AS/NZS ISO/IEC 33003:2016
ISO/IEC 33003:2015

AS/NZS ISO/IEC 33003:2016

Australian/New Zealand Standard™

Information technology—Process assessment—Requirements for process measurement frameworks

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 21 January 2016 and on behalf of the Council of Standards New Zealand on 18 January 2016.
This Standard was published on 17 February 2016.

The following are represented on Committee IT-015:

Australian Computer Society
Australian Society for Technical Communication, NSW
Charles Sturt University
Department of Defence
Griffith University
Institute of IT Professionals New Zealand
IT Service Management Forum Australia
La Trobe University
National Association of Testing Authorities Australia
NEHTA
New Zealand Organisation for Quality
NSW Business Chamber
Quantitative Enterprise Software Performance
Systems Engineering Society of Australia
University of Technology, Sydney

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 Standards may also be withdrawn.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.

Detailed information about joint Australian/New Zealand Standards can be found by visiting the Standards Web Shop at www.saiglobal.com.au or Standards New Zealand web site at www.standards.co.nz and looking up the relevant Standard in the on-line catalogue.

For more frequent listings or notification of revisions, amendments and withdrawals, Standards Australia and Standards New Zealand offer a number of update options. For information about these services, users should contact their respective national Standards organization.

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 33003:2015.

Australian/New Zealand Standard™

Information technology—Process assessment—Requirements for process measurement frameworks

Originated in Australia as part of AS 15504.2(Int)—1998.
Previous edition part of AS/NZS ISO/IEC 15504.2:2004.
Jointly revised and redesignated as AS/NZS ISO/IEC 33003:2016.

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, Private Bag 2439, Wellington 6140.

ISBN 978 1 76035 402 2

PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software and Systems Engineering, to supersede AS/NZS ISO/IEC 15504.2:2004, *Information technology—Process assessment*, Part 2: *Performing an assessment*.

The objective of this Standard is to set out the requirements for process measurement frameworks for use in process assessment.

This Standard is identical with, and has been reproduced from ISO/IEC 33003:2015, *Information technology—Process assessment—Requirements for process measurement frameworks*.

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	
15939	Systems and software engineering—Measurement process	15939	Systems and software engineering—Measurement process
33001	Information technology—Process assessment—Concepts and terminology	33001	Information technology—Process assessment—Concepts and terminology

The term 'informative' has been used in this Standard to define the application of the annexes to which it applies. An 'informative' annex is only for information and guidance.

CONTENTS

INTRODUCTION

This International Standard provides requirements for process measurement frameworks that support and enable the assessment of process quality characteristics, from conceptualization to empirical validation. In process measurement frameworks, measurement of a process quality characteristic produces a composite measure (e.g. process capability levels of ordinal scale in ISO/IEC 33020). Examples of process quality characteristics that are constructs (theoretical concepts) include process capability, process security, process agility, and process safety. The main users of this International Standard are developers of process measurement frameworks and process assessment models. Conformity to this International Standard ensures that any process measurement framework is developed with reliable structures or elements which will generate quality composite measures.

This International Standard is part of a set of International Standards designed to provide a consistent and coherent framework for the assessment of process quality characteristics, based on objective evidence resulting from implementation of the processes. The framework for assessment covers processes employed in the development, maintenance, and use of systems across the information technology domain and those employed in the design, transition, delivery, and improvement of services. The set of International Standards, as a whole, addresses process quality characteristics of any type. Results of assessment can be applied for improving process performance, or for identifying and addressing risks associated with application of processes.

This International Standard provides requirements for the development of process measurement frameworks, such as ISO/IEC 33020. These can then be used to define process assessment models, conformant to ISO/IEC 33004, that can be employed for process assessments conformant with ISO/IEC 33002. The overall architecture and content of the series is described in ISO/IEC 33001.

Several International Standards in the ISO/IEC 330xx family of standards for process assessment are intended to replace and extend parts of the ISO/IEC 15504 series of Standards. ISO/IEC 33001, Annex A provides a detailed record of the relationship between the ISO/IEC 330xx family and the ISO/IEC 15504 series.

AUSTRALIAN/NEW ZEALAND STANDARD

Information technology—Process assessment—Requirements for process measurement frameworks

1 Scope

This International Standard sets out the requirements for process measurement frameworks for use in process assessment. The requirements defined in this International Standard form a structure which

a) establish the requirements for process measurement frameworks in the context of process assessment,

b) establish the requirements for the validation of process measurement frameworks for use in process assessment, and

c) establish requirements that are applicable to any process measurement frameworks to develop composite measures across domains.

This International Standard is applicable to the development of process measurement frameworks for any process quality characteristic across all application domains.

Annex A presents a map of terminologies used in this International Standard. Annex B provides an explanation of construct specifications. Annex C reviews statistical validation methods. Annex D provides some methods including references that can be utilized in implementing the requirements for process measurement frameworks. These Annexes will be moved to a guide for constructing process measurement frameworks to be developed as part of the set of International Standards.

NOTE ISO/IEC 33020 is a process measurement framework for assessment of process capability based on this International Standard.

2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies

ISO/IEC 15939:2007, *Systems and software engineering — Measurement process*

ISO/IEC 33001:2015, *Information technology — Process assessment — Concepts and terminology*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO/IEC 33001, ISO/IEC 15939, and the following apply:

3.1
aggregation method
method that combines a set of measurement values to create a composite value

Note 1 to entry: Aggregation methods are based on compensatory or non-compensatory models.