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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 25000.10-2016

Replacing GB/T 16260.1-2006

**Systems and software engineering -- Systems and software
Quality Requirements and Evaluation (SQuaRE) -- Part 10:
System and software quality models
(English Translation)**

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Table of Contents

Preface

Introduction

1 Scope

2 Normative reference document

3 Terms and definitions

4 Quality Model Framework

4.1 Structure

4.2 Use of quality models and characteristics of

4.3 Product quality model and characteristics of

4.4 Goal of Quality Model

4.5 Use of quality models

4.6 Quality from different stakeholder perspectives

Foreword

GB/T 25000 "System and Software Engineering Systems and Software Quality Requirements and Evaluation (SQuaRE)" is divided into the following sections.

- Part 1. SQuaRE Guide;

- Part 2. Planning and management;

- Part 10. System and software quality models;

Part 12. Data quality model;

- Part 20. Measurement reference models and guidelines;

- Part 21. Quality measure elements;

- Part 22. Use of quality measurements;

- Part 23. System and software product quality measurement;

- Part 24. Data quality measurement;

- Part 30. Quality requirements;

- Part 40. Evaluation process;

- Part 41. Evaluation guidelines for developers, parties and independent evaluators;

- Part 42. Evaluation module;
- Part 45. Recoverability evaluation module;
- Part 51. Quality requirements and test details of the available software products (RUSP);
- Part 60. Ease of Use Test Report Industry Generic Format (CIF). A common framework for information on ease of use;
- Part 62. Ease of Use Test Report Industry Generic Format (CIF) - Part 63. Industry-wide format for ease of use (CIF). use of contextual description;
- Part 64. Industry Commonness for Ease of Use (CIF). User requirements report;
- Part 65. Industry Universal Format (CIF) for ease of use. User requirements specification;
- Part 66. Industry Commonness for Ease of Use (CIF). Evaluation Report.

This part is part 10 of GB/T 25000.

This part is drafted in accordance with the rules given in GB/T 1.1-2009.

This part replaces GB/T 16260.1-2006 "Software Engineering Product Quality Part 1. Quality Model". With GB/T 16260.1-2006, the main technical changes are as follows.

--- This part of the product quality characteristics of the expression from the six characteristics of the eight characteristics, the use of quality characteristics by the four characteristics of the tune the whole five features. Related sub-features have also been modified, adjusted and added. Specific revisions are listed in Appendix A.

This part uses the re-drafting method to modify ISO/IEC 25010.:2011 "System and software engineering systems with software quality requirements and Evaluation (SQuaRE) system and software quality model ". Appendix B sets out the differences between this section and ISO/IEC 25010.:2011.

Introduction

Software products and software-intensive computer systems are increasingly being used to implement a wide variety of enterprise and personal functions. Personal full the realization of goals and purposes for business success and/or human security relies on high quality software and systems. High-quality software products and software-intensive computer systems are essential to stakeholders, which can provide value and avoid potential negative impacts.

Software products and software-intensive computer systems, including developers, parties, consumers, and software-intensive Computer system of enterprise customers. A comprehensive specification and assessment of the quality of software and software-intensive computer systems is a guarantee of stakeholder the key elements of a party's interest can be defined by defining the necessary and desirable quality specialities

in the system that are relevant to the objectives and objectives of the stakeholders to achieve. This includes the relevant software systems and data, as well as the quality characteristics of the system's impact on its stakeholders. At the same time, as much as possible the use of proven or widely recognized measures and measurement methods is essential for specifying, measuring and evaluating quality characteristics. In this section of the quality model can be used to identify the relevant quality characteristics, and further used to establish a satisfactory demand, guidelines and related measures.

This part is intended to be used in conjunction with other parts of the ISO/IEC 25000 series of international standards (ISO/IEC 25000 to ISO/IEC 25099) and ISO/IEC 14598 to be replaced by ISO/IEC 2504n Division.

ISO/IEC 25000 series of international standards of the organizational structure shown in Figure 1.

Figure 1 ISO/IEC 25000 series of standard organizational structure

The ISO/IEC 25000 series of international standards consists of the following divisions.

- a) ISO/IEC 2500n --- Quality Management Division. The standard that makes up this division is defined by the ISO/IEC 25000 series of standards all other standards referenced in all public models, terms and definitions. This division is also provided for the management of the software Product quality requirements and evaluation support functions and guidelines.
- b) ISO/IEC 2501n - Quality Model Division. The standards that make up this division are given, including computer systems and software products Quality, and data used in the detailed quality model. A practical guide to using these quality models is also provided.
- c) ISO/IEC 2502n - Quality measurement division. The criteria that make up this division include the software product quality measurement reference model, A practical guide to the mathematical definition of quality measurement and its application. Given the internal quality of the software, the external quality of the software and the use of quality Examples of measurements. Define and give the quality measure elements that form the basis for subsequent measurements.
- d) ISO/IEC 2503n - Quality Requirements Division. The criteria that make up this division contribute to the quality model and the quality of the measurement base on the basis of quality requirements. These quality requirements can be used in the quality of the software products to be developed during the extraction process or for evaluation the input of the price process.
- e) ISO/IEC 2504n - Quality Evaluation Division. The criteria that make up this division are given by either the evaluator, the demand side, or by Requirements, recommendations and guidance for software product evaluations performed by the developer. It also gives support for the measurement of the evaluation module.

f) ISO/IEC 25050-25099 This is an extension of the ISO/IEC 25000 series of standards. Currently included are ready to use soft Quality requirements and ease of use test report industry common format.

The quality model of this section can be used in conjunction with ISO/IEC 12207 and ISO/IEC 15288, in particular with requirements definition, validation and confirm the relevant process, the process focused on the quality requirements of the norms and evaluation. ISO/IEC 25030 describes how the quality model is available Software quality requirements in the process of working, ISO/IEC 25040 describes how the quality model in the software quality evaluation process to play effect.

Note 1: ISO/IEC 25030 will be converted to GB/T 25000.30.

Note 2: ISO/IEC 25040 will be converted to GB/T 25000.40.

This part may be used with ISO/IEC 15504 (related to software process assessment) to provide.

- a) Customer-supplier process software product quality definition framework;
- b) support for review, validation and validation in the support process and a quantitative quality assessment framework;
- c) support for setting up organizational quality objectives during the management process.

This part may also be used in conjunction with GB/T 19001 (related to the quality assurance process) to provide.

- a) support for the establishment of quality objectives;
- b) support for design review, validation and validation.

Systems and software engineering System and Software Quality Requirements and Evaluation (SQuaRE) Part 10. System and software quality models

1 Scope

This part of GB/T 25000 defines.

- a) the use of quality model, the model consists of five characteristics, each feature can be further subdivided into some sub-characteristics, these characteristics off is the result of the interaction when the product is used in a particular context. This system model can be applied to the whole man-machine system, Including both the computer system in use and the software products in use.
- b) product quality model, the model consists of eight characteristics, each feature can be further subdivided into some sub-characteristics, these characteristics off the static nature of the software and the dynamic nature of the computer system. This model can be applied to both computer and computer systems Used in software products.