



OSLC as enabler for seamless application integration

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Agenda

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1 Motivation

**2 Behind the
Scene**

**3 OSCL by
OpenPDM**

**4 Customer
Example**



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1 Motivation

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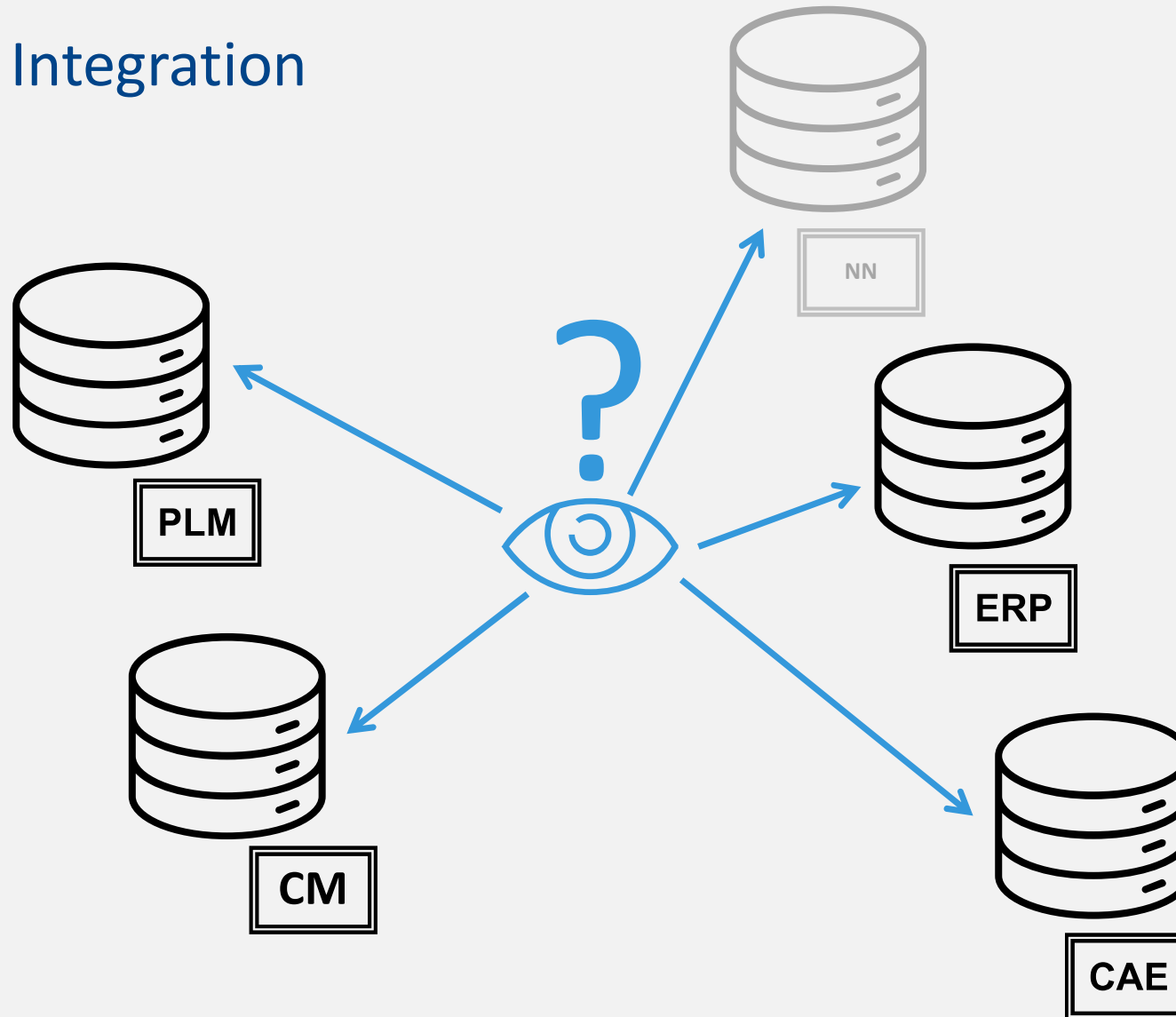
**4 Customer
Example**



Enterprise Integration

Is hard

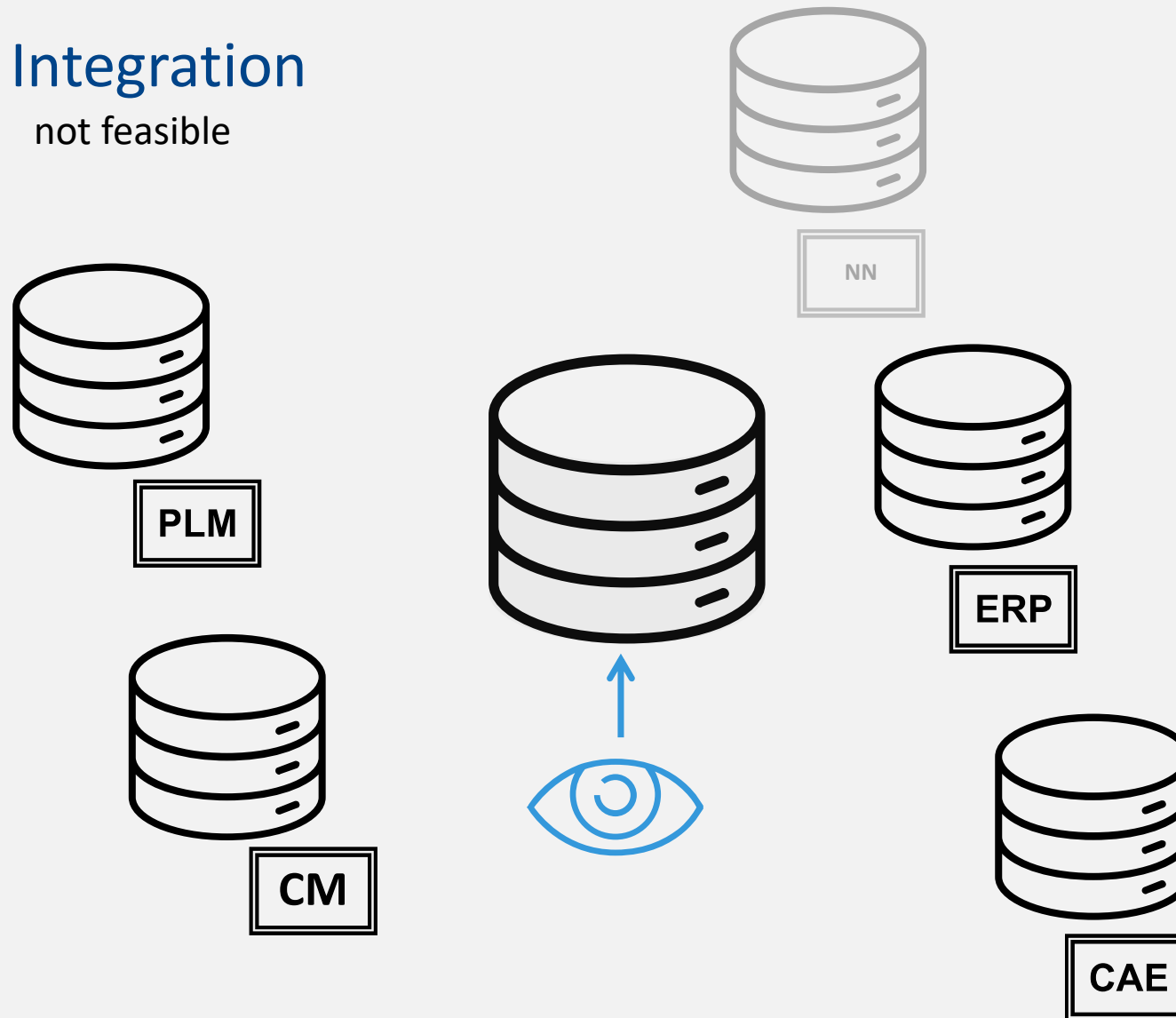
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Enterprise Integration

Centralization ... not feasible

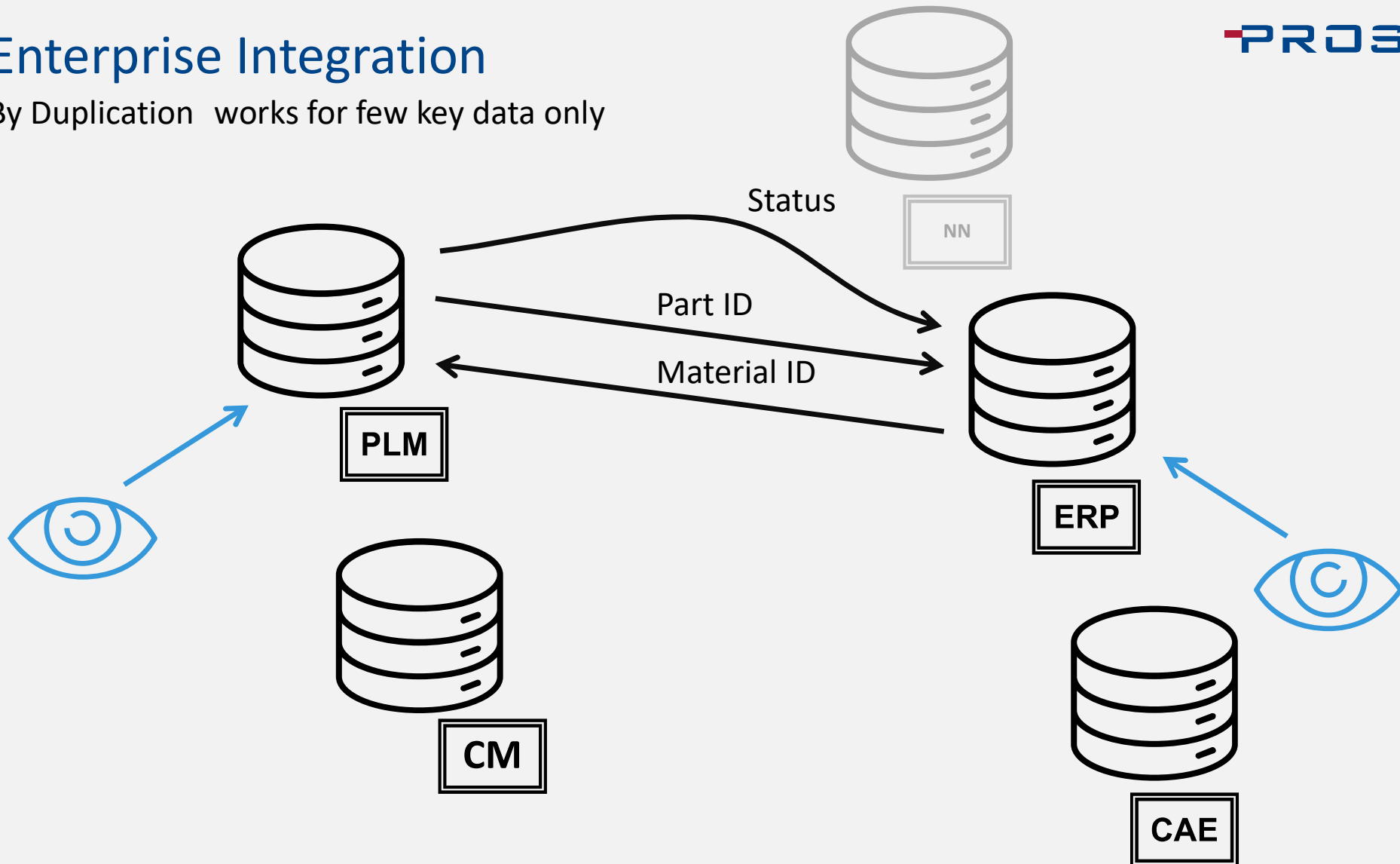
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Enterprise Integration

By Duplication works for few key data only

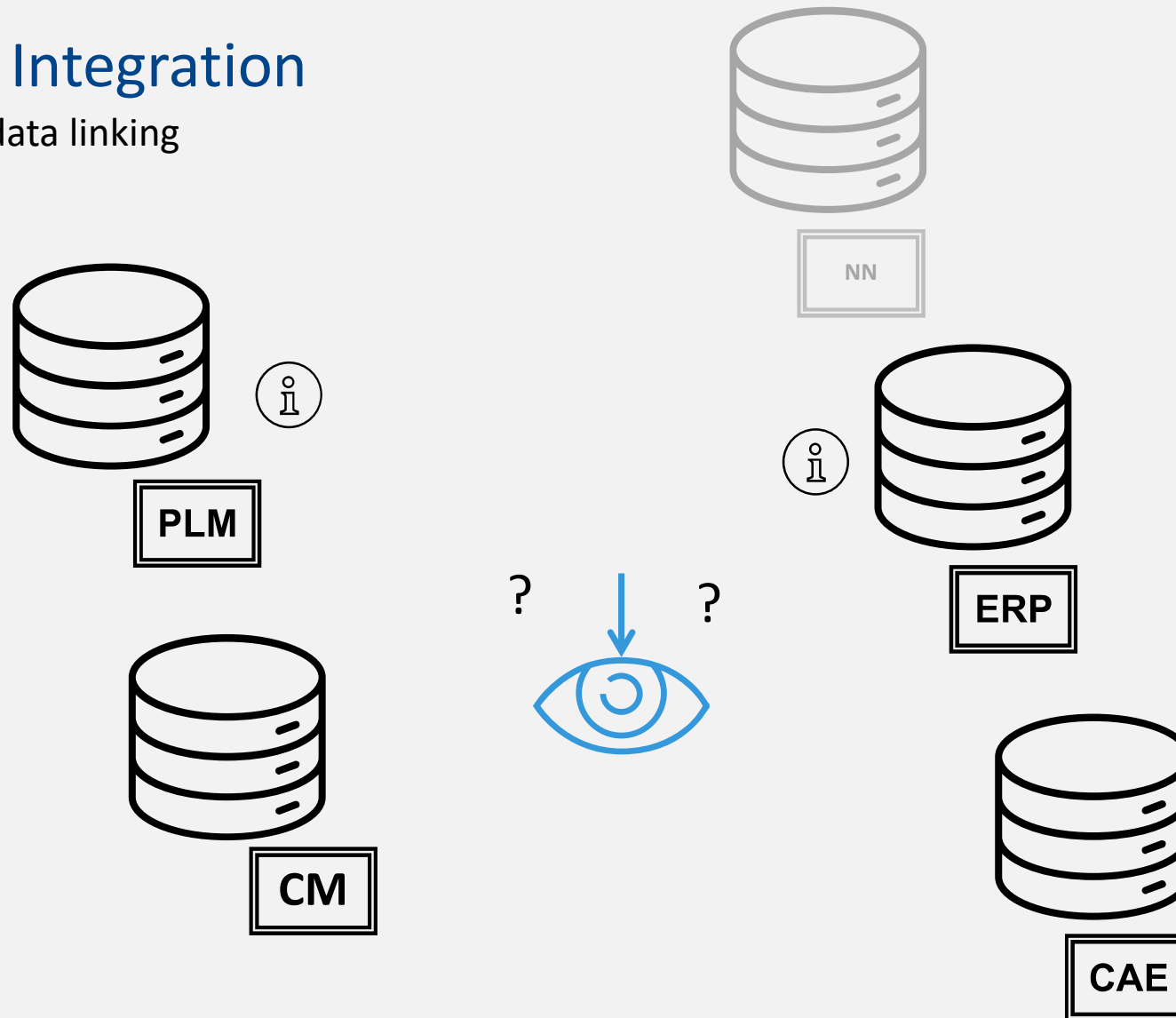
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Enterprise Integration

On Demand data linking

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- 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

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Client / Server Interaction

Display

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OSLC Client



OSLC Server



Summary: Test External Change Request

Overview

Attachments

Drop files to upload them or click to browse

Links

Add Related

Related Documents

DOC-D

Properties

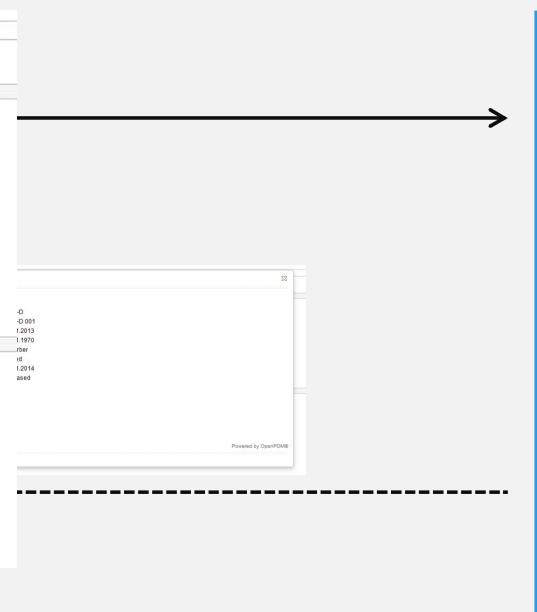
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Identifier:	DOC-D 001
Created:	07.01.2013
Modified:	01.01.1970
Creator:	R Barber
Approver:	D Kind
Released:	28.01.2014
Status:	Released

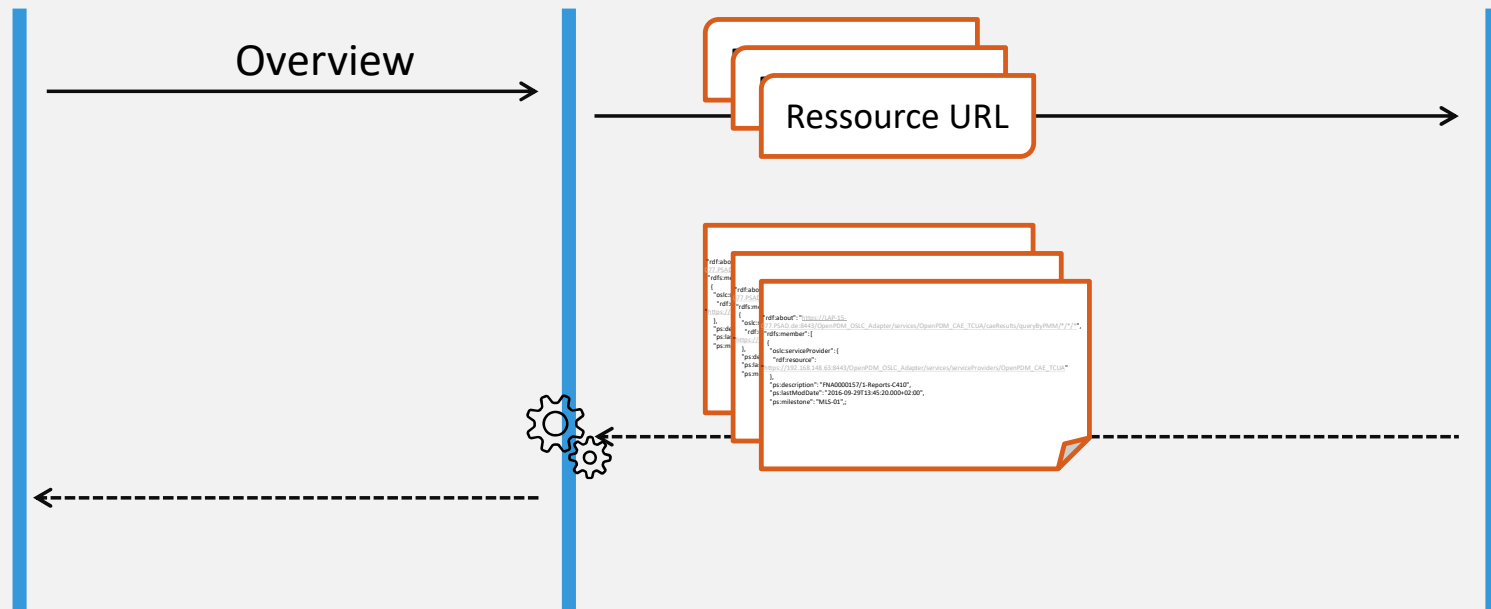
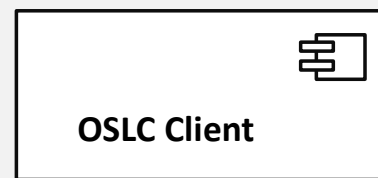
Linked Documents

- DOC-D__001.pdf

Show Less

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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

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OPENPDM®
INTEGRATE



OPENPDM®
CONNECT

INTEGRATION

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

OPENPDM®
COLLABORATE

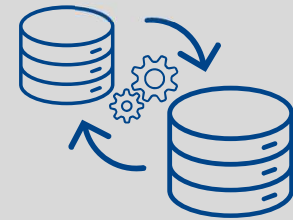


OPENPDM®
CCENTER

COLLABORATION

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

OPENPDM®
MIGRATE



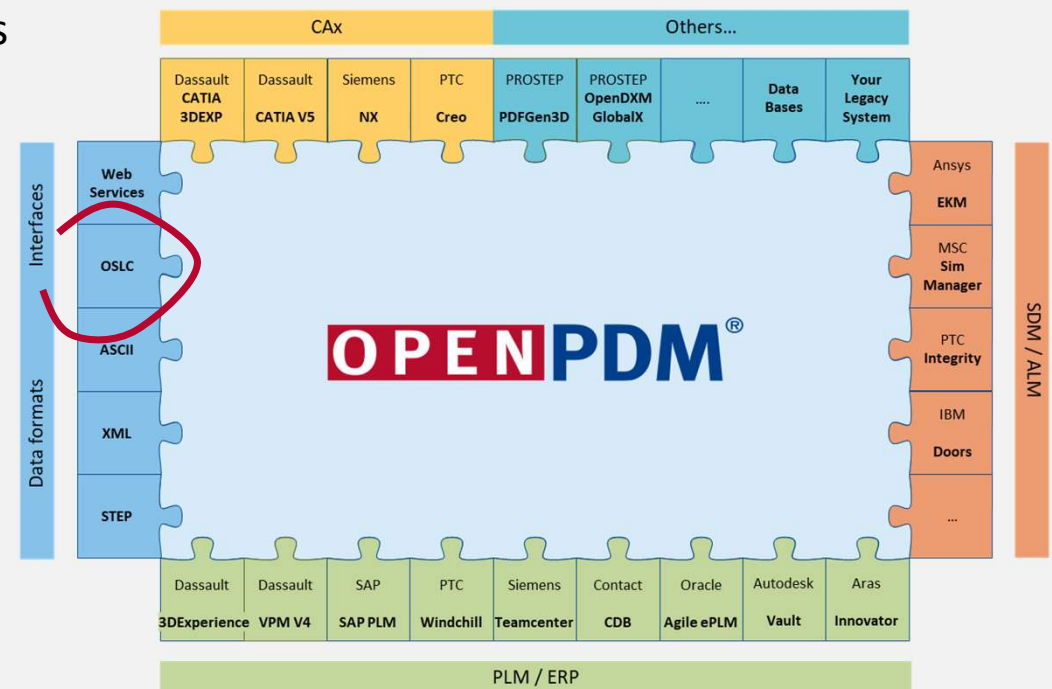
MIGRATION

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

OpenPDM

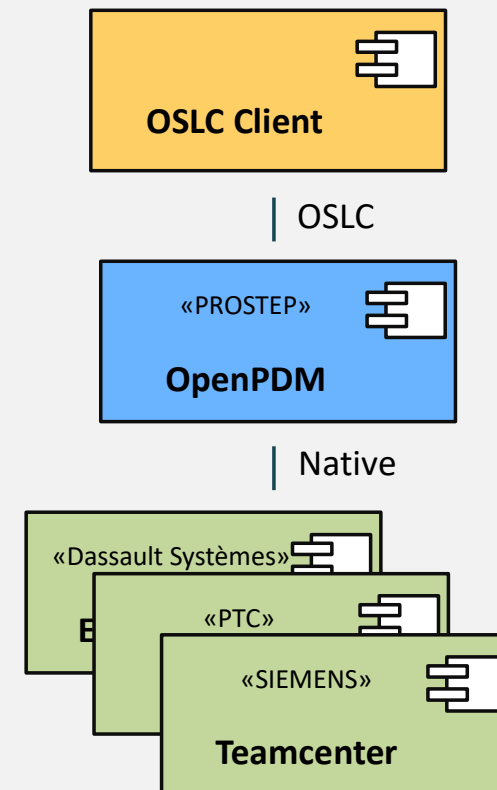


- OpenPDM is a COTS product to realize integrations
- Typical purpose
 - In-house System integration
 - Extended Enterprise with data set exchange
 - Migration in obsolescence scenarios
- Focus is on PDM/PLM systems
 - Windchill, Enovia, Teamcenter, ARAS
- Connectors are available for other systems also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



Change Request Selection Dialog

Find a document in Teamcenter Enterprise

Name:

Revision:

Select a document to link

DOC-A 001 - DOC-A - Released - 2014-01-27T23:03:00.000Z
DOC-B 001 - DOC-B - Released - 2014-01-27T23:03:00.000Z
DOC-C 001 - DOC-C - Released - 2014-01-27T23:03:00.000Z
DOC-D 001 - DOC-D - Released - 2014-01-27T23:03:00.000Z

DOC-D

Overview

Attachments

Drop files to attach them or click to browse

Properties

Title: DOC-D
Identifier: DOC-D 001
Created: 07.01.2013
Modified: 01.01.1970
Creator: R Barber
Approver: D Kind
Released: 28.01.2014
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Linked Documents

- DOC-D__001.pdf

Links

Related C

- DOC-D
- DOC-A
- DOC-B

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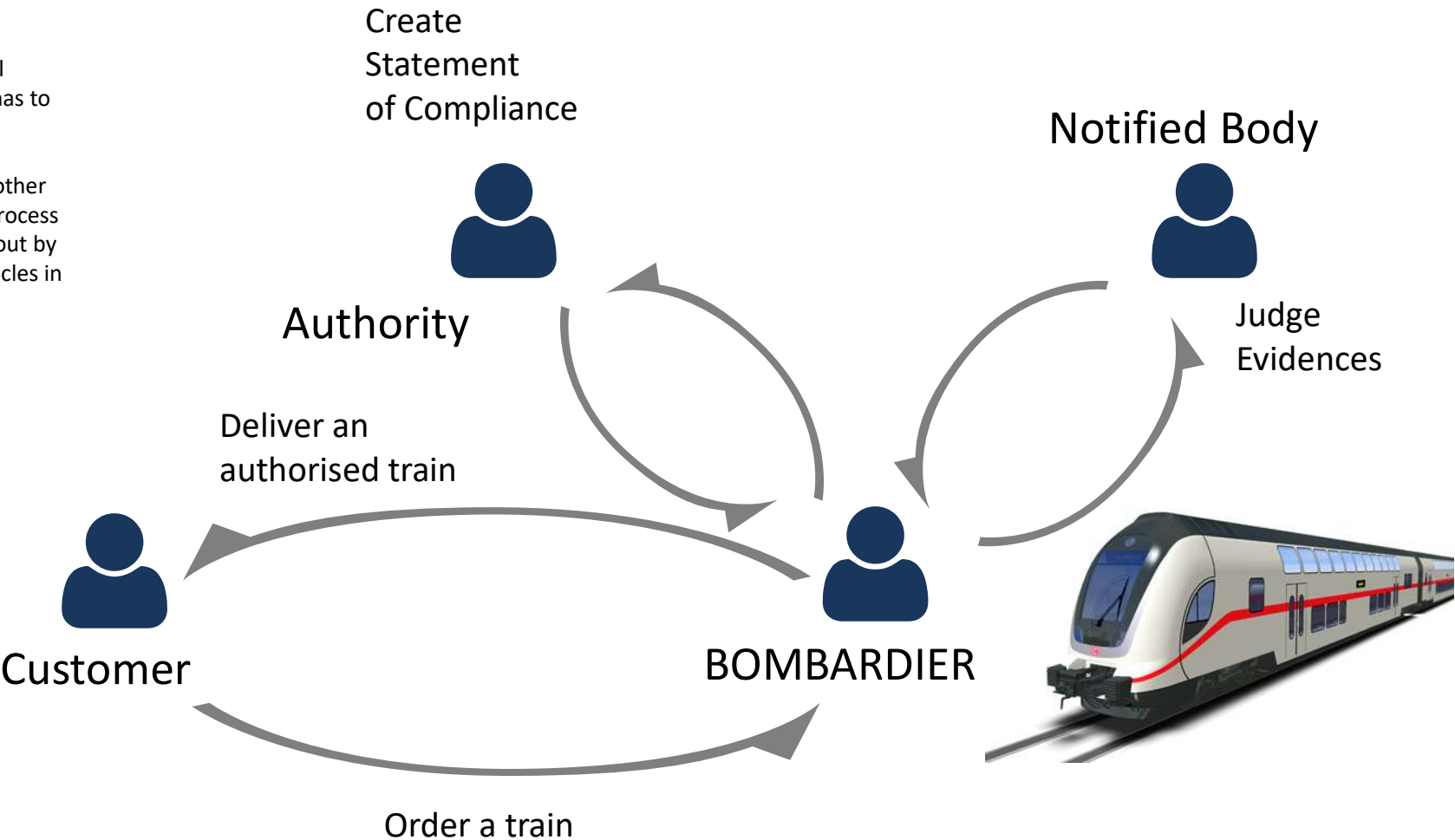
4 Customer Example



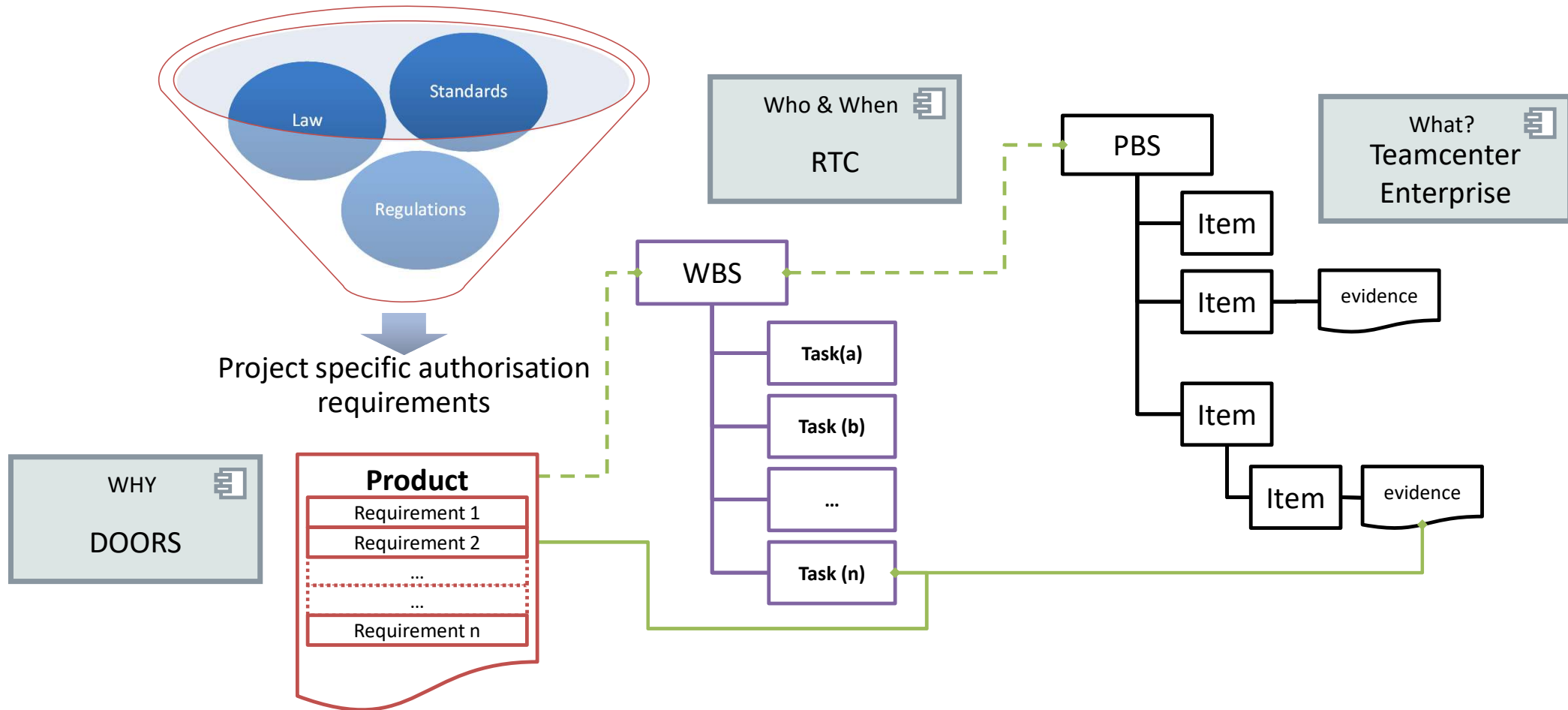
Selling Trains | More then two parties involved

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.

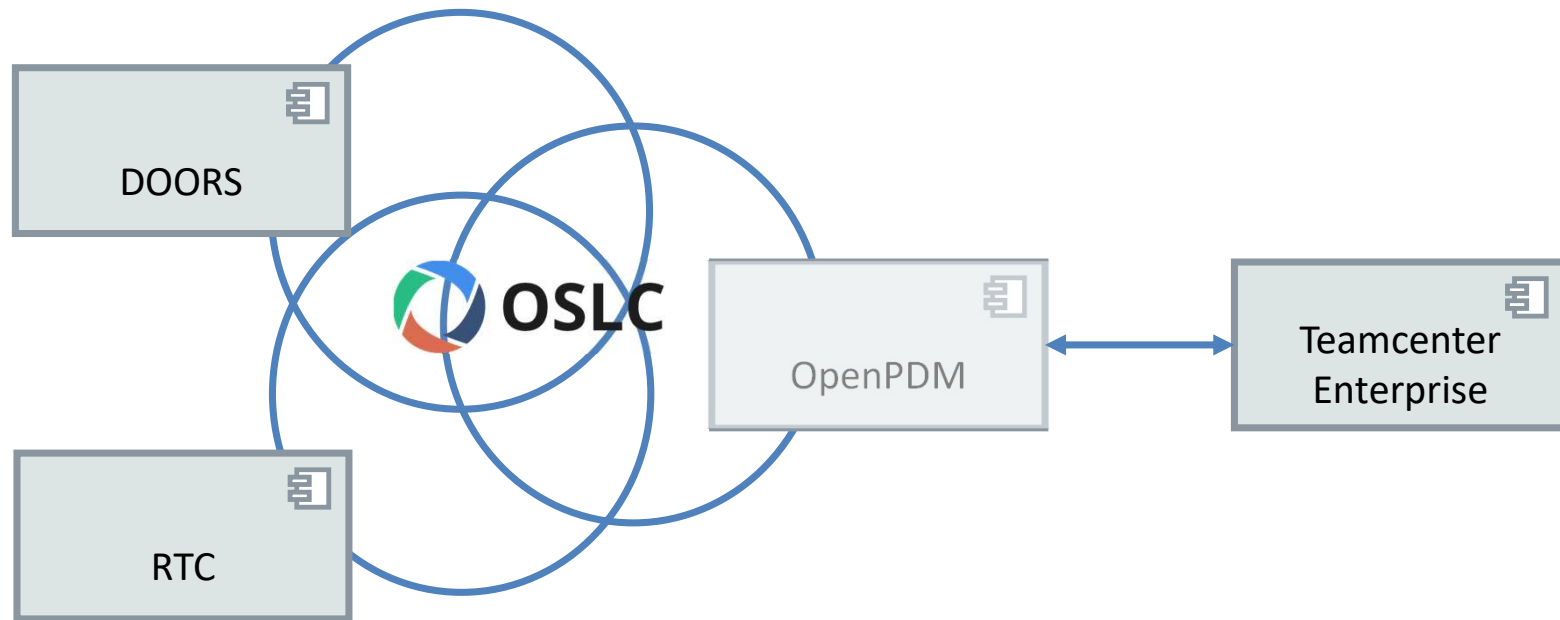
Run the train



Motivation for an Integrated Solution



Architecture | The Big Picture



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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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