Practical Software and Systems Measurement

Practical Software and Systems Measurement
A foundation for objective project management

PSM Users’ Group Conference
Keystone, Colorado

July 22-26, 2001
Objective Information for Decision Makers
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2002 PSM Users’ Group Conference

Sponsored by the PSM Support Center and the International Council on Systems Engineering

in cooperation with ASQ Software Division
Conference Welcome and Introductions
Objectives

• **Conference Participants**
  - User perspectives - share lessons learned
  - Discuss guidance for new areas
  - Information on related initiatives

• **PSM Project Expectations**
  - Technical Inputs in development of new guidance
  - Interaction with users - experiences using PSM
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Logistics

• **Meals**
  - Breakfast Daily
  - Lunch Provided - Tues/Thur
  - Dinner - Wed
    - 7:00pm - Dinner (Cash Bar) - River Run Cafe

• **Registration/Logistics**
  - Conference Center
PSM Conference Dinner

• Travel to River Run - end of Keystone, turn right from right turn only lane
  - Keystone Bus
  - Paid Parking (nearby)
  - Free Parking (front of River Run area)

• Cross the Bridge to River Run Café (near the gondola)
Logistics

- **Dress - Summer Casual**
- **Messages**
  - 970-496-2316 - message will be left in your room
  - Emergencies only - 970-496-4142 - ask for PSM Conference
- **Group Picture**
  - Wednesday at 1000 - wear shirts
  - Follow-the-leader from the registration desk
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Agenda

• **Tuesday**
  - Presentations, 0830 - 1645

• **Wednesday**
  - Presentations, 0830 - 1215
  - Workshop Session 1, 1315 - 1715

• **Thursday**
  - Workshop Session 2, 0830 - 1200
  - Workshop Session 3, 1300 - 1630

• **Friday**
  - Wrap-Up and Out-Briefs, 0830 - 1200
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Workshops

- COSYSMO
- Mapping of Measurement Standards (PSM/CMMI/15939, Software, SE)
- Progress Measures (General, Rqmts, COTS)
- Business Cases for Measurement
- Tailoring for Acquisition Support Projects
- Measuring Effectiveness of Risk Management Processes
- Conducting Effective Pilot Studies
- SE Reliability
Major Accomplishments This Year

- PSM Published by Addison Wesley

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Objective Information for Decision Makers

John McGarry, David Card, Cheryl Jones, Beth Layman, Elizabeth Clark, Joseph Dean, Fred Hall
Accomplishments This Year (cont.)

• CMMI MA Process Area, ISO/IEC 15939, and PSM are Technically Consistent
  - CMMI update - MA used in appraisals
  - ISO/IEC 15939 passed FDIS Ballot
  - PSM updates (field trials)

• Training Materials v5.0b Developed
  - Mapped to ISO/IEC 15939, Book
  - Train-the-Trainer class held 17-19 August 2002

• Field Trials of Technology Papers
  - Object Oriented Developments
  - Spiral/Evolutionary Developments
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ISO 9000-3

INFORMATION DRIVEN MEASUREMENT PROCESS

CMMI M&A

ISO/IEC 15939
Accomplishments This Year (cont.)

- **PSM Insight Releases - v4.1.2a**
  - Calculated series and derived measures
  - Measurement plan template implementation
  - New indicator types - Rolling Periods
  - Attribute-by-attribute indicators
  - More flexible graphing of dates
  - Excel import / export
  - Extraction of data table

- **Created PSM Insight Partnership Program**
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PSM Insight Partnership Program

• Looking for Active Partners for PSM Insight Testing

• Benefit to Project:
  - Requirements definition based on user needs
  - Additional testing
  - Test environments / data

• Benefit to Partners:
  - Ability to influence requirements
  - Early test versions of Insight
  - Increased functionality - reduced defects

• If Interested, Submit an Abstract Detailing Potential Involvement
FY02/03 Activities - To Be Completed

- PSM for Process Improvement
- Web Site Update
- PSM Updates - Parts 8-10
FY03 Activities - New Tasks

• *Develop Additional Examples to Support Guidance - Measurement Specifications*

• *Measurement with Risk and Performance Management*

• *PSM Insight Releases*
  - Organizational database capabilities
  - Updated terminology
  - Enhanced database

• *Case Studies and Papers*
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FY03 Studies - Opportunities for Participation

• **Reliability** - Workshop Wednesday afternoon
• **Safety** - Meeting at Lunch Tuesday
• **Business Cases**
• **Measurement Specification Examples**
• **Case Studies**
FY02/03 Schedule

• PSM Insight Training
  - 13-15 August 2002

• PSM v5.0 Refresher Training
  - Fall - TBD
  - Before TWG - January / February 2003

• Technical Working Group Meeting
  - January / February 2003

• Users’ Group Meeting
  - July 2003
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PSM Transition Activity
(Cumulative as of Jun 02)

Date

Number of Students
0 500 1000 1500 2000 2500 3000

1/2 Day Course
1 Day Course
Meas. Planning Workshop
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PSM Participating Organizations

DoD and Government
- US Air Force AFMC
- US Air Force SSSG
- US Air Force STSC
- US Air Force CRSP
- US Air Force STRATCOM
- US Army AMC
- US Army ATEC
- US Army CECOM
- US Army ODISC4
- US Army SMDC
- US Army TACOM - ARDEC
- USMC MCTSSA
- US Navy AEDC
- US Navy ASN RDA
- US Navy FMSO
- US Navy NAVAIR
- US Navy NAVSEA
- US Navy NAWC
- US Navy NRL
- US Navy NSWC
- US Navy NUWC
- US Navy OPTEVFOR
- ODUSD (S&T)
- OSD C3I
- OSD PA&E
- Aerospace Corp.
- DCMA
- DFAS
- DISA
- DLA
- DSMC
- FAA
- IDA
- MITRE Corp.
- NDU IRM College
- NASA
- National Park Service
- Sandia National Lab
- SEI
- Soc. Sec. Admin.

International
- Defence Materiel Org. (Australia)
- LiveWare (Argentina)
- NRC (Canada)
- Software and Systems Engineering (Israel)
- Software Improvements (Australia)
- Software Quality Institute (Australia)
- ti Metricas (Brazil)
- Defense Science and Technology Laboratory (UK)
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PSM Participating Organizations

Industry
- Abbott Diagnostics
- ABN AMRO Bank
- Accubid Systems
- ACS GSG
- American Sys. Corp.
- Averstar
- BAE Systems
- Bank of America
- Bloodworth Int. Tech.
- Carnegie Mellon Univ.
- CMIS
- CSC
- CTA
- Distributive Software
- D.N. American, Inc.
- DynCorp
- Federal Reserve Bank
- General Dynamics
- General Scientific Corp.
- Graeme & Garland
- GTE
- Hawaiian Electric
- IEEE
- IFPUG
- IITRI
- INCOSE
- Independent Engineering, Inc.
- ITABHI
- James Gregory Assoc.
- Kodak Health Imaging
- Litton/TASC
- Lockheed Martin
- L3 Communications
- NMI Associates, Inc.
- Northrop Grumman
- OAO Corporation
- PRC - Litton
- PRC/TASC
- QSM
- Quality Plus Tech.
- Rational Software
- Raytheon - Hughes
- R.J. Kohl & Associates
- Robbins, GIOIA
- Rockwell Collins
- SAIC
- Sallie Mae
- Sentel
- Software Metrics
- SPC
- Sverdrup Tech.
- Tecolote Research
- TeraQuest Metrics
- Tivoli
- TRW
- Tybrin Corporation
- United Defense
- Univ. Southern CA
- User Trust Network
- US West
- Veridian
- VPI - State University
- West Virginia High Tech. Consortium
- West Virginia University
Transition Organizations

DoD and Government

- PSM Support Center
- US Army ATEC
- AFMC CRSIP - STSC Measurement Teams
- Federal Aviation Administration (FAA)
- Software Engineering Institute
- MITRE Corporation
- Defense Systems Management College
- Naval Undersea Warfare Center (NUWC)
- Naval Air Warfare Center (NAWC)
- DCMA Software Center
- The Aerospace Corporation
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Transition Organizations

Industry
- Lockheed Martin
- Software Productivity Consortium
- TeraQuest Metrics
- INCOSE
- TRW
- Distributive Software
- DynCorp
- QP Management Group, Inc.
- Quality Plus Technologies, Inc.
- Texas Guaranteed & Student Loan Center

Overseas
- Defence Materiel Organisation (Australia)
- Software Quality Institute (Australia)
- Software Improvements Pty Ltd. (Australia)
- Liveware I.S.S.A (Argentina)
- Software and Systems Engineering (Israel)
- ti Metricas (Brazil)