OSLC as enabler for seamless application integration
lutz.laemmer@prostep.com
Agenda

1. Motivation
2. Behind the Scene
3. OSCL by OpenPDM
4. Customer Example
Enterprise Integration

Is hard
Enterprise Integration
Centralization ... not feasible
Enterprise Integration

By Duplication  works for few key data only

Part ID
Material ID
Status

PLM
CM
ERP
CAE
Enterprise Integration
On Demand    data linking
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OSLC

- Open Standard
- Started by IBM
- Motivated by RTC - Jazz
- URL: open-services.net

- RDF to describe data schema
- JSON / XML for transfer
- REST Service for requests
- OAuth for authorisation
- UI Integration

- Slim Data model
  - Name
  - Titel
  - Description

- Enhanced Datamodels available for Change, Requirements and Architecture Management

- Easy to define own data types
Client / Server Interaction

Search

OSLC Server

Choose

Ressource URL

Search

OSLC Client
Client / Server Interaction

Display

OSLC Client

OSLC Server
Client / Server Interaction

System 2 System

OSLC Client

OSLC Server

Overview

Ressource URL

"rdf:about": "https://LAP-15-077.PSAD.de:8443/OpenPDM_OSLC_Adapter/services/OpenPDM_CAE_TCUA/caeResults/queryByPMM/*/*/*",
"rdfs:member": [
{
"oslc:serviceProvider": {
"ps:description": "FNA0000157/1-Reports-C410",
"ps:lastModDate": "2016-09-29T13:45:20.000+02:00",
"ps:milestone": "MLS-01",
""},
...
]
OSLC Resources and Schemata

- Every Business Object has a Resource URL
- The Business Objects are identified by interactive search using Query Dialog or standardized query capabilities
- OSLC Schemata are described by RDF
- Same Schema used for JSON and XML
- Slim Data model compared to ISO STEP, OMG PLM Services, or others

```
{  
    "ps:revision": "1",  
    "ps:type": "CAEResultRevision",  
    "rdf:about": "https://.../OpenPDM_OSLC_Adapter/services/OpenPDM_CAE_TCUA/caeResults/CAEResultRevision/FNA0000157/1",  
    "ps:description": "FN/1-Re-C410",  
    "ps:lastModDate": "2019-09-29T13:45:20.000+02:00",  
    "ps:milestone": "MLS-01",  
    "ps:modelYear": "MY2018",  
},
```
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PLM Integration, Collaboration & Migration

One platform for different use cases

**INTEGRATION**
- PLM data synchronization between various systems and domains
- Consistent and automated processes
- Background operation with minimal user interaction

**COLLABORATION**
- Integration of data from partners, customers and suppliers
- Reliable and transparent processes
- Check of data quality

**MIGRATION**
- Controlled migration of huge data volumes
- Co-Existence of old and new system to minimize migration risk
- Lower complexity by splitting into packages
OpenPDM

- OpenPDM is a COTS product to realize integrations
- Typical purpose
  - In-house System integration
  - Extended Enterprise with data set exchange
  - Migration in obsolescence scenarios
- Focus is on PDM/PLM systems
  - Windchill, Enovia, Teamcenter, ARAS
- Connectors are available for other systems also
  - ERP, SDM, ALM, CAx, ...
OpenPDM OSLC Adapter

- The OpenPDM OSLC Adapter enables OSLC access to none OSLC systems connected by OpenPDM connector
  - Authentication against backend
  - Query UI / Properties Display UI
  - Attachment Download via UI
  - REST Resources
  - Query Service maps OSLC queries to backend API

- Currently focused on integration scenarios with IBM Doors NG aka JTS
- Supports Change Management and custom attributes
- Support for other schemata planned
OpenPDM OSLC Adapter

User Perspective
Agenda

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The authorisation process reflects the legal framework of the European Union (EU) it has to be consulted for projects applying for authorisation within the EU, in Candidate Countries, which already apply EU law, or other countries that have committed to it. The process describes all steps that have to be carried out by BT to obtain an Authorisation to Place vehicles in Service (APS) valid in those countries.
Motivation for an Integrated Solution

Project specific authorisation requirements

Who & When
RTC

PBS
Item
Item evidence
Item evidence

What? Teamcenter Enterprise

DOORS

Product
Requirement 1
Requirement 2
... Requirement n
Architecture | The Big Picture

- DOORS
- RTC
- OSLC
- OpenPDM
- Teamcenter Enterprise
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Summary

- OSLC is a light weight mechanism to integrate enterprise data
- It enables access to connected systems without copying data
- Linked information is up-to-date, if desirable

- OpenPDM OSLC adapter publishes existing data from all kind of systems as OSLC data
- It is in productive use with IBM Rational Team Concert, Doors NG and Teamcenter Enterprise
- Enhancements by user defined attributes and types are possible
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lutz.laemmer@prostep.com