

Active Integration (T4EA/T4S)

Dr. Wallner Engineering
Kundentag 2025



DR. WALLNER ENGINEERING



Agenda

Active Integration overview

SAP Integration S4S (T4S /T4ST Side by Side Ansatz; StarterPackages;Demo)

Pipelines/ Pipeline Designer (vs. TCL-Mapping)

Active Integration und Mentale Gesundheit 😊

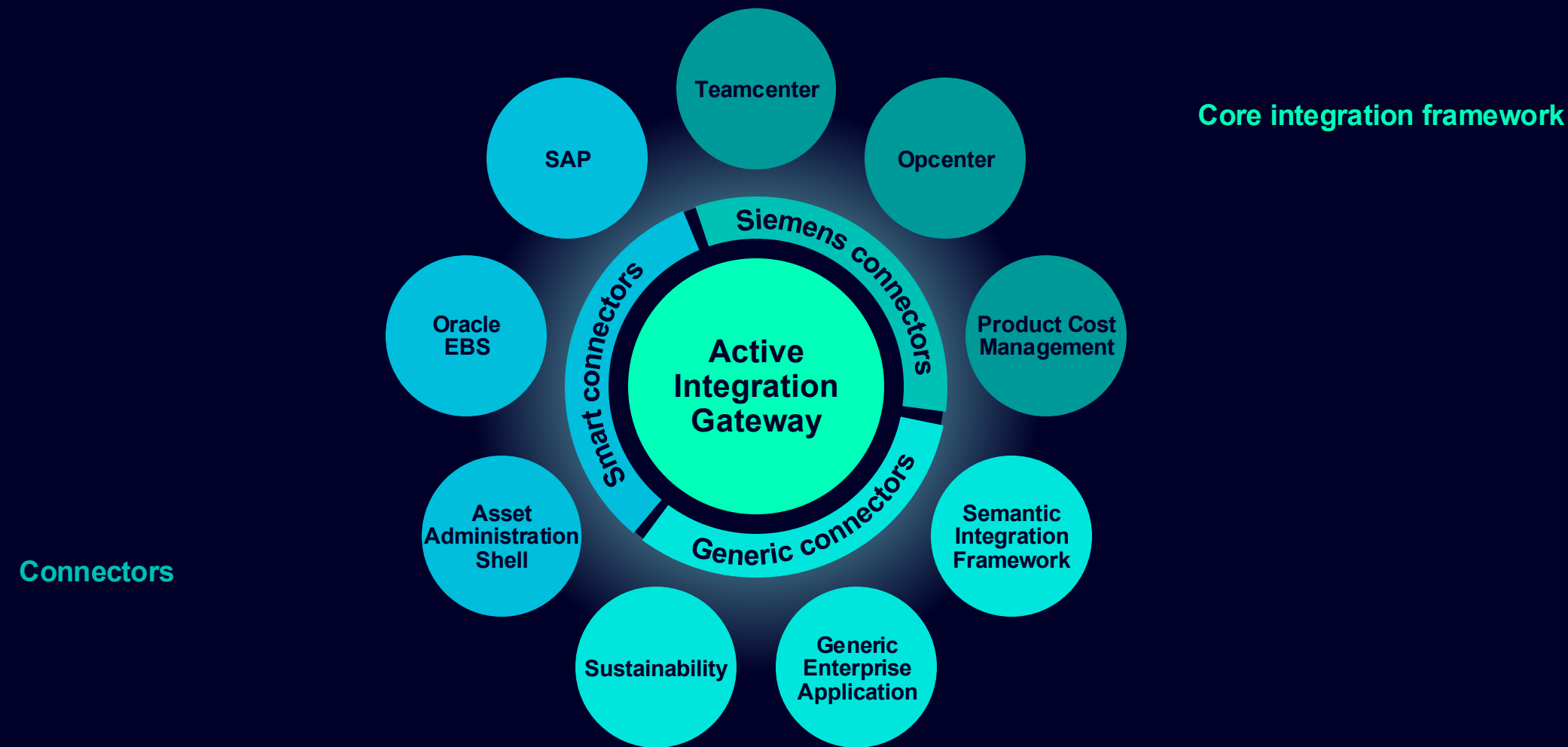
Active Integration

Overview



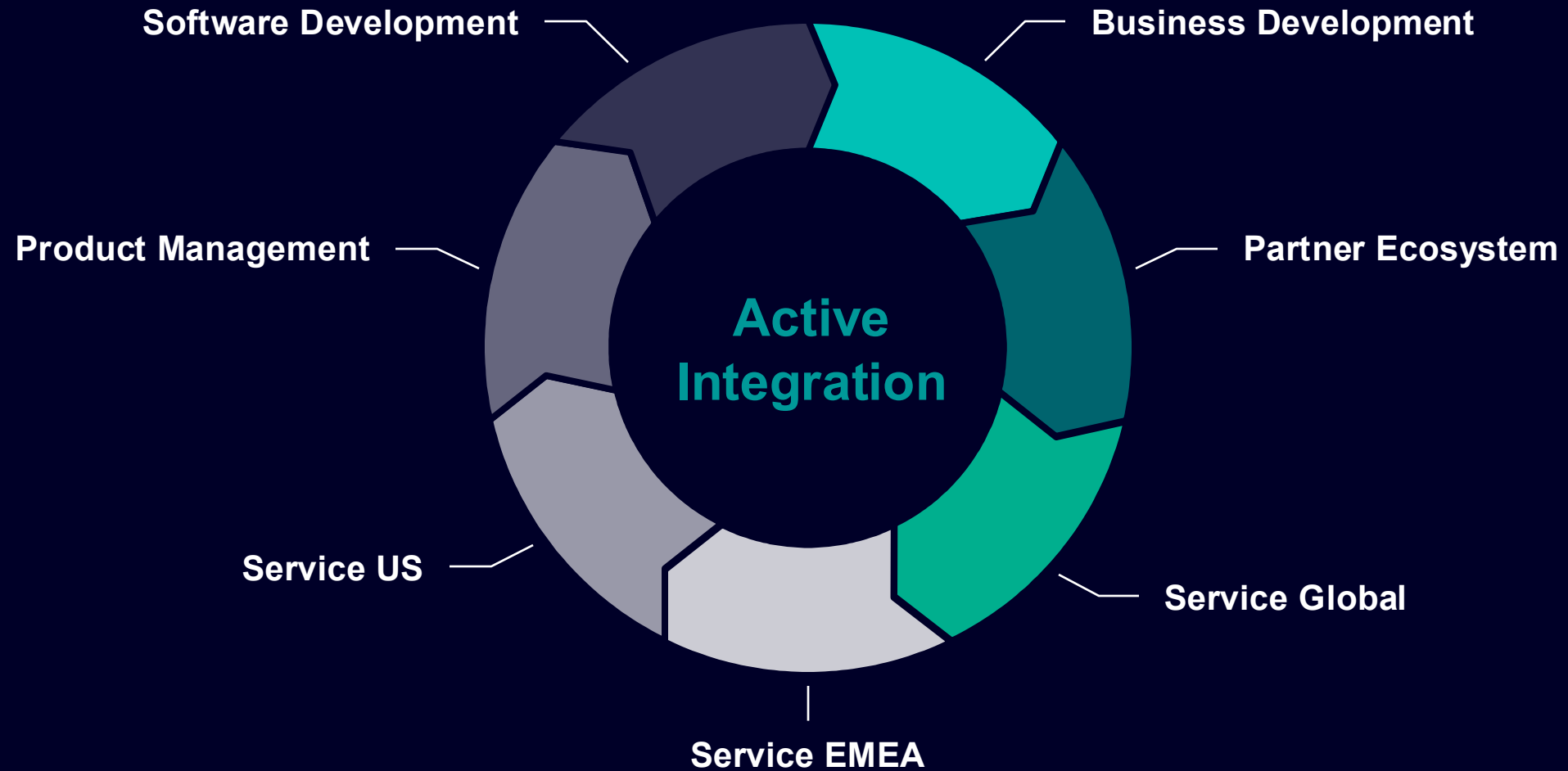
Active Integration Gateway

Integration platform



Active Integration Ecosystem

Who are we?



SAP Integration Overview

Siemens + SAP partnership

Integrated software solutions across the product and asset lifecycle



S4S

Active Integration Gateway – one integration product



**Siemens
foundation
integration
(T4S)**



**Siemens
component of
joint integration
(T4ST)**



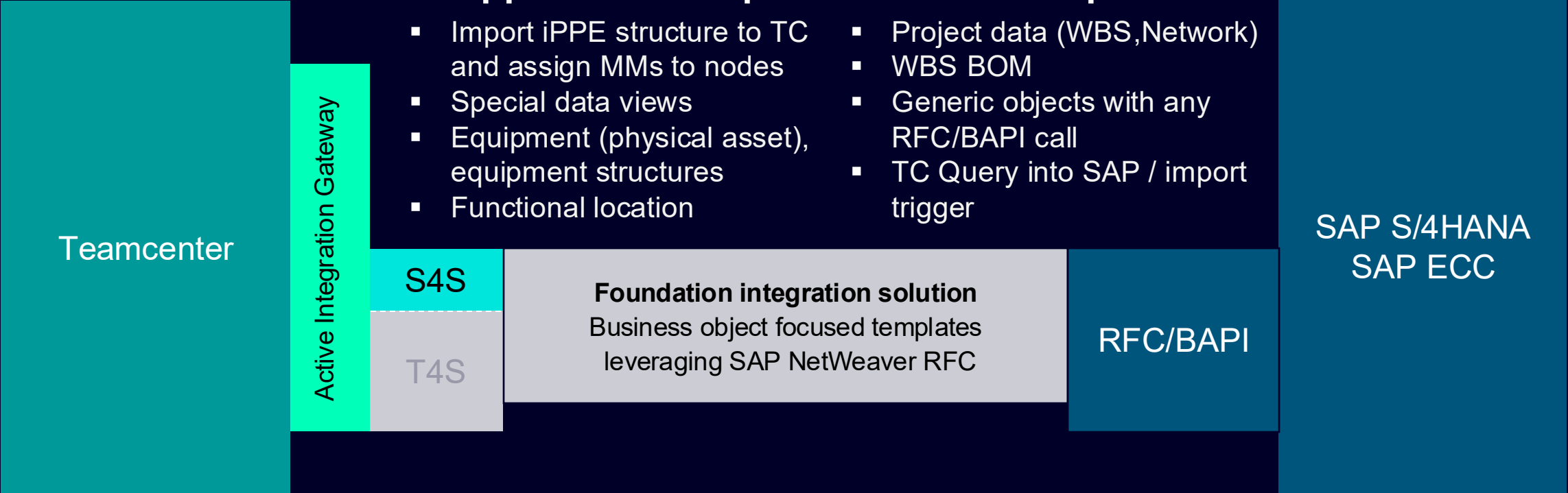
**Siemens SAP
Integration
solution
(S4S)**

Siemens Teamcenter Integration for SAP S/4HANA by Active Integration

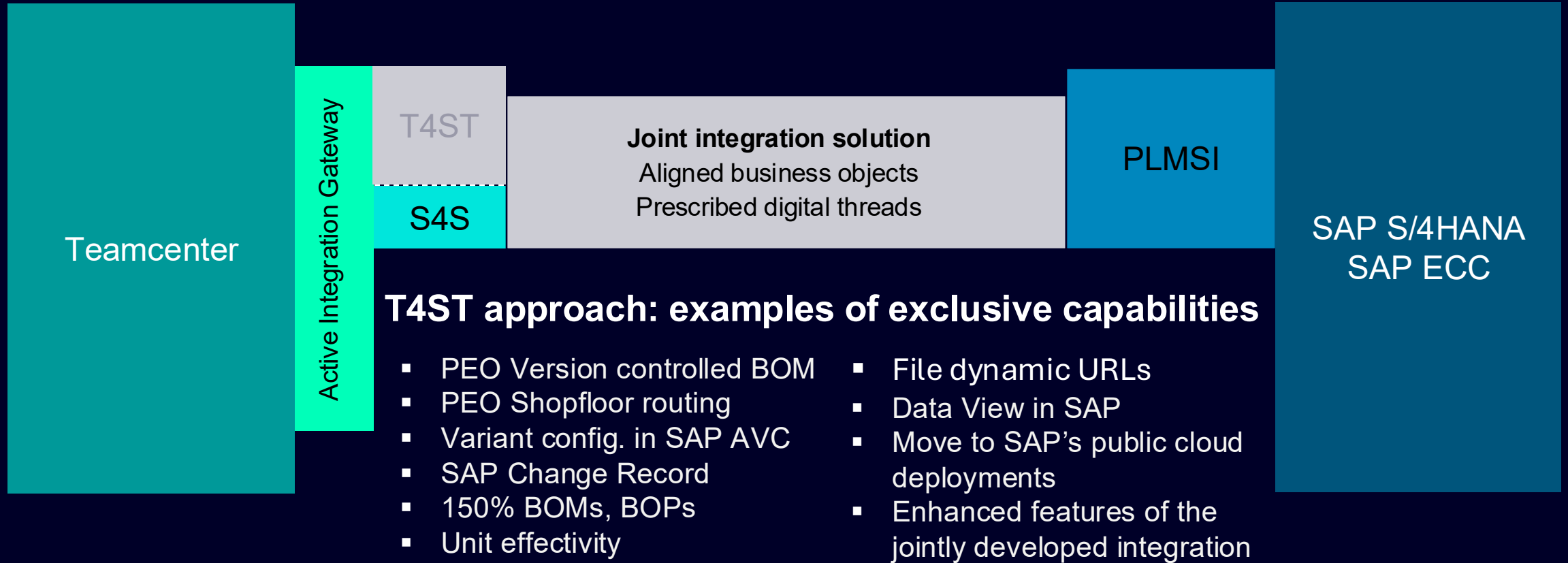
- Accelerates the value by combining jointly developed integration solution (T4ST) with proven Siemens T4S technology
- One product, one license, two technologies
- Full functionality on day 1: proven and new technology can be used side-by-side
- Processes and requirements are driving technical solution not the other way around
- Minimal upgrade effort from SAP ECC to S/4HANA

T4S approach: examples of exclusive capabilities

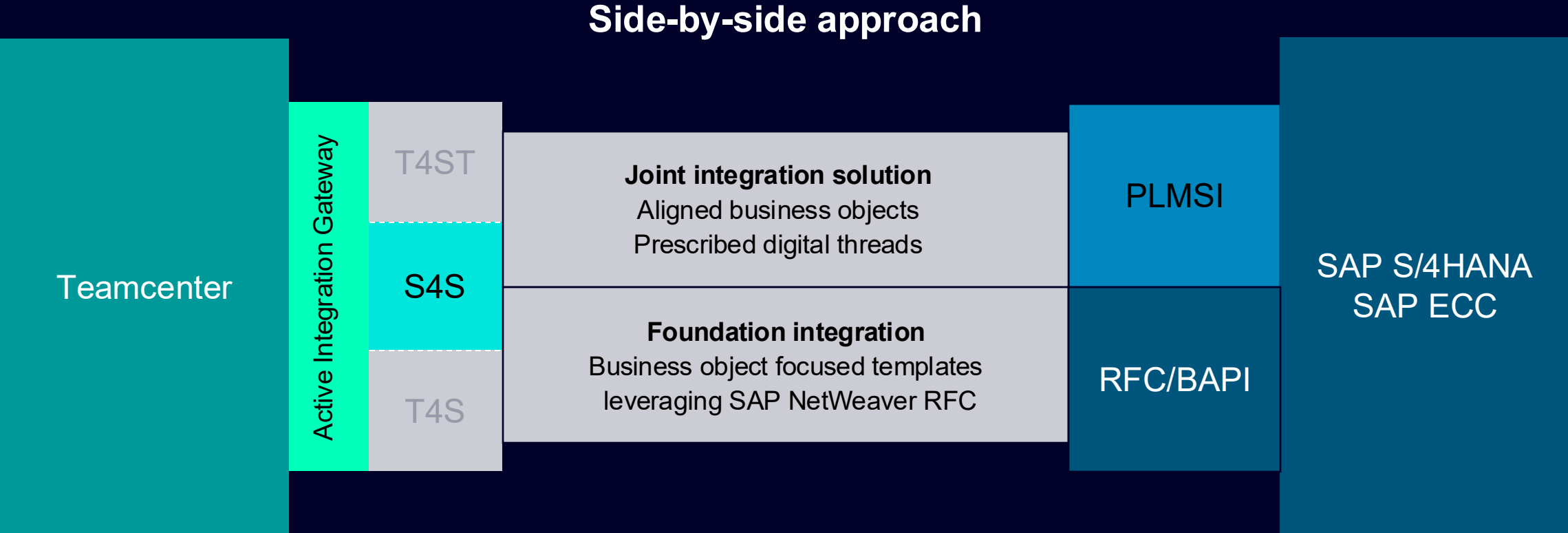
- Import iPPE structure to TC and assign MMs to nodes
- Special data views
- Equipment (physical asset), equipment structures
- Functional location
- Project data (WBS,Network)
- WBS BOM
- Generic objects with any RFC/BAPI call
- TC Query into SAP / import trigger



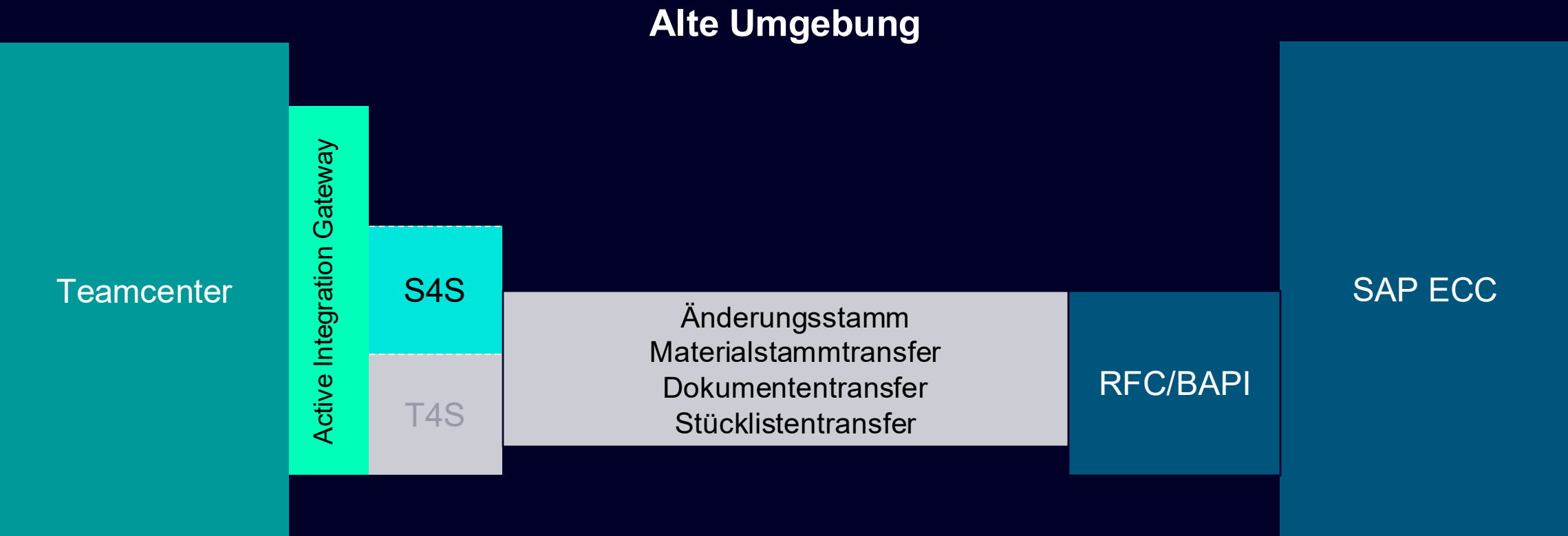
S4S T4ST flavor



S4S
Side-by-side approach

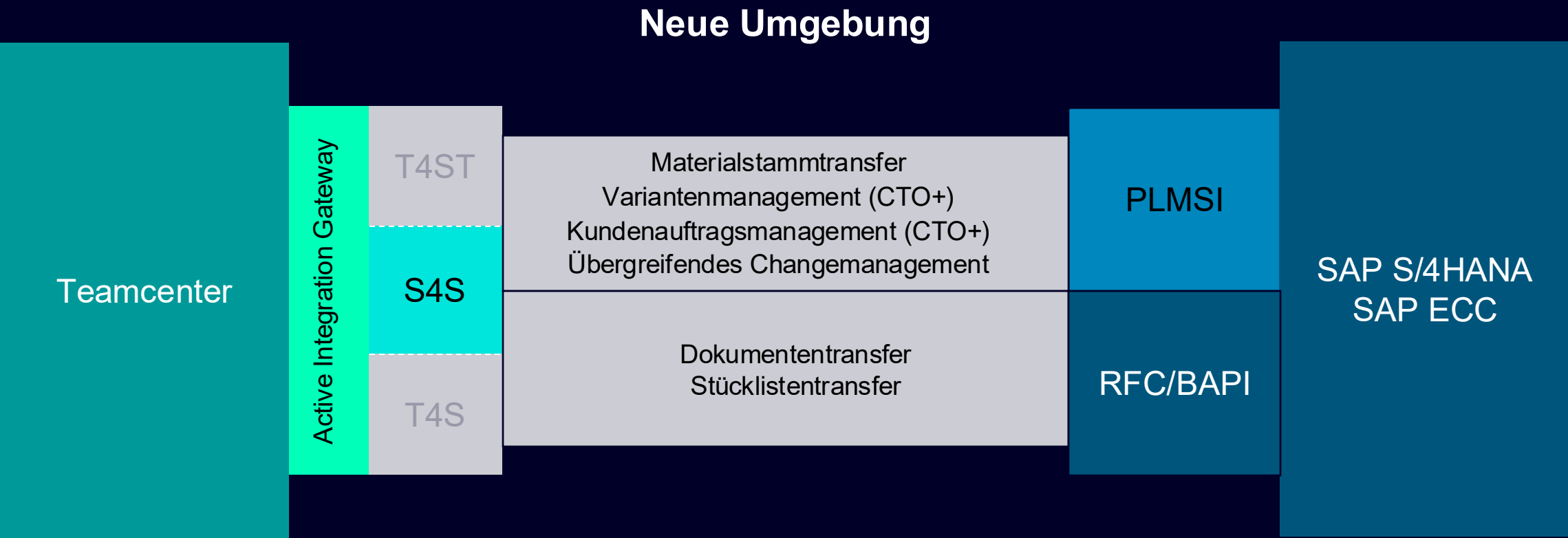


Side by side Ansatz
Kundenbeispiel: Fette Compacting GmbH



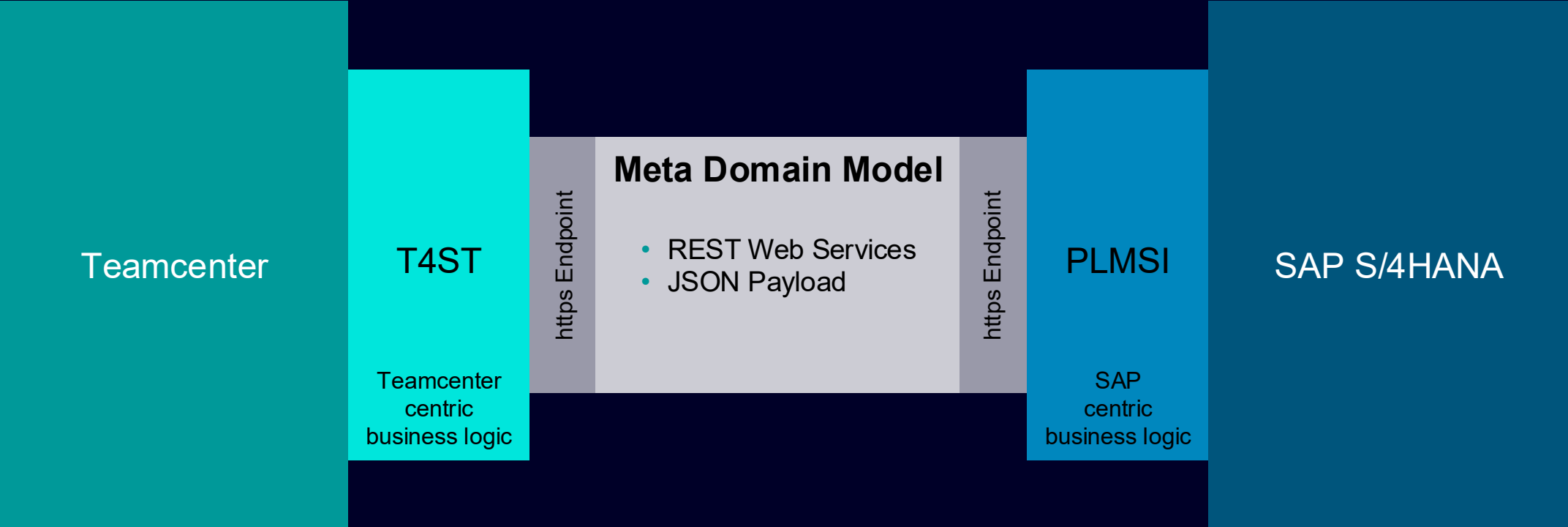
Side by side Ansatz

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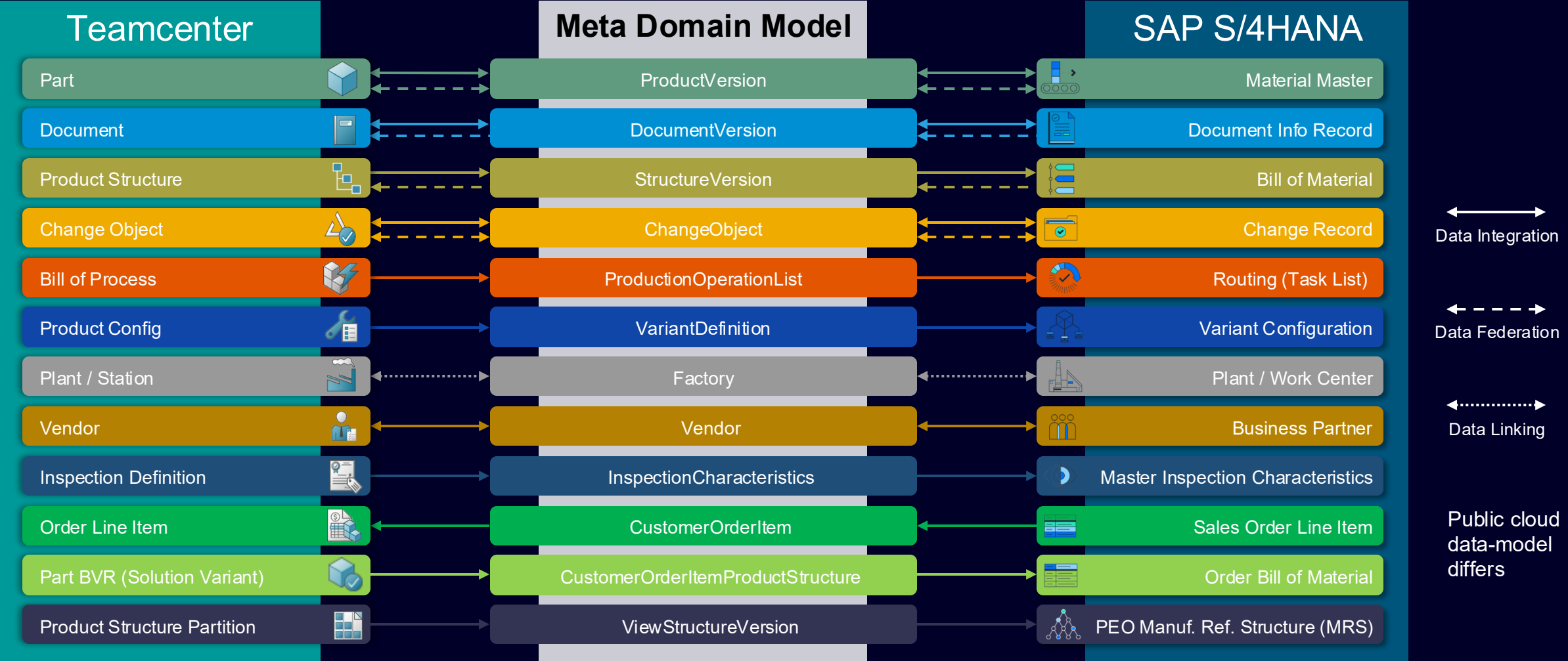
Integration architecture

Meta domain model & integration components



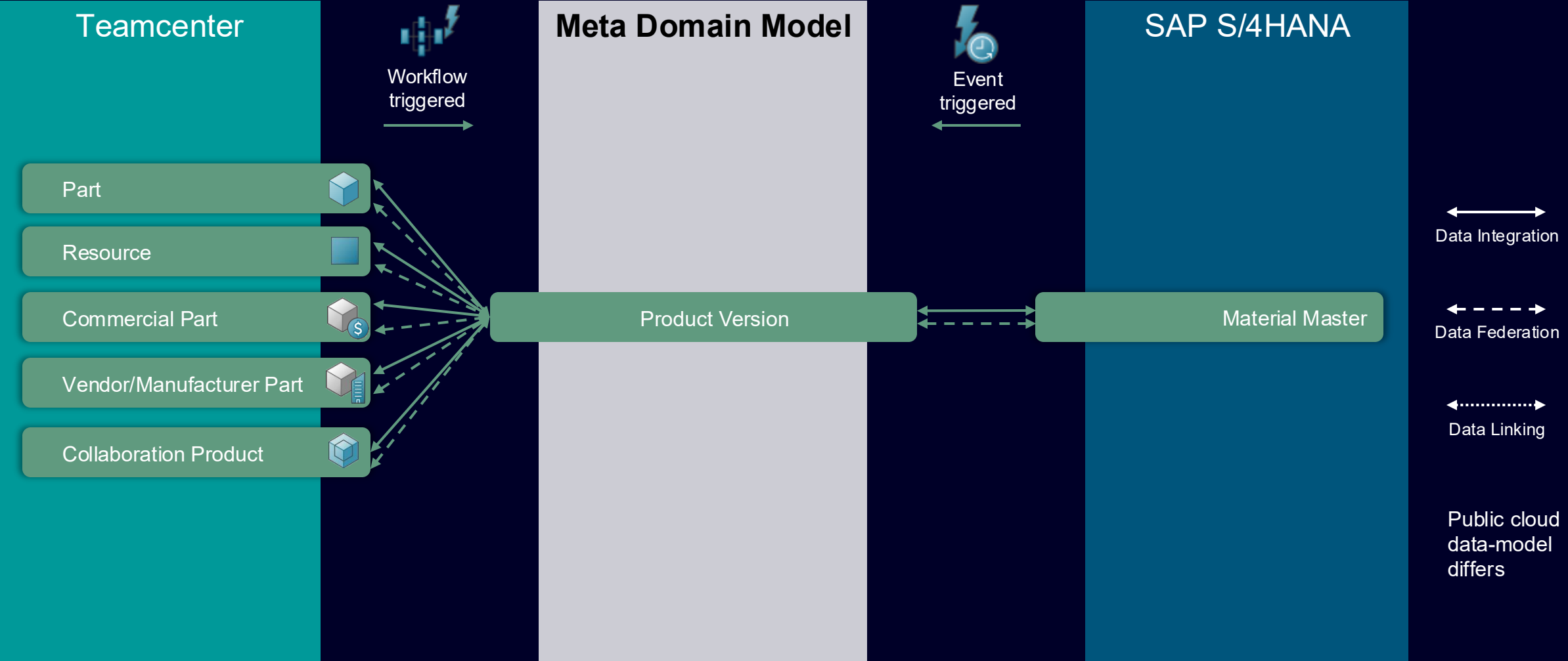
Integration architecture

Meta domain model used for data integration and data federation



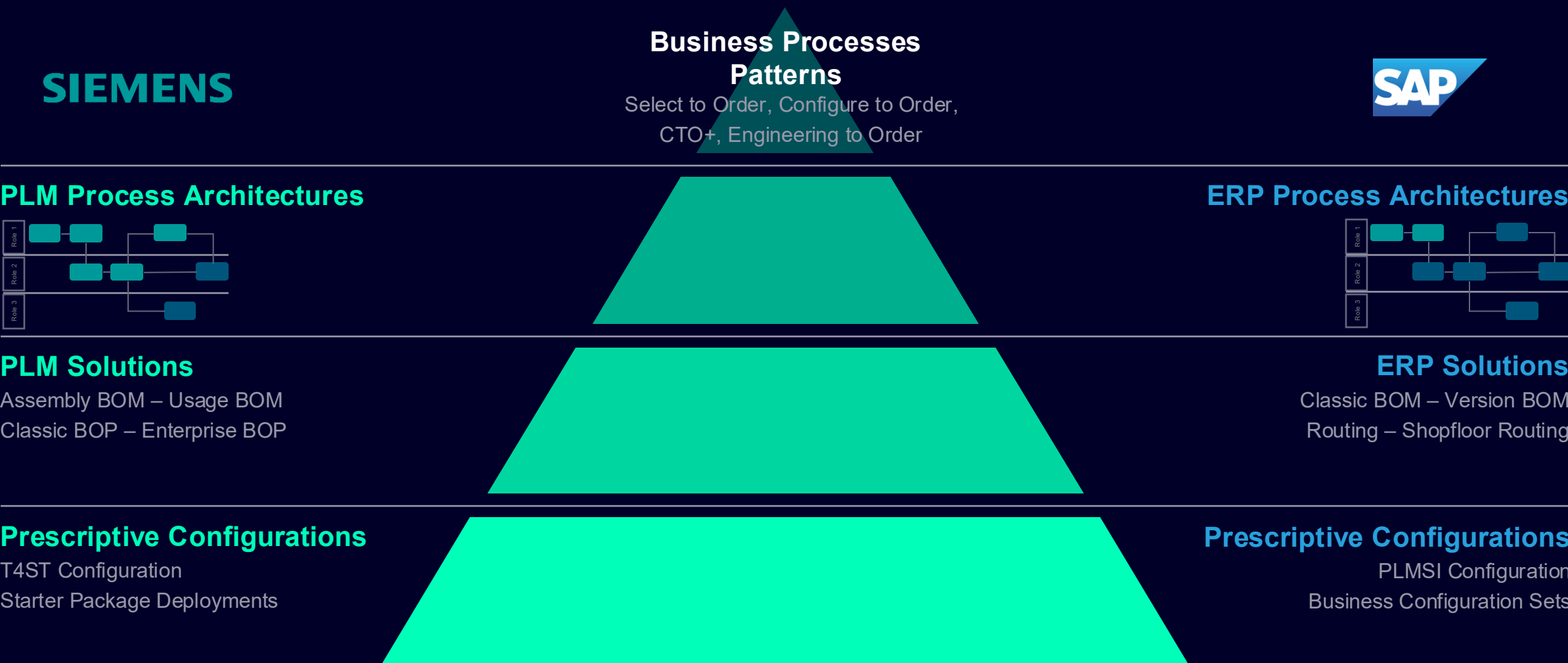
Integration architecture

Product Engineering object compatibility



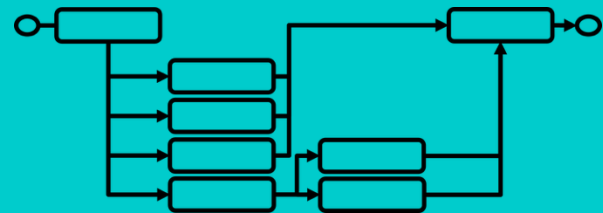
Digital Thread

From business processes to prescriptive configurations

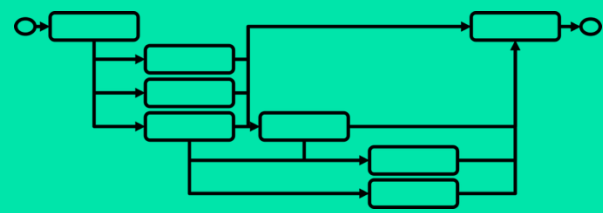


Integration approach
Starter Package overview

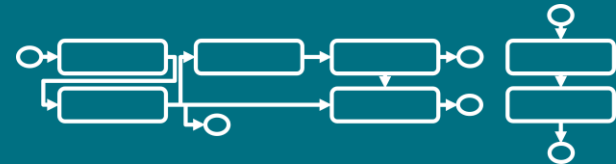
Product engineering



Manufacturing engineering



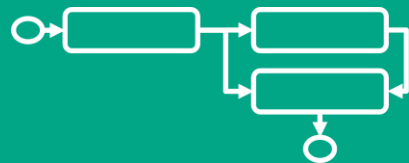
Change management



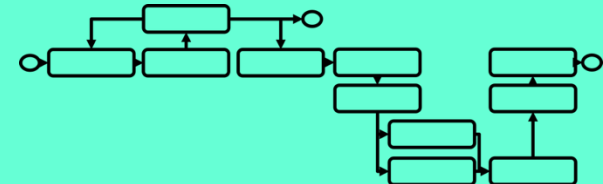
Configuration management



Vendor management

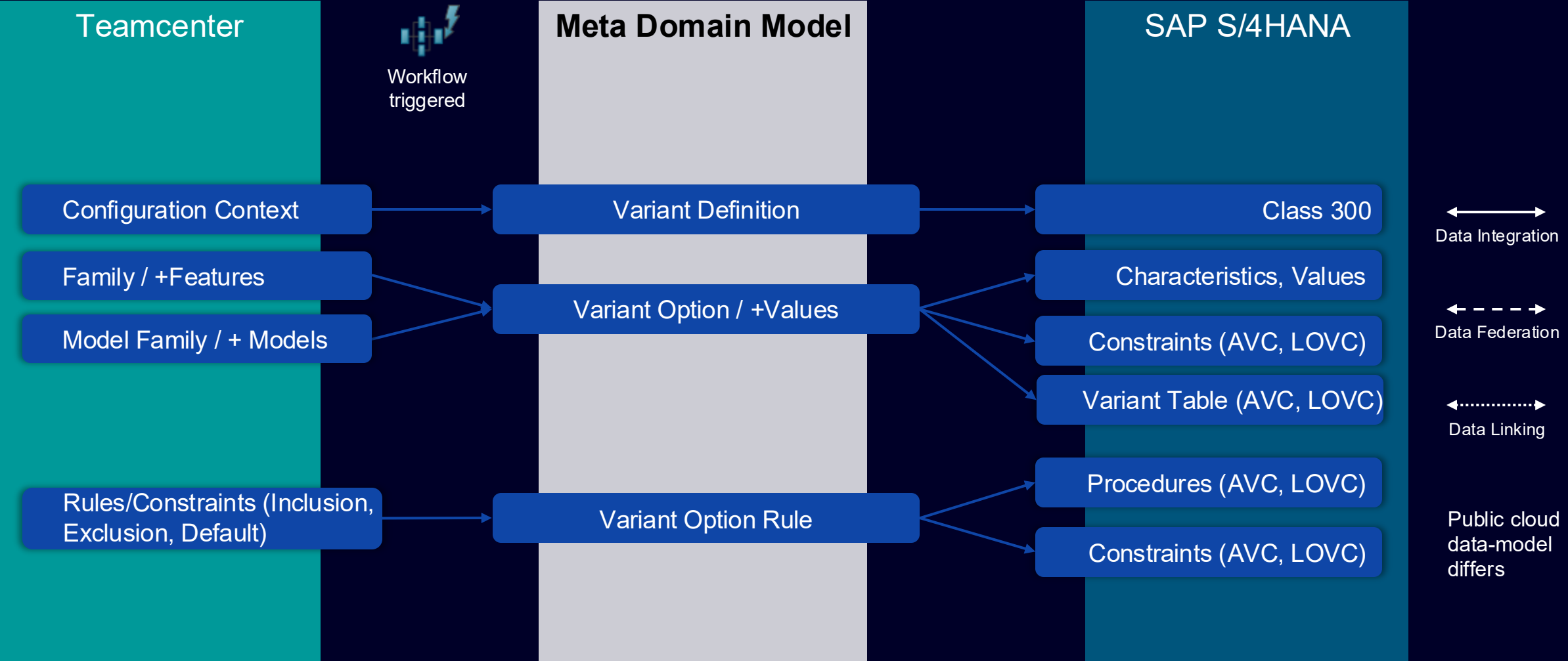


Order product engineering



Integration architecture

Configuration Management object compatibility



Demo T4ST: Configuration Management



SIEMENS

Demo T4ST: Productengineering 150%BOM

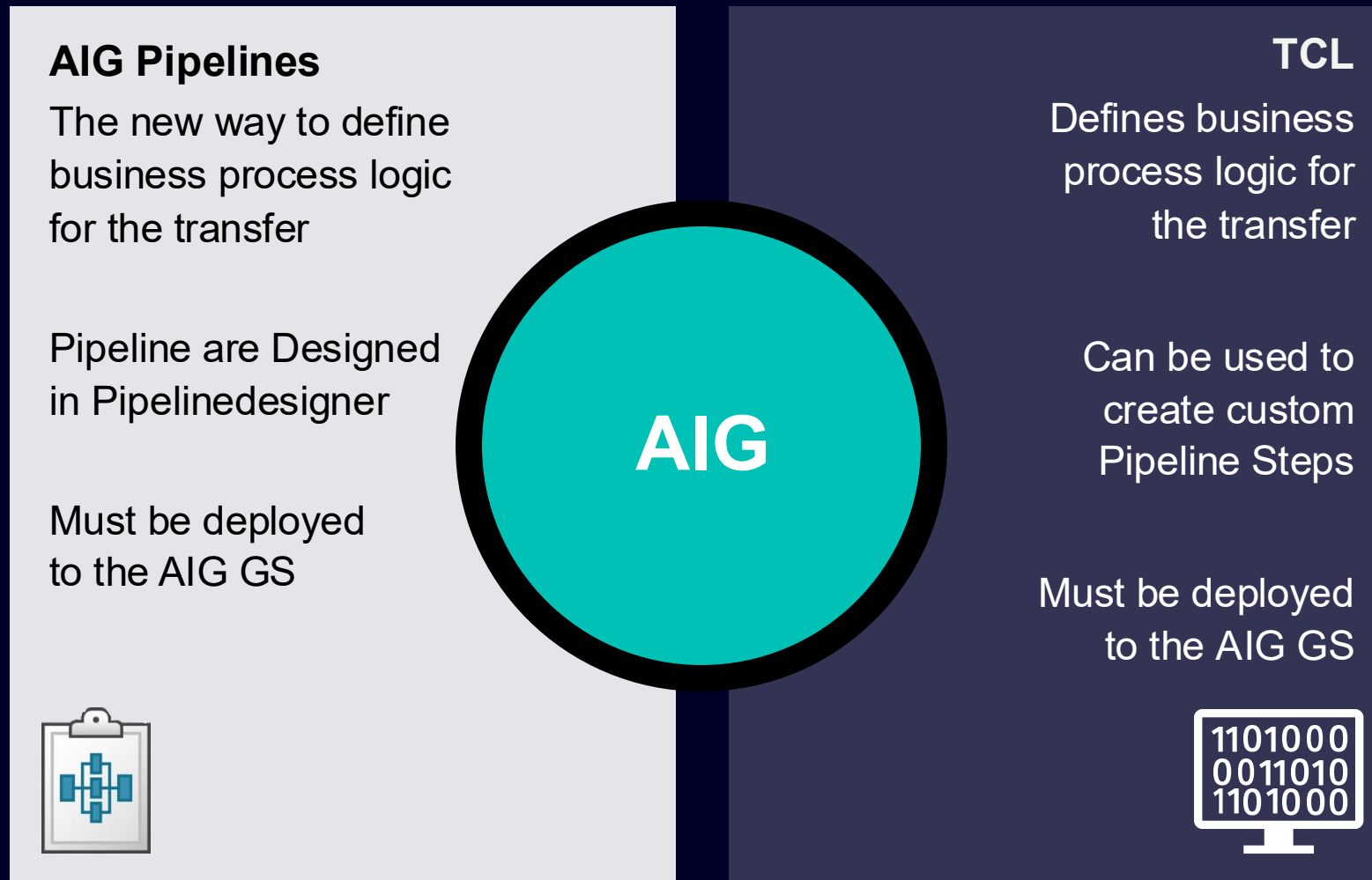
The Siemens logo is displayed in a large, bold, white sans-serif font, centered within a black rectangular area. The letters are thick and evenly spaced, creating a strong visual impact.

Pipeline Designer

Pipeline Designer vs. TCL Mapping

General Information

AIG Pipelines and TCL



Active Integration Solutions

Pipeline Designer - graphical configuration

ACI

Pipelines

Active Integration

Home

Browse Pipelines

Pipeline Designer

Type Repository

Step Library

Interface Model

Pipelines

Manage Deployed Pipelines

All

Pipelines

Pipeline Templates

Filter based on pipeline tags

Filter based on pipeline name...

PRSendPackageToSAP

Pipeline

PRSendToTCChild

Pipeline

PVAddElementToPackage

Pipeline

PVDataview

Pipeline

PVDataviewForSAP

Pipeline

PVKeyReservation

Pipeline

PVProcessTransferResult

Pipeline

PVSendPackageToSAP

Pipeline

PVSendToTC

Pipeline

PVValidation4CustomerOrder

Pipeline

Pipeline Properties

Name: PVAddElementToPackage

Description: PVAddElementToPackage

☐ Is Template?

Pipeline Tags

Tags are not assigned

AIG Logging

Business Object Name: ProductVersion

Process Flow Direction: TC2SAP

AIG Web API Endpoints

☐ Publish Synchronous Endpoint

☐ Publish Asynchronous Endpoint

Active Integration Pipelines
Low code data mapper

Active Integration Solutions

Pipeline Designer - graphical configuration

ACI

Pipeline Designer

PVAddElementToPackage

Search

SIEMENS

Home

Browse Pipelines

Pipeline Designer

Type Repository

Step Library

Interface Model

Step Name	Type	Group
Read TC ProductVersion	ReadStep	Teamcenter
Tc Workflow -AddObject4Mapping T4ST_	ReadStep	Teamcenter
Converts the localization data into mappi	FunctionalStep	T4ST Step
Map Step (Solution Variant)	MapStep	Mapping
DateTime4Now	FunctionalStep	Generic
Get data for ManufacturingEquivalent de	BlockStart (Conditional Execution)	
NOT_ManufacturingEquivalent	BlockStart (Conditional Execution)	
Map Step (Packaging Identifiers)	MapStep	Mapping
Map Step (Initialize Key Fields)	MapStep	Mapping
Map Step (Initialize Empty Collections)	MapStep	Mapping
Map Step (Key Fields)	MapStep	Mapping
Map Step (Key Version)	MapStep (Conditional Execution)	Mapping
Map Step (Key ID - Internal ID handlin	MapStep (Conditional Execution)	Mapping
Map Step (Prepare BasedOn Key ID)	MapStep	Mapping
Map Step (BasedOn)	MapStep (Conditional Execution)	Mapping
Map Step (ChangeNoticeRevision2Buf	MapStep	Mapping
Map Step (ManufacturingChangeNoti	MapStep (Conditional Execution)	Mapping
Map Step (validFrom Date)	MapStep	Mapping
Map Step (validFrom Error Message)	MapStep	Mapping
Error	ErrorStep (Conditional Execution)	Generic
Map Step (ChangeObject)	MapStep (Conditional Execution)	Mapping
Map Step (ChangeObject Error Messa	MapStep	Mapping
Error	ErrorStep (Conditional Execution)	Generic
Convert UOM TcUnit To IsoCode	FunctionalStep	Teamcenter

Step Properties

Conditional Execution

Input Schema

Output Schema

Interface Model Item	Internal Name	Type	Mapping Target
ProductVersion_read	TcData	data_element	
\$ItemRevisionType	\$ItemRevisionType	data_element	
CommercialPart Revision	CommercialPart Re...	data_element	
Ebm0PartProductRevision	Ebm0PartProductR...	data_element	
ItemInfo	ItemInfo	data_element	
ManufacturerPart Revision	ManufacturerPart R...	data_element	
Mfg0ConsumableRevision	Mfg0ConsumableR...	data_element	
Mfg0MEResourceRevision	Mfg0MEResourceR...	data_element	
Mfg0MfgAssemblyRevision	Mfg0MfgAssembly...	data_element	
Part Revision	Part Revision	data_element	
Preferences	Preferences	data_element	
TypeName	TypeName	string	
Workflow	Workflow	data_element	

Reading Teamcenter data schema

Active Integration Solutions

Pipeline Designer - graphical configuration

ACI

Pipeline Designer

PVAddElementToPackage

Home

Browse Pipelines

Pipeline Designer

Type Repository

Step Library

Interface Model

Step Name

Type

Group

Read TC ProductVersion

ReadStep

Teamcer

Tc Workflow -AddObject4Mapping T4ST_

ReadStep

Teamcer

Converts the localization data into mappi

FunctionalStep

T4ST Ste

Map Step (Solution Variant)

MapStep

Mapping

DateTime4Now

FunctionalStep

Generic

Get data for ManufacturingEquivalent de

BlockStart (Conditional Execution)

NOT_ManufacturingEquivalent

BlockStart (Conditional Execution)

Map Step (Packaging Identifiers)

MapStep

Mapping

Map Step (Initialize Key Fields)

MapStep

Mapping

Map Step (Initialize Empty Collections)

MapStep

Mapping

Map Step (Key Fields)

MapStep

Mapping

Map Step (Key Version)

MapStep (Conditional Execution)

Mapping

Map Step (Key ID - Internal ID handlin

MapStep (Conditional Execution)

Mapping

Map Step (Prepare BasedOn Key ID)

MapStep

Mapping

Map Step (BasedOn)

MapStep (Conditional Execution)

Mapping

Map Step (ChangeNoticeRevision2Buf

MapStep

Mapping

Map Step (ManufacturingChangeNoti

MapStep (Conditional Execution)

Mapping

Map Step (validFrom Date)

MapStep

Mapping

Map Step (validFrom Error Message)

MapStep

Mapping

Error

ErrorStep (Conditional Execution)

Generic

Map Step (ChangeObject)

MapStep (Conditional Execution)

Mapping

Map Step (ChangeObject Error Messa

MapStep

Mapping

Error

ErrorStep (Conditional Execution)

Generic

Convert UOM TcUnit To IsoCode

FunctionalStep

Teamcer

Step Properties

Conditional Execution

Table Mapper

Source and Target Context

Mappings

F() --> id

ObjectTagString --> tempPLMId

F() --> type

Revision --> version

Mapping Properties

Comments:

Source

Revision

Type: string

Internal Name: item_revision_id

Data Element: TcData->\$itemRevisionType

Description:

Target

version

Type: string

Internal Name: version

Data Element: PackageInformation->ProductVersion->key

Description:

Map attributes to transfer schema

Active Integration Solutions

Pipeline Designer - graphical configuration

ACI

Pipeline Designer

PVAddElementToPackage

Home

Browse Pipelines

Pipeline Designer

Type Repository

Step Library

Interface Model

Step Name

Type

Group

UGMASTER

LoopStart

Map Step (Dimensions)

MapStep (Conditional Execution)

Mapping

Map Names

LoopStart

Map Descriptions

LoopStart

Map Step (keepExistingLinkedDocume

MapStep

Mapping

FactoryData

LoopStart

DescribedByDocumentRevision

LoopStart (Conditional Execution)

RepresentedByDesignRevision

LoopStart (Conditional Execution)

Map Step (ItemRevision itself - PV to C

MapStep (Conditional Execution)

Mapping

Append Row Step

ModifyTableStep (Conditional Exe...

Generic

Map Step (Extension Fields)

MapStep

Mapping

Create ProductVersion classAssignmer

FunctionalStep

T4ST Ste

classAssignment

LoopStart

Map Step (Key Type Based On Item Ty

MapStep (Conditional Execution)

Mapping

Map Step (VariantDefinition Key Fields

MapStep

Mapping

Map Step (VariantDefinition Key Fields

MapStep (Conditional Execution)

Mapping

Map Step (Vendor Key field)

MapStep (Conditional Execution)

Mapping

Map Step (Vendor Part)

MapStep (Conditional Execution)

Mapping

Map Step (Vendor Error Message)

MapStep (Conditional Execution)

Mapping

Error

ErrorStep (Conditional Execution)

Generic

Map Step (Linked Configuration Conte

MapStep

Mapping

Error

ErrorStep (Conditional Execution)

Generic

Map Step (Reverse Mapping)

MapStep

Mapping

Create ProductVersion Transfer Packag

FunctionalStep

T4ST Ste

Loop Properties

Conditional Execution (Loop)

Conditional Execution (Iteration)

Iterator Schema

Loop Name:

UGMASTER

Description:

Loop over UGPART-BBOX->UGPartBoundingBoxForm forms to calculate the values for the target width, height and length.

Source Table Data Element(s):

TcData->\$ItemRevisionType->IMAN_specification/#use_secondary_only#->UGMASTER

Iterator Data Element Name:

UGMASTER

Sort by Attribute:

Attribute not set

!

Type:

Internal Name:

Data Element:

Description:

Loops, logic, math, conditions, error handling...

Active Integration und “Mentale Gesundheit”

Grundlage für "Digital Wellbeing"

Reduzierung von "Digital Friction"

Effizienzsteigerung & Zeitersparnis

Kognitive Entlastung

Fokus auf wertschöpfende Tätigkeiten

Erhöhte Datenklarheit & Verlässlichkeit

Optimierte Entscheidungsfindung

Stressfreie Systeminteraktion

Fehlerminimierung & Qualitätssicherung

Verbesserte Zusammenarbeit

Active Integration und mentale Gesundheit

Grundlage für "Digital Wellbeing":

„In dem AIG die digitale Arbeitsumgebung effizienter und weniger frustrierend gestaltet, schafft es eine Basis für ein besseres digitales Wohlbefinden der Mitarbeitenden“

Reduzierung von "Digital Friction":

„AIG eliminiert Reibungsverluste und manuelle Umwege zwischen Systemen, was Frustration und Stress bei der Dateneingabe oder -suche minimiert“

Fokus auf wertschöpfende Tätigkeiten:

„AIG befreit Mitarbeitende von administrativen Routinetätigkeiten, sodass sie sich auf anspruchsvollere, kreativere und erfüllendere Aufgaben konzentrieren können“

Contact

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