
**Software engineering — NESMA
functional size measurement method
version 2.1 — Definitions and counting
guidelines for the application of Function
Point Analysis**

*Ingénierie du logiciel — Méthode de mesure de la taille fonctionnelle
NESMA, version 2.1 — Définitions et manuel des pratiques de
comptage pour l'application de l'analyse des points fonctionnels*

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Published in Switzerland

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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 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 24570 was prepared by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, Subcommittee SC 7, *Software and systems engineering*.

Introduction

Version 1.0 (November 1990)

The NESMA Board set up a counting guidelines committee devoted to the standardization of counting guidelines/definitions in September of 1989. The committee's task was and (still) is to draw up and maintain a NESMA FPA manual.

Version 1.1 (May 1991)

Version 1.1 is a reprint of version 1.0. Except for the improvement of some minor errors, the two versions are the same.

Addendum (May 1994)

The manual *Definitions And Counting Guidelines For The Application Of Function Point Analysis* satisfies a great need and has become a standard in the Netherlands within a short time.

In May of 1991 the Board of the NESMA set up the work group "FPA Case Study" and gave it the task of developing a case study that would present the application of FPA and counting guidelines within a context.

While developing the case study, the work group felt that a number of definitions of counting guidelines needed to be more precise:

- The derivation of logical files from a data model in third normal-form (the so-called denormalization rules)
- A more concrete definition of the concept of FPA table
- Uniform treatment of selection screens
- Dealing with combination effects of functions

The Counting Guidelines Committee established additional counting guidelines for these topics after extensive discussion took place both within the committee itself and within the work group FPA Case Study.

You will find the additional counting guidelines necessary and/or helpful when working out the case. In view of the issue date of the case (mid 1994), the NESMA Board decided to issue these additional counting guidelines as an Addendum to version 1.1 of the Counting Guidelines Manual.

Version 2.0 (April 1996)

This new version of the manual *Definitions And Counting Guidelines For The Application Of Function Point Analysis* incorporates the following improvements:

- The guidelines recorded in the addendum have now been integrated into the manual
- A large number of points in the guidelines have been further clarified
- The results of extensive consultation with the IFPUG have been processed
- The manual's accessibility has been increased further as a result of editorial improvements
- Many examples and illustrations have been added

The committee is of the opinion that the changes made are chiefly an elaboration and further illustration of the guidelines drawn up earlier. In modifying the manual, the committee has worked in such a way that the changes made have as little effect as possible on the results of a function point analysis. Appendix D goes further into this.

The guidelines published in this manual have been applied to a rather large case study with the title, *FPA Case Study "Hotel" For The Application of Function Point Analysis*. Applying the guidelines in practice is explained in this document in detail.

The publication of this version takes precedence over versions 1.0 and 1.1, as well as the Addendum.

English translation of version 2.0 (November 1997)

This English version of the manual is an accurate translation of the Dutch version

Version 2.1 Unadjusted (February 2002)

This version has been developed for the manual to be an ISO recognized standard. The main adaptation is the exclusion of the General System Characteristics. This exclusion conforms to the ISO standard 14143-1 Functional Size Measurement.

Reason for this International Standard

The NESMA was set up in the spring of 1989. (At that time it was called the NEFPUG.) During its first meeting in June, it carried out a study among its participants in order to survey which subjects they were interested in. The standardization of counting guidelines/definitions was high on the list. In reaction to this, the NESMA Board decided to set up a committee devoted to this topic. This committee set itself the task of putting together a International Standard for the theoretical application and the practical use of function point analysis (FPA)¹.

Over the years a number of "dialects" have arisen for FPA. These dialects complicate the goal of determining the number of function points and make it almost impossible for organizations to compare results. One insufficiently acknowledged reason for this is that different interpretations of the "Albrecht" method have arisen.

This International Standard hopes to provide clarity by formulating standards for the definitions and counting guidelines that pertain to FPA.

Intended audience

This International Standard is meant for everyone who performs function point counts; i.e., both for people who count according to the NESMA rules and for those who use the IFPUG rules. For those using the IFPUG rules, the NESMA International Standard can be a valuable supplement to the IFPUG International Standard if the differences stated on the website "WWW.NESMA.ORG" are taken into account. The NESMA International Standard, after all, contains many hints, guidelines, and examples that can be of value to every FPA counter. It is assumed that the reader has some knowledge of FPA. Nevertheless, we have also attempted to produce as complete a International Standard as possible that includes sufficient introductory material and explanation for the new FPA user. For both the maintenance of the IFPUG International Standard and the NESMA International Standard there is a co-operation between the IFPUG CPC and the NESMA CPC.

Departure points of this International Standard

The NESMA FPA method is in principle applicable to all Functional domains.

The following documentation has served as the foundation for this International Standard:

- IBM CIS & A Guideline 313, AD/M Productivity Measurement and Estimate Validation, November 1, 1984.

¹ The abbreviation FPA is used for the term Function Point Analysis.

This is an internal IBM publication. The method described in it is usually referred to as *Albrecht '84*.

Future versions

When changes and supplements to this International Standard prove necessary in the future, an entire new version will be produced

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Software engineering — NESMA functional size measurement method version 2.1 — Definitions and counting guidelines for the application of Function Point Analysis

1 Scope

This International Standard

- a) specifies a method to measure the functional size of software,
- b) gives guidelines on how to determine the components of functional size of software,
- c) specifies how to calculate the functional size as a result of the method, and
- d) gives guidelines for the application of the method.

2 Overview

This clause provides an overview to the International Standard "Definitions and counting guidelines for the application of function point analysis". The following questions are answered: What is its aim (subclause 2.1)? What is its focus (subclause 2.2)? How is it laid out (subclause 2.3)?

2.1 Objective of this International Standard

The International Standard attempts to provide a theoretical framework by presenting definitions and standard guidelines. It also tries to illustrate the counting guidelines as concretely as possible by using several practical situations.

2.2 Focus of this International Standard

The International Standard focuses on how the functional size of an application is determined. The International Standard does not go into any of the aspects that play a role when project budgeting is drawn up on the basis of this functional size; e.g., productivity standards and productivity attributes. This particular topic has been described in the manual "*Budgeting on the basis of logical design using function point analysis*", also by the NESMA.