An Open Services (OSLC) Approach to ALM and PLM Integration for Systems Development

Rainer Ersch
Senior Research Engineer, SIEMENS
rainer.ersch@siemens.com

Pascal Vera
Lead Teamcenter/ALM integration, SIEMENS
pascal.vera@siemens.com

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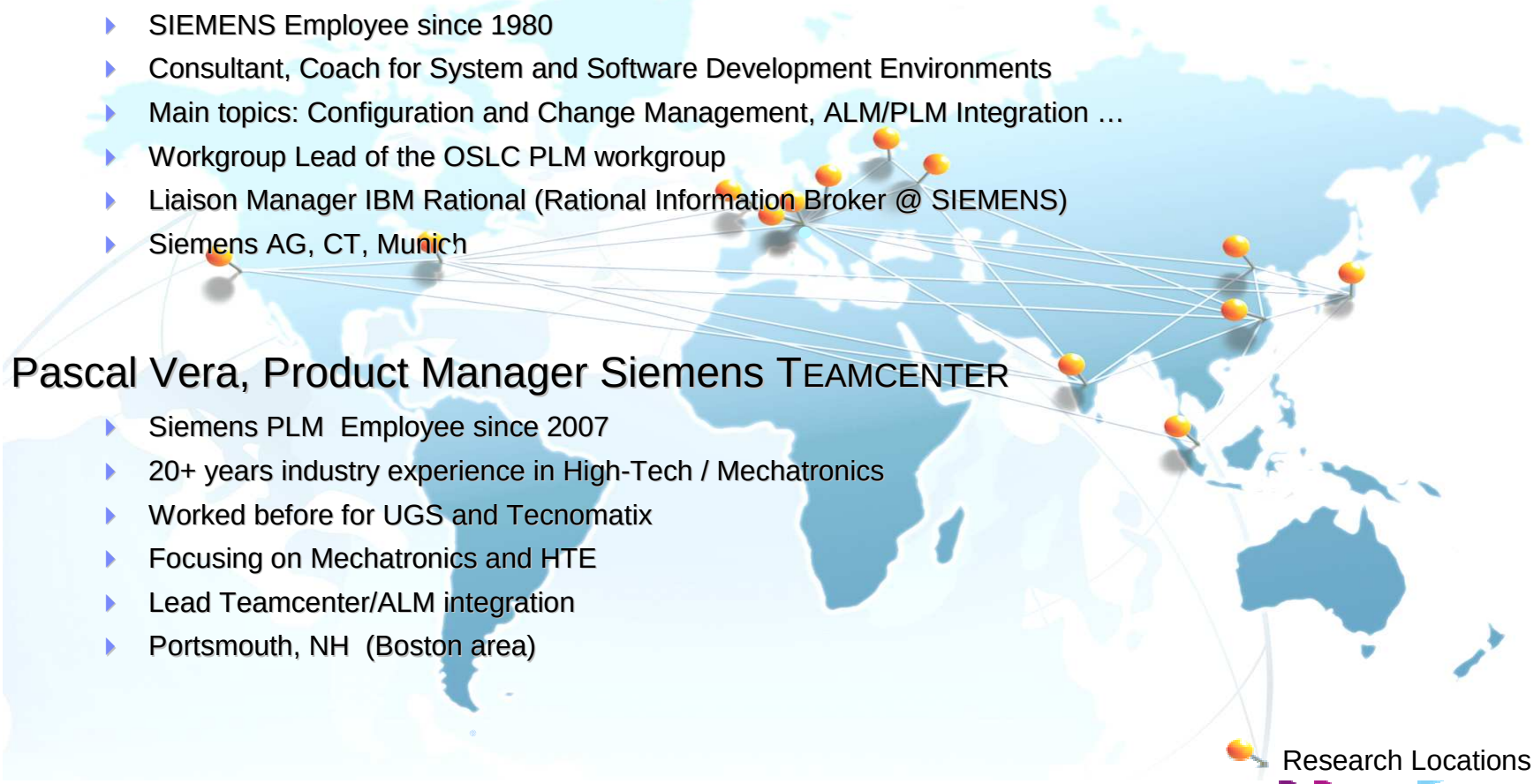
About the Speakers:

Rainer Ersch, Research Engineer, Siemens Corporate Research and Technologies

- SIEMENS Employee since 1980
- Consultant, Coach for System and Software Development Environments
- Main topics: Configuration and Change Management, ALM/PLM Integration …
- Workgroup Lead of the OSLC PLM workgroup
- Liaison Manager IBM Rational (Rational Information Broker @ SIEMENS)
- Siemens AG, CT, Munich

Pascal Vera, Product Manager Siemens TEAMCENTER

- Siemens PLM Employee since 2007
- 20+ years industry experience in High-Tech / Mechatronics
- Worked before for UGS and Tecnomatix
- Focusing on Mechatronics and HTE
- Lead Teamcenter/ALM integration
- Portsmouth, NH (Boston area)



About SIEMENS

- Approx. 33,000 System Engineers world wide
  - Approx. 20,000 thereof doing Software (mostly in System Context)
- More than 150 Development Organizations
- More than 250 Development Sites
- Products form Hearing Aids, Trains, Industrial Automation to Power Plants

… and Siemens PLM **TEAMCENTER** …
a product family widely used for mechanical and electrical engineering

About the Talk Today:

- ALM @ Siemens
- Open Services for Lifecycle Collaboration
- Current Research Work
- Example Scenario
- DEMO
- Future Work
- Q/A

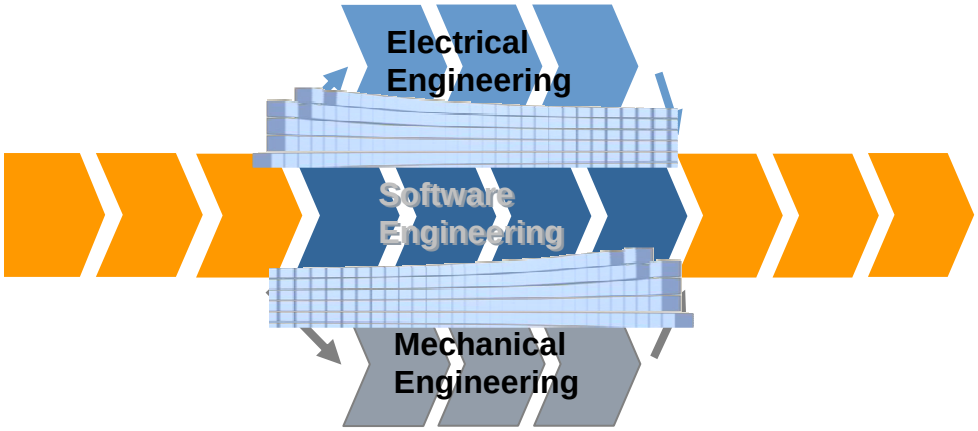
ALM @ Siemens

- We started like most other companies with:
  - Islands of information
  - Point-to-Point integrations
  - Lots of manual activities using Spreadsheets and such …
  - Trying to connect tools, rather than trying to do lifecycle integration
- As a matter of fact, in many environments, it's still like this 
- Last year we talked about:
  - Application Lifecycle Management in the Wild at Siemens (CRM10)
  - Introducing our Methodology of "Artifact Centric ALM"

who attended last year?

ALM / PLM Interoperability

- Extended focus to System development
  - In most of our SIEMENS products, Software is part of a System (PLM)

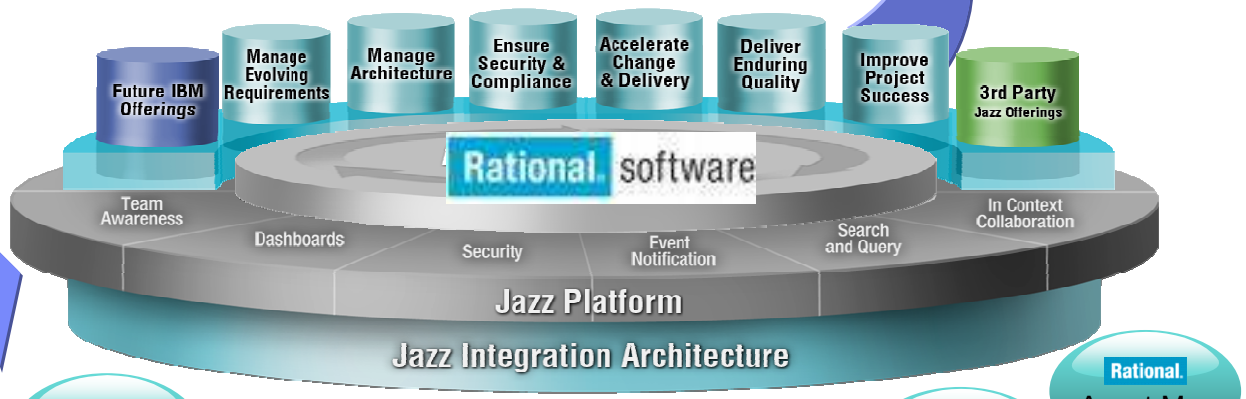


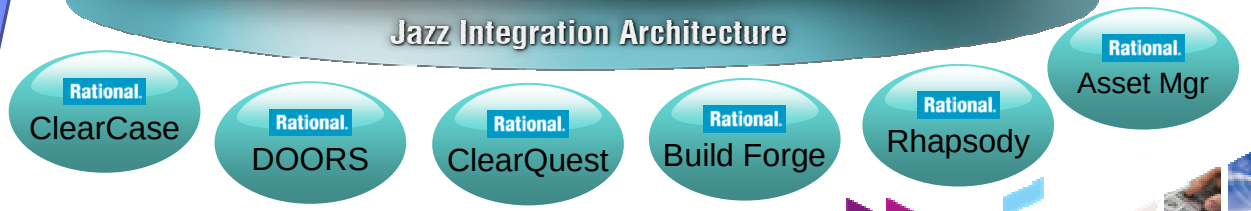
  - Many problems are the same as in the ALM world alone:
    - islands of information, lots of manual activities, …
  - Or even worse:
    - walls of isolation, cultural differences, different (technical) languages

Integrating PLM and ALM
Integrated Product Change Management

- ✓ **SOA and Service Orchestration**
- ✓ **Event Management**
- ✓ **Workflow**
- **Notifications**

“Open Services for Lifecycle Collaboration”





Open Services for Lifecycle Collaboration

- What is OSLC ? (video 4:20 min) ⇨ http://open-services.net

Aimed at simplifying tool integration across the product delivery lifecycle

Barriers to sharing resources and assets across the software lifecycle

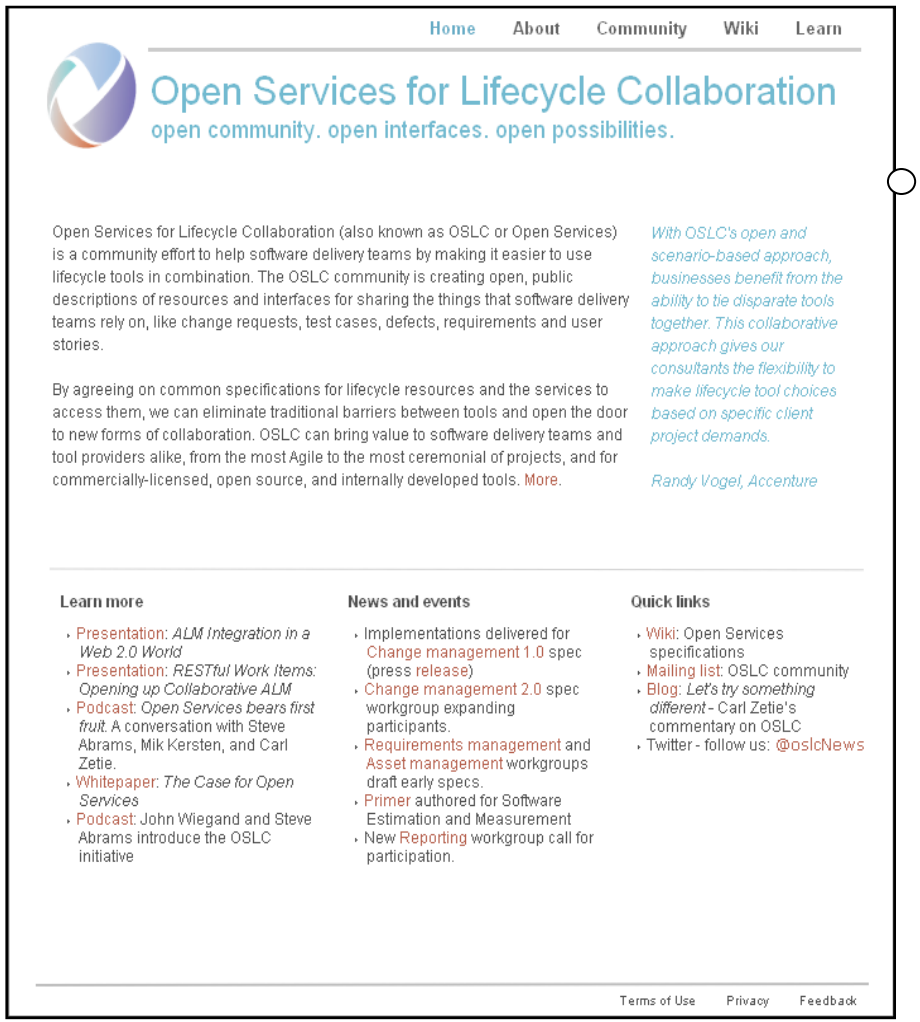
- Multiple vendors, open source projects and in-house tools
- Private vocabularies, formats and stores
- Entanglement of tools with their data

Open Services for Lifecycle Collaboration

- Community Driven – specified at **http://open-services.net**
- Specifications for ALM and PLM Interoperability
- Inspired by Internet architecture
  - Loosely coupled integration with "just enough" standardization
  - Common resource formats and services
- A different approach to industry-wide proliferation

Open Services for Lifecycle Collaboration

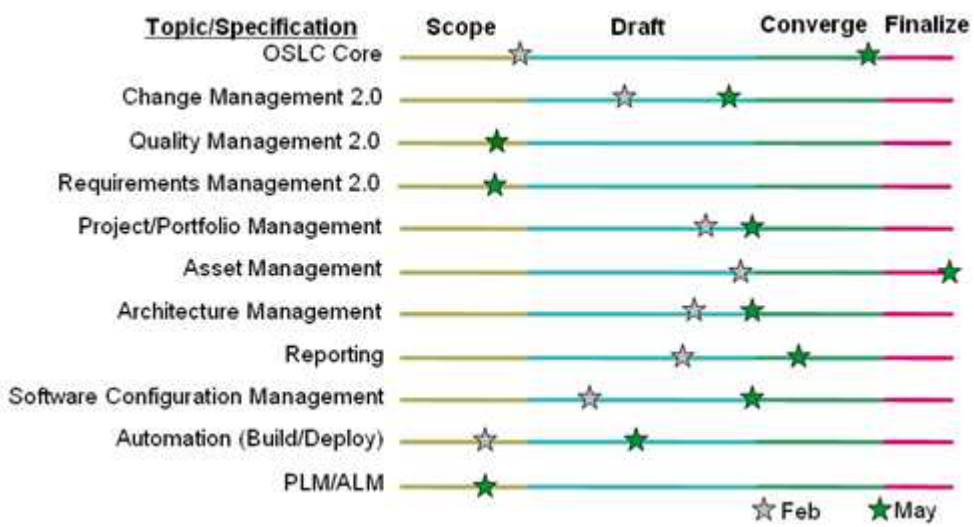
Community specifications for lifecycle integration



Suppose tools exposed their data in a consistent way?

- OSLC is an open community of individuals interested in improving lifecycle integration.
- Goals:
  1. Make life better for software and product delivery teams
  2. Reduce the complexity and cost for tool providers in integrating tools together
  3. Open up new possibilities in the marketplace by opening up the way lifecycle tools and data can be used in ALM, PLM and outside
- Create open, public specifications that describe resources and interfaces for sharing the things that software and product delivery teams rely on.

OSLC and Open Community
A Snapshot In Time



- Eleven workgroups operating
  - Across a variety of lifecycle domains
  - With a Core/common OSLC workgroup
  - And special interests from PLM/ALM constituents
- Community
  - 290+ registered community members
  - Individuals from 30+ different companies have participated in OSLC workgroups

Accenture	**Northrop Grumman**
APG	**Oracle**
BigLever	**QSM**
Black Duck	**Rally Software**
Boeing	**Ravenflow**
BSD Group	**Shell**
Citigroup	**Siemens**
EADS	**Sogeti**
Emphasys Group	**SourceGear**
Ericsson	**State Street**
Galorath	**Tasktop (Eclipse Mylyn)**
General Motors	**Tieto**
IBM	**TOPIC Embedded Systems**
Institut TELECOM	**UrbanCode**
Integrate Systems	**WebLayers**

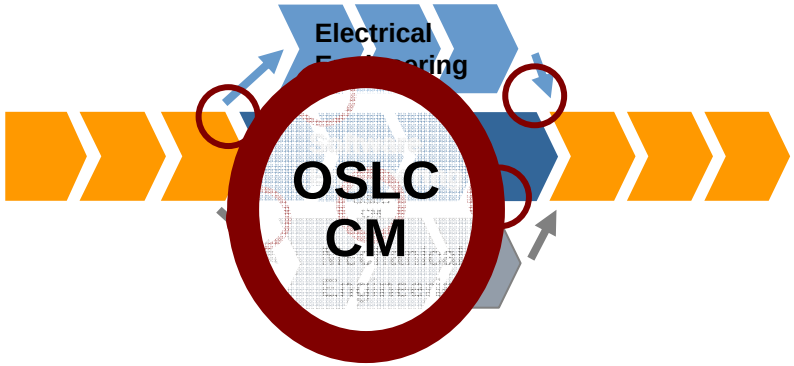
Open Services for Lifecycle Collaboration

- OSLC principles
  - Provider / Consumer
  - Resource Delegation
  - Rich Hover
  - Discovery

- Does OSLC solve all problems? ⇨ NO
  - OSLC provides the streets for ALM - PLM interworking
  - Resource (Artifact) Centric Methodology provides the maps
  - Scenarios are the routes you want to drive

Current Research Work

- Many areas for improvement in the System Lifecycle environment



  - First POC for ALM - PLM Interoperability based on OSLC-CM
    - Siemens TEAMCENTER with Rational ClearQuest/Rational Team Concert
  - Why to start here:
    - Change/Workflow/Task Management is the “heart” of ALM / PLM
    - OSLC-CM was the first OSLC spec
    - Available implementations: RTC, ClearQuest, Change, Tasktop, …

Example Scenario

- Overall Story (as is):
  - Problem in the field: Robot arm hits a part of a metal working machine
  - Problem is reported though help desk and escalated to engineering

Engineering …

… analyzes …

… delegates …

… fixes …

… the issue

We all know how easy and smooth this goes

  - Service technician installs fix at customer side
  - Case in help desk system can be closed

Interoperability Scenario (the actors)


Paula


Suzie

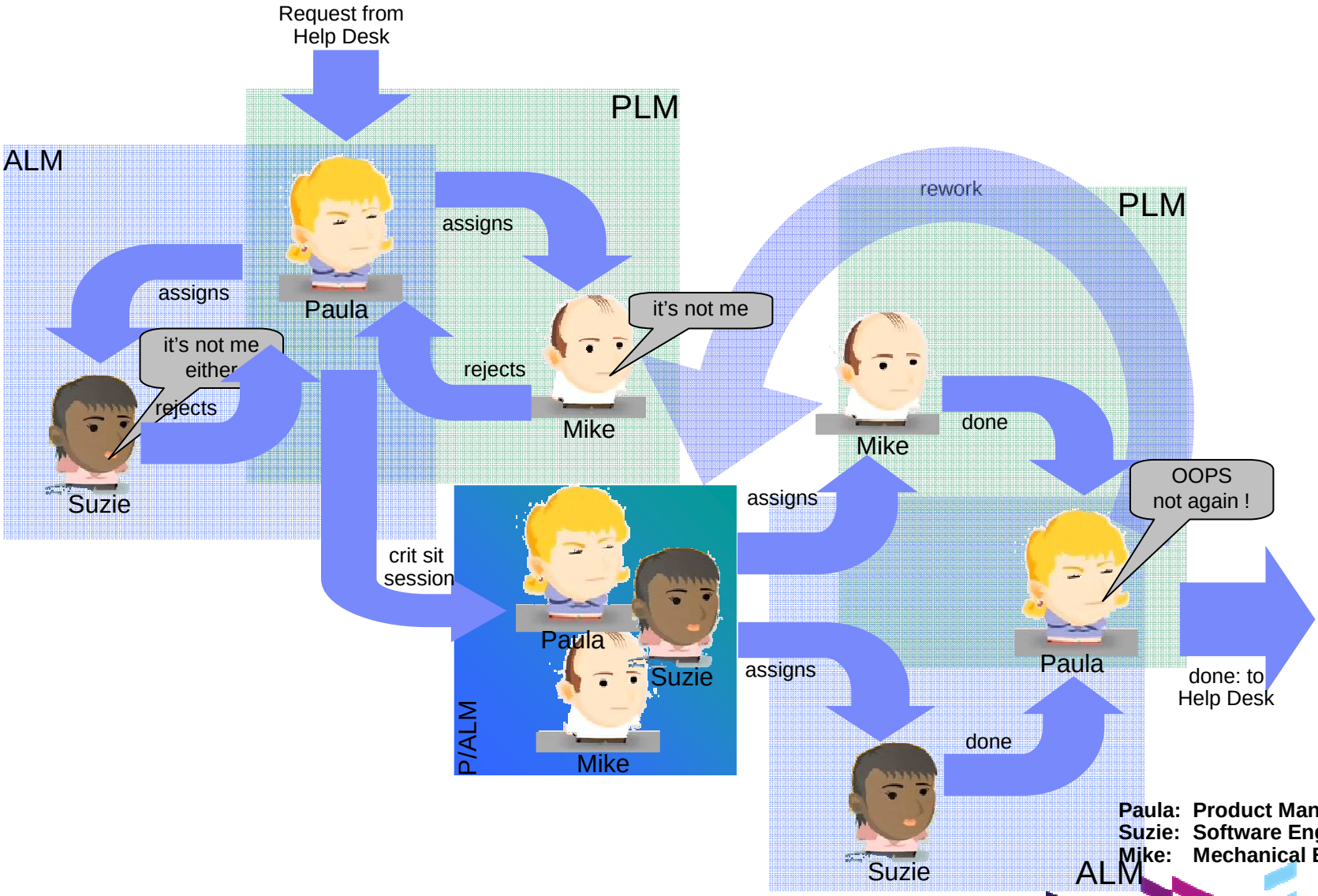
Paula: Product Manager

Suzie: Software Engineer

Mike: Mechanical Engineer


Mike

Interoperability Scenario (as is)

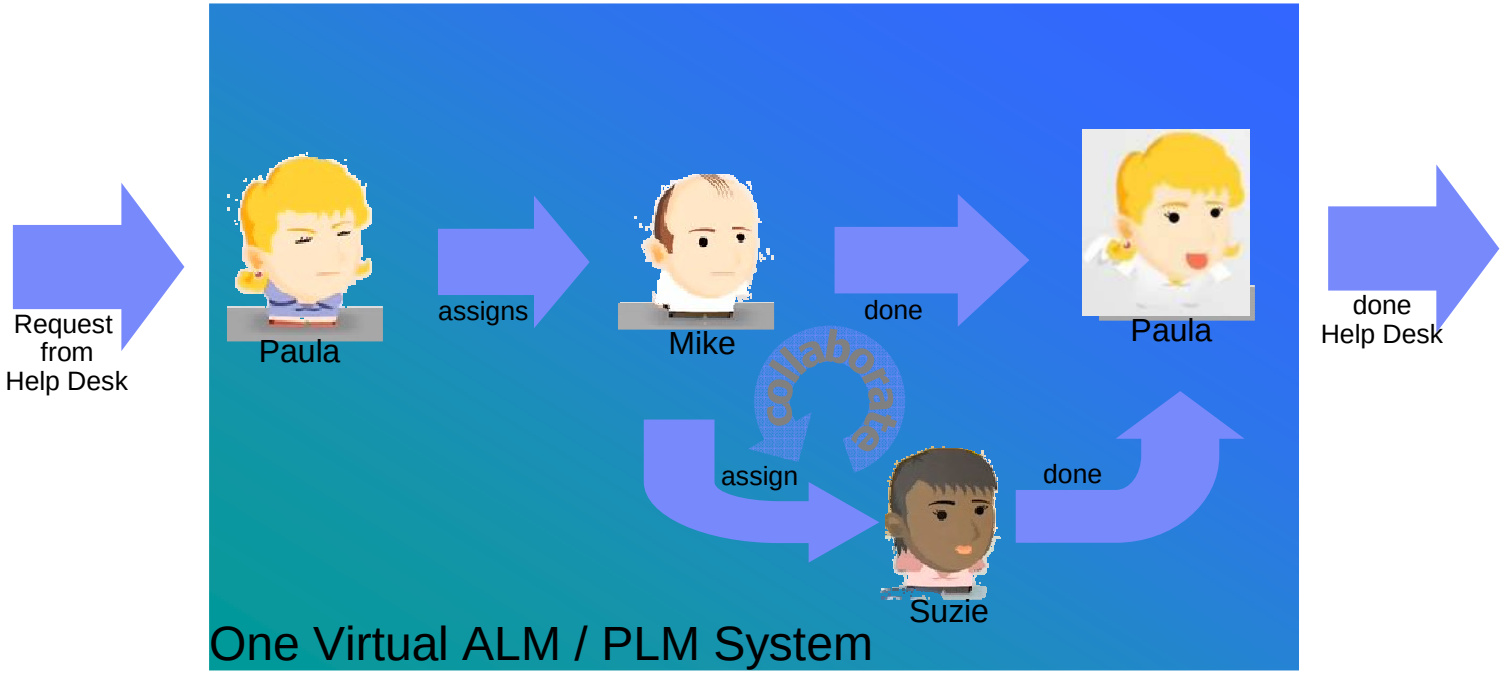


Example Scenario

- Overall Story (as is):
  - Problem in the field: Robot arm hits a part of a metal working machine
  - Problem is reported though help desk and escalated to engineering
  - Product Management assigns work item to mechanical engineering
  - Mechanical engineering rejects work item (“it’s not me”)
  - Product Management assigns work item to Software engineering
  - Software engineering rejects work item (“it’s not me - either”)
  - Product Management calls crit sit session with Software and mechanical engineering
  - Both engineering teams work independently without synchronization on the fix
  - After integrating the Software and Mechanical changes some rework is necessary
  - After rework, the fix can be shipped
  - Service technician installs fix at customer side
  - Case in help desk system can be closed

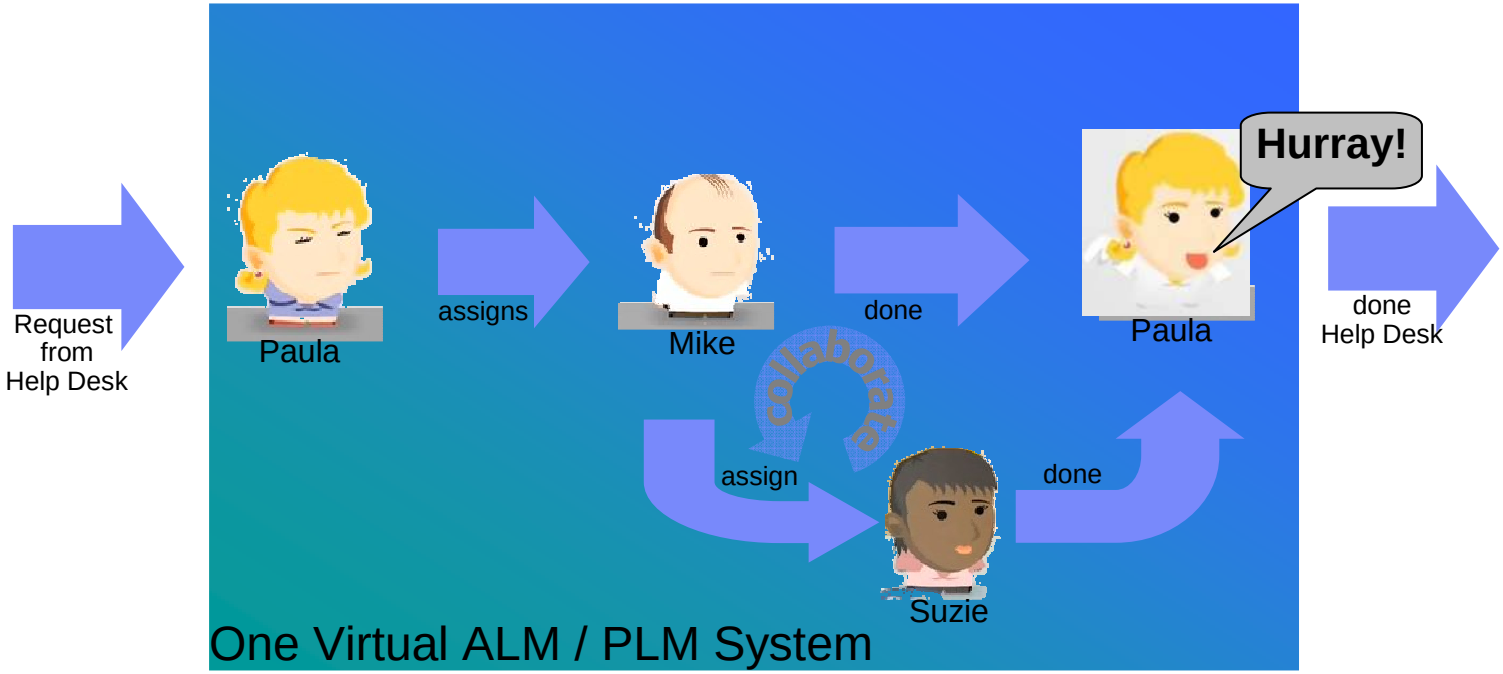
Interoperability Scenario (to be)

PLM PLM ALM



Paula: **Product Manager**
Suzie: **Software Engineer**
Mike: **Mechanical Engineer**

Interoperability Scenario (to be)



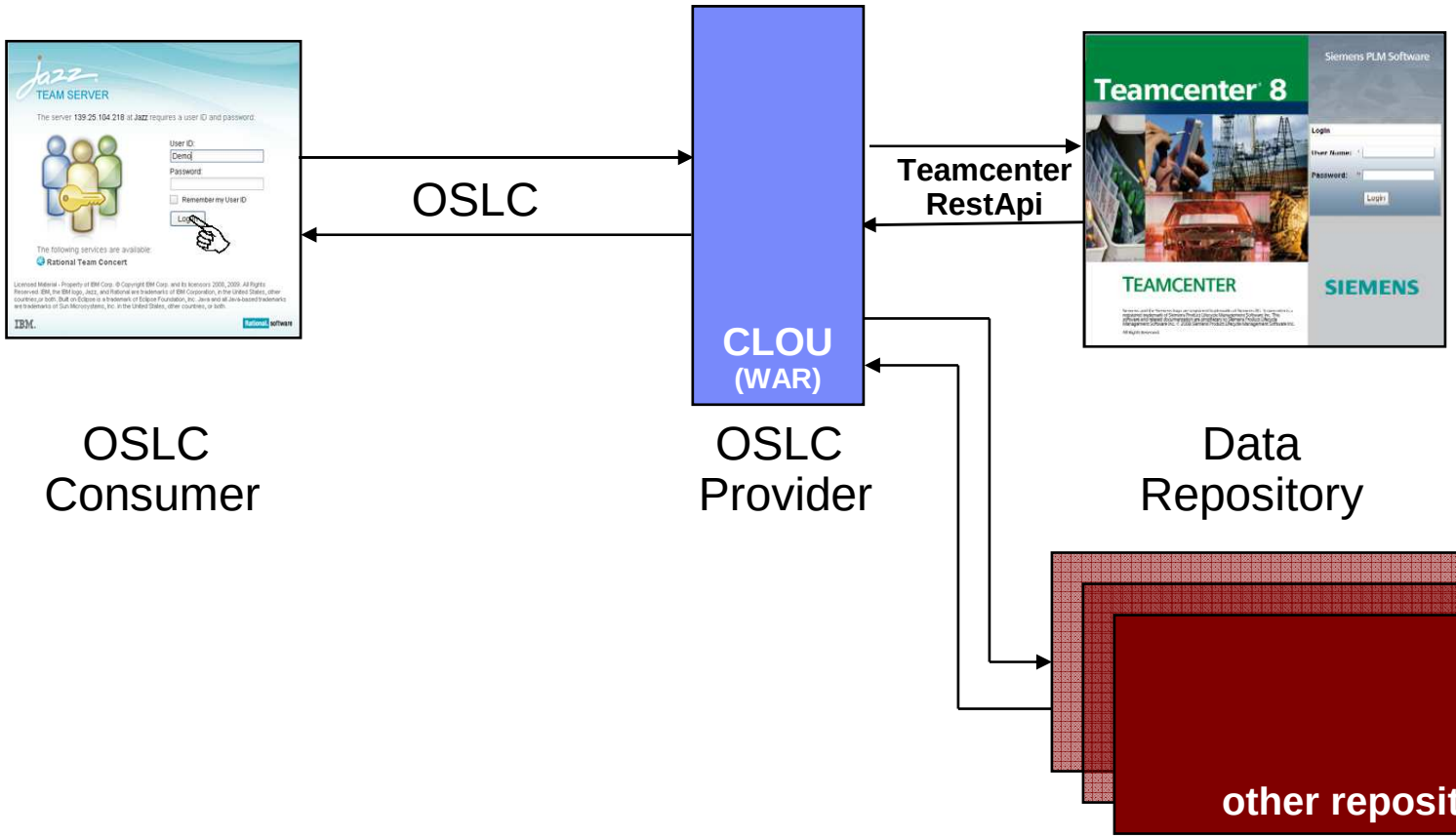
Paula: Product Manager
Suzie: Software Engineer
Mike: Mechanical Engineer

Example Scenario

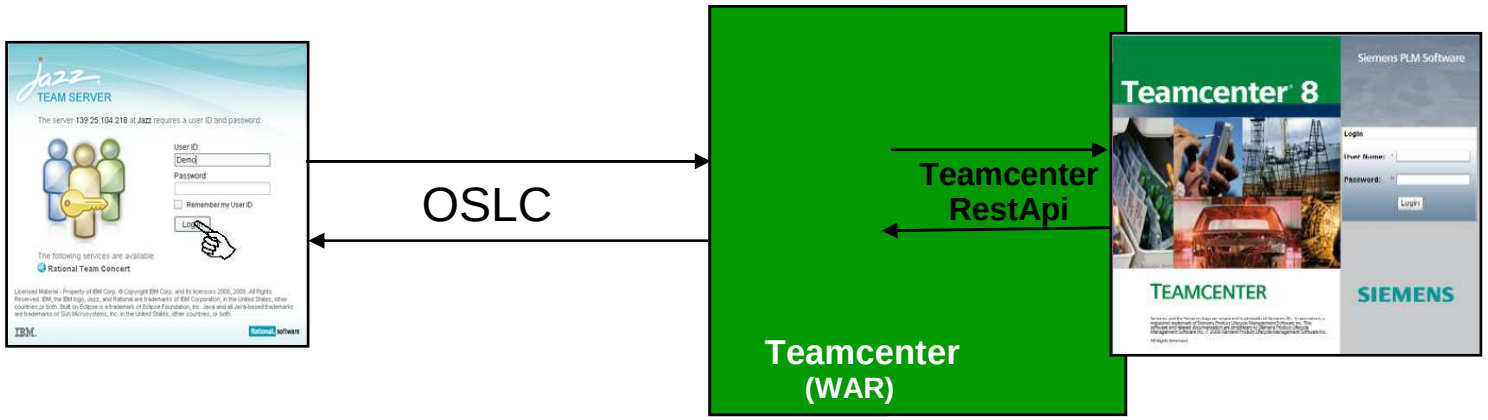
- Overall Story (to be):
  - Problem in the field: Robot arm hits a part of a metal working machine
  - Problem is reported though help desk and escalated to engineering
  - Product Management assigns work item to mechanical engineering
  - Mechanical engineering rejects work item (“I need the Software guys”)
  - Mechanical engineering sends a sister request Software engineering
  - Software engineering and Mechanical engineering collaborate (“let’s talk”)
  - Both report when they are done and Product Management is notified
  - Fix can be shipped
  - Service technician installs fix at customer side
  - Case in help desk system is closed


DEMO

DEMO Configuration



DEMO Configuration




Questions

OSLC – PLM Workgroup Get Together

- **Interested in OSLC and ALM/PLM interoperability?**

⇒ Please join us for additional discussions

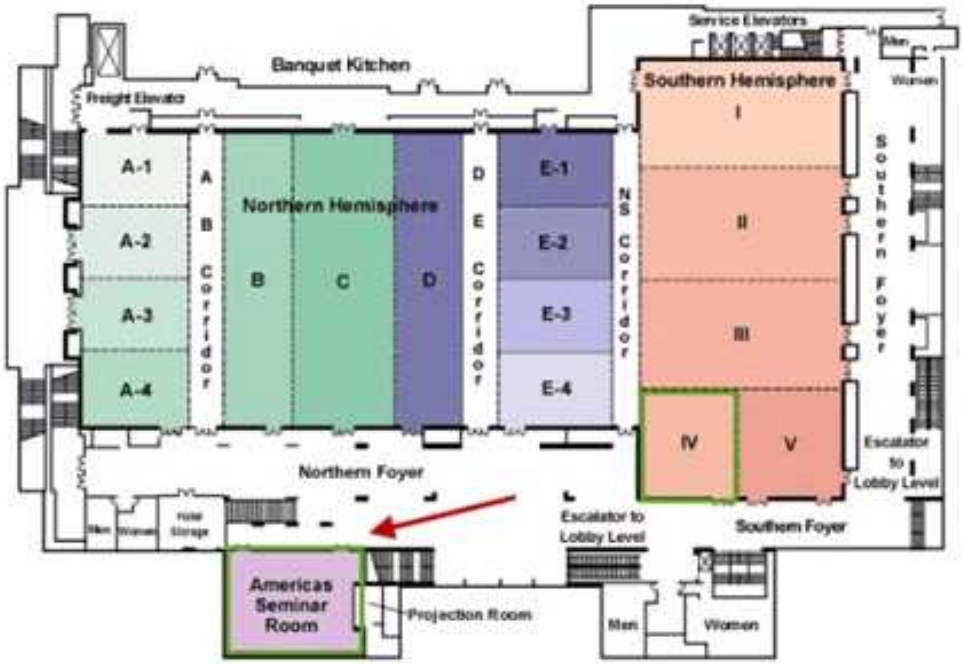
⇒ Learn more about the OSLC PLM workgroup

⇒ Exchange information with your peers

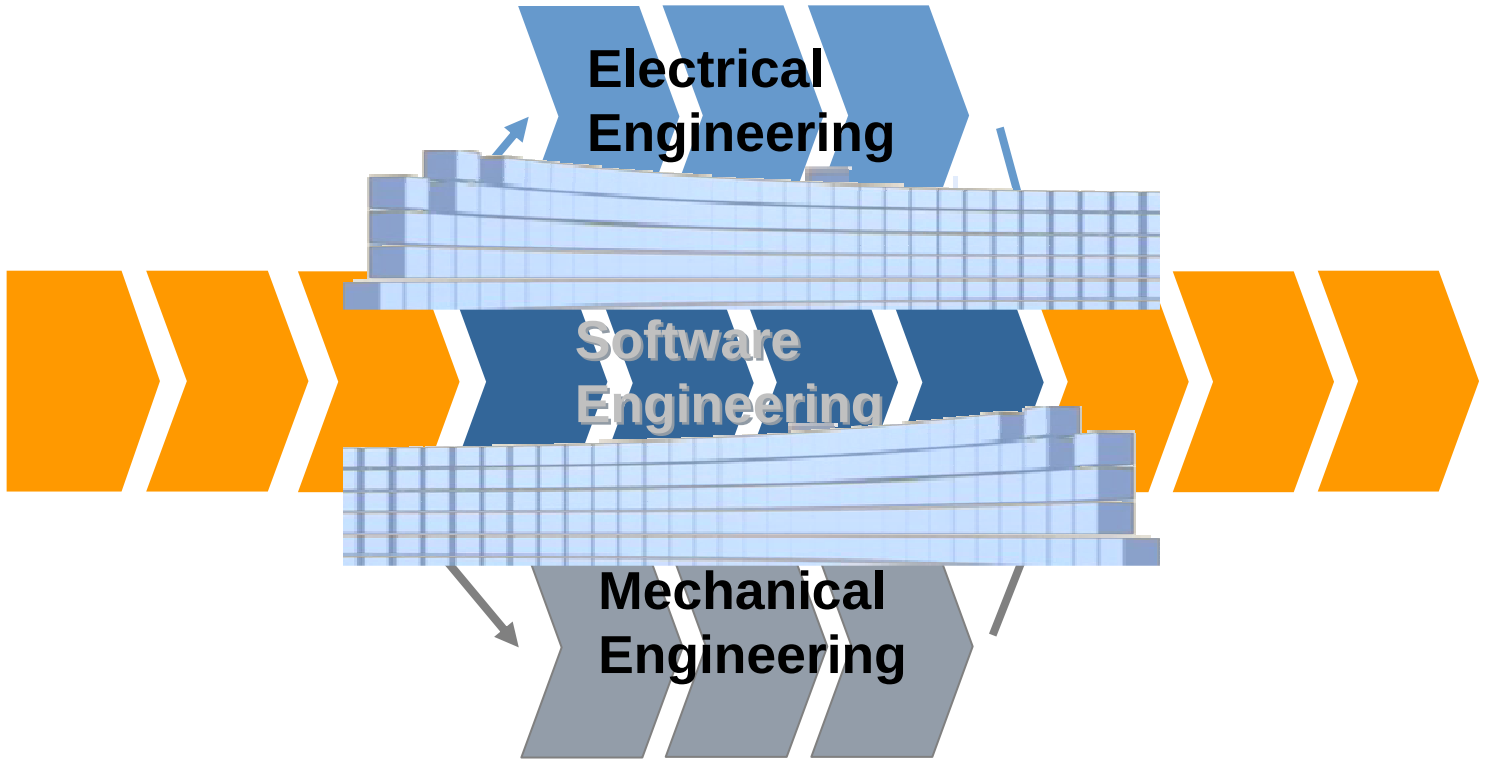
Right after this talk in

American Seminar Room

open end till departure of the busses



ALM / PLM Interoperability



Let's knock these walls down

ALM / PLM Interoperability

ALM / PLM Interoperability

Organization works to blend application, product life-cycle management

By Katie Serignese SD Times

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