011, 5.11; Note has been modified.]

3.1.5
organization
group of people and facilities with an arrangement of responsibilities, authorities, and relationships

[SOURCE: ISO 9000:2005, 3.3.1]

3.1.6
process
set of interrelated or interacting activities which transforms inputs into outputs

[SOURCE: ISO 9000:2005, 3.4.1]

3.1.7
process improvement
actions taken to improve the quality of the organization's processes aligned with the business needs and the needs of other concerned parties

3.1.8
standard process
set of definitions of the processes used to guide processes in an organization

Note 1 to entry: These process definitions cover the fundamental process elements (and their relationships to each other) that must be incorporated into the defined processes that are implemented in projects across the organization. A standard process establishes consistent activities across the organization and is desirable for long-term stability and improvement.

Note 2 to entry: The organization's set of standard processes describe the fundamental process elements that will be part of the projects' defined processes. It also describes the relationships (for example, ordering and interfaces) between these process elements.

Note 3 to entry: Process elements are the entities that are assembled to make up a process. They can be sub-processes, activities, tasks, etc.

3.1.9
supplier
an organization or an individual that enters into an agreement with the acquirer 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 can be part of the same organization.

[SOURCE: ISO/IEC 15288:2008, 4.30]

3.1.10
tailored process
process developed by tailoring a standard process

3.1.11
tailoring guideline
instructions that enable an organization to adapt standard processes appropriately to meet specific needs

Note 1 to entry: Tailoring a process adapts the process description for a particular end. For example, a project creates its defined process by tailoring the organization's set of standard processes to meet the objectives, constraints, and environment of the project. The organization's set of standard processes is described in a general level that might not be directly usable to perform a process. Tailoring guidelines aid those who establish the defined processes for specific needs.

Note 2 to entry: Tailoring guidelines describe what can and cannot be modified and identify process components that are candidates for modification.

3.2   Terms relating to process assessment

3.2.1
assessment body
body that performs an assessment

Note 1 to entry: A body can be an organization or part of an organization that performs the assessment.

[SOURCE: ISO/IEC 17020:2000, 2.2]

3.2.2
assessment constraints
restrictions placed on the use of the assessment outputs and on the assessment team's freedom of choice regarding the conduct of the assessment

3.2.3
assessment input
information required before a process assessment can commence

Note 1 to entry: The assessment input can change over the course of an assessment.

3.2.4
assessment output
all of the tangible results from an assessment (see *assessment record*)

3.2.5
assessment participant
individual who has responsibilities within the scope of the assessment

Note 1 to entry: Examples include, but are not limited to, the assessment sponsor, assessors, and/or organization units and their members.

3.2.6
assessment purpose
statement provided as part of the assessment input, which defines the reasons for performing the assessment

3.2.7
assessment record
orderly documented collection of the information which is pertinent to the assessment and adds to the understanding and verification of the process profiles generated by the assessment

3.2.8
assessment scope
definition of the boundaries of the assessment, provided as part of the assessment input, encompassing the boundaries of the organizational unit for the assessment, the processes to be included, the quality level for each process to be assessed, and the context within which the processes operate (see *process context*)

3.2.9
assessment sponsor
individual or entity, internal or external to the organizational unit being assessed, who requires the assessment to be performed and provides financial or other resources to carry it out

3.2.10
assessment team
one or more individuals who jointly perform a process assessment

3.2.11
assessor
individual who participates in the rating of process attributes

3.2.12
lead assessor
assessor who has demonstrated the competencies to conduct an assessment and to monitor and verify the conformance of a process assessment

3.2.13
objective evidence
data supporting the existence or verity of something

Note 1 to entry: Objective evidence can be obtained through observation, measurement, test, or other means.

[SOURCE: ISO 9000:2005, 3.8.1]

3.2.14
organizational unit
identified part of an organization that deploys one or more processes that operate within a coherent set of business goals and which forms the basis for the scope of an assessment

Note 1 to entry: An organizational unit is typically part of a larger organization, although in a small organization, the organizational unit can be the whole organization.

3.2.15
process assessment
disciplined evaluation of an organizational unit's processes against a process assessment model

3.2.16
process context
set of factors, documented in the assessment input, that influence the judgment, comprehension, and comparability of process attribute ratings

3.2.17
process instance
single specific and identifiable execution of a process

3.2.18
process profile
set of process attribute ratings for an assessed process

3.2.19
process quality determination
systematic assessment and analysis of selected processes against a target process profile

3.2.20
target process profile
process profile specifying which process attributes are required and the rating necessary for each process attribute for a required process

3.3   Terms relating to process models

3.3.1
assessment indicator
sources of objective evidence used to support the assessor's judgment in rating process attributes

Note 1 to entry: Examples include practice, information item, or resource.

3.3.2
base practice
activity that, when consistently performed, contributes to achieving a specific process purpose

3.3.3
basic maturity level
lowest level of achievement in a scale of organizational process maturity

3.3.4
basic process set
set of processes that ensure the achievement of the basic maturity level

Note 1 to entry: The set of processes are drawn from specified process assessment models.

Note 2 to entry: A basic process set will include a minimum set of processes, together with additional and optional processes determined by the organizational context for the assessment.

3.3.5
extended process set
set of processes specific to a maturity level higher than the basic maturity level that ensures the achievement of the relevant process profile

Note 1 to entry: The set of processes are drawn from specified process assessment models.

Note 2 to entry: An extended process set will include a minimum set of processes, together with additional and optional processes determined by the organizational context for the assessment.

3.3.6
generic practice
activity that, when consistently performed, contributes to the achievement of a specified process attribute

3.3.7
maturity model
model derived from one or more specified process assessment model(s) that identifies the process sets associated with the levels in a specified scale of organizational process maturity

3.3.8
practice
specific type of activity that contributes to the execution of a process

[SOURCE: PMBOK Guide, 4th Edition]

3.3.9
process assessment model
model suitable for the purpose of assessing a specified process quality characteristic, based on one or more process reference models

Note 1 to entry: Process assessment models addressing a specific process quality characteristic can include the identification of the characteristic in the title; for example, a process assessment model addressing process capability can be termed a "process capability assessment model".

3.3.10
process dimension
set of process elements in a process assessment model explicitly related to the processes defined in the relevant process reference model(s)

Note 1 to entry: For example, in ISO/IEC 33061, the elements of the process dimension include processes, process purpose statements, process outcomes, and process performance indicators.

3.3.11
process outcome
observable result of the successful achievement of the process purpose

Note 1 to entry: An outcome statement describes one of the following: production of an artefact; a significant change in state; meeting of specified constraints, e.g., requirements, goals, etc.

[SOURCE: ISO/IEC 12207:2008, 4.27]

3.3.12
process performance indicator
assessment indicator that supports the judgement of the process performance of a specific process

3.3.13
process purpose
high-level objective of performing the process and the likely outcomes of effective implementation of the process

Note 1 to entry: The implementation of the process should provide tangible benefits to the stakeholders.

[SOURCE: ISO/IEC 12207:2008, 4.26]

3.3.14
process quality dimension
set of elements in a process assessment model explicitly related to the process measurement framework for the specified process quality characteristic

Note 1 to entry: See Reference [16] for a full description of the elements of process definitions.

3.3.15
process quality indicator
assessment indicator that supports the judgement of the process quality characteristic of a specific process

3.3.16
process reference model
model comprising definitions of processes in a domain of application described in terms of process purpose and outcomes, together with an architecture describing the relationships between the processes

3.4   Terms relating to process measurement

3.4.1
maturity level
point on an ordinal scale of organizational process maturity that characterizes the maturity of the organizational unit assessed in the scope of the maturity model used

3.4.2
organizational process maturity
the extent to which an organizational unit consistently implements processes within a defined scope that contributes to the achievement of its business needs (current or projected)

Note 1 to entry: The defined scope is that of the specified maturity model.

3.4.3
process attribute
process quality attribute
measurable property of a process quality characteristic

3.4.4
process attribute outcome
observable result of achievement of a specified process attribute

3.4.5
process attribute rating
judgement of the degree of achievement of the process attribute for the assessed process

3.4.6
process measurement framework
schema for use in characterizing a process quality characteristic of an implemented process

3.4.7
process performance
extent to which the execution of a process achieves its purpose

3.4.8
process quality
ability of a process to satisfy stated and implied stakeholder needs when used in a specified context

3.4.9
process quality characteristic
measurable aspect of process quality; category of process attributes that are significant to process quality

Note 1 to entry: In order to simplify terminology, in terms related to process quality characteristics (e.g. 3.2.19, 3.3.14, 3.3.15, 3.4.10), the term "process quality" is used. In specific contexts, an identifier of the specific process quality characteristic will be used.

Note 2 to entry: Process quality characteristics include properties of processes such as process capability, efficiency, effectiveness, security, integrity, and sustainability.

3.4.10
process quality level
point on a scale of achievement of a process quality characteristic derived from the process attribute ratings for an assessed process
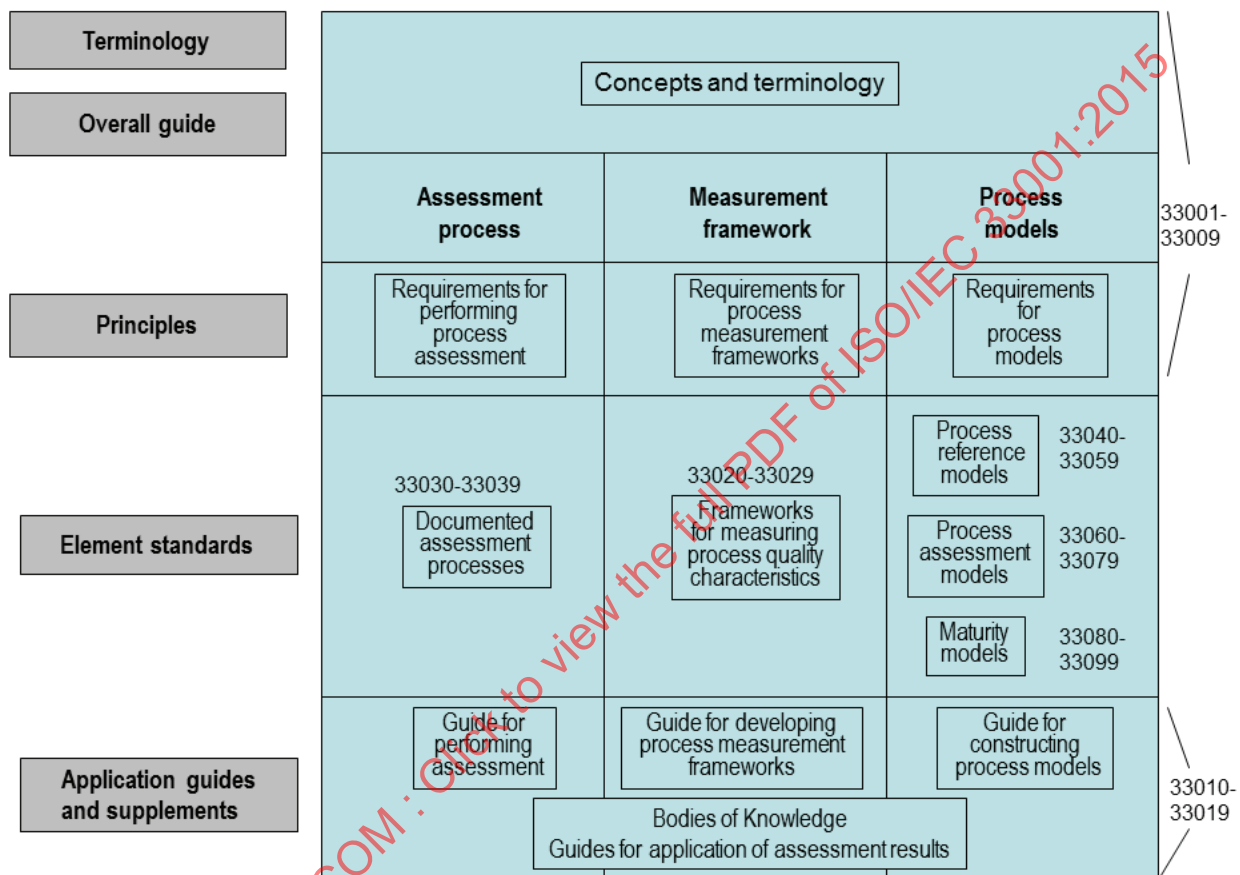
4 Structure of the set of Standards

The ISO/IEC 330xx family of Standards covering the domain of process assessment are based on a view of assessment that establishes an architecture of three components:

— Process models that define processes, the entities that are the subject of assessment;

— Process measurement frameworks that provide scales for evaluating specified process quality characteristics (for example, capability) of the entities (processes); and

— Documented assessment processes that provide a specification of the process to be followed in conducting assessments.

For each component, the set of Standards (as a whole) provides a common terminology; a set of normative requirements defining conformance to the Standard; examples of the entities specified in the standards set (process models, process measurement frameworks, and documented assessment processes); and guidance of varying forms on each of the components. The structure of the set of Standards is shown in Figure 1. In this Figure, the scheme developed by Moore[18] is used to distinguish the different levels of standards:

— **Terminology**: the documents prescribing the terms and vocabulary

— **Overall guide**: one document providing overall guidance for the entire collection and the structure of ISO/IEC 33000 family

— **Principles**: one or more documents describing principles or objectives for use of the standards in the collection

— **Element standards**: the standards that typically are the basis for compliance

— **Application guides and supplements**: documents that give advice for using the standards in various situations

Figure 1 — Structure of the set of Standards for process assessment

In applying the layered view to the Set of Standards for Process Assessment, the group described as "Principles" defines the high level requirements addressing the scope of the set of Standards. The group defined as "Element Standards" contains the component standards compliant with the Principles group, which can be applied to the conduct of any specific process assessment. The set of Standards is open, making provision for the inclusion of documents defining new elements (process models, process measurement frameworks, documented assessment processes) through normal routes[16,17].

The plan for the development of this set of Standards envisages the definition of a comprehensive set of documents addressing requirements and guidance for the performance of assessment and the development of supporting infrastructure. The complete set of Standards, and the proposed system for numbering of additional Standards, currently planned is listed in Table 1.

Table 1 — Set of Standards for Process Assessment

Std No	Title
ISO/IEC 33001 - 33009	Normative elements (Terminology, overall guide and principles)
ISO/IEC 33001	Concepts & Terminology
ISO/IEC 33002	Requirements for performing process assessment
ISO/IEC 33003	Requirements for process measurement frameworks
ISO/IEC 33004	Requirements for process reference, process assessment and maturity models
ISO/IEC 33010 - 33019	Guidance (Application guides and supplements)
ISO/IEC 33010	Guide for performing process assessment
	Guide for defining a documented assessment process for assessment
	Guide for constructing process measurement frameworks
	Guide for constructing process reference, process assessment and maturity models
ISO/IEC 33014	Guide for process improvement
	Guide for process quality determination
	Body of Knowledge for process assessment
	Body of Knowledge for process improvement
ISO/IEC 33020 - 33029	Process measurement frameworks (Element standards)
ISO/IEC 33020	Process measurement framework for assessment of process capability
ISO/IEC 33030 - 33039	Documented assessment processes (Element standards)
ISO/IEC 33040 - 33059	Process reference models (Element standards)
ISO/IEC 33060 - 33079	Process assessment models (Element standards)
ISO/IEC 33060	Process capability assessment model for system life cycle process
ISO/IEC 33061	Process capability assessment model for software life cycle processes
ISO/IEC 33063	Process capability assessment model for software testing
ISO/IEC 33064	Process capability assessment model for safety extensions
ISO/IEC 33080 - 33099	Maturity models (Element standards)

In the initial phase of development, the following documents are being prepared:

— ISO/IEC 33001:2015 Concepts and terminology (this International Standard)

— ISO/IEC 33002:2015 Requirements for performing process assessment

— ISO/IEC 33003:2015 Requirements for process measurement frameworks

— ISO/IEC 33004:2015 Requirements for process reference, process assessment and maturity models

— ISO/IEC 33010:— Guide for performing process assessment

— ISO/IEC TR 33014:2013 Guide for process improvement

— ISO/IEC 33020:— Process measurement framework for assessment of process capability

— ISO/IEC 33060:— Process capability assessment model for system life cycle process

— ISO/IEC 33061:— Process capability assessment model for software life cycle processes

— ISO/IEC 33063:— Process capability assessment model for software testing

— ISO/IEC 33064:— Process assessment model for safety extensions

5 Concepts

5.1 General

The ISO/IEC 330xx family of International Standards establishes a framework for performing and applying process assessment. The framework can be applied to address the assessment of many process quality characteristics.

The family of Standards presents a process viewpoint of process assessment, providing a clear set of requirements for the process assessment process, and the resources required to implement it effectively.

The ISO/IEC 330xx family of standards provides a structured approach for the assessment of processes for the following purposes:

— by or on behalf of an organization with the objective of understanding the state of its own processes for process improvement;

— by or on behalf of an organization with the objective of determining the suitability of its own processes for a particular requirement or category of requirements;

— by or on behalf of one organization with the objective of determining the suitability of another organization's processes for a particular contract or category of contracts.

The framework for process assessment:

— facilitates self-assessment;

— provides a basis for improving process performance and mitigating risk;

— produces a rating of the achievement of the relevant process quality characteristic;

— provides an objective benchmark between organizations;

— is applicable across all application domains and sizes of organization.

5.2 Concepts of "process"

A process is a set of elements (tasks, activities, etc) that operate together in a coordinated manner to achieve a purpose. In general, there are multiple ways of identifying and organising the "elements" of a process; there is no "one way" to achieve the purpose. In order to achieve an objective evaluation of the extent to which a process achieves a specified process quality characteristic, it is first necessary to establish a generic definition of the process, as an entity that can be implemented in different contexts. Such a generic definition can be achieved by focussing on the *Purpose* of the process. The achievement of the purpose is demonstrated through the establishment of observable results or *Outcomes*[16].

This approach enables the achievement of a specific process quality characteristic to be evaluated by focussing on the achievement of the process outcomes, and exploring (through review of objective evidence) the extent to which the specified process quality characteristic is achieved.

5.3 The assessment framework

5.3.1 Measuring process quality characteristics

ISO/IEC 33003 provides the requirements for defining process measurement frameworks of process attributes for process quality characteristics such as process capability, efficiency, effectiveness, security, integrity and sustainability.

In general, a process measurement framework describes process attributes related to processes that provide a coherent and consistent framework for evaluating the extent of achievement of the process quality characteristic that is the subject of the framework. The process measurement framework may define a series of process quality levels, establishing an ordinal scale for expressing the extent of achievement of the process quality characteristic.

5.3.2 Process reference models

An assessment addresses a selected scope of processes implemented in a specific domain. The results of assessment will be affected by the domain of implementation, as processes with similar purpose in different domains may have different results. A set of processes can be defined that address functions in a domain of interest; the set of processes may address not only the core functions of organizations operating in the domain, but also processes concerned with management or support functions, or with the provision of organizational or enterprise infrastructure[2,9,10].

A coherent set of processes for a specified domain can be assembled to provide a process reference model. A process reference model contains:

a) a declaration of the domain of the process reference model;

b) a description of the processes within the scope of the process reference model;

c) a description of the relationship between the process reference model and its intended context of use; and

d) a description of the relationship between the processes defined within the process reference model.

The requirements for a process reference model are contained in ISO/IEC 33004.

5.3.3 Process assessment models
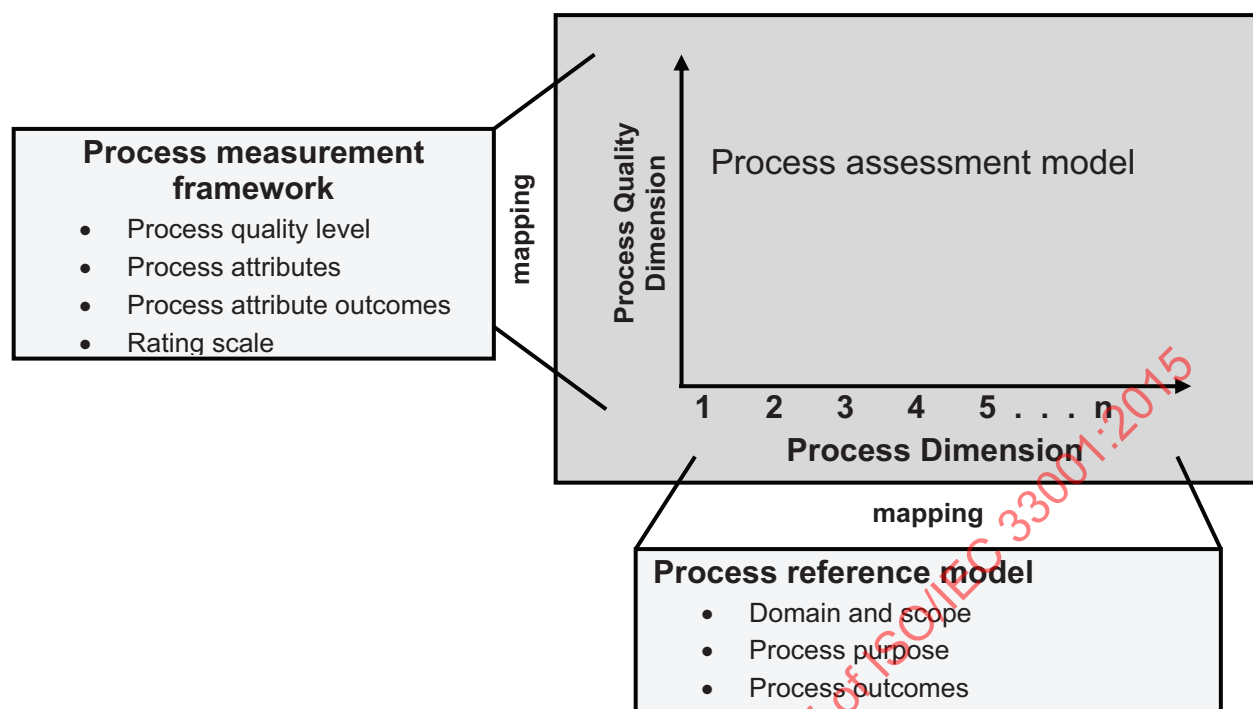
Figure 2 — Process assessment model relationships

A process assessment is conducted by comparing the results of performing the process(es) of interest in the organizational context, with the expected results of implementation as defined in a process assessment model. A process assessment model combines the basic set of process descriptions from one or more process reference models with the constructs and elements defined in the selected process measurement framework. Figure 2 shows the relationship between a process assessment model, a corresponding process reference model, and a process measurement framework. The two-dimensional model, as depicted in Figure 2, consists of a set of processes defined in terms of their purpose and process outcomes, and a process measurement framework which contains a set of process attributes related to the process quality characteristic of interest. The process attributes apply across all processes. They may be grouped into process quality levels that may be used to characterise the process. The assessment output includes a set of process profiles and optionally a process quality level rating for each process assessed.

In order to maximize the repeatability, reliability and consistency of assessments, documented evidence justifying the ratings must be recorded and retained. This evidence is in the form of assessment indicators, which typically take the form of objectively demonstrated characteristics of work products, practices and resources associated with the processes assessed. A process assessment model contains details of the assessment indicators to be used.

Such assessment indicators can be documented through the use of some form of database, checklists or questionnaires. ISO/IEC 33010 includes guidance concerning the availability and use of assessment indicators during the assessment.
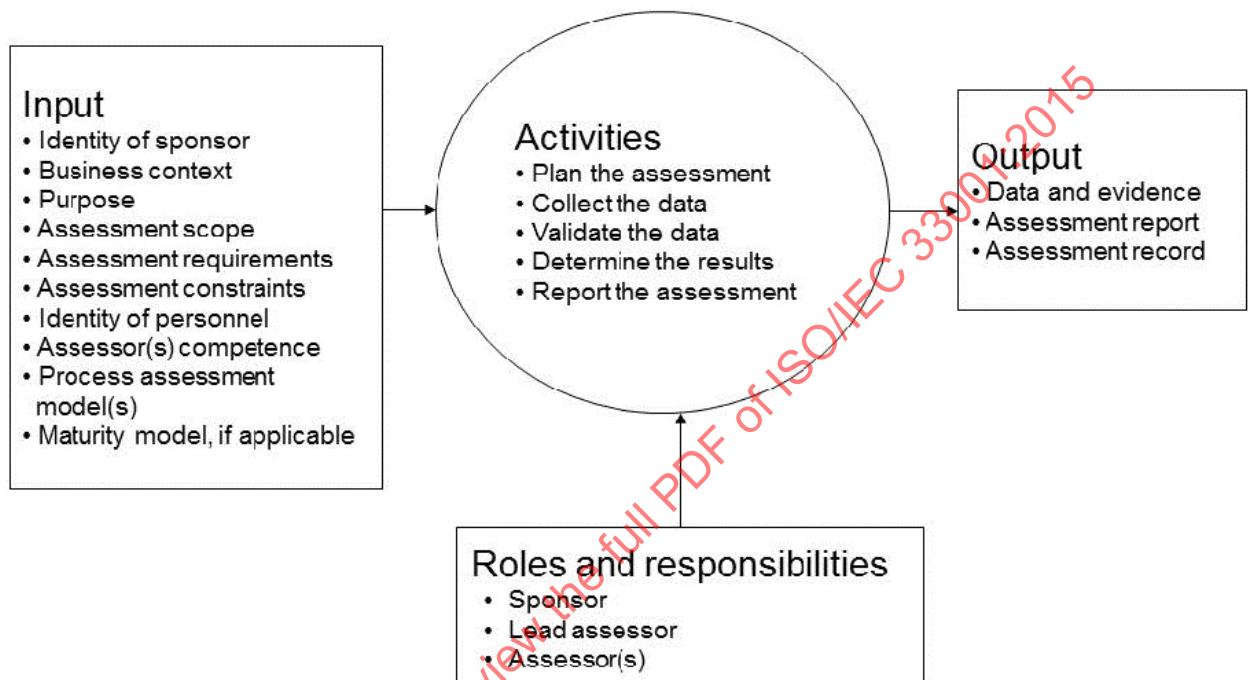
5.3.4 The process assessment process

The purpose of the process assessment process is to determine the extent to which the organization's standard processes contribute to the achievement of its business goals and to help the organization focus on the need for continuous process improvement.

As a result of successful implementation of the process assessment process:

a) information and data related to the use of the standard process for specific projects exists and is maintained;

b) the relative strengths and weaknesses of the organization's standard processes are understood; and

c) accurate and accessible assessment records are kept and maintained.

[Source: ISO/IEC 12207:2008, B3.3.2][10]

Figure 3 — Key elements of the process assessment process

The key elements of the process assessment process are summarized in Figure 3. ISO/IEC 33002 defines the requirements for performing an assessment. ISO/IEC 33003 defines requirements for the definition of frameworks for measuring specific process quality characteristics; a defined process measurement framework for the assessment of process capability is specified in ISO/IEC 33020. ISO/IEC 33004 sets out the requirements for process models that support process assessment. ISO/IEC 33010 provides guidance on performing an assessment and interpreting the requirements in ISO/IEC 33002. For the circumstances under which assessment results may be compared refer to ISO/IEC 33010 and the process measurement framework. The suite of standards for process assessment provide a generic approach to be applicable across all organizations.

The assessment process contains a minimum set of specified activities: planning, data collection, data validation, derivation of assessment results, reporting and documenting the assessment output. The assessment process is documented; in addition, the assessors must record the objective evidences for the process performance indicators and process quality indicators used to justify the ratings. The process assessment is carried out by a team with at least one lead assessor who has appropriate competencies.

5.4 Organizational process maturity

Organizational process maturity is the extent to which an organization consistently implements processes within a defined scope so as to achieve desired level of achievement of a specific process quality characteristic, that contributes to the achievement of its business goals (current or projected) and the needs of other concerned parties[25]. This is evaluated by assessing the achievement of the

specified process quality characteristic for a defined profile of processes, as set out in a maturity model. A process measurement framework for a specified process quality characteristic may contain a scale for evaluating maturity in respect of that characteristic, following the requirements contained in ISO/IEC 33003. A maturity model is based on one or more process assessment model(s) covering the same process quality characteristic, following the requirements in ISO/IEC 33004. Specific requirements for assessment of organizational process maturity are provided in ISO/IEC 33002; they address the need to ensure that the assessment results accurately reflect both the organizational scope of the assessment, and the process scope of the maturity model.

5.5 Competency of assessors

The lead assessor in an assessment team has the pivotal role of ensuring that the team members collectively have the right blend of specialized knowledge and assessment skills. The lead assessor provides the necessary guidance to the team, and helps to moderate the judgments and ratings made by the members of the team to ensure consistency of interpretation.

A Body of Knowledge for the performance and application of process assessment is to be developed within the ISO/IEC 330xx family of standards, consistent with the Software Engineering Body of Knowledge and the Project Management Body of Knowledge. It will be concerned with assessor competencies and in terms of appropriate education, training, skill and experience, and includes mechanisms that may be used to demonstrate competence and to validate education, training, skills and experience.

Assessor competence results from experience and knowledge of the domain being assessed, possessing skills in the application of the principle technologies of this set of Standards, and personal attributes which contribute to effective performance. Competence is gained by a combination of education, training, skills and experience.

5.6 Application of Assessment Results

As mentioned above, process assessment is performed to characterise the performance of a process with respect to a specific process quality characteristic. This clause of this international standard describes the three principal contexts for use of process assessment results.

5.6.1 Improving performance

Successful improvement of process quality occurs in a business context by addressing specific needs and business goals of the organization and the needs of other concerned parties, and by understanding the key constraints such as resources, culture, etc. that are clearly stated and understood[7,8]. ISO/IEC TR 33014 provides guidance on using process assessment as part of a complete framework and method for performing process improvement in a continuous cycle, the organization could employ the guidance for a single cycle of improvement activity. The guidance covers:

— invoking a process assessment;

— using the results of a process assessment;

— identifying improvement actions aligned to business goals and the needs of other concerned parties;

— cultural issues in the context of process improvement;

— dealing with management issues for process improvement.

5.6.2 Evaluating process-related risk

Process assessment can be applied to the evaluation of process-related risks with respect to a specified process quality characteristic, in relation to a defined context of application of the process. A target process profile of the desired extent of achievement of the process quality characteristic can be defined in relation to a particular context of use (for example, in relation to the development of a specific system) and the risks associated with gaps between the target process profile and the assessed process profile