IFPUG
INTERNATIONAL FUNCTION POINT USERS GROUP
www.ifpug.org
MetricViews
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## Inside...




## Message from the President

**As IFPUG's new President, effective November 1, 2009, I would like to first, say, "Hello" to everyone.**

Over the years as a Board member, I have often heard that IFPUG needs to be more international, and I completely agree. In a step toward that direction, the Board has approved the 2010 IFPUG Conference to be held in Brazil, which is being dubbed ISMA Cinco! While details are still being worked out by the Conference and Education Committees, their Director, CMA and two of our Brazilian members—Mauricio Aguiar (IFPUG Past President) & Márcio Silveira (IFPUG Director of International & Organizational Affairs)—I am definitely excited about ISMA Cinco and would like to see future conferences in other countries where IFPUG has a significant membership presence. Stay tuned for additional email blasts regarding ISMA Cinco. I look forward to a wonderful Conference and hope you all can attend.

Other exciting events/activities occurring recently include:

- The Counting Practices Committee's (CPC) has completed and published version 4.3 of the CPM, which is ISO compliant. This was a tremendous accomplishment for which the Board awarded the CPC the Outstanding Committee Award for 2009. The award, which the Board instituted in 2008, recognizes an IFPUG committee that has made a significant contribution to IFPUG during the past year. The CPM 4.3 has been published and is the official version of the counting standards effective January 1, 2010.
- The Education services, Conference and Communication & Marketing Committees were instrumental in our recent successful ISMA 4 Conference in Chicago.
- The Certification Committee has been busy having the automated exam translated into additional languages to also make IFPUG more international. The exam is now automated in four languages (English, Brazilian Portuguese, Italian and Korean) with plans to translate the exam into other languages.

Some of the events/activities that are in progress are as follows. I will definitely be pushing for their completion during my two-year term as IFPUG President. The IT Performance Committee has been working diligently on the SNAP project, a methodology for non-functional sizing, with plans for its release late next year. The New Environments Committee has just recently announced the formation of "Interest Groups" to exchange information and ideas on how IFPUG rules are applicable to a variety of topics. I ask that you consider joining one of the "Interest Groups." The Management & Reporting Committee is beginning plans to write another book like the *IT Measurements: Practical Advice from the Experts*, which was published several years ago.

I cannot say enough about the IFPUG volunteers who have accomplished or are working on the above mentioned events/activities. They are an extremely dedicated and professional group of individuals without whom IFPUG could not exist. Many thanks to all of the IFPUG volunteers!

One last thought—if you have just been sitting back and have not been involved, consider getting involved in some way, such as volunteering for an IFPUG committee, a task group or one of the above mentioned "Interest Groups." If you cannot join a committee due to limited availability, perhaps consider volunteering to do some offline work for one of the committees which does occur periodically.

Start planning now for Brazil—Hope to see you at ISMA Cinco.

Bruce Rogora
IFPUG President

## ISMA CINCO in Brazil!

## From the Editor's Desk

### ISMA Cinco in Brazil in 2010!

IFPUG is excited to share with you the progress towards ISMA Cinco in Brazil. Tentative plans are to conduct workshops on September 13, 2010 with the Conference following on the 14th and 15th. Many of the details are still being explored. Brazil has one of the largest memberships within IFPUG and its economy has remained stable during the recent worldwide slowdown. Those who participate next year, including sponsors and member attendees, will enjoy meeting many new faces and contacts. Márcio Silveira and Mauricio Aguiar, who have experience in hosting conferences in their native homeland, will be great resources in helping to make this happen. Stay tuned, much more to come!

### 2009 IFPUG Board of Directors Election Results

Thanks to each of you who participated in the election process this year. IFPUG was lucky to have a great set of candidates vying for the one open position. At the ISMA 4 Conference, President Tom Cagley announced the election results noting that Kriste Lawrence was elected to the Board of Directors. Congratulations to our newest Board member, Kriste Lawrence, who has been appointed the new Director of Education & Conference Services.

Leaving the Board of Directors is Mauricio Aguiar. Mauricio has been a valuable contributor to IFPUG over the years and leaves after fulfilling his most recent role as Immediate Past President and prior to that, President and Vice President. Mauricio now joins the IFPUG Past Presidents where IFPUG will continue to seek his council to benefit our community.

In addition, this year brings to an end the two-year Presidency of Tom Cagley. Tom will now transition to the role of Immediate Past President. Bruce Rogora now serves as President of IFPUG. Because of this transition, the position of Vice President was vacated. The Board of Directors held an election and Joe Schofield was elected as IFPUG's new Vice President.

With these changes effective November 1, 2009, the 2009-10 Board of Directors is composed as follows:

***President - Bruce Rogora***
***Vice President - Joe Schofield***
***Immediate Past President - Tom Cagley***
***Treasurer - Mary Dale***
***Secretary and Director, Communications & Marketing - Chris Kohnz***
***Director Applied Programs - Loredana Fralliccardi***
***Director Education & Conference Services - Kriste Lawrence***
***Director Counting Standards - Mary Bradley***
***Director International & Organizational Affairs - Márcio Silveira***

Chris Kohnz
Director, Communications & Marketing

## Important News for Current and Aspiring Certified Function Point Specialists (CFPS)!

### CFPS Exam – CPM 4.2 or 4.3?

Effective January 1, 2010, Counting Practices Manual (CPM) 4.3 replaces CPM 4.2 as the current IFPUG method. So what does that mean for the CFPS Exam?

As in the past, the CFPS exam will not reflect the new release, CPM 4.3, until the membership has had ample time to review and acclimate to the updates. At the earliest, the English language CFPS exam will reflect CPM 4.3 six months after the January 2010 effective date. In other words, the English language CFPS exam will reflect CPM 4.3 no earlier than July 2010. Non-English language exams will begin to reflect CPM 4.3 using a similar approach—at the earliest, six months after CPM 4.3 has been translated to a given language.

### CFPS Certification Extension Program (CEP)

The new and improved CFPS CEP was launched on October 1, 2009!

This year the CFPS CEP was streamlined to remove underutilized activities and to convert the credits approach to an activity based approach. Also worthy of noting are the new two year certification extension and the reduction in the number of required activities for certification extension. Three activities are now required for a three-year certification extension and two activities are now required for a two-year certification extension.

Interested in the CFPS CEP? Detailed information about the CFPS CEP, activity credit criteria, application, and necessary documentation process may be found on the IFPUG Web Site: http://www.ifpug.org/certification/certificationExtension.htm.

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# Counting Practices Committee

***By Janet Russac***

IFPUG's Counting Practices Committee (CPC) announces the release of Version 4.3 of the Counting Practices Manual (CPM). CPM 4.3 is comprised of the Functional Size Measurement Method (FSM), the ISO standard and an implementation guide. Effective January 1, 2010, it replaces CPM 4.2 as the current IFPUG method.

This revision to the CPM further clarifies the rules and enhances the definitions and examples, thereby enabling a more consistent interpretation and application of rules. Part 1 of the CPM is a copy of the Functional Size Measurement Method (FSM), the ISO standard, which describes the process, definitions, and rules. The existing Part 1 material has been moved to Part 2 - The Bridge. Parts 2, 3, 4 and the Appendices have been updated and enhanced with additional examples and guidance.

CPM 4.3 is available for purchase from the IFPUG website at www.ifpug.org. The manual is also available for download on the member side of the IFPUG website at no cost to current IFPUG members.

# Education Committee

***By Bill Hufschmidt, Past Chair***

Classes at the Conference once again received excellent reviews. We also began WebEx presentations, which after a rocky start, came off pretty well. Several lessons were learned for future process improvement.

We are currently looking for additional suggestions for enhancements and experienced personnel to join the Committee.

# Management & Reporting Committee

***By Heidi Malkiewicz, Chair***

The Management & Reporting Committee (MRC) met this past September in Chicago during IFPUG's annual ISMA Workshops and Conference.

During the Workshops, the MRC hosted the Certified Software Measurement Specialist (CSMS) exam. Two additional people have now become certified CSMSs! The CSMS is an industry certification for individuals working in the field of software measurement. Employing individuals with a specialized level of knowledge and skills around software measurement adds credibility to the organization. The CSMS designation provides formal recognition of expertise in the area of software measurement. To learn more about this professional certification, please visit the CSMS overview on IFPUG's website at http://www.ifpug.org/certification/csms.htm.

The MRC is actively working with international contacts in order to broaden the awareness of CSMS and make exams available worldwide, outside of IFPUG-hosted conferences.

Also, during our meetings in Chicago, the MRC planned a redesign of the CSMS section of the IFPUG website. We are excited to launch the new changes to the website in the coming months!

# Membership Committee

***By Mike Harris, Chair***

An Update and a Challenge!

In this edition of *MetricViews*, I have an update for you and a challenge.

You may recall from the last *MetricViews'* issue that the Membership Committee was planning to roll out its ideas for an "Organization Accreditation Program" (OAP) over the summer to get feedback from both members and non-members.

Well, it is fair to say that we got the feedback we needed in two forms. Firstly, the response to our request for feedback was very small. This limited response tells us that there is not a lot of suppressed demand out there for this sort of program. Secondly, the response that we did receive was mixed—essentially, the majority of respondents could see the value of a program like this but a majority also felt their organizations would not be very willing to pay for such a program, especially in the current economic circumstances.

The IFPUG Board of Directors accepted the Membership Committee's recommendation to suspend development of the OAP.

This brings me to the challenge. If you are taking the time to read this magazine and this article, I am sure I do not need to persuade you of the value of software measurement and the contribution that IFPUG, its members and its many volunteers make to this field. With our work on OAP complete, the IFPUG Board has given the Membership Committee its next top-priority challenge—increasing IFPUG membership. To tackle this challenge, we need your help. At the ISMA 4 Conference, I suggested everyone present should try to recruit just one new member in the coming year. I want to extend that challenge out to all of you now—please try to recruit one new member this year.

This is just one idea for increasing membership. You can also help in another way. Please send in your ideas for other ways to increase membership. The more, the merrier!

# New Environments Committee

*By Steven Woodward, Chair*

## "Interest Groups" – Discussions and Papers

The New Environments Committee (NEC) has made major changes to help better serve IFPUG's members. The NEC wants to take advantage of the IFPUG community's expertise and mutual areas of interest. Many of you are discussing and implementing functional analysis in similar environments with similar concerns. The "Interest Groups" allow you to network with your peers who have similar interests, enabling the sharing of experiences, concerns and, of course, solutions. The best information is from the Software Engineering industry, and our member companies who utilize functional analysis.

Other "Interest Groups" will be considered after the NEC has a chance to evaluate the degree of participation and interest from our members in this offering.

**Interest Group Communities Set Up – Please join now, just send an email to the appropriate address(es).**

- **Financial & Insurance – Line of Business Interest Group: finance-insurance@ifpug.org**
- **Service Oriented Architectures (SOA) – Subject Interest Group: SOA@ifpug.org**
- **Unified Modeling Language (UML) – Subject Interest Group: UML@ifpug.org**
- **AGILE and Functional Analysis – Subject Interest Group: AGILE@ifpug.org**

The "Interest Groups" can operate remotely, using telecommunication bridges and WebEx or similar facilities. This will be totally directed by our members. No cost will be incurred by participants. This is our first attempt at offering this service model, so it will be interesting!

You are, of course, welcome to participate in more than one interest group! This is, essentially establishing a series of communities where you can network with your peers, getting new ideas and perspectives.

During the actual Interest Group Meetings, possible discussion topics include:

- Your local guidelines, interpretations or suggested interpretations of utilizing the IFPUG framework
- IFPUG rules that are difficult to apply or rationalize
- How the IFPUG rules are applicable and are meaningful
- How measurement is leveraged and used
- Possible papers/examples generated by the interest group teams
- Networking outside of IFPUG in the subject area

Once again, the agenda and direction will be up to the interest group.

Participation is only available to IFPUG members, so join now if you have not already.

Please join an interest group and get additional value from your membership.


**IFPUG's Annual Conference Moves to Brazil!**

**Please Join Us in Sao Paulo, Brazil for ISMA Cinco! September 13-15, 2010**

**Watch your In Box for further details.**

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# ISMA[4] Conference Track Presentations

*By Terry Vogt*

The Estimation & Metrics, Function Point, and Management & Issues tracks for this year's ISMA[4] Conference consisted of some of the most interesting, diverse and informative slate of sessions ever. ISMA[4] included several interactive presentations where attendees participated in counting exercises and experiments including an interactive function point count case study that also captured participant demographics for later analysis. These sessions generated much interest and were well received. The IFPUG Conference Committee plans to make interactive presentations a part of future Conference programs.

Another improvement in this year's Conference was the availability of an Internet broadcast of many presentations. Track items indicated by @ were broadcast via WebEx so those who were unable to attend the Conference in person could still participate in these exciting presentations. The Conference Committee would like to express its appreciation and gratitude to Bill Hufschmidt and Chris Kohnz for providing the on-site set-up and support for the WebEx. All sessions were well attended with an average of 22 attendees per session and upwards of a dozen participating via WebEx. The ISMA Conference team will work to expand the use of Internet presentations for remote attendees in future conferences to increase availability to a wider circle of participants.

## Function Point Track FP Tuesday Presentations

### Function Point Track FP1 @
### Boundaries, Boundaries Everywhere

***Tom Cagley, David Consulting Group***

The first Function Point track session was presented by outgoing IFPUG President, Tom Cagley, entitled "Boundaries: The Undiscovered Territory." Tom provided the audience with many thought provoking concepts regarding how the IFPUG FPA boundaries definition compares to other methodologies as well as how to apply them in a variety of situations.

### Function Point Track FP2 and FP3
### Accountant for the Mob [Interactive Session]

***Royce Edwards, Software Composition Technologies***

Royce Edwards provided an informative and entertaining interactive session that featured a function point counting exercise conducted on an on-line game, "Mob Wars." The exercise illustrated counting techniques applied to a web application and also featured props and costumes for the presenter and the audience.

### Function Point Track FP4 @
### Why Function Point Counts Comply with Benford's Law

***Charley Tichenor, Defense Security Cooperation Agency***

The afternoon session of the Function Point track kicked off with a ground breaking session presented by Charlie Tichenor entitled "Why Function Point Counts Comply with Benford's Law." Benford's law states that in lists of numbers from many real-life sources of data, the leading digit is distributed in a specific, non-uniform way, which is counter-intuitive to the expectation that each digit 1 – 9 would be uniformly distributed. Charlie applied this law to the ISBSG database and found this law does apply to function point data, thus it also can be used as an indicator of the high quality of the structure of the function point methodology, because function points should accurately measure the stimulus and response effect of software development.

### Function Point Track FP5 @
### How Many FPs Is It?

***Luca Santillo, Agile Metrics***

Luca Santillo's presentation explored Measurement vs. Estimating, discussing the pros and cons of various techniques to use early in the project life cycle. He also introduced the audience to the SMART FPA technique which allows for the development of counts with early requirements.

### Function Point Track FP6 @
### What is your Logical Quest for Function Point Analysis?

***Steven Woodward, Woodward Systems, Inc.***

Steve Woodward's presentation challenged us to ask the question "What do we expect/want from our use of FPA?" He also introduced the crowd to the TMForum eTOM model.

### Function Point Track FP7
### Horizontal Measurement Dispersion of Functional Size with IFPUG

***Juan J. Cuadrado-Gallego, University of Alcalá***

Tuesday's Estimation & Metrics Track program ended with a presentation by Juan Cuadrado-Gallego, which introduced a new hypothesis on dispersion of functional size. This hypothesis was tested, and the result determined that the identification and complexities of EQs provided the greatest measurement of error.

## FP Wednesday Presentations

### Function Point Track FP8 @
### Applying Function Points Within a SOA Environment

***Jeffery Lindskoog, EDS***

Jeff Lindskoog covered what constitutes a Service-Oriented Architecture environment as well as how FP can be used to size SOA. Boundaries, users and transactions are critical parts of function point counting on SOA software, and this presentation illustrated how they should be approached, as well as how to properly use the results of the counts.

### Function Point Track FP9 and FP10
## How Consistent is Function Point Counting? [Interactive Case Study]

***Ian Brown, Terry Vogt, Kim Ovuka; Booz Allen Hamilton***

This presentation was an opportunity for attendees to work through a function point counting case study and contribute their own demographic information for later use in comparing counting results and anonymously contrasting those with the corresponding counter's experiences. At least one attendee remarked that they were glad to see this type of experiment conducted at the Conference.

### Function Point Track FP11 @
## Documenting FP Measurements

***Thomas Stein, DFAS***

Thomas Stein's presentation "Documenting FP Measurements" detailed the importance of properly documenting FP counts and techniques to utilize the information captured, particularly in future projects on existing applications. It identified situations that could be impacted by failure to sufficiently document count details and their potential consequences.

### Function Point Track FP12 @
## Agile Estimating

***Ray Boehm, Software Composition Technologies***

Ray Boehm's presentation wrapped up the Function Point track for the Conference with "Agile Estimating." Derived from his PhD thesis, the presentation details how even when utilizing the Agile development methodology, estimating and function point analysis not only can be applied but should be. Analogies to poker were made as part of the process of identifying significant clues to components and size during the analysis process.

# Management & Issues Track MI Tuesday Presentations

### Management & Issues Track MI1
## Survivor USA – Prove Your Value or Else!

***Bill Hufschmidt, Development Support Center, Inc.***

Bill Hufschmidt's presentation emphasized the importance of value in measurement. He identified multiple ways of using function points to dramatically demonstrate the value of software, the value of information and, by extension, the value of the source of that information, which is the function point measurement analyst.

*continued on page 10*

*ISMA⁴ Conference Track Presentations, continued from page 9*

### Management & Issues Track MI2 @
## When the Economy Gets Tough, the Tough Get Measuring

***Scott Goldfarb, Q/P Management Group, Inc.***

This Management and Issues session on day one was Scott Goldfarb's "When the Economy Gets Tough, the Tough Get Measuring" extolling the value of a measurement program and how the current economic climate provides an excellent opportunity to implement a measurement program to address management questions regarding resources, funding, performance, scope management, and vendor selection.

### Management & Issues Track MI3 @
## A Few Simple Metrics Will Assist You in Managing IT Resources

***David Garmus, David Consulting Group***

Dave Garmus' presentation highlighted the reasons to measure, measurement concepts and principles, choosing what to measure, the importance of the maintaining a business focus, and data sources for measurement information.

### Management & Issues Track MI4
## Leaning Lean Six Sigma for Results

***Joe Schofield, Sandia National Labs***

Joe Schofield's presentation discussed the processes and components of Lean Six Sigma and described several variants of this approach. The facts, perceptions and myths of Lean Six Sigma were also covered in an amusing and pointed format.

### Management & Issues Track MI5
## Measuring Maintenance Activities within Development Projects Impact Point

***Lori Holmes, Q/P Management Group, Inc.***

In her presentation, Lori Holmes provided an approach to measuring the size of maintenance activities using Impact Points, a method of sizing based on FPA but measuring non-countable or hybrid projects in a repeatable and useful way. This included discussion of its application to table updates, text changes, web page changes and similar projects, examples of related issues and considerations for implementation.

### Management & Issues Track MI6
## Approaching Software Development as an Investment

***Pam Morris, Total Metrics***

Pam Morris presented issues and experiences related to the valuation of software and explained how the Australian government has implemented software asset management techniques. She also discussed some of the non-financial issues related to valuation of software and illustrated those with some interesting facts about the Sydney Opera House.

### Management & Issues Track MI7
## Finding the ROI in SOA

***Terry Vogt, Booz Allen Hamilton***

Terry Vogt reviewed the similarities of SOA software to other approaches to software reuse and discussed how FPA supports the measurement of those and how several issues related to valuing software challenge the objective of finding the true ROI of software.

# MI Wednesday Presentations

### Management & Issues Track MI8
## Scope Management: 12 Step Project Recovery Program

***Carol Dekkers, Quality Plus Technologies***

Carol Dekkers' focused on scope management and identified its critical components including risk, quality, integration, communication, and others. The presentation compared and contrasted Northern Scope methodologies with Southern Scope methodologies and shared their many successes.

### Management & Issues Track MI9
## Component-Based Productivity Measurement

***Lori Mayer, Accenture***

Lori Mayer shared a measurement technique utilized by her organization that was repeatable and adherent to a budget metric. It contrasted productivity measures based on outcomes and those based on components and differences on how these are measured, and identified the characteristics and usefulness of both.

### Management & Issues Track MI10 @
## Application Portfolio Baselining Just Got Cheaper

***Ashwin Krisnamurthy, IRM India Pvt, Ltd.***

Ashwin Krisnamurthy reviewed the application baselining process with the audience then discussed three approaches to the process and how to select the appropriate one.

### Management & Issues Track MI11
## Ten Steps to Starting a Successful FPA Program

***Wayne Wild, StoneHenge Partners, Inc.***

Wayne Wild shared the experiences his company went through in establishing function point analysis as a core competency. Following his talk, Wayne raffled a copy of the book, *Function Point Analysis*, to a lucky participant.

### Management & Issues Track MI12
## Play 'n Learn: A Continuous KM Improvement Approach Using FSM Methods

***Luigi Buglione, Engineering.IT / Nexen***

Luigi Buglione concluded the Management & Issues Track of ISMA 4 with an exciting concept—"Play 'n'

Learn: A Continuous KM Improvement Approach Using FSM Methods." Luigi took several popular board and charade games, such as *Life* and *Taboo*, and adapted them to management techniques with a functional spin. His presentation was well worth the wait!

## Estimation & Metrics Track

## EM Tuesday Presentations

### Estimation & Metrics Track EM1
### Estimating the Size of Data Conversion / Migration Projects

***Sagar Gollapudi, HTC, Inc.***

Sagar Gollapudi discussion on his experience with data conversion kept ISMA participants riveted to their seats. It highlighted the needs and challenges of estimating these types of projects and identified factors and guidelines for performing these estimates.

### Estimation & Metrics Track EM2
### Implementing Estimation Competency

***Robyn Lawrie, CHARISMATEK Software Metrics***

Robyn Lawrie emphasized that implementing estimation should be a planned process, in which teammates work collaboratively, and mentoring and feedback are encouraged. The presentation provided detailed insights into the means, processes and limits of FPA applicable to estimating software projects.

### Estimation & Metrics Track EM3
### Sizing & Estimating ERP Implementations

***Don Beckett, Quantitative Software Management***

Don Beckett presented the configuration and customization components of ERP projects and a parametric method for estimating them. He explained the concept of RICE Objects in his discussion, sharing his experience with government and commercial applications.

### Estimation & Metrics Track EM4
### Supporting the CMMI® Metrics Framework thru Level 5

***Márcio Silveira, EDS***

ISMA participants appreciated Marcio's ideas and advice on tools and processes he successfully implemented while climbing CMMI® levels to achieve Level 5 status. The presentation covered a wide range of areas including measurement and analysis processes, organizational metrics, and process performance baselines.

### Estimation & Metrics Track EM5 @
### The Zero Function Point Problem

***Ian Brown, Booz Allen Hamilton***

The day wrapped up for the EM track with Ian's presentation, which proposed an alternative sizing strategy for situations where traditional function point analysis may not be applicable or appropriate. Ian's presentation, which was rescheduled in the line-up to last on Tuesday, earned the Innovation Award at this year's Conference.

### Estimation & Metrics Track EM6
### NYCT: 19th Century Bricks & Mortar Collide with 21st Century Technology

***Janet Russac, Software Measurement Expertise***

Janet Russac shared her experience working with the New York City Transit to implement function point measurement. While it was amazing to hear that the transit authority is nothing like the 2009 movie *The Taking of Pelham 123*, the reality of the effort to make changes to software project processes was a slice of the real world.

## EM Wednesday Presentations

### Estimation & Metrics Track EM7
### A Roadmap to Estimation Using Balanced Productivity Metrics: $Right Pricing

***Jim Mayes, CGI Technologies & Solutions, Inc.***

Jim Mayes provided a very clear and compelling presentation on the need for improvement in software projects and how function point analysis can be effectively used to make performance improvements.

### Estimation & Metrics Track EM8 @
### Robustness Analysis – Use Case and Function Points

***Charles Wesolowski, QinetiQ North America***

Chuck Wesolowski's presentation detailed what Robustness Analysis is and how it can be utilized in FPA on Use Cases to diagram counts in a more accurate manner.

### Estimation & Metrics Track EM9
### Requirements Measurement: A Methodology & Applications

***Gordana Kis, BMO Financial Group***

Gordana Kis communicated several issues on requirements quality and stability measurement and observations on change management and defect analysis resulting from implementing a measurement program.

### Estimation & Metrics Track EM10 and EM11
### Is It a Volkswagen or a Bus? [Interactive Session]

***Roger Heller, Q/P Management Group, Inc.***

Roger Heller provided a seminar on functional software sizing including project estimation, and he worked through an estimation study with an attendee's data from an existing project. Like other interactive sessions, it was enthusiastically received by the attendees.

# Measuring Maintenance Activities Within Development Projects

*By Lori Holmes and Roger Heller*

Function points are an accepted industry standard method used for measuring the size of software projects and applications. They can be used in conjunction with other data for estimating as well as conducting productivity and quality analyses. Organizations often use FPs and FP-based measures as the key metric in outsourcing contracts.

One drawback though, is the inability of FPs to measure other functions that may be impacted by a specific change but are not actually changed themselves. Often, additional testing is required downstream of functions that will be using data from changed functions, but they themselves are not modified by the project and are not considered to be within the project scope. This increases effort and can affect productivity.

There is also work separate from the FP measurable functionality that cannot be counted under IFPUG 4.2 rules, including changes to static Web pages or populating code tables that are not related or used by the FP countable functions. Q/P Management Group, Inc., recognized, along with our outsourcing clients, that something was needed to measure the impacted functions not covered by IFPUG 4.2 FPs. It was determined that in order to ensure more accurate estimates and to provide a good foundation for productivity measures for use in outsourcing contracts, a separate measure was required. It was important for the measure to be:

- Consistent.
- Repeatable.
- Unbiased to promote good development techniques.
- Easy to apply with little effort and/or expense.

## IP Concept Development

Brainstorming sessions were held to explore ideas to support the need for additional measures. The initial brainstorming activity focused on identifying situations when the FP analysis of projects resulted in zero FPs. These situations were then categorized and analyzed to ensure they met the criteria of zero FP projects and the functionality was unrelated to functions that could be measured with IFPUG 4.2 FPs.

This type of work is often completed by a separate maintenance group and maintenance measures are used (e.g., application FPs/full-time equivalent support staff for a year). However, not all organizations have application FP counts to utilize this measure. In these situations, this work is completed as an enhancement project and needs to be measured separately. Depending on the structure of the organization, zero FP projects can equate to anywhere between 15 and 20 percent of the organization's development work.

Separate sessions were held to identify potential measures for these non-FP countable situations. One concept focused on a technical approach of counting the number of files or number of tables involved. When this concept was tested, issues arose related to consistency, objectivity, and the number of measures. It seemed as though the resulting size measure would be impacted by how the software was developed. As a result, this approach cannot be used to measure productivity consistently across technologies or for different development methodologies.

The objective of developing the alternative measure was not to measure the technical aspects of a project; it was to measure user-recognizable functions that are impacted by a project but are not changed. In recent years, Q/P has developed a measure for analyzing functionality that needed to be tested in a project, called test points, to estimate required test cases and testing effort. Building on this work and utilizing the standard IFPUG FP methodology, Q/P developed IPs.

When developing the concept, it appeared that IPs have several benefits. IPs are:

- A single measure for all impacted functionality so it is a manageable addition to a measurement program.
- Independent of technology and implementation techniques so it can be used in all development environments.
- Based on the IFPUG FP methodology. Therefore it does not require an extensive set of guidelines to be developed and does not require extensive training for employees already familiar with FP counting.
- A consistent measure for zero FP projects so they can be used to quantify productivity rates separately from FP-based productivity.

## What Are IPs?

IPs account for functions that are impacted—but not changed by—a project. They follow the same concept as FPs, but focus on non-FP countable projects and functions within projects. It is imperative that IPs only be used for sizing functionality not accounted for under traditional FP analysis. The intent is not to diminish the use of FP measures with overlapping measures but rather to fill a void that exists in FP-based software measurement. Since the IP measure is intended to be complementary to FPs, it is important to account for each separately. Data related to IPs should be kept in a separate repository from FPs; IP productivity rates should be developed and reported independently from FP productivity rates.

Once a non-countable function is identified, the IFPUG concepts are used to define the function and measure the complexity.

Projects that can be counted using FP analysis are not candidates for IP counts. IP countable items include:

- Table Updates. Examples are rate changes, adding products and/or services, and parameter/configuration changes.
- Code/Text Changes. Examples are static page updates, Web content updates, cosmetic changes, format changes, sort changes, adding or changing help, or error messaging.
- Data Management. Examples are data migration, and database restructuring.
- Technical. Examples are multiple browsers, and new sources of data (e.g. networks).

In all of these, the functions using the new text, updates, etc., would be identified as impacted functions and counted to derive the project's IPs.

## Possible Scenarios for Considering IPs

The following are three examples of possible applications of IPs, including one scenario when IPs shouldn't be used.

### Example 1: Use IPs

A project requires changes to a logical file to add additional fields necessary for calculating billing rates. Input screens and display screens of these new fields also require changes. In addition, the bill creation process logic must be changed to incorporate the new calculations. All of this functionality would be FP countable.

Once the bill is generated, it is stored in a logical file and the elementary process is completed. All changes for the project are included in the process that ultimately stores the bill. No software changes are required beyond the saving of the bill. However, functions exist that display the past bills and send the bills to other systems. These functions use the file where the bill is stored, but they do not require any software changes. Thus, even though they are not modified by the project, these functions are impacted because they must pass along the bill as they did before. These functions do not generate any FPs but they have been impacted by the change and need to be tested to ensure that everything works properly.

The functions would then be counted using the IFPUG definitions to determine if they are external outputs or external inquiries (EQ), and the IFPUG complexity ratings would be applied.

### Example 2: Use IPs

A request has been made to add fields to multiple Web pages that retrieve information from developer-maintained files and do not calculate, derive, or maintain any data.

Under IFPUG rules, these functions are not countable because they would be EQs with zero file types referenced (FTR), which is not allowed. Data maintained by developers are not considered as internal logical files or external interface files so the files containing the Web page information cannot be FTRs.

IPs allow for inquiry functions (EQs) to be counted when there are zero FTRs accessed. The functional complexity would be determined based on zero FTRs and the number of data element types that are entered or displayed.

### Example 3: Do Not Use IPs

A project requires new rates to be added to a table. This does not require any change to the table structure, just rows to be added. It is also necessary that logic be changed in a screen to use the new rates and to utilize different calculations when inputting data.

In this case, the table is not countable with FPs, but the screen is countable due to the logic changes to the calculations. For the specific requirement to be delivered, both changes are necessary. The table is just the development technique to assure that the rates are available to the screen. This table change is related to the FP countable change, and any effort related to both activities should be considered together when estimating the project or calculating the productivity rate.

In this case, IPs should not be used for the table change because the change is related to a function that is FP countable.

## Testing and Implementation of IPs

To implement IPs in an organization, it is important to assess and define the types of projects and situations that will use them. In addition, to use IPs for estimating and measurement, a baseline study should be conducted to quantify the current situation and establish productivity rates. Some steps to consider are to:

- Develop a list of non-FP countable situations and projects then categorize them by type and volume (e.g., rate changes, new products, etc.).
- Conduct IP counts on a representative sample of projects from the non-FP countable project list.
- Capture effort and delivery platform for non-FP countable projects included in the study to baseline their productivity rates.

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*Measuring Maintenance Activities Within Development Projects, continued from page 13*

- Assess the productivity rates (IPs per hour) to determine trends and any further breakdowns/measures needed.
- Develop templates to use going forward to avoid conducting IP counts on all non-FP countable projects.
  - If rate changes typically impact the same functions, then the same IP count would be used each time.
  - Based on the baseline data, one to three templates may be developed per category (e.g., low, medium, and/or high).

## Conclusion

IPs can be a useful tool for organizations that have a large amount of non-FP countable projects or portions of projects. They can be used similarly to FPs in measuring productivity and quality for these projects.

IPs are not intended to replace FPs, but are meant to provide a supplement for the areas the FPs do not cover. It is imperative that IPs do not overlap with the functionality that is measured by FPs. In other words, IPs should not be used to double count or overstate the amount of work that needs to be delivered.

IPs as a measure for non-FP countable items is beneficial for the following reasons:

- It provides one measure for all non-FP countable projects
- Once an impacted function is identified, guidelines for how to count are already available (IFPUG).
- Measure is not impacted by the development techniques or how things are physically implemented.
- Organizations can associate productivity rates for each appropriate segment (e.g., platform, type of change, size, etc.).
- It can develop IP templates for each type of non-FP countable project to reuse on future projects of the same type.

Q/P is confident that IPs will fill the void that organizations have with measuring non-FP-countable projects. Using IPs correctly will provide consistent measurement data that can be used in estimating, productivity, and quality analyses, as well as in outsourcing contract negotiations.

## Reference

1. IFPUG Counting Practices Committee. Function Point Counting Practices Manual. Release 4.2.1, Jan. 2005.

## About the Authors

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# Achieving Certification as a Function Point Specialist

***By Janet Russac***

This article looks at both the content of the exam as well as test-taking techniques.

## The CFPS Designation

The Certified Function Point Specialist (CFPS) designation is a formal recognition of a level of expertise in the area of FPA, specifically expertise in both knowledge and application of the IFPUG counting rules according to the IFPUG Counting Practices Manual (CPM). The CFPS examination is the mechanism for certifying that an individual meets the requirements to qualify as a CFPS.

An individual who passes the CFPS exam receives a formal certificate from IFPUG stating that IFPUG certifies that the individual has met the requirements as specified by the standards and guidelines of the International Function Point Users Group to qualify as a Certified Function Point Specialist for the Counting Practices Manual version under which the exam is taken. The certificate is signed by the Certification Committee Chair, as an authorized representative of IFPUG, and indicates the Month and Year the exam was taken, as well as the Month and Year the certification expires. The CFPS Certificate is valid for a period of three (3) years. An individual may remain certified by either taking the CFPS exam in the third year of certification or by applying for up to two extensions through the CFPS Certification Extension Program.

## The CFPS Examination

The exam is a rigorous test of both the knowledge of the counting rules laid out in the current release of the CPM and the ability to apply those rules. The three-hour exam consists of three sections: Definition, Implementation and Case Study. An

individual must have at least 90% overall correct with at least 80% correct on each section of the exam in order to receive the CFPS designation.

The Definition section consists of 50 multiple-choice (A, B, C, D) questions. The Definition section specifically tests the individual's knowledge of definitions and rules.

The Implementation section consists of 50 multiple-choice (A, B, C, D) questions. The Implementation section indirectly tests the individual's knowledge of definitions and rules, and directly tests the individual's ability to apply the definitions and rules through small story problems. There are calculations and formulas in this section.

The Case Study section consists of 10 multiple choice, multiple part/possible question and answer sets, worth 5 points each. There are two kinds of case studies: one where you have to indicate low, average or high complexity for a list of functions and the other where you have to indicate the type of function (EI, EQ, EO, ILF, EIF) for a list of functions.

## Exam Tips

- Ask where the restroom is before going in to take the exam and go! The nearest restroom might not be convenient.
- Do not make assumptions.
- Use the Glossary in the CPM.
- Use the CPM only when necessary.
- Do not try to make anything more difficult than it is, especially with part three.
- Do not leave blank answers.
- Read the entire question before answering.
- DOUBLE CHECK YOUR CALCULATIONS!!!

## Automated Exam

The CFPS Exam is now automated and offered through Prometric test sites. It is currently available in English, Brazilian Portuguese and Italian. For more information on the automated exam, please see www.ifpug.org/certification/CFPSOverview.htm. Information on the Prometric test sites can be found at www.prometric.com/IFPUG.

## Automated Exam Hints

- Read the CFPS Automation FAQ Word document and the Automated Exam Day Rules and Hints for Success Word document that can be found on the IFPUG web site at www.ifpug.org/certification/.
- Review the Certification Committee's ISMA 2008 presentation (ISMA 2008 CFPS Exam Automation.pdf) that is available on the IFPUG web site Bulletin Board under IFPUG Committee Reports – ISMA 3.
- You are NOT allowed to take anything at all into the exam so leave everything in your car except for your picture ID and one other form of identification. There may not be a place to lock your valuables at the test site.
- Take the tutorial on the PC at the Prometric site before beginning the CFPS exam in order to get the feel of things.
- All reference materials are online in PDF documents. There is a Reference drop down with selections for the three different parts of the CPM. Make sure you are familiar with what is in each part of the CPM prior to taking the exam so you know which one to open. The IFPUG Quick Reference Card (QRC) and the matrices are also online. Become familiar with the IFPUG QRC prior to sitting for the exam. It is available on the IFPUG web site under Members Only, CPM Downloads.
- Use the Find feature in the reference PDFs to quickly lookup items.
- You will be supplied with a small wipe-off board and markers at the test site. As soon as you begin the CFPS exam, open up the Matrices Reference drop down and write the matrices down on your wipe-off board. Do the same for the formulas; they are on the Quick Reference Card drop down.
- There is a 3-hour count down clock on the upper right hand screen. You are notified when there are 15 and 5 minutes left.

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*Achieving Certification as a Function Point Specialist, continued from page 13*

- There is an online calculator. Use the number keys on the keyboard instead of clicking on the numbers on the calculator. It is much faster that way.
- You can "mark" a question to review. Do so if you think you need to check your answer. At the end, if time remains, you will be provided with a list of all the question numbers along with an indication of whether the question was answered or unanswered, as well as if it was "marked." You can click on the question number to be taken back to it.
- When you are finished and submit the exam, you will get your scores back online in a few minutes. You get a percentage score for each of the three parts and an overall percentage score.

## Additional Reading

*Certified Function Point Specialist Examination Guide* by David Garmus, Janet Russac and Royce Edwards, Auerbach Publications.

### About the Author:

**Janet Russac** has over 25 years of experience as a programmer, analyst and measurement specialist in software application development and maintenance. In 2008, she started her own company, Software Measurement Expertise, Inc. (SME). She has worked for The David Consulting Group, Software Productivity Research, IBM Global Services and Prudential Insurance as a lead function point analyst, software measurement specialist and function point instructor. She has implemented software development measurement programs and used various software development metrics, including function points, to recommend business decisions and identify best practices and process improvements in client organizations.

To obtain other articles written by Janet Russac on software sizing and measurement, please refer to the website of Software Measurement Expertise, Inc. at www.softwaremeasurementexpertise.com.

# The IFPUG Counting Practices On-Going Effort in Sizing Functional Requirements

***By Janet Russac***

IFPUG's method for function point analysis is an ISO standard and must be conformant to ISO/IEC 14143-1:2007. Functional Size is a size of the software derived by quantifying the Functional User Requirements which are a subset of the User Requirements. These are requirements that describe what the software shall do, in terms of tasks and services. IFPUG's Counting Practices Committee (CPC) continually works to adapt the Counting Practices Manual (CPM) to conform to the ISO standards. This article looks at CPM 4.3, scheduled for release in the last quarter of 2009, and the changes made to further evolve the methodology of sizing functional requirements.

### History of Function Points

In the 1970s, Allan Albrecht was the first to publicly release a method for functionally sizing software called function point analysis. The use of function points, as a measure of the functional size of software, has grown since that time from a few interested organizations to an impressive list of organizations worldwide. In 1986, the International Function Point Users Group (IFPUG) was formed and since then has continuously enhanced the original Albrecht method for functionally sizing software. The IFPUG functional size measurement method is known as function point analysis and its units of functional size are called Function Points.

### Function Point Analysis

Function point analysis measures software by quantifying the tasks and services (i.e. functionality) that the software provides to the user based primarily on logical design.

The objectives of function point analysis are to measure:

- functionality implemented in software, that the user requests and receives;
- functionality impacted by software development, enhancement and maintenance independently of technology used for implementation.

The process of function point analysis is:

- simple enough to minimize the overhead of the measurement process;
- a consistent measure among various projects and organizations.

Organizations can apply this International Standard to measure the size of a software product to:

- support quality and productivity analysis;
- estimate cost and resources required for software development, enhancement and maintenance;
- provide a normalization factor for software comparison;

- determine the size of a purchased application package by functionally sizing all the functions included in the package;
- assist users in determining the benefit of an application package to their organization by functionally sizing functions that specifically match their requirements.

## Counting Practices Manual (CPM)

CPM 2.0 was released in 1987 and since then there have been several iterations. CPM 4.3 is an International Standard and is the latest release in the continually improving IFPUG method that promotes the consistent interpretation of functional size measurement in conformance with ISO/IEC 14143-1:2007. This International Standard specifies the set of definitions, rules and steps for applying the IFPUG functional size measurement (FSM) method. CPM 4.3 includes the Functional Size Measurement (FSM) document and the Implementation Guide. Together these make up CPM 4.3, a publication that is 100 percent ISO compliant. CPM 4.3, scheduled for publication in the last quarter of 2009, will become effective January 2010. The changes from 4.2 to 4.3 are enumerated later in this article.

The primary objectives of the IFPUG Counting Practices Manual are to:

- provide a clear and detailed description of function point counting
- ensure that counts are consistent with the counting practices of IFPUG affiliate members
- provide guidance to allow function point counting from the deliverables of popular methodologies and techniques
- provide a common understanding to allow tool vendors to provide automated support for function point counting

## ISO/IEC 14143-1 - Definition of User Requirements

In 1998, the first ISO/IEC Functional Size Measurement standard was published (ISO/IEC 14143-1:1998). This standard defines the Functional Size as "a size of the software derived by quantifying the Functional User Requirements." In 2007, it was updated and published as ISO/IEC 14143-1:2007.

ISO/IEC 14143-1 defines the fundamental concepts of Functional Size Measurement (FSM) and describes the general principles for applying an FSM Method. It does NOT provide detailed rules on how to:

- Select a particular method
- Measure Functional Size of software using a particular method
- Use the results obtained from a particular method

The definition of FSM in ISO/IEC 14143-1 is applicable when determining if a method for sizing software is a Functional Size Measurement Method. It does not prevent the development of various methods, but rather provides a basis for assessing whether a particular method conforms to FSM.

ISO/IEC 14143-1 distinguishes between two subsets of user requirements:

- Functional User Requirements
- Non-Functional User Requirements

The ISO/IEC 14143-1 definitions are as follows:

Functional Size

- A size of the software derived by quantifying the Functional User Requirements

Functional User Requirement

- A subset of the User Requirements. Requirements that describe what the software shall do, in terms of tasks and services.
- Functional user requirements include but are not limited to:
  - Data transfer (for example: input customer data, send control signal)
  - Data transformation (for example: calculate bank interest, derive average temperature)
  - Data storage (for example: store customer order, record ambient temperature over time)
  - Data retrieval (for example: list current employees, retrieve aircraft position)

Non-Functional User Requirements

- ISO does not provide a definition for Non-Functional User Requirements, but gives some examples in a note.
- Examples of User Requirements that are Non-Functional User Requirements include but are not limited to:
  - Quality constraints (for example usability, reliability, efficiency and portability)
  - Organizational constraints (for example locations for operation, target hardware and compliance to standards)
  - Environmental constraints (for example interoperability, security, privacy and safety)
  - Implementation constraints (for example development language, delivery schedule)

## Major Structural Change Areas in CPM 4.3

The major structural change areas in CPM 4.3 are:

- Replace existing Part 1 with the new ISO Standard (ISO/IEC 20926:2009)
- Created The Bridge - Applying the IFPUG Functional Size Measurement Method (now Part 2) which provides guidance in applying the process and rules as defined in the ISO Standard (now Part 1)
- Amend the remaining parts to be consistent with the revised Part 1
  - Counting Practices (Part 3)
  - Examples (Part 4)
  - Appendices and Glossary (Part 5)

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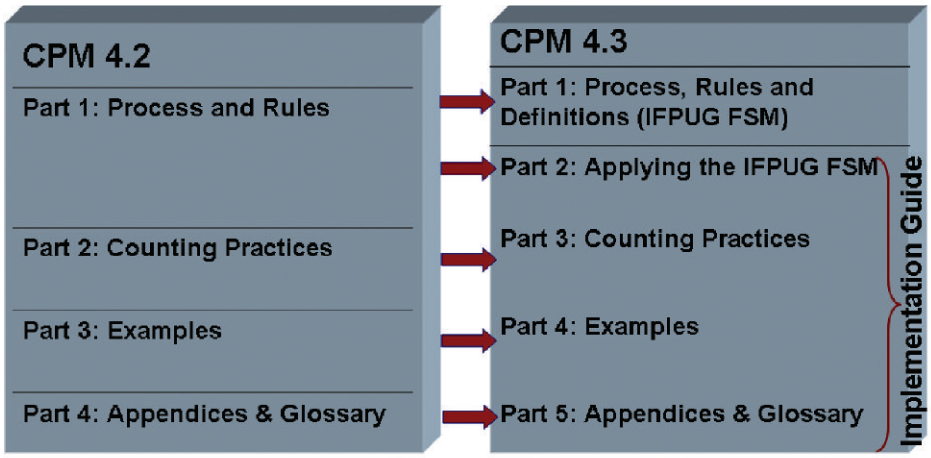
*The IFPUG Counting Practices On-Going Effort in Sizing Functional Requirements, continued from page 17*

The schematic below outlines the structural changes between 4.2 and 4.3.




## Overview of Changes in CPM 4.3

Part 1 (new): The ISO Standard (IFPUG FSM)

- Is the ISO Standard "IFPUG FSM" in its entirety
- Is the former Part 1 Process and Rules of the CPM
- Condensed to 21 pages and using strict ISO wording and format
- Uses ISO Template
  - Different look and feel
  - Wording, format and sequence of actions changed
  - No repetition
- Minor modifications
  - Clarifications and simplifications
  - Added definitions for consistent state, self-contained, sorting and arranging
  - Common set of DET and FTR rules for all transactions
  - Uniqueness Test (i.e., same DETs, FTRs & Processing Logic) - removed from EI/EO/EQ rules & stated once
- Does not include GSCs or VAF

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

- Retained remaining chapters from Process and Rules
- Contains additional guidance to easily apply the FSM rules
- Moved GSCs and VAF to Part 5, Appendix C
- Changed wording and sequence of actions consistent with FSM
- Moved all discussion of Enhancement Projects to Enhancement Chapter

Part 3 (former part 2): Counting Practices

- Changed wording and sequence of actions consistent with FSM
- Provided additional guidance and examples for enhancements
- Added 5th Chapter for counting Conversion Activity

Part 4 (former part 3): Examples

- Changed wording and rule boxes consistent with FSM
- Added clarifications and additional examples

Part 5 (former part 4): Appendices and Glossary

- Now contain optional GSCs and VAF

## CPM 4.3: What It Looks Like

Part 1: IFPUG FSM provides the function point analysis process for functionally sizing software following the IFPUG Method as well as the detailed rules for identifying and measuring data functions and transactional functions.

Part 2: Process and Rules provides an overview of the IFPUG Method, along with guidance in applying the rules for determining the type of count, establishing application boundaries and measuring data and transactional functions.

- Chapter 1: Introduction
  - The title of this chapter has changed to "The Bridge - Applying the IFPUG Functional Size Measurement Method".
- Chapter 2: Overview of Function Point Analysis
  - Changed to "IFPUG FSM Method Overview"
  - Made extensive wording changes for consistency with the FSM
  - Added first step in procedural diagram: "Gather Documentation"
  - Replaced term "unadjusted function points" with "functional size"
  - Moved discussion of "unadjusted" or "adjusted" to Appendix C
- Chapter 3: User View
  - Changed to "Gather Available Documentation"
- Chapter 4: Determine Type of Count
  - Revised wording for definitions:
    - development project function point count,
    - enhancement project function point count and
    - application function point count
- Chapter 5: Identify Counting Scope and Application Boundary
  - Changed to "Determine Counting Scope and Boundary and Identify Functional User Requirements"
  - Made minor wording changes
- Chapter 6: Count Data Functions
  - Changed to "Measure Data Functions"
  - Repeated rules here for convenience

- Chapter 7: Count Transactional Functions
  - Changed to "Measure Transactional Functions"
  - Repeated rules here for convenience
- Chapter 8: Determine Value Adjustment Factor
  - Moved entire chapter to Appendix C
- Chapter 9: Calculate Adjusted Function Point Count
  - Moved formulas to Appendix C
  - Moved Enhancement Example to Enhancement Chapter in Part 3

Part 3: Counting Practices provides detailed counting practices and enhanced examples to assist the practitioner in applying the rules to measure data functions and to size enhancement projects.

- Chapter 1: Code Data
  - Added ISO definition of Functional Size
  - Updated the definition of Functional User Requirements
  - Replaced the terms Quality Requirements and Technical Requirements by the ISO term Non-Functional Requirements
- Chapter 2: Logical Files
  - Changed the sequence and structure of steps consistent with the FSM
  - Moved evaluation of code data to prevent premature elimination of items that may look like code data, but are in fact not
- Chapter 3: Shared Data
  - Changed references to other parts and chapters of CPM
- Chapter 4: Enhancement Projects
  - Incorporated section from Part 1, Chapter 9 on Enhancement Project Count
  - Updated terminology to be consistent with FSM
  - Provided additional guidance and examples for forms of processing logic
  - In "Enhancement vs. Maintenance" section prefaced any reference to GSCs with "optional"
- Chapter 5 (New): Data Conversion Activity

Part 4: Provides examples of measuring data functions and transactional functions to illustrate the rules from Part 1.

- Chapter 1: Data Function Counting Examples
- Chapter 2: Transactional Function Examples

Part 5: Contains the appendices and glossary.

- Appendix A: Calculation Tables
  - Removed term "Adjusted"
- Appendix B: Change from Previous Version
  - Reflects all changes in the document from 4.2.1 to 4.3
- Appendix C: Adjusted Functional Size
  - Contains guidance on applying the General Systems Characteristics and Value Adjustment Factor to determine Adjusted Functional Size
  - Contains all formulas

## Impact Study

44 CFPS volunteers performed an impact study. They counted a case study using both CPM 4.2.1 and CPM 4.3, and then counted over 100 projects previously counted under CPM 4.2.1 using CPM 4.3. These projects were a mix of development, application and enhancement. Results were the same for both methods. Therefore, the conversion factor was determined to be 1.0 (i.e., no difference).

## The Next CPM – Summary

The IFPUG FSM (CPM 4.3 – Part 1) meets the requirements of the ISO FSM Standard. It looks and reads significantly different from Part 1 of the CPM 4.2.1 while conveying the same rules and counting process in a much more succinct and unambiguous manner. The Implementation Guide (CPM 4.3 – Parts 2 thru 5) provides a bridge between the FSM and the familiarity of the "old" CPM; together, they will comprise CPM 4.3.

## About the Author:

**Janet Russac** has over 25 years of experience as a programmer, analyst and measurement specialist in software application development and maintenance. In 2008 she started her own company, Software Measurement Expertise, Inc. (SME). She has worked for The David Consulting Group, Software Productivity Research, IBM Global Services and Prudential Insurance as a lead function point analyst, software measurement specialist and function point instructor. She has implemented software development measurement programs and used various software development metrics, including function points, to recommend business decisions and identify best practices and process improvements in client organizations.

To obtain other articles written by Janet Russac on software sizing and measurement, please refer to the website of Software Measurement Expertise, Inc. at www.softwaremeasurementexpertise.com.

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***Florida, USA***

**Are you going to be taking the CFPS exam?**

Janet Russac, Principal, **S**oftware **M**easurement **E**xpertise, Inc. (**SME**) is pleased to announce that the Certified Function Point Specialist Examination Guide, co-authored with David Garmus and Royce Edwards, is set to be published the first quarter of next year. The guide is 4.3 compliant and covers every key section of the manual. There are sample questions at the end of each chapter as well as two complete practice exams at the end of the book. In addition, there is a chapter to prepare individuals to take the exam with an emphasis on the automated exam. Janet, David and Royce are all members of IFPUG's Counting Practices Committee and were involved in the writing of CPM 4.3.

SME also offers an exam prep course. This course as well as all other function point courses offered by SME, has been updated to be 4.3 compliant. All courses can be taught on-site or via Web-Ex. **All class attendees receive a free copy of the certified function point specialist examination guide!!**

New to function points? SME also offers an expert mentoring program via on-site and/or phone and email support. Contact Janet at jrussac@softwaremeasurementexpertise.com for more information or a price quote.

SME tailors all of its services to fit the needs of its clients.

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Established in 1994, Total Metrics is a world thought leader in software measurement and provides metrics related consulting, training and software tools to the international market. Total Metrics' IFPUG certified function point counting experts are the developers of SCOPE Project Sizing Software™, the first product to bring software functional sizing into the domain of project governance and software portfolio asset management. SCOPE 2.2 is fully multi-lingual in English, Spanish, Portuguese, Korean, Japanese, French, German, Italian, Dutch and Chinese. Project managers use SCOPE to model and quantify their software projects, for input into project estimates, productivity assessments and client scope negotiations. The only FP measurement software to provide a quantified audit trail of requirement's changes and to quantify rework, and imports all data from your old FPW and EXCEL counts.

*continued on page 22*

*Vendors' World!, continued from page 21*

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