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TECHNIA Integration Framework

Take PLM integrations for enterprise systems to a whole new level when it comes to configurability, maintenance, and low cost of ownership.

EXPERIENCE MATTERS

TECHNIA Software

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Productivity, adoption, configurability & in-app training

- Value Components
- Light My Way

Quality standards, optimized comparisons and Legal standard compliance

- CAVA
- Q-Checker
- xCompare

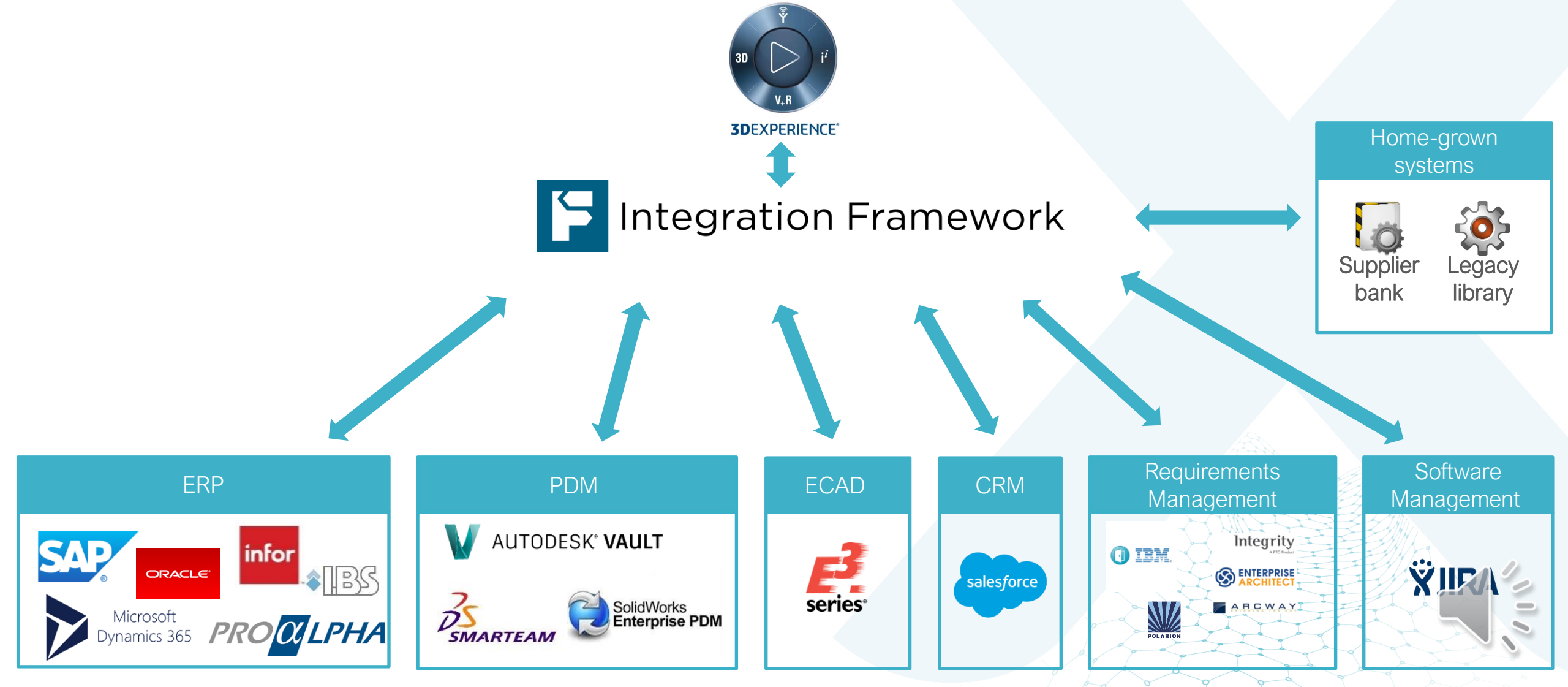
Supplier collaboration and lightweight applications

- Lite3D
- Exchange Hub

Operations Excellence, System Tuning, Client distribution, Configurable & Scalable Enterprise Integrations

- myPLM
- Value Tools
- Integration Framework

One solution covering all 3DEXPERIENCE integration needs



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MAKING SYSTEMS INTEGRATIONS SUSTAINABLE

Effort

- Simplify 3DEXPERIENCE integrations
- Configure 90% of your needs
- Templates and examples
- Connectors for quick deployment
- Extendable framework

Reliability

- Take control over your data
- Guaranteed delivery
- Scalability
- Streamline error resolution
- Logging, statistics and analytics

Cost

- Supported software
- Upgradability
- Re-use
- Quality
- Documented methodology

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MAKING SYSTEMS INTEGRATIONS SUSTAINABLE

Effort

Performance

Reliability

Taking control

Operations efficiency

Cost

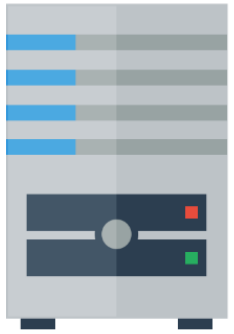
Simple upgrades

Increase availability

Common challenges with custom integrations

1. Implementation projects are time consuming and expensive

2. Integration process steals application server performance causing instability and problem to scale



3. Operations are costly due to ineffective error management

4. Adapting to changes within the enterprise landscape is slow and costly

5. System upgrades drives extra cost and a solution matching the new version could be needed

6. Integration downtime prevents PLM users from using the system

7. Missing messages causing costly problems downstream

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Challenges integrating enterprise systems

One Partner

Implementation projects
are often risky, time consuming
and expensive

Standard Solution

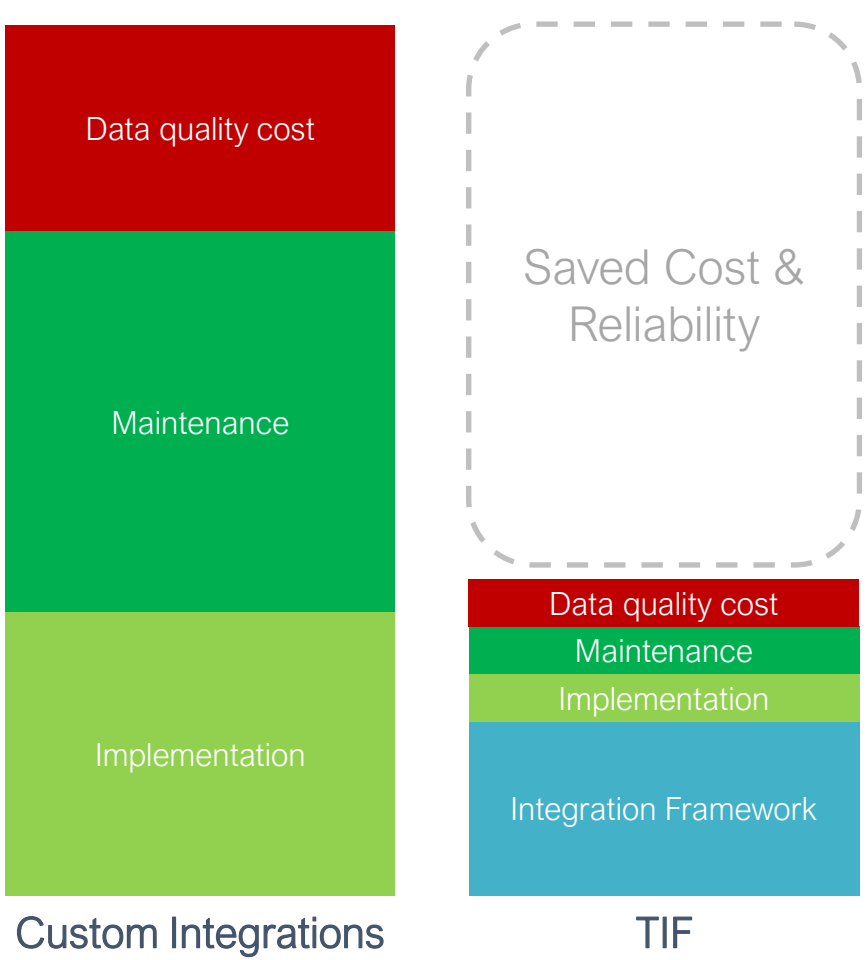
Upgrades of surrounding systems
drives integration costs

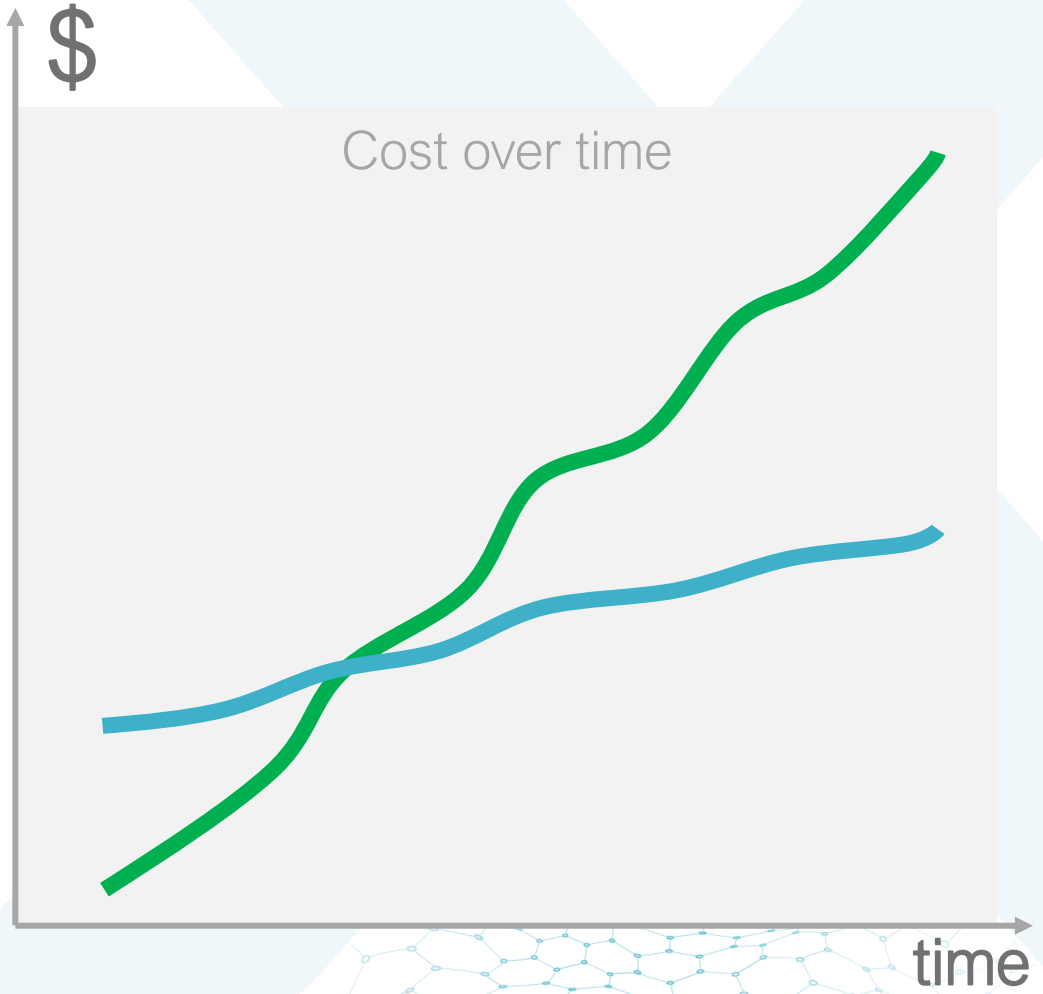
Multiple options
(On Prem/Cloud/Hybrid)

Ensure sustainable integration
landscape

Return on Investment - ROI

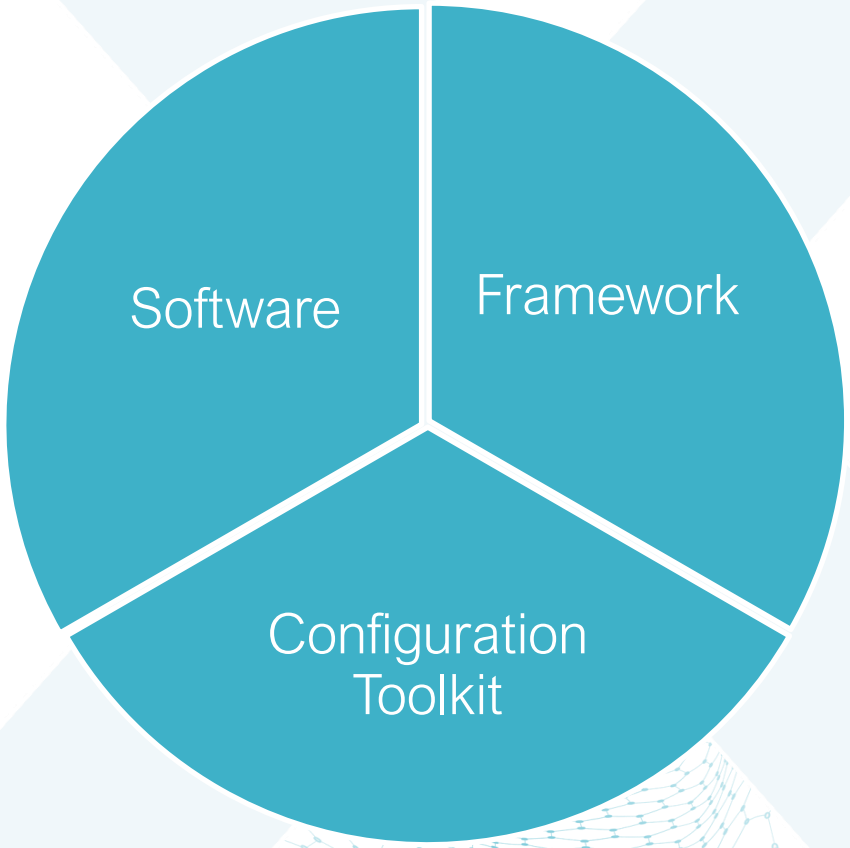
Integrations typically continuously generate costs. A PLM lifetime perspective is important to guaranteed a quick ROI and general PLM success. TIF ROI is normally between 6 months and 2 years without considering the cost disturbances and quality can have for the business.





The Basics

Software	• Supported and upgradeable • Integrates 3DEXPERIENCE with enterprise applications
Framework	• Industry standards for integrating • Best practices built in from more than 30 3DEXPERIENCE integration projects
Configuration Toolkit	• Extensive configuration capabilities • Extension points



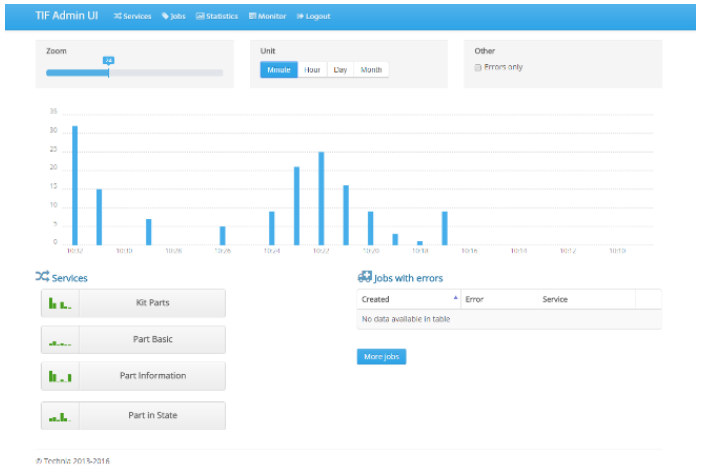
Admin UI providing full control

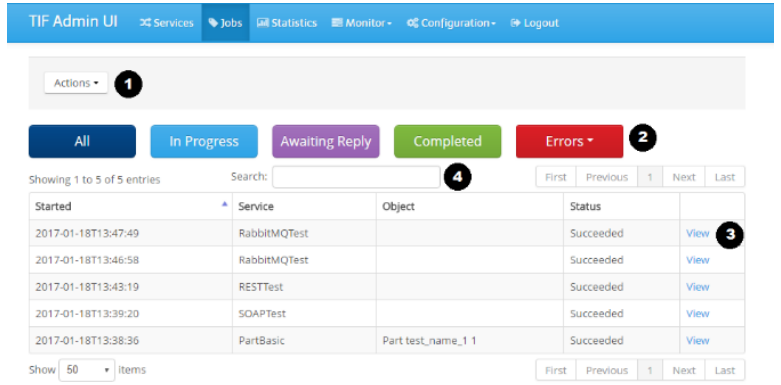
Statistics

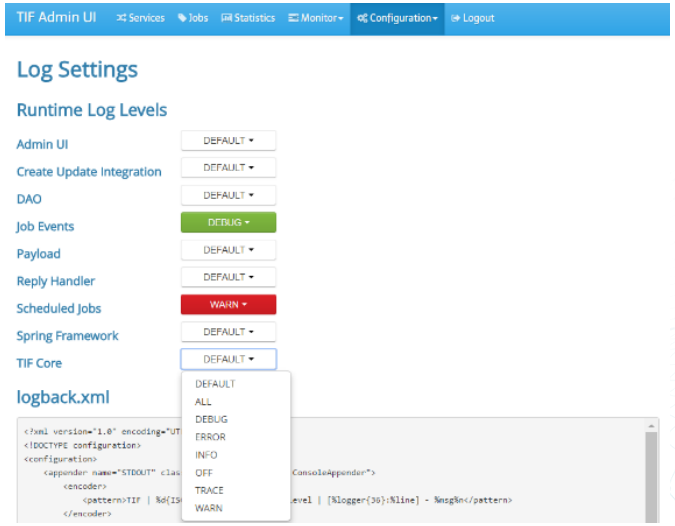
- Usage statistics per integration
- Current processing integration jobs
- Success/error rates

Maintenance

- Search
- Stop / pause integrations
- Error tracking and follow-up
- Resend / process failed integration jobs
- Track resources and scale up in time







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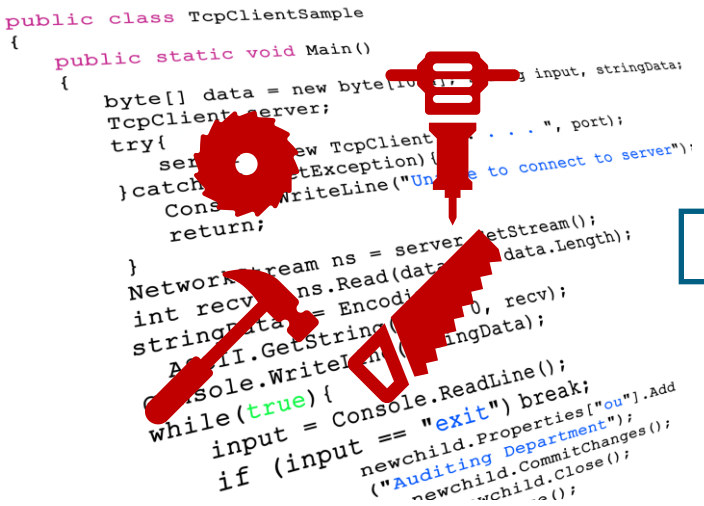
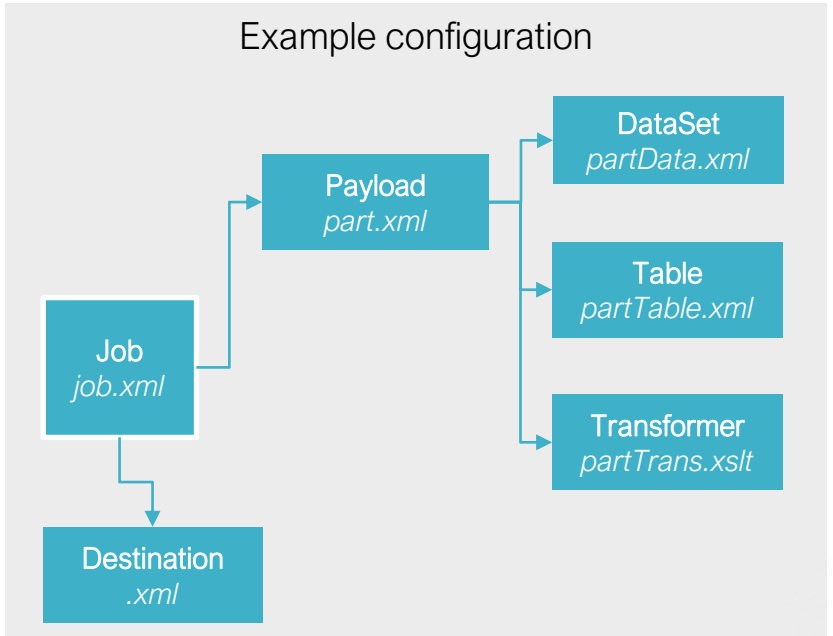
Fully Configurable Integrations

Reduce the amount of custom integration code with supported configurations






```
<Job> <!- job.xml -->
  <TransferData>
    <PayLoad>tvc:payload/part.xml</PayLoad>
    <Destinations>
      <SysOut/>
      <File id="file-1"/>
      <Http id="http-1"/>
      <RabbitMQ id="rabbitmq-1">
        <RetryAttempts>10</RetryAttempts>
        <RetryDelay>5000,10000</RetryDelay>
        <Header name="type"
                value="${rpe:TYPE}"
                type="string"/>
        <HeaderProvider>myClass</HeaderProvider>
      /RabbitMQ>
    </Destinations>
    <OnError>
      <SendMail>
        <TO>...</TO>
        <Subject>...</Subject>
        <Message>message.. ${STACK_TRACE}</Message>
      </SendMail>
    </OnError>
  </TransferData>
</Job>
```

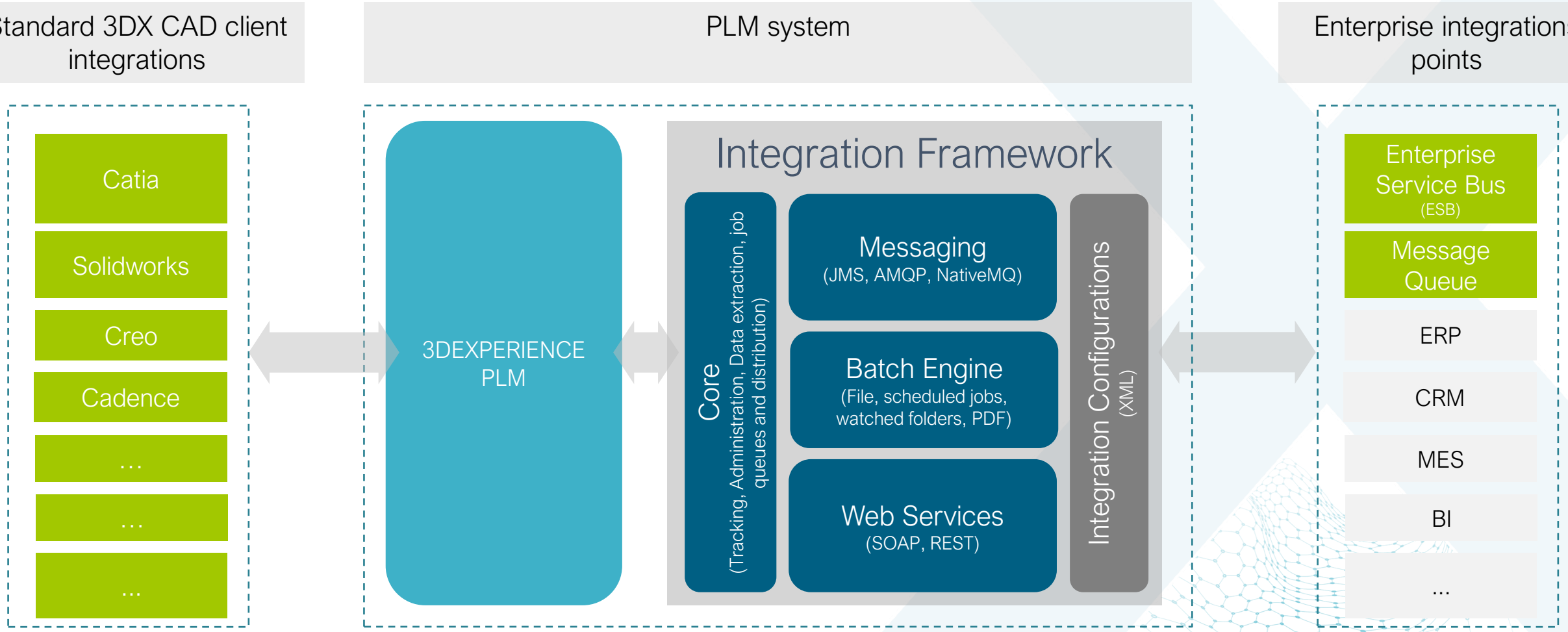
```
<Payload> <!- part.xml -->
  <!-- Use custom Java class -->
  <JavaContent className="my.Payload"/>

  <!-- Use a table with data set -->
  <TableContent>
    <DataSet>tvc:dataset/partData.xml</DataSet>
    <Table>tvc:table/partTable.xml</Table>
  </TableContent>

  <!- Transformation of data -->
  <Transformer xslt="tvc:xslt/partTrans.xsl"/>

  <!- Validation of data -->
  <Validator schema="tvc:xsd/partTrans.xsd"/>
</Payload>
```

Positioning within the enterprise landscape



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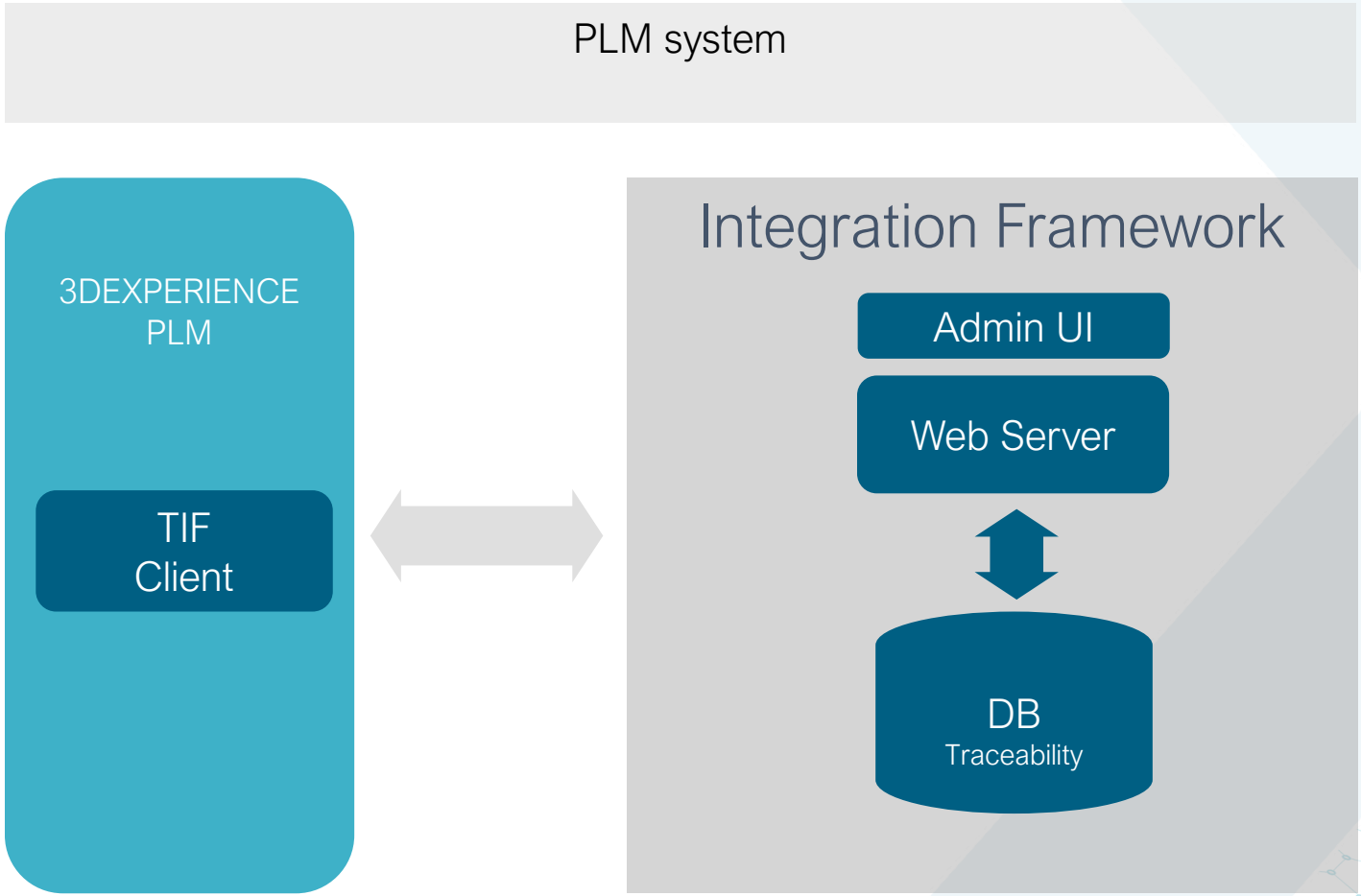
Performance and Traceability

Decoupled architecture with limited footprint on 3DEXPERIENCE system and boosted with internal DB and search engine guaranteeing full traceability of all ongoing and processed jobs.



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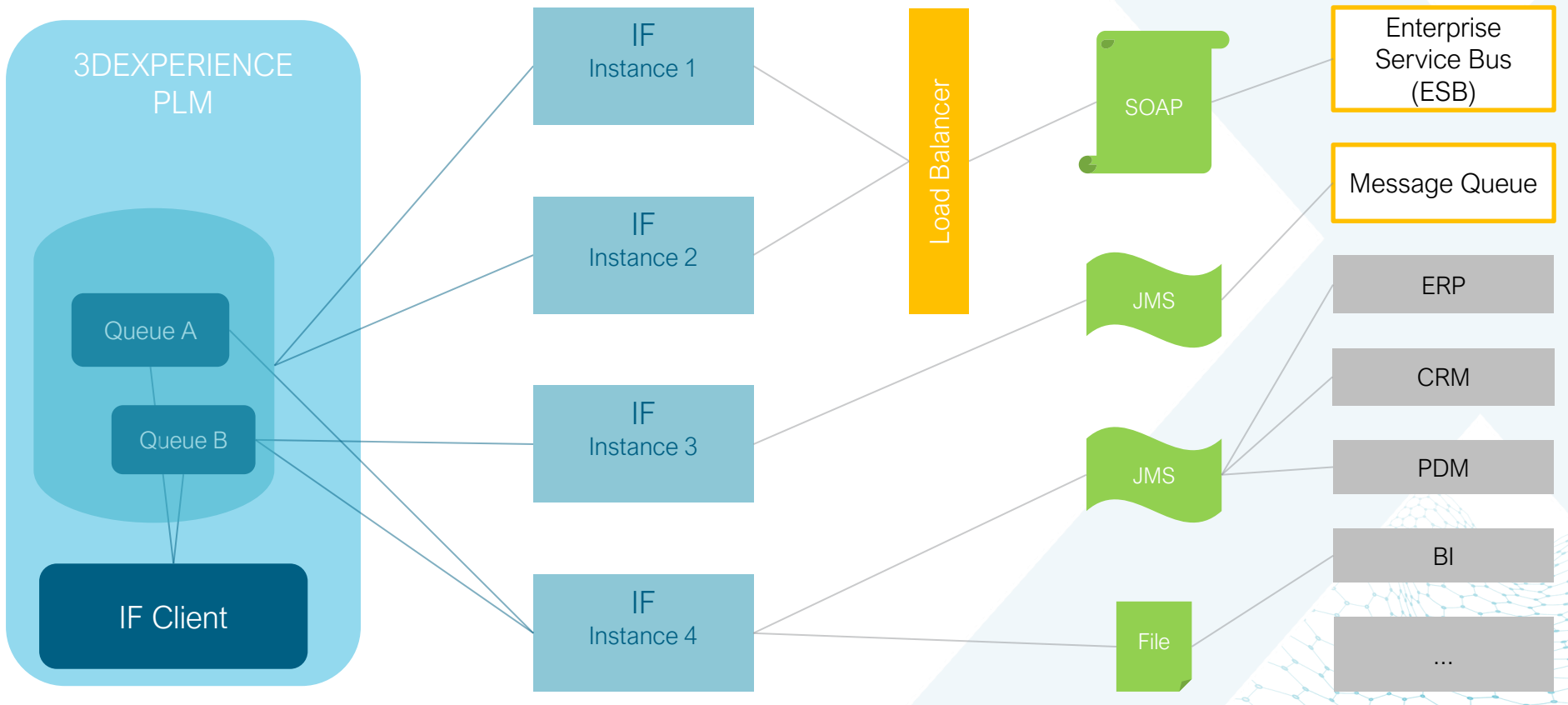
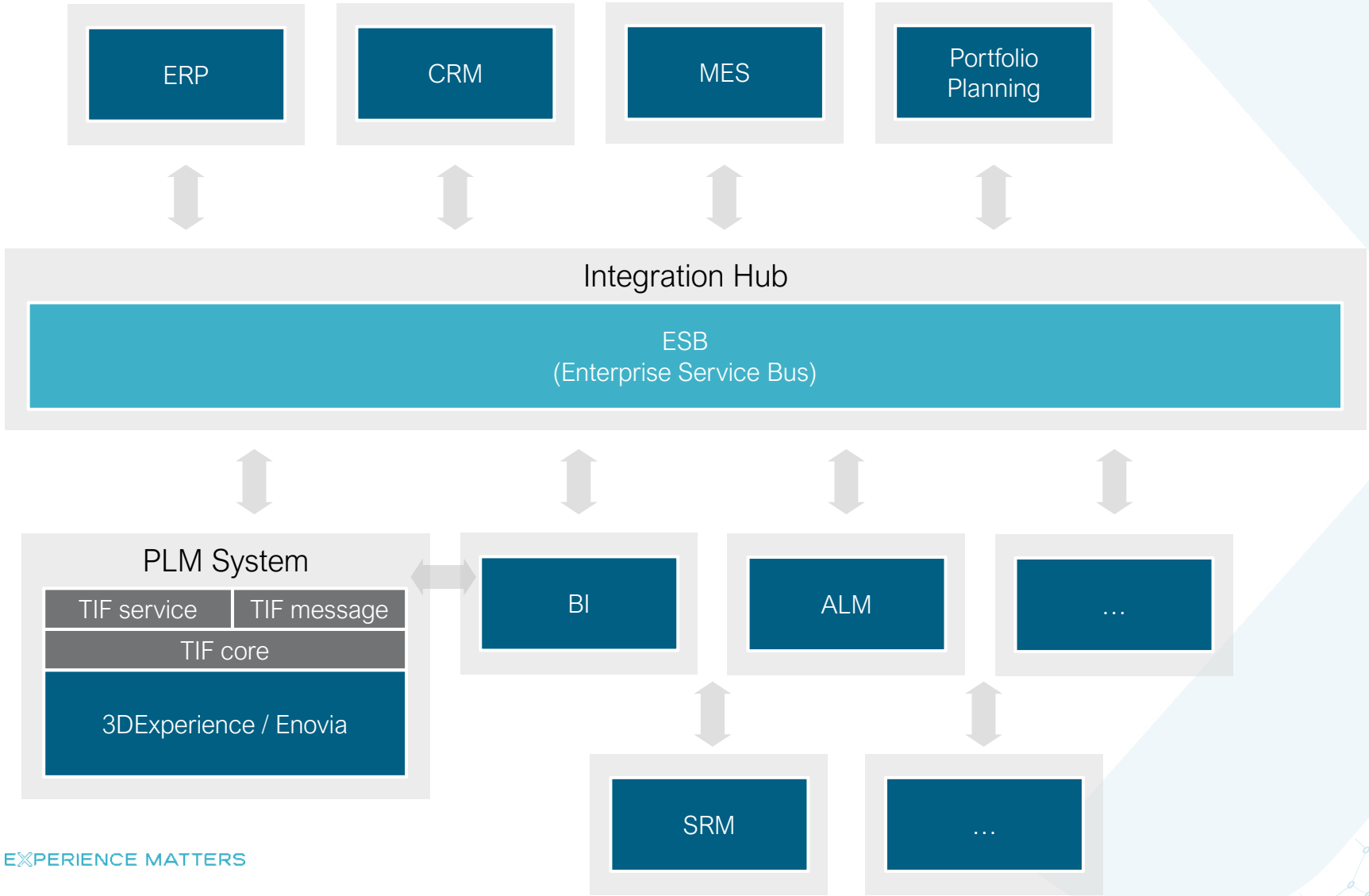
Scalability

Decoupled architecture designed to support unlimited horizontal and vertical scaling for your global and local needs.



Preferred enterprise integration landscape architecture

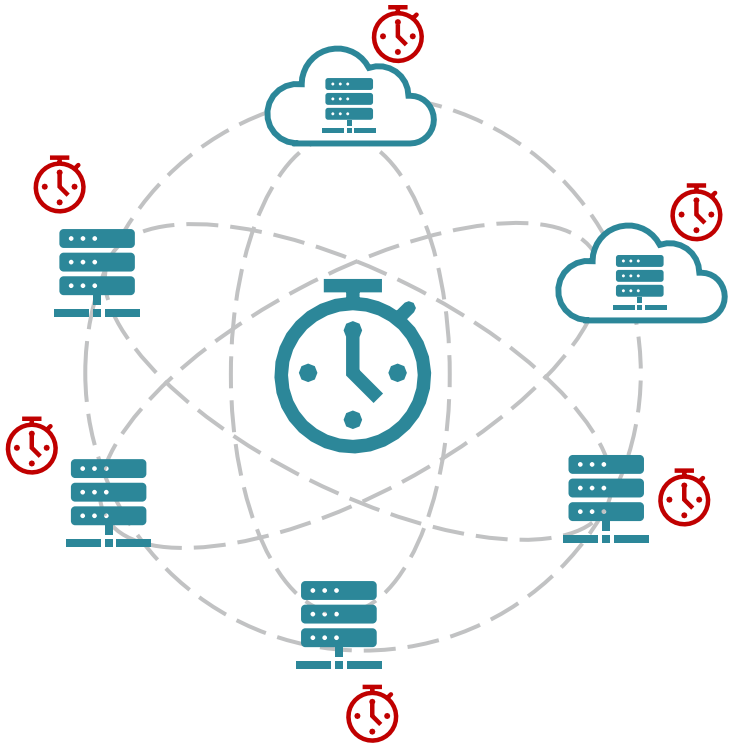


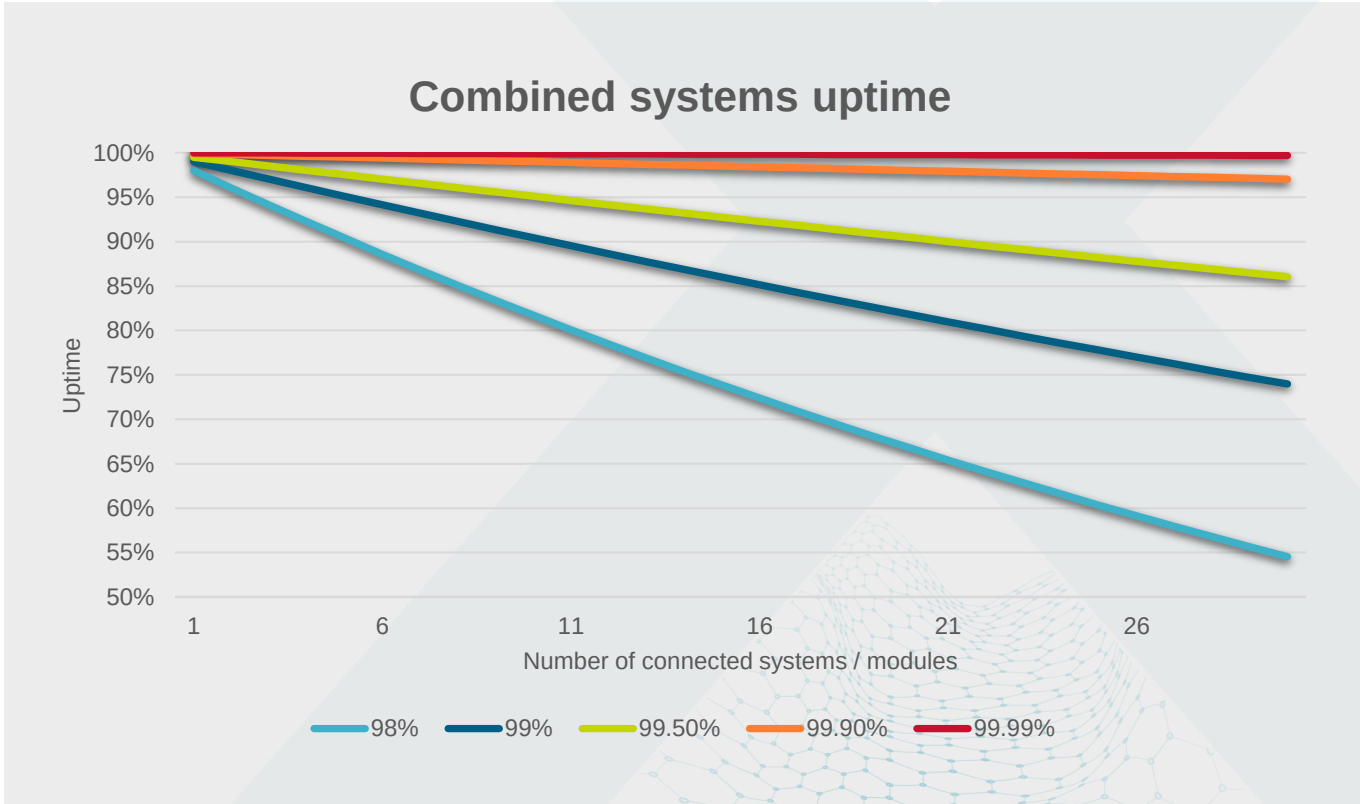
High-level recommendations

- 'Real-time' integrations. Avoid batch.
- Decoupling of systems. Limit peer-to-peer connections.
- Combination of *service* and *message* based integrations depending on
  - kind of data
  - usage of data
  - System uptime
- Strict ownership of data. No shared ownership.

System uptime

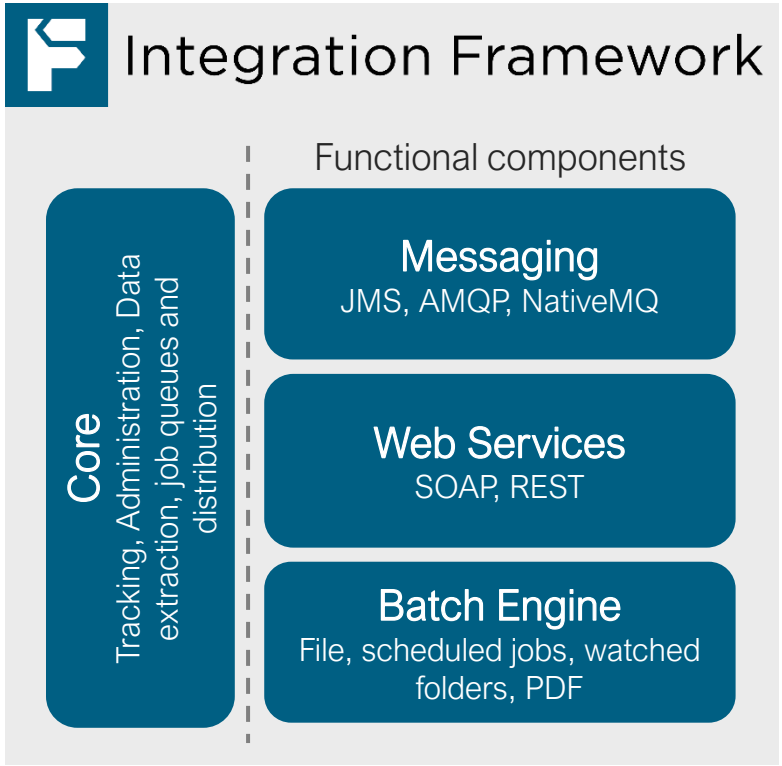
- Choosing the correct integration type
  - Number of connected systems or modules
  - Uptime on connected systems and modules
  - Use case and need

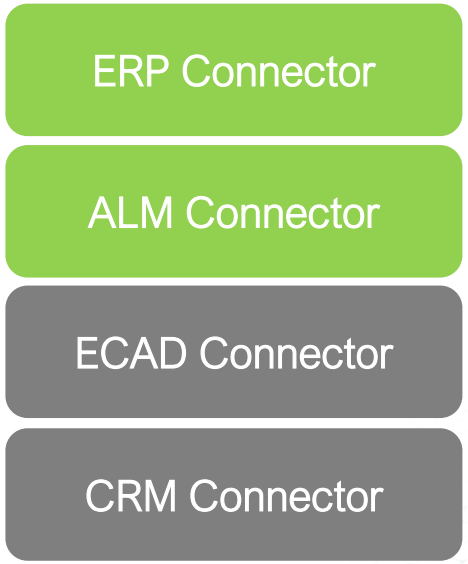




Connector concept

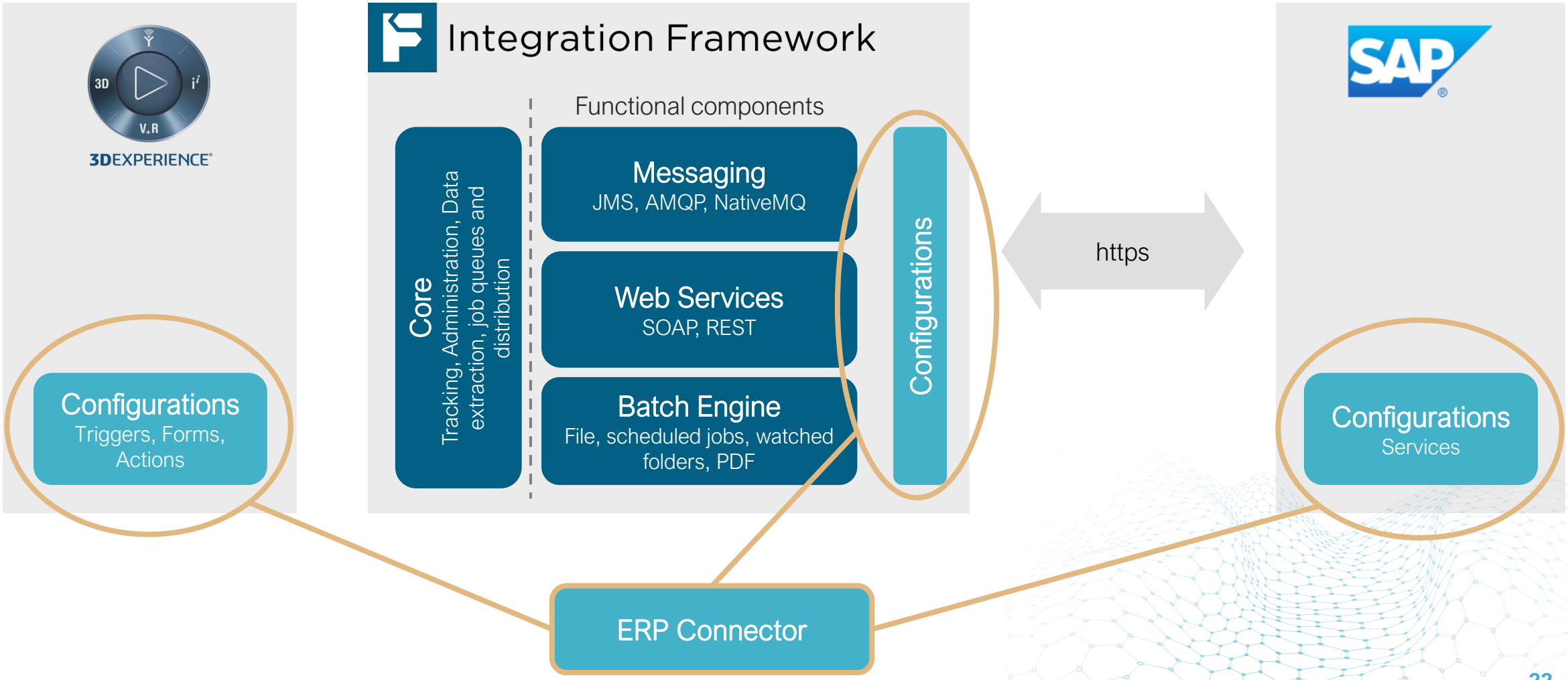
Starter kits to speed up integration deployment for processes, systems and tools





SAP Connector – Technical set-up

Example contents of a Connector



ERP Connector – Use case overview

- Partner with Implema for the SAP side of the integration

Use Case	Description	SAP ECC S/4 Hana	SAP Azure Cloud	SAP PO
Create Part/Material	Creates material in ERP and returns Part number to PLM	✓	✓	✓
Send EBOM	Sends EBOM to ERP with specifications	✓	✓	✓
Release Document	At document release workflow Create PDF and link to PDF to ERP.	✓	✓	✓
Update attribute from PLM	Event trigged update of attributes to ERP	✓	✓	✓
Clone Part	Clone Part in 3DX with references	✓	✓	✓
EBOM Sync	Create EBOM Synch Parts and BOM	✓	✓	✓
Create Physical Product/Material	Creates material in ERP and returns Physical Product number to PLM	✓	🎯	✓
Send Physical Product BOM	Sends EBOM to ERP with specifications	✓	🎯	✓

✓ Current release

🎯 Planned

Integration Framework

Demo scenario

ERP Connector – SAP

Retrieve part number from ERP
Release with change management
Update status and metadata

Integration techniques

Bi-directional integrations
Service based data exchange
Message based data exchange
Batch jobs

ERP Connector – Process Overview

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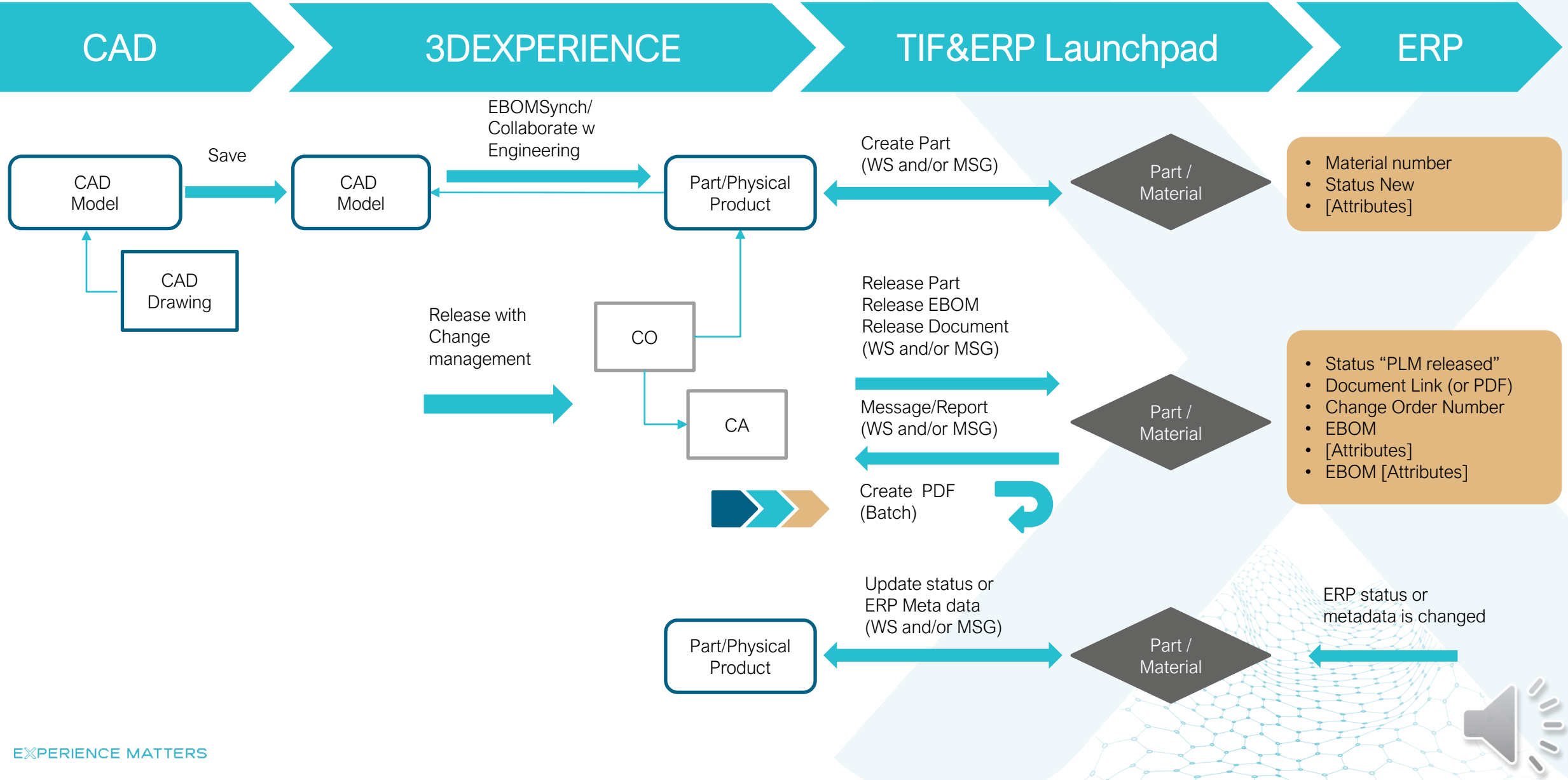


Demo case

Export single level EBOM

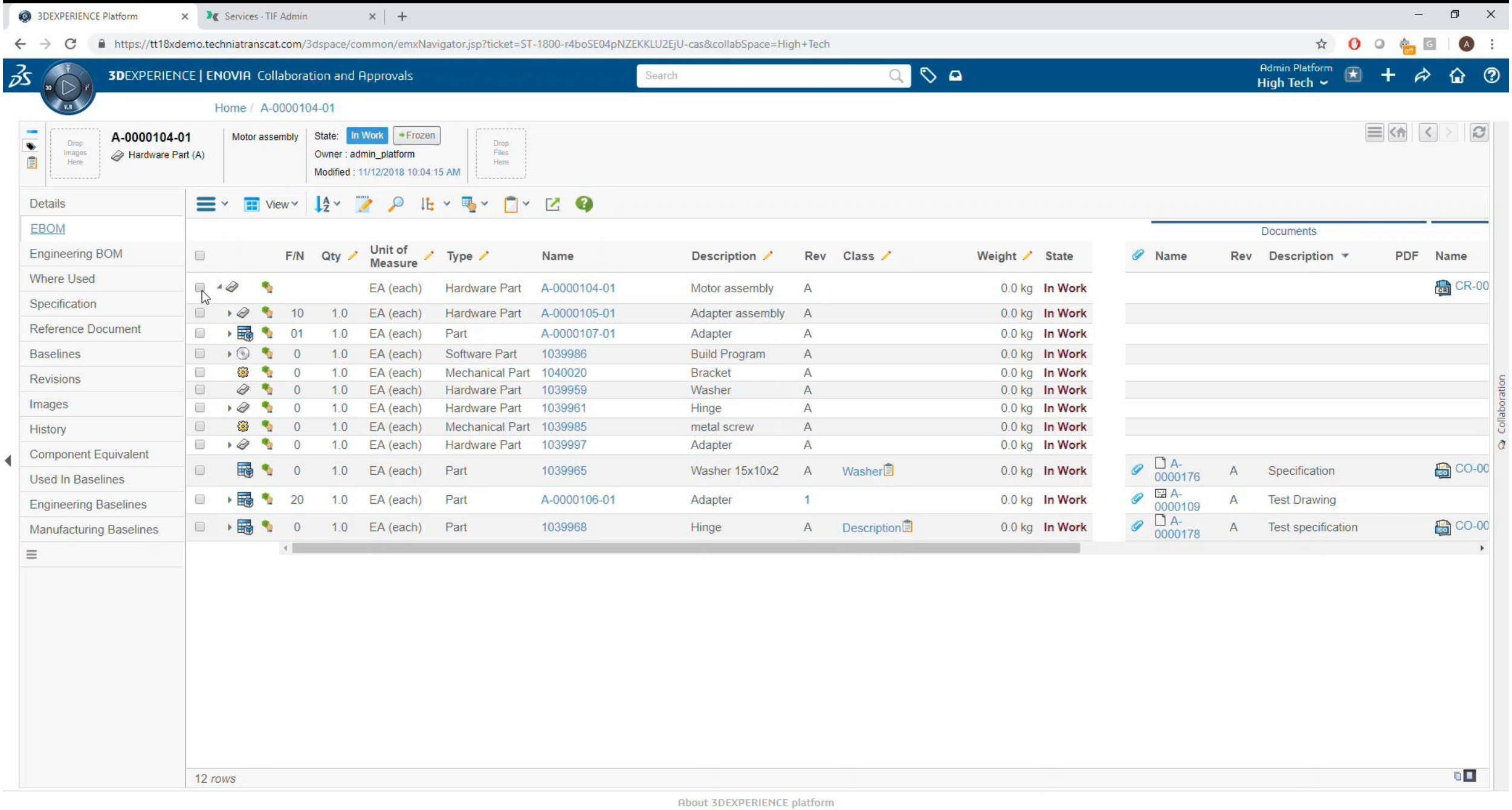
Integration case

Extract data and format the result

Integration techniques

Messaging

Asynchronous


3DEXPERIENCE Platform
Services - TIF Admin
https://tt18xdemo.techniatranscat.com/3dspace/common/emxNavigator.jsp?ticket=ST-1800-r4boSE04pNZEKKLU2EjU-cas&collabSpace=High+Tech
3DEXPERIENCE | ENOVIA Collaboration and Approvals
Search
Admin Platform
High Tech
Home / A-0000104-01
A-0000104-01
Hardware Part (A)
Motor assembly
State: In Work Frozen
Owner : admin_platform
Modified : 11/12/2018 10:04:15 AM
Drop Images Here
Drop Files Here
Details
EBOM
Engineering BOM
Where Used
Specification
Reference Document
Baselines
Revisions
Images
History
Component Equivalent
Used In Baselines
Engineering Baselines
Manufacturing Baselines
View
Documents
F/N Qty Unit of Measure Type Name Description Rev Class Weight State
Name Rev Description PDF Name
A-0000104-01 EA (each) Hardware Part Motor assembly A 0.0 kg In Work CR-00
10 1.0 EA (each) Hardware Part A-0000105-01 Adapter assembly A 0.0 kg In Work
01 1.0 EA (each) Part A-0000107-01 Adapter A 0.0 kg In Work
0 1.0 EA (each) Software Part 1039986 Build Program A 0.0 kg In Work
0 1.0 EA (each) Mechanical Part 1040020 Bracket A 0.0 kg In Work
0 1.0 EA (each) Hardware Part 1039959 Washer A 0.0 kg In Work
0 1.0 EA (each) Hardware Part 1039961 Hinge A 0.0 kg In Work
0 1.0 EA (each) Mechanical Part 1039985 metal screw A 0.0 kg In Work
0 1.0 EA (each) Hardware Part 1039997 Adapter A 0.0 kg In Work
0 1.0 EA (each) Part 1039965 Washer 15x10x2 A Washer 0.0 kg In Work A-0000176 A Specification CO-00
20 1.0 EA (each) Part A-0000106-01 Adapter 1 0.0 kg In Work A-0000109 A Test Drawing
0 1.0 EA (each) Part 1039968 Hinge A Description 0.0 kg In Work A-0000178 A Test specification CO-00
12 rows
Collaboration
About 3DEXPERIENCE platform

Demo case

Create PDF from MS Office document

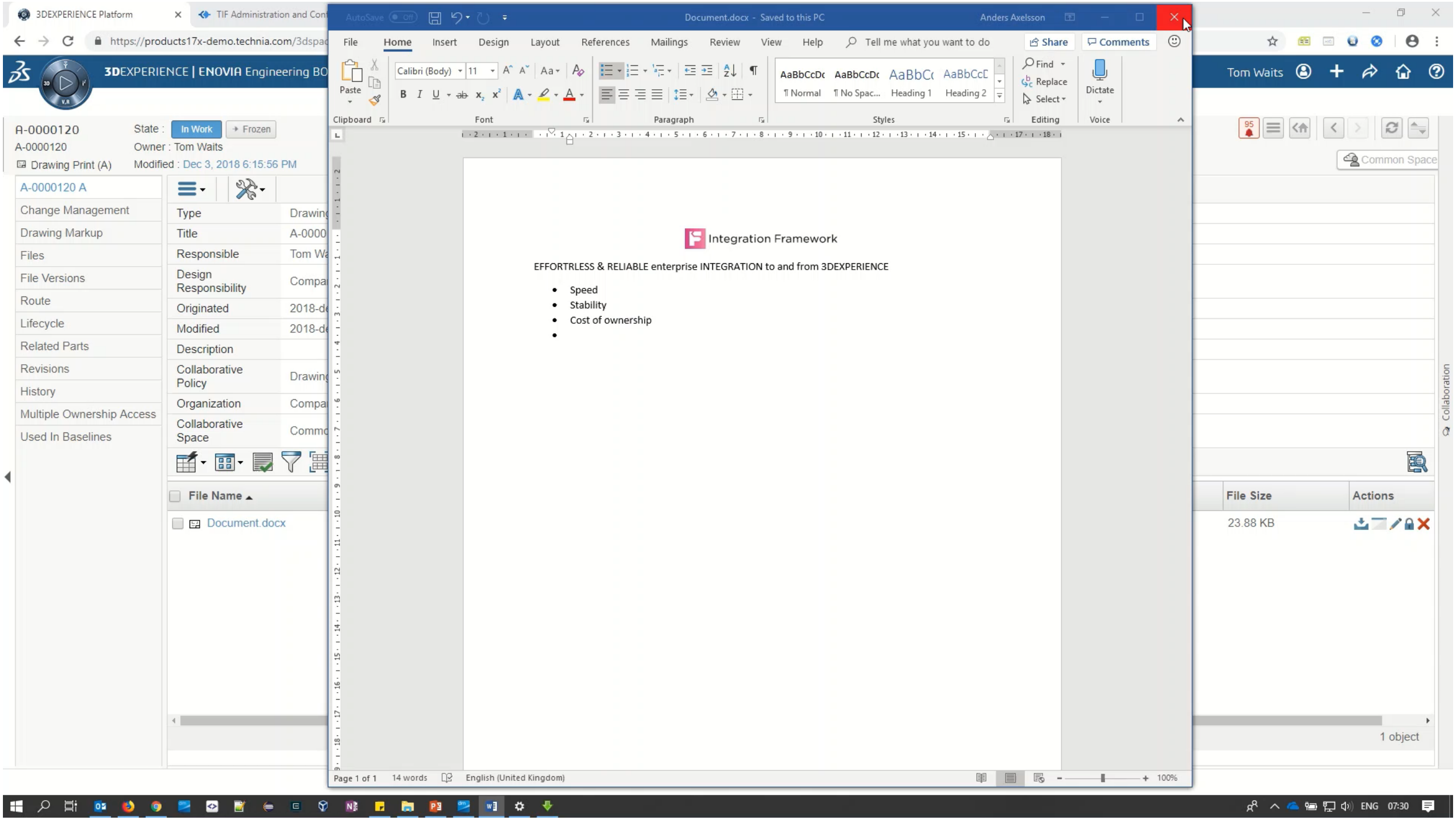
Integration case

Render PDF and watermark

Integration techniques

Batch

Asynchronous


3DEXPERIENCE Platform
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Tom Waits
A-0000120
State : In Work Frozen
A-0000120
Owner : Tom Waits
Drawing Print (A)
Modified : Dec 3, 2018 6:15:56 PM
A-0000120 A
Change Management
Drawing Markup
Files
File Versions
Route
Lifecycle
Related Parts
Revisions
History
Multiple Ownership Access
Used In Baselines
Type
Title
Responsible
Design Responsibility
Originated
Modified
Description
Collaborative Policy
Organization
Collaborative Space
File Name
Document.docx
Common Space
File Size
Actions
23.88 KB
1 object
Collaboration
Document.docx - Saved to this PC
Anders Axelsson
File
Home
Insert
Design
Layout
References
Mailings
Review
View
Help
Tell me what you want to do
Share
Comments
Paste
Clipboard
Font
Paragraph
Styles
Editing
Voice
Find
Replace
Select
Dictate
Integration Framework
EFFORTRLESS & RELIABLE enterprise INTEGRATION to and from 3DEXPERIENCE
Speed
Stability
Cost of ownership
Page 1 of 1
14 words
English (United Kingdom)
100%
ENG
07:30

Purchase options

Price is based on the number of 3DEXPERIENCE users

As a bundle

The product can be used for any number of integration points using any functional component

By functional component

The product can be used for any number of integration points using the selected component

- Service based data exchange
- Message based data exchange
- Batch job execution

Token based

One token gives the right to create one integration point using any of the functional components

As a Connector

The product can solely be used for the purpose of the Connector

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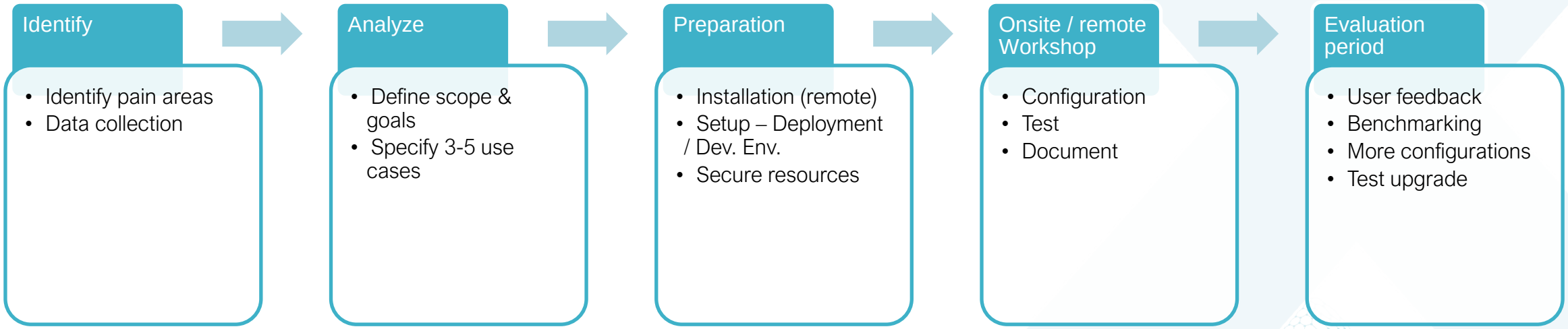
Proof of concept offering – PoC

- First steps to better understand the benefits
- Fixed price offering
- Free trial licenses



Pre-study – 1 day

Execution – 3 days

Evaluate – 1 day

Reference examples

Usage

- 50+ customers
- All industries

Integrated systems

- ERP systems
- BI systems
- Various enterprise systems
- Custom build systems

Integration techniques

- Bi-directional integrations
- Service based data exchange
- Message based data exchange
- Batch jobs
- Synchronous and asynchronous jobs

Example customer cases

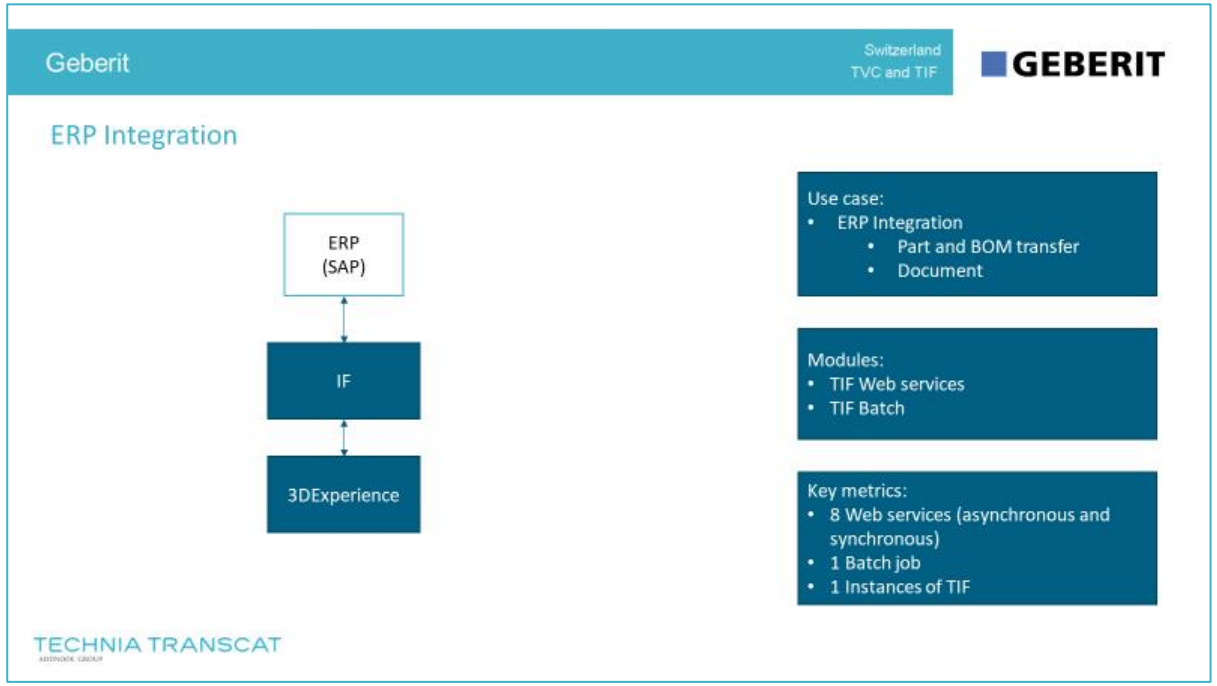
Arla

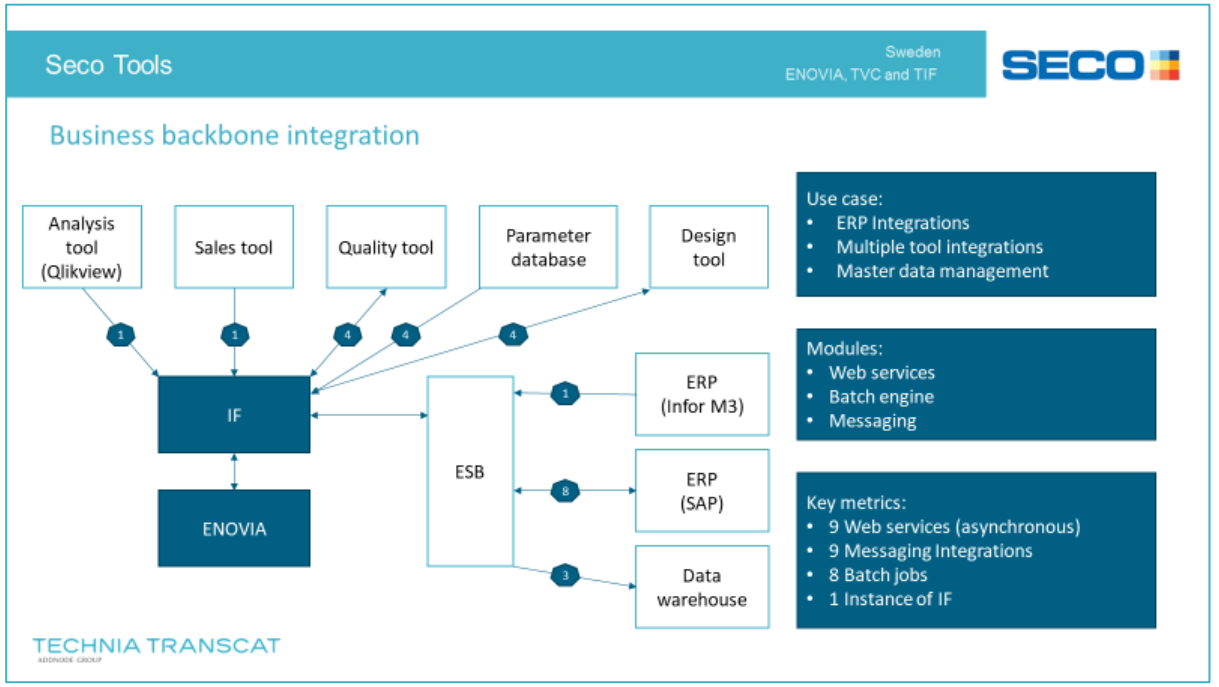
ESS EUROPEAN SPALLATION SOURCE

NXP

ORION PHARMA

KONGSBERG





STADLER

Elekta

Lam RESEARCH

ERICSSON

B BRAUN

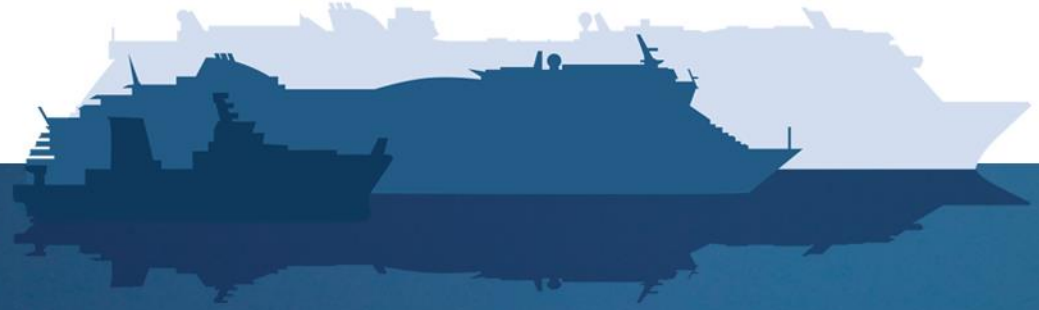
Customer Stories

Meyer Werft

Master the enterprise integration challange

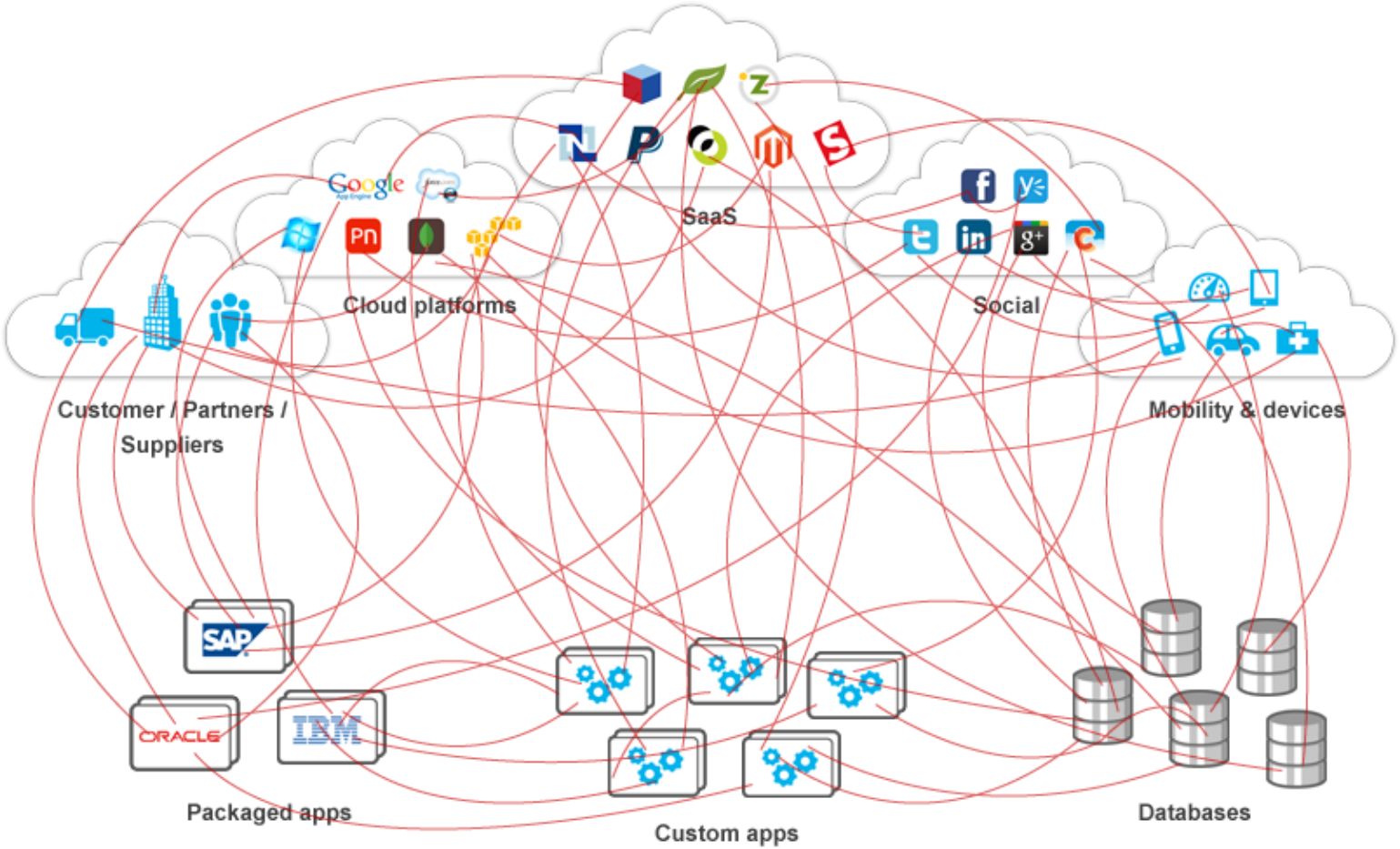
Master the enterprise integration challenge with PLM at Meyer Werft

PLM-IT | MLG



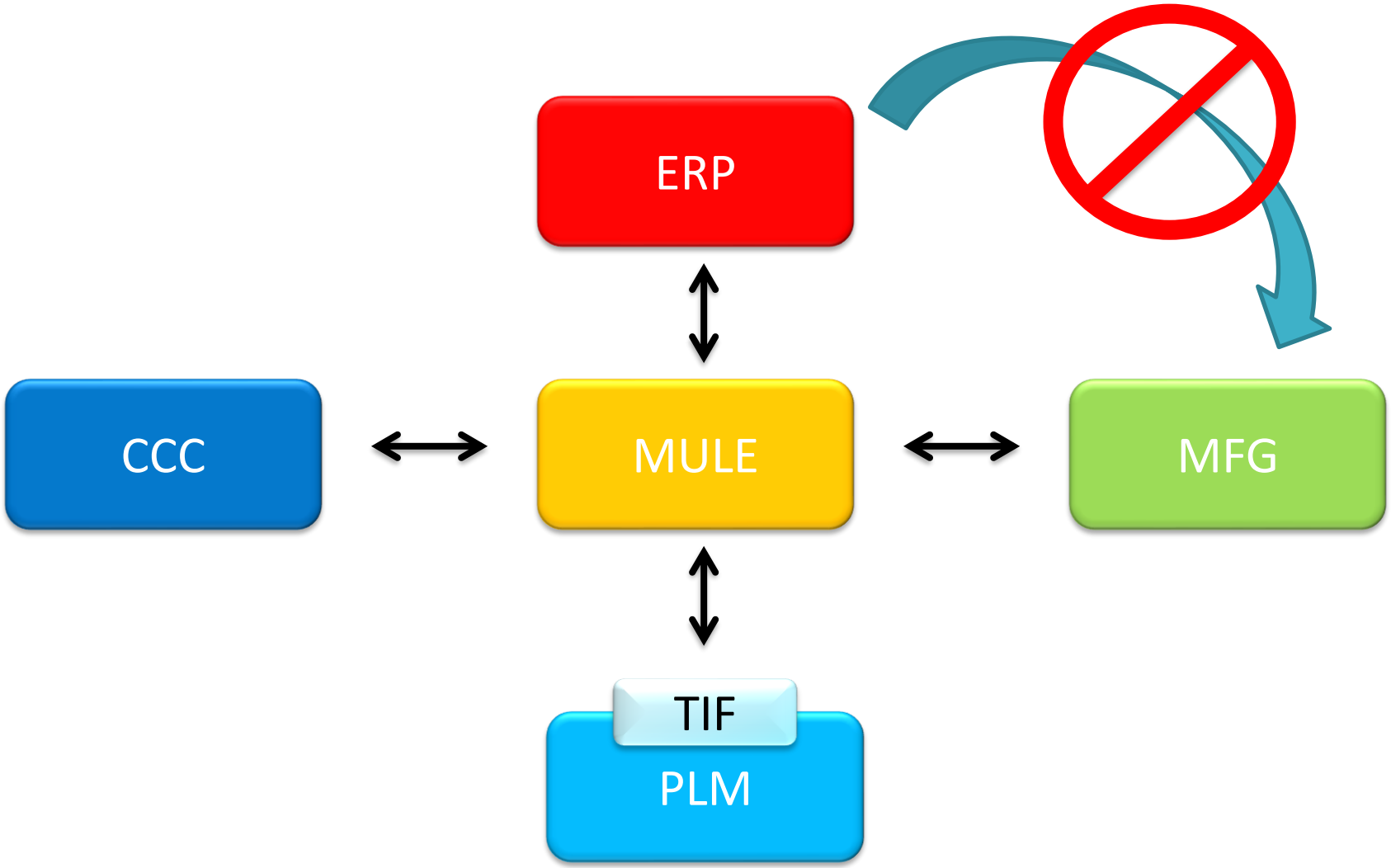
MEYER WERFT
PAPENBURG 1795

Mess of Integration



Source: https://www.mulesoft.com/resources/esb/business-process-integration

Vision of Integration



Integration Platform (PLM)

- TIF Version: 2018.2.0
- 3D Experience Platform: 2016xFD14
- Integration (current):
  - Demand-Integration (JMS)
  - Combined-Solution (REST + JMS)
  - Milestone-Integration (REST)
  - Item-Integration (REST)
  - Document-Transport (REST + JMS)
  - Drawing-Integration (JMS)
  - Drawing Batch (TRIGGER & REST)
  - ECO-Integration (JMS)

- Reports
- Overdue & Reminder
- „Item placed on Ship“
- Import of Bulk-data

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At TECHNIA, we pave the way for your innovation, creativity and profitability. We combine industry-leading Product Lifecycle Management tools with specialist knowledge, so you can enjoy the journey from product concept to implementation.

Our experience makes is possible to keep things simple, personal and accessible so that together we transform your vision into value.

With over 30 years' experience, more than 6000 Customers worldwide and World-class knowledge in PLM & Intelligent Engineering, we work together as an extension of your team to create an exceptional PLM experience.

Our teams work from 21 locations around the world, across vertical industries, delivering a premium service with a global infrastructure and a local presence. We adopt the latest technology and agile methodologies so, even as technology changes, our relationships last a lifetime.

www.technia.com
info@technia.com

TECHNIA
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+46 733 77 24 08

Marcus.Larsson@technia.com

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