

ISO/IEC 24570:2018-02 (E)

Software engineering - NESMA functional size measurement method - Definitions and counting guidelines for the application of function point analysis

Contents		Page
Foreword		v
Introduction to this Standard		vi
1	Scope	1
1.1	Purpose	1
1.2	Conformity	1
1.3	Applicability	1
1.4	Focus	1
2	Introduction to FPA	2
2.1	Brief description of FPA	2
2.1.1	Background, purpose and application of FPA	2
2.1.2	Rationale behind FPA	2
2.2	Use of FPA: application versus project functional size	3
2.3	Types of function point analyses	3
2.4	Function point analyses during a project	3
2.5	Scope of the analysis and boundary of the application to be analyzed	4
2.6	Users	4
2.7	Functions and function types	4
2.8	The complexity of a function	5
2.9	The valuing of functions	6
2.10	The functional size	6
3	Guidelines to perform an FPA	7
3.1	Step-by-step plan to perform an FPA	7
3.2	Types of function point analyses and their accuracy	7
3.2.1	Indicative function point analysis	8
3.2.2	High level function point analysis	9
3.2.3	Detailed function point analysis	9
3.3	Role of the quality of the specifications	10
3.4	FPA during a project	10
3.5	Determining the functional size of an application	11
3.5.1	Determining the application boundary	11
3.5.2	Functional size of new applications	12
3.5.3	Functional size of enhanced applications	12
3.5.4	Functional size of re-built applications	12
3.6	Determining the functional size of a project	13
3.6.1	Determining the scope of a project function point analysis	13
3.6.2	Functional size of development projects	14
3.6.3	Functional size of enhancement projects	15
3.6.4	The project function point analysis during the replacement of an application	16
3.7	Definition of functional change	16
3.7.1	General	16
3.7.2	Modification of a transactional function	16
3.7.3	Modification of a data function	16
3.7.4	Modification of a DET	17
3.8	FPA in specific situations	17
3.8.1	Analyzing on the basis of traditional design	17
3.8.2	Analyzing packaged software	17
3.8.3	Analyzing screens or windows	19

3.8.4	Analyzing when prototyping	20
3.9	Illustration: FPA and the application life cycle	21
3.9.1	FPA during the requirements phase	21
3.9.2	FPA during the analysis phase	22
3.9.3	FPA during the functional design phase	23
3.9.4	FPA during the construction phase	24
3.9.5	FPA during the implementation phase	24
3.9.6	FPA during the operation and maintenance phase	24
4	General FPA guidelines	25
4.1	Analyzing from a logical perspective	25
4.2	Applying the rules	25
4.3	No double counting	25
4.4	Built functionality, non-requested functionality	25
4.5	Production of re-usable code	26
4.6	Re-use of existing code	26
4.7	Screens, windows and reports	26
4.8	Input and output records	26
4.9	Security and authorization	26
4.10	Operating systems and utilities	27
4.11	Report generators and query facilities	27
4.12	Graphs	27
4.13	Help facilities	27
4.14	Messages	28
4.15	Menu structures	28
4.16	List functions	28
4.17	Browse and scroll functions	28
4.18	Cleanup functions	29
4.19	Completeness check on the function point analysis	29
4.20	FPA tables	29
4.21	Deriving logical files (data functions) from a normalized data model	30
4.21.1	Introduction	30
4.21.2	Denormalization rules	30
4.21.3	The nature of the relationship (cardinality and optionality)	31
4.21.4	Independence or dependence of an entity type	31
4.21.5	Conversion table: from normalized entity types to logical files	33
4.22	Shared use of data	34
4.23	Generic rule for counting data element types	37
5	Internal Logical Files	37
5.1	Definition of an internal logical file	38
5.2	Identifying internal logical files	38
5.3	Determining the complexity of internal logical files	39
6	External Logical Files	40
6.1	Definition of an external logical file	40
6.2	Identifying external logical files	41
6.3	Determining the complexity of external logical files	43
7	External Inputs	43
7.1	Definition of an external input	44
7.2	Identifying external inputs	45
7.3	Determining the complexity of external inputs	46
8	External Outputs	48
8.1	Definition of an external output	48
8.2	Identifying external outputs	50
8.3	Determining the complexity of external outputs	52
9	External Inquiries	53
9.1	Definition of an external inquiry	54

9.2 Identifying external inquiries 55
9.3 Determining the complexity of external inquiries 56
Annex A (normative) Summary features for valuing function types 58
Annex B (normative) Function Point Analysis glossary 63
Annex C (informative) Increase in Functional Size 68