

Implementation Note for IEEE Adoption of ISO/IEC 14143-1:1998 Information Technology— Software Measurement— Functional Size Measurement— Part 1: Definition of Concepts

Sponsor

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Abstract: Implementation notes that relate to the IEEE interpretation of ISO/IEC 14143-1:1998 are described.

Keywords: function point, Functional Size Method, measurement, metrics

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Introduction

(This introduction is not part of IEEE Std 14143.1-2000, Implementation Note for IEEE Adoption of ISO/IEC 14143-1:1998 Information Technology—Software Measurement—Functional Size Measurement—Part 1: Definition of Concepts.)

This standard is an adoption of ISO/IEC 14143-1:1998 and contains implementation notes based on the IEEE interpretation of ISO/IEC 14143-1:1998.

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Contents

1.	Implementation Note for IEEE Std 14143.1-2000	1
2.	Terminology.....	1
3.	Related IEEE standard	2
4.	The role of the standard	2
5.	Errata.....	2
6.	Exceptions.....	2
7.	Clarifications.....	3
8.	One Functional Size versus many Functional Sizes	4

Implementation Note for IEEE Adoption of ISO/IEC 14143-1:1998 Information Technology— Software Measurement— Functional Size Measurement— Part 1: Definition of Concepts

1. Implementation Note for IEEE Std 14143.1-2000

IEEE Std 14143.1-2000 is an adoption of ISO/IEC 14143-1:1998.¹ The following implementation notes relate to the IEEE interpretation of ISO/IEC 14143-1:1998. Two differences that affect conformance are noted in Clause 6 of this document.

2. Terminology

Some differences exist between the terminology used in IEEE Std 14143.1-2000 and that in IEEE Std 610.12-1990, IEEE Standard Glossary of Software Engineering Technology, because the terminology of the International Standard is specialized to its particular purpose. The reader should use the local definitions in IEEE Std 14143.1-2000 where there is a difference with those of IEEE Std 610.12-1990. In some cases, the definition in IEEE Std 610.12-1990 may provide further clarification. It is important to keep in mind, however, that full compatibility of definitions has yet to be achieved in the evolving field of software engineering.

The terms *functional user requirement*, *quality requirement*, and *technical requirement* are used in this implementation note to classify requirements into categories that are deemed either to contribute or not to contribute to a measurement of Functional Size. For this specific purpose, the terms are used in a manner that may not be consistent with usage in other IEEE Software Engineering standards.

The definition of *user* encompasses, not merely humans who interact with the system, but also *things*, such as hardware and software components of interacting systems.

¹ ISO and ISO/IEC publications are available from the ISO Central Secretariat, Case Postale 56, 1 rue de Varembé, CH-1211, Genève 20, Switzerland/Suisse. ISO publications are also available in the United States from the Sales Department, American National Standards Institute, 11 West 42nd Street, 13th Floor, New York, NY 10036, USA.

The Note to Annex A.3.4 draws a distinction between *software enhancement* and *software maintenance*. The definition of *maintenance* in IEEE Std 610.12-1990 includes the concept of enhancement.

None of these differences cause a contradiction between this standard and other IEEE standards. They merely indicate that users of the standard should pay careful attention to the definitions within the particular context of the standard.

3. Related IEEE standard

IEEE Std 1045-1992, IEEE Standard for Software Productivity Metrics

This standard provides some information regarding the utility of “function points,” an example of Functional Size Measurement.

4. The role of the standard

IEEE Std 14143.1-2000 deals with the fundamental concepts that apply to the general class of Functional Size Measurement (FSM) methods. An important principle of FSM methods is that they are independent of quality requirements (including performance requirements) and technical requirements. This does not diminish the importance of such requirements in the project planning, estimating, and measurement processes. However, the Functional Size itself is independent of such requirements; those requirements are typically introduced as project characteristics that are used in estimating and analysis of results.

This standard does not provide detailed rules for selecting a FSM method, using a method to measure the Functional Size of software, or using Functional Size for project planning, estimating, and measurement. An example of a method for measuring Functional Size is provided by *IFPUG Function Points, Release 4.1*.²

5. Errata

The editor of the working group that developed the International Standard noted the following errors in the published standard:

- a) **Introduction, second paragraph:** There should be a second sentence that reads, “In 1979, Allan Albrecht of IBM was the first to publicly release a method based on such concepts, known as Function Point Analysis.”
- b) **Clause 5.2.2, Note 2:** Change “if more than two files are accessed” to “if two or more files are accessed.”

6. Exceptions

The following items reference normative material in ISO/IEC 14143-1:1998. In this regard, conformance with IEEE Std 14143.1-2000 differs from conformance with ISO/IEC 14143-1:1998. The changes are minor and probably have no impact on conformance in actual situations.

² IFPUG publications are available from the International Function Point Users Group, 5008-28 Pine Creek Drive, Westerville, OH 43081, USA, 614-895-7130.