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OSLC: Satisfying the Requirement to Link Conceptually-Different Lifecycle Artifacts for Definitive Truth.

With use of the Sodius RLIA OSLC Windchill Adapter as a Practical, Commercial Case Study.

Connect◆Navigate◆Transform

TL;DR?

Modern enterprises have scaled far beyond the realm of individual artistry wherein all necessary information for the acquisition and implementation of a solution existed or could exist within the mind or notebooks of a single mind or of a single central repository. Dispersion of data related to the lifecycle of an engineering project to accommodate a distributed team of engineers implies a need to synchronize conceptually identical artifacts and to link conceptually different but related ones.

OSLC is a protocol which uses modern REST and LDP techniques to create, query, and visualize linking relationships across distributed repositories of lifecycle artifacts that are conceptually different yet need to be related to synthesize a definitive truth of the current—and of historical—state of a system's specification.

These more theoretical ideas are presented in companion with a brief overview of the Sodius RLIA OSLC Windchill adapter, a practical, commercially available and supported OSLC adapter for the PTC Windchill PLM repository. This OSLC solution enables PLM users to relate their Change Request artifacts to the Work Items (e.g. Change Requests, Defects, Tasks, Stories, etc) of an ALM repository—and vice versa.

The presenter is a Business Enterprise Architect at Sodius, the ALM Scrum Master, and one of the lead software engineers for the Sodius RLIA Windchill adapter.

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Epistemology of Truth

Data   <   Information   <   Belief   <   Truth
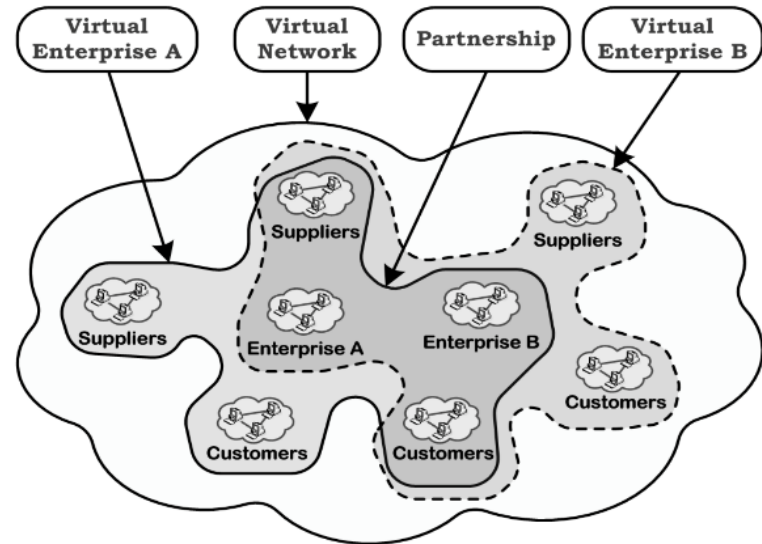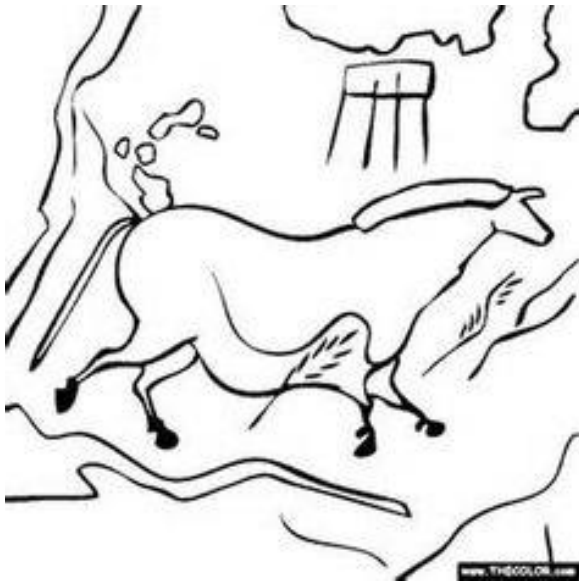
Analysis Filters To: Synthesis Forms: Argument Justifies:

Evolution of Engineering Scale

Individualized	Collaborative
Centralized	Distributed
Homogenized	Heterogeneous

Implication

- Definitive Truth must be formed from

  the Synchronization of identical Concepts

  and from

  the Linking of different yet related Concepts

  in Distributed repositories

Open Services for Lifecycle Collaboration

- – REST
- – LDP
- – RDF Resource Definitions
- – Preview, Creation, and Selection Dialogs

- Basically, an agreement on concepts, their properties, and how to converse about these

OSLC

Relate Architectural Elements, Change Requests, Quality Assurance Elements, and Requirements with each other in Distributed repositories even those from Different vendors, leaving the linked elements in their respective repositories.

Minimize the Waste of:

      Workers in Motion

      Information Transformation and Synch

Practical Use (Hypothetical)

- Organization: Acme.com

- Business Mission: Capitalize on the need for Ubiquitous Wireless Internet access

- Products: Small TRAN Base Stations

- Develops: Product Enclosures, Basestation Hardware, RF Front Ends, SDR Software, User Interfaces, and Mobile Apps

- More…

Practical Use (Hypothetical)

- Organization: Acme.com
- Teams:
  - Program Management: Chantilly, VA (30)
  - Physical Design and HW Eng: Goodyear, AZ (50)
  - RF Engineering: Haifa, Israel (10)
  - SDR Software Engineering: Naperville, IL (25)
  - User Interface Software Eng: Seattle, WA (25)
  - Marketing: Colorado Springs, CO (6)

- More…

Visualize Team Distribution
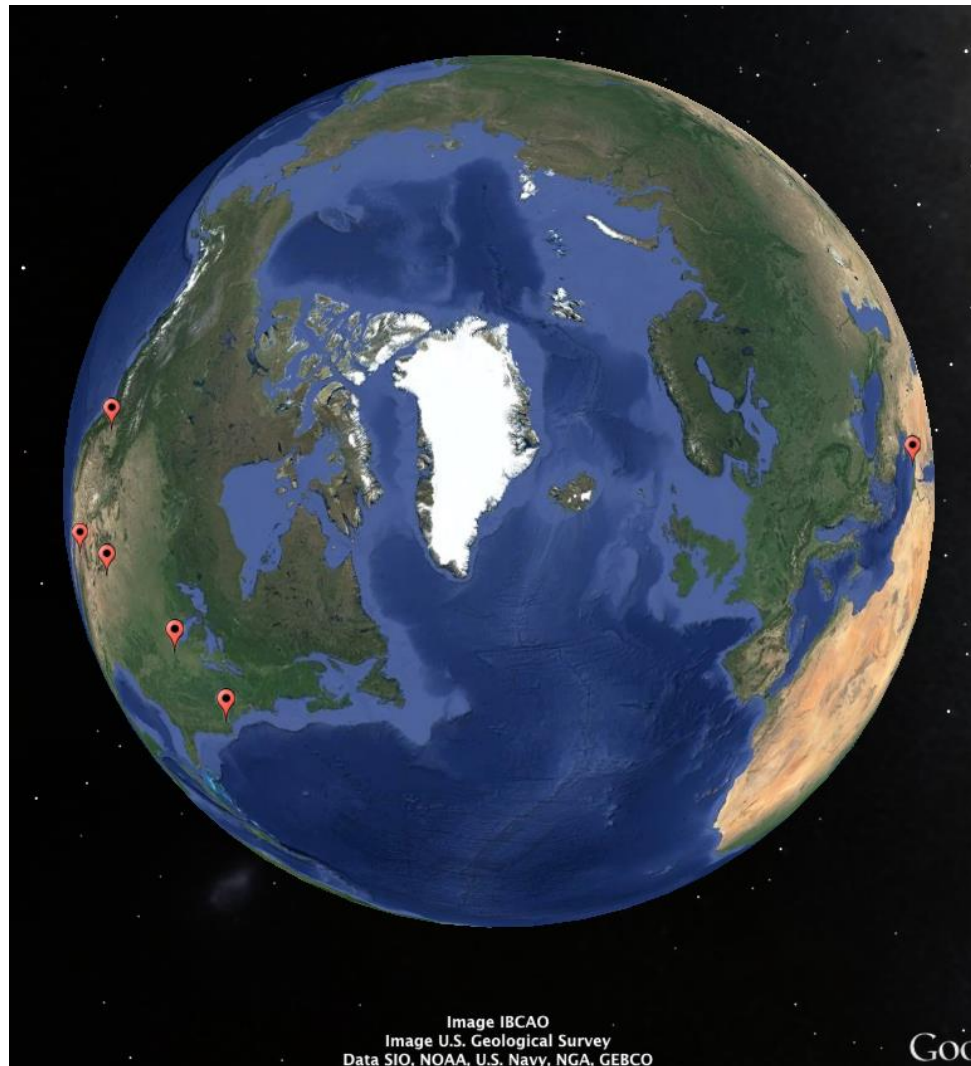
Distribution within Campus

Practical Use (Hypothetical)

- Organization: Acme.com
- Lifecycle Tools:
  - Deltek: Contract Management
  - Windchill PLM: CAD & BOM
  - Jazz CLM RM: Requirements
  - Jazz CLM CCM: Agile Workflow
  - Internal Git: Document and Code CM
  - Matlab and Excel: RF Analysis
  - Outlook and Excel: Email Engineering

- More…

Practical Use (Hypothetical)

- Organization: Acme.com
- IT Network:
  - Deltek on HQ in Virginia
  - PLM Servers in Arizona
  - Git CM Servers in Illinois
  - ALM Servers in Washington

- More…

You Get the Big Picture™
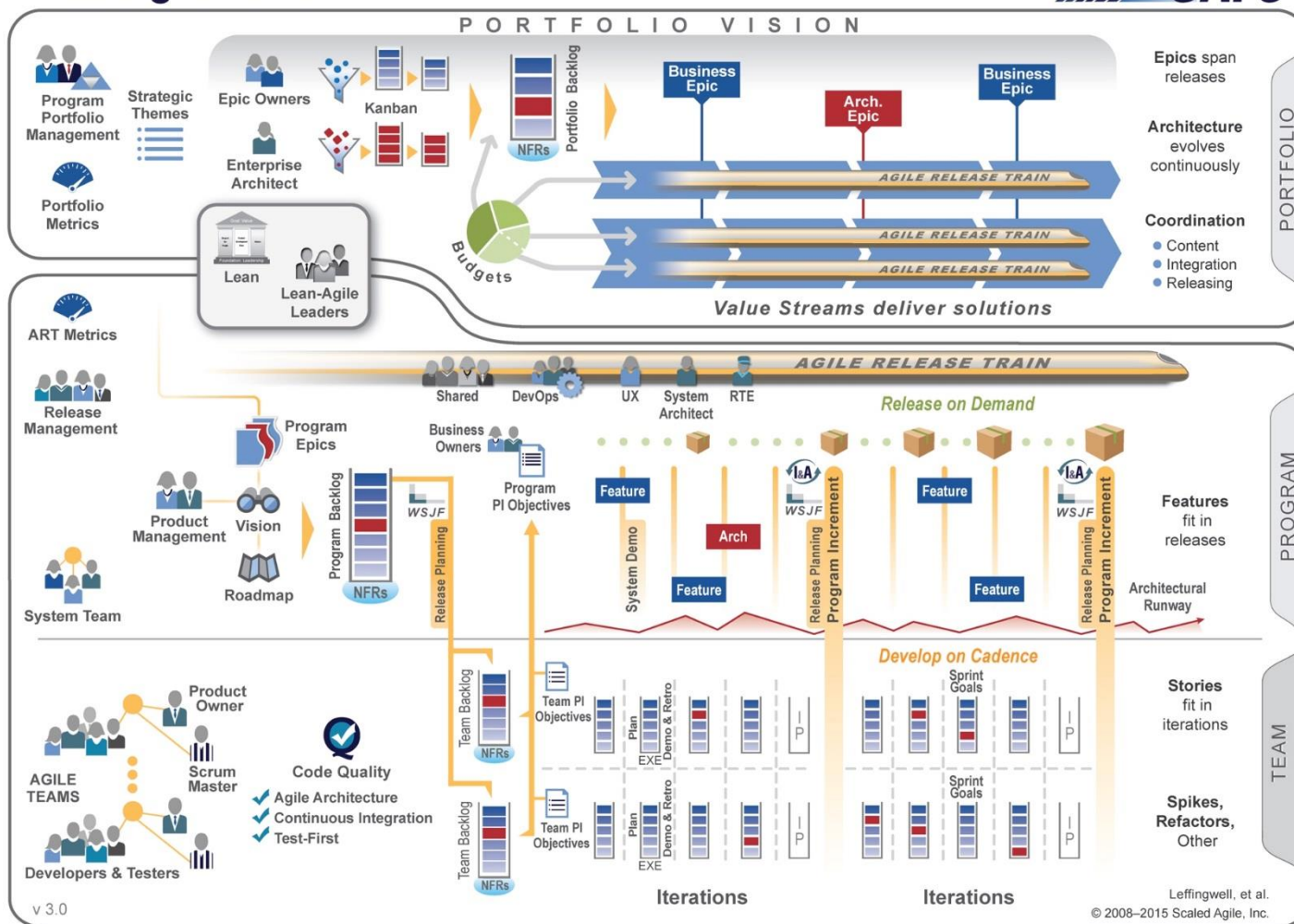
Business Need

- When Physical Components are to change or were changed,
  which Software Components must also change or were also changed
  so that the combined Cyber-Physical Subsystem realized by that fusion of Hardware and Software
  changes or changed to exhibit the sought capabilities?

Business Solution

- OSLC Link PLM Change Requests with ALM Work Items

- (*Arguably, there are other solutions but we are here to discuss OSLC and not to prove the optimality of any proposed panacea.*)

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And Now a Word from my Sponsor

- Sodius OSLC RLIA Windchill Adapter™

- Offers an OSLC CM Provider of Windchill Change Requests and Consumer of OSLC Change Management resources
  - For PTC Windchill which currently lacks OSLC capabilities

- Offers an OSLC Tracked Resource Set service to visualization, reporting, and analysis services such as Jazz LQE, RELM, and JRS

- Commercially available and supported from IBM with integration of IBM Rational Token Licensing

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Show and Tell

- ## Welcome Page

Show and Tell

- ## OSLC Preview Dialogs
  - ALM content within PLM context
  - PLM content within ALM context
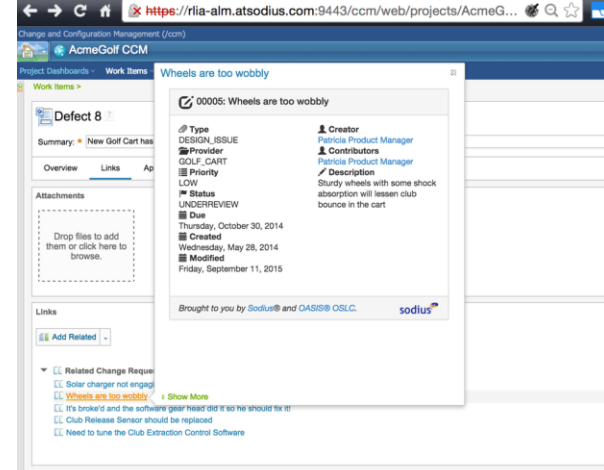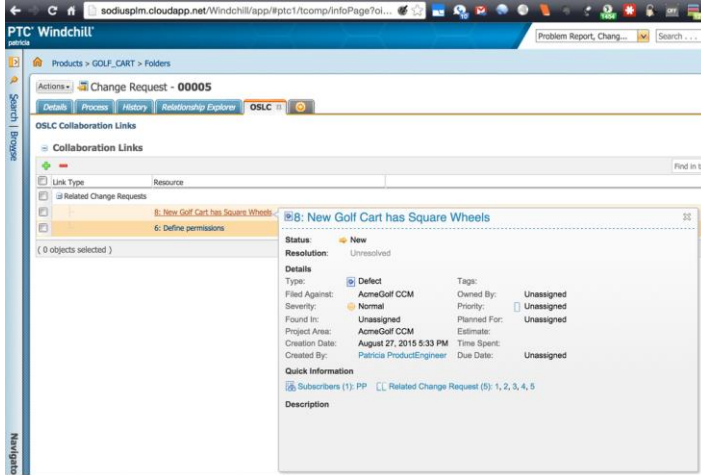
Show and Tell

- ## OSLC Selection Dialogs
  - – Link ALM content within PLM context
 - – Link PLM content within ALM context
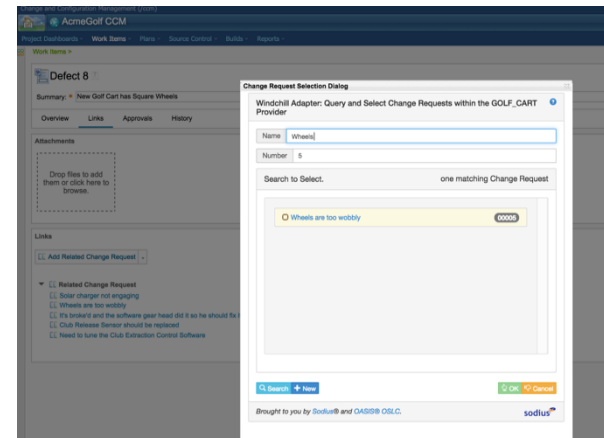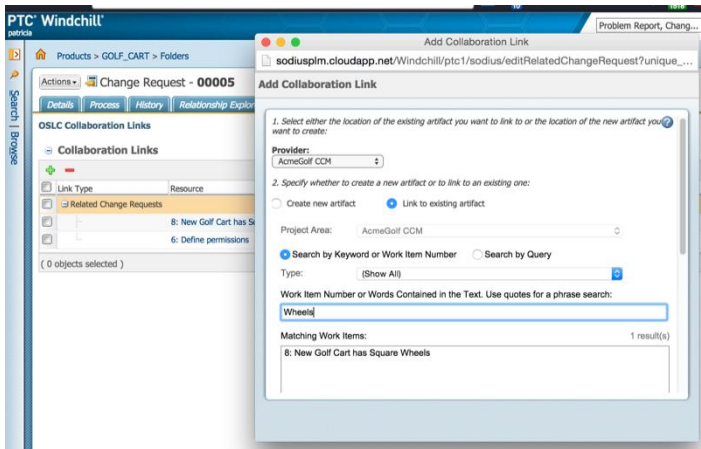
Show and Tell

- ## OSLC Creation Dialogs
  - Create and Link ALM content within PLM context
 - Create and Link PLM content within ALM context
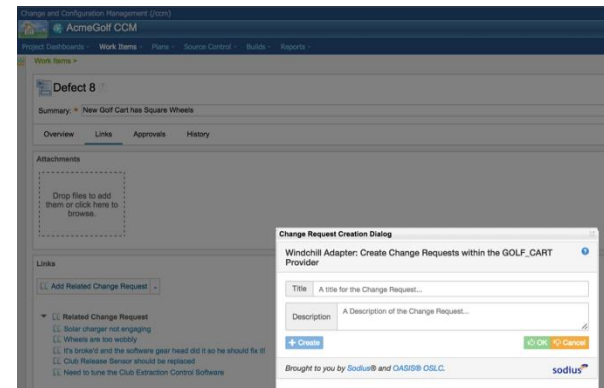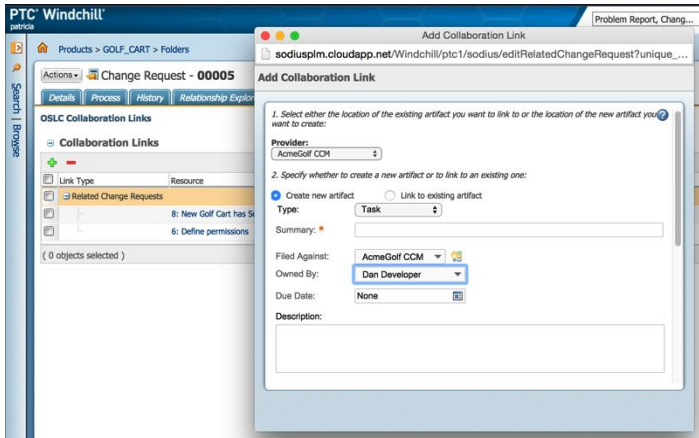
Show and Tell

- OSLC Tracked Resource Set Service
  - Maintain changes in Resources' states
  - Publish via REST LDP a TRS Resource
  - Makes PLM Content and links to ALM content available to
    - RELM for visualization
    - Jazz Reporting for textual reports
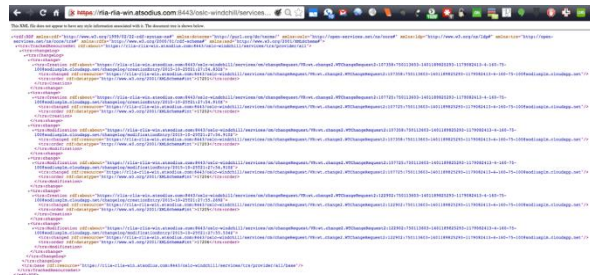
Show and Tell

- Rational Engineering Lifecycle Manager (RELM)
  - Windchill Change Requests are traced to software defects
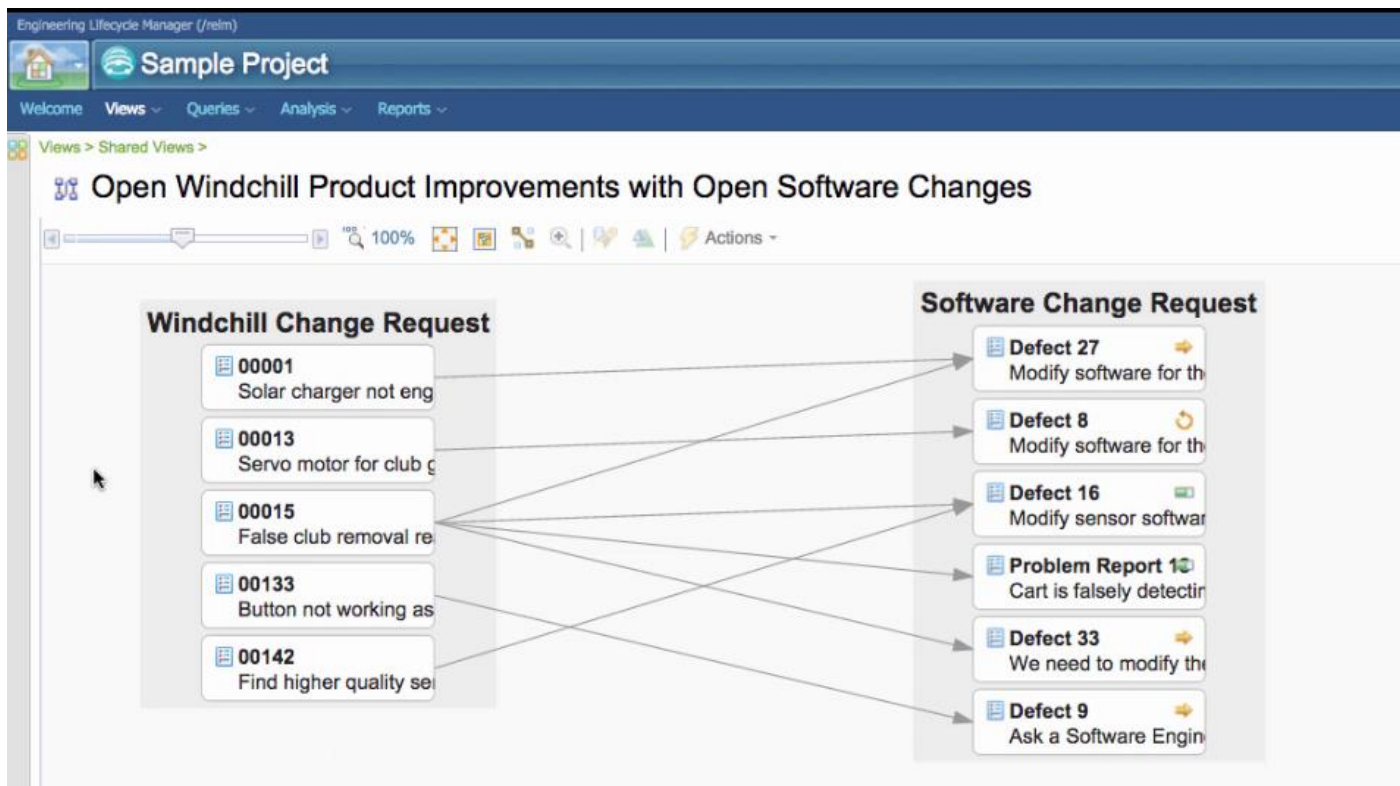
Show and Tell

- Rational Engineering Lifecycle Manager (RELM)
  - Details about the Windchill ECR can be viewed in RELM

Show and Tell

- ## Jazz Reporting Service
  - Windchill Change Requests are traced to software defects

In Progress PRODUCT_IMPROVEMENT with Related Software Changes

Duplicate | Edit

Export▾

20 ⬍ Items Per Page   ◄ Previous 1 - 8 of 8 items Next ►

Change Request Short Name	Change Request	Change Request Status	Software Defect Id	Software Defect	Software Defect Status	Software Defect Type
00001	Solar charger not engaging	UNDERREVIEW	27	Modify software for the ECU	New	Defect
00013	Servo motor for club grabber misses	UNDERREVIEW	8	Modify software for the Software Control Software	Reopened	Defect
00015	False club removal reading	UNDERREVIEW	27	Modify software for the ECU	New	Defect
			16	Modify sensor software so that bumpy clubs don't trigger extractions	In Progress	Defect
			33	We need to modify the software	New	Defect
00016	False battery power reading	UNDERREVIEW	19	Modify the power level calculation to account for battery temperature	Verified	Defect
00133	Button not working as expected	UNDERREVIEW	9	Ask a Software Engineer to modify their software module	New	Defect
00142	Find higher quality sensor for club extractions	UNDERREVIEW	16	Modify sensor software so that bumpy clubs don't trigger extractions	In Progress	Defect

◄ Previous 1 - 8 of 8 items Next ►

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Show and Tell

- Jazz Dashboards
  - Views and Reports can be added to dashboards

Learn More

- Marketing for the
  Sodius RLIA Windchill OSLC Adapter

    - http://sodius.com/products-overview/oslc-adapter-for-windchill

    - https://jazz.net/downloads/rational-adapters-windchill/releases/1.0.1

    - https://www.youtube.com/watch?v=dMopWnE2kso