

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

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ALM-1633B



Innovate2010

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The premiere software and product delivery event.
June 6–10 Orlando, Florida



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)

Research Locations

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

Development Locations

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”

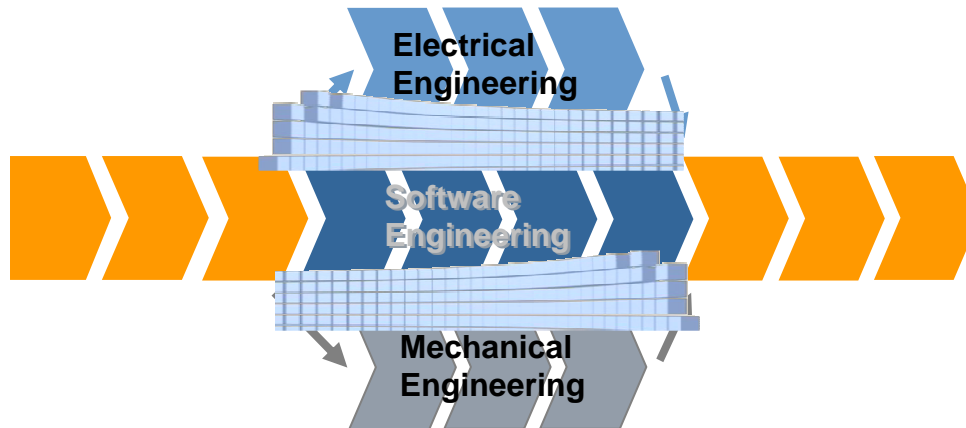


who
attended
last year?



ALM / PLM Interoperability

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

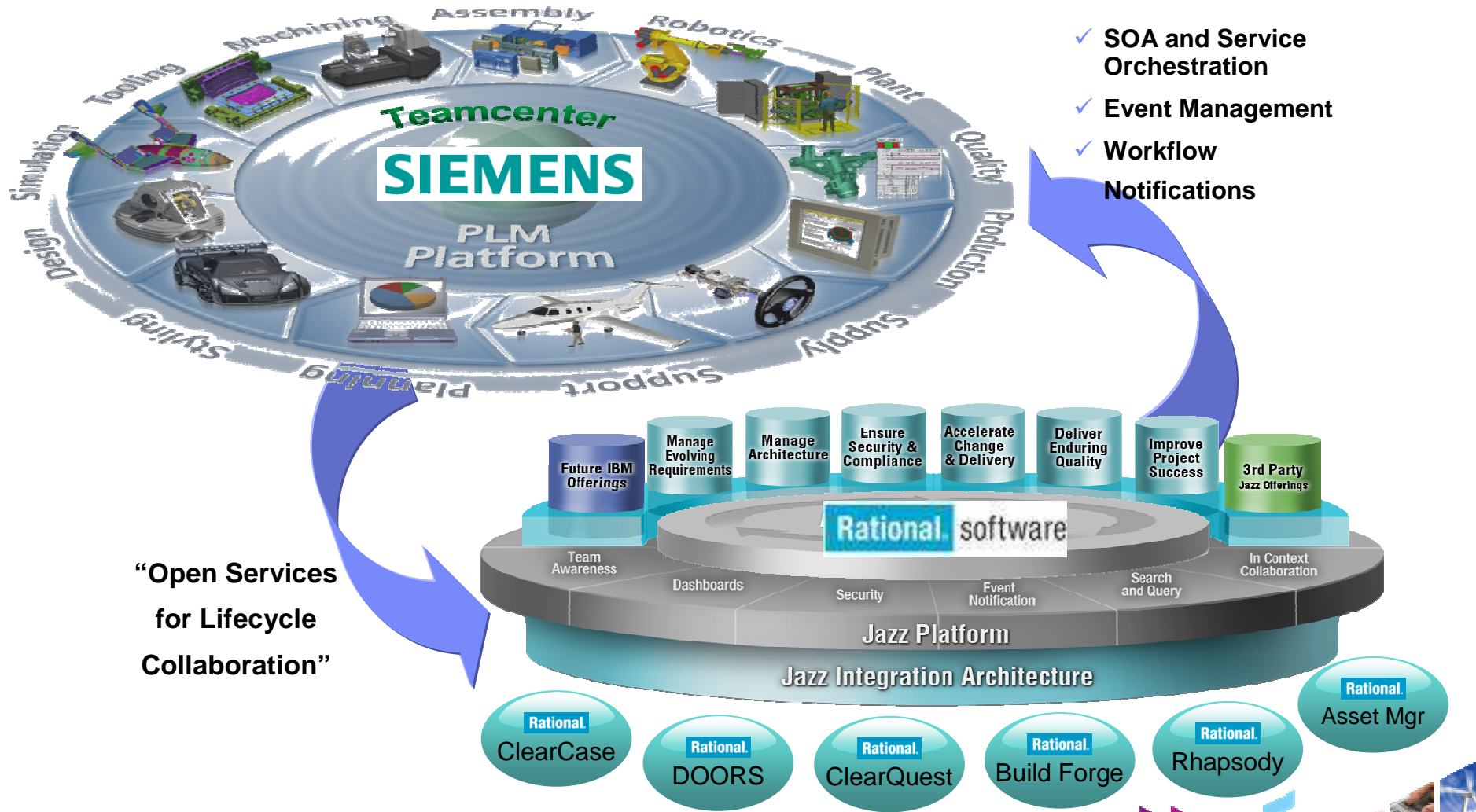


- ▶ Many problems are the same as in the ALM world alone:
 - islands of information, lots of manual activities, ...
- ▶ Or even worse:
 - walls of isolation, cultural differences, different (technical) languages



Integrating PLM and ALM

Integrated Product Change Management



Open Services for Lifecycle Collaboration



everybody
heard
about OSLC?

- ▶ What is OSLC ? ([video 4:20 min](#)) ⇒ <http://open-services.net>

Aimed at simplifying tool integration across the product delivery lifecycle

Open Services for Lifecycle Collaboration

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

- ▶ 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

[Home](#) [About](#) [Community](#) [Wiki](#) [Learn](#)

Open Services for Lifecycle Collaboration

open community. open interfaces. open possibilities.

Open Services for Lifecycle Collaboration (also known as OSLC or Open Services) is a community effort to help software delivery teams by making it easier to use lifecycle tools in combination. The OSLC community is creating open, public descriptions of resources and interfaces for sharing the things that software delivery teams rely on, like change requests, test cases, defects, requirements and user stories.

By agreeing on common specifications for lifecycle resources and the services to access them, we can eliminate traditional barriers between tools and open the door to new forms of collaboration. OSLC can bring value to software delivery teams and tool providers alike, from the most Agile to the most ceremonial of projects, and for commercially-licensed, open source, and internally developed tools. [More](#).

With OSLC's open and scenario-based approach, businesses benefit from the ability to tie disparate tools together. This collaborative approach gives our consultants the flexibility to make lifecycle tool choices based on specific client project demands.

Randy Vogel, Accenture

Learn more

- [Presentation: ALM Integration in a Web 2.0 World](#)
- [Presentation: RESTful Work Items: Opening up Collaborative ALM](#)
- [Podcast: Open Services bears first fruit. A conversation with Steve Abrams, Mik Kersten, and Carl Zetie.](#)
- [Whitepaper: The Case for Open Services](#)
- [Podcast: John Wiegand and Steve Abrams introduce the OSLC initiative](#)

News and events

- Implementations delivered for [Change management 1.0 spec](#) (press release)
- [Change management 2.0 spec](#) workgroup expanding participants.
- [Requirements management](#) and [Asset management](#) workgroups draft early specs.
- [Primer](#) authored for Software Estimation and Measurement
- New [Reporting](#) workgroup call for participation.

Quick links

- [Wiki](#): Open Services specifications
- [Mailing list](#): OSLC community
- [Blog](#): *Let's try something different* - Carl Zetie's commentary on OSLC
- [Twitter](#) - follow us: [@oslcNews](#)

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Feedback

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.

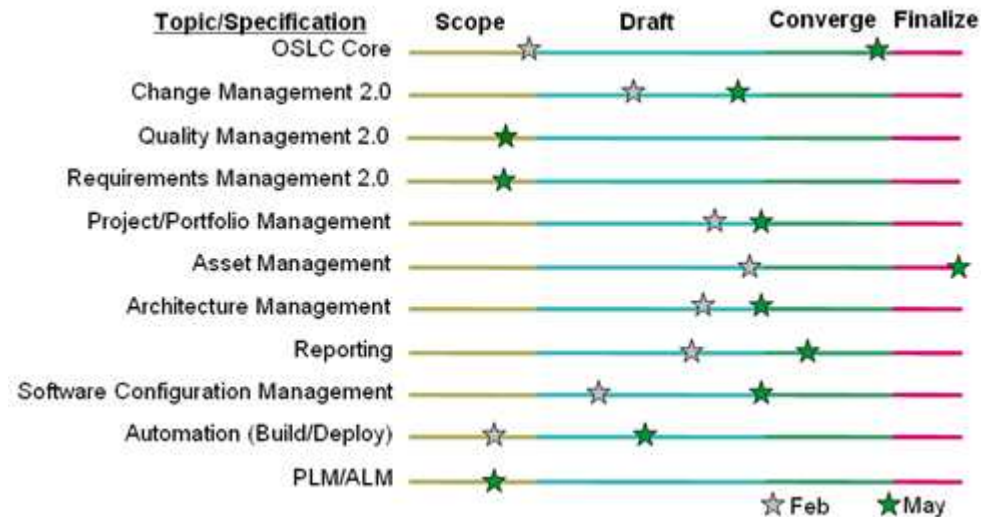


OSLC and Open Community

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 through 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

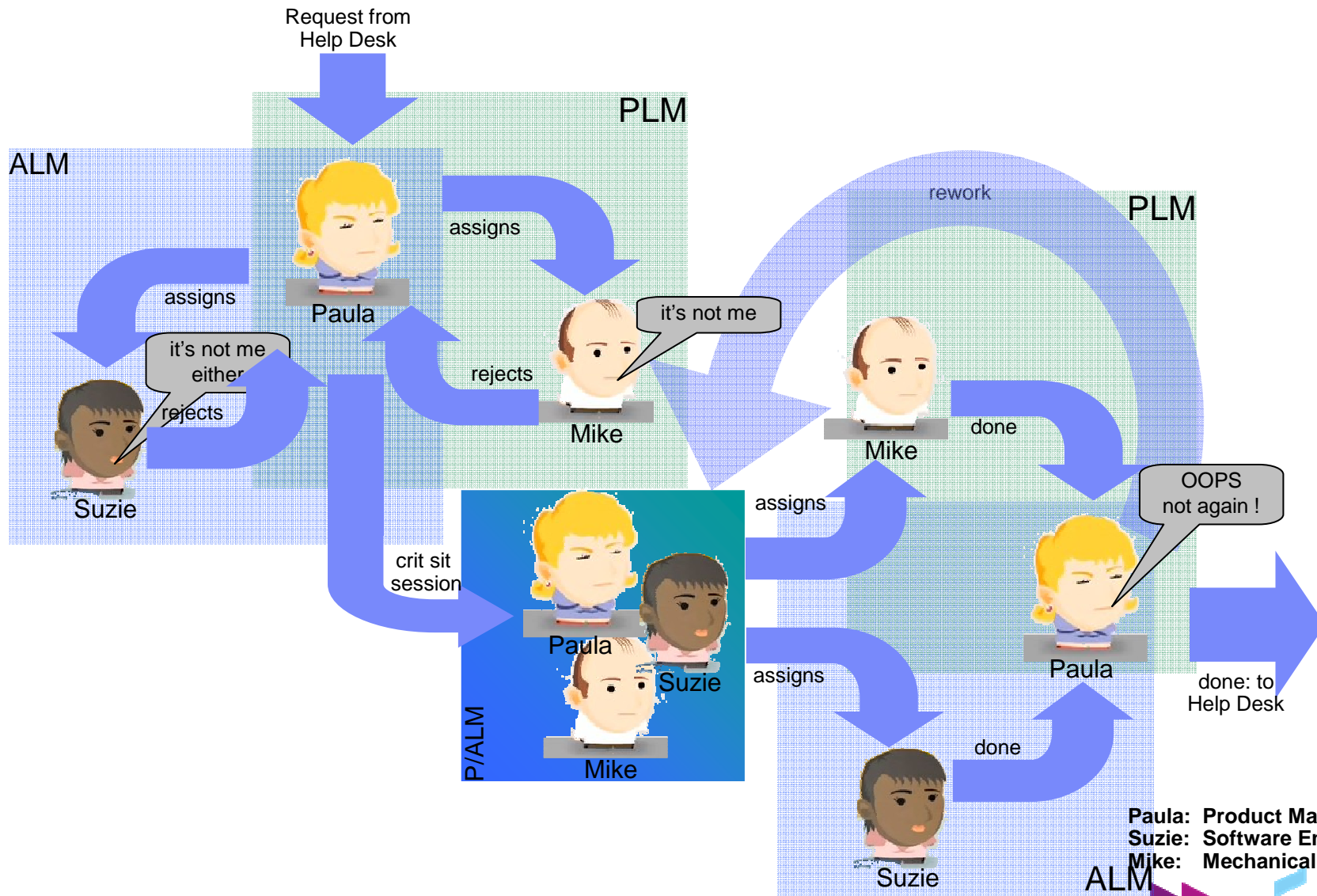
Mike: Mechanical Engineer



Mike



Interoperability Scenario (as is)



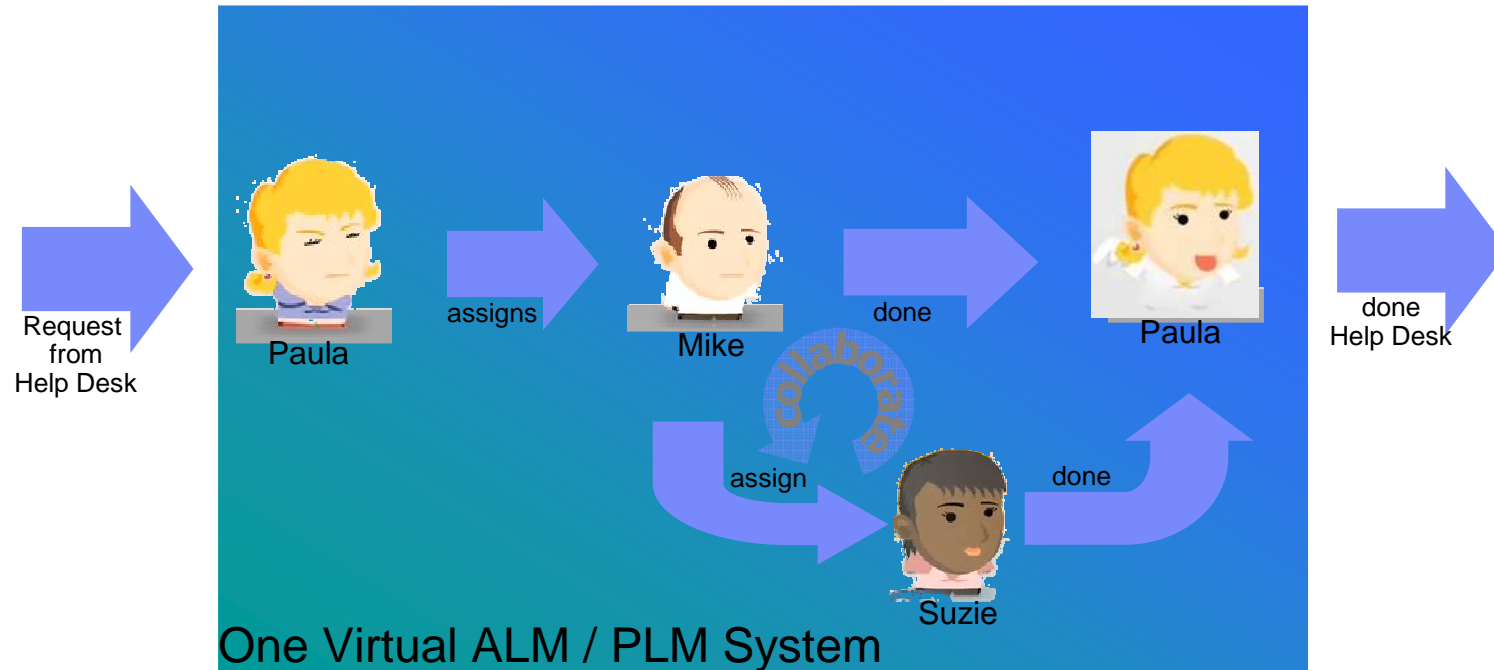
Example Scenario

- Overall Story (as is):
 - ▶ Problem in the field: Robot arm hits a part of a metal working machine
 - ▶ Problem is reported through 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)

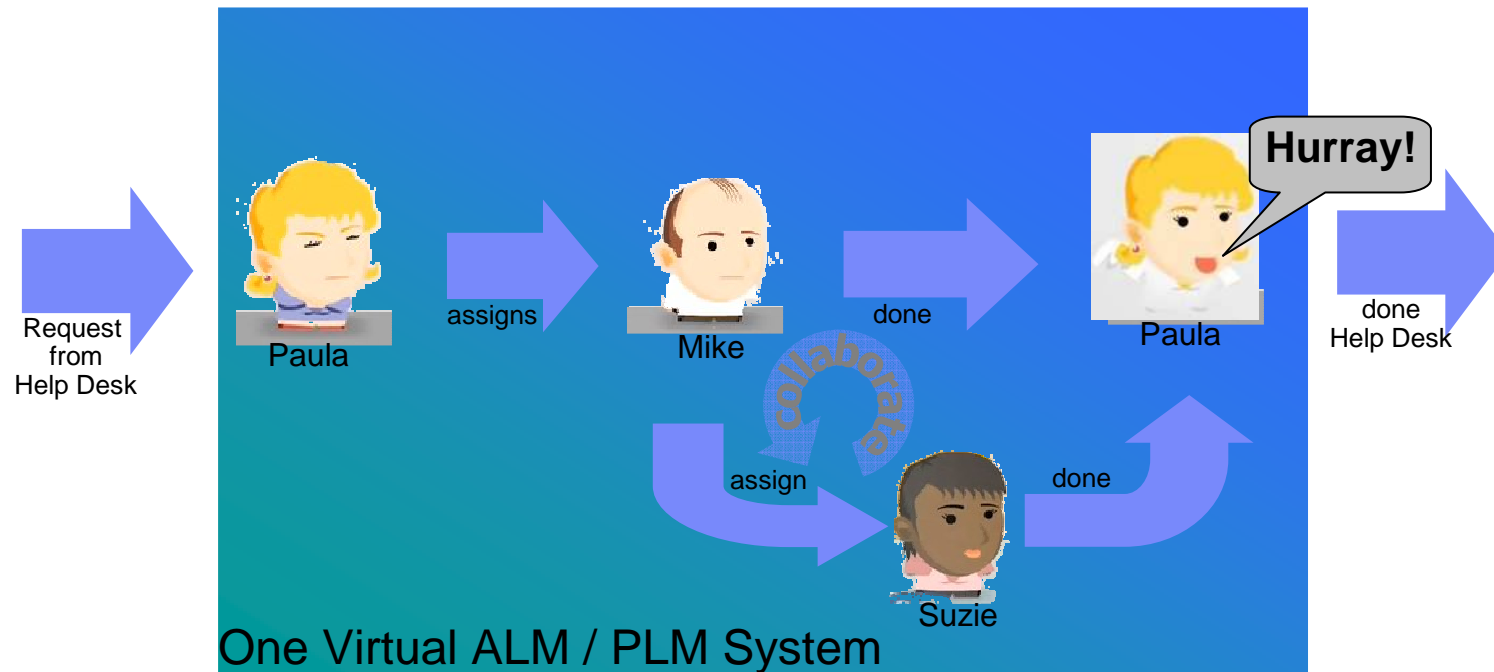
PLM PLM ALM



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



Interoperability Scenario (to be)



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



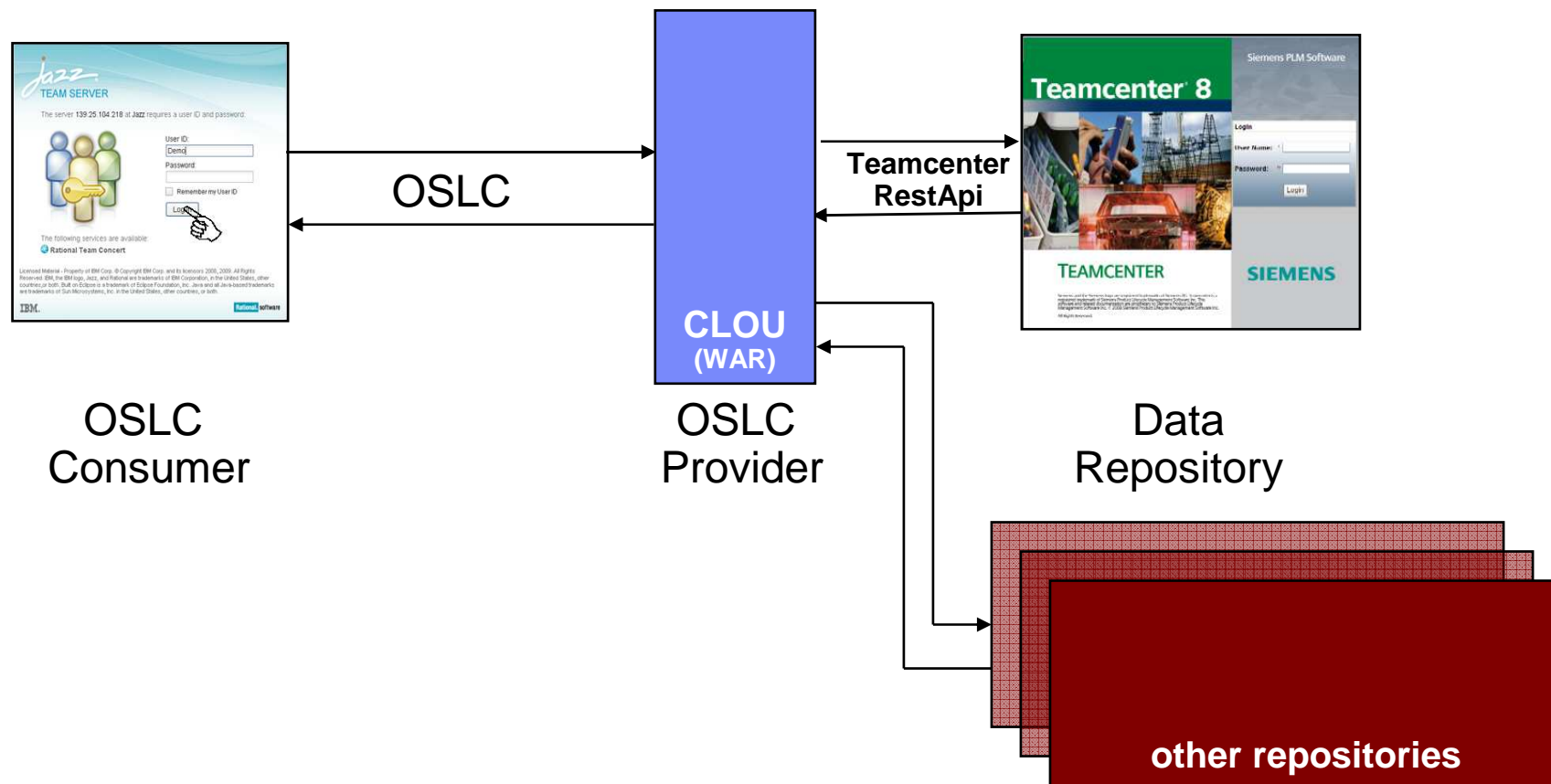
Example Scenario

- Overall Story (to be):
 - ▶ Problem in the field: Robot arm hits a part of a metal working machine
 - ▶ Problem is reported through 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

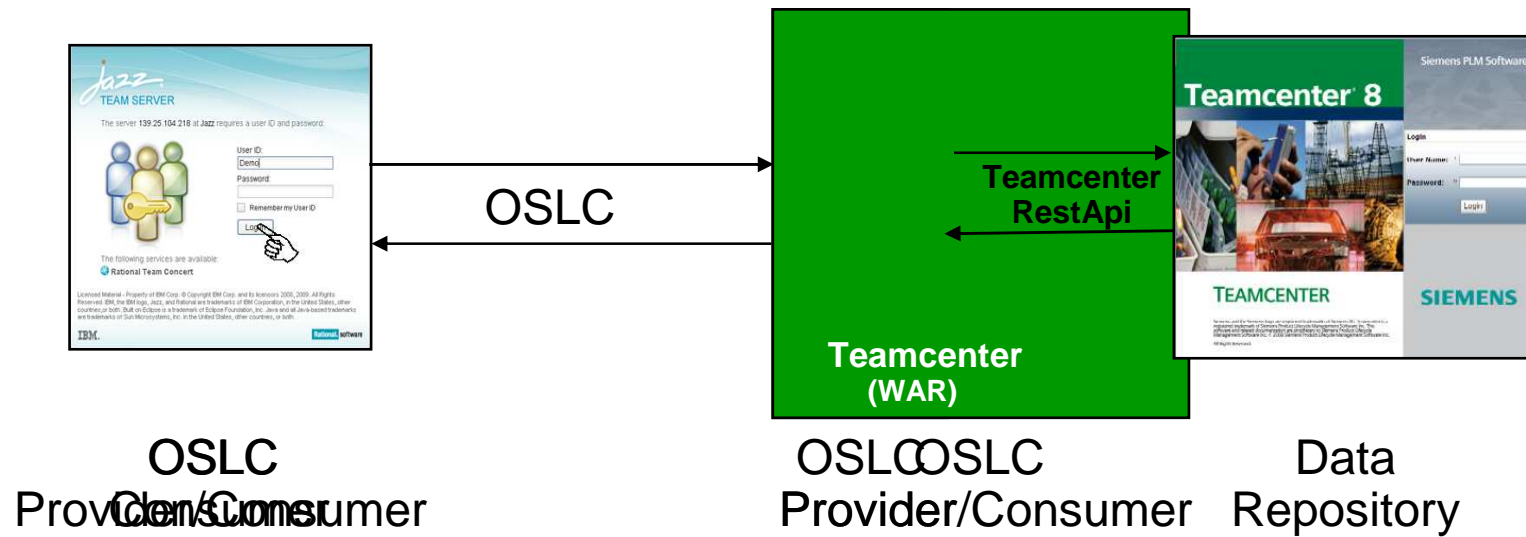




DEMO Configuration



DEMO Configuration



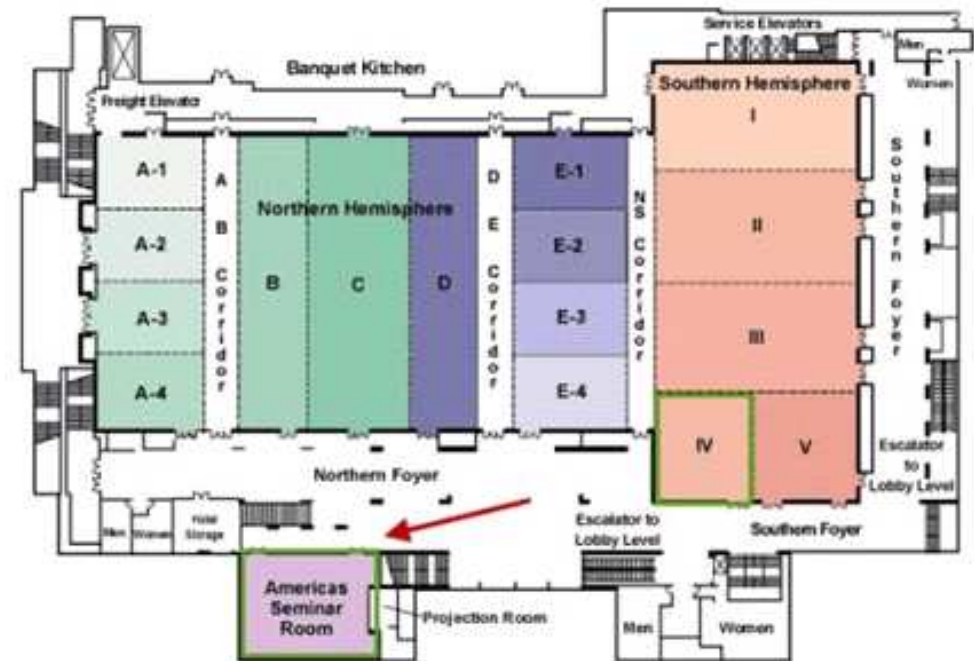
Questions



OSLC – PLM Workgroup Get Together

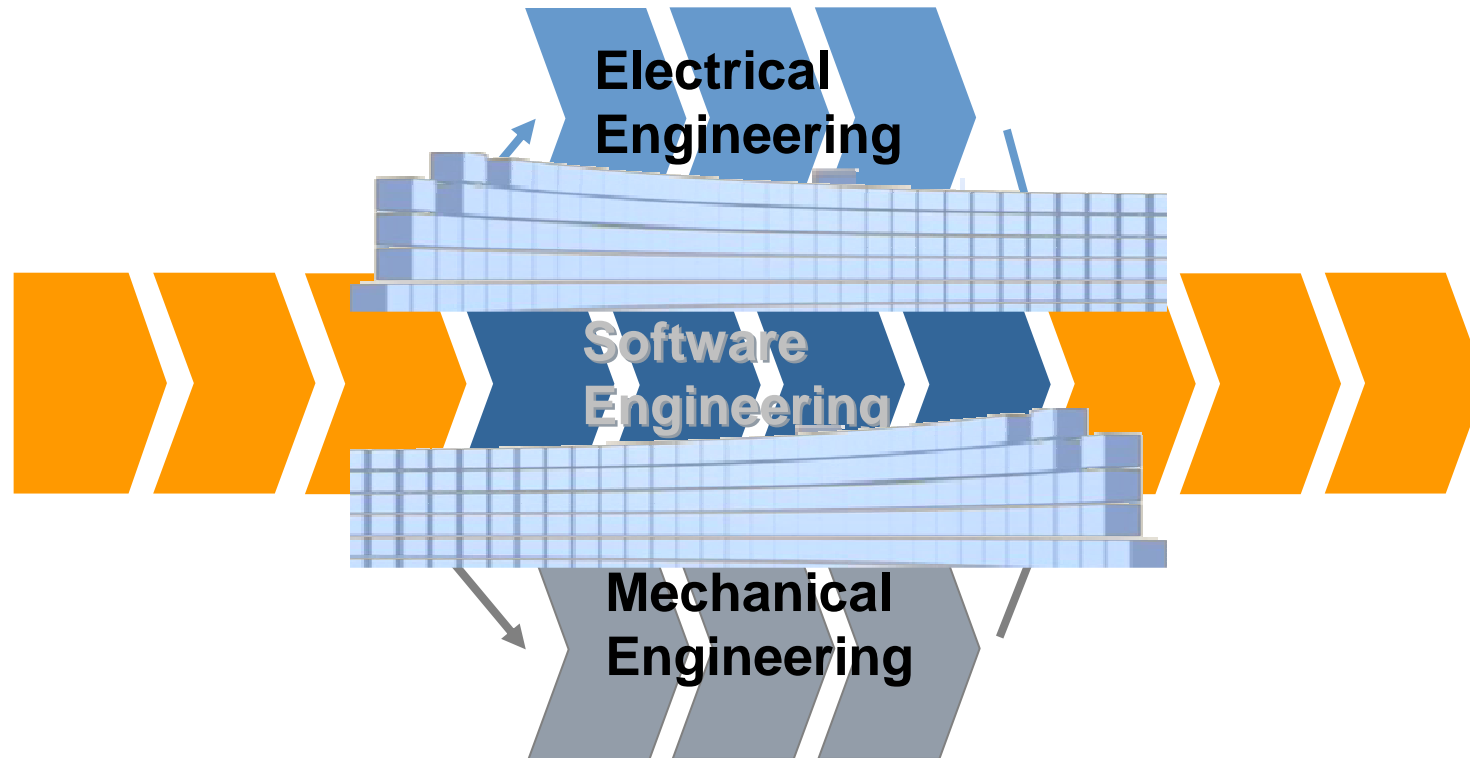
- **Interested in OSLC and ALM/PLM interoperability?**
 - ⇒ Please join us for additional discussions
 - ⇒ Learn more about the OSLC PLM workgroup
 - ⇒ Exchange information with your peers

Right after this talk in
American Seminar Room
 open end till departure of the busses



ALM / PLM Interoperability

PLM



Let's knock these walls down



ALM / PLM Interoperability

PLM
PALM
ALLM



ALM / PLM Interoperability



Organization works to blend application, product life-cycle management

By Katie Serignese SD Times





GET INVOLVED!

OPEN COMMUNITY. OPEN INTERFACES. OPEN POSSIBILITIES.

open-services.net





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BACKUP

