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Information technology — Process assessment — Application of ISO/IEC/IEEE 12207 processes to the ISO/IEC 33020 process capability measurement scale

Technologies de l'information — Évaluation du processus — Application des processus ISO/IEC/IEEE 12207 à l'échelle de la mesure de la capacité de procesus de l'ISO/IEC 33020

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Foreword

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Introduction

This document provides a specification for mapping the ISO/IEC/IEEE 12207 life cycle processes to the ISO/IEC 33020 process attributes with the intent of demonstrating support for the levels 1 to 3 of the ISO/IEC 33020 process capability measurement framework.

This document is primarily addressed to developers of process assessment models for the process quality characteristic of process capability. It is also addressed to the lead assessor and other stakeholders, such as the sponsor of the assessment, who need to be assured that the requirements of the ISO/IEC 33020 process measurement framework have been met.

Within this document:

— Clause 4 provides a summary description of the relationship between the ISO/IEC 33020 process attribute outcomes and the ISO/IEC/IEEE 12207 life cycle processes.

— Annex A extends the summary mapping in Clause 4 by providing details of the relationship between the process attribute outcomes and the life cycle process outcomes. Links to the information items listed in Annex C are identified. These details are provided for validating by inspection the relationships between the process attribute outcomes of ISO/IEC 33020 and the ISO/IEC/IEEE 12207 life cycle process outcomes.

— Annex B focuses on the relationships between the generic practices associated with ISO/IEC 33020 and the task descriptions of ISO/IEC/IEEE 12207. These model elements are linked via the information item characteristics listed in Annex C.

— Annex C provides a listing of the applicable information items and their characteristics.

— Annex D provides an overview of the key concerns arising from the application of ISO/IEC/IEEE 24774 when attempting to demonstrate objective relationships between process model elements.

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Information technology — Process assessment — Application of ISO/IEC/IEEE 12207 processes to the ISO/IEC 33020 process capability measurement scale

1 Scope

This document provides a specification for associating the life cycle processes of ISO/IEC/IEEE 12207 with the process attribute outcomes of ISO/IEC 33020 with the intent of demonstrating support for levels 1 to 3 of the process capability measurement scale defined in ISO/IEC 33020.

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 33001, *Information technology — Process assessment — Concepts and terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 33001 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 Content of the process capability measurement framework

4.1 General

In ISO/IEC 33020:2019, Clause 5, the relationship between process attributes and process capability levels is described.

Process capability is defined in ISO/IEC 33020:2019, Clause 5 on a six-point ordinal scale that enables process capability to be assessed from the bottom of the scale, 'incomplete', through to the top end of the scale, 'innovating'. The scale represents increasing capability of an implemented process, from failing to achieve the process purpose through to continually improving and able to respond to process change.

The relationship between the process capability levels and the process attributes is shown in Table 1. In addition, a summary view is presented of the relationship of the process attributes to the life cycle processes associated with ISO/IEC/IEEE 12207.

Two processes from ISO/IEC/IEEE 12207 do not appear in the list in Table 1, namely, the acquisition and decision management processes. These outcomes of these processes do not have any discernible relationships to the process attribute outcomes of ISO/IEC 33020.

Certain ISO/IEC/IEEE 12207 processes have been partitioned into sub processes, namely life cycle model management, infrastructure management, human resource management, knowledge management, quality management, measurement and quality assurance. This action has been taken to address outcomes in the basic processes that deal with firstly, establishment concerns, and secondly, performance (or operational)

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