

AS/NZS ISO/IEC 33004:2016
ISO/IEC 33004:2015
(Incorporating Amendment No. 1)

AS/NZS ISO/IEC 33004:2016

Australian/New Zealand Standard™

**Information technology—Process
assessment—Requirements for process
reference, process assessment and
maturity models**



AS/NZS ISO/IEC 33004:2016

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 Standards may also be withdrawn.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 or Standards New Zealand web site at www.standards.govt.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 Standards Australia or the New Zealand Standards Executive at the address shown on the back cover.

Australian/New Zealand Standard™

Information technology—Process assessment—Requirements for process reference, process assessment and maturity models

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 33004:2016.
Reissued incorporating Amendment No. 1 (May 2018).

COPYRIGHT

© Standards Australia Limited

© The Crown in right of New Zealand, administered by the New Zealand Standards Executive

All rights are reserved. No part of this work may be reproduced or copied in any form or by any means, electronic or mechanical, including photocopying, without the written permission of the publisher, unless otherwise permitted under the Copyright Act 1968 (Australia) or the Copyright Act 1994 (New Zealand).

Jointly published by SAI Global Limited under licence from Standards Australia Limited, GPO Box 476, Sydney, NSW 2001 and by Standards New Zealand, PO Box 1473, Wellington 6140.

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*.

This Standard incorporates Amendment No. 1 (May 2018). The changes required by the Amendment are indicated in the text by a marginal bar and amendment number against the clause, note, table, figure or part thereof affected.

The objective of this Standard is to set out the requirements for process reference models, process assessment models, and maturity models.

This Standard is identical with, and has been reproduced from ISO/IEC 33004:2015, *Information technology—Process assessment—Requirements for process reference, process assessment and maturity models*.

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.
- (c) Following Clause 6.3.7, *renumber* Clause 6.3.1 as 6.3.8; 6.3.2 as 6.3.9; 6.3.2.1 as 6.3.9.1; 6.3.2.2 as 6.3.9.2; and 6.3.3 as 6.3.10.
- (d) In the existing Clause 6.3.1 (now 6.3.8) *renumber* the second set of list items as 1), 2) and 3).

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

<i>Reference to International Standard</i>		<i>Australian/New Zealand Standard</i>	
ISO/IEC		AS/NZS ISO/IEC	
33001	Information technology—Process assessment—Concepts and terminology	33001	Information technology—Process assessment—Concepts and terminology
33003	Information technology—Process assessment—Requirements for process measurement frameworks	33003	Information technology—Process assessment—Requirements for process measurement frameworks

CONTENTS

1	Scope	1
2	Normative references	1
3	Term(s) and definition(s)	1
4	Requirements for process models	1
5	Process reference models	2
	5.1 Introduction.....	2
	5.2 Process reference model purpose and scope.....	2
	5.3 Requirements for process reference models.....	2
	5.4 Process descriptions.....	2
	5.5 Verifying conformity of process reference models.....	3
6	Process assessment models	3
	6.1 Introduction.....	3
	6.2 Process assessment model scope.....	4
	6.3 Requirements for process assessment models.....	4
	6.3.1 Assessment Indicators.....	5
	6.3.2 Mapping process assessment models.....	5
	6.3.3 Expression of assessment results.....	6
	6.4 Verifying conformity of process assessment models.....	6
7	Maturity models	6
	7.1 Introduction.....	6
	7.2 Maturity model scope.....	6
	7.3 Requirements for a maturity model.....	7
	7.3.4 Scale of organizational process maturity.....	7
	7.3.5 Process descriptions.....	7
	7.3.6 Rules for deriving maturity level from process quality level.....	8
	7.4 Verifying conformity of maturity models.....	8
	Bibliography	9

INTRODUCTION

This International Standard provides requirements for the construction and verification of process reference models, process assessment models, and maturity models.

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.

The set of International Standards ISO/IEC 33001:2015 to ISO/IEC 33099, termed the ISO/IEC 330xx family, defines the requirements and resources needed for process assessment. The overall architecture and content of the series is described in this International Standard. General issues relating to the application of conformity assessment to the assessment of process quality characteristics and organizational process maturity are addressed in ISO/IEC 29169.

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. Annex A in ISO/IEC 33001 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 reference, process assessment and maturity models**1 Scope**

This International Standard sets out the requirements for process reference models, process assessment models, and maturity models. The requirements defined in this International Standard form a structure which specifies

- a) the relationship between the classes of process model associated with the performance of process assessment,
- b) the relationship between process reference models and prescriptive/normative models of process performance, as constituted by, for example, the activities and tasks defined in ISO/IEC 12207 [1] and ISO/IEC 15288 [2],
- c) the integration of process reference models and process measurement frameworks to establish process assessment models,
- d) the use of common sets of assessment indicators of process performance and process quality in process assessment models, and
- e) the relationship between maturity models and process assessment models and the extent to which a maturity model can be constructed using elements from different process assessment models.

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

ISO/IEC 33003, *Information technology — Process assessment — Requirements for process measurement frameworks*

3 Term(s) and definition(s)

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

4 Requirements for process models

This International Standard sets out the requirements that shall be met by process models used to support process assessment. A process assessment model shall be based upon a suitable reference source of process definitions based on one or more process reference model(s) as described in [Clause 5](#). The requirements to be met by a process assessment model in order to claim conformance through its relationship with specific process reference model(s) are defined in [Clause 6](#). A maturity model shall be based on a suitable process assessment model(s); requirements for a maturity model are set out in [Clause 7](#).

The requirements for conformance of process assessment models enable comparison of outputs from assessments using different process assessment models based upon the same process reference model(s).