



# Cloud-based Production Collaboration

prostep ivip Recommendation PSI 31

## Cloud-based Production Collaboration

Challenges and Lessons Learned for Successful Implementations

Version 1.0

## Abstract

This recommendation summarizes the results of the Cloud-based Production Collaboration (CBPC) project group. The objective of the CBPC project group is to evaluate possibilities and solutions for heterogeneous cloud-based collaboration scenarios within and between companies in the manufacturing industry with focus placed on production.

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**Table 1:** Details of the CBPC Group’s application scenarios

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## Abbreviations, Definitions, References

Abbreviation	Meaning
API	Application Programming Interface
ASE	Advanced Systems Engineering
bdd	Block Definition diagram
CAD	Computer-Aided Design
CDLC	Cross-Discipline Lifecycle Collaboration
CPO	Code of Openness (open initiative of prostep ivip)
CWM	Common Warehouse Metamodel
DDP	Digital Data Package (working group in prostep ivip)
EMOF	Essential Meta-Object Facility (OMG Standard)
FMEA	Failure Mode and Effects Analysis
FMI	Functional Mock-Up Interface (Open-source standard)
FMU	Functional Mock-Up Unit
FTA	Failure Tree Analysis
GfSE	Gesellschaft für Systems Engineering (German chapter of INCOSE)
ibd	Internal block diagram
IF	Implementor Forum (groups in prostep iVIP)
(e)HSUV	(Extended) Hybrid Sports Utility Vehicle
INCOSE	International Council on Systems Engineering
IoT	Internet of Things
IREB	International Requirements Engineering Board
IP	Intellectual Property
JT	Jupiter Tessellation
MBSE	Model-Based Systems Engineering
MDK	Model Development Kit
MMS	Model Management System
MOF	Meta-Object Facility (OMG Standard)
OEM	Original Equipment Manufacturer
OMG	Object Management Group

<b>Abbreviation</b>	<b>Meaning</b>
OpenMBEE	Open Model-Based Engineering Environment
OSLC	Open Services for Lifecycle Collaboration
PDM	Product Data Management
PLM	Product Lifecycle Management
ReqIF	Requirements Interchange Format (OMG Standard)
RFI	Request for Information
RFP	Request for Proposal
RQM	Requirements Management
SE	Systems Engineering
SmartSE	Smart Systems Engineering (working group in prostep iViP)
SOI	System of Interest
SoS	Systems of Systems
SSP	System Structure and Parameterization (Modelica Standard)
SpecIF	Specification Integration Facility (Open-source standard of GfSE)
SVG	Scaleable Vector Graphics (W3C Standard)
SysML	System Modeling Language (OMG Standard)
UML	Unified Modeling Language (OMG Standard)
UUID	Universally Unique Identifier
VDA	German Association of the Automotive Industry
VDI	German Association of Engineers
V&V	Verification & Validation
WF	Workflow Forum (working group in prostep ivip)
WLTP	Worldwide Harmonized Light-Duty Vehicle Test Procedure
WPx	Work Package x
XMI	XML Metadata Interchange (OMG Standard)
XMI-DI	XMI Diagram Interchange
XML	Extensible Markup Language (W3C Standard)
XSL	Extensible Stylesheet Language (W3C Standard)