Technical Specification

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Information technology — Process assessment — Process assessment model for system life cycle processes

Technologies de l'information — Évaluation du processus — Modèle d'évaluation du processus pour les processus du cycle de vie du système

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

This second edition cancels and replaces the first edition (ISO/IEC TS 33060:2020), which has been technically revised.

The main changes are as follows:

— processes, process purposes, and process outcomes are revised to reflect the ISO/IEC/IEEE 15288:2023 processes;

— base practices are revised to reflect the ISO/IEC/IEEE 15288:2023 activities and tasks;

— process outputs and their descriptions are revised;

— this process assessment model includes a process quality attribute of process performance and can be used with other models of process quality, for instance capability as described in ISO/IEC 33020.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html and www.iec.ch/national-committees.

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Introduction

The set of International Standards ISO/IEC 33001 to ISO/IEC 33099 defines the requirements and resources needed for process assessment. The overall architecture and content of the series is described in ISO/IEC 33001.

This document defines a process assessment model for system life cycle processes, conformant with the requirements of ISO/IEC 33004, for use in performing a conformant assessment in accordance with the requirements of ISO/IEC 33002.

A process assessment model is related to one or more process reference models. The process reference model defined in ISO/IEC/IEEE 15288 is used as the basis for the process assessment model in this document.

A process assessment model incorporates a process measurement framework conformant with the requirements of ISO/IEC 33003 and is expressed as a process quality characteristic with a defined set of process attributes.

A process assessment model includes a set of assessment indicators. Process performance indicators address the process purpose and outcomes of each process in the process assessment model. Process quality indicators demonstrate the achievement of the process attributes in the process measurement framework. These indicators may also provide a reference source of practices when implementing a process improvement program.

The assessment indicators are used as a basis for collecting objective evidence to support an assessor's judgement in assigning ratings of the performance and quality of an implemented process. The set of indicators defined in this document is not intended to be an all-inclusive set and applicable in its entirety. Subsets appropriate to the context and scope of the assessment should be selected, and potentially augmented with additional indicators.

A process assessment is conducted according to a documented assessment process. A documented assessment process identifies the rating method to be used in rating process attributes and identifies or defines the aggregation method to be used in determining ratings.

ISO/IEC 33020 provides a process measurement framework for the assessment of process capability which may be incorporated as a process measurement framework in this document. ISO/IEC 33020:2019, Annex B includes a set of process quality indicators for each process attribute in the process measurement framework.

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Information technology — Process assessment — Process assessment model for system life cycle processes

1 Scope

This document defines a process assessment model for system life cycle processes, conformant with the requirements of ISO/IEC 33004, for use in performing a conformant assessment in accordance with the requirements of ISO/IEC 33002.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC/IEEE 15288:2023, *Systems and software engineering — System life cycle processes*

ISO/IEC 33001, *Information technology — Process assessment — Concepts and terminology*

ISO/IEC 33003, *Information technology — Process assessment — Requirements for process measurement frameworks*

ISO/IEC 33004, *Information technology — Process assessment — Requirements for process reference, process assessment and maturity models*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 33001 and ISO/IEC/IEEE 15288 apply.

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/

4 The process assessment model

4.1 General

This document provides a basis for a process assessment model that is two-dimensional. In one dimension, the process dimension, the processes are defined and classified into process categories together with the set of assessment indicators of process performance. In the other dimension, the quality dimension, for each process attribute in the process measurement framework a set of process quality indicators is defined for the selected process quality characteristic.

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