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Australian/New Zealand Standard™

Software engineering—COSMIC-FFP—A functional size measurement method

This Joint Australian/New Zealand Standard was prepared by Joint Technical Committee IT-015, Software and Systems Engineering. It was approved on behalf of the Council of Standards Australia on 19 February 2007 and on behalf of the Council of Standards New Zealand on 7 December 2007.
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Australian Software Metrics Association
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We also welcome suggestions for improvement in our Standards, and especially encourage readers to notify us immediately of any apparent inaccuracies or ambiguities. Please address your comments to the Chief Executive of either Standards Australia or Standards New Zealand at the address shown on the back cover.

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PREFACE

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee IT-015, Software and Systems Engineering.

The objective of this Standard is to provide Software Engineers with a Standard which specifies the set of definitions, conventions and activities of the COSMIC-FFP Functional Size Measurement Method.

This Standard is identical with, and has been reproduced from ISO/IEC 19761:2003, *Software engineering—COSMIC-FFP—A functional size measurement method*.

As this Standard is reproduced from an international standard, the following applies:

(a) Its number appears on the cover and title page while the international standard number appears only on the cover.

(b) In the source text 'this International Standard' should read 'this Australian/New Zealand Standard'.

(c) A full point substitutes for a comma when referring to a decimal marker.

References to International Standards should be replaced by references to Australian or Australian/New Zealand Standards, as follows:

Reference to International Standard		*Australian/New Zealand Standard*	
ISO/IEC		AS/NZS	
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

The term 'informative' has been used in this Standard to define the application of the annex to which it applies. An 'informative' annex is only for information and guidance.

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INTRODUCTION

Software is a major component of many corporate budgets. Organisations recognise the importance of controlling software expenses and analysing the performance of the budgets allocated to software development and maintenance in order to benchmark against the best in the field. To do so, measures and models using these measures are needed.

Measures are needed for analysing both the quality and the productivity associated with developing and maintaining software. On the one hand, technical measures are needed to quantify the technical performance of products or services from a developer's viewpoint. Technical measures can be used for efficiency analysis; to improve the performance of designs, for instance.

On the other hand, functional measures are needed to quantify the performance of products or services from a user's or owner's perspective; for productivity analysis, for instance. Functional measures must be independent of technical development and implementation decisions. They can then be used to compare the productivity of different techniques and technologies.

The Full Function Points (FFP) method was proposed in 1997 with the aim of offering a functional size measure specifically adapted to real-time software. Since then, measurement practice in many organisations and field tests demonstrated that this functional size measurement method not only had the ability to capture the functional size of real-time software, but also to capture the functional size of MIS and system software.

These field test results, coupled with the feedback received from organisations which used it, motivated the authors to improve the method. Many improvements were also inspired by the work of the Common Software Measurement International Consortium (COSMIC). The results of these efforts were published in May 2001 as version 2.1 of the COSMIC-FFP Functional Size Measurement Method.

The COSMIC-FFP Functional Size Measurement Method aims to meet these needs of

a) software suppliers facing the task of translating customer requirements into the size of software to be produced as a key activity in their project cost estimating and,

b) customers who want to know the functional size of delivered software as an important component of measuring supplier performance.

AUSTRALIAN/NEW ZEALAND STANDARD

Software engineering — COSMIC-FFP — A functional size measurement method

1 Scope

This International Standard specifies the set of definitions, conventions and activities of the COSMIC-FFP Functional Size Measurement Method. It is applicable to software from the following functional domains:

a) application software which is needed to support business administration;

EXAMPLE Banking, insurance, accounting, personnel, purchasing, distribution or manufacturing.

b) real-time software, the task of which is to keep up with or control events happening in the real world;

EXAMPLE Software for telephone exchanges and message switching, software embedded in devices to control machines such as domestic appliances, lifts and car engines, for process control and automatic data acquisition, and within the operating system of computers.

c) hybrids of the above.

EXAMPLE Real-time reservation systems for airlines or hotels.

This International Standard has not been designed for measuring the functional size of a piece of software, or its parts, which:

d) is characterized by complex mathematical algorithms or other specialized and complex rules, such as may be found in expert systems, simulation software, self-learning software and weather forecasting systems, or

e) processes continuous variables such as audio sounds or video images, such as may be found, for instance, in computer game software, musical instruments and the like.

However, within the local environment of an organisation using the COSMIC-FFP Functional Size Measurement Method, it may be possible to measure these FUR in a way which is meaningful as a local standard. This International Standard contains provision for the local customisation of the method for this purpose.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 14143-1:1998, *Information technology — Software measurement — Functional size measurement — Part 1: Definition of concepts*