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

**Part 1:
Definition of concepts**

*Technologies de l'information — Mesurage du logiciel — Mesurage de
la taille fonctionnelle*

Partie 1: Définition des concepts

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Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

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Foreword

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International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of the joint technical committee is to prepare International Standards. Draft International Standards adopted by the joint technical committee are circulated to national bodies for voting. Publication as an International Standard requires approval by at least 75 % of the national bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO and IEC shall not be held responsible for identifying any or all such patent rights.

ISO/IEC 14143-1 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and system engineering*.

This second edition cancels and replaces the first edition (ISO/IEC 14143-1:1998), of which it constitutes a minor revision.

ISO/IEC 14143 consists of the following parts, under the general title *Information technology — Software measurement — Functional size measurement*:

- *Part 1: Definition of concepts*
- *Part 2: Conformity evaluation of software size measurement methods to ISO/IEC 14143-1:1998*
- *Part 3: Verification of functional size measurement methods* [Technical Report]
- *Part 4: Reference model* [Technical Report]
- *Part 5: Determination of functional domains for use with functional size measurement* [Technical Report]
- *Part 6: Guide for use of ISO/IEC 14143 series and related International Standards*

Introduction

Organizations engaged in software engineering have struggled for years in search of acceptable quantitative methods for measuring process efficiency and effectiveness, and for managing software costs, for the systems they acquire, develop, enhance or maintain. One critical, and particularly elusive, aspect of this measurement requirement has been the need to determine software size. Numerous software sizing methods have been proposed in the past. These included numbers of source lines of program code and various measures derived from the technical characteristics of the software.

These methods can have limitations in that they:

- cannot always be applied early in the software development process;
- cannot always be applied uniformly throughout the software's lifetime; or
- cannot always be meaningfully understood by users of the software.

The concepts of Functional Size Measurement (FSM) are designed to overcome these limitations by shifting the focus away from measuring how the software is implemented to measuring size in terms of the functions required by the user. In 1979, Allan J. Albrecht of IBM was the first to publicly release a method based on such concepts, known as Function Point Analysis.

Since the public release of Function Point Analysis, many sizing methods have been developed based on Albrecht's and other concepts. As these various sizing methods were developed without common agreement of the fundamental concepts of FSM, it was natural that inconsistencies amongst the methods would develop. These inconsistencies lessen the ability and attractiveness of any of these methods to be used as a standard method for the functional sizing of software.

This part of ISO/IEC 14143 defines the fundamental concepts of FSM, thereby promoting the consistent interpretation of FSM principles.

The text in this part of ISO/IEC 14143 has been formatted in order to facilitate the checking of a candidate software sizing method for conformance to this part of ISO/IEC 14143.

Information technology — Software measurement — Functional size measurement

Part 1: Definition of concepts

1 Scope

This part of ISO/IEC 14143 defines the fundamental concepts of Functional Size Measurement (FSM). This part of ISO/IEC 14143 does NOT provide detailed rules on how to:

- measure Functional Size of software using a particular method;
- use the results obtained from a particular method;
- select a particular method.

This part of ISO/IEC 14143 is applicable when determining if a method for sizing software is an FSM Method. It does not prevent the development of various methods, but rather provides a basis for assessing whether a particular method conforms to FSM.

This part of ISO/IEC 14143 is intended for use by those persons associated with the acquisition, development, use, support, maintenance and audit of software.

2 Normative Reference

There are no normative references.