

Australian/New Zealand Standard™

**Information technology—Software  
measurement—Functional size  
measurement**

**Part 4: Reference model**

### **AS/NZS 14143.4:2003**

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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## 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)

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#### ISO/IEC

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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.

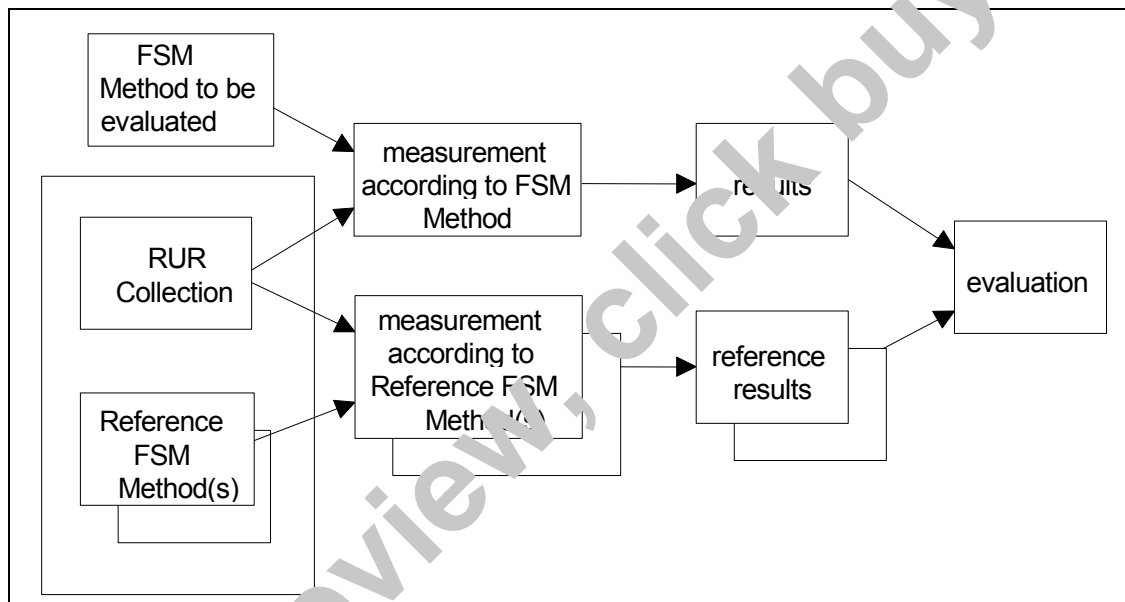


Figure 0.1: Use of RUR and Reference FSM Methods

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.

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## 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.*