AS/NZS ISO/IEC 25030:2013
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Australian/New Zealand Standard™

Software engineering—Software product Quality Requirements and Evaluation (SQuaRE)—Quality requirements

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-015, Software and Systems Engineering. It was approved on behalf of the Council of Standards Australia on 6 May 2013 and on behalf of the Council of Standards New Zealand on 29 April 2013.
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Keeping Standards up-to-date

Standards are living documents which reflect progress in science, technology and systems. To maintain their currency, all Standards are periodically reviewed, and new editions are published. Between editions, amendments may be issued. Standards may also be withdrawn. It is important that readers assure themselves they are using a current Standard, which should include any amendments which may have been published since the Standard was purchased.

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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

This Standard was issued in draft form for comment as DR AS/NZS ISO/IEC 25030.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software and Systems Engineering.

The objective of this Standard is to improve the quality of software quality requirements. It does this by providing requirements and recommendations for quality requirements, and guidance for the processes used to define and analyse quality requirements.

This Standard is identical with, and has been reproduced from ISO/IEC 25030:2007, *Software engineering—Software product Quality Requirements and Evaluation* (SQuaRE)—*Quality requirements.*

As this Standard is reproduced from an International Standard, the following applies:

(a) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(b) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC		AS/NZS ISO/IEC	
25020	Software engineering—Software product Quality Requirements and Evaluation (SQuaRE)—Measurement reference model and guide	25020	Software engineering—Software product Quality Requirements and Evaluation (SQuaRE)—Measurement reference model and guide

Only international references that have been adopted as Australian or Australian/New Zealand Standards have been listed.

The terms 'normative' and 'informative' have been used in this Standard to define the application of the annex to which they apply. A 'normative' annex is an integral part of a Standard, whereas an 'informative' annex is only for information and guidance.

CONTENTS

INTRODUCTION

It is important to identify and specify software quality requirements as part of specifying the requirements for a software product. Software is usually part of a larger system. System requirements and software requirements are closely related and software requirements can therefore not be considered in isolation. This International Standard focuses on software quality requirements, but takes a system perspective. Software quality requirements can be categorized by use of a quality model, for example the quality model defined in ISO/IEC 9126-1 [ISO/IEC 25010]. Measures of attributes of these characteristics and their subcharacteristics can be used to specify software quality requirements and evaluate the quality of a software product.

Software quality requirements address important issues of quality for software products. Software product quality requirements are needed for:

— specification (including contractual agreement and call for tender);

— planning (including feasibility analysis and translation of external software quality requirements into internal software quality requirements);

— development (including early identification of potential quality problems during development); and

— evaluation (including objective assessment and certification of software product quality).

If software quality requirements are not stated clearly, they may be viewed, interpreted, implemented and evaluated differently by different people. This may result in software which is inconsistent with user expectations and of poor quality; users, clients and developers who are unsatisfied; and time and cost overruns to rework software.

This International Standard aims to improve the quality of software quality requirements. It does this by providing requirements and recommendations for quality requirements, and guidance for the processes used to define and analyse quality requirements.

Application of this International Standard should help ensure that software quality requirements are:

— in accordance with stakeholder needs;

— stated clearly and precisely;

— correct, complete, and consistent; and

— verifiable and measurable.

This International Standard is intended to be used in conjunction with the other parts of the SQuaRE series of Standards (ISO/IEC 25000 – ISO/IEC 25049), and with ISO/IEC 14598 and ISO/IEC 9126, until superseded by the ISO/IEC 25000 series.

This International Standard complies with the technical processes defined in ISO/IEC 15288:2002 related to quality requirements definition and analysis.

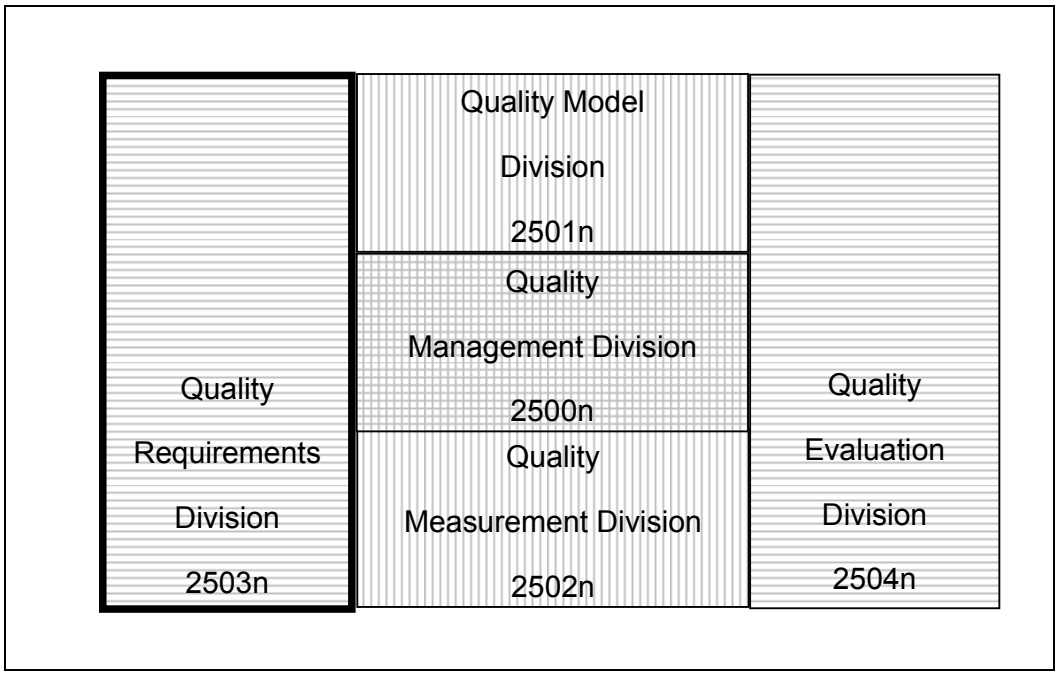

Figure 1 — Organisation of the ISO/IEC 25000 SQuaRE series of International Standards

Figure 1 (copied from ISO/IEC 25000) illustrates the organisation of the ISO/IEC 25000 SQuaRE series representing families of International Standards, further called Divisions.

The Divisions within SQuaRE model are:

— **ISO/IEC 2500n, Quality Management Division**. The International Standards that form this division define all common models, terms and definitions referred to further by all other International Standards from the SQuaRE series. Referring paths (guidance through SQuaRE documents) and high level practical suggestions in applying proper International Standards to specific application cases offer help to all types of users. The division also provides requirements and guidance for a supporting function which is responsible for the management of software product requirements specification and evaluation.

— **ISO/IEC 2501n, Quality Model Division**. The International Standard that forms this division presents a detailed quality model including characteristics for internal, external and quality in use. Furthermore, the internal and external software quality characteristics are decomposed into subcharacteristics. Practical guidance on the use of the quality model is also provided.

— **ISO/IEC 2502n, Quality Measurement Division**. The International Standards that form this division include a software product 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 and quality in use. Measurement primitives forming foundations for the latter measures are defined and presented.

— **ISO/IEC 2503n, Quality Requirements Division**. The International Standard that forms this division helps 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. 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 evaluation, whether performed by evaluators, acquirers or developers. The support for documenting a measure as an Evaluation Module is also presented.

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

AUSTRALIAN/NEW ZEALAND STANDARD

Software engineering—Software product Quality Requirements and Evaluation (SQuaRE)—Quality requirements

1 Scope

This International Standard provides requirements and recommendations for the specification of software product quality requirements.

This International Standard applies to organisations in their role as both acquirers and suppliers.

The quality model in ISO/IEC 9126-1 [ISO/IEC 25010] is used to categorize software quality requirements and to provide a basis for quantifying the quality requirements in terms of software quality measures.

This International Standard complies with the technical processes defined in ISO/IEC 15288:2002, which are relevant for identification of stakeholder product quality needs and for analysis of software product quality requirements.

This International Standard does not cover specification of other requirements (such as functional requirements, process requirements, business requirements, etc.).

This International Standard does not prescribe specific software quality measures nor does it prescribe any specific development process.

2 Conformance

Software quality requirements conform to this International Standard if they fulfil the requirements specified in Clause 6.

3 Normative references

The following referenced documents are indispensable for the application 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 9126-1:2001, *Software engineering — Product quality — Part 1: Quality model* [1)]

ISO/IEC 25020, *Software engineering — Software product Quality Requirements and Evaluation (SQuaRE) — Measurement reference model and guide*

1) ISO/IEC 9126-1:2001 will be cancelled and replaced by ISO/IEC 25010.