



OpenPDM STEP Capabilities

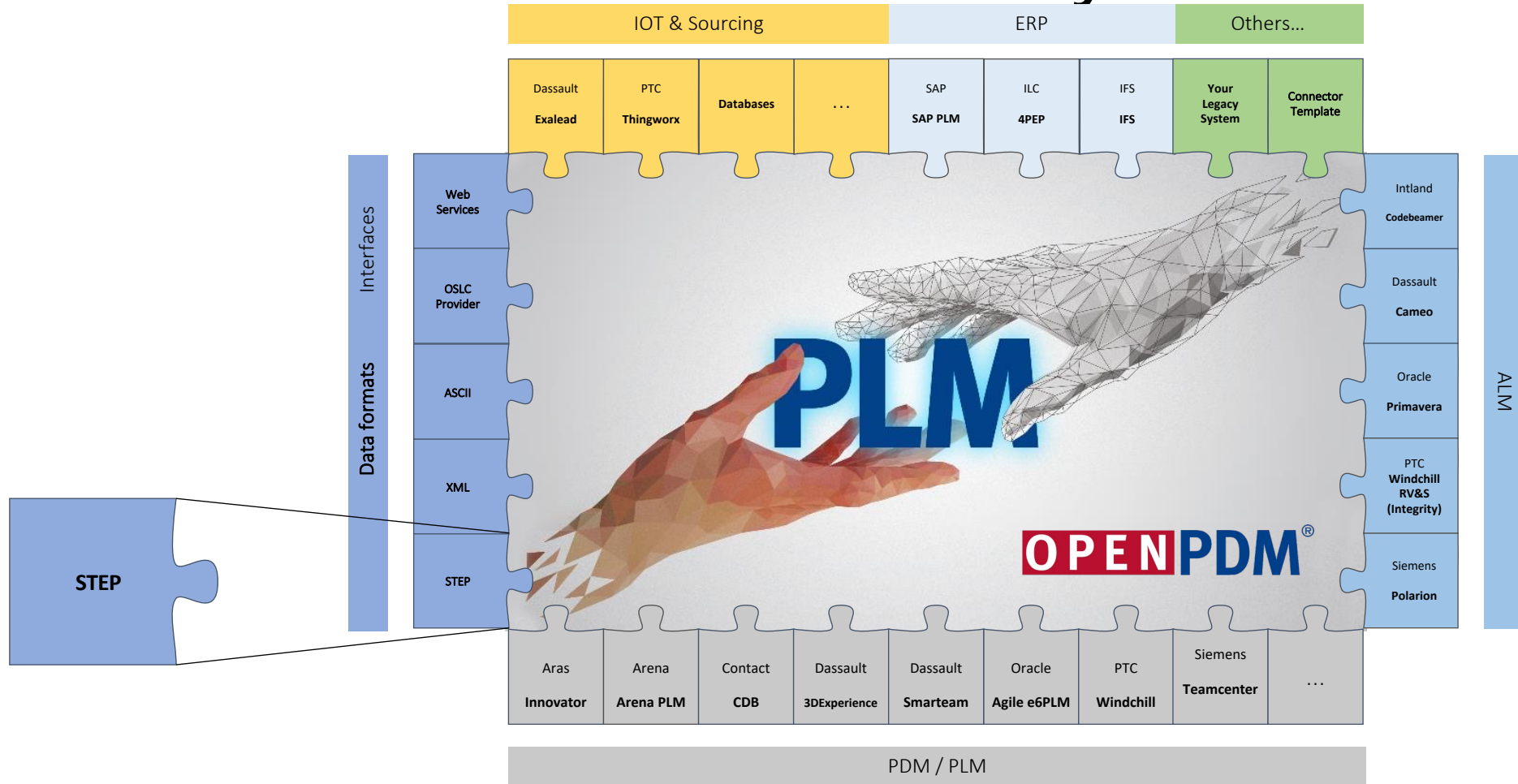
Carsten Zerbst

Manager Systems Integration

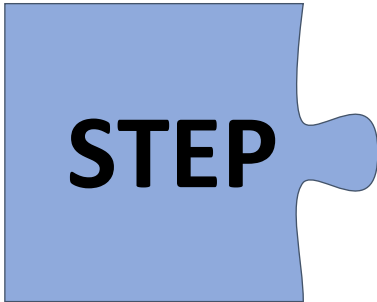


20 October 2022

OpenPDM 9.x Connectivity



OpenPDM 9.x STEP Toolkit



- In development and productive use since 2005
- Supports
 - ISO 10303 Part 11 (EXPRESS)
 - ISO 10303 Part 21 (STEP Physical File)
 - ISO 10303 Part 28 (STEP XML)
 - ISO 10303 AP 203, 214, 218, ...
 - IFC 2x3
 - AP239, PLCS, TDP
 - AP242 BOM XML
- Mapping to other data formats and interfaces

OpenPDM Customer Usecases

Scenario A

- Source Teamcenter
- Provide 100% product structure with used validities in a neutral format to partner companies
- Provide 100% product structure for internal reviewing

Scenario B

- Source Teamcenter
- Provide AP242 BOM containing part metadata as part of an PDF long term archiving container

Scenario C

- Source/Target ERP System
- Bidirektional transfer of BOM Data using AP242 BOM XML

Changes for OpenPDM 9.4, 9.5

- Added support for
 - AP242 ed1
 - AP242 ed2
 - Recommended Practises for Assembly Structure
 - Recommended Practises for Configuration Management
- Support codeless mapping
- Implemented viewer for AP242 BOM XML, supporting user-specific plugins

The screenshot shows the 'STEP Viewer' application. The main window displays a 'Product Structure' table with columns for Part Number, Part Name, Part Version, and Occurrence ID. The table is expanded to show a hierarchical BOM structure. On the right, a 'Details' panel provides information for the selected part, including its name, version, and occurrence details.

Part Number	Part Name	Part Version	Occurrence ID
EC11-BOM	EC11-BOM		
1111111ABC02A	Assembly 1		BOM0000101_ECO00002214
2222222ABC02A	Part 1		ACP0000201_ECO00002214
3333333ABC02A	Assembly 2		ACP0000202_ECO00002214
5555555ABC02A	Part 3		ACP0000204_ECO00002214
4444444ABC02A	Part 2		ACP0000203_ECO00002214
1111111ABC02A	Assembly 1		BOM0000102_ECO00002214
2222222ABC02A	Part 1		ACP0000201_ECO00002214
3333333ABC02A	Assembly 2		ACP0000202_ECO00002214
5555555ABC02A	Part 3		ACP0000204_ECO00002214
4444444ABC02A	Part 2		ACP0000203_ECO00002214
3333333ABC02A	Assembly 2		BOM0000103_ECO00002214
5555555ABC02A	Part 3		ACP0000204_ECO00002214
4444444ABC02A	Part 2		ACP0000203_ECO00002214

Part	
Number:	1111111ABC02A
Name:	Assembly 1
▶ Properties	
Part Version	
Version:	
▶ Relationships	
▶ Properties	
Part View	
Initial Context - Application Domain:	mech
Initial Context - Life Cycle Stage:	design
▶ Properties	
Occurrence	
Identifier:	BOM0000101_ECO00002214
▼ Properties	
Name	Value
Data Operation Indicator	Add
BOM Item Status	CURRENT
BOM Line ID	BOM0000101
Function Group	F1108-EC11
Parent Part No.	EC11-BOM
Quantity	1

PDM functional capabilities supported by the STEP AP242 interface



- PROSTEP OpenPDM 9.5 SIEMENS Teamcenter, ARAS Innovator, SAP, ...

PDM information	Implementation format						Level of implementation			
	AP242 Ed1		AP242 Ed2		AP242 Ed3		Pilot	IF test	COTS	
	P21- AIM	XML-BOM	P21- AIM	XML-DM	P21- AIM	XML-DM				
"As Designed" PDM product structure	YES	NO	YES	PARTIAL	NO	PLANNED	YES	YES	YES	
"As Planned" PDM product structure	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	YES	YES	
Nested PDM product structure	YES	NO	YES	PARTIAL	NO	PLANNED	YES	YES	YES	
Incremental Exchange	YES	NO	YES	PARTIAL	NO	PLANNED	YES	YES	YES	
Assembly validation properties	YES	NO	YES	PARTIAL	NO	PLANNED	YES	NO	NO	
Lifecycle management (LifeCycle, ApplicationDomain, Approvals)	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	YES	YES	
Document management	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	YES	YES	
Person and organization	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	YES	YES	
Date and Time	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	YES	YES	
Classification	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	YES	YES	
Material properties	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	not covered yet	NO	
Customized PDM properties	YES	NO	YES	PARTIAL	NO	PLANNED	YES	NO	NO	
User defined attribute	YES	NO	YES	PARTIAL	NO	PLANNED	YES	NO	NO	
Multi-identification	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	NO	NO	
Change Management (WorkRequest, WorkOrder, Activity)	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	Only vor VIM	NO	
Configuration management	based on effectivities	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	NO	NO
	based on specifications	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	NO	NO
	filtering information	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	NO	NO
Alternate / Substitute Parts	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	NO	NO	
Mirrored Parts	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	NO	NO	
LOTAR Validation Properties	N.R.	NO	N.R.	PARTIAL	N.R.	PLANNED	YES	in preparation	NO	



Thank you for your Attention

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