AS/NZS 14143.4:2003
ISO/IEC TR 14143-4:2002



Australian/New Zealand Standard™

# Information technology– Software measurement—Functional size measurement

## Part 4: Reference model



Standards Australia
STANDARDS NEW ZEALAND
Paerewa Aotearoa

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-015, Software Engineering. It was approved on behalf of the Council of Standards Australia on 4 March 2003 and on behalf of the Council of Standards New Zealand on 20 February 2003. It was published on 31 March 2003.

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*This Standard was issued in draft form for comment as DR 02525.*

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First published as AS/NZS 14143.4:2003.



Jointly published by Standards Australia International Ltd, GPO Box 5420, Sydney, NSW 2001 and Standards New Zealand, Private Bag 2439, Wellington 6020

ISBN 0 7337 5113 X

# PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software Engineering. It is identical with, and has been reproduced from, ISO/IEC TR 14143-4:2002, *Information technology—Software measurement—Functional size measurement,* Part 4: *Reference model*.

The objective of this Standard is to provide standard RUR together with guidance on selecting Reference FSM methods by defining the reference model to be used.

This Standard is Part 4 of AS/NZS 14143, *Information technology—Software measurement—Functional size measurement*, which is published in parts as follows:

Part 1: Definition of concepts
Part 2: Conformity evaluation of software size measurement methods to ISO/IEC 14143-1:1998
Part 4: Reference model (this Standard)

The terms 'normative' and 'informative' are used 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.

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(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

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| *Reference to International Standard* | | *Australian/New Zealand Standard* | |
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| ISO/IEC | | AS/NZS | |
| 9126 | Information technology—Software product evaluation—Quality characteristics and guidelines for their use | 4216 | Information technology—Software product evaluation—Quality characteristics and guidelines for their use |
| 14143 | Information technology—Software measurement—Functional size measurement | 14143 | Information technology—Software measurement—Functional size measurement |
| 14143-1 | Part 1: Definition of concepts | 14143.1 | Part 1: Definition of concepts |

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# INTRODUCTION

The user of an FSM Method must establish that the FSM Method is appropriate to quantify the functional size of the software. The conformity to ISO/IEC 14143-1:1998 will be necessary but may not be sufficient. An evaluation process of an FSM Method will have to consider practical evidence of the performance of the FSM Method. Such an evaluation may require benchmarking the chosen FSM Method to compare its results for a collection of known Reference User Requirements (RUR) with those obtained from a Reference FSM Method.

Part 4 of ISO/IEC 14143 provides standard RUR together with guidance on Reference FSM Methods. Figure 0.1 shows how these are used to establish reference results. The FSM Method to be evaluated determines functional size results for a collection of appropriate RUR. The same collection of RUR is measured by one or more Reference FSM Methods and these reference results are then compared with the results obtained from the FSM Method to be evaluated.

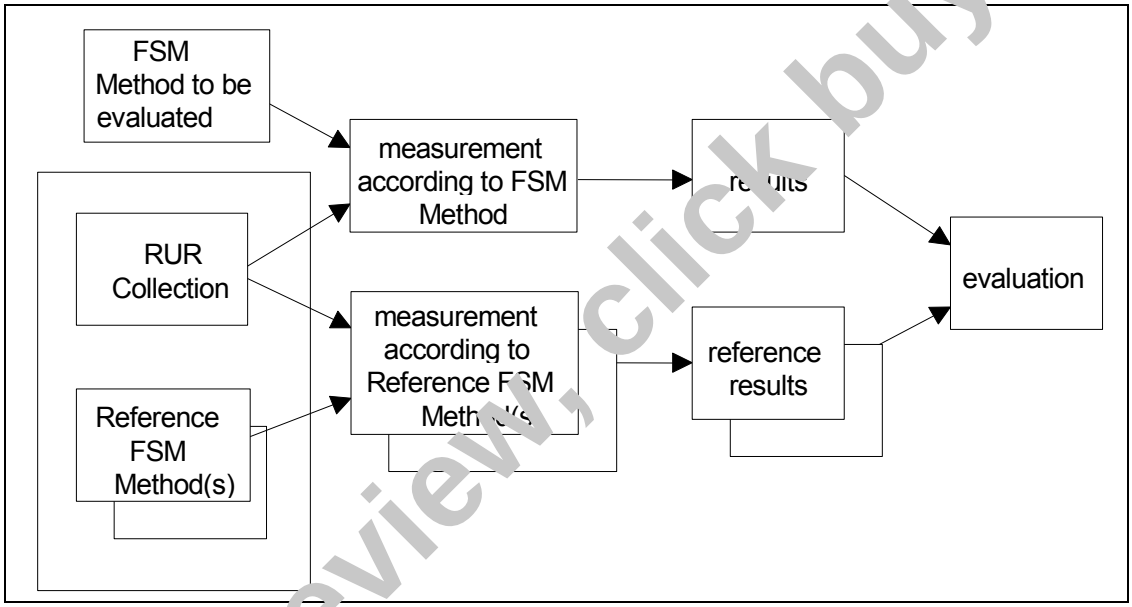


**Figure 0.1: Use of RUR and Reference FSM Methods**

Clause 5 of this part of ISO/IEC 14143 defines a framework for identifying, classifying and selecting RUR. Annexes A and B provide examples of such RUR in two different domains. While it would be desirable to have an exhaustive set of such RUR, the size of such collection would be prohibitive. Further RUR can be found in the RUR reference list presented in Annex C. Additional appropriate RUR may be constructed according to the basic guidelines stated in clause 5 RUR.

Clause 6 of this part of ISO/IEC 14143 introduces the general requirements for Reference FSM Methods. The reference FSM Methods provide reference points, against which other FSM Methods can be compared.

NOTES

AUSTRALIAN/NEW ZEALAND STANDARD

# Information technology — Software measurement — Functional size measurement —

# Part 4:
# Reference model

## 1. Scope

Part 4 of ISO/IEC 14143 defines the reference model (Figure 0.1) to be used when verifying a Functional Size Measurement (FSM) method.

The reference model consists of two components:

- a classification framework of Reference User Requirements (RUR) which can be sized using an FSM Method. Included are examples of such RUR as well as references to further publications of User Requirements (UR) which can be used for RUR, and
- guidance on selecting Reference FSM Methods against which an FSM Method can be compared.

The reference model is an input to the evaluation process of an FSM Method. The formulation and execution of evaluation tests and the interpretation of their results is outside the scope of this Technical Report.

The RUR and additional references contained in this Technical Report only represent examples of UR in some domains and situations. Additional RUR and RUR for domains and situations not covered by Annex A, B, or C may be generated with the assistance of the framework described in this Technical Report.

The requirements for Reference FSM Methods may assist in selecting Reference FSM Methods.

## 2. Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of ISO/IEC 14143. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this part of ISO/IEC 14143 are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

ISO/IEC 14143-1:1998, *Information technology — Software measurement — Functional size measurement — Part 1: Definition of concepts*.

ISO/IEC 9126:1991, *Information technology — Software product evaluation — Quality characteristics and guidelines for their use*.