12th Annual Practical Software and Systems Measurement Users' Group Conference

"Improving Organizational Performance through Measurement Insight"

14-18 July 2008
Mystic, Connecticut

Conference Agenda

Monday, 14 July 2008

7:30am - 8:30am   **Continental Breakfast**

7:30am - 8:30am   On-Site Conference Registration

8:30am - 11:30am   **Training:**
PSM One-Day Tutorial (This course is an introduction to PSM for those who are new to PSM or who want a refresher course on the PSM principles and information-driven measurement process.)

10:00am -10:30am   **AM Break**

11:30am - 1:00pm   **Lunch on your own**

1:00pm - 5:00pm   **Training:**
Continuation of morning session

2:30pm - 3:00pm   **PM Break**

4:30pm – 5:30pm   On-Site Conference Registration

                     Dinner and Evening Activities on Your Own

Tuesday, 15 July 2008

7:30am - 8:30am   **Continental Breakfast**

7:30am - 8:30am   On-Site Conference Registration

8:30am - 9:30am
"Conference Welcome and Introductions", Cheryl Jones, US Army RDECOM

9:30 - 10-30am
"Leveraging Measurement Data: Tricks of the Trade", Donald Reifer
While many organizations capture lots of metrics and measurement data, few know how to use it for their advantage. For example, how do they know when they tested enough? As another example, why should they collect size and complexity data? What does it cost and what does it buy you? To emphasize these points, Don Reifer will discuss how to use metrics and measurement data to make sound decisions at both the project and enterprise level that make both technical and business sense.

10:30am - 10:45am   **AM Break**

10:45am – 11:30am
"Back to the Future ", John McGarry, US Army RDECOM-ARDEC
The presentation will address some of the significant issues and challenges with measurement, and some of the basic requirements for quantitative decision-making.

11:30am - 12:15pm
"Panel: Advanced Measurement Analysis Techniques"
This panel will include a discussion of common challenges and strategies for data analysis for high maturity organizations, followed by audience questions. Panel members include:
- Measurement and Analysis in High Maturity Organizations, Dennis Goldenson, SEI
- Cost Estimating Across US Air Force programs, Joe Dean, US Air Force

12:15pm - 12:30pm
Brief Workshop Introductions by Workshop Leads (5 minutes each)
Brief descriptions of the goals of each planned workshop will be provided.

12:30pm - 1:30pm   **Lunch provided**

1:30pm - 5:00pm
   Concurrent Workshops (see workshop descriptions beginning on page 7)

   #1 Mapping Analysis Techniques to Engineering and Management Problems
      Workshop Lead: Dave Card

   #2 System Engineering Leading Indicators - Extensions and Future Work
      Workshop Leads: Garry Roedler, Donna Rhodes, Cheryl Jones

   #3 Measuring in Services Management
      Workshop Lead: Beth Layman

3:00pm - 3:30pm   **PM Break**

**Dinner and Evening Activities on Your Own
Wear your PSM Shirt tomorrow (for the conference group picture)**

Wednesday, 16 July 2008

7:30am - 8:30am   **Continental Breakfast**

8:30am - 9:30am
"The Effective use of Performance Measurement - a CIO's Perspective", Jamie Bird
When the CIO embraces the use of measurement as a decision making tool for IT, positive change is bound to happen. Jamie Bird, current CIO at the Corporate Executive Board, believes in the use of software process improvement and performance measurement. Mr. Bird thinks that the key to improving any IT organization is measurement, and he is committed to using measurement to manage those improvements and to demonstrate the value of IT to the business.

Mr. Bird effectively used a series of baseline measures and modeled projections of anticipated improvements to demonstrate to the business the value contributed by IT. These efforts are transforming IT at the Corporate Executive Board, whose insights and network of more than 16,000 senior executives at more than 4,700 leading corporations and not-for-profit organizations around the world help organizations deliver superior outcomes. He continues to effectively use measurement as a vehicle to guide and direct a process improvement initiative as well as to communicate progress to his business partners.

This presentation takes an in-depth look at Mr. Bird's measurement initiative at the Corporate Executive Board. It explores the technical and business rationale behind the measurement program. What does a successful measurement program look like to an executive like a CIO? How does the CIO use the data to manage the IT organization and manage his business partners' expectations? What lessons were learned?   And, finally, how does this translate to other organizations and other executives, be they in government or industry?

9:30am - 10:15am
"Measurement Experiences with Six Sigma", Jim McCurley, SEI
Lean Six Sigma recently received a boost inside DoD when all components were ordered to adopt the continuous improvement methodology. The fusion of Lean and Six Sigma addresses two main aspects of project/program management: (1) the identification of unnecessary or inefficient processes and activities, and (2) quantitative management for process improvement and/or design for innovation. This presentation illustrates the analytical techniques which comprise the DMAIC and DMADV methodologies of Six Sigma and enable the "leaning" of an organization's processes.

10:15am - 10:45am   **AM Break (group picture - location will be announced, please wear your shirt)**

10:45am - 11:30am
"Evidence-Based Practice", Tony Powell, YorkMetrics Ltd.
The UK Software Systems Engineering Initiative (SSEI) is a Ministry of Defence funded strategic research program intended to enhance through life capability management for software intensive defense systems. This presentation will outline the SSEI's objectives, industrial consortium, operating model, and initial research program. The SSEI Management Theme includes two research projects on evidence-based practice in the software systems supply chain. The presenter will explain the research to date, its relevance to PSM and other initiatives, and outline opportunities for international collaboration. The presentation will focus lessons learned from past studies and show how that informs future research direction.

11:30am - 12:15pm
"Looking At Schedule Vs. Effort Tradeoffs", John Gaffney, Lockheed Martin
It is recognized that there is a relationship between cost (and productivity) and schedule (duration). Such a relationship holds for software development, systems engineering, and for projects overall. Two key questions that project managers, software managers, and systems engineers, and other decision makers often must ask are:
1. "What is the optimum duration to perform this task (e.g., development of a software system)?"
2. "What is the tradeoff between schedule (duration) and cost (effort)?"
The presentation will present some real data and also will talk about practical applications in systems engineering and software engineering estimation involving the COSYSMO and COCOMO estimation tools.

12:15pm - 12:30pm
Brief Workshop Introductions by Workshop Leads (5 minutes each)
Brief descriptions of the goals of each planned workshop will be given.

12:30am - 1:30pm   **Lunch on Your Own**

1:30pm - 5:00pm
      Concurrent Workshops (see workshop descriptions beginning on page 7)

        #4 PSM 2010
          Workshop Leads: John McGarry and Cheryl Jones

        *#5   Toward Integrating Systems Engineering and Software Engineering Estimation:
           Harmonizing COSYSMO and COCOMO*
          Workshop Leads: Garry Roedler and John Gaffney

        #6 Measurement in Lean Six Sigma
          Workshop Leads: Jim McCurley

3:00pm - 3:30pm   **PM Break**

6:00pm   **Awards Dinner with cash bar (Abbott's Lobster in the Rough)**

Thursday, 17 July 2008

7:30am - 8:30am   **Continental Breakfast**

8:30am - 9:15am
"Measurement Problems that Plague Us", Beth Layman, Layman & Layman
This presentation will review three persistent problems that often seem to raise their thorny heads as organizations get started with process improvement and measurement. The first is time reporting, which can be not only a measurement challenge, but a cultural one as well. The second is the related issue of organizational resource management, which is a particular problem for matrixed organizations and those which share resources across projects/programs. The third is constructing a consistent project status reporting process or dashboard when project size, type, and complexity varies widely. We will explore the problem and review some of the common solutions, including what it takes to institutionalize them in an organization.

9:15am - 10:00am
"Integrating Software Assurance Measurement into Your Measurement Program", Joe Jarzombek, DHS, Nadya Bartol, Booz Allen Hamilton
This presentation will provide an overview on the Software Assurance Forum efforts focusing in the areas of benchmarking and measurement. The audience will learn about current industry efforts to integrate security activities into CMMI to extend the benchmarking capability provided by CMMI to include security. This is necessitated by the increased importance of security and its integration into system and software development early in the lifecycle. Development of assurance focus area of CMMI is intended to provide such integration and to facilitate benchmarking and measurement of security activities within system and software development efforts. The audience will also learn about Software Assurance Measurement Framework that leverages PSM and other well known system and software and security measurement methodologies into a common framework. The Framework addresses measuring achievement of SwA goals and objectives within the context of individual projects, programs, or enterprises. The current version of the Framework and the underlying measures development and implementation processes will be presented, including example SwA measures applicable to a variety of SwA stakeholders. There will be a workshop on this topic, in the afternoon.

10:00am - 10:15am   **AM Break**

10:15am - 11:00am
"Measurement Group, Measure Thyself", Mauricio Aguiar, Diana Baklizky, TI Metricas
The IT measurement group of a large Brazilian bank faced a big challenge: management wanted them to "walk their talk". Management wanted them to develop a strategy, plan their actions, and assess their own performance using measurements and indicators. In essence, they would apply their methods and knowledge to their own processes, exactly as they preached to the rest of the IT Department. As a by-product, that would make their contribution visible.

This presentation shows how the IT measurement group used the Balanced Scorecard and PSM to develop a strategy, communicate it to their peers, and create indicators to manage their performance.

11:00am - 11:45am
"Security Measurement: applying PSM Principles", John Murdoch, University of York
The application of PSM to the measurement of security has been addressed for several years in PSM workshops, with effort benefiting from many individual contributions and from links with related professional organizations and programs.   The last two years have seen rapid growth in published works, conferences, frameworks etc across the specialty fields involved, as information security and privacy concerns have become more pressing, driven by increasing losses and risks.

This presentation reviews the current state of security measurement, the numerous measurement concepts that have been used or proposed and the various motivations involved. It is argued that PSM measurement principles can continue to make a valuable contribution in this complex area; to support building security into systems and software, to support the acquisition, development- and operations-management of security-critical systems, and to integrate indicators across disparate security-related properties, technologies and mitigation strategies. Recent work on developing generic PSM guidance on security measurement is reviewed.

11:45am - 12:15pm
"Acquisition Measurement", Rita Creel
The application of PSM to the measurement of acquisition activities has been addressed for several years in PSM workshops. This presentation will provide an update on the acquisition measurement white paper, which has just been released on the PSM web site. This white paper has a discussion of acquisition measurement principles and lessons learned, a WBS describing common acquisition activities, and a Information Categories – Measurable Concepts – Measures (ICM) table of potential measures to be used in acquisition measurement.

12:15pm - 12:30pm
Brief Workshop Introductions by Workshop Leads (5 minutes each)
Brief descriptions of the goals of each planned workshop will be given.

12:30am - 1:30pm   **Lunch provided**

1:30pm - 5:00pm
  Concurrent Workshops (see workshop descriptions beginning on page 7)

  #7 Practical Software Assurance and Security Measurement
    Workshop Leads: Nadya Bartol, Joe Jarzombek

  #5 (cont.) Toward Integrating Systems Engineering and Software Engineering Estimation: Harmonizing COSYSMO and COCOMO
    Workshop Leads: Garry Roedler and John Gaffney

  #8 Measuring What Matters: Mission and Business Outcomes
    Workshop Leads: Brad and Betsy Clark

3:00pm - 3:30pm   **PM Break**

Dinner and Evening Activities on Your Own

Friday, 18 July 2008

7:00am - 8:30am   **Continental Breakfast**

8:30am - 9:15am
"Measurement and Analysis in High Maturity Organizations: What Does it Take to Get There, Stay There and Why Should You Do It Anyway?", Dennis R. Goldenson and Robert W Stoddard III, Software Engineering Institute
Organizations are increasingly looking for guidance on what it takes to reach high maturity and how to keep improving once they get there. In response, the SEI has launched the first of what we expect will be twice yearly workshops on measurement and analysis in high maturity organizations and a high maturity related survey. The focus in both the first workshop and the survey is on:
- lessons learned from using CMMI process performance baselines and models;
- empirical study of common performance outcomes and associated e drivers;
- barriers that organizations face;
- data quality and integrity issues; and
- best practices and examples of valid, practical methods for implementing process performance models and baselines.

Initial results from our collaborative work and the survey will be presented.

9:15am - 10:00am
"Use of Software Cost Estimates in Program Support Review", Scott Lucero, OUSD (A&T), and Chris Miller (SAIC)
This presentation highlights the utility of doing parametric software cost estimates as a part of OSD's Program Support Reviews. OSD began using Program Support Reviews (PSRs) in 2004 to inform the milestone decision reviews of major defense acquisition programs. ODUSD(A&T) SSE has recently stood up a software estimation capability to enhance the PSR process. This presentation addresses the objectives and importance of doing these estimates, the data needed, and results from several initial efforts.

10:00am - 10:15am   **AM Break**

10:15am – 11:45am
Workshop Outbriefs
Each workshop lead will have 10 minutes to summarize the results of their workshop and discuss future goals.

11:45am-12:00pm
"Conference Wrap up Session", Cheryl Jones, US Army RDECOM

PSM Users' Group 2008 Workshops
Descriptions on following pages

Workshops to be held afternoons from 1:30pm to 5:00 pm

Tuesday, 15 July	Wednesday, 16 July	Thursday, 17 July
#1 - Mapping Analysis Techniques to Engineering and Management Problems **Dave Card**	**#4 - PSM 2010** **Cheryl Jones** **Jack McGarry**	**#7 - Practical Software Assurance and Security Measurement** **Nadya Bartol** **Joe Jarzombek**
#2 - System Engineering Leading Indicators - Extensions and Future Work **Garry Roedler** **Donna Rhodes** **Cheryl Jones**	**#5 - Toward Integrating Systems Engineering and Software Engineering Estimation: Harmonizing COSYSMO and COCOMO** **Garry Roedler** **John Gaffney**	
#3 - Measuring in Services Management **Beth Layman**	**#6 - Measurement in Lean Six Sigma** **Jim McCurley**	**#8 - Measuring What Matters: Mission and Business Outcomes** **Betsy Clark** **Brad Clark**

Workshop #1
Title: Mapping Analysis Techniques to Engineering and
**   Management Problems**
Facilitators: Dave Card
Time: Tuesday afternoon

Prerequisites
Experience using statistical analysis and statistical process control to create models for estimating and predicting would be useful, as would knowledge of process performance models. Knowledge of the Software Engineering Institute's CMMI model and higher maturity practices is not necessary but would help to give context to the workshop. Background in PSM in essential as this is the framework to be used.

Materials to Bring
Bring examples of measurement analysis indicators, techniques, and process performance models along with your experiences in using them for predictive purposes.

Discussion:
Many different techniques are being used to analyze measurement data. Increasingly, organizations are adopting more advanced measurement analysis techniques. This includes those organizations pursing high maturity CMMI levels 4/5, Lean, and Six Sigma. Many techniques are available.

Goals/Products
The goals of this workshop are:
1. Review the state of the practice of measurement analysis techniques
2. Provide guidance on lessons learned, barriers, data quality issues, best practices, how to establish baselines, etc.
3. Provide examples of good practice
4. Develop a mapping of recommended analysis techniques to typical engineering and management problems

Workshop #2
Title: **System Engineering Leading Indicators - Extensions and Future Work**
Facilitators: Garry Roedler, Donna Rhodes, Cheryl Jones
Time: **Tuesday afternoon**

Prerequisites
Participants should be familiar with the PSM measurement process and have a need for more information on leading indicators of the effectiveness of systems engineering (SE). Workshop attendees should have a general understanding of systems engineering measures currently in use across their projects or organization. Workshop attendees should also have a working knowledge of systems engineering processes. It is recommended that attendees read the SE Leading Indicators Guide and charts from the previous SE Leading Indicators workshop prior to attending this workshop (see links under references below).

Materials to Bring
Bring a list of key systems engineering issues for their programs for which early predictive insight would help manage those issues. Also, bring any candidate indicators or ideas for indicators that would add value to the current documented set or any recommended modifications to indicators in the current documented set.

References
- [Systems Engineering Leading Indicators Guide](#), June 2007
- [PSM Guidebook](#)
- Files from [2007 SE Leading Indicators Workshop](#)

Discussion
More and more projects and organizations are looking for measures of effectiveness to demonstrate that their projects are progressing technically, as required. These measures generally need to go beyond the common measures of schedule and cost, to include measures that provide indications of the effectiveness of systems engineering in meeting contractual requirements. With DoD emphasis on the revitalization of systems engineering, it is important to understand whether the systems engineering effort being applied is effective or likely to be effective in providing the desired system solution. The set of indicators needs to be predictive; truly providing leading insight. The PSM analysis model is helpful in identifying the leading relationships. This workshop will identify and prioritize additional candidate SE leading indicators, as well as evaluate the indicators currently documented.

Goals/Products
The goals of this workshop are to document additional information needs/issues and indicators that are not currently addressed by the SE leading indicators in the guide. These will be combined with the results from the previous workshop and prioritized to establish the scope of work for the upcoming revision to the guide. In addition, additional opportunities to use these indicators will be identified.

Workshop #3
Title: **Measuring in Services Management**
Facilitators: Beth Layman, Layman & Layman
Time: **Tuesday afternoon**

Prerequisites
Knowledge and experience in using measurement in operations and service management domains.

Materials to Bring
Please bring examples of measures used in services and operations.

Discussion
The term "service management" refers to the management of ongoing IT service operations. Service management continues to grow as a major focus in the US economy. There are many different service management frameworks that address this area including ITIL, ISO/IEC 20000, eSCM-SP, COBIT, eTOM, and SMBOK. Measurement is a key component of high quality service management and:
  - helps the operations staff monitor and control their processes
  - allows senior IT managers to monitor overall IT service performance using key performance indicators (KPIs), and
  - provides the client organization with a basis for establishing IT service level agreements and for monitoring the service levels achieved

Past PSM activities have focused on systems and software engineering domains. With this workshop, we will explore measurement in the service management arena, and begin to address commonality and differences in that domain.

Goals/Products
The goals of this workshop are:
  1. Examine the use of measurement in service management
  2. Develop a preliminary list of potential measures that are useful in this domain, documented in a ICM table
  3. Provide guidance on lessons learned, barriers, data quality issues, best practices, how to establish baselines, etc.
  4. Provide examples of good practice

Workshop #4
Title: **PSM 2010**
Facilitators: John McGarry and Cheryl Jones
Time: **Wednesday afternoon**

Prerequisites
Workshop attendees should have knowledge of measurement and PSM principles, constructs, and products. Attendees should have been involved in measurement implementation at an organizational or project level. Attendees should have a detailed knowledge of current measurement technology, including current practice, related disciplines, technical and implementation issues, and areas that need to be addressed.

This workshop is a follow-on to the workshop that was held at the 2007 PSM Users' Group meeting, and the December 2007 technical working group meeting. Please review those workshop preparation materials prior to this meeting (posted on the PSM web site by 30 June).

Materials to Bring
Participants should bring lessons learned on measurement implementations on their projects and implementations. They should bring experiences and ideas related to state-of the practice, problems, key areas of value, and areas that need to be addressed in the future.

Discussion
At the previous workshops, discussions addressed measurement application challenges, barriers affecting acceptance and how to increase acceptance. We also discussed the current PSM principles and product set, and began discussions of necessary changes to PSM to reflect current technologies and the environment. Some of the factors that necessitate these changes include:
- IT technology changes – how we build systems
- Policy and legal changes
- Customer motivations (including commercial focus)
- Scope increase (organizational, additional domain applications, etc.)
- Requirements for more advanced analysis techniques (e.g. process performance models, statistical process control, baselines)
- Integration with other disciplines
- Need to focus on using the results and acceptance
- Performance focus
- Need for establishing measurement infrastructures

At this workshop, we will discuss the change drivers in more detail, and then begin discussions on necessary changes to the PSM principles, process model, and information model. The intent is to lay out a plan for updating PSM by 2010 to reflect projected government and industry requirements.

Goals/Products
The goal of this workshop is to:
1. Identify the required changes to PSM for the initiative to maintain its viability into the next decade.
2. Define an initial plan of action.

Workshop #5
Title: **Toward Integrating Systems Engineering and Software Engineering Estimation: Harmonizing COSYSMO and COCOMO**
Facilitators: Garry Roedler and John Gaffney
Time: **Wednesday and Thursday afternoon (2 sessions)**

Prerequisites:
Interest and experience in software and systems cost estimation. Knowledge about the COSYSMO model/tool, its Risk/Reuse extensions and the "standard" COCOMO tool.
Desirable that the workshop participants have attended a previous COSYSMO workshop at PSM and/or at the University of Southern California.

Materials to Bring
Desirable to have looked at the cost drivers for these two model/tools in advance of the workshop. Bring examples of applying (or trying to apply !) these tools.

Discussion:
The integration of software and systems engineering estimation is highly desirable. The COSYSMO and the COCOMO model/tools have evolved somewhat independently. This has resulted in a disjunction of various cost drivers for each. For example, COSYSMO does not have a way to represent the effect of schedule compression (project duration). Another very important aspect of harmonization or integration of software and systems estimation integration is ensuring that the tasks or activities covered in each model/tool cover the same portion of the product or system life cycle and that there is neither overlap or "underlap" of the activities. The workshop facilitators will provide a suggested set of cost drivers for each of the tools as impetus to the discussion.

Goals/Products
The goals of this workshop are:
1. To obtain some degree of consensus about whether any changes to cost drivers for each of tools, COSYSMO and COCOMO are warranted.
2. To obtain some degree of consensus about what the tasks or activities should be for COSYSMO and COCOMO.
3. A statement of other concerns and problems and an identification of the next steps to be taken.

Workshop #6
Title: Measurement in Lean Six Sigma
Facilitators: Jim McCurley, Software Engineering Institute
Time: Wednesday afternoon

Prerequisites
Knowledge and experience in using measurement in six sigma and lean projects. Experience in setting baselines is helpful.

Materials to Bring
Please bring examples of measures used in six sigma and lean projects and examples of established baselines.

Discussion
There are lots of organizations that are emphasizing Six Sigma. Obviously, this requires a strong measurement component, however, there are lots of projects that have trouble identifying, analyzing, and using good measures and measurement techniques. During the workshop, discussions will cover lessons learned, barriers, data quality issues, best practices, examples, how to establish baselines.

Goals/Products
The goals of this workshop are:
1. Examine the use of measurement in six sigma
2. Provide guidance on lessons learned, barriers, data quality issues, best practices, how to establish baselines, etc.
3. Provide examples of good practice

Workshop #7
Title: Practical Software Assurance and Security Measurement
Facilitators: Nadya Bartol, Joe Jarzombek
Time: Thursday afternoon

Prerequisites
Knowledge of basics of measurement. Understanding of one of the following: information security, information assurance, security, assurance, software assurance.

Review Draft Practical Measurement for Software Assurance and Information Security (document or URL will be provided by May 31)

For background, review draft NIST 800-55 Rev1 available at,
http://csrc.nist.gov/publications/PubsDrafts.html#SP-800-55-Rev.%201

Materials to Bring
Bring examples of measures that you have used/implemented that can help assess information security/information assurance/security/assurance/software assurance.

Discussion:
At this workshop, attendees will discuss Software Assurance Forum efforts to establish a comprehensive framework for software assurance (SwA) and security measurement. The Framework targets a variety of audiences including executives, developers, vendors, suppliers, and buyers. The Framework leverages existing measurement methodologies, including PSM, CMMI GQ(I)M, NIST SP 800-55 Rev1 and ISO/IEC 27004 and identifies commonalities among the methodologies to help organizations integrate SwA measurement in their overall measurement efforts cost-effectively and as seamlessly as possible, rather than establish a standalone SwA measurement effort within an organization. Attendees will discuss the latest NIST and ISO standards on information security measurement that are being integrated into the Framework as the standards are being developed. Emerging ways of quantifying presence and absence of SwA in software and systems, including Common Vulnerabilities and Exposures (CVE), Common Control Enumeration (CCE), Common Weakness Enumeration (CWE), and Common Attack Pattern Enumeration and Classification (CAPEC) will be discussed, as well as their utility for building SwA into software and systems during development rather then retroactively fix weaknesses and vulnerabilities when the system is operational.

At this workshop, attendees will:
- Review and comment on Draft Practical Measurement for Software Assurance and Information Security document
- Discuss additional examples of measures that can be used or tailored for SwA assurance and information security (and volunteers to develop this will be solicited).

Goals/Products
The goals of this workshop are:
1. Updated Practical Measurement for Software Assurance and Information Security document
2. New examples of SwA and information security measures to be included in the document and uploaded to SwA Community of Practice web site.

Workshop #8
Title: Measuring What Matters: Mission and Business Outcomes
Facilitators: Brad and Betsy Clark
Time: Thursday afternoon

Prerequisites
The workshop is open to everyone with no prior preparation required.

Materials to Bring
Please bring your thinking cap and your favorite beverage (seriously, there is a cash bar on the premises). Plan on contributing your ideas in a relaxing and informal discussion group.

Discussion:
How would you show that what you are working on is providing value to anyone outside your immediate organization? How would you show that all of the work, all of the process improvements, or all of the investment in tools or methodologies actually did anything to improve mission or business performance? Clearly, we conference attendees believe that measurement would be a true and correct approach to providing objective insight into performance improvements, but what do we measure?

This workshop will explore a strategy for creating a set of interdependent measures that provide a "line of sight" from the software products (either through development or acquisition) to the mission or business outcomes. The motivation for this measurement strategy is to show how locally produced software products are impacting the rest of the organization and, therefore, show the value of producing such products.

The workshop will start with a short presentation followed by discussion of different topics in pursuit of the workshop goal.

Goals/Products
The workshop goal is to explore the possibility of creating (by actually attempting to create) a PSM-style ICM table patterned after the presented strategy.