TARKVARATEHNIKA
Tarkvaratoote kvaliteedinõuded ja kvaliteedi hindamine (SQuaRE)
Sarja SQuaRE teejuht

Software Engineering
Software product Quality Requirements and Evaluation (SQuaRE)
Guide to SQuaRE
(ISO/IEC 25000:2005)

EESTI STANDARDIKESKUS
ESTONIAN CENTRE FOR STANDARDISATION

EESTI STANDARDI EESSÕNA	NATIONAL FOREWORD
See Eesti standard EVS-ISO/IEC 25000:2012 „Tarkvaratehnika. Tarkvaratoote kvaliteedinõuded ja kvaliteedi hindamine (SQuaRE). Sarja SQuaRE teejuht“ sisaldab rahvusvahelise standardi ISO/IEC 25000:2005 „Software Engineering - Software product Quality Requirements and Evaluation (SQuaRE) - Guide to SQuaRE“ identset ingliskeelset teksti.	This Estonian Standard EVS-ISO/IEC 25000:2012 consists of the identical English text of the International Standard ISO/IEC 25000:2005 „Software Engineering - Software product Quality Requirements and Evaluation (SQuaRE) - Guide to SQuaRE“.
Ettepaneku rahvusvahelise standardi ümbertrüki meetodil ülevõtuks on esitanud EVS/TK 4, standardi avaldamist on korraldanud Eesti Standardikeskus.	Proposal to adopt the International Standard by reprint method has been presented by EVS/TK 4, the Estonian standard has been published by the Estonian Centre for Standardisation.
Standard EVS-ISO/IEC 25000:2012 on jõustunud sellekohase teate avaldamisega EVS Teataja 2012. aasta septembrikuu numbris.	This standard has been endorsed with a notification published in the official bulletin of the Estonian Centre for Standardisation.
Standard on kättesaadav Eesti Standardikeskusest.	The standard is available from the Estonian Centre for Standardisation.

Käsitlusala

See standard annab juhiseid tarkvaratoote kvaliteedinõuete ja kvaliteedi hindamise uue standardisarja (SQuaRE) kasutamiseks. Selle teejuhi eesmärk on anda üldine ülevaade sarja SQuaRE sisust, ühistest etalonmudelitest ja määratlustest ning ka seostest dokumentide vahel, võimaldades kasutajail vastavalt nende kasutuseesmärkidele saada head ettekujutust sellest standardisarjast. Selles dokumendis seletatakse üleminekuprotsessi vanadelt sarjadelt ISO/IEC 9126 ja 14598 sarjale SQuaRE ning antakse ka teavet selle kohta, kuidas kasutada sarju ISO/IEC 9126 ja 14598 nende senisel kujul.

Standardisari SQuaRE on mõeldud, kuid mitte ainult, tarkvaratoodete väljatöötajaile, hankijaile ja sõltumatuile hindajaile, eriti neile, kes vastutavad tarkvara kvaliteedinõuete spetsifitseerimise ja tarkvaratoodete hindamise eest. Sarja SQuaRE ning ka standardisarjade ISO/IEC 14598 ja 9126 kasutajail on soovitatav kasutada ka seda standardit juhisena oma ülesannete täitmisel.

Tagasisidet standardi sisu kohta on võimalik edastada, kasutades EVS-i veebilehel asuvat tagasiside vormi või saates e-kirja meiliaadressile standardiosakond@evs.ee.

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Introduction

Computers are being used in an increasingly wide variety of application areas, and their intended and correct operation is often critical for business success and/or human safety. Developing or selecting high quality software products is therefore of prime importance. Comprehensive specification and evaluation of software product quality is a key factor in ensuring adequate quality. This can be achieved by defining appropriate quality characteristics, while taking account of the intended use of the software product. It is important that every relevant software product quality characteristic is specified and evaluated, whenever possible using validated or widely accepted measures.

As quality characteristics and associated measures can be useful not only for evaluating a software product but also for defining quality requirements, the predecessor of SQuaRE, ISO/IEC 9126:1991 has been replaced by two related multipart International Standards: ISO/IEC 9126 (Software product quality) and ISO/IEC 14598 (Software product evaluation). The following points derived from practical use of both series gave the logical impulse for creating the new SQuaRE series of International Standards:

- Both ISO/IEC 9126 and ISO/IEC 14598 have common normative, referential and functional roots,
- ISO/IEC 9126 and ISO/IEC 14598 form a complementary set of standards,
- The independent life cycles of both series have created inconsistencies between them.

The general goal of creating the SQuaRE set of International Standards is to move to a logically organized, enriched and unified series covering two main processes: software quality requirements specification and software quality evaluation, supported by a software quality measurement process. The purpose of the SQuaRE set of International Standards is to assist those developing and acquiring software products with the specification and evaluation of quality requirements. It establishes criteria for the specification of software product quality requirements, their measurement, and evaluation. It includes a two-part quality model for aligning customer definitions of quality with attributes of the development process. In addition, the series provides recommended measures of software product quality attributes that can be used by developers, acquirers, and evaluators.

It has to be stressed that the SQuaRE series of International Standards is dedicated to software product quality only. SQuaRE ISO/IEC 25000n — Quality Management Division addresses software product quality requirements specification, measurement and evaluation, and is separate and distinct from the "Quality Management" of processes, which is defined in the ISO 9000 family of standards.

The major benefits of the SQuaRE series over its predecessor standards include:

- the coordination of guidance on software product quality measurement and evaluation,
- guidance for the specification of software product quality requirements, and
- harmonization with ISO/IEC 15939 in the form of Software product Quality Measurement Reference Model presented in ISO/IEC 25020 - Software engineering - Software product Quality Requirements and Evaluation (SQuaRE) Measurement reference model and guide.

The major differences between ISO/IEC 9126, ISO/IEC 14598 and SQuaRE series of International Standards are:

- the introduction of the new general reference model,
- the introduction of dedicated, detailed guides for each division,

- the introduction of Quality Measure elements within Quality Measurement Division,
- the introduction of the Quality Requirements Division,
- incorporation and revision of the evaluation processes,
- the introduction of guidance of practical use in form of examples,
- coordination and harmonization of the content with ISO/IEC 15939.

SQuaRE consists of the following five divisions:

- ISO/IEC 2500n - Quality Management Division,
- ISO/IEC 2501n - Quality Model Division,
- ISO/IEC 2502n - Quality Measurement Division,
- ISO/IEC 2503n - Quality Requirements Division, and
- ISO/IEC 2504n - Quality Evaluation Division,

ISO/IEC 25050 to ISO/IEC 25099 are reserved to be used for SQuaRE extension International Standards and/or Technical Reports.

SQuaRE provides:

- Terms and definitions,
- Reference models,
- General guide,
- Individual division guides, and
- International Standards for requirements specification, planning and management, measurement and evaluation purposes.

SQuaRE includes International Standards on quality model and measures, as well as on quality requirements and evaluation.

SQuaRE replaces the current ISO/IEC 9126 series and the 14598 series.

This part of SQuaRE series of standards is a new International Standard with the goal of providing a common set of reference models, terminology, definitions and guidance for practical use of the associated standards and technical reports.

Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Guide to SQuaRE

1 Scope

This International Standards provides guidance for the use of the new series of International Standards named Software product Quality Requirements and Evaluation (SQuaRE). The purpose of this Guide is to provide a general overview of SQuaRE contents, common reference models and definitions, as well as the relationship among the documents, allowing users of the Guide a good understanding of those series of standards, according to their purpose of use. This document contains an explanation of the transition process between the old ISO/IEC 9126 and the 14598 series and SQuaRE and also presents information on how to use the ISO/IEC 9126 and 14598 series in their previous form.

SQuaRE series of standards is intended for, but not limited to, developers, acquirers and independent evaluators of software products, particularly those responsible for defining software quality requirements and for software product evaluation. It is recommended that users of the SQuaRE as well as ISO/IEC 14598 and 9126 series of standards also use this International Standard as a guide to execute their tasks.

2 Conformance

There is no particular conformance clause for this document. Users, for their intended use of SQuaRE series of Standards should follow individual conformance clauses stated in each document of the series.

3 Normative references

This International Standard does not require any normative references. All informative references are presented in the Bibliography.

4 Terms and definitions

For the purposes of this document, the following definitions apply.

NOTE The definitions are common to all parts of SQuaRE series of standards.

4.1
acquirer
individual or organisation that acquires or procures a system, software product or software service from a supplier

NOTE Based on the definition in ISO/IEC 12207:1995.

4.2
analysis model
algorithm or calculation combining one or more base and/or derived measures with associated decision criteria

