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Information technology — Software measurement — Functional size measurement

Part 6: Guide for use of ISO/IEC 14143 series and related International Standards

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

Partie 6: Guide pour l'usage de la série ISO/CEI 14143 et des Normes internationales connexes

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Foreword

ISO (the International Organization for Standardization) and IEC (the International Electrotechnical Commission) form the specialized system for worldwide standardization. National bodies that are members of ISO or IEC participate in the development of International Standards through technical committees established by the respective organization to deal with particular fields of technical activity. ISO and IEC technical committees collaborate in fields of mutual interest. Other international organizations, governmental and non-governmental, in liaison with ISO and IEC, also take part in the work. In the field of information technology, ISO and IEC have established a joint technical committee, ISO/IEC JTC 1.

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 part of 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 14143-6 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

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*

— *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*

This second edition cancels and replaces the first edition (ISO/IEC 14143-6:2006), which has been technically revised.

Introduction

Functional Size Measurement (FSM) is a technique used to measure size of software by quantifying the Functional User Requirements of the software. The first published method to embrace this concept was Function Point Analysis, developed by Allan J. Albrecht in the late 1970s. Since then, numerous extensions and variations of the original method have been developed. In the field of ISO/IEC International Standards, the following Functional Size Measurement-related International Standards and Technical Reports have been published:

— ISO/IEC 14143 series, parts 1 to 5,

— ISO/IEC 19761 (COSMIC method),

— ISO/IEC 20926 (IFPUG method)

— ISO/IEC 20968 (Mk II method),

— ISO/IEC 24570 (NESMA method), and

— ISO/IEC 29881 (FiSMA method).

This part of ISO/IEC 14143 was established to provide FSM Method users and developers with a guide as to how these International Standards and Technical Reports relate to each other and how to use them.

The Functional Size (FS) obtained by measuring a piece of software, contributes to a better understanding of the characteristics of the software as well as the development, maintenance and support activities thereof. The three types of International Standards and Technical Reports related to the definition and use of FS and/or Functional Size Measurement (FSM) are:

a) Concept Standards: Describe concepts and provide definitions,

b) Supporting Standards: Supply information to assist in the evaluation of Functional Size Measurement Methods (FSMM) and examples of the software domains that they measure, and

c) Method Standards: Define instances of FSMMs.

Any FSMM, other than the Method Standards, can be used to measure FS as long as it conforms to ISO/IEC 14143-1. FSMMs can vary in their capability to measure software in different domains. Therefore, before deciding on which FSMM to use, it is advisable to assess the capability of the method to adequately size the software to be measured.

This part of ISO/IEC 14143 provides guidance on how to select a suitable FSMM using all FSM-related standards.

The FS results obtained from applying the selected FSMM can be used for a variety of purposes throughout the lifecycle of the software. This part of ISO/IEC 14143 also provides illustrative examples of how to use FSM and functional size to manage aspects of software development and maintenance.

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1 Scope

This part of ISO/IEC 14143 provides a summary of the FSM-related standards and the relationship between;

a) the ISO/IEC 14143 series FSM framework International Standards that provide the definitions and concepts of FSM, and conformity and verification of FSMMs, and

b) the ISO/IEC standard FSMMs, i.e. ISO/IEC 19761, ISO/IEC 20926, ISO/IEC 20968, ISO/IEC 24570 and ISO/IEC 29881.

This part of ISO/IEC 14143 also provides a process to assist users to select and develop an FSMM that meets their requirements as well as providing guidance on how to use FS. FSMMs include, but are not limited to, ISO/IEC 19761, ISO/IEC 20926, ISO/IEC 20968, ISO/IEC 24570 and ISO/IEC 29881.

NOTE An FSMM is a software sizing method that conforms to the mandatory requirements of ISO/IEC 14143-1. Recommending a specific FSMM is outside the scope of this part of ISO/IEC 14143.

The audiences of this part of ISO/IEC 14143 are:

- users and potential users of FSM; and
- developers of an FSMM.

2 Abbreviated terms

BFC Base Functional Component

FS Functional Size

FSM Functional Size Measurement

FSMM Functional Size Measurement Method

FUR Functional User Requirements

RUR Reference User Requirements