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Information technology — Systems and software quality requirements and evaluation (SQuaRE) — Service quality models

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National foreword

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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).

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For an explanation on the voluntary nature of standards, 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.

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

A list of all parts in the ISO/IEC 25000 series is available on the ISO website.

This corrected version of ISO/IEC TS 25011:2017 incorporates the following corrections:

— headers have been corrected and now read “ISO/IEC TS” instead of “ISO/TS”.

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Introduction

Information technology (IT) services are increasingly used to perform a wide variety of business and personal functions. IT service quality reflects how well an IT service conforms to its given design or how it compares to competitors in the marketplace.

Specification and evaluation of the quality of an IT service is critical for the IT services to meet the stakeholders' goals and objectives and this can be achieved by comprehensively defining the quality characteristics associated with the stakeholders' goals and objectives for the IT services.

An IT service is provided by an IT service provider using components like people, processes, technology, facilities and information, and can be orchestrated using an IT service provision system; these components interact with each other to support the service as a whole. Existing software and data quality models are not suitable to measure quality of IT service. IT service quality should be defined and measured by using an IT service quality model and quality measures that take account of these five components interacting.

This document provides quality models to support the specification and evaluation of the quality of IT services that makes use of IT systems as tools to provide value to an individual user or a business by facilitating results the user or business wants to achieve.

The quality models in this document include both objective measures of service quality and measures of the users' perceptions of quality. That is, the IT service quality is using objective measurement as far as possible to qualify the service characteristics, and other methods (such as assessment) can be used to collect objective evidence and qualify intangible features or characteristics of the IT service.

This document is a part of the Quality Model Division (ISO/IEC 2501n) of the SQuaRE series. The IT service quality models defined in this document are intended to be used in conjunction with the other SQuaRE series International Standards, which are represented in Figure 1 (adapted from ISO/IEC 25000).

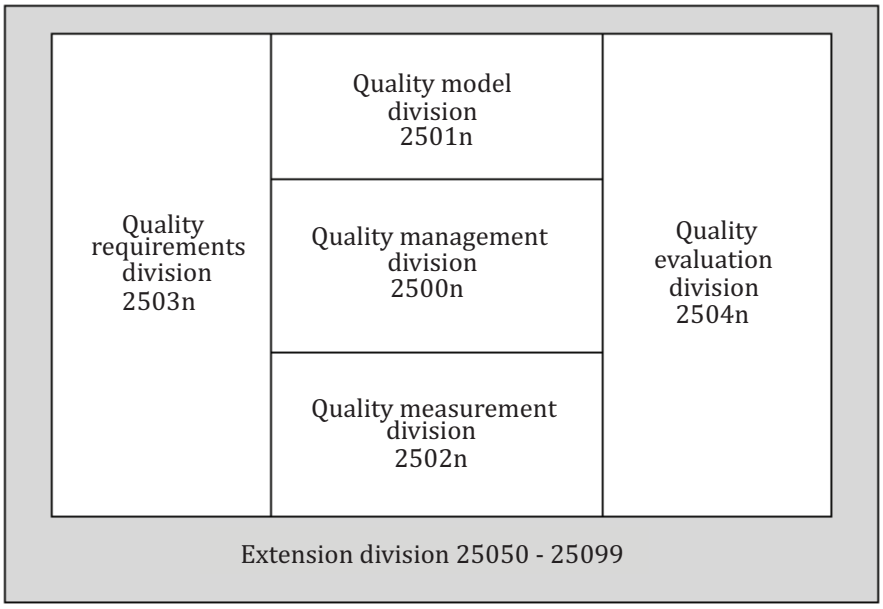


Figure 1 — Organization of SQuaRE series of International Standards

The divisions within the SQuaRE series are as follows.

— **ISO/IEC 2500n — Quality Management Division.** The International Standards that form this division define all common models, terms and definitions further referred to by all other

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International Standards from the SQuaRE series. The division also provides requirements and guidance for a supporting function that is responsible for a supporting function which is responsible for the management of the requirements, specifications and evaluations of software products and service quality.

— **ISO/IEC 2501n — Quality Model Division.** The International Standards or Technical Specifications that form this division present detailed quality models for software, data and service. Furthermore, in the software and IT service quality model, the internal and external quality characteristics are decomposed into sub-characteristics. Practical guidance on the use of the quality models is also provided.

— **ISO/IEC 2502n — Quality Measurement Division.** The International Standards that form this division include a software product and service quality measurement reference model, mathematical definitions of quality measures, and practical guidance for their application. Presented measures apply to internal software quality, external software quality, data quality, service quality and quality in use. Quality Measure Elements forming foundations for the latter measures are defined and presented.

— **ISO/IEC 2503n — Quality Requirements Division.** The International Standard that forms this division helps to specify quality requirements. These quality requirements can be used in the process of quality requirements elicitation for a software product to be developed or as input for an evaluation process and also used in the process of quality requirements elicitation for a service to be provided. The requirements definition process is mapped to technical processes defined in ISO/IEC 15288.

— **ISO/IEC 2504n — Quality Evaluation Division.** The International Standards that form this division provide requirements, recommendations and guidelines for software product and service evaluation, whether performed by evaluators, acquirers/customers or developers/providers. The support for documenting a measure as an Evaluation Module is also presented.

— **ISO/IEC 25050 to ISO/IEC 25099** are reserved for SQuaRE extension International Standards, Technical Specifications, Publicly Available Specifications (PAS) and/or Technical Reports.

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Information technology — Systems and software Quality Requirements and Evaluation (SQuaRE) — Service quality models

1 Scope

This document is applicable to IT services that support the needs of an individual user or a business. IT services can be delivered personally or remotely by people, or by an IT application that could be in a local or remote location (see Annex A).

These include two types of IT services:

a) services completely automated provided by an IT system;

b) services provided by a human using an IT system.

This document describes the use of two quality models for IT services.

a) This document defines an IT service quality model composed of eight characteristics (which are further subdivided into sub-characteristics) that relate to properties of the IT service made up from a combination of elements including people, processes, technology, facilities and information.

b) This document describes how the quality in use model in ISO/IEC 25010 which is composed of five characteristics (some of them are further subdivided into sub-characteristics) can be applied to the outcome when an IT service is used in a particular context of use. This model is applicable to the complete service provision system composed of people, processes, technology, facilities and information.

The characteristics and sub-characteristics provide consistent terminologies and check lists for specifying, measuring and evaluating IT service quality.

The use of the IT service quality models can help:

— IT service providers to identify service quality requirements, and evaluate and improve the quality of the service provided;

— customers to specify their requirements for the quality of service, define the acceptance criteria for service, and evaluate the quality of an IT service; and

— a third party to evaluate the quality of an IT service.

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 25010, *Systems and software engineering — Systems and software Quality Requirements and Evaluation (SQuaRE) — System and software quality models*

ISO/IEC 25012, *Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Data quality model*

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