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From the Editor's Desk



We renamed the annual conference to appeal to a broader audience, then had to cancel the ISMA Conference due to Hurricane Katrina. We've introduced the Certified Software Measurement Program and evolved the CFPS extension program. We've seen significant growth in our membership in places like India, Brazil and Korea and have added new chapters across the world.

MetricViews is an important benefit of IFPUG membership. In an organization as big and diverse as IFPUG, we need to have consistent channels for communication, and *MetricViews* is an important component of that. It's a great forum for sharing ideas, getting updates from committees, reading about the most recent events and getting information on those that are coming up, and a whole lot more. With this in mind, we have revamped and rebuilt *MetricViews* to make it bigger and better than before. We still plan on making this a biannual publication—twice a year, that is—or is that semi-annual? And we'll also be getting the IFPUG Bi-Monthly Newsletter out four times a year to supplement *MetricViews*, so I want to take this space and give you a preview of what to expect in these two publications.

MetricViews

Featured Articles – The anchor of each issue of *MetricViews* will be a set of featured articles that delve deep into a particular topic. This issue features our Point/Counterpoint position papers on the Multiple Media issue, as well as two articles written by IFPUG members and previously published in other industry publications. We'll be looking for great content in the future, so when you have ideas or articles that you'd like to share, don't hesitate to submit them.

What's Your (Function) Point? – The IFPUG bulletin board online has always been a place where members could ask questions and express opinions and—except for the recent battle with SPAMbots—this has been a good forum. We'd like to expand this popular feature to our print publications by creating a section in *MetricViews* for opinion letters and other op-ed pieces written by the membership. Watch for it to appear in future issues and definitely look for our "call for letters."

Upcoming Events – Keep up to date on all IFPUG events as well as other relevant industry events, including deadlines for abstract submissions. The more that IFPUG members speak at other conferences, the broader audiences we can reach. If you have a particular event to include on our tracking list, please submit it to cmc@ifpug.org.

IFPUG Updates – *MetricViews* will continue to showcase committee work, headquarters reports, and reports/updates from our latest conferences and workshops. We will highlight one chapter per issue to share lessons learned and best practices for chapter activities and organization. We will continue to list the most recent CFPS achievers as well as the new CSMS designees to congratulate them on their accomplishments.

Vendors World! Vendors World! – This section of *MetricViews* allows current advertisers an opportunity to provide insight on recent business developments, measurement tools and trends they have seen in the marketplace.

MetricViews

is published twice a year in June and December, by the International Function Point Users Group (IFPUG), headquartered in Princeton Junction, New Jersey.

MetricViews

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Editor's Desk, continued from page 1

Bi-Monthly Newsletter

The bi-monthly Newsletter will be a much shorter publication and differs from *MetricViews* both in audience and format. It will be published four times a year and will be distributed electronically to IFPUG's entire mailing list (not just to members) in PDF format. There will be some overlap in content with *MetricViews*, but they will be distinct in feel and substance.

Repeats – The bi-monthly Newsletter will have the Upcoming Events section with a rolling set of events and deadlines. We feel it's important to keep readers apprised of these on a regular basis so this section will be consistent across both publications.

Counting on You – Like the op-ed section in *MetricViews*, this section is driven by reader submissions, but instead of letters the intent is to focus Q&A on function point counting or measurement issues, helpful hints on counting function points, or other helpful tips and hints from the world of function points. We'll be soliciting ideas from the membership so be on the look out for that as well.

Committees at Work – The Newsletter will be the main forum for committees to explain the projects on which they are working. Given the large number of committees, you will likely hear from each committee about once every other issue.

Chapter News – With the broad distribution of The Newsletter, we will be reaching people beyond our membership. Providing overviews of recent chapter activity and chapter contacts will provide non-members with a local channel and connection to IFPUG and hopefully, will encourage greater participation and enhance our membership to boot!

Feedback Forum – These are *your* publications, so we will provide even more space for you to express your opinions and ideas.

More Sponsorship Opportunities – The electronically distributed bi-monthly Newsletter, will reach a much broader and diverse audience than *MetricViews*. Advertising in the Newsletter provides vendors an opportunity to reach beyond IFPUG members to market to people they might not otherwise reach. We're currently working on the structure of this program and should have it ready by the next Newsletter.

As you can see, a lot of thought and consideration has gone into the reshaping of IFPUG's publications. But as I mentioned before, these are *your* publications. We are always looking for feedback and ideas to make them better, more readable and more relevant to you. Don't hesitate to contribute or share your ideas. That's what this whole endeavor is all about, isn't it? ●

Ian Brown

*IFPUG Secretary and Director of Communications and Marketing Committee
MetricViews Editor*



Fall 2006

With a new look and format, *MetricViews* is back! In reviving and revamping this members-only publication, our goal is to ultimately provide insightful, helpful information to IFPUG members on a regular basis. You can stay more connected to the association and be aware of participation opportunities, conferences and other events allowing you to remain active in the function point community. This is also a forum for member and board member opinions and will serve as a communication network among peers. Let us hear from you.

Joining the IFPUG headquarters team in September, I was just in time to attend the ISMA Conference and Fall Workshops. What an incredible way to be introduced to IFPUG! Al Vrancart, Executive Advisor and Elena Caracappa, Assistant Association Manager/Conference Planner were also on hand. With a firmly united headquarters team in place, I look forward to providing the necessary attention



IFPUG needs to run on a day-to-day basis. Already this fall, my colleagues and I have worked together to address the challenges IFPUG has faced in the past. We are currently implementing new practices to bring the organization to its optimal level. This highly-organized plan will carry IFPUG into 2007 with a positive outlook and will provide consistency to all activities.

At a time when the function point industry is taking a critical look at itself and is assessing how to best stay on the cutting edge, we look forward to working on your behalf to ensure optimal business practices are put in



place to maintain IFPUG's values and philosophies. Many IFPUG members agree we must do more to recognize our uniqueness as an international organization that is made up of so many diverse and creative minds. I hope

as IFPUG enters the new year as a leading professional association, we can work to consciously expand our focus outside of the United States' boundaries and enhance the service to our peers around the globe.

With a successful ISMA Conference in San Diego completed, we are already hard at work on April's Functional Sizing Summit and Spring Workshops in Vancouver.

Best wishes for the holidays and for a happy and successful 2007. I look forward to seeing you all again soon. ●

Barbara Swanda
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Upcoming Events

Regional CFPS Exam – Bangalore, India

November 30, 2006, 10 am – 1 pm
Indian Institute of Management – Bangalore
www.ifpug.org/certification/sites.htm

Regional CFPS Exam – Gurgaon, India

December 11, 2006, 9 am – 12 pm
Palm Court
www.ifpug.org/certification/sites.htm

Regional CFPS Exam – Rio de Janeiro, Brazil

December 16, 2006, 9:30 am – 12:30 pm
Hotel Novo Mundo
www.ifpug.org/certification/sites.htm

Regional CFPS Exam –Sao Paulo, Brazil

December 16, 2006, 9:30 am – 12:30 pm
Hotel Quality Faria Lima
www.ifpug.org/certification/sites.htm

Regional CFPS Exam – Brasilia, Brazil

December 16, 2006, 9:30 am – 12:30 pm
Hotel Mercure Apartments Brasilia Lider
www.ifpug.org/certification/sites.htm

Regional CFPS Exam – Chennai, India

December 16, 2006, 10 am – 1 pm
Chellammal College for Women
www.ifpug.org/certification/sites.htm

Regional CFPS Exam – Wiesbaden, Germany

January 19, 2007, 10 am – 1 pm
Hotel Dorint Sofitel Pallas Wiesbaden
www.ifpug.org/certification/sites.htm

SEPG 2007

March 26-29, 2007 – Austin, Texas
Austin Convention Center
www.sei.cmu.edu/sepg/2007

2007 Functional Spring Workshops and Sizing Summit (FSS)

April 22-26, 2007 – Vancouver, British Columbia, Canada
Sheraton Wall Centre Hotel
Abstracts for the FSS due no later than December 4, 2006
www.ifpug.org
US citizens are required to have a passport. travel.state.gov/passport/passport_1738.html

4th Annual Software Measurement European Forum

May 10-12, 2007 – Rome, Italy
Abstracts due no later than November 14, 2006
www.iir-italy.it/smef2007

2007 Practical Software Quality and Testing (PSQT) Conference West

May 7-11, 2007 – Las Vegas, Nevada
www.psqtconference.com/2007west

2007 Software Testing Analysis & Review (STAR) Conference East

May 14-18, 2007 – Orlando, Florida
Rosen Center Hotel
Abstracts due no later than December 1, 2006
www.sqe.com/stareast/speak.asp

2007 Better Software Conference and Expo

June 18-21, 2007 – Las Vegas, Nevada
The Venetian Hotel
Abstracts due no later than December 31, 2006
www.sqe.com/bettersoftwareconf/speak.asp

2007 Systems and Software Technology Conference

June 18-21, 2007 – Tampa, Florida
Marriott Tampa Waterside Hotel and Marina
Abstracts due no later than November 22, 2006
www.stsc.hill.af.mil/conference/

2007 International Software Measurement and Analysis (ISMA) Conference and Fall Workshops sponsored by IFPUG

September 9-14, 2007 – Las Vegas, Nevada
Flamingo Las Vegas Hotel

Vote YES! on the Multiple Media Issue

A **YES** vote assures that Multiple Media rules will be based on appropriate research, analysis and membership input. Your YES vote does not change any rules or reject the Counting Practices Committee's (CPC) proposal. A YES vote simply gives members the opportunity to provide input so IFPUG can make the right decision. A No vote, however, will endorse a controversial and premature rule change that can have a far-reaching impact on Function Point (FP) counting and diminish the global value of the IFPUG standard. The following describes the criticality of the issue and why your YES vote is important.

Background

The key purpose and practical role of Function Point Analysis (FPA) is, and always has been, to quantify software size as a key input to software **estimation, productivity measurement** and facilitating **process improvement**.

This central purpose must continue to be the foundation for FPA rule changes and clarifications. If a clarification/change degrades the technique and related purposes, then the basis of that clarification/change should be re-visited.

Impact of CPC Proposal on the Benefits of FPA

CPC's Multiple Media proposal goes far beyond merely eliminating similar reports delivered online versus printed. The proposal can bundle multiple distinct inputs, outputs or inquiries into a single elementary process **even when there are obvious distinguishing characteristics**.

Under the proposal a project that develops functionality that allows a user to inquire on bank balance via a Bank Teller, ATM or Interactive Voice Response would receive a **SINGLE EXTERNAL INQUIRY** even if the **THREE LOGICAL REQUIREMENTS** were independently identified, documented, coded and tested. What counted as 12 FPs in CPM 4.2 would now be reduced to 4 FPs even though the developers' effort was 3

times as great as delivering a single inquiry.

The counting solution should be based on what is logical and intuitive from basic counting principles and what is **MOST USEFUL FROM A MEASUREMENT AND ESTIMATING PERSPECTIVE**.

A **YES** vote will **STOP** the immediate change and allow us to survey member practices and reasoning in order to establish a workable solution.

Consistency of Counting

The CPC's number one stated goal for the proposed rule change is counting consistency. Unfortunately the proposed change will lead to **greater inconsistency** for the following reasons.

- It **adds exceptions and complexity** to the rules.
 - It contradicts the guiding principles of counting. Unique DETs and processing logic will no longer provide unique functionality.
 - The introduction of "Optional" DETs is a confusing new concept open to misinterpretation.
- It **changes previously documented rules** stated in CPM 3.X as related to inputs, outputs and inquiries. For example:
 - "Input processes, which if specifically requested by the user duplicate a previously counted External Input are each counted (example: ATM and Teller transaction)."
- Multiple Media was **historically counted and is still counted** by the majority of counters, based on rules that existed and were never formally changed.
 - IFPUG Certified training materials and workshops teach multiple media as being counted when unique DETs and/or processing logic are required.
 - Thousands of counters have been trained to count multiple media and most will likely continue.
- It will **encourage misuse**.
 - Organizations will continue to

count Multiple Media for the sake of internal consistency and to comply with their interpretation of logical user functionality.

- Organizations will count Multiple Media so that counts can be used effectively for estimating and measuring productivity.
- It makes counts **more difficult to validate** as the identified processes no longer align with the real-world user view.

We need a consistent standard

Changes to the IFPUG standard since CPM 3.4 have reduced counts by approximately 25%. The proposed multiple media change will reduce this further by over 40% on some projects.

A reduction to software size will negatively **affect all of your organization's metrics** captured over the years related to:

- Productivity
 - Quality
 - Staffing
 - Cost
 - Schedule.
- We need a FP standard that has relevance and consistency to its original and continuing purpose.

Take a detailed look at the CPC proposal and determine its impact on your organization.

Technical Requirements and ISO Conformity

Multiple Media does not impact ISO Conformity

The ISO/IEC 14143 standards relating to functional size measurement does not mention nor specifically address multiple media. ISO has not made any changes or introduced any new standardization that requires any changes to the IFPUG method.

The choice of media is not a "Technical Requirement"

In the context of information technology, the term "media" is used to

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CPC's position on the Multiple Media Issue

The Counting Practices Committee (CPC) requests that you vote no.

Let's move forward,
keep IFPUG FPA the world's leader

There is only one way to go

Vote **NO**

As IFPUG President, Mauricio Aguiar, explained in his October 11th email to the IFPUG membership, the issue is:

"how to count multiple media in terms of IFPUG standard function points. Put simply, if you have a report on a screen and the capability to print and e-mail that same report, do you count one external output or three?"

IFPUG's President also writes:

"The CPC followed the proper procedures, reached a determination that multiple media should not be counted more than once and were ready to proceed to the final step in the process, which is to conduct an impact study."

The CPC has been studying the Multiple Media issue since 1994. There have been differences in opinion between Certified Function Point Specialists and even within the CPC. This inconsistency has had a negative impact on the credibility and reliability of IFPUG Function Point Analysis (FPA), because the results can be considerably different. As a consequence, this has a negative influence on benchmarking data and on the use of IFPUG FPA as a sizing methodology.

A key development occurred in 2002, when the IFPUG FPA method was recognized as an ISO functional sizing method. The ISO FSM Standard states that a recognized method may size only functional requirements and must disregard other types of requirements (i.e., technical and quality requirements).

As part of the research for the multiple media issue, the CPC studied the ISO and IEEE definitions of requirements. This research yielded guidance for classifying requirements as either functional or non-functional. The CPC felt that this guidance needed to be shared with the IFPUG membership and published its findings in the paper "Framework for Functional Sizing" (2003). This paper is available for download from the IFPUG website.

Using this guidance along with input from ISO specialists, the CPC came to the unanimous conclusion that a function delivered via multiple media must be counted only once. This conclusion was based on the realization that the media in which the function is delivered satisfies a technical requirement and thus should not be sized using FPA. The CPC explained its decision and provided guidance in the paper "Practical Guidelines for Identifying Unique Elementary Processes".

A key element is that this decision is not based on a popularity contest (i.e., what the majority do, or would like to do), but based on ISO requirements. This decision will be permanent. On the other hand, a popularity contest would mean that what is counted depends on what is fashionable at the time, rather than a consistent direction and vision. This could result in a method of little value to anyone.

When the draft paper was published in late 2005, the CPC asked IFPUG members to review the paper and provide feedback (Step 4 in the CPC's documented change management process). Although the membership review was not intended to be a vote, a majority of the responses were positive. In asking for feedback, the CPC was specifically looking for convincing arguments that it had incorrectly classified multiple media as non-functional. There were no such arguments, although a minority of the feedback disagreed with the CPC proposal. The feedback also indicated that additional emphasis and clarification was needed in some key areas. The CPC will include the multiple media decision in the new ISO CPM

that is in the process of being written and will address the member feedback in the rewritten content included in the new CPM.

Some opponents of the CPC decision have argued that by not counting multiple media, FPA cannot be used as an estimating tool. This statement is not true. Throughout the world, many software houses and vendors have excluded multiple media for many years, yet they are effectively using FPA as an input to their estimation processes.

For more than ten years members have been asking for a resolution to the multiple media issue. Based on the research, the CPC is convinced that multiple media satisfies non-functional requirements and therefore according to ISO should not be measured using FPA. It follows that an opposing decision to measure multiple media would result in the loss of IFPUG's recognition as an ISO FSM Method.

The next CPM must be published in 2008 in order to retain its ISO recognition. That CPM must be conformant to ISO requirements in terms of structure and format. Because of the importance of the subject and the credibility of IFPUG FPA, the multiple media issue must be resolved in the new CPM. A delay in moving forward with the decision on multiple media will likely result in missing the 2008 ISO deadline. IFPUG would lose its ISO recognition.

Thanks to the ISO recognition IFPUG FPA has been adopted worldwide by national governments (like Brazil, Korea) as a functional sizing metric. If IFPUG FPA should lose its ISO recognition, it will lose its position as the leading functional sizing metric in the world. Other ISO recognized competing functional sizing methods like NESMA FPA, Mark II FPA or COSMIC Full Function Points will take over.

Please support your CPC, the decision on multiple media, and the existing change management process,

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First Annual International Software Measurement & Analysis Conference 2006 Summary

The city of San Diego did not provide much sun and warmth during the week of September 10th; however, the First Annual International Software Measurement and Analysis (ISMA) Conference sponsored by IFPUG generated a lot of heat. Over 125 participants from around the globe flocked to the Doubletree Mission Valley to learn the latest in metrics, data analysis, project management, software estimation, process improvement and, of course, function points. The week proved to be a wild ride with extreme ideas, innovative presentations, exotic animals and passionate topics discussed.

Conference Kickoff



Committee members enjoy the "Thank You" reception on Tuesday night.

Conference activities began Tuesday evening, September 12th, with an update from the Counting Practices Committee (CPC) – *Multiple Media Counting Rules and their Impact on Your Organization*. IFPUG Past President David Garmus and CPC Co-Chair Bonnie Brown weathered some heated questions from the audience about the pending changes to the Counting Practices Manual. The tone later lightened when Dan Bradley and Tony Rollo presented *IT Performance – Benchmarking with ISBSG* (International Software Benchmarking Standards Group). Dan and Tony explained the relationship between IFPUG and ISBSG and provided the audience with the current ISBSG membership, which includes Australia, China, Finland, Germany,

India, Italy, Japan, South Korea, Netherlands, Spain, Switzerland, the United Kingdom and the United States.

IFPUG Vice President Tom Cagley welcomed new members of IFPUG early Wednesday morning. He briefed the audience on the history of IFPUG, introduced IFPUG officers, explained the various committees and invited members to volunteer.

Wednesday Morning Keynote Address – Straight from SEI

IFPUG President

Mauricio Aguiar welcomed ISMA participants on September 13th to this inaugural event, and encouraged them to be fully engaged in conference activities. Well, these ISMAers were quite devoted, as they woke up early that Wednesday morning

to hear Watts Humphrey, founder of the Software Process Program of the Software Engineering Institute at Carnegie Mellon University. Watts reviewed the most common problems with large-scale development work. Additionally, he described the conditions making these problems more pervasive in the future, and ways to address them, citing scalable processes as a viable solution.



Watts Humphries imparts his wealth of knowledge on conference attendees.



IFPUG President Mauricio Aguiar welcomes everyone to the 2006 ISMA Conference.

Wednesday Afternoon Keynote Address – Emergency Substitution

IFPUG Past President Scott

Goldfarb stepped in when featured speaker Stephen Few was suddenly stricken with an illness, preventing him from traveling. As the newly minted Wednesday afternoon keynote speaker, Scott provided the audience with *The Productivity Pitfalls of Process Improvement*. He corrected three common misconceptions about process improvement:

1. "Quality is Free" ... until you hit the point of diminishing returns;
2. Process Improvement leads to Productivity Improvement – with the proper processes and focus; and
3. If you can measure it – analyze and conclude the right things – then you can manage it.

Track Highlights – Wednesday, September 13th

Function Point Track

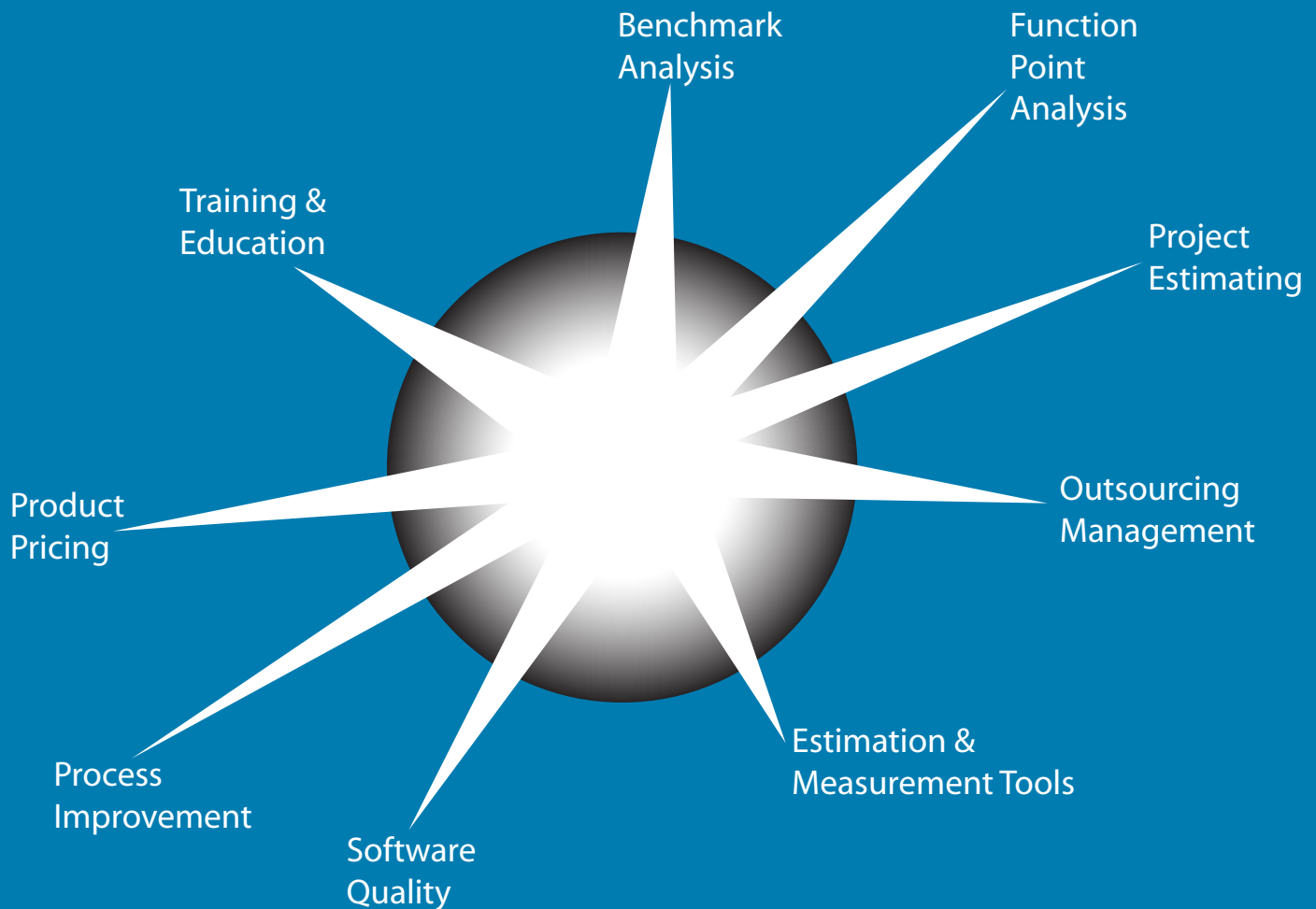
The Function Point Track kicked off on Wednesday with Tom Cagley's (The David Consulting Group, Inc.) cautionary session, *When Good Numbers Go Bad*. While not strictly related to function points, the presentation illustrated to the audience that even when data collected is accurate; it can be misused or misunderstood. Citing industry notables, Cagley highlighted the reasons why this happens and the steps that can be taken to prevent them.

The next presentation, by Debra Machino and Olga Makar-Limanov (EDS), entitled *Wave of the Future: Function Point Sizing and COTS Support*, walked through a real life example of how to quickly develop a baseline function point count for a larger COTS client engagement. In the rapidly changing technology environment, new methods such as this have to be developed and utilized to successfully and economically support large COTS applications.

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The afternoon session featured Lori Holmes' (Q/P Management Group, Inc.) presentation *FP Counting via the Internet*, in which she educated participants in conducting function point counts over the phone with participants remotely located while leveraging web-based technologies such as NetMeeting and WebEx. She advised on the challenges specific to conducting this type of count as well as techniques to overcome them.

Data Analysis Track

The Data Analysis Track began with a very interesting presentation from Scott Goldfarb (Q/P Management Group, Inc.) *Function Point Analysis and Its Impact on the Economy*. The research was based on a study from the US Bureau of Economics Analysis creating a price index for custom application development and in-house development. The price index is similar to other price indices, and has its foundation in function points.

Following Goldfarb, Lee Fischman and Karen McRitchie (Galarath, Inc.) presented *Normalizing the ISBSG Software Benchmark*. Here, the two shared a process to normalize ISBSG data that is used to calibrate estimates done by the SEER-SEM tool.

For anyone within an organization migrating to CMMI levels 4 and 5, Duane Shields' (EDS) presentation was a gift – *Data Analysis in Support of Goal Achievement*. This presentation closed the day with several techniques and examples mapping business goals to project quality and performance objectives, a central theme to levels 4 and 5.

Metrics Track

Barbara Beech (AT&T Consumer Services) kicked off the metrics track presentations with *Using Metrics in Outsourcing – What Works/What Doesn't*. Beech shared with participants what has worked well at AT&T and a checklist to help determine what type of metrics is required for an outsourcing contract. Additionally, Barbara discussed benchmarking outsource metrics and how they can assist in the development of metric improvements.

Al Hoefer III (Computer Sciences Corporation) followed with *CSC Balanced Scorecard Process SM: Measuring for Success*. Hoefer shared with the audience techniques used by CSC, one of the largest application outsourcers in the world. The methodologies include a company-variant of the CMMI for software and an original measurement approach called the CSC Balanced Scorecard Process SM.

Pam Morris (Total Metrics) closed the Metrics Track with *Metrics in Process Governance*. Morris presented a rigorous approach to project control, introducing function point-based metrics to quantify the status and scope of the project from start to end. She also provided case studies to demonstrate the effectiveness of this strategy.

Project Management Track

Riley Rice (Booz Allen Hamilton) presented *Requirements Volatility Impact – A Measure for All Seasons*. He revealed that the effect of requirements changes vary across the lifecycle, and provided a tool that will enable estimators to measure the impact of change at any phase.

David Garmus (The David Consulting Group, Inc.) followed with *Agile Development and its Impact of Productivity*. Garmus discussed the differences between Agile and traditional methodologies. Additionally, he offered specific ways to measure such differences using function points, enabling participants to determine if Agile development is right for a particular project under consideration.

Don Beckett (Quantitative Software Measurement) closed Wednesday's *Project Management Track* with *The Impact of Team Size on Project Productivity*. Beckett used a study containing nearly 700 projects completed since 2001 to explore various trends that impact a development team's productivity. Areas explored included software size documented in effective source lines of code, and optimal team sizes associated with categories of software size.

Wednesday evening brought the Vendor Reception, featuring several service providers and tool vendors.



"Professor" Al Hoefer emphasizes a point.

ISMA-ers enjoyed cocktails and delicious appetizers that could substitute for a nice meal. Stations featured

pizzas and a variety of pastas and sauces, while the main venue sported various cheeses and vegetables, spring rolls and crab cakes to name a few.

Good food and drink brought the best out of participants, who mingled with each other and got to hear from the many vendors that sponsored the event. These vendors included Charismatek, Total Metrics, Q/P Management Group Inc., The David Consulting Group, Inc., Galorath Inc. and Quantitative Software Measurement.

Track Highlights – Thursday, September 14th



Keynote Speaker Manfred Bundschuh with ISMA Conference organizers Leah Upshaw and Deborah Harris.

Keynote Address – Bringing the "International" to ISMA

Speaker Manfred Bundschuh, AXA Service AG and President of DASMA (German-speaking User Association for Software Metrics and Effort Estimation), provided the final keynote address at ISMA 2006. He spoke of the importance of measurement-based early estimates, prior to project start. Manfred introduced regression analysis as a tool to develop early function point estimates, producing an approximate 15% margin of error. He also shared with the audience the benefits of function

point utilization for tool-based early effort estimation with an estimation project portfolio.

Track Highlights – Thursday, September 14th

Function Point Track

Roger Heller (Q/P Management Group, Inc.) began Thursday's Function Point Track with *The Challenges of Short Cut FPA Techniques*. Heller shared with the audience various alternative methods to quickly determine function point counts. Such techniques included backfiring from lines of code and establishing counts using files only. Heller provided rationale for when and why such methods may be appropriate as well as when they are completely inappropriate.

Priya Lobo (Satyam Computer Services, Ltd.) followed with *Sizing Logical Data in a Data Warehouse – A Consistent and Auditable Approach*. Lobo provided ISMA participants

with techniques based on IFPUG's Counting Practices Manual Release 4.2 that were successfully adopted in consistently counting the logical data files in a data warehouse. The methodology is based on practical counting experience in multiple sites, both for development and enhancement data warehouse projects.

Robyn Lawrie (Charismatek Software Metrics) concluded Thursday's Function Point Track with *Thriving on Uncertainty – A Method for Functional Sizing Based on Early Requirements*. Recognizing that even experienced counters have little to go on when sizing from early life-cycle requirements, Lawrie provided the audience with a practical step-by-step method that can be used when requirements are scant. The method uses project knowledge that is available early in the life cycle and produces a defensible functional sizing of the project.

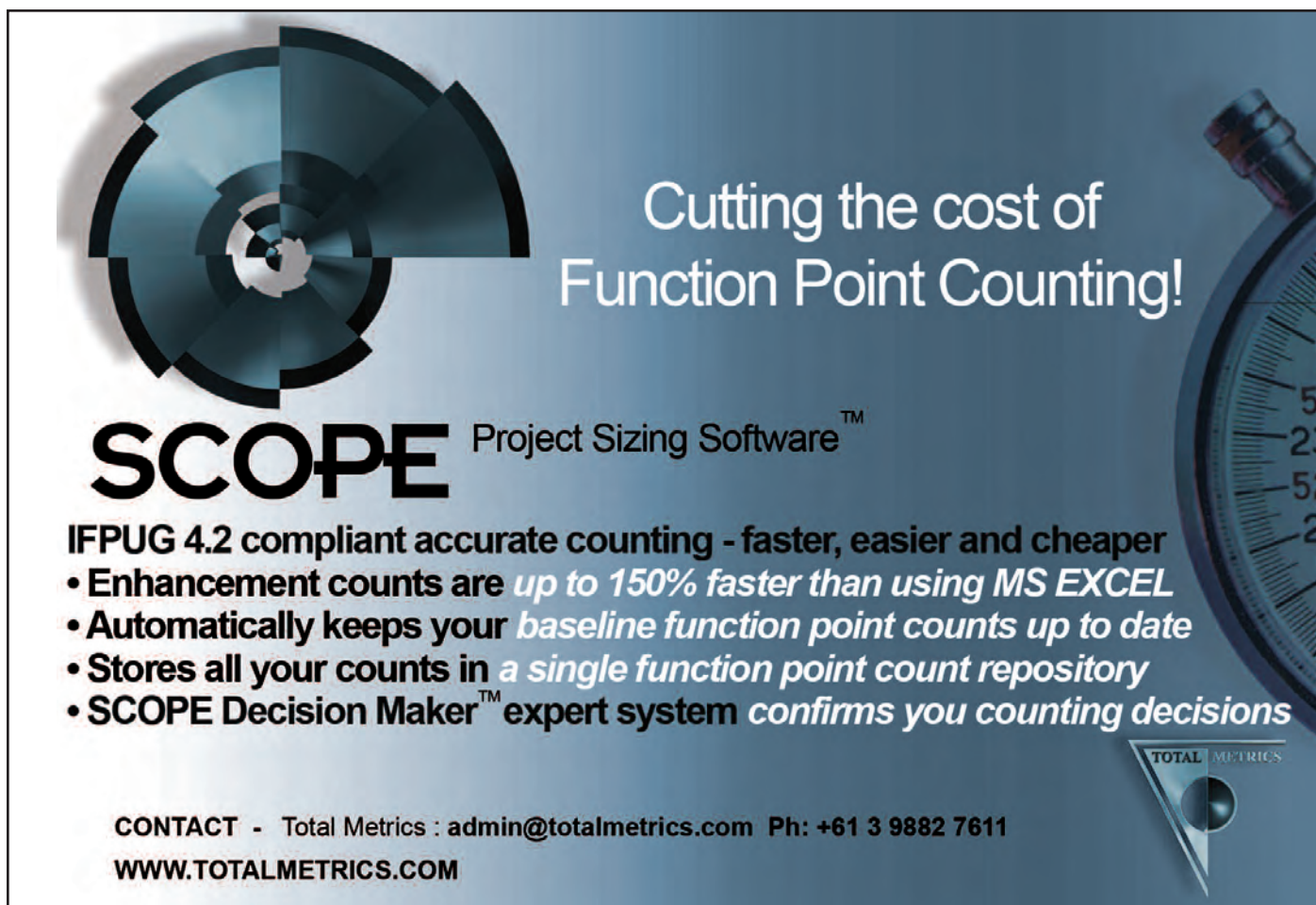
Metrics Track

Thursday's Metrics Track began with a dissertation from Steve Coffman on the *Potential Dangers and Hidden Opportunities of a Measurement Program* highlighting pitfalls that can derail a measurement program initiative as well as benefits and areas of strength that may otherwise be overlooked.

The track continued with Janet Russac's (The David Consulting Group, Inc.) *Paving the Road to Software Measurement Program* which provided a roadmap to establishing a successful program and outlined how to avoid the obstacles common to the establishment of a program.

The track wrapped up Thursday with *Defect Collection and Analysis – The Basis for Software Quality Improvement* by Joe Schofield (Sandia National Labs). Included in the discussion were examples of actual data used by Schofield's team and how that data is presented to management in their on-going mission to improve software quality.

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The advertisement features a dark blue background. On the left, there is a stylized circular graphic composed of several overlapping, semi-transparent, light blue and white segments, resembling a target or a complex data visualization. To the right of this graphic, the text 'Cutting the cost of Function Point Counting!' is written in a large, white, sans-serif font. Below this, the word 'SCOPE' is prominently displayed in a large, bold, white, sans-serif font, followed by 'Project Sizing Software™' in a smaller, white, sans-serif font. Underneath, a line of text reads 'IFPUG 4.2 compliant accurate counting - faster, easier and cheaper'. This is followed by a bulleted list of four points: '• Enhancement counts are up to 150% faster than using MS EXCEL', '• Automatically keeps your baseline function point counts up to date', '• Stores all your counts in a single function point count repository', and '• SCOPE Decision Maker™ expert system confirms you counting decisions'. In the bottom right corner, there is a small, stylized logo for 'TOTAL METRICS' which includes a circular element and the text 'TOTAL METRICS'. At the bottom left, the contact information is provided: 'CONTACT - Total Metrics : admin@totalmetrics.com Ph: +61 3 9882 7611' and the website 'WWW.TOTALMETRICS.COM'.

**Cutting the cost of
Function Point Counting!**

SCOPE Project Sizing Software™

IFPUG 4.2 compliant accurate counting - faster, easier and cheaper

- Enhancement counts are *up to 150% faster than using MS EXCEL*
- Automatically keeps your *baseline function point counts up to date*
- Stores all your counts in *a single function point count repository*
- SCOPE Decision Maker™ expert system *confirms you counting decisions*

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Software Estimation Track (1)

Ian Brown (Booz Allen Hamilton) began this Software Estimation Track with *A Fool with a Tool: Improving Software Cost and Schedule Estimation*. Many organizations foolishly view purchasing an estimation tool as the “silver bullet” to solve their problems with software estimation. Brown provided the audience with estimation best practices available to organizations, and discussed the criticality of having well-documented, repeatable estimation processes in place.

Christine Green (EDS) followed with *PMI PMBOK and Estimating. The Project Management Institute (PMI) Project Management Body of Knowledge (PMBOK)* introduces different types of estimating techniques – the naming convention is different than the approach usually used in estimating. Green’s presentation accomplished two things – introduce the PMBOK approach and theory around estimating – as well as

describe how the different estimating techniques match each other. Green also provided a mapping between PMBOK definition and Guidelines to Software Measurement.

Paul Below (EDS) completed this track with *Data Mining for Model Creation*. Below described the use of data mining techniques to filter many variables to a few that are essential to build or improve model-based estimates. Below provided examples in four categories: classification, regression, clustering and association.

Software Estimation Track (2)

Karen McRitchie (Galorath Inc.) kicked off the Software Estimation Track (2) with *Software Sizing, Cost, Schedule, and Risk...the 10-Step Process*. McRitchie explained how an effective software estimate provides the information needed to design a workable software development plan. Additionally, such an estimate is a tool that can facilitate important project

decisions, predict performance, and define objectives and plans.

Bill Hufschmidt’s (Decision Support Center) *Sizing for Survival*, demonstrated how companies have used measurement and analysis to proactively influence outsourcing decisions. Hufschmidt’s explained how companies can save via offshore outsourcing and provided a framework to determine which metrics to collect, how to collect them quickly, and how to prove and report value.

Dwayne Pepper (Intel Corporation) completed this track with *Statistical Toolset for Maximizing Information from Function Point Data*. This discussion was follow-up from Pepper’s presentation at the 2006 Functional Sizing Summit, that lead participants through the core expectations for statistically valid use of function point data. Topics included avoiding statistical malpractice in summary presentations, the essentials of blocking and using correct sample sizes for inferences and estimations.

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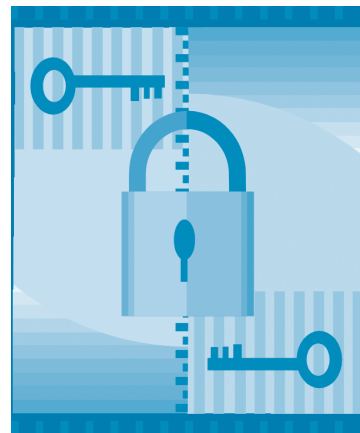
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Birds of a Feather



Birds of a feather flock together!

Due to a resounding approval rating at the 2006 Functional Sizing Summit, the inaugural ISMA conference hosted another “Birds of a Feather” – an opportunity to discuss several hot topics facilitated by an industry expert. Topics at this Birds of a Feather included:

- Benchmarking Software Development and Support;
- Counting Multiple Media;
- Getting the Most Out of Your Measurement Investment;
- Outsourcing;
- Establishing an FP Program;
- Counting in the Fast Lane; and
- Different Levels of Counting.

Birds of a Feather began promptly after lunch. This gave ISMA-ers the opportunity to walk around to different tables or focus on one topic, and casually enjoy their dessert and coffee while chatting away. Overall feedback of the Birds of a Feather was excellent so we will continue to sponsor this activity!

Speaking of Sponsors....

We'd like to recognize and thank our corporate sponsors for their participation, and making the First Annual ISMA Conference very special:

- **Gold Sponsor** – Q/P Management Group, Inc. provided the registration bags, lanyards and padfolios. This sponsorship also included the Wednesday Function Point Track.
- **Silver Sponsor** – The David Consulting Group, Inc. provided the hearty breakfasts served on Wednesday and Thursday mornings.

- **Other Patrons** – Quality Plus Technologies, Inc. and Software Productivity Research co-sponsored the registration desk.

Other Notables from Thursday

A stitch in time means wine?

For the second time within the span of six months Pam Morris of Total Metrics raffled a coveted bottle of Australian wine. Amazingly, this second bottle was won by Ramona Roberts from DFAS, a friend of Traci Thompson, 2006 FSS winner of the Australian wine. The two were seated next to each other during the drawing. Did Traci pass along the good luck streak?

Off to the Zoo

ISMA-ers enjoyed a cool evening at the San Diego Zoo. The adventure began with a double-decker bus tour throughout the zoo. Unfortunately, several animal species had begun to settle in for the evening. However, there were some unexpected treats. There was a rather exuberant koala that showed off for his visitors, climbing across his eucalyptus tree home. Usually, these Australian marsupials are seen lounging and sleeping.

Following the bus ride, participants enjoyed a much needed cocktail outside on the patio. During the happy hour, ISMA-ers had a close introduction to many interesting animals that would never be seen together in the wild. To name a few – an elderly owl, a honey-loving aardvark, a cube-shaped armadillo (when in camouflage mode), and in “truth-is-stranger-than-fiction” form, a real-life alligator that had been rescued from the sewer.

After dousing their hands with hand sanitizer, ISMA-ers left the animal show and the cool evening air to partake in a civilized meal. It was another opportunity for folks to mingle with participants from different countries, companies and cultures.

Track Highlights – Friday, September 15th Function Point Track

Steve Keim (The David Consulting Group, Inc.) opened Friday's Function Point Track with *Countflation*. Keim

invited the audience to explore common techniques that cause counts to inflate. Additionally, Keim incorporated discussion about the CPC white paper introduced at the conference on Tuesday.

Metrics Track

Sheila Dennis (The David Consulting Group, Inc.) opened Friday's Metrics Track with *Use a Balanced Scorecard? The Answer is CLEAR!* Dennis highlighted techniques to ease the determination of a software deliverable's functional size. She also included cost and benefit tradeoffs inherent in different functional sizing techniques.

Pierre Almen and Frank Mazzucco (Compass America) followed with *Outsourcing – A Fact-Based Decision?* Almen and Mazzucco addressed a measurement framework, beginning with baselining of current performance. They continued with ongoing governance designed to ensure favorable outcomes to both the client and the vendor.

Kim Caputo (Motorola) changed the pace, allowing participants to play *Spare Change for Measurement and Process Improvement*. Spare Change is a new board game designed to be fun, while teaching experiences of measurement and process improvement concepts. Folks who attended this workshop got to roll up their sleeves and play!

John Pruitt (Accenture) closed the Metrics Track with *Measuring Complex Projects*. Pruitt shared with the audience how Accenture separated the budget project from the delivery project on the world's largest outsourcing engagement. This challenged the idea that complex software projects must have both a budget and a schedule.

Project Management Track

The Project Management presentation for Friday was Ray Boehm's (Software Composition Technologies) *Agile Project Management* which detailed how to apply function points and measurement techniques to projects that use variants of the Agile

continued on page 12

software development methodology instead of the more traditional water-fall. The core message being that just because an Agile approach is being utilized doesn't mean you don't measure and gather metrics.

Process Improvement Track

The Process Improvement presentation for Friday was Sergio de Qunital Brigido's (EDS) *Analyzing Projects Through the Implementation of a Metrics Repository: An Approach*



Attendees "flipped" for Peter Thomas' chart-based presentation.

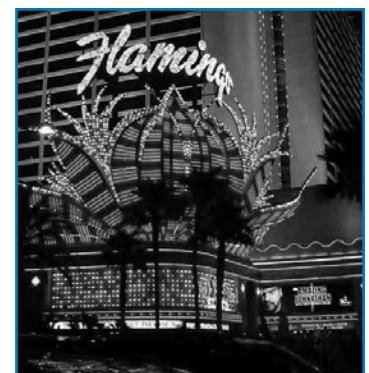
for *Deployment of CMMI Level 2 Measurement and Analysis Process Area*. Brigido shared with the audience the EDS-Rio de Janeiro experience on its journey toward CMMI Level 5 certification. The talk focused on the implementation of a framework supporting collection and analysis of measures.

Peter Thomas (IBM Global Systems) piloted a non-traditional presentation style in his delivery of *Measuring a Mature Measurement Process*. Thomas presented a measurement framework to guide any organization in increasing the overall value of its measurement program. No slides, no tables, just chairs and flip charts! This was a highly interactive session where the participants had an opportunity to share experiences, exchange ideas and ask questions that were relevant to their individual situations.

When We Meet Again...

Please save the date – Sunday, April 22 – Thursday, April 26, 2007 for our next event, the 2007 Functional Sizing Summit and Spring Workshops. We'll be at the Sheraton Wall Centre Hotel, 1088 Burrard Street, Vancouver, Canada. Check out www.sheratonvancouver.com for more information about the hotel. More information to follow!

We look forward to the 2007 2nd Annual ISMA Conference and Fall Workshops, and hope to see you there. Please save the date – Sunday, September 9 – Friday, September 14, 2007. The location is the Flamingo Las Vegas, 3555 Las Vegas Blvd. South, Las Vegas, Nevada, USA. Check out www.flamingolv.com for more information about the hotel. Look for more information to follow! ●



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**By Pam Simonovich,
Chair – IFPUG
Education Services
Committee**

Education is an avenue of IFPUG very near and dear to my heart. I've come from a long line of educators and am thrilled to be able to Chair the Education Committee. We have certainly come a long way in the pursuit of broadening the scope of our curriculum. The 2006 Fall Workshops, held in San Diego in September, were well attended. It was certainly a pleasure seeing all the regulars, as well as many new faces. We offered a wide range of classes, from CSMS and CFPS Exam Preparation to Practical Software and Systems Measurement. Some of these are the old standby

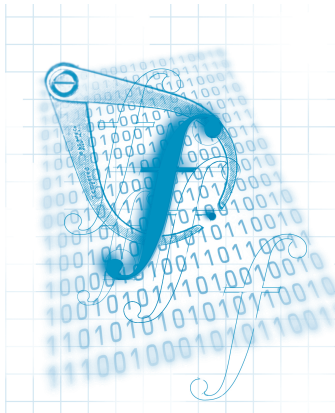
classes, but we offered many new and exciting courses on the slate as well. The new Principles of Estimating and Benchmarking Using Industry Data class was particularly well attended.

As many of you know, we at IFPUG are the world leaders in measuring functional size. This is a wonderful claim we have been able to foster for over 25 years. We all know that "size does matter," but there are many other metrics, that when we combine with FP, yield a whole wealth of information. Our goal is to provide the highest quality of education to our membership including measures that go above and beyond functional size. We are very excited about partnering with the Management Reporting Committee to address the many other needs of our practitioners in incorporating an entire body of knowledge surrounding the many aspects of

measurement in software.

Our 2007 Spring Workshops in Vancouver will focus primarily on the intricacies of functional sizing, but the event will also offer a sampling of other measurement courses. We have recently heard from the New Environments Committee that several new white papers are being introduced. We hope to add these topics to our spring curriculum as well.

Thanks to all of you who participated in our 2006 Fall Workshops! I certainly look forward to seeing many of you in Vancouver! ●



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- Function Point Training – IFPUG CPM 4.x Certified
- Function Point Baselines counting
- Function Point Project counting and analysis
- Counting real-time systems and advance technologies

MACRO TRENDS

Controlling Software Costs with Function Points

By Ian Brown and Tom Cagley

Software is a huge part of any organization's IT portfolio. Whether developed in-house or outsourced, custom developed or implemented through commercial-off-the shelf (COTS) products, software investments account for a major amount of the IT resources expended each year to support an organization's business. But how often does a CIO really know what is happening with these investments? How often do IT managers really get the information they need to control these projects and make smart business decisions? How can a decision-maker get the quantifiable data necessary to understand the real project status? Function points are a major component of an overall performance measurement strategy that can help provide this valuable and necessary insight into software investments.

What the Heck Are Function Points?

Put simply, function points are a method for measuring software size. Why is size so important? Size is the primary cost driver of any software investment, whether the project is custom developed or implemented through COTS. Size can also be used as a tool to help "normalize" data across various projects to enable more accurate and appropriate comparisons. In short, size can have a major role in helping IT managers and CIOs make smart decisions about software investments, so a robust, structured, repeatable approach to measuring software size is critical. Unfortunately many metrics for measuring size, such as lines of code, have proven inadequate—and many organizations in industry do not even utilize a standard sizing metric. Function points answer the mail on all counts, and are quickly becoming recognized as the premier standard for measuring software size.

Information for Decisions

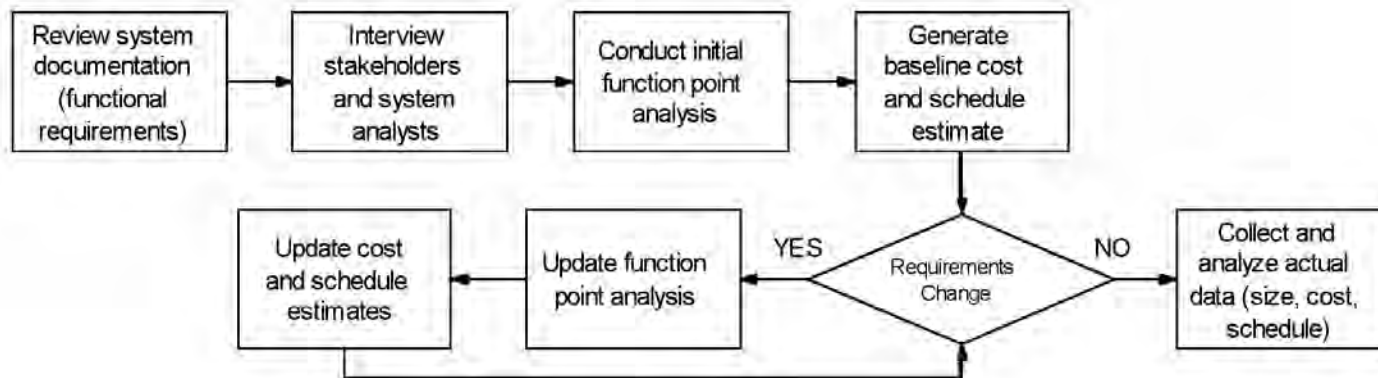
Function points can provide IT managers and the CIO with the clean, measurable data that is often critically missing from software investment projects. How often do projects claim to be "doing fine"—only later to report that they are significantly over budget and behind schedule? Function points offer a structure to "commoditize" software by breaking things down into a standard measurable unit. Function points can serve a wide variety of roles.

- **Cost and Schedule Estimation:** Size is the primary cost and schedule driver of any software investment. Function points can play an integral role in an organization's robust, repeatable estimation methodology. Estimates can be more thoroughly documented, cross-checked, explained, and defended. The ease of application makes function points a method to standardize velocity metrics in eXtreme programming projects.
- **Earned Value:** Function points provide the ability to understand just how much has actually been completed on any given project, which is an important aspect to any earned value management approach.
- **Quality:** Inferior software quality can be a real drain on an organization's time, effort, and money, not to mention market reputation (both internal and external reputations can be damaged through inferior quality). Function points are essential in normalizing software quality measures (defects per function point) and identifying major trouble spots.
- **Productivity:** Function points also normalize effort and cost across an organization (effort per function point, dollars per function point). This allows organizations to measure the impact of process improvements, new development standards, new development technologies in

terms of real savings and bottom-line impact.

- **Software Portfolio Management:** Function points applied to all software across an organization allows comparative information to be drawn from sources not previously available. It enables software to be treated and managed like a true IT asset (quantitatively rather than emotionally).
- **Benchmarking:** As an international standard, function points allow more consistent comparison of organizational performance (in terms of productivity or quality) to other organizations—or to previous organizational performance.
- **Return on Investment:** ROI is key metric to demonstrate on any investment, and function points can help do this in many ways. For example, when making a build versus buy decision, function points provide a basis for comparison across the alternatives. When deciding whether to outsource or develop in-house, function point analysis provides a common denominator by which options can be quantitatively discussed. When implementing process improvement initiatives, function points can help quantify the impact in terms of cost and quality and bottom line dollars that will illuminate the success of the program.
- **Outsourcing:** Function points can play a key role in organizations that outsource software development by keeping information and control within the organization. Outsourcing contracts can be structured around function points in terms of delivery rates or total contract value. Service level agreements can be based on normalized quality levels or percentage quality improvements. Because function points are an international standard, independent third parties can review or audit software projects and can help settle disputes when they arise.

Figure 1. Function Points as a Component of Estimation – in Practice



Bang for the Buck

One of the criticisms frequently voiced about function points is that counting them is a largely manual process. “I can’t afford to do it,” project managers often complain. Given the insight and control function points affords, how can projects afford **not** to do it? Insights are not limited to determining size. The practice of counting function points enhances analysis and design by focusing on delivered functionality. Also the ‘act’ of counting allows a careful observation of how work is done which can be leveraged to provide an important input into process improvement programs. Any of these benefits far outweigh the costs. On a large development project, one or two function point analysts might spend two weeks to a month conducting the initial size

analysis and generating the baseline cost and schedule estimates. When requirements change later in the development life cycle, a function point expert should update the size, cost, and schedule estimates as part of the change control process and to ensure the project plan is current and up to date. This cyclical process is scalable and would also apply to smaller projects but would require less effort.

In between these “function point intensive” cycles, function point analysts can perform other measurement duties on the project, conduct function point counts for other development projects or become involved in analysis and change management.

In short, function points can have broad applicability and impact on software investments. They can

provide the insight and quantifiable information that is too often absent. They have been around for over twenty-five years and are becoming more widely used to estimate, control, govern, and measure software investments.

The function point standard is maintained by the International Function Point Users Group (IFPUG), a non-profit organization which also maintains the Certified Function Point Specialist (CFPS) program to recognize trained experts in the methodology. For more information see www.ifpug.org. ●

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Point/Counterpoint – Part Two, continued from page 5

enabling IFPUG to move forward. The multiple media issue cannot be allowed to remain unresolved. To do so will continue to negatively impact IFPUG FPA. If you, as an IFPUG member, want the IFPUG FPA method to continue to be recognized by the world as a stable, ISO compliant standard, the CPC asks you urgently to vote NO. ●

Let’s move forward,
keep IFPUG FPA an ISO standard:

Vote **NO** to the motion

*IFPUG Counting Practices Committee
Adri Timp, Chair*

Communications and Marketing Committee

By Ian Brown, Chair

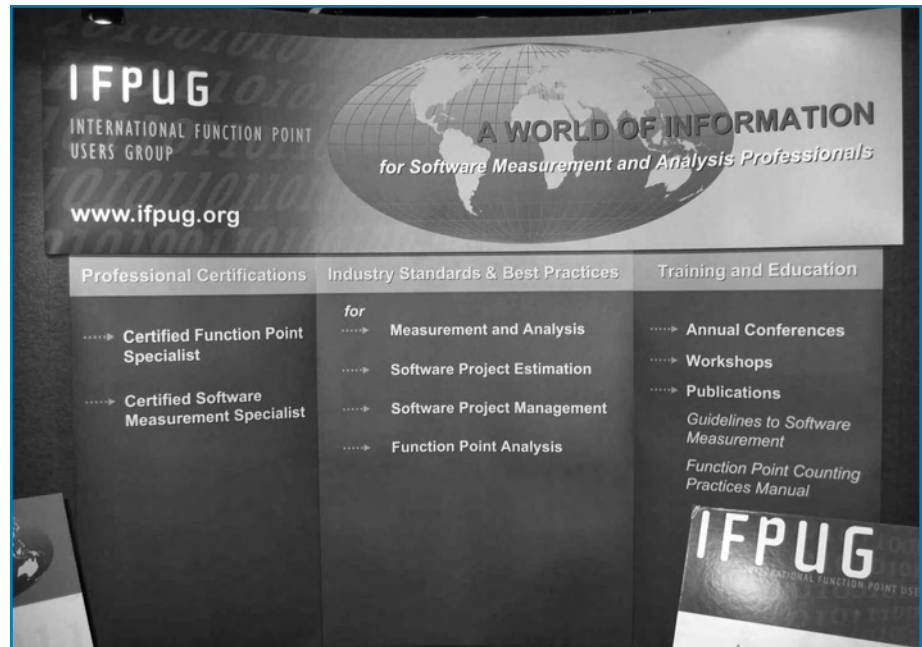
The Communications and Marketing Committee (CMC) is responsible for many aspects of outreach for IFPUG. *MetricViews* and the bimonthly *Newsletter* are two key components of that outreach, and as the editor mentioned in the opening letter to this issue, those two publications have gone through some renovations resulting in significant improvements. Another way the CMC spreads the word about IFPUG is by attending various industry conferences as an exhibitor. The past couple of years, IFPUG had a presence at both the spring SEPG conference, and the Better Software Conference in the summer. At both events, IFPUG saw a marked increase in interest in function points. People seem to be looking for a better way to size software, and function points certainly is one of the best options available.

Several years ago at the SEPG Conference in Seattle, we noticed that the IFPUG booth seemed... well, kind of *outdated*. People would walk by the booth and wonder what the heck IFPUG was and what it was we were selling. (Can you actually buy function points? Good question for another forum, for sure). Judge for yourself—here's the display from that conference. Not so hot right? The saving grace was the two event posters we had created right before the show.

So, we did a little research and some work with designers to craft a more modern, relevant booth display that communicates IFPUG's key messages and benefits more clearly.



Old IFPUG exhibition booth.



Redesigned IFPUG exhibition booth.

We unveiled the new design at SEPG 2006 in Nashville, Tennessee. Check it out above...

Just a little better, right? We've gotten a lot of positive comments.

One of the other things on the CMC's plate is to begin redesigning the IFPUG website. It, too, is a bit outdated and in need of attention. We're looking for ideas, so if you have thoughts on features, content or organization you'd like to see on the website, let us know at CMC@ifpug.org.

IFPUG ISO Standards Task Group Report

By Carol Dekkers, Group Lead

Since 1994, IFPUG has participated in ISO standardization of Functional Size Measurement as both a category "C" liaison organization to ISO/IEC JTC1 SC7 WG12 and as a member of the U.S. software and systems engineering (SC7) delegation. It is with pleasure that I report to you that the work of the Functional Size Measurement working group, WG12 is nearly complete. Over the past 12 years, IFPUG has contributed expertise and participation with the following successful results:

- International recognition and

endorsement of function point analysis by ISO.

- Publication of the ISO/IEC 14143 suite of framework standards. These standards cover the definitions, usage, and the practical application of Functional Size Measurement (function points). The final ISO standard in this series, ISO/IEC 14143-6 Guide to Functional Size Measurement standards, was published in May 2006.
- Publication of the IFPUG unadjusted 4.1 Function Point Counting Practices Manual as ISO/IEC standard 20926. (Because ISO defines "functional size" in terms of the unadjusted FP count, we submitted the IFPUG unadjusted method to ISO.) South Korea has endorsed IFPUG function points through ISO/IEC 20926 as their chosen functional size measurement method for government software development projects.
- Publication of three other ISO conformant function point methods as ISO/IEC standards: Mark II, COSMIC, and NESMA.
- Recognition of IFPUG as one of the leading software measurement organizations in the world.

Besides the work we have done in the area of functional size measurement,

your IFPUG representatives to ISO have fostered goodwill and international relationships in other areas of software engineering. We have contributed positively to the revision of ISO/IEC 15939 Software Measurement Framework (based on the Practical Software & Systems Measurement model), and provided input and review of Quality Measurement standards including ISO/IEC 9126 Software Quality Characteristics. Currently, I am chairing a study group to determine the need and usage of Software Functional Domains (software types) which will be finished in time for the final meeting of WG12 in St. Petersburg, Russia in May 2007.

At this point in time, it is unknown whether IFPUG will benefit from participation in future ISO standards work, but it is under consideration whether it might be feasible to participate in the development of Software Requirements standards and/or Software Benchmarking standards.

Both of these areas will be evaluated and a recommendation made to the IFPUG Board of Directors about our Task Force during the next year.

In the meantime, IFPUG members may gain access to software engineering standards in development by:

- a) Reviewing draft copies of emerging software engineering standards including the report of the Requirements study group (published May 2006);
- b) Participating by submitting comments and joining in email reviews of the study group report regarding functional domains and their classification. Please send an email to Carol Dekkers at dekkers@qualityplustech.com if you are interested in participating on this study group;
- c) Participating by submitting comments and joining in email reviews of the study group report regarding software benchmarking standards. Please send me an email

at dekkers@qualityplustech.com if you are interested in participating on this study group.

At the ISO/IEC JTC SC7 meetings last month in Bangkok, Thailand, IFPUG also gained positive publicity because I organized both the annual SC7 wine tasting event (because the USA won in 2005), as well as the first ever International Beverage Showcase social event. It is an honor and a privilege to represent IFPUG at ISO standardization meetings along with our other task force members, Frank Mazzucco and Mary Bradley. Thank you for your support of our efforts. Our success in bringing IFPUG function points to the level of global ISO standards acceptance is due to your support and participation.

For further information about ISO software and systems engineering standards development or existing ISO standards on Functional Size Measurement, please send an email to dekkers@qualityplustech.com. ●

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Q/P Management Group is a well established, innovative consulting firm specializing in quality and productivity solutions for high technology and information service organizations. We provide our clients with the methods and techniques to assess quality and productivity needs, to implement continuous process improvements and measure the results. Our consultants work with major corporations and government organizations throughout the world and with our guidance, these corporations have realized significant software development cost savings as well as ongoing savings through outsourcing engagements.

We have experience in numerous industries including financial services, telecommunications, commercial software, insurance, manufacturing and defense. Our consultants are talented, experienced professionals who are committed to satisfying client needs. We believe that in order to provide the best consulting services we must provide the best people in the industry. Q/P Management's benchmark database continues to be the largest, most accurate, function point based measurement database in the industry. When the database is combined with PQMPlus™ users can establish accurate project estimates and successfully manage projects. PQMPlus is a Windows-based tool, featuring an intuitive design with a robust function point repository, unique project estimating, scheduling, risk assessment, and productivity analysis capabilities using function point analysis. PQMPlus™ is the only tool to receive IFPUG Type 1 & Type 2 Software Certification. Details at www.qpmg.com. For more information call 781/438-2692 or email info@qpmg.com.

The David Consulting Group **New Jersey, USA**

The David Consulting Group (DCG) is a SEI CMMI® Approved Transition Partner and a PSM Transition Organization, supporting software development organizations in achieving software excellence with a metric-centered approach. Founded on the principles of strong customer support, quality deliverables and professional work ethics, The David Consulting Group recognizes that investing in the excellence of software today is critical to the competitive success of tomorrow's business.

DCG supports a diverse mix of clients by providing consulting services and training that satisfy organizational business objectives. Insights into successful software practices are enabled through their database of over 8,800 recently completed (2003-2006) projects and 6,500 maintenance support applications.

Total Metrics **Victoria, Australia**

Total Metrics provides consulting and training services to the IT industry worldwide. We assist organizations to improve their software processes and to be industry competitive. We use measurement techniques to assess the productivity and quality of an organization's software processes and products, to identify opportunities for improvements and compare against industry values.

Total Metrics has developed and distributes the premier function point counting tool - SCOPE Project Sizing Software™. This is the first product to bring software functional sizing into the domain of project governance and software portfolio asset management.

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Affairs, *EDS*

Chris Kohnz, Director of Education
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Bruce Rogora, Director of Counting
Standards, *Pershing, Inc.*

Mauricio Aguiar, President,
TI Metrics

Ian Brown, Secretary and Director
of Communications and Marketing,
Booz Allen Hamilton

Not pictured:

Mary Bradley, Immediate Past
President, *MSB2*

If you or your company are interested in advertising in the next issue of *MetricViews*, and being included in Vendors' World! Vendors' World!, please contact Barbara Swanda at IFPUG headquarters at: 609/799-4900 or email bswanda@cmassolutions.com.

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Point/Counterpoint – Part One, continued from page 4

describe information movements into and out of applications – screen display, printer, file, email, etc. The media requested by the Client/User for an input/output represents distinct business requirements and is completely within the User's knowledge domain.

The ISO/IEC 14143-1:1998 definition of a Technical Requirement is:

“Requirements relating to the technology and environment, for the development, maintenance, support and execution of software.

NOTE – Examples of Technical Requirements include programming languages, testing tools, operating systems, database technology and user interface technologies.”

By this definition, “**media**” is **not a technical requirement** and there is nowhere in the existing ISO/IEC 14143 suite of standards, or anywhere in ISO/IEC or IEEE software engineering standards that would substantiate the CPC viewpoint that media is not a functional requirement.

The Way Forward

A **YES** to this motion allows IFPUG to develop a reasonable set of guidelines on how and when to count multiple media based on **member input and common practices**.

It is imprudent to impose a potentially significant change to the standard without appropriate research and analysis. Any significant change should make the method better for its intended role in estimation and productivity measurement and not more confusing.

This motion recommends that common practices be reviewed and directs how best to standardize multiple media rules. It is our hope that an independent party working with the membership, CPC, other IFPUG committees and industry practitioners will develop a solution for the good of the Function Point counting community. ●

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Beyond Budget

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For a true read on project success, organizations must track **both qualitative and quantitative benefits**. Project managers typically consider a project successful if it meets quantitative goals—on budget, on time and within scope—set forth during the planning phase. Qualitative benefits, such as stakeholder satisfaction or product aesthetics, often are passed off as secondary. That's a big mistake, according to Carlyle Maranhao, PMP, Hewlett-Packard Co., Chester Springs, Pa., USA, and Christine Green, PMP, EDS Denmark, Copenhagen, Denmark. The two discuss why qualitative benefits are just as important as the quantitative ones.

Should organizations build metrics into their project management process? Why do some project offices fail to measure project results?

Ms. Green: Organizational metrics programs take a bit of time to implement. It's not done overnight, so that's one of the issues. The other is a lack of management sponsorship. They don't see the benefit.

Mr. Maranhao: Any organization that has gone through the effort of establishing a project management office (PMO) typically has defined metrics for all the projects it manages. If we were talking years ago when PMOs were kind of new—when everybody wasn't sure how they should measure—the answer might be different. But PMOs have matured in terms of measuring projects results.

Ms. Green: If they don't, they don't succeed.

Mr. Maranhao: They'll be fired!

How can companies measure quantitative and qualitative benefits?

Mr. Maranhao: Both benefits are empirically measurable, it's just a matter of which techniques you choose to use. There are two

sides of the equation. One measures direct return on investment (ROI)—typically there's a lot of focus on what the project is going to save the company when it's delivered. But the other side of the equation that's often not directly quantified deals with the optional benefits that may not be immediately apparent. Real options analysis is a technique that can be used to measure the qualitative benefits of a project in its beginning stages. It's based on Black-Scholes options techniques, which are used everyday in the stock market to quantify the value of stock options. This technique is an empirical method that gives you a way of quantifying the potential future value of a project when that value is not immediately apparent. Many projects that might fail the test from a straight ROI perspective are actually good investments because of the "optional value" side of the equation you need to measure.

Ms. Green: Traffic light reports also are a very effective way because that's something the executives intuitively understand—if it's red, they need to have somebody look at it. I don't necessarily have to do it as an executive, but I know that if it's red, somebody needs to.

Mr. Maranhao: One of the interesting things I've found about traffic light reports is there's a natural reluctance for project managers to show anything as red. So if you see a green project it will be green, green, green and then all of a sudden, it will completely fall into red because green is good, red is bad. You have to get more empirical about how you measure what constitutes yellow and red and green.

What are the strengths and weaknesses of tracking qualitative benefits versus quantitative ones?

Ms. Green: Both qualitative and quantitative have strengths and weaknesses. The power is in using of both of them at the same time. You can't say "use one over the other"—they both provide important feedback. If we were building a bridge, for example, the qualitative benefits relate to whether the bridge works, but the quantitative might measure how much concrete was used or how many people were working on it. All of this information is important.

Mr. Maranhao: A strong business case is made up of both the qualitative side and the quantitative side. To use the bridge example, if it was built on time, on budget, and met specs but wasn't beautiful to look at, it may not have enhanced the city it was in. It's important to consider the quantitative sides of the bridge—Can it accommodate the necessary number of people? Does it connect the two land masses it's supposed to connect?—as well as the qualitative side—Does it enhance the landscape?

Should qualitative benefits count toward ROI?

Mr. Maranhao: Absolutely. There are two areas of benefit you need to consider when you're looking at any particular project. There are immediate returns as well as the areas of optional benefit. A lot of times those areas of optional benefit can represent a significant area of value to the business. Even

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more importantly, the process by which you quantify those optional benefits demands the project team seeks out the key stakeholders and gets input from those stakeholders. By doing that, you're making sure you're solidly linking the project to the specific business goals and the areas of focus.

Ms. Green: The one big thing I see when we mention ROI is people are thinking about money. They're thinking about what it gives the company if we implement the project from an earning perspective. They're not thinking about what it will bring them from a qualitative perspective, which could be a performance improvement due to process improvement, a quicker learning curve for their staff members or faster turnaround when information is exchanged.

Are quantitative benefits given too much importance over qualitative ones?

Mr. Maranhao: That's an interesting question. I would say many times yes. Often the value of what the project is delivering is understood better by the business itself than by the project team. However, if you take a look at many project monthly status reports, you'll often see that the project team focuses on how well the project is delivering. Is it on time? Is it on budget? But often there isn't any inclusion of how well the project is actually satisfying the key stakeholder needs.

Ms. Green: Stakeholder satisfaction is a task that we need to perform, but it also is a task that unfortunately has some difficulties in being consistently used by project teams. It might be used on an organizational level but a lot of projects reject or forget to ask their clients or their users if they're satisfied and the project met their needs. ●

CARLYLE MARANHÃO, PMP, is a client principal with Hewlett-Packard Co., Chester Springs, Pa., USA. His 17 years of experience in the IT industry includes consulting for several Fortune 500 companies, program management and sales.

CHRISTINE GREEN, PMP, is a metrics and estimating specialist at EDS Denmark, Copenhagen, Denmark. She is a certified function point specialist and software measurement specialist and is on the IT Performance Committee of the International Function Point Users Group (IFPUG).

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