

converge

Teamcenter Upgrade Best Practices

THINK BIG GO BIG

Teamcenter Upgrade Best Practices

Stefan Schade

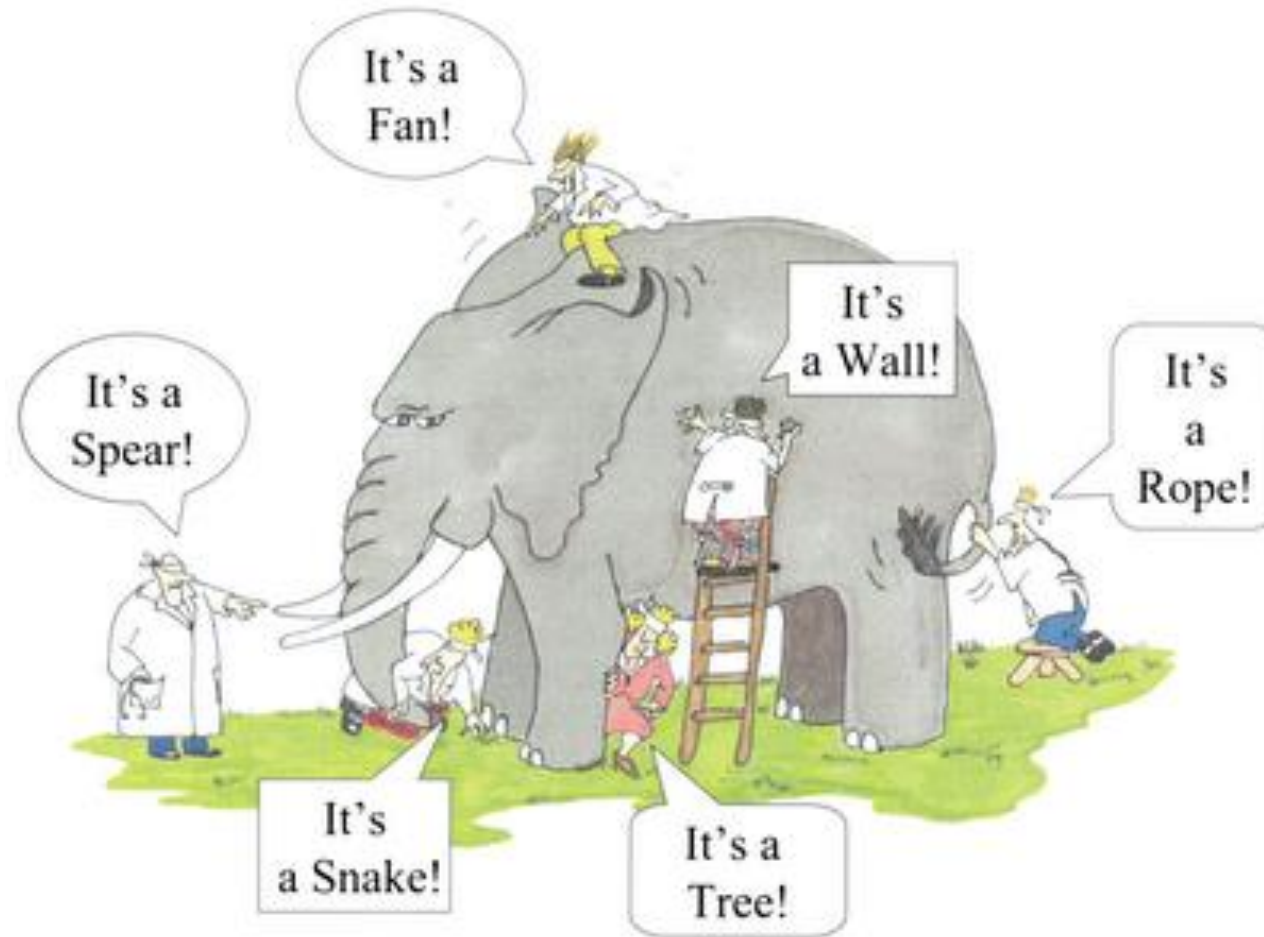
Agenda

Challenge and Requirements
Upgrade as a service product
History, Outlook, Mission
Q&A, Best practice samples



Challenge for Today

Describe a complex topic in one session.



Challenges in Upgrade Projects

Some Samples: Complexity starts here

Budget planning as well as time & budget adherence

Multiple parties involved (Customer, Sales, GTAC, Service, Partners)

Multiple projects at the same time

Release cycles of software tools

New functionality and technologies

Compliance with laws, standards, regulations

Multiple impact at customer (users, project, IT)



Terms & Definition

What is an Upgrade?

Upgrade

Upgrading is the process of replacing a product with a newer version of the same product.
In computing and consumer electronics an upgrade is generally a replacement of hardware, software or firmware with a newer or better version, in order to bring the system up to date or to improve its characteristics.

Eg. Tc10.1.7.x -> Tc12.6.x (Major)

Why upgrade?

- SW out of date
- SW out of maintenance
- Fixed issues / PRs
- New features & functions

Example:

Customer want to use new NX version which requires a TC Upgrade

Terms & Definition

What is not an Upgrade

Update

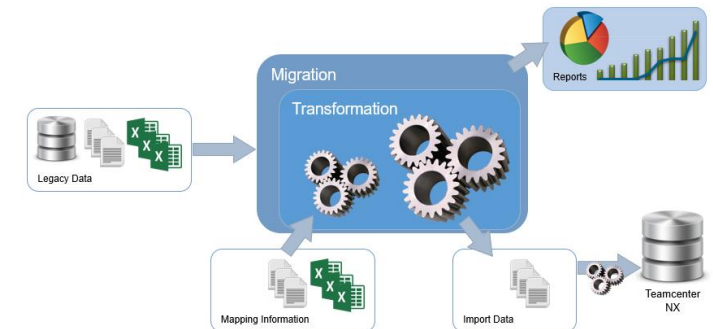
- **Maintenance Pack**
- **Customer Patch**
- **Hot Fix**

Migration / Transition

- **SAP-PLM -> TC PLM**
- **TC-Enterprise -> TC UA**
- **Catia -> NX**

Data migration is the process of selecting, preparing, extracting, and transforming data and permanently transferring it from one computer storage system to another.

Source: [wikipedia.org](https://en.wikipedia.org/wiki/Data_migration)



Teamcenter Upgrade Verification

Optimized Upgrade Procedure

Upgrade projects out of budget and time

Diffuse effort estimation

Untested upgrades / software version

Scattered know how

Technology switch (TCEng > TCUA)

Repeated errors

Failed Go Lives

Teamcenter Upgrade Verification

Standardized process for verification and Go Live

Allows detailed effort estimation

Dedicated upgrade team with centralized know how

Successful Go Lives (>95%)



Teamcenter Upgrade Verification

Upgrade Verification requires specific Hardware



Role: Single entertainer

2008 – 2010 : Laptop, Windows XP 32 bit and VPC

2011 – 2012 : Laptop, Windows 7 and Vmware

Own Hardware but limited to single user

2011 – 2012 : Workstation, Windows 7 and Vmware

Own Hardware with multi-user access

2013 – 2017 : Server with SSD and qnap storage

2017 – 2019 : Upgrade: More SSD (2TB) and storage (30 TB)

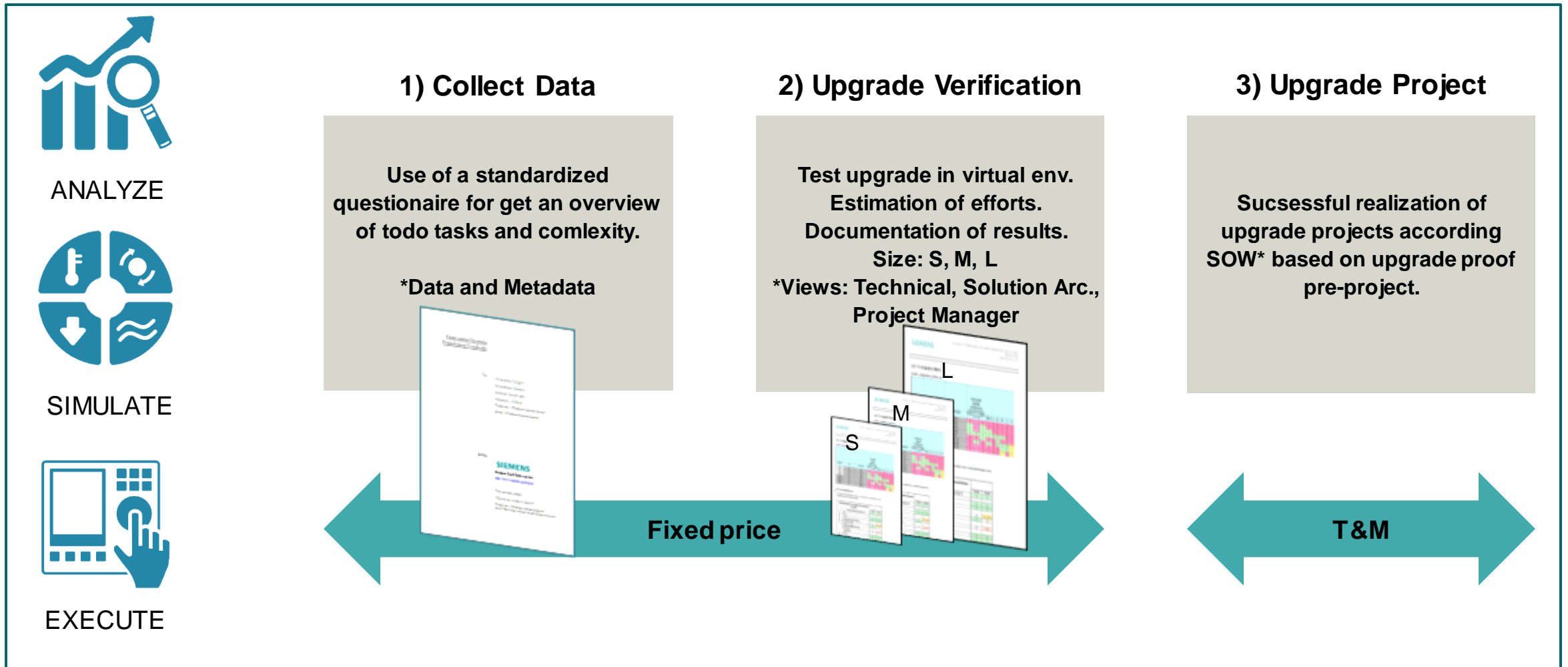
New scenarios under investigation

- Cloud based environment
- Customer based environment with remote access



Teamcenter Upgrade Verification

Proceed model: 3 Step

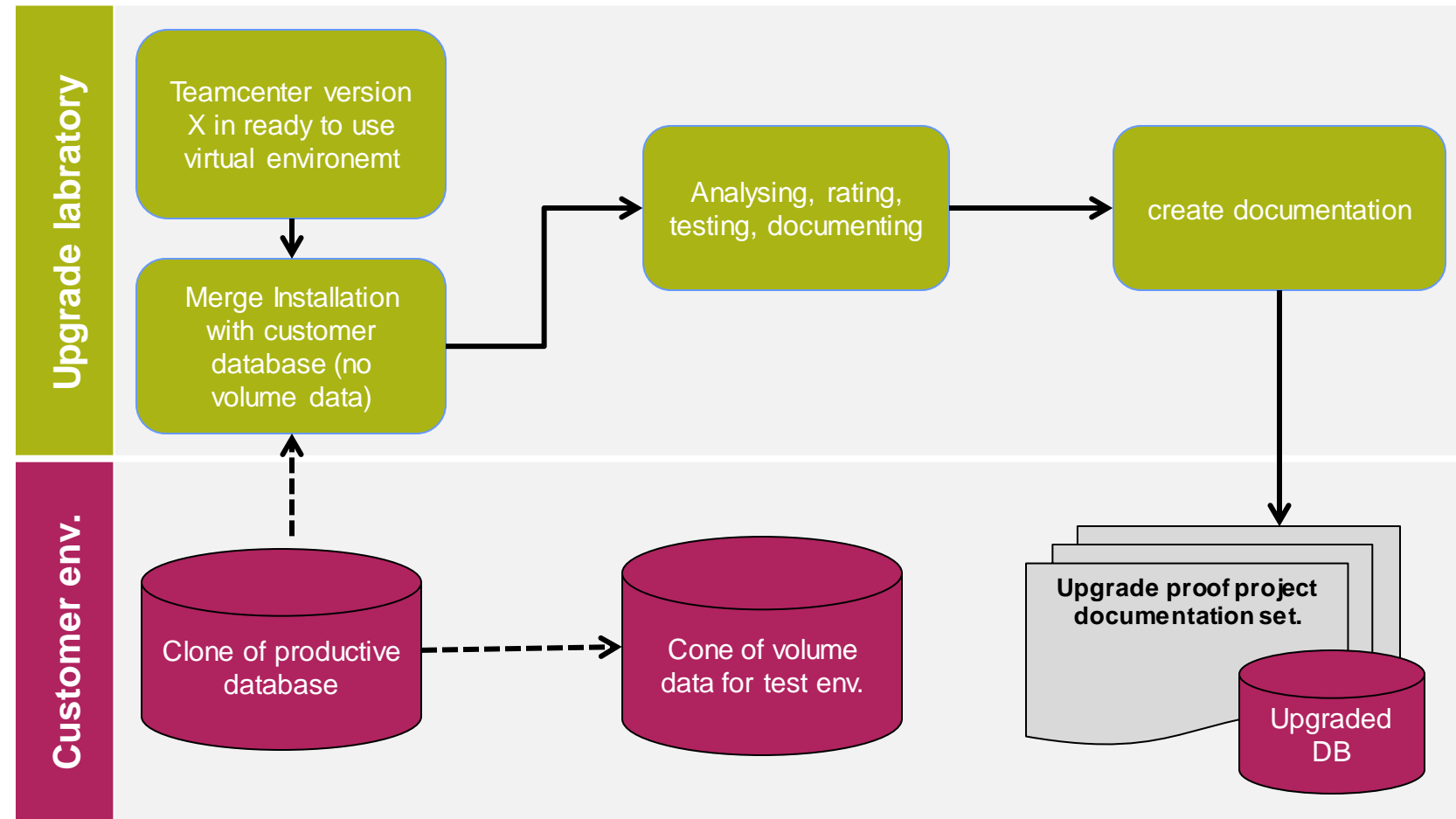


Teamcenter Upgrade Verification Lab View - Technical Concept

Generally we do all upgrade proof projects (DB upgrade part) on own server landscape (our laboratory).

Customer must deliver

- Sold-To, logfiles
- Database (dump)
- BMIDE projects
- \${TC_DATA}/model dir.
- Some XML config. files



Teamcenter Upgrade Verification

Upgrade Project Step 2: Document Set

Content of documentation

- Description of current and target environment
- How to upgrade Teamcenter and scope
- Work package list
- Project effort estimation
- Sample project plan with sequenced phases and packages

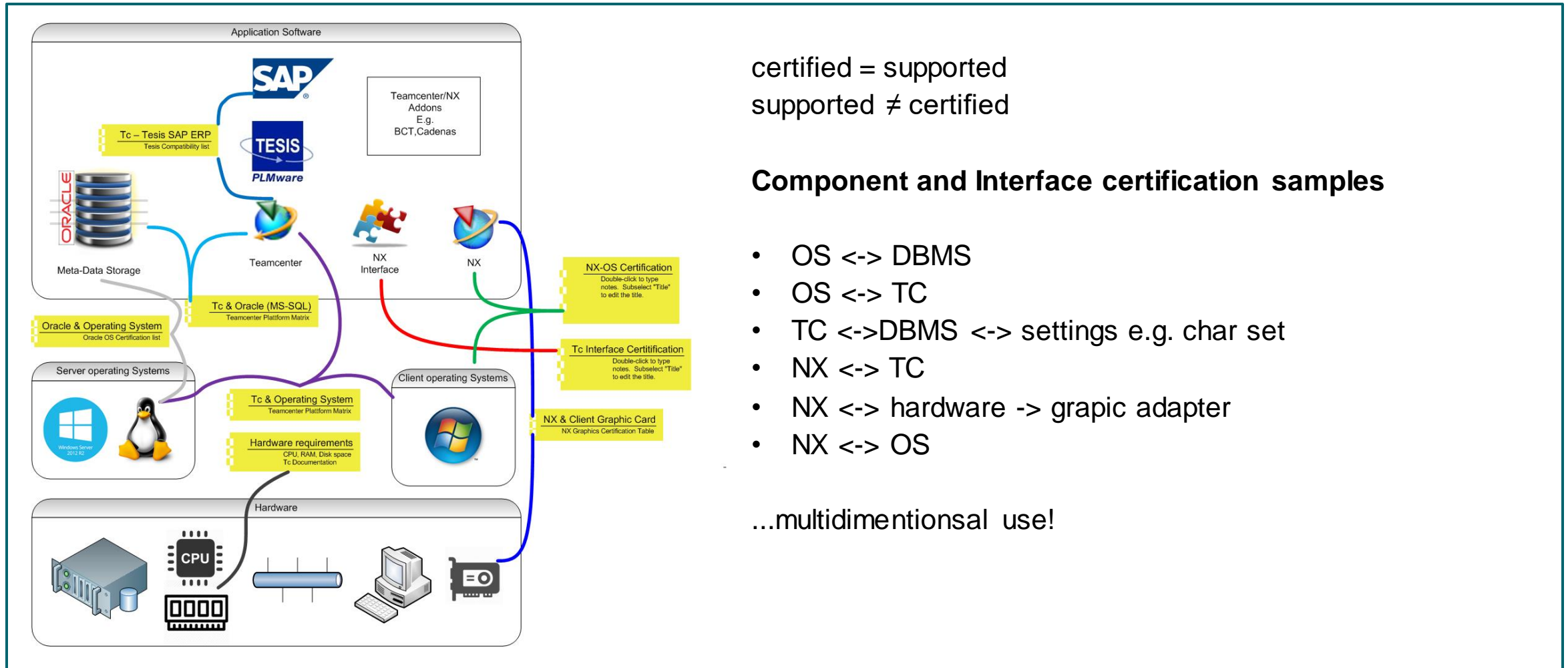
Usage of documentation

- Documentation provides multiple and detailed views for SOW generation and project planning
- Benefit for customers
 - Do it by their own IT
 - Hire Siemens
 - Hire partner



Teamcenter Upgrade Verification

Sample: Support and certification of components



certified = supported
supported ≠ certified

Component and Interface certification samples

- OS <-> DBMS
- OS <-> TC
- TC <-> DBMS <-> settings e.g. char set
- NX <-> TC
- NX <-> hardware -> graphic adapter
- NX <-> OS

...multidimensional use!

Teamcenter Upgrade Verification

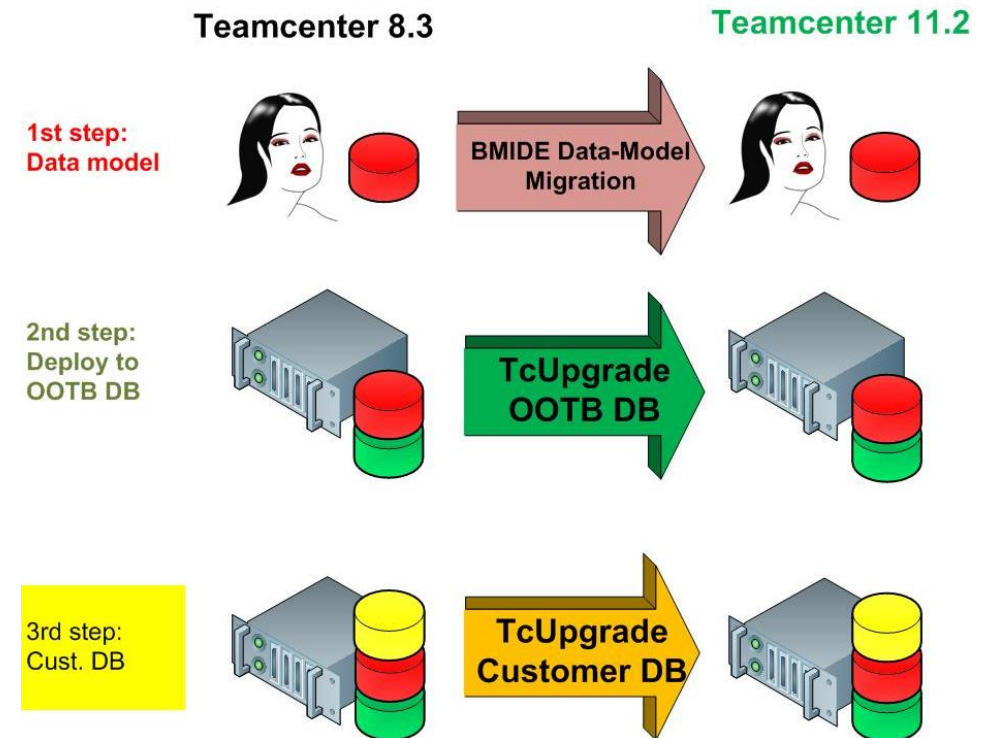
Pre and Post-Checks/Steps to DB

Pre-checks and actions

- Deactivate users in TC (except „infodba“)
- Give sequence rights to oracle
- Run vla utility (variable length array)
- Verify_tasks
- Create additional tablespaces for large databases on oracle

Post-actions

- Preferences migration
- Workflow handler & arguments check
- Schedule and classification
- Many manual command line tools



Teamcenter Upgrade Verification Product Service View

Statement of work (SOW / offer)

- Individual to every customer
- Offer contains optional parts, depending on customers resource and knowledge
- Database upgrade (project core) is always done by us
- Handle conditions: customer agrees code-freeze (Datenmodell) during upgrade-project

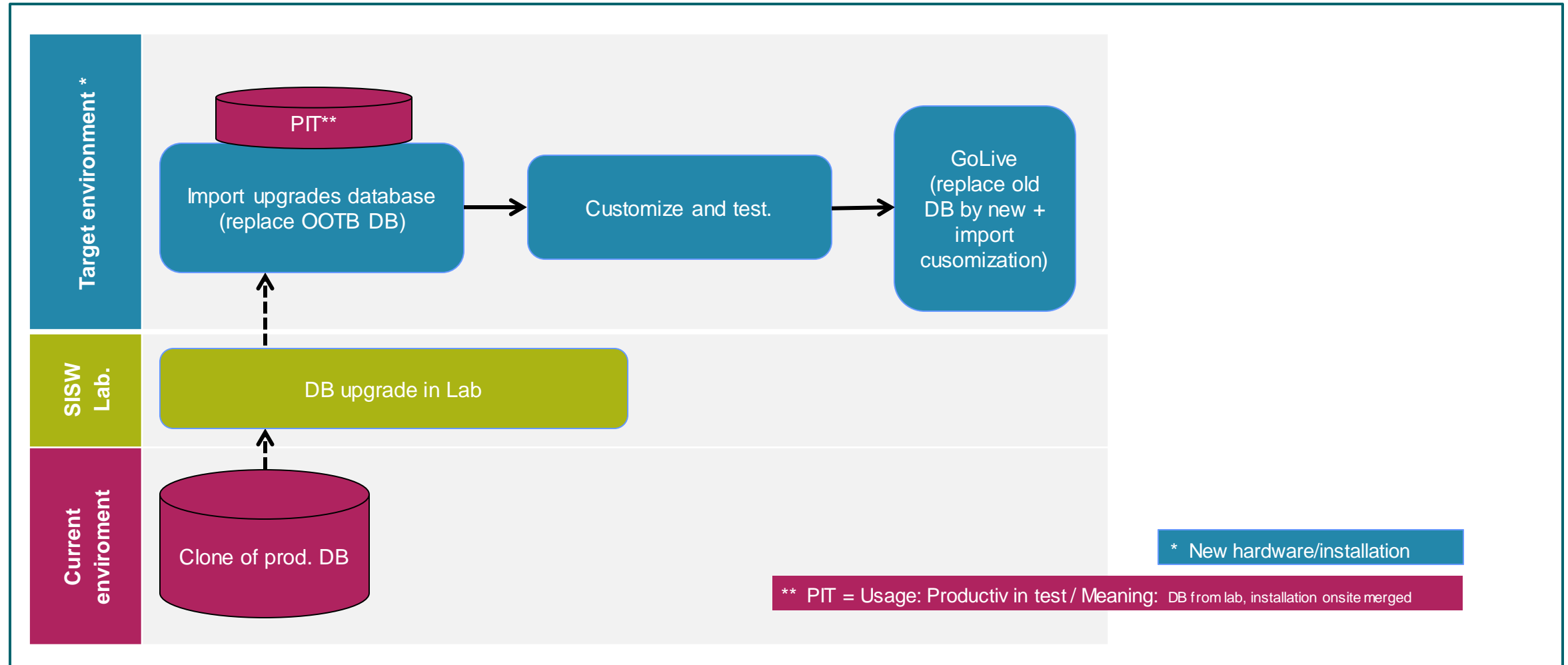
Advantages using laboratory and model

- Minimization of risk using standardized VMs, process, templates etc
- Usage of >10 experience and >50 projects
- Steady and ongoing process improvement
- Core team experts for upgrade realization at laboratory and customer site.
- No resources required on customers site during upgrade proof phase

The image shows a screenshot of a complex spreadsheet used for upgrade verification. It features multiple columns and rows, with various cells highlighted in green, yellow, and red. The spreadsheet is titled 'Teamcenter Upgrade Verification' and includes a 'SIEMENS' logo in the top right corner. The data is organized into sections, likely representing different stages or components of the upgrade process.

Teamcenter Upgrade Project

Sales and customer presentation view



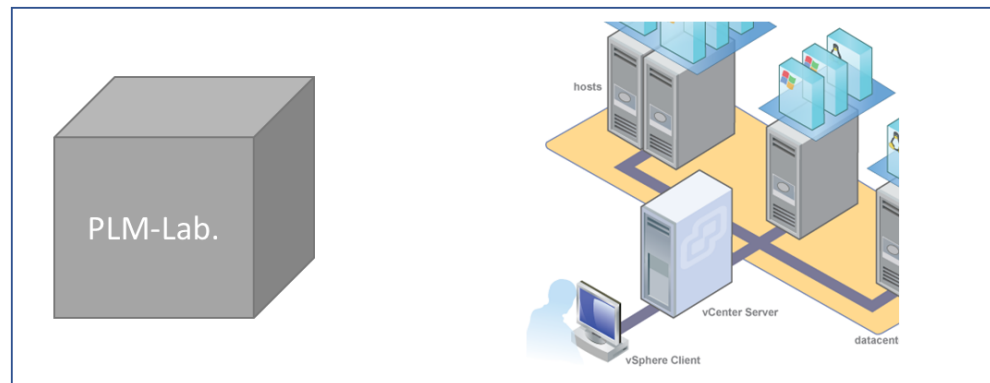
Teamcenter Upgrade Project

TC environment view, sample

Customer site

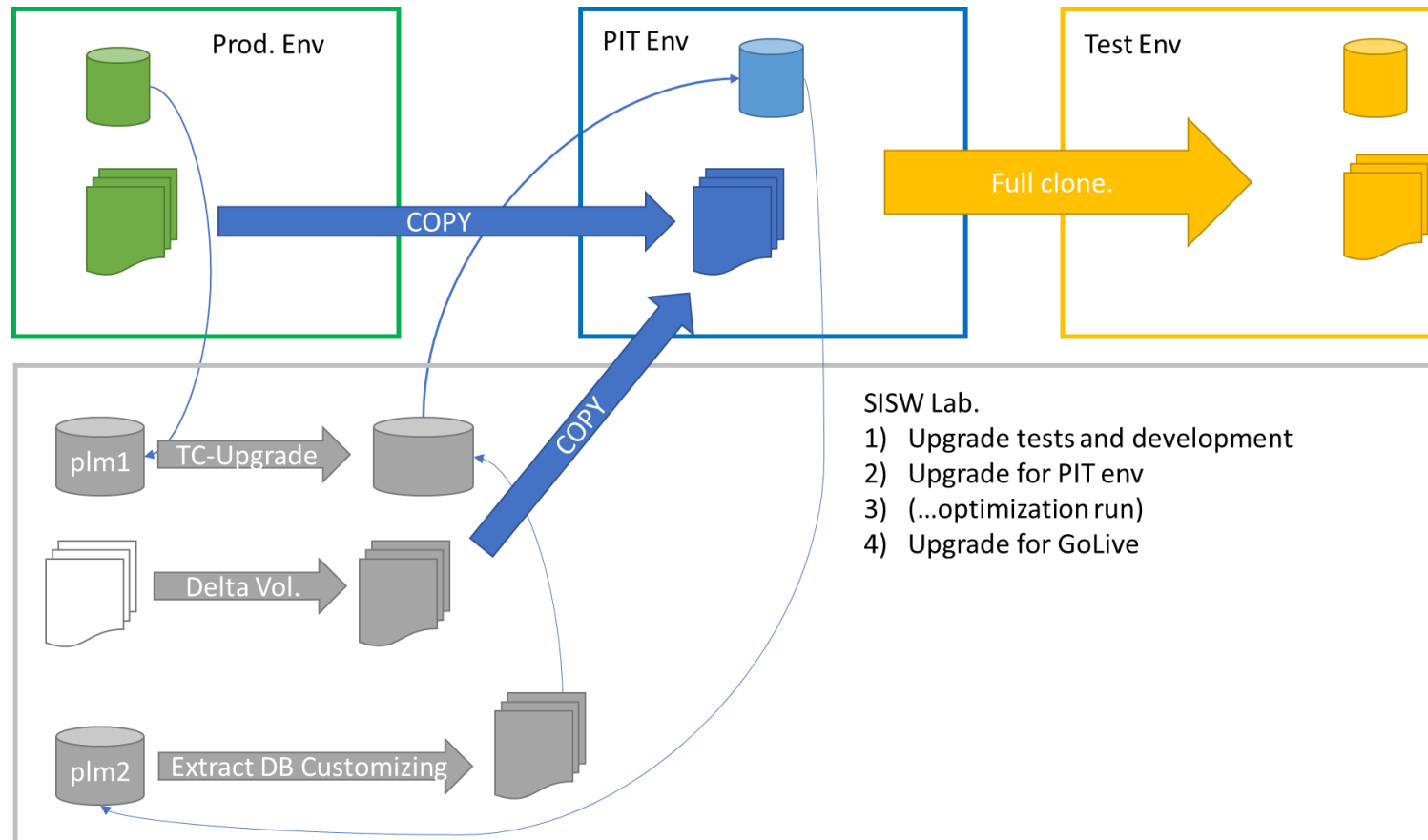


SISW-Lab.



Teamcenter Upgrade Project

Install and data merge strategy view



Teamcenter Upgrade Project

Sample Tasks for Customizing Upgrade

- BMIDE cold deploy
- Generate metadata cache
- Legacy mode „save as dialog“ on TC11
- Legacy workflow template filter or switch to BMIDE
- Resharp portal viewer preferences
- Migrate and check WF handlers and arguments
- Cleanup and migrate TC Preferences
- Rebuild customization at other modules and products: PLM-Easy, NX
- Refit hidden commands to new menus
- Fix CAD attribute mapping
- Update Ruletree/ACL

Outlook & Challenge

"where no one has gone before"

Some Samples

Acquisition, portfolio growth, product & process interfacing

Worldwide collaboration vs. regulation

New technologies / technology switch

Hardware and software communication

Software versions and certification

Security requirements



Get Help

documentation, helpful links



GTAC

<https://www.plm.automation.siemens.com/global/en/support/>

Certifications

<https://www.plm.automation.siemens.com/global/en/support/certifications.html>

Integrations

https://www.plm.automation.siemens.com/media/global/en/Integrations_Matrix_30-Apr-2019_tcm27-60295.xlsx

Mailman /SFBs

<https://mailman.industrysoftware.automation.siemens.com/mailman/listinfo>

Documents online

TC11.2_ServerSizing_V1.pdf

Server_Customization_Best_Practices_Guide_V1.1.pdf

Shared_Memory_Best_Practices_Guide_V1.0.pdf

Teamcenter-Virtual_Server_Configuration_and_Performance-3.1.pdf

JBoss7_1_0_Installation_and_Tuning_Guide_v2.0.pdf

Optimizing_Teamcenter_Client_Performance_v2_0.pdf

Tips for Investigating Teamcenter Performance Issues in the Field.pdf

Optimizing_Teamcenter_Client_Performance_rev_2.pdf

Coding for Performance & Scalability.pdf

Performance & Scalability - tools and techniques.pdf



谢谢.

Gracias por su atencion.

Danke.

Thank you.

Please take the survey.



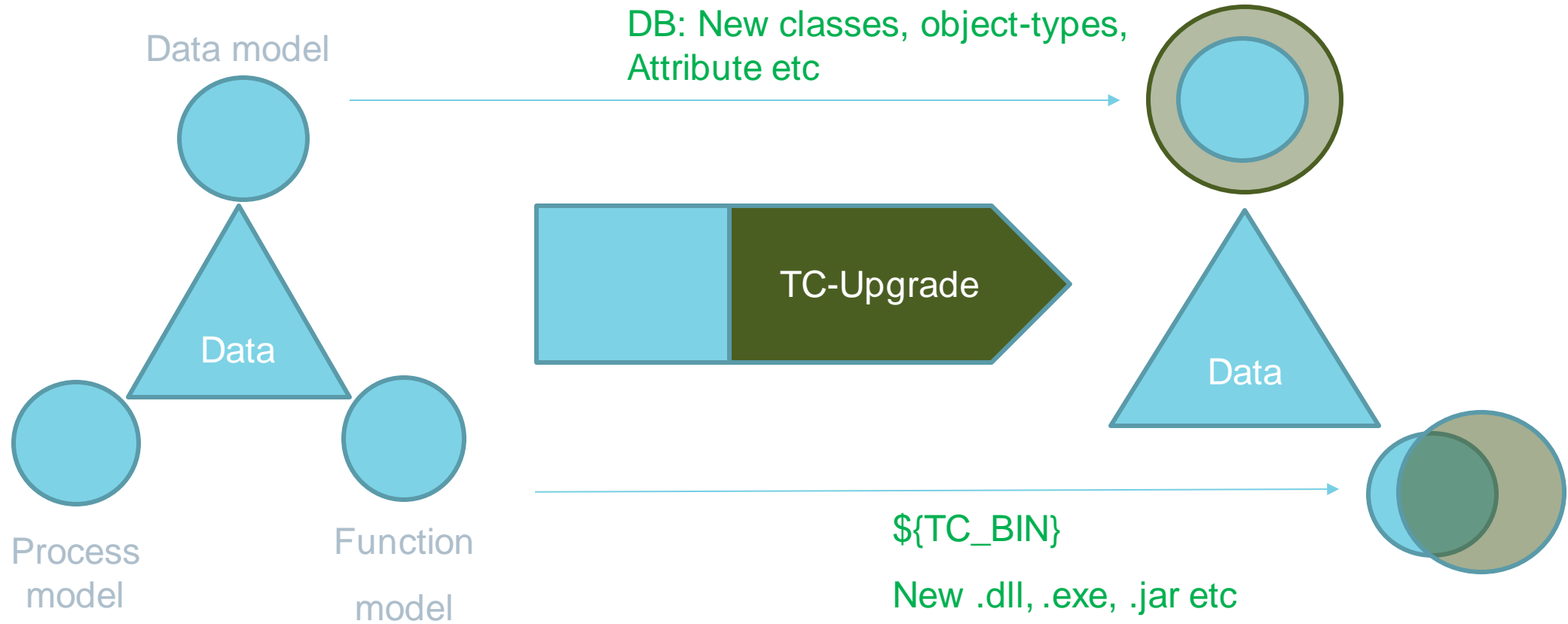
If some time is left options

1. Q & A

2. Process samples

TC-Upgrade

Technical view, models



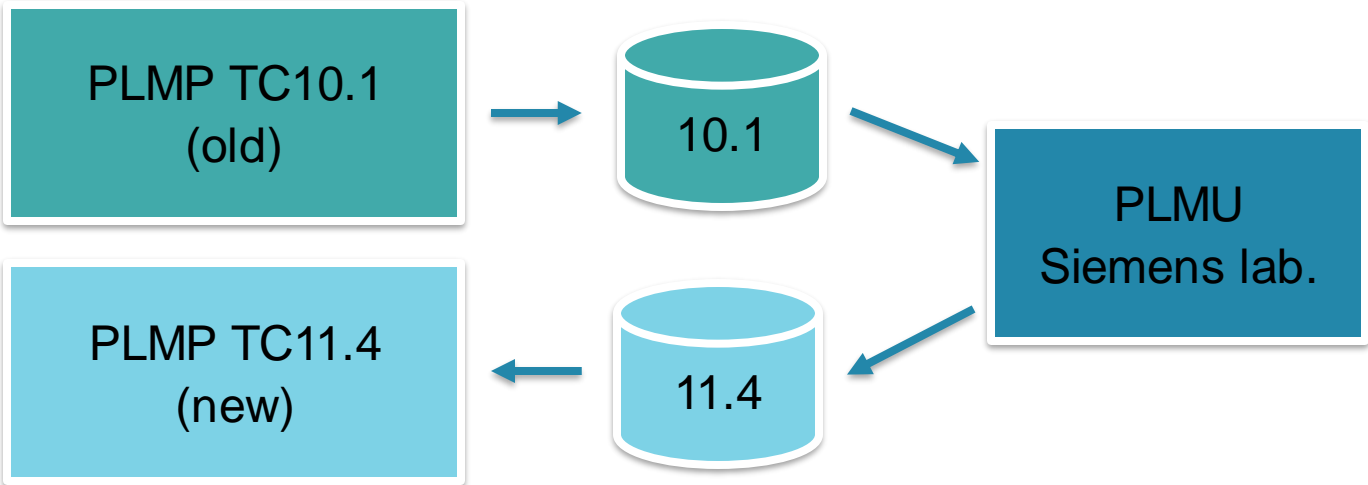
Challance: Replace old functionality

Keep process model

Concept variant samples

Use laboratory

Desc.: TC – Upgrade in offsite in lab
Condition: target environment ready to use



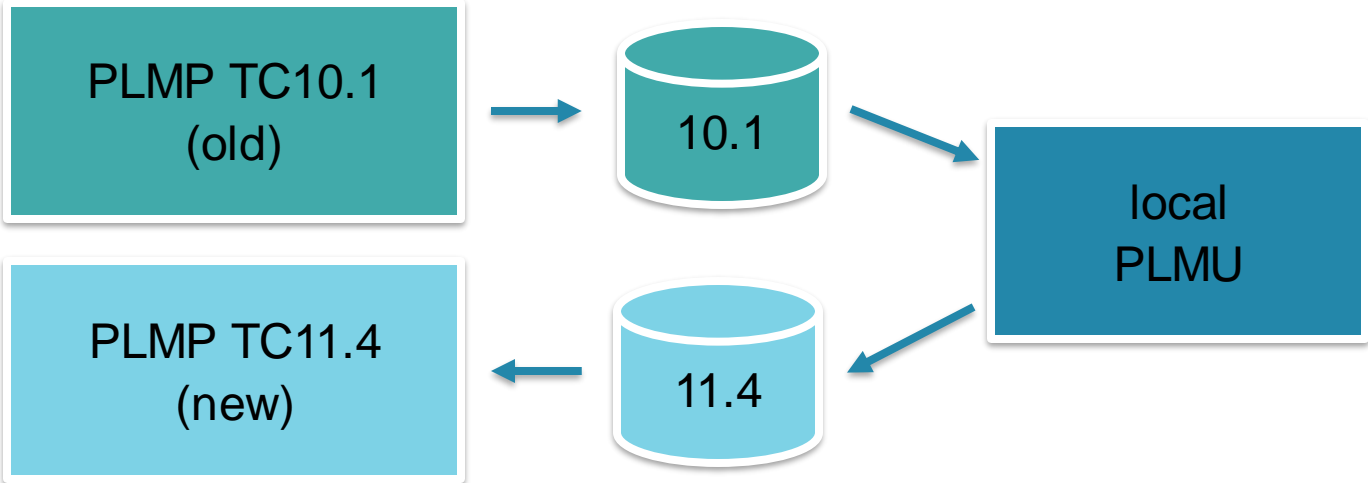
Step	Time
Export+Zip	~ 4h
Upload	~ 2h
Download	~ 1h
UnZip+Import	~ 5h
Upgrade	~ 18h
Way back	~ 14h
Sum	~ 48h

Advantage: untouched productive environment, save, process stable, no work-package on customer site
Disadvantage: very time consuming to large databased, depends on network

Concept variant sample

Use virtual machine onsite

Desc. : Upgrade DB onsite
Condition. : Customer responsibility and process knowledge



Advantage: >75% time reduction, untouched productive system, no DB transport delay time
Challenge: stable process and responsibility req.

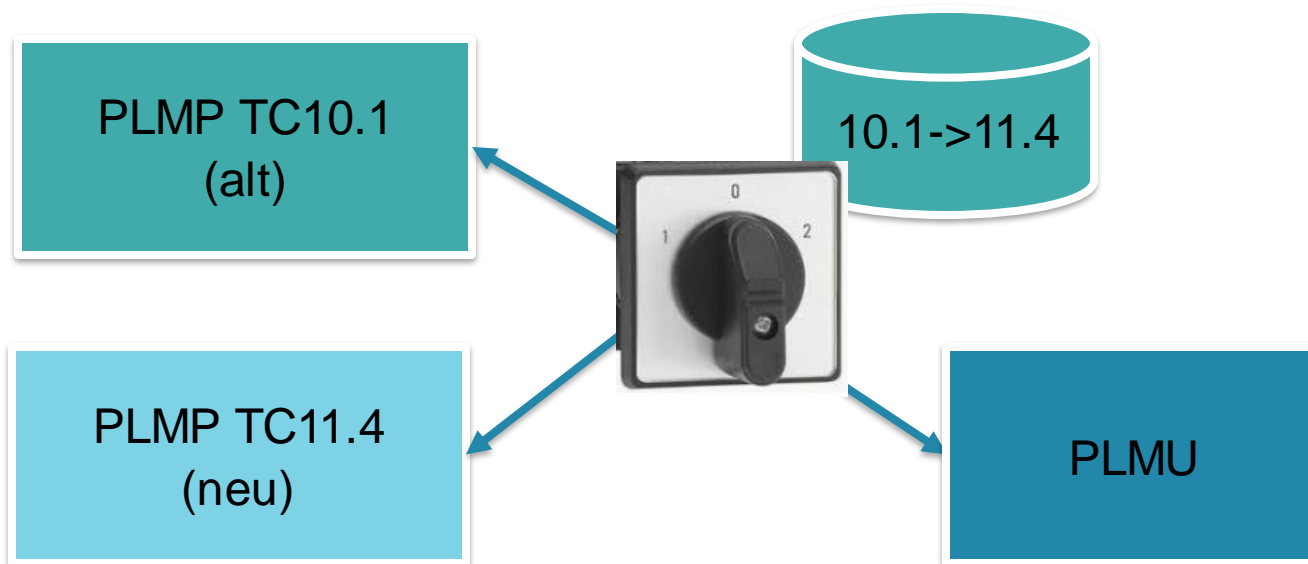
Step	Time
Export/Import	~ 4h
Upgrade	~ 4h
Export/Import	~ 4h
Sum	~ 12h

Concept variant sample

Oracle listener switch

Desc.: Upgrade direct on productive DB, no dumping

Condition.: responsibility, backup, process knowledge



Schritt	Zeit
Upgrade	~ 4h
Summe	~ 4,5

Advantage: Fastest solution

Challenge: Highest risk

End.

Preferred colors



Siemens PowerPoint color palette

What colors can you use?

YES		<div>No Fill</div>	
NO		<div>Theme Colors</div>	
YES		<div>Custom Colors</div>	
NO		<div>Standard Colors</div>	
MAYBE	Only if you used Siemens colors	<div>Recent Colors</div>	
		<div>More Fill Colors... Picture... Gradient Texture</div>	