Georgia Institute of **Tech**nology

MANUFACTURING RESEARCH CENTER

Product Lifecycle Management (PLM) Workshop

Theme: *Enabling Next-Generation PLM*

February 26-27, 2004

Georgia Tech Hotel & Conference Center

Workshop Description

The goal of this workshop is to define promising directions for research and education in the area of product lifecycle management (PLM). PLM is a strategic approach to creating and managing a company's product-related intellectual capital, from its initial conception to retirement. PLM exploits advances in information technology to improve a company's product development processes and its ability to use product-related information to make better business decisions and deliver greater value to customers. In the workshop, users, providers, analysts and researchers will present current issues, needs and opportunities in PLM, focusing on specific research areas, such as:

- Managing product innovation & portfolios
- Exploiting commonality of components, platforms, and other assets
- Managing product development across the supply chain
- Leveraging design methodologies
- Advancing systems engineering & stds.-based capabilities
- Creating virtual product development environments
- Designing & delivering services for mature products
- Managing PLM operations & systems
- Assessing cost/benefit implications of PLM
- Linking corporate business strategy to PLM strategy
- Improving PLM education & training

The workshop will result in a roadmap and white paper to guide research and education activities for a planned PLM Center of Excellence at Georgia Tech.

The workshop is being limited in size to promote closer interaction and deeper discussion among the participants. Participants have been invited to contribute short presentations emphasizing their particular PLM issues, needs, and best practices.

Organizing Committee

- Dr. Steve Danyluk - Mfg. Research Center - Co-Chair
- Mr. Andy Dugenske - Manufacturing Research Center
- Dr. Charles Eastman - College of Architecture
- Dr. Robert Fulton - Mechanical Engineering - Co-Chair
- Dr. Naresh Malhotra - College of Management
- Dr. Dimitri Mavris - Aerospace Engineering
- Dr. Leon McGinnis - Industrial & Systems Engineering
- Dr. Farrokh Mistree - Mechanical Engineering
- Dr. Chris Paredis - Mechanical Engineering
- Dr. Russell Peak - Manufacturing Research Center
- Dr. Jarek Rossignac - College of Computing
- Dr. Daniel Schrage - Aerospace Engineering
- Dr. Suresh Sitaraman - Microsystems Packaging Research Center and Mechanical Engineering

Workshop Registration, Information, and Hotel

Donna Rogers
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Georgia Institute of Technology
Manufacturing Research Center, Rm. 312

Voice: (404) 894-9100
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Georgia Tech Hotel - www.gatechhotel.com
Group Name = "PLM Workshop"   800 Spring Street NW, Atlanta, GA 30308   Voice: (404) 347-9440

Agenda

February 25 - Wednesday Evening   *Georgia Tech Hotel - 2nd Floor Lobby*

7:00 - 9:00 - Registration and Reception

February 26 - Thursday Morning   *Georgia Tech Hotel - Conference Room B*

7:30 - 8:00 - Registration and Continental Breakfast

8:00 - 8:10 - Introductions and Workshop Overview - Steve Danyluk - GIT

8:10 - 8:30 - Welcome to Georgia Tech
- Steven Danyluk - *Director, Manufacturing Research Center* - GIT
- Charles Liotta - *Vice Provost for Research and Dean of Graduate Studies* - GIT
- Jean-Lou Chameau - *Provost & Vice President for Academic Affairs* - GIT

Morning Keynotes: *Next-Generation PLM - Visions for the Future*
8:30 - 8:50 - A View from Industry - Stas Tarchalski, Director of Global PLM Strategy - IBM/Dassault
8:50 - 9:15 - Industry Trends - Don Brown, Chairman - DH Brown
9:15 - 9:40 - Creating a "PLM Center of Excellence" at Georgia Tech - C. Paredis, R. Peak - GIT
        Tributes to Bob Fulton and his vision.

Current & Envisioned PLM Research and Education at GIT
    (10-minute overviews followed by Q&A)

9:40 - 10:10 - *Thrust 1: Product Planning & Model-based Business*
- Product innovation for the near-tomorrow using PLM as an enabler
  - N. Malhotra, F. Mistree, and J. Allen

10:10 - 10:20 - Break

10:20 - 10:40 - *Thrust 2: Product Development Technology*
- Simulation-based design (SBD) in PLM environments - C. Paredis

10:40 - 11:30 - *Thrust 3: PLM Applications in Complex Systems*
- PLM applications in complex engineered systems - D. Schrage and D. Mavris
- PLM-based microsystems - S. Sitaraman

11:30 - 11:50 - *Thrust 4: Product Manufacturing & Supply Chains*
- Enhancing the PLM-based value chain - L. McGinnis and D. Bodner

11:50 - 12:20 - *Thrust 5: Enabling Technologies*
- Core capabilities for next-generation PLM - C. Eastman
- Interoperability & systems engineering knowledge standards for PLM - R. Peak

February 26 - Thursday Afternoon

12:20 - 1:30 - Lunch   *Georgia Tech Hotel - Salon V & VI*
    Co-Sponsor: Supply Chain Council

    Keynote: *Enabling Digital Collaboration across the Value Chain*
       George Brown, Program Manager - Senior Software/PLM Architect - Intel Corp.

Afternoon Keynotes: *Next-Generation PLM - Visions for the Future (continued)*
1:30 - 1:50 - EDS - Raj Khoshoo, VP - Strategic Planning
1:50 - 2:10 - PTC - John Stuart, Senior VP - Education and Partners

2:10 - 4:10 - PLM Sampler: Best Practices, Issues, and Needs

    PLM Usage in Industry
- Rockwell Collins - Kevin Fischer, Director - Enterprise Tool Integration
- Philips - Elke den Ouden, Competence Manager - Innovation Consultancy
- Lockheed Martin - Mike Jahadi, Senior Manager - Ft. Worth

    PLM Usage & Technology in Government
- DOE - Kim Cobb, Group Leader - Product Information Management & Simulation
        - BWXT Y-12 National Security Complex - Oakridge
- NIST - Kent Reed, Group Leader - Building Fire & Research Lab (BFRL)

    3:30 - 3:40 - Break

    PLM Strategic Issues & University Recommendations
- Dassault/IBM - Tony Hakola, Director - Enovia Marketing
- Microsoft - Diego Tamburini, Program Manager - Engineering and Manufacturing ISVs

4:10 - 4:25 - Synopsis & Charge for Breakout Sessions - Richard Neal, IMTI

4:25 - 5:30 - Breakout Sessions - Issues and Solution Directions

    Four parallel sessions:
        Thrust 1: Product Planning & Model-based Business   *Conference Room B*
        Thrust 2: Product Development Technology   *Conference Room C*
        Thrust 3: PLM Applications in Complex Systems   *Conference Room D*
        Thrust 4: Product Manufacturing & Supply Chains   *Conference Room E*

    Agenda in each session:
        Part 1 - PLM Issues, Needs, and Challenges (25 minutes)
          Identify, characterize, and prioritize key concerns.

        Part 2 - PLM Research and Solution Directions (25 minutes)
          Identify and prioritize candidate opportunities.

        Part 3 - Summarize Findings (15 minutes)
          List findings and appoint a representative to present them Fri AM.

5:30 - Adjourn

February 26 - Thursday Evening

7:00 - Dinner and Remembering Bob Fulton

6:30 - Shuttle departs from hotel

The Pleasant Peasant
555 Peachtree Street N.E.
www.thepeasantrestaurants.com

February 27 - Friday Morning

Georgia Tech Hotel - Conference Room B

6:45 - 7:00 - Continental Breakfast

7:00 - 8:00 - Additional PLM Perspectives and Open Forum
- Ford - Richard Riff, Henry Ford Technical Fellow - CAD/CAM/CAE & PIM
- NASA JPL - Jim U'Ren, Systems Engineering Project Lead; ISO AP233 Chair
- Engineous - Alex Van der Velden - Engineering Director
- PDES Inc. - Mike Stiteler - Program Manager
- Open Forum

8:00 - 9:00 - Reports from each Breakout Session

9:00[1] - 9:15 - Break

9:15 - 10:15 - Prioritization of Key PLM Research Topics

10:15 - 11:00 - PLM Educational Perspectives - C. Paredis
- Discussion on Undergraduate, Graduate, and Continuing Education Needs

11:00 - 12:00 - Action Items & Conclusions

12:00 - Adjourn

February 27 - Friday Afternoon

Opportunities for Tours and Further Discussions

Participants

Executive management and senior technologists including those from the following organizations:

Arizona State University, ATI, AT Kearney, Autodesk, ClickFox, Collaborative Product Development Associates, Dassault Systemes, Delmia, DH Brown, DOE BWXT Y-12 - Oakridge, EDS - UGS PLM Solutions, Engineous Software, Enovia, Enterprise Anytime, Ford, GEN3 Partners, Georgia Research Alliance, Georgia Institute of Technology, GM, GTRI, Gulfstream Aerospace, Heart of Georgia Technical College, IBM, IMTI, Intel, InterCAX, Lockheed Martin, Microsoft, NASA/JPL, NIST, PDES Inc., Philips, PTC, Rand Worldwide, Rockwell Collins, Samsung, Siemens Energy and Automation, Simmetrix, StreamlineSCM, and the Supply Chain Council.

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[1] Those attending Bob Fulton's funeral will need to leave at this time.

GIT Workshop Organizers & Speakers

Unit	Dept.		First Name	Last Name	Titles
Admin	-	Dr.	Jean-Lou	Chameau	Provost & Vice President for Academic Affairs
Admin	-	Dr.	Charles	Liotta	Vice Provost for Research and Dean of Graduate Studies
OIP	MARC	Dr.	Steve	Danyluk	MARC Director, Professor and Bryan Chair in ME
OIP	MARC	Mr.	Andy	Dugenske	Senior Researcher
OIP	MARC	Dr.	Russell	Peak	Senior Researcher
OIP	MARC	Ms.	Donna	Rogers	Adminstrative Manager I
CoA	-	Dr.	Chuck	Eastman	Director, PhD Program and Professor
CoC	GVU	Dr.	Jarek	Rossignac	Professor
CoE	AE	Mr.	Pete	Hart	Research Engineer I
CoE	AE	Dr.	Dimitri	Mavris	Associate Professor
CoE	AE	Dr.	Dan	Schrage	Professor
CoE	ECS	Mr.	Tord	Dennis	Research Engineer I
CoE	ISyE	Dr.	Doug	Bodner	Research Engineer II
CoE	ISyE	Dr.	Leon	McGinnis	Professor
CoE	ME	Dr.	Janet	Allen	Senior Research Scientist
CoE	ME	Dr.	Bob	Fulton	Professor
CoE	ME	Dr.	Farrokh	Mistree	Professor
CoE	ME	Dr.	Chris	Paredis	Assistant Professor
CoE	PRC / ME	Dr.	Suresh	Sitaraman	Associate Professor
CoM	-	Dr.	Naresh	Malhotra	Regents Professor

Abbreviations

AE	School of Aerospace Engineering
CoA	College of Architecture
CoC	College of Computing
CoM	College of Management
CoE	College of Engineering
CEE	School of Civil and Environmental Engineering
ECE	School of Electrical and Computing Engineering
ECS	Engineering Computing Services (campus CAx services - under GIT CoE)
ISyE	School of Industrial and Systems Engineering
MARC	Manufacturing Research Center
ME	School of Mechanical Engineering (includes Nuclear and Health Physics)
OIP	Office of Interdisciplinary Programs
PTFE	School of Polymer, Textile & Fiber Engineering
ASDL	Aerospace Systems Design Lab
CBAR	Center for Board Assembly Research
EIS Lab	Engineering Information Systems Lab
FIS Group	Factory Information Systems Group
MISL	MARC Information Systems Lab
PLMCC	Product Lifecycle Management Center of Competence
PLM CoE	Product Lifecycle Management Center of Excellence
RPMI	Rapid Prototyping & Manufacturing Institute
SRL	Systems Realization Lab

GIT Organization Charts

http://www.provost.gatech.edu/flowchart.html

Be aware that CoE has two meanings above: Center of Excellence and College of Engineering