First edition 2002-12-01

# Software engineering — Mk II Function Point Analysis — Counting Practices Manual

Génie logiciel — Analyse des points fonctionnels Mk II — Manuel des pratiques de comptage



### ISO/IEC 20968:2002(E)

This is a preview of "ISO/IEC 20968:2002". Click here to purchase the full version from the ANSI store.

#### **PDF** disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

#### © ISO/IEC 2002

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
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

Published in Switzerland

# Table of Contents

TABLE (	OF CONTENTS	Ш
FOREW	ORD	٧
1		1
INTRODUCTION		1
1.1 1.2 1.3 1.4 1.5	Definition and Purpose of MkII Function Point Analysis Purpose of the Counting Practices Manual ('CPM') Who should read this document? Albrecht/IFPUG Function Point Analysis Applicability of Mk II FPA Manual Structure	1 2 2 2 3 4
1.7 1.8	Metrics Practices Committee Procedure for raising a Query or Issue with the MPC	5 5
2		7
THE MK	II FUNCTION POINT ANALYSIS RULES	7
Rule 2 Rule 3 Rule 4 Rule 5	Boundary Functional Size and Logical Transactions Processing Component of Logical Transactions Input and Output Components of Logical Transactions Logical Transaction Size Reporting a MkII Function Point Count	7 7 8 8 8 8
3	•	11
MEASUREMENT STEPS 1		
Step 1 Step 2 Step 3 Step 4	Determine the Viewpoint, Purpose and Type of the Count Define the Boundary of the Count Identify the Logical Transactions Identify and Categorise the Data Entity Types	12 12 13 13
Step 6 Step 7 Step 8 Step 9 Step 10	Count the Input Data Element Types, the Data Entity Types Referenced, and the Output ement Types.  Calculate the Functional Size  Determine Project Effort  Calculate Productivity and other Performance Parameters  Score the Degrees of Influence  Calculate the Technical Complexity Adjustment  Calculate Adjusted Size and Performance Parameters	13 13 13 13 13 13 14
4		15
GENER A	AL GUIDELINES FOR MKII FUNCTION POINT COUNTING	15
4.1 4.2 4.3 4.4 4.5 4.6	Determining the Viewpoint, Purpose and Type of the Count Drawing the Boundary for a Count Interfaces Identifying Logical Transactions Identifying Entity Types Identifying Input and Output Data Element Types	15 16 18 21 39 43

MEASUREMENT GUIDELINES FOR SPECIFIC SITUATIONS 4		
<ul> <li>5.1 Counting Graphical User Interfaces (GUIs)</li> <li>5.2 Approximate Sizing of Application Portfolios</li> <li>5.3 Sizing Changes</li> <li>5.4 Changes to make software Year 2000 compliant</li> <li>5.5 Counting Application Packages</li> </ul>	49 54 55 58 58	
6	61	
CALCULATING THE ADJUSTED SIZE (OPTIONAL)		
7	63	
MEASURING EFFORT		
7.1 Project Start 7.2 Project End 7.3 Whose time included? 7.4 What time is included? 7.5 Project duration	64 64 64 64 65	
MEASURING PRODUCTIVITY AND OTHER ASPECTS OF PERFORMANCE		
<ul> <li>8.1 Development Productivity</li> <li>8.2 Change Productivity</li> <li>8.3 Maintenance and Support Productivity</li> <li>8.4 Measuring and Understanding Performance in Software Activities: The Wider Issues</li> </ul>	65 65 65 66	
9	68	
ESTIMATING EFFORT USING MKII FPA		
10	70	
GLOSSARY OF MKII FPA TERMS		
APPENDIX I		
TECHNICAL COMPLEXITY ADJUSTMENT		
APPENDIX II		
DATA COLLECTION FORMS		
Introduction Record Sheets - a Possible Structure Documentation Process		
APPENDIX III		
BIBLIOGRAPHY		
The International Standard: General texts on software measurement with MkII FPA: Use of MkII FPA in Estimating Other Relevant Publications		

## **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 20968 was prepared by the United Kingdom Software Metrics Association (UKSMA) and was adopted, under the PAS procedure, by Joint Technical Committee ISO/IEC JTC 1, *Information technology*, in parallel with its approval by national bodies of ISO and IEC.