



Evolution of IFPUG Function Points – Now at 4.3!

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Function Points (FPs) were first introduced by IBM in the 70's and they have become *the* industry standard for functional sizing. For over 25 years, the function point methodology has been governed by the International Function Point Users Group (IFPUG), a not-for-profit organization which was established to promote the usage of function points in the global IT community. Over 30 countries are represented in IFPUG membership and leadership. Through its Counting Practices Committee (CPC), IFPUG has maintained the guidelines and rules for counting practices by producing several iterations of the Counting Practices Manual (CPM). Each new edition, or version, of the rules is verified by the IFPUG body through practical application to ensure consistency. This article will address the value of function points and the highlights of the new 4.3 CPM, effective January 2010.

Background – What are Function Points and What is their Value?

Function point analysis (FPA) is the functional size method (FSM) defined by IFPUG and is a standard method for quantifying the software deliverable based upon the user view. The user perspective is interpreted as the user being any person or thing that communicates or interacts with the software at any time, including applications. FPA has successfully been used to size a wide spectrum of applications and projects, including complex financial and accounting, governmental, customer service, manufacturing and telecommunications systems. Over time it has proven effective on both older platforms and emerging technologies (e.g. mainframe, client-server, web, PC, data warehouse, voice response, cloud computing); for a variety of development types (real-time, batch, interactive or control systems); for internal or external development efforts (e.g. on-shore, off-shore, contractor-based); for all development life cycles (waterfall, RAD/JAD, Agile); and for vendor and/or COTS package integrations (SAP, SIEBEL).

Flexibility, usability, consistency, and compliancy are just four of the primary characteristics that drive the value of using function points. As software deliverables are produced, tracked and analyzed, function point sizing can be used in a variety of value-added services.

Performance Metrics. Using function points as the common size measure normalizes performance metrics across platforms and projects. Productivity (delivery rate – hours/fps delivered), Quality (defect rate = defects/fps delivered), Schedule (time to market), Cost (\$\$/function point delivered) are the cornerstones of performance tracking and improvement using function points.

Benchmarking. Measuring IT performance internally and externally in a highly competitive industry identifies opportunities for improvement in time to delivery, cost reduction, productivity and customer satisfaction. Benchmarking can also substantiate the value of IT and performed periodically, can be used to prove IT return on investment.

Outsourcing Service Level Agreements. Comparative delivery rates by platform and defect density are effective in providing a contractual basis for performance standards for outsourcing requirements when functional sizing is used as the common measure.

Version 4.3 – What does it mean to you?

There are two facets of the CPM v 4.3 that become evident when one studies the changes from 4.2: (1) The structure and wording of the CPM have changed significantly, however (2) The counting process, and the ensuing results, have not changed significantly. Specifically, CPM 4.2 was revised into 4.3 to further clarify the existing rules, delete redundancies, be more succinct and less ambiguous, provide more examples and clarification, and to align with the ISO standards.

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The restructure of the 4.2 CPM (4 parts) into the 4.3 version (5 parts) resulted in a publication which is now 100% ISO compliant. A summary of the 5 parts follows.

Part 1. Process, Rules and Definitions.

This section is new. The 4.2 Process and Rules were split between 4.3 - Parts 1 and 2, with Part 1 becoming the ISO Standard (IFPUG Functional Size Measure); revised from 4.2 using strict ISO wording and format. New definitions were added for selective terms, e.g. “self-contained” and “consistent state”. The ISO FSM does not use General Systems Characteristics (GSCs) or the Value Adjustment Factor (VAF), therefore the GSCs and the VAF were not included in this section.

The transaction rules have been streamlined, with little or no redundancy, in that there is now a common set of DET and FTR rules for all transactions and the Uniqueness Test (i.e., same DETs, FTRs & Processing Logic) has been removed from EI/EO/EQ rules & stated once. While being modified in wording and format, the rules are simply “the same rules”- restated, and there is no difference in counting results.

Part 2 (former 4.2 Part 1): The Bridge - Applying the IFPUG FSM Method

Additional information from the 4.2 Process and Rules is included in this section. The GSCs and VAF were moved to Appendix C, as they are completely optional in the counting process. Wording and actions changed to be consistent with FSM and all discussion of Enhancement Projects were moved to the Enhancement Chapter. There is no difference in counting practice as a result of these changes.

Part 3 (former 4.2 part 2): Counting Practices

The term “unadjusted function points” has been replaced with “functional size”. Discussion of unadjusted vs. adjusted was moved to the appendix since the terms are only in context with relation to the GSCs and VAF. Wording and actions were changed to be consistent with FSM. Additional guidance and examples for enhancements are provided, including addition of a chapter for counting conversion activity (although the counting rules have always allowed for counting conversion activity). There is no difference in counting practice as a result of these changes.

Part 4 (former 4.2 part 3): Examples

The wording and format were changed to be consistent with the FSM. Additional clarifications and examples have been provided in this section. There is no difference in counting practice as a result of these changes.

Part 5 (former part 4): Appendices and Glossary

In addition to containing the expanded glossary, this section now contains the GSCs and VAF. The GSCs and VAF continue to be optional to functional size measurement.

Other specific changes were made to each chapter within each part to further support the FSM process, and ISO standards, such as:

- Additional and/or modified process steps, e.g. “Gather requirements documentation”

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- Removal of “quality requirements” and “technical requirements” with the ISO term “non-functional requirements.”
- “Count...” as in “Count Transactional Functions”, changed to “Measure...” as in “Measure Transactional Functions”
- “Identify Counting Scope and Application Boundary” was changed to “Determine Counting Scope and Boundary and Identify Functional User Requirements”

Summary

While all of these type changes reflect a more unified, consistent, and usable CPM, there is no difference in the counting practices in spite of considerable differences in wording, process order, and format. However, due to all of the additional information from the Part 1 – FSM, the different process structure and reworded definitions, the CFPS test will be more focused on functional size measurement and its various components in the CPM. The CFPS test under 4.3 will be effective approximately June 2010.

References

Dennis, Sheila and Garmus, David. "Introduction to Function Points", 2005.
Function Point Counting Practices Manual - Release 4.3, The International Function Point Users Group. 2009.
Timp, Adri. "The New CPM – 4.3", International Function Point Users Group, ISMA Conference, September 2009.