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Software engineering — Guidelines for the application of ISO 9001:2015 to computer software

Ingénierie du logiciel — Lignes directrices pour l'application de l'ISO 9001:2015 aux logiciels informatiques

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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 ISO documents 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).

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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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

The committee responsible for this document is Technical Committee ISO/IEC JTC1, Information Technology, Subcommittee SC 7, Systems and Software Engineering.

This fourth edition cancels and replaces the third edition (ISO/IEC 90003:2014), which has been technically revised.

The main changes compared to the previous edition are as follows:

— Updating structure and contents to reflect the total revision of ISO 9001:2015 [B]

— Updating contents to reflect the revision of ISO/IEC/IEEE 12207:2017 [2] and other SC7 standards

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

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This document was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Systems and software engineering*, in cooperation with the IEEE Computer Society Systems and Software Engineering Standards Committee, under the Partner Standards Development Organization cooperation agreement between ISO and IEEE.

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Introduction

This International Standard provides guidance for organizations in the application of ISO 9001:2015 [B] to the acquisition, supply, development, operation, and maintenance of computer software.

It identifies the issues that should be addressed and is independent of the technology, life cycle models, development processes, sequence of activities, and organizational structure used by an organization. The guidance and identified issues are intended to be comprehensive but not exhaustive. Where the scope of an organization's activities includes areas other than computer software development, the relationship between the computer software elements of that organization's quality management system and the remaining aspects should be clearly documented within the quality management system as a whole.

Clauses 4, 5, and 6 and parts of Clause 8 of ISO 9001:2015 [B] are applied mainly at the "global" level in the organization, although they do have some effect at the "project/product level". Each project or product development may tailor the associated parts of the organization's quality management system to suit project/product-specific requirements.

Throughout ISO 9001:2015 [B], "shall" is used to express a provision that is binding between two or more parties, "should" to express a recommendation among possibilities, and "may" to indicate a course of action permissible within the limits of ISO 9001:2015 [B]. This document (ISO/IEC 90003) provides guidance to assist in understanding how the provisions of ISO 9001:2015 [B] apply in the context of software. No new requirements are introduced in the guidance text (no "shall"). Where "should" is used it is a recommendation of a requirement of ISO 9001:2015 [B].

Organizations with quality management systems for developing, operating, or maintaining software based on this document may choose to use processes from ISO/IEC/IEEE 12207 to support or complement the ISO 9001:2015 [B] quality management system (QMS) requirements. The related paragraphs of ISO/IEC/IEEE 12207:2017 are referenced in each clause of this International Standard; however, they are not intended to imply requirements additional to those in ISO 9001:2015 [B]. Further guidance to the use of ISO/IEC/IEEE 12207 may be found in ISO/IEC 24748–3. For additional guidance, references are provided to the International Standards for software engineering defined by ISO/IEC JTC 1/SC 7. Where these references are specific to a clause or sub-clause of ISO 9001:2015 [B], they appear after the guidance for that clause or sub-clause.

Where they apply generally across the parts of a clause or sub-clause, the references are included at the end of the last part of the clause or sub-clause.

Where the text has been quoted from ISO 9001:2015 [B], that text is enclosed in a box for ease of identification.

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Title Software Engineering — Guidelines for the application of ISO 9001:2015 [B] to computer software

1 Scope

ISO 9001:2015 [B], Quality management systems requirements

1 Scope

This International Standard specifies requirements for a quality management system when an organization:

a) needs to demonstrate its ability to consistently provide products and services that meet customer and applicable statutory and regulatory requirements, and
b) aims to enhance customer satisfaction through the effective application of the system, including processes for improvement of the system and the assurance of conformity to customer and applicable statutory and regulatory requirements.

All requirements of this International Standard are generic and are intended to be applicable to any organization, regardless of its type or size or, products and services it provides.

NOTE 1 In this International Standard, the terms "product" or "service" only apply to products and services intended for, or required by, a customer.

NOTE 2 Statutory and regulatory requirements can be expressed as legal requirements.

This document provides guidance for organizations in the application of ISO 9001:2015 [B] to the acquisition, supply, development, operation, and maintenance of computer software and related support services. It does not add to or otherwise change the requirements of ISO 9001:2015 [B].

This document is not a management system standard. It provides guidance for relating the requirements of ISO 9001:2015 [B] to computer software.

Annex A (informative) provides a table pointing to additional guidance in the implementation of ISO 9001:2015 [B], available in ISO/IEC JTC 1/SC 7 and ISO/TC 176 International Standards.

The guidelines provided in this International Standard are not intended to be used as assessment criteria in quality management system registration/certification.

2 Normative references

There are no normative references.

3 Terms and definitions

ISO 9001:2015 [B], Quality management systems requirements

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 9000:2015 [A] apply.

For the purposes of this document, the terms and definitions given in ISO 9000:2015 [A], and certain terms (repeated here for convenience) given in ISO/IEC/IEEE 12207:2017 [2] apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

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