

# AEROSPACE Interfaces

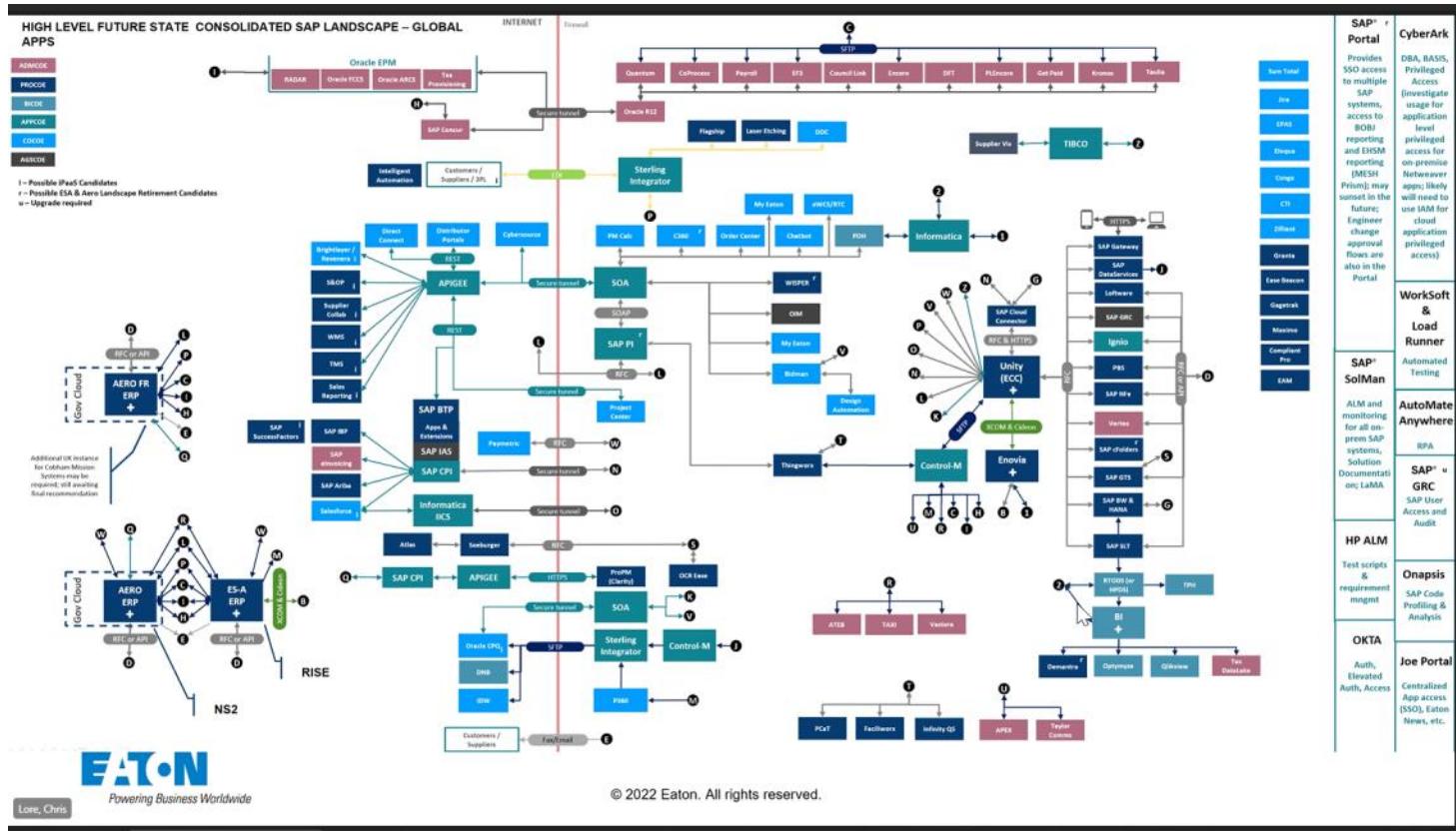
Monday, November 8, 2021 12:29 PM

[Aerospace MFGPro - Interface Inventory](#)

AEROSPACe Interface inventory

# ALL interfaces

Monday, March 27, 2023 12:39 PM



# Documentation

Wednesday, April 5, 2023 11:06 AM



CPI Docs

## RE: CPI Changes through ChaRM

Wednesday, April 5, 2023 11:06 AM

Subject	<b>RE: CPI Changes through ChaRM</b>
From	Vedula, Hari
To	Buntin, Mike; Visuvasam, Diana; Joshi, Shilna N; Nalla, Karthikreddy; Jandhyala, Ramesh
Cc	SAP COE; Fontenot, Timothy; Svoboda, Jess R
Sent	Wednesday, April 5, 2023 10:28 AM

Corrected a typo (highlighted in yellow):-

**From:** Vedula, Hari <[NarahariVedula@Eaton.com](mailto:NarahariVedula@Eaton.com)>  
**Sent:** 05 April 2023 15:36  
**To:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy <[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>; Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>  
**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>; Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>  
**Subject:** RE: CPI Changes through ChaRM

Hi All,

We have now cleaned up the old RFCs related to CPI / PI (see attached):-

- Old RFCs:-
  - They are now confirmed, and related CDs are withdrawn.
- RFCs currently in progress (Created with CDs):-
  - We will withdraw the related CDs after the changes are moved to production.
- In the future:-
  - For CPI changes (as they are not transportable):-
    1. we use RFC without CD.
    2. After the change is moved to production:-
      - Confirm the RFC
  - For PI changes (as the changes are transportable and will be eventually linked to CHARM):-
    3. We use RFC with CD.
    4. After the change is moved to production:-
      - withdraw the CD and
      - confirm the RFC.

Thanks,  
Hari Vedula.

**From:** Vedula, Hari  
**Sent:** Monday, April 3, 2023 2:53 PM  
**To:** Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>; Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy <[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>  
**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>  
**Subject:** RE: CPI Changes through ChaRM

Thanks Tim. It worked. I was able to withdraw the CD and confirm RFC 8000003981.

**Hari Vedula**  
Senior System Architect

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**From:** Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>  
**Sent:** Monday, April 3, 2023 2:50 PM  
**To:** Vedula, Hari <[NarahariVedula@Eaton.com](mailto:NarahariVedula@Eaton.com)>; Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy <[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>  
**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>  
**Subject:** RE: CPI Changes through ChaRM

Hi Hari,

With regard to your ping on RFC 8000003981, the reason you were not able to see a CD for that one is that when the RFC was approved, it was never advanced (by Governance) to "Being Implemented" status. Only once reaching that status does the CD get created. Chris has since advanced the CD to "Being Implemented" status and you should be able to withdraw the CD and then confirm the RFC to

close it.

Thanks

**Tim Fontenot**  
DevSecOps  
Mobile: +1 337 831-1278  
[timothyfontenot@eaton.com](mailto:timothyfontenot@eaton.com)  
[www.eaton.com](http://www.eaton.com)



**From:** Vedula, Hari <[NarahariVedula@Eaton.com](mailto:NarahariVedula@Eaton.com)>  
**Sent:** Monday, April 3, 2023 2:31 PM  
**To:** Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>; Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy <[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>  
**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>  
**Subject:** RE: CPI Changes through ChaRM

Hello Ramesh,

I am in the process of cleaning up the open RFCs. I will let you know when it is done.

Thanks,  
Hari Vedula.

**From:** Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>  
**Sent:** Monday, April 3, 2023 2:28 PM  
**To:** Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>; Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy <[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>  
**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>; Vedula, Hari <[NarahariVedula@Eaton.com](mailto:NarahariVedula@Eaton.com)>  
**Subject:** RE: CPI Changes through ChaRM

Thanks for sharing.

Unfortunately I don't have access to withdraw CD and also close RFC. Can anyone help?

Regards  
Ramesh Jandhyala  
Solution Architect, Data Governance & Finance BU Delivery  
mobile: +1 732 781 6439

**From:** Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>  
**Sent:** Wednesday, March 29, 2023 8:58 AM  
**To:** Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy <[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>  
**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>; Vedula, Hari <[NarahariVedula@Eaton.com](mailto:NarahariVedula@Eaton.com)>  
**Subject:** RE: CPI Changes through ChaRM

With regard to the "Withdraw the CD" portion of Mike's explanation, you can reference the document [Withdraw a CD.pdf](#) for those steps.

Thanks

**Tim Fontenot**  
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[www.eaton.com](http://www.eaton.com)



Know more -> [SAP ERG](#) and [SAP FAQ](#)

Use below links for raising SAP support tickets via Employee Center:  
**To report an issue:** [Issue/Question-SAP Un1ty - Employee Center \(service-now.com\)](#)  
**To make a request:** [Request Service-SAP Un1ty - Employee Center \(service-now.com\)](#)

**From:** Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>  
**Sent:** Wednesday, March 29, 2023 7:54 AM  
**To:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>;

Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy <[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>

**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>; Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>; Vedula, Hari

<[NarahariVedula@Eaton.com](mailto:NarahariVedula@Eaton.com)>

**Subject:** RE: CPI Changes through ChaRM

Adding Hari to the thread since he will be the governance representative for the integration workstream.

**From:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>

**Sent:** Wednesday, March 29, 2023 8:23 AM

**To:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Jandhyala, Ramesh

<[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Nalla, Karthikreddy

<[KarthikreddyNalla@eaton.com](mailto:KarthikreddyNalla@eaton.com)>

**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>; Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>; Svoboda, Jess

R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>

**Subject:** CPI Changes through ChaRM

Hi CPI team

I think there has been some confusion so let me hopefully help with a little clarity:

- For CPI you are not transporting changes between dev & prod (manual process) and therefore there is no future plan to have ChaRM Change Documents manage CPI changes.
- For RFC you can (and should from now on) create RFC without CD – ZOCR Eaton RFC Only.

Transaction Type	Transaction Type Description
ZOCR	Eaton RFC Only

- You still need to go back to the RFC when the change has moved to production and update the RFC to Confirmed status
  - [SAP ERG - Confirming an RFC.pdf](#)
  - For those RFCs for which you already have an CD, once the change is in Prod you need to Withdraw the CD and then update the RFC to Confirmed

Could I also ask for a little clean up of your existing RFCs? I see a lot there still in Being Implemented which I'm pretty sure are moved to prod.. keeping them up to date will really help clarity for all.

Hopefully this helps and maybe simplifies slightly.

Let me know of any questions.

Thanks  
Mike

**Mike Buntin**  
Director - SAP Solution Design & Governance - Operations & Enabling Value Chain, [Eaton](#)  
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**From:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>  
**Sent:** 28 March 2023 21:56  
**To:** Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>;  
Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>  
**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

All,

This is a situation where the documented process was not followed. While CPI changes require an RFC (with no CD), the actual change will be managed by ServiceNow.

**Chris Stott**  
Senior Specialist, SAP Release Management  
SAP Solution Design & Governance | Operating & Enabling Value Chain  
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**Eaton Resource Group:** [SAP ERG / Governance](#)

**From:** Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>  
**Sent:** Tuesday, March 28, 2023 4:51 PM  
**To:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>

**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>  
**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

The short answer is yes.....they should create RFC only.

However, if they create an RFC with CD and the CD does not get used (ie, they use SNOW to manage the change to Production), then it is just a matter of Withdrawing the CD after the given change has moved to Production (no harm done). But, if they create an RFC without CD and it is later determined that a CD is needed, the only fallback is to kill the RFC and create a new RFC with CD

The following is the recommended approach:

If a given system (ie, CPI) is **never intended** to go live in the future within Charm, then yes.....should be RFC only (no CD)

- However, if CD was created, it is just a matter of Withdrawing the CD after the given change has moved to Production (no harm done)

If a given system is **intended** to go live at some point in the future within Charm:

- If there is a chance that the given change will **NOT** migrate to Production before that given Charm Go live, then it would be best to do an RFC with a CD (so that the given change can be managed by Charm after go live)
- If it is likely that the given change **WILL** migrate to Production before that given Charm Go live, then it would be best to do an RFC without a CD
- \*\* Again, if the CD ends up not getting used, just is just a matter of Withdrawing the CD after the given change has moved to Production (no harm done)

**Tim Fontenot**  
DevOps Lead, SAP Support  
Mobile: +1 337 831-1278  
[timothyfontenot@eaton.com](mailto:timothyfontenot@eaton.com)  
[www.eaton.com](http://www.eaton.com)



Know more -> [SAP ERG](#) and [SAP FAQ](#)

Use below links for raising SAP support tickets via Employee Center:  
**To report an issue:** [Issue/Question-SAP Un1ty - Employee Center \(service-now.com\)](#)  
**To make a request:** [Request Service-SAP Un1ty - Employee Center \(service-now.com\)](#)

**From:** Svoboda, Jess R [JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)  
**Sent:** Tuesday, March 28, 2023 3:40 PM  
**To:** Buntin, Mike [MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com); Fontenot, Timothy [TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)  
**Cc:** SAP COE [SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)  
**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Mike, I wish I read Chris's comment below because I looked up and referenced the same information just now. According to the documentation there was no requirement for a CD with CPI/PI, so I'm not sure where that requirement came from.

Given it is not transportable and the uncertainty of the CPI product lifecycle, I do not see a reason to implement with a CD nor have it for the near future.

There is no benefit from my vantage.

**From:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>  
**Sent:** Tuesday, March 28, 2023 3:24 PM  
**To:** Svoboda, Jess R <[JessRSvoboda@Eaton.com](mailto:JessRSvoboda@Eaton.com)>; Fontenot, Timothy <[TimothyFontenot@Eaton.com](mailto:TimothyFontenot@Eaton.com)>  
**Cc:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>  
**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Jess, Tim  
If CPI changes are not transportable and CPI is out of scope of ChaRM CDs... would it be better to have them create RFC without CD?  
Mike

**From:** SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>  
**Sent:** Monday, March 27, 2023 7:18 PM  
**To:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>  
**Cc:** Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>; Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>  
**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Diana,

Please see [Managing SAP Changes](#)(Section 22: SAP Source System & Client(s) / Cycle Name). I've provided an excerpt below for your reference.



## Section 22: SAP Source System & Client(s) / Cycle Name

SAP Model	SAP Source System	Production Client(s)							Cycle Name	Description	Platform	
		N/A	001	010	100	105	168	222	EGDSP			
Un1ty	ECC				X					Un1ty - ECC	ERP Central Component	Unix
	BW					X				Un1ty - BW	Business Warehouse	Unix
	EP	X								Un1ty - EP	Enterprise Portal	Unix / Java Stack
	GTS				X					Un1ty - GTS	Global Trade Systems	Unix / ABAP
	NFE		X							Un1ty - NFE-PI	SAP GRC Nota Fiscal Electronica (PI Transports)	Unix / ABAP & Java Stack
				X						Un1ty - NFE	SAP GRC Nota Fiscal Electronica (All other Transports)	
		X								Un1ty - NFE-JAVA	SAP GRC Nota Fiscal Electronica (Non-Transportable)	
	PX	X								Un1ty - PI	Advanced Adapter Engine Extended of SAP NetWeaver PI	Linux / Java Stack
	BI Java	X								Un1ty - BI-JAVA	Business Warehouse Java instance	Unix / Java Stack
	BOBJ	X								Un1ty - BOBJ	Business Objects	Windows
	Data Services						X			Un1ty - Data Services	Data Services	Unix
	cProjects/cFolders			X						Un1ty - CFE	Collaboration Projects / Collaboration Folders	Linux / ABAP & Java Stack
	GRC				X					Un1ty - GRC	Governance, Risk and Compliance	Linux / ABAP
	Landscape Management	X								Un1ty - LAMA	Landscape Management	Unix / Java Stack
	SAP Gateway			X						Un1ty - FIORI	SAP Gateway / FIORI	Linux / ABAP
	SAP HANA XSA	X								Un1ty - XSA	SAP HANA Platform XS Advanced	Linux
	Solution Manager		X							Un1ty - SOLMAN	Solution Manager (ABAP)	Linux / ABAP
		X								Un1ty - SOLMAN-JAVA	Solution Manager (Java Engine)	Linux / Java Stack
	SLT			X						Un1ty - SLT	SAP Landscape Transformation	Linux / ABAP
	Ariba	X								Un1ty - ARIBA	SAP ARIBA Guided Buying	SAP Cloud
	CPI	X								Un1ty - CPI	Cloud Platform Integration	SAP Cloud
	C4S	X								Un1ty - C4S	Cloud for Service (C4S)	SAP Cloud
	IBP	X								Un1ty - IBP	SAP Integrated Business Planning (IBP)	SAP Cloud
HR-AT	H3P		X							HRAT - H3P	Moeller HR – AT (Austria)	Unix
HR-DE	AE1					X				HRDE - AE1	Moeller HR – DE (Germany)	Unix
PTec	PRD				X					PTec - PRD	PTec Production ECC	Unix
ESA				X						ESA - S4/Hana	S4/Hana – Electrical Americas	Linux / SAP RISE
AERO				X						AERO - S4/Hana	S4/Hana – Aerospace	Linux / SAP MS2

Note: Live - ChaRM is managing RFCs for all SAP Models and CDs for SAP Models Un1ty (SAP Source Systems GT1, ECC, & BW), E1A & AERO

Wave 3 - ChaRM will manage CDs for the SAP Source Systems NFE, cProjects/cFolders, GRC, SAP Gateway, Solution Manager (ABAP) & SLT

Wave 4 - ChaRM will manage CDs for the SAP Source Systems EP, PX, BI Java & SAP HANA XSA

Out of Scope - ChaRM will NOT manage CDs for SAP Source Systems BOBJ, Data Services, Landscape Management, Ariba, CPI, C4S, IBP, H3P, AE1 & PRD

Important: These Clients are closed for repository and customizing changes by default.

Managing SAP Changes.docx

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Last Updated: March 21, 2023

**Chris Stott**

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Eaton Resource Group: [SAP ERG / Governance](#)

**From:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>

**Sent:** Monday, March 27, 2023 9:28 AM

**To:** Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; SAP COE <[SAPCOE@Eaton.com](mailto:SAPCOE@Eaton.com)>

**Cc:** Jandhyala, Ramesh <[RameshJandhyala@Eaton.com](mailto:RameshJandhyala@Eaton.com)>; Joshi, Shilna N <[ShilnaNJoshi@eaton.com](mailto:ShilnaNJoshi@eaton.com)>

**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

[@SAP COE](#) : Kindly let us know whether CPI changes should have CD in RFC.

[@Jandhyala, Ramesh](#) & [@Joshi, Shilna N](#): FYI .

Thanks,

Diana V.

**From:** Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>

**Sent:** Monday, March 27, 2023 6:56 PM

**To:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>

**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Please confirm with SAP COE.

**From:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>

**Sent:** Monday, March 27, 2023 9:03 AM

**To:** Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>

**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Hi Cahal,

All our CPI RFCs have CD to add CPI as a service and this is the guidance I got from Ramesh.

Thanks,

Diana V.

**From:** Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>

**Sent:** Monday, March 27, 2023 5:32 PM

**To:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>

**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Coming back to my question... The RFC was created with CD. To my knowledge, CPI doesn't use CDs unless something has changed.

**From:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>

**Sent:** Monday, March 27, 2023 5:12 AM

**To:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>

**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Ok great – the fact that this now is under Functional Area “Deliver” means it needs Cahal to approve for partner “QTC\_FDRB DELIVER DRB”

No approval from me needed in this RFC

Mike

**From:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>

**Sent:** 27 March 2023 10:07

**To:** Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>; Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>

**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Thank You @[Lyden, Cahal J](#) for your approval.

@[Buntin, Mike](#): I have added the Scope and moved it for approval. Requesting you to check and approve the same.

Thanks,  
Diana V.

**From:** Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>

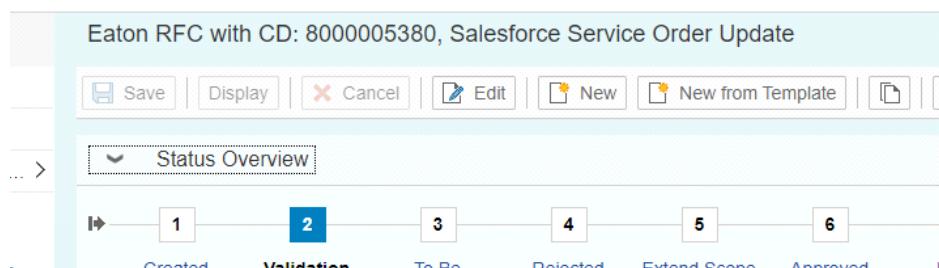
**Sent:** Saturday, March 25, 2023 2:25 AM

**To:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>; Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>

**Subject:** RE: Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Hey Mike – I reviewed the CPI only change with Diana and I'm fine with moving forward.

Could the problem be the RFC has a CD and CPI doesn't use CDs yet?



**From:** Buntin, Mike <[MikeRBuntin@Eaton.com](mailto:MikeRBuntin@Eaton.com)>

**Sent:** Friday, March 24, 2023 2:57 PM

**To:** Visuvasam, Diana <[DianaVisuvasam@eaton.com](mailto:DianaVisuvasam@eaton.com)>; Lyden, Cahal J <[CahalJLyden@Eaton.com](mailto:CahalJLyden@Eaton.com)>

**Subject:** Eaton RFC with CD: 8000005380, Salesforce Service Order Update

Hi Cahal

Can you check this RFC and that you're ok with it?

[http://sapuxsmp.tcc.etn.com:8001/sap/bc/ags\\_workcenter/ags\\_crm\\_docIn?objectid=8000005380&procotype=ZECR&](http://sapuxsmp.tcc.etn.com:8001/sap/bc/ags_workcenter/ags_crm_docIn?objectid=8000005380&procotype=ZECR&)

Diana, I'm really sorry but I cannot get this to the next stage, it keeps asking me for product ID and I

cannot get around it – if you enter a new RFC exactly like you're original then I'll approve it as soon as Cahal confirms he is ok with the content of this one.

Mike

**Mike Buntin**  
Director - SAP Solution Design & Governance - Operations & Enabling Value Chain, [Eaton](#)  
**Mobile:** +44 (0)7803 858013  
[mikerbuntin@eaton.com](mailto:mikerbuntin@eaton.com)



# Decoupling: When to use a broker like SAP Event Mesh – integration://excellence – The blog of Whitepaper InterfaceDesign

Clipped from: <https://www.integration-excellence.com/decoupling-when-to-use-a-broker-like-sap-event-mesh/>



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## Decoupling: When to use a broker like SAP Event Mesh

Published

We often hear “we need a messaging broker to be able to decouple applications”. Moving away from Point-To-Point-Integration is really great to remove the dependencies between systems. But what does decoupling (or loose coupling) mean and which dimensions does it bring?

Here’s an overview (for more [check out this video from AWS re:invent by Gregor Hohpe](#)):

Decoupling	Runtime (async messaging)	Data Format (XML, JSON, ...)	Data Structure (Address)
Broker (e.g. SAP Event Mesh)	X		
API-M (e.g. SAP API Management)		(X)	(X)
ESB (e.g. SAP Cloud Integration)	X	X	X

Decoupling dimensions

Among all different types of dependencies we look at the most important ones:

- **Runtime** dependencies can be solved with asynchronous messaging, where the sender (system) can submit a message to the middleware and this is independent from the availability of the receiver.
- **Data Format** dependencies, where both systems have to speak the same technical language (XML/JSON/CSV/...). The decoupling takes place via converters. In API-M this can be solved with policies.
- **Data Structure** dependencies look at structural, technical and semantic differences of the fields and elements, which can include
  - the structure and arrangement of field names in a message (e.g. ZipCode vs. ZIP),
  - the data type behind a field (e.g. string/int, null/empty),
  - the semantic content of a field, e.g. the country code (DE vs. GER)The decoupling done with mappings like XSLT (for XML) or scripting/programming or via graphical mapping tools. In API-M it can be also done via policies, but we would not recommend that way.

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XML) or scripting/programming or via graphical mapping tools. In API-M it can be also done via policies, but we would not recommend that way.

Going further in this article, let's even combine Data Format and Data Structure into Message Format (for simplification). SAP calls this "aligned APIs", when sender and receiver speak the same language and where no mediation is required through a middleware (which is performing transformations, message mappings and even protocol switch).

A broker is **decoupling runtime dependencies** through this pattern:



There are many brokers available in the market, from our experience we see mainly those below, who serve this main purpose, but have different implementation approaches of course. They typically handle (only) protocols like AMQP, MQTT or plain HTTP. Messages are being exchanged through topics and/or queues and sometimes work with Webhooks (to push messages to consumers).

- Rabbit MQ
- Kafka (Confluent)
- Solace
- SAP Event Mesh, SAP Advanced Event Mesh (technology: Solace)
- Microsoft Service Bus
- AWS SQS

An ESB is **decoupling Message Format dependencies** through this pattern:



The main focus is to transform messages from one format to another. One can argue, this is creating a lot of "mediated point-to-point" integrations (which is true), but what is the alternative? Mediation here brings transparency and a clear approach to map the 2 different message formats. Solving this with a canonical data model, where all applications speak the same language is a nice theory, but the reality is hard: Each application has to map to this canonical data model with its own programming technique (which is rarely better)... In the end, connecting the dots (aligned message

theory, but the reality is hard: Each application has to map to this canonical data model with its own programming technique (which is rarely better)... In the end, connecting the dots (aligned message formats) through API Management or decoupled through a broker brings a mediated point-to-point landscape as well (at least from a connectivity point of view)!



Message Mapping in the applications

---

Actually **SAP Cloud Integration**, as an ESB, can decouple in all areas.

- There are standard transformers and converters to support Data Format Decoupling (JSON <-> XML <-> CSV), Zip/Unzip, Decode/Encode and Data Structure Decoupling (XSLT) Mappings, Groovy/JavaScript Mappings, (graphical) Message Mappings in a low-code fashion.
- What many people forget: SAP Cloud Integration can also decouple the runtime through queuing mechanisms like JMS or Data Store. For more information on queuing check out [this article](#). The JMS-Queuing feature is technically based on SAP Event Mesh, which is a white-label product of Solace!



Runtime and Message Format Decoupling with SAP Cloud Integration

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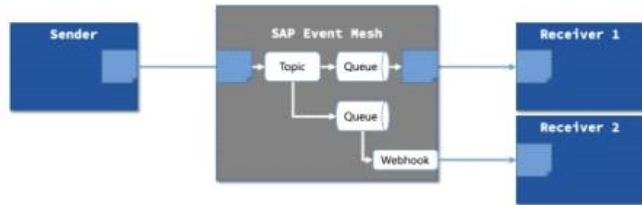
### Do I still need a Broker?

SAP Event Mesh can connect directly with event consumers or producers through AMQP, MQTT, JMS or HTTP, such as SAP S/4HANA, where a lot of events are available meanwhile (see [SAP API Business Hub](#)), so there is a natural fit. But choosing a broker in all asynchronous messaging depends on the use case.

### PubSub

The typical integration pattern is PubSub (Publish & Subscribe). You can easily configure a connection between different event producers and event consumers through topics and queues (or Webhooks where needed). This makes sense, if you dispatch the same event (message) to different receivers. However, please keep in mind, that you can send messages to multiple receivers as well by configuring this in a low-code environment.

this in a low-code environment.



PubSub with SAP Event Mesh

## Replay

Another aspect is a replay capability which is available with brokers like Kafka, Solace or SAP Advanced Event Mesh. You can go back e.g. 2 days and replay all messages that were processed through a particular topic or queue (typically for one receiver only).

## Additional Aspects

Brokers for Event-Driven Architectures serve the purpose of handling large volumes (but with a limited message size) in a scalable, low-latency way to decouple and ensure reliable messaging.

All of this can be achieved with SAP Cloud Integration, but with a higher price tag. SAP Cloud Integration is depending on the amount of messages (and volume: 1 message = 256 KB, so 1 MB = 4 messages), whereas SAP Event Mesh is licensed by bandwidth in GB. The calculation (and comparison) can be done in the [SAP discovery center](#).

---

## When do you need a broker then of you have an ESB already?

- If your event producer/consumer speaks natively with a broker (e.g. via AMQP/MQTT)
- If you need a distribution model to multiple receivers and you want to implement a PubSub pattern
- If you need replay capabilities
- If you need to ensure FIFO (First-In-First-Out)/EOIO (Exactly-Once-In-Order) which is not (yet) available in SAP Cloud Integration
- For high-volume messaging (large volumes with high throughput, e.g. in IoT-scenarios or custom-developed mobile apps to process small messages from sensors or real-time analytics and eventing)

---

## Conclusion

You can achieve all aspects of decoupling with an ESB/iPaaS like **SAP Cloud Integration**. You might consider brokers like **SAP Event Mesh** for transparency reasons using PubSub when integrating multiple receivers or when you have the need for replay capabilities (SAP Advanced Event Mesh, Solace, Kafka). You can also use it when you have event

when integrating multiple receivers or when you have the need for replay capabilities (SAP Advanced Event Mesh, Solace, Kafka). You can also use it, when you have event producers like SAP S/4HANA who can connect to your broker via AMQP/MQTT natively.

Please consider there are scenarios, where both components make sense (e.g. SAP Cloud Integration together with SAP Event Mesh (via AMQP-Adapter) or Kafka (via Kafka-Adapter)) and you can use the best of the 2 components together.

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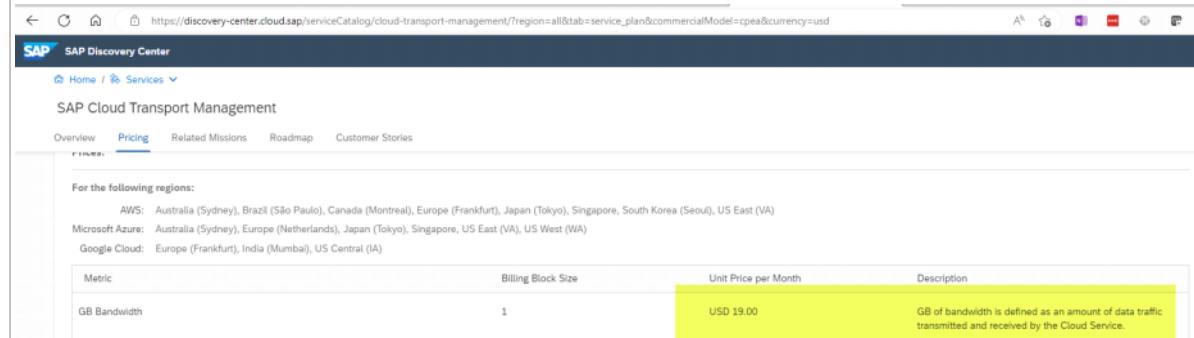


# Transport

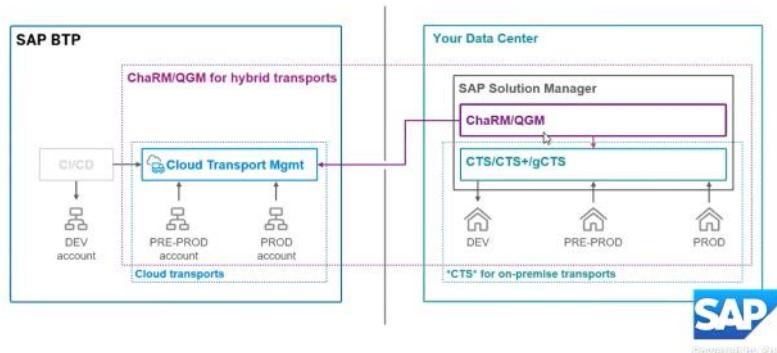
Wednesday, June 14, 2023 7:46 PM

# CPI SAP cloud transport management

Wednesday, April 5, 2023 2:06 PM

	What is it?
<p><a href="https://www.sapstore.com/solutions/80212/SAP-Cloud-Transport-Management">https://www.sapstore.com/solutions/80212/SAP-Cloud-Transport-Management</a>  <a href="https://discovery-center.cloud.sap/serviceCatalog/cloud-transport-management/?region=all&amp;tab=service_plan">https://discovery-center.cloud.sap/serviceCatalog/cloud-transport-management/?region=all&amp;tab=service_plan</a></p> 	Cost \$19 per month for 1 GB
<p><a href="https://answers.sap.com/questions/13414399/transports-set-up-for-sap-cpi.html">https://answers.sap.com/questions/13414399/transports-set-up-for-sap-cpi.html</a></p> <p>Hello Nidhi,      Let me help with this question:</p> <ul style="list-style-type: none"> <li>Both CTS+ and SAP Cloud Transport Management (CTMS) can transport content in the format of Multitarget Application (MTA) archives, both in Neo and in Cloud Foundry environments</li> <li>Both can be integrated into change management, such as Change Request Management and Quality Gate Management of SAP Solution Manager today</li> <li>CTMS can also handle further application content, not only in the format of MTA files, and we are working on enabling more and more scenarios for CTMS (such as transports for further cloud environments, content types of further SAP BTP cloud services, content of SAP SaaS solutions)</li> <li>For CTS+, it is not planned to extend its functionality to further content types beyond MTA</li> <li>CTMS is a charged cloud service (for which you get a running service on corresponding cloud infrastructure provided in many data centers without having to take care for updates etc., with a cloud-like experience, such as with a landscape wizard), while CTS+ can be used without additional charge (while you have to consider efforts to operate and run a corresponding ABAP system on your own hardware). I consider costs for CTMS as moderate for what you get, we charge 18 EUR/1GB/month of data uploaded to the service (single transports of uploaded content are not charged separately - that is, you get charged for an archive and then can perform arbitrary number of transports without additional charge) - this 1 GB can suffice for handling several hundred changes a month (of course, depending on the size of your archives - but especially for SAP Integration Suite, this should suffice for many iFlow packages).</li> </ul> <p>So, as already outlined above, if you already have a CTS+ system and know that MTA-based content does suffice for now and the near future, you can stick to CTS+ and should be fine. Otherwise, our way forward will be the SAP Cloud Transport Management service, which is planned as central service that shall be able to handle the propagation of all relevant SAP cloud artifacts (also beyond MTA, in further environments besides Neo and Cloud Foundry, on SAP BTP and SAP cloud solutions). We do not have plans to deprecate CTS+, it is only that new features (such as scheduling) will come for CTMS instead. You can find road map information of CTMS in SAP Road Map Explorer <a href="#">here</a>.</p> <p>BTW: you can try out CTMS free-of-charge in SAP BTP, trial environment.</p> <p>I hope this helps.      Best regards,      Boris</p> <p>From &lt;<a href="https://answers.sap.com/questions/13414399/transports-set-up-for-sap-cpi.html">https://answers.sap.com/questions/13414399/transports-set-up-for-sap-cpi.html</a>&gt;</p>	

## Integrate cTMS and CTS+ with Change Management on SAP Solution Manager



## Integrate cTMS with Change Management on SAP Solution Manager

SAP Cloud Transport Management (cTMS) can be integrated with the Change Management tools on SAP Solution Manager: **Change Request Management** (ChaRM) or **Quality Gate Management** (QGM).

This allows synchronized transports of ABAP on-premise (via CTS), non-ABAP on-premise (via CTS+) and cloud artifacts (via cTMS) in hybrid projects.

This setup is very important for customers with strict audit requirements (like banking or pharmaceuticals).

The prerequisite for integrating cTMS with SAP Solution Manager is release 7.2 with SPS10 (available as of December 2019). 



# Interplay of SAP Cloud Platform Transport Management, CTS+ and ChaRM in hybrid landscapes | SAP Blogs

Wednesday, June 14, 2023 7:45 PM

Clipped from: <https://blogs.sap.com/2020/01/31/interplay-of-sap-cloud-platform-transport-management-cts-and-charm-in-hybrid-landscapes/>

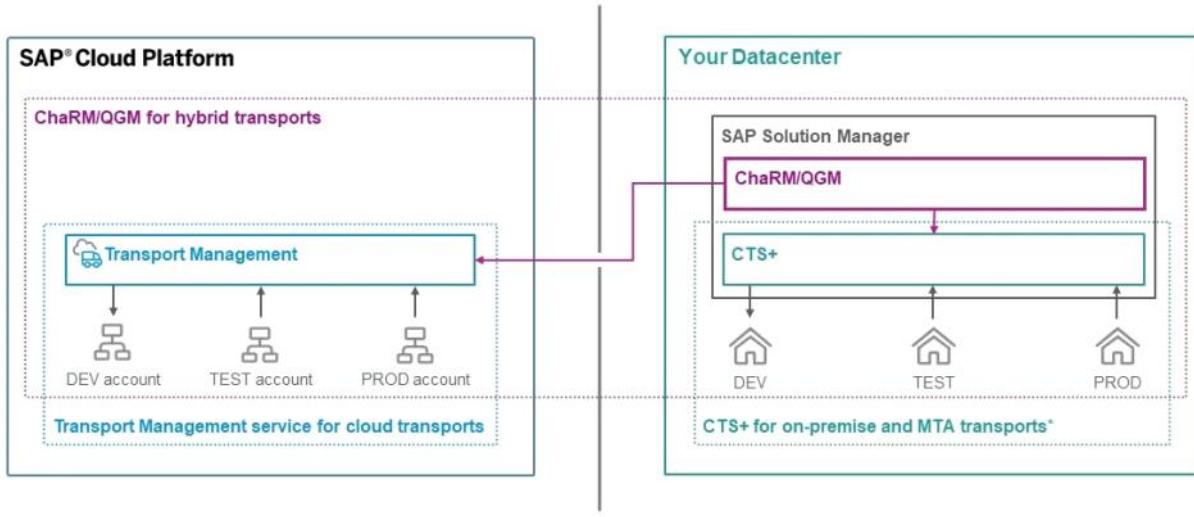
## Overview

Many customers are confused which tools to use when it comes to transporting content in hybrid (cloud and on premise) landscapes. This blog describes our recommendations when to use SAP Cloud Platform Transport Management service (TMS) and when to use enhanced Change and Transport System (CTS+). It also talks about how these tools can be combined with each other and with SAP Solution Manager Change Request Management (ChaRM) or Quality Gate Management (QGM).

## High-level statements

Let's start with some central statements:

- **Transport Management (TMS) handles transport of development artifacts and application content in the cloud**
- **Enhanced Change and Transport System (CTS+) mainly deals with transport of non-ABAP content on premise**
- **TMS and CTS+ can peacefully coexist**
- **Both tools can be integrated into SAP Solution Manager Change Request Management (ChaRM) or Quality Gate Management**
- **TMS and CTS+ can also be combined with Continuous Integration Pipelines for handling the (Continuous) Delivery**



\*) CTS+ can also handle MTA-based transports on SAP Cloud Platform (such as for SAP Cloud Platform Integration)

As all of you know 'the devil is in the details', so let's have a closer look.

### The fine print

#### SAP Cloud Platform Transport Management

SAP Cloud Platform Transport Management (TMS) is THE solution for transporting content in SAP Cloud Platform (Neo and Cloud Foundry environment) and is [generally available since December 2018](#). It is also [available in a trial environment](#).

TMS is a service running in the Cloud Foundry environment, but the transport targets can be subaccounts in Neo environment , spaces in the Cloud Foundry environment and even tenants of multi-tenant enabled content runtimes like SAP Data Hub. The transports can be performed across global accounts and even between different regions (aka data centers).

The architecture of TMS allows the transport of any type of content by offering APIs to the consuming SAP Cloud Platform services or applications. This means that services which want to make TMS available for their content have to implement these APIs. As of December 2019 this has already been done for:

- SAP Cloud Platform Integration in the Neo environment
- Workflow in the Cloud Foundry environment
- SAP Fiori in the Neo environment
- Business Logging in the Cloud Foundry environment
- HTML5 repository in the Cloud Foundry environment

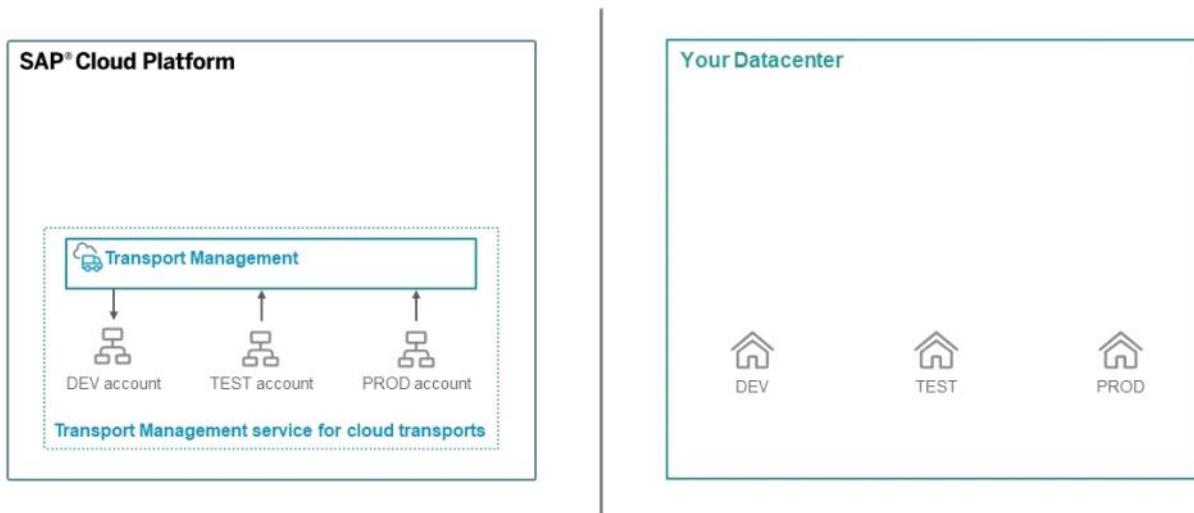
Besides that, TMS can transport development artifacts which can be packaged in Multi-Target Application (MTA) archives and SAP HANA delivery units if the SAP HANA database is hosted in SAP Cloud Platform.

For more details please have a look into [the SAP documentation on TMS](#).

We will step-by-step increase the coverage of Transport Management for SAP Cloud Platform services. We also plan to use TMS for transporting application specific content of some of SAP's SaaS solutions, for example SAP SuccessFactors.

On the other hand, we are not planning to extend the reach of TMS to on-premise systems (exceptions may apply to private cloud scenarios...).

**In summary SAP Cloud Platform Transport Management will be further developed to cover a growing part of SAP Cloud Platform content and is therefore the way to go for customers planning to implement projects using SAP Cloud Platform services.**



#### Enhanced Change and Transport System

The enhanced Change and Transport System (CTS+) has been available for many years to transport on-premise non-ABAP content (like SAP Netweaver Development Infrastructure) via the ABAP Change and Transport System. You can model your non-ABAP systems as virtual systems in your transport landscape and connect them via transport routes.

This concept has been extended a few years ago to SAP Cloud Platform (Neo and Cloud Foundry environment). Please note that the ABAP server acting as CTS+ control system (in many cases an SAP Solution Manager) resides in your on-premise data center even for the SAP Cloud Platform transports.

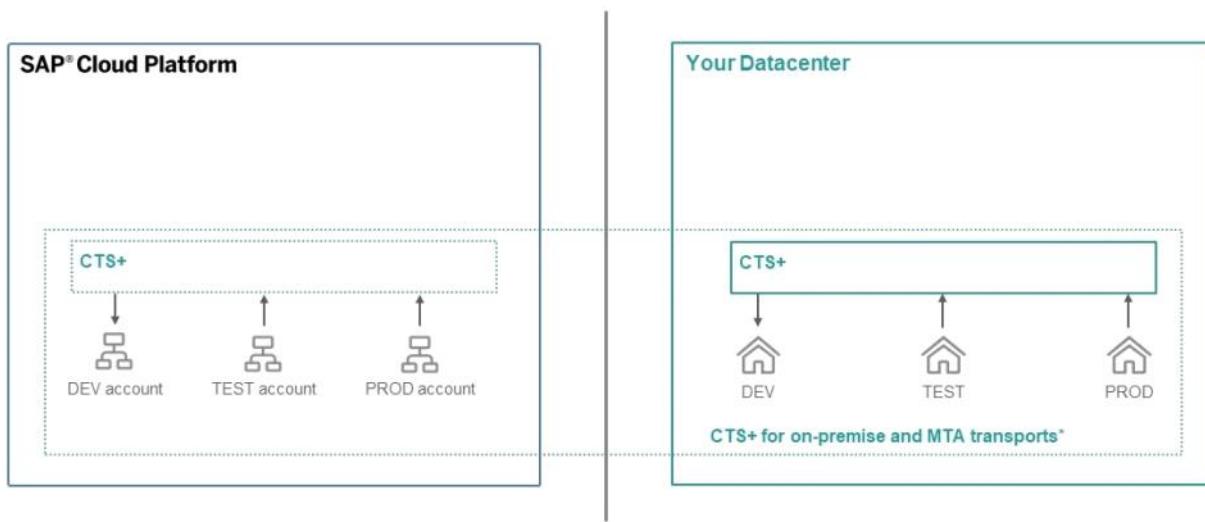
I have described setting up CTS+ for SAP Cloud Platform in [this blog](#).

The basis for transporting SAP Cloud Platform content via CTS+ is the Multi-Target Application (MTA). The content to be transported is packaged into an MTA archive file and attached to the CTS+ transport request.

This in turn means that only cloud content that can be packaged into an MTA can be transported with CTS+. For a detailed list of which artifact types are covered by MTA see [here](#) for Neo and [here](#) for Cloud Foundry. Basically we are talking about development artifacts like HTML5 or NodeJS applications and some application content like SAP Cloud Platform Integration packages in the Neo environment.

We will continue to support the MTA based transport of SAP Cloud Platform content via CTS+ but we are not planning to extend the CTS+ coverage to other content types in SAP Cloud Platform or other SAP cloud based SaaS solutions.

**So if you use MTA based content only in SAP Cloud Platform, CTS+ can be a valid choice.**



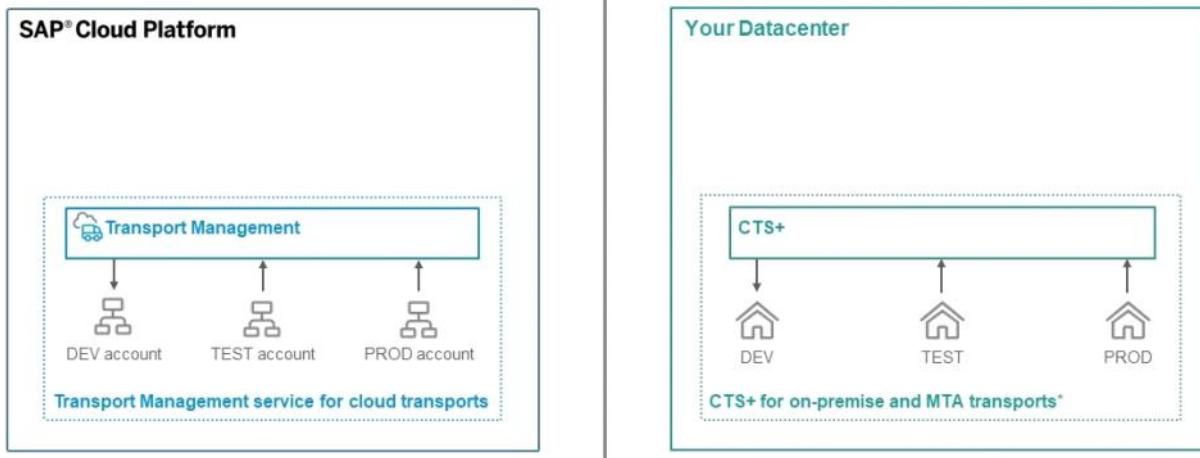
\*) CTS+ can also handle MTA-based transports on SAP Cloud Platform (such as for SAP Cloud Platform Integration)

#### Coexistence of TMS and CTS+

As I have written in the previous section CTS+ supports only SAP Cloud Platform artifacts which can be bundled into a Multi-Target Application. This is not the case for many service specific artifact types in SAP Cloud Platform. Therefore, there might come the time to use the cloud based Transport Management service and the on premise based enhanced Change and Transport System in parallel.

Technically this is not a problem, even when targeting the same subaccounts (or spaces) in SAP Cloud Platform. The challenge lies more on the governance level. A typical approach would be to clearly define which content types are transported with which tool. For the MTA enabled artifacts you have the choice between TMS and CTS+, whereas the rest always calls for TMS.

**In the long run we recommend performing all cloud related transports via TMS and the on premise transports with CTS+.**

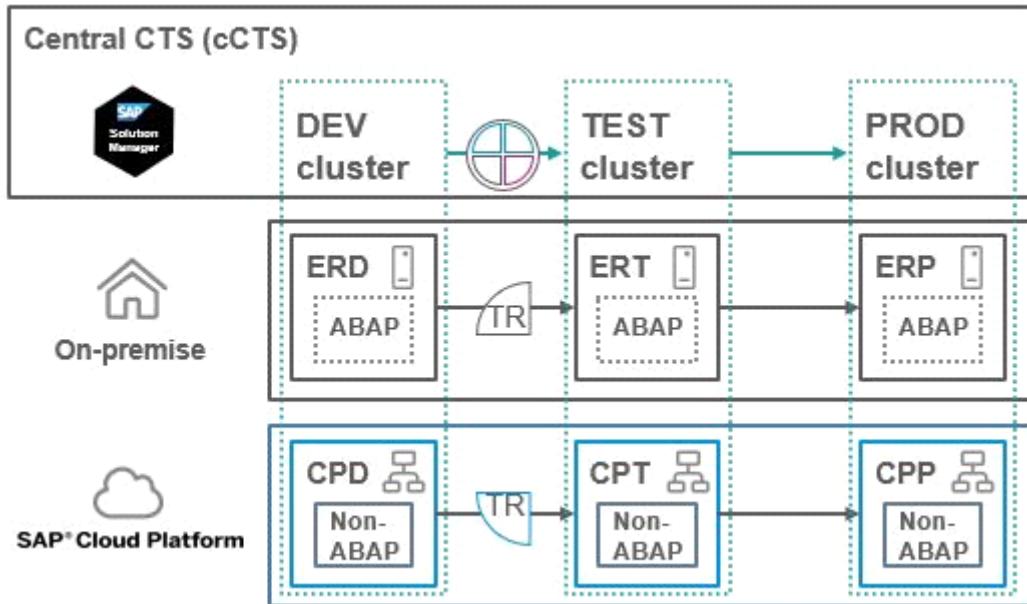


### Integration with SAP Solution Manager Change Request Management

In many cases an application involves several parts which run in separate systems in your landscape. A typical example would be a functionality running in a backend system (like SAP S/4HANA) running on premise which is extended by a nice frontend running on SAP Cloud Platform. These kinds of projects call for a hybrid change management covering all environments and allowing to synchronize the changes in the different systems respectively subaccounts or spaces.

We offer tools in SAP Solution Manager for this requirement, named Change Request Management (ChaRM) and Quality Gate Management (QGM). The good news is that both CTS+ and TMS can be integrated into the ChaRM or QGM processes.

The **integration of CTS+ into ChaRM** is available for quite a while so that MTA based CTS+ transports of SAP Cloud Platform content can be included into and managed via change documents in SAP Solution Manager. Via the central Change and Transport System (cCTS) it is even possible to make SAP Cloud Platform Neo subaccounts or Cloud Foundry spaces members of so-called system clusters which group several systems of different landscapes with the same role (development, test, production, ...) into one 'super-system'. The transports from the different source systems in the development cluster are also bundled forming so called transport collections. For more information about cCTS please check the [corresponding SAP documentation](#).



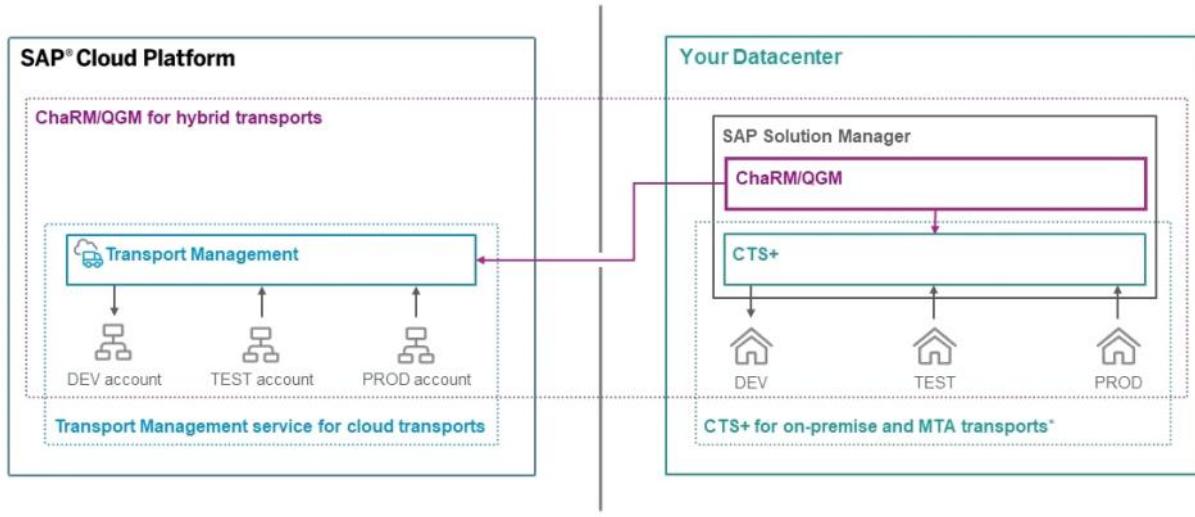
The default configuration for this scenario would be that the SAP Solution Manager would not only run the Change Request Management functionality but would also be the central transport server for CTS+. Here it is important to know that the CTS+ integration of SAP Cloud Platform requires an SAP Netweaver release of 7.40 SP10 or above. Therefore, this setup requires an SAP Solution Manager 7.2 (but you all should have upgraded your SolMan 7.1 by now...).

**The integration of SAP Cloud Platform Transport Management into ChaRM**, however, is quite new. It has been released in December 2019 with SPS 10 for SAP Solution Manager 7.2. The configuration is described in [this document on SAP Help Portal](#).

Basically, the TMS transport nodes are modeled as external services in SAP Solution Manager and then assigned to a solution. When using the integration, you can select which transport requests in TMS belong to a specific change document in Change Request Management. With this information SAP Solution Manager is able to trigger the imports into the corresponding subaccounts whenever the change document reaches the appropriate state, for example 'To be tested'.

On the side of TMS the corresponding transport nodes are marked as being 'controlled by SAP Solution Manager'. This prevents these nodes from performing imports directly from within TMS.

The overall architecture for using TMS and CTS+ with SAP Solution Manager looks like this:

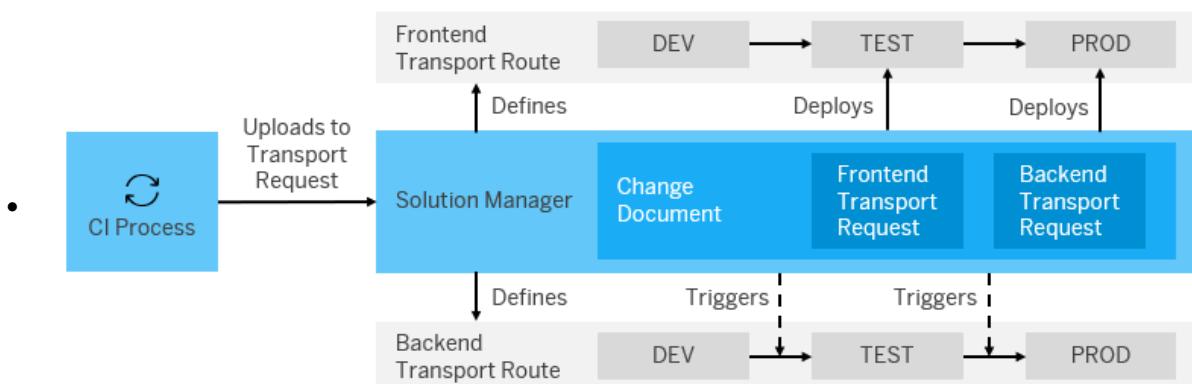


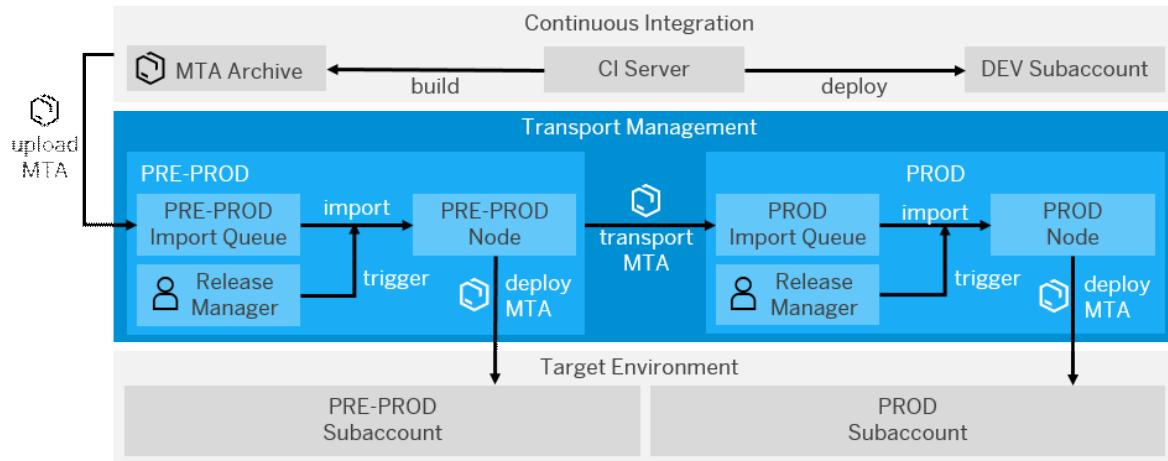
\*) CTS+ can also handle MTA-based transports on SAP Cloud Platform (such as for SAP Cloud Platform Integration)

### Usage of TMS and CTS+ in CI pipelines

Development teams in SAP Cloud Platform very often make use of Continuous Integration processes by storing the development artifacts in a central source code repository like Git. Upon committing a change towards this source code repository a continuous integration server like Jenkins is triggered and runs a CI pipeline which involves steps like building the development artifacts, deploying them to a test environment, running automated tests and code scans, etc.

In the context of the [project 'Piper'](#) SAP offers pre-configured CI pipelines for typical scenarios and also a library of pipeline steps that can be used by you. These steps include the ones necessary to communicate with CTS+ and/or TMS. Built on these pipeline steps there are two template scenarios for using CTS+ or TMS in a Continuous Integration / Continuous Delivery context:





## Summary

You should see enhanced Change and Transport System and SAP Cloud Platform Transport Management as two independent transport tools with different target environments. CTS+ (mainly) for on premise non-ABAP transports and TMS for transports in the cloud. In many hybrid environments both tools will be used in parallel. The overlap on Multi-Target Application based content allows for a smooth transition from CTS+ to TMS where needed.

An integration into higher level change management tools like SAP Solution Manager Change Request Management is possible for both, CTS+ and TMS. On the development side both tools can be integrated into Continuous Integration / Continuous Delivery scenarios.

I hope to have clarified the uses cases for CTS+ and TMS in the context of hybrid landscapes and look forward to your feedback and questions.

# How to use the integration of SAP Cloud Platform Transport Management into SAP Solution Manager Change Request Management and Quality Gate Management | SAP Blogs

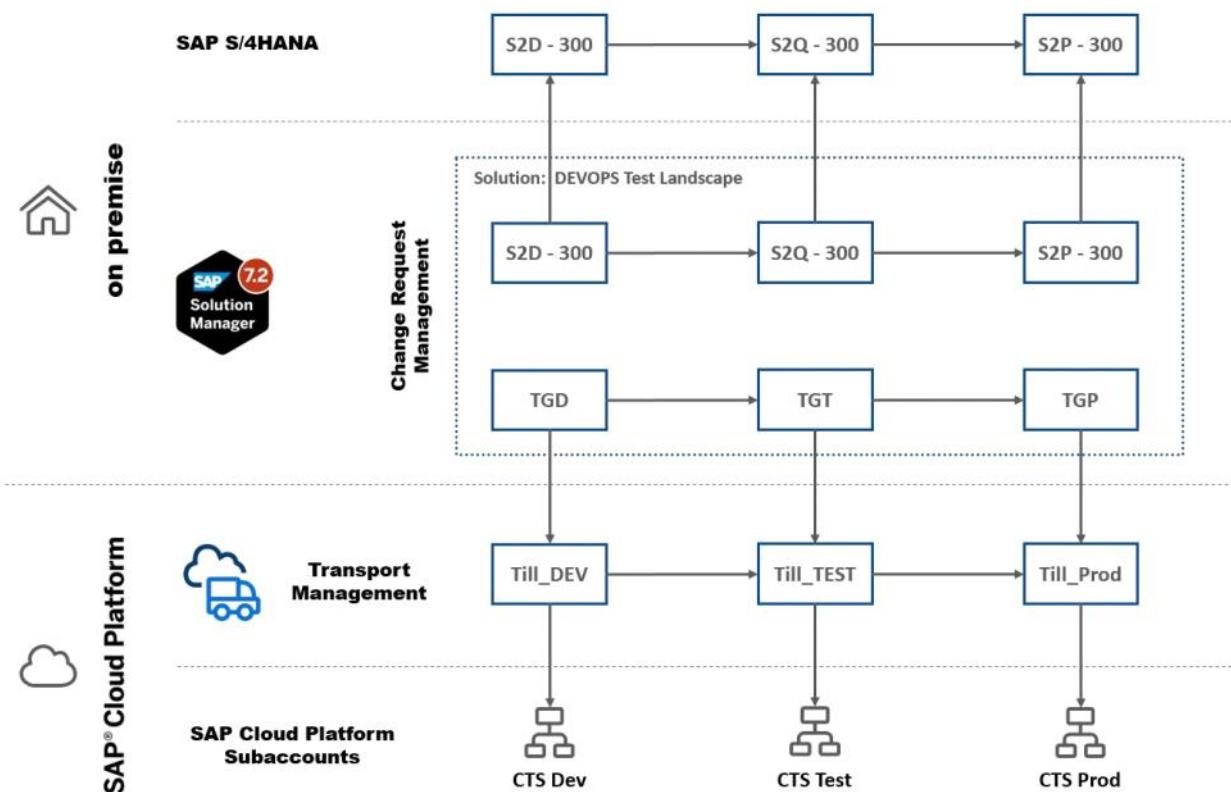
Clipped from: <https://blogs.sap.com/2020/04/27/how-to-use-the-integration-of-sap-cloud-platform-transport-management-into-sap-solution-manager-change-request-management-and-quality-gate-management/>

## Overview

In this blog I will describe how to use the integration of SAP Cloud Platform Transport Management (TMS) into SAP Solution Manager Change Request Management (ChaRM) and Quality Gate Management (QGM). This integration is available since December 2019 with SPS10 for SAP Solution Manager 7.2. In this blog I will concentrate on Change Request Management but Quality Gate Management uses exactly the same infrastructure.

I will start with describing some prerequisites you need to fulfill for this scenario to work. This will be followed by some preparations in SAP Solution Manager ChaRM and Transport Management. After that I will create a TMS transport request, assign it to a ChaRM change document and trigger the imports into the SAP Cloud Platfrom subaccounts by the corresponding status changes in ChaRM. The whole process will be documented by tons of screenshots.

The overall landsacpe looks like this:



## Prerequisites

- The SAP Solution Manager 7.2 has at least SPS10 implemented, which is available since December 2019 and ChaRM or QGM are configured.
- Optionally you can make on premise systems available in SAP Solution Manager. In this example I have connected the SAP S/4HANA on premise systems S2D, S2Q and S2P to the SAP Solution Manager.

## Preparations in Transport Management

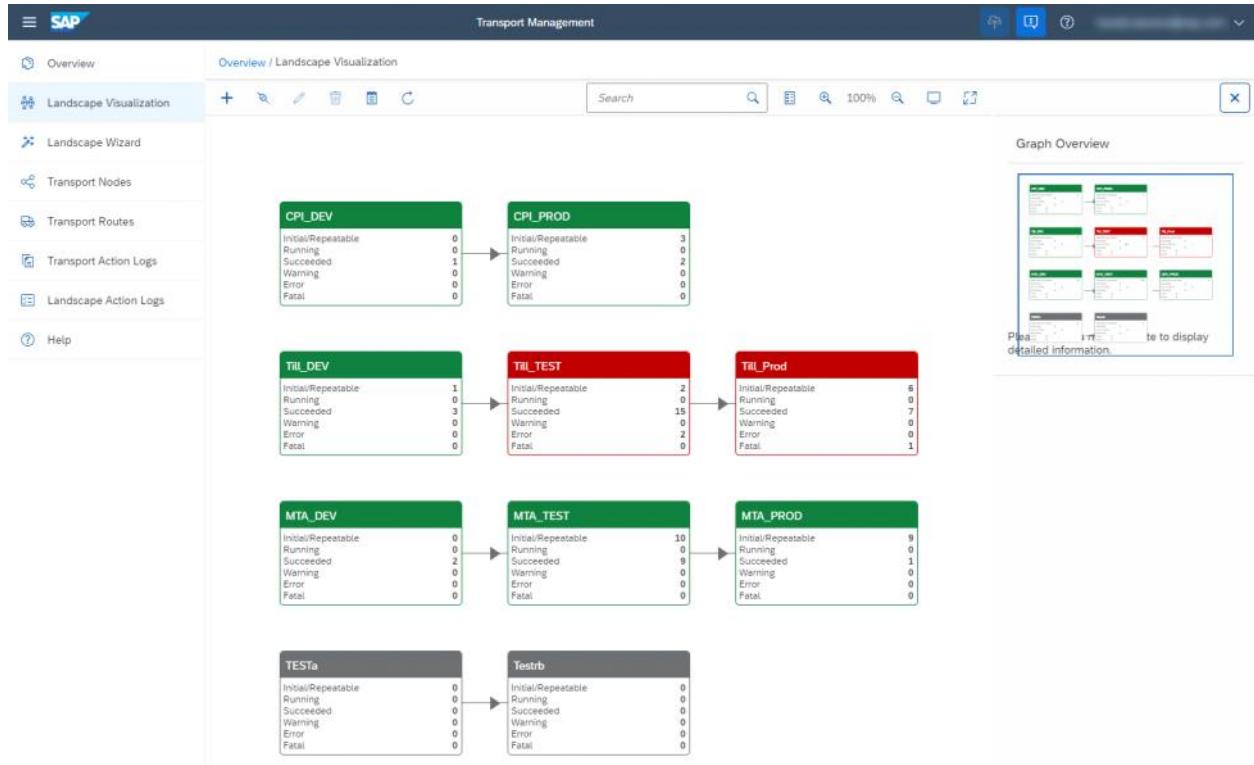
I have set up SAP Cloud Platform Transport Management following the documentation at [Set Up the Environment to Transport Content Archives directly in an Application](#) including the creation of a TMS service instance with a service key. This information is later needed to configure the RFC connections from SAP Solution Manager to Transport Management.

I have also created a transport landscape in TMS which consists of three transport nodes connected to three SAP Cloud Platform Neo subaccounts. This is described in the chapter [Configuring the landscape](#) in the SAP documentation. The destinations pointing from Transport Management to the Neo subaccounts are of the format '<https://slservice.<landscape-host>/slservice/slp/basic/<account-id>/slp/>' where the <landscape-host> part depends on the data center your subaccount runs in. It can be derived for example when you access the 'Overview' tab in the SAP Cloud Platform Cockpit. The URL of this page is of the format '<https://account.<landscape-host>/cockpit#/...>'. For subaccounts running in the SAP datacenter Europe in Rot <landscape-host> has the value 'eu1.hana.ondemand.com'. The <account-id> can also be found on the overview page in the section 'Subaccount Information – Technical Name'.

In this scenario I am using the Solution Export Wizard to create the TMS transports to be handled by SAP Solution Manager. Therefore the configuration needed for the Solution Export Wizard has to be performed in the Neo development subaccount. Please see the documentation '[Set Up Direct Uploads of MTA Archives Using the Transport Management Service](#)'. Basically you are creating a destination to the TMS in the Solution Lifecycle Management service of the development subaccount. You will be using input from the service key of the TMS service instance. Don't forget the property 'sourceSystemId' of the destination to connect to the development node in your TMS landscape.

In the SAP Cloud Platform Cloud Foundry environment the integration works as well, only the creation of a TMS transport request would work differently, because the Solution Export Wizard (which I will be using later) is only available in the Neo environment. In Cloud Foundry environment you would have to either create the MTA from WebIDE and attach it manually to a new transport request or make these steps part of your CI/CD pipeline.

The scenario uses the nodes Till\_DEV, Till\_TEST and Till\_PROD.



What differs from 'normal' transport landscapes is that I have set the flag 'Controlled by SAP Solution Manager' for the test and production nodes.

## Edit Node

### Name

\* Node name is a unique identifier and cannot be edited.

### Description

 Allow Upload to Node Perform Notification

### Forward Mode

 Controlled By SAP Solution Manager

### Content Type

### Destination

Info: In order to maintain and view additional destinations, please go to the destination view of your subaccount provided by the SAP Cloud Platform cockpit.

[Go to Destination View](#)

I have not set this flag for the development node, because I will use this node for creating transport requests. This is the recommended approach for

the TMS – ChaRM integration scenario.

### Preparations in SAP Solution Manager

The overall setup procedure for the integration of Transport Management and SAP Solution Manager ChaRM is described in '[Change Control Management Using SAP Cloud Platform Transport Management Service](#)'. In detail the following things have to be done:

#### *Create RFC connections to Transport Management (transaction SM59)*

I created two RFC connections to allow SAP Solution Manager to communicate with Transport Management:

RFC Connections			
	Type	PL Act...	Comment
S2C_LEU_EP_HTTP_1_ROOT	G	HTTP_1	SAP SuccessFactors (SFPART007093; salesdemo.successfactors.com)
S2C_SFP_EP_HTTP_1_EVENT	G		CPI tenant (DEV)
S2C_V0300001_EP_HTTP_1_MSGCNT	G		CPI tenant (DEV)
S2C_V0300001_EP_HTTP_1_MSGERR	G		CPI tenant (DEV)
S2C_V0300001_EP_HTTP_1_MSGLOG	G		CPI tenant (DEV)
S2C_V03_EP_HTTP_1_MSGCNT	G		SAP HANA Cloud Integration (v0386)
S2C_V03_EP_HTTP_1_MSGLOG	G		SAP HANA Cloud Integration (v0386)
S2C_W09_EP_HTTP_1_ROOT	G	HTTP_1	
S2C_WA500001_EP_HTTP_1_ROOT	G	HTTP_1	
S2C_WEE_EP_HTTP_1_ROOT	G		Main endpoint
S2C_XLG_EP_HTTP_1_OAUTH	G		Consume events from SAP Cloud Platform Alert Notifications
S2C_XLG_EP_HTTP_1_ROOT	G		Consume events from SAP Cloud Platform Alert Notifications
SAP-SUPPORT_NOTE_DOWNLOAD	G		HTTPS Destination for SAP Note Download
SAP-SUPPORT_PARCELBOX	G		SAP-SUPPORT_PARCELBOX
SCPRFCTEST	G		SCPRFCTEST
SIT_DESTINATION	G		
SLD_DS_SD1	G		GW
SLD_DS_SD3	G		try
SM_SP_00000033018_G	G		SAP-SUPPORT_PARCELBOX
SM_SP_0000647142_G	G		SAP-SUPPORT_PARCELBOX
TEST_XSA_DESTINATION	G		Destination to the Test space on PRD HANA XSA system
TMS_AUTHENTICATION	G		
TMS_REST_API	G		
XSP_DESTINATION	G		Destination for SAP HANA XSA Prod Space
XST_DESTINATION	G		Destination for SAP HANA XSA Test Space
HTTP Connections to ABAP System	H		
Internal Connections	I		
TCP/IP Connections	T		
Connections Using ABAP Driver	X		

One connection (TMS\_AUTHENTICATION) is used to obtain an oauth token for the API calls from SAP Solution Manager to Transport Management. For this connection I used the information from the Transport Management service instance service key.

## Service Instance: TMS2 - Service Keys

All: 1

[+ Create Service Key](#)

The screenshot shows the SAP Fiori interface for managing service keys. At the top, it says "TMS2". Below that is a "Create Service Key" button. The main area displays a JSON object representing service keys:

```
{  
  "uri": "https://transport-service-app-backend.ts.cfapps.sap.hana.ondemand.com",  
  "uaa": {  
    "uaadomain": "authentication.sap.hana.ondemand.com",  
    "tenantmode": "dedicated",  
    "surl": "https://internal-xsuaa.authentication.sap.hana.ondemand.com",  
    "clientid": "-----BEGIN PUBLIC KEY-----",  
    "verificationkey": "-----BEGIN PUBLIC KEY-----"  
  },  
  "apiurl": "https://api.authentication.sap.hana.ondemand.com",  
  "xsappname": "69b4e246-b183-4117-a586-604be4a90ae7lb6609|alm-ts-backend!b339",  
  "identityzone": "haho",  
  "identityzoneid": "20e8c201-8215-418b-9c81-0edaac6a8ee2",  
  "clientsecret": "-----BEGIN RSA PRIVATE KEY-----",  
  "tenantid": "20e8c201-8215-418b-9c81-0edaac6a8ee2",  
  "url": "https:// authentication.sap.hana.ondemand.com"  
}
```

A red box highlights the entire JSON object. A red arrow points from the text "Input for RFC connections" to the highlighted area.

These value are used in the SM59 input screens:

RFC Destination	TMS_AUTHENTICATION		<input type="button" value=""/>										
Connection Type	G	HTTP Connection to External Serv	Description										
<b>Description</b>													
Description 1	<input type="text"/>												
Description 2	<input type="text"/>												
Description 3	<input type="text"/>												
<a href="#">Administration</a>		<a href="#">Technical Settings</a>	<a href="#">Logon &amp; Security</a>										
		<a href="#">Special Options</a>											
<b>Target System Settings</b>													
Target Host	<input type="text" value="authentication.sap.hana.ondemand.com"/>		Service No. <input type="text"/>										
Path Prefix	<input type="text" value="/oauth/token/"/>												
 <b>Input from service key field ,url'</b>													
<b>HTTP Proxy Options</b>													
<table border="1"> <tr> <td colspan="2">Global Configuration</td> </tr> <tr> <td>Proxy Host</td> <td><input type="text"/></td> </tr> <tr> <td>Proxy Service</td> <td><input type="text"/></td> </tr> <tr> <td>Proxy User</td> <td><input type="text"/></td> </tr> <tr> <td>Proxy PW Status</td> <td><input type="text" value="is initial"/></td> </tr> </table>				Global Configuration		Proxy Host	<input type="text"/>	Proxy Service	<input type="text"/>	Proxy User	<input type="text"/>	Proxy PW Status	<input type="text" value="is initial"/>
Global Configuration													
Proxy Host	<input type="text"/>												
Proxy Service	<input type="text"/>												
Proxy User	<input type="text"/>												
Proxy PW Status	<input type="text" value="is initial"/>												

RFC Destination	<b>TMS_AUTHENTICATION</b>	<input type="button" value="Delete"/>
Connection Type	G HTTP Connection to External Serv	Description
<b>Description</b>		
Description 1 Description 2 Description 3		

Administration    Technical Settings    **Logon & Security**    Special Options

**Logon Procedure**

**Input from service key field ,clientid'**

**Logon with User**

- Do not use a user
- Basic Authentication

User	<input type="text"/>
PW Status	<input type="text" value="saved"/>

**Input from service key field ,clientsecret'**

**Logon with Ticket**

- Do Not Send Logon Ticket
- Send ticket without reference to target system
- Send assertion ticket for dedicated target system

System ID	<input type="text"/>	Client	<input type="checkbox"/>
-----------	----------------------	--------	--------------------------

**Security Options**

**Status of Secure Protocol**

SSL	<input type="radio"/> Inactive	<input checked="" type="radio"/> Active
SSL Certificate	ANONYM SSL Client (Anonymous) <input type="button" value="Cert. List"/>	

Authorization for Destination

The second RFC connection is used for calls to the REST API of Transport Management.

RFC Destination	TMS_REST_API											
Connection Type	G HTTP Connection to External Serv	Description										
Description												
Description 1	<input type="text"/>											
Description 2	<input type="text"/>											
Description 3	<input type="text"/>											
<hr/>												
Administration	Technical Settings	Logon & Security										
Special Options	<hr/>											
Target System Settings												
Target Host	<input type="text" value="transport-service-app-backend.ts.cfapps.sap.han..."/>	Service No. <input type="text"/>										
Path Prefix	<input type="text"/>											
<p style="color: red; text-align: center;">Input from <u>service</u> <u>key field ,uri'</u></p>												
HTTP Proxy Options												
<table border="1"><tr><td colspan="2">Global Configuration</td></tr><tr><td>Proxy Host</td><td><input type="text"/></td></tr><tr><td>Proxy Service</td><td><input type="text"/></td></tr><tr><td>Proxy User</td><td><input type="text"/></td></tr><tr><td>Proxy PW Status</td><td><input type="text" value="is initial"/></td></tr></table>			Global Configuration		Proxy Host	<input type="text"/>	Proxy Service	<input type="text"/>	Proxy User	<input type="text"/>	Proxy PW Status	<input type="text" value="is initial"/>
Global Configuration												
Proxy Host	<input type="text"/>											
Proxy Service	<input type="text"/>											
Proxy User	<input type="text"/>											
Proxy PW Status	<input type="text" value="is initial"/>											

RFC Destination	<b>TMS_REST_API</b>	<input type="button" value="Delete"/>
Connection Type	G HTTP Connection to External Serv	Description
<b>Description</b>		
Description 1 Description 2 Description 3		
<a href="#">Administration</a> <a href="#">Technical Settings</a> <a href="#" style="color: #0070C0; font-weight: bold;">Logon &amp; Security</a> <a href="#">Special Options</a>		
<b>Logon Procedure</b>		
<b>Logon with User</b>		
<input checked="" type="radio"/> Do not use a user <input type="radio"/> Basic Authentication		
User	<input type="text"/>	
PW Status	<input type="text"/> is initial	
<b>Logon with Ticket</b>		
<input checked="" type="radio"/> Do Not Send Logon Ticket <input type="radio"/> Send ticket without reference to target system <input type="radio"/> Send assertion ticket for dedicated target system		
System ID	<input type="text"/>	Client <input type="checkbox"/>
<b>Security Options</b>		
<b>Status of Secure Protocol</b>		
SSL	<input type="radio"/> Inactive	<input checked="" type="radio"/> Active
SSL Certificate	<input type="text"/> ANONYM SSL Client (Anonymous) <input type="button" value="Cert. List"/>	
Authorization for Destination <input type="text"/>		

Please make sure to activate the SSL protocol for both RFC connections.

Unfortunately the RFC connection checks do not deliver really useful information. For the authentication RFC the connection check results in error 400 (bad request). This is the expected message and does not indicate a real error. The REST API RFC connection check asks for a user name and password as the expected result.

In some cases we encountered the error message SSSLERR\_SERVER\_CERT\_MISMATCH for the REST API RFC. This can be fixed by setting the parameter 'icm/HTTPS/client\_sni\_enabled' to TRUE. For more information please check [SAP note 510007](#).

These RFC connections will be used in the subsequent steps.

*Create external service systems for the Transport Management nodes (transaction LMDB)*

All nodes in Transport Management which should be reflected in ChaRM have to be created as external services in LMDB. I have created three external services for the three nodes in my landscape.

The screenshot shows the SAP Landscape Management and Logical Components - Start Screen. In the top navigation bar, 'Technical Systems' is selected. Below it, a sub-header reads 'Create, Display, and Edit Technical System Information'. A 'Technical System Selection' panel on the left shows a dropdown set to 'External Service' and a search input field containing 'Extended System ID'. Below this are 'Related Actions' like 'Downloaded License Data from SA' and 'Search Technical Systems'. A modal window titled 'Search: Extended System ID' is open, displaying a results list with 34 entries. The results table has columns for 'Ext. System ID', 'System Type', and 'Display Name'. The entries are:

Ext. System ID	System Type	Display Name
PDS	External Service	ONDEMAND SAP.COM/4553636 at ondem...
RD1	External Service	ONDEMAND SAP.COM/75764654356 at ond...
SFP	External Service	SFPART007093 at SAP_SF
TGD	External Service	TGD at others
TGP	External Service	TGP at others
TGT	External Service	TGT at others
V03	External Service	v0386 at SAP_HCI
V030001	External Service	v0391 at SAP_HCI
VIQ	External Service	ONDEMAND SAP.COM/648585 at ondem...
W09	External Service	w09bc2bab at SAP_HCP

The rows for TGD, TGP, and TGT are highlighted with a red box.

There are four special attributes which have to be configured for each node:

- **Is Cloud TMS Node:** X
- **Cloud TMS Node Name:** The name of the node in TMS, here Till\_TEST. Please observe that this name is case sensitive.
- **Cloud TMS Authentication RFC:** The RFC connection used for authentication, here TMS\_AUTHENTICATION
- **Cloud TMS REST API RFC:** The RFC connection used for API calls, here TMS\_REST\_API

## System Landscape Technical System - Display

Edit | | LMDB Start Screen

### External Service TGT (TGT at others) - Overview

System Type: External Service

Extended System ID: TGT

Application Domain: others

External Service ID: TGT

Where Used

Details

Advanced

Last Manual Update: 02.03.2020 14:30:33

Attributes

Connections

Technical Scenarios

Business Partner

Short Description:

IT Admin Role: Quality Assurance System

Priority: Medium

Lifecycle Status: Active

### Additional Attributes of Technical System

Attribute	Value
Is Cloud TMS Node	X
Cloud TMS Node Name	Till_TEST
Cloud TMS Authentication RFC	TMS_AUTHENTICATION
Cloud TMS REST API RFC	TMS_REST_API

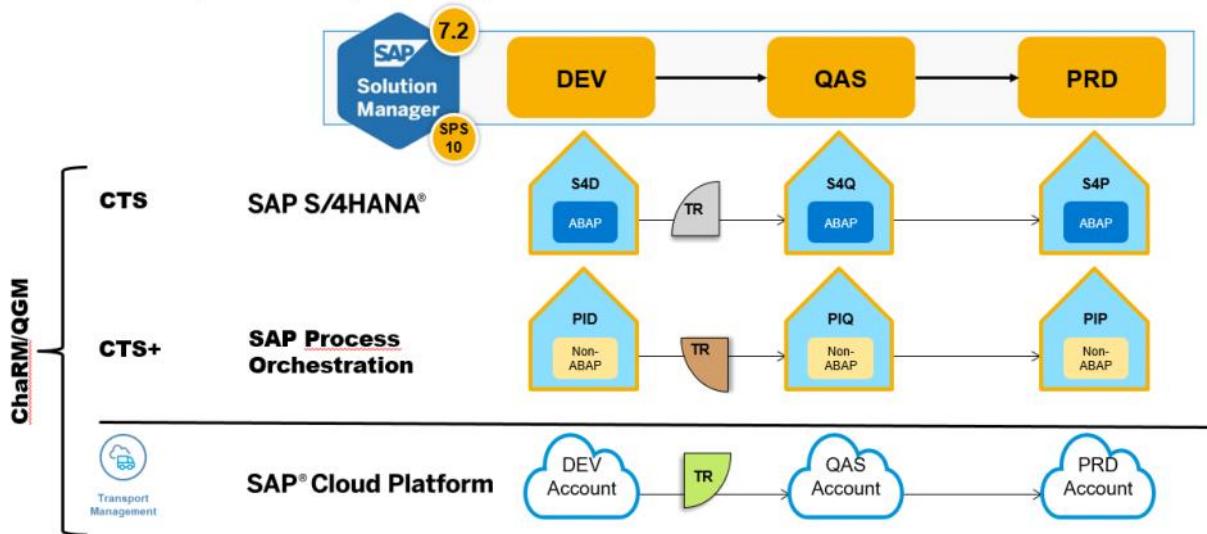
*Create a solution using the external service systems (transaction SLAN)*

These are the steps which I performed for setting up the solution:

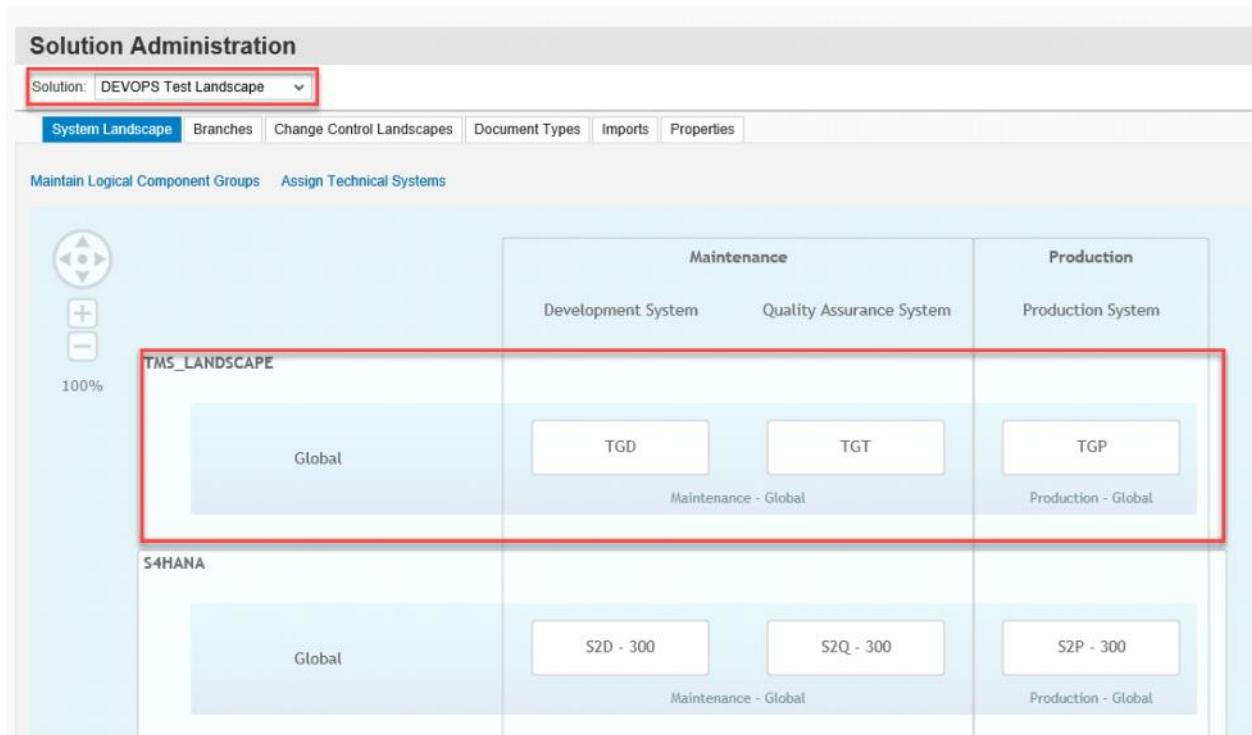
1. Create a dedicated solution for the SAP Cloud Platform TMS landscape.
2. Create a logical component group for the SAP Cloud Platform TMS landscape and assign it to the solution.
3. Assign dedicated external service systems to the related branches of the logical component group.

Additionally, I have added three S/4HANA clients to the solution to show that combined landscapes including ABAP (and non-ABAP) systems are possible. Please observe that central CTS cannot be combined with Transport Management. However, it is possible to have several ABAP and non-ABAP landscapes together with Transport Management within one Change Request Management cycle or Quality Gate Management Scenario. See example below:

## SAP Intelligent Enterprise - Hybrid Architectures



My overall landscape looks like this:



Create a change cycle with the solution landscape

Now it is time to create a change cycle in which the change documents will be created later.

Start the 'Change and Release Management'.

The screenshot shows the SAP Solution Manager Home page. The top navigation bar includes links for Home, SAP Solution Manager Configuration, Root Cause Analysis, Data Volume Management, Project and Process Management, IT Service Management, and Job Man. A red box highlights the 'Change Management' link in the top navigation. Below the navigation, there is a grid of tiles representing different management functions:

- Change and Release Management**: Includes a 'Maintenance Planner' and 'SAP Support Portal' tile.
- Administration Cockpit**: Includes a 'Change Control Management' and 'Analytics' tile.
- Change Control Management**: Includes a 'Quality Gate Management' and 'Approve Q-Gates and Urgent Changes' tile.
- Quality Gate Management**: Includes a 'License Management' and 'System Overview' tile.
- Approve Q-Gates and Urgent Changes**: Includes a 'System Recommendations' and 'SAP Readiness Check' tile.
- License Management**: Includes a 'Scope and Effort Analyzer' and 'Upgrade Planning' tile.
- System Recommendations**
- SAP Readiness Check**
- Scope and Effort Analyzer**
- Upgrade Planning**

Below these tiles, there are sections for 'SAP Solution Manager Configuration' (with links to Configuration, Installation and Upgrade Guides, Configuration Wiki, Release Notes, Configuration Dashboard Builder, and Security) and 'Root Cause Analysis' (with links to Trace Analysis, Configuration Validation, Configuration Validation Reporting, Change Analysis, Change Analysis Systems, Exception Management, Exception Analysis, Thread Dump Analysis, CA Introscope, CA Introscope, Workload Analysis, Log Viewer, File System Browser, OS Command Console, Host Analysis, DBA Cockpit, DB Analysis, and CA Introscope).

Go to the 'Change Request Management'.

The screenshot shows the SAP Solution Manager IT Service Management Home page. The left sidebar contains a navigation menu with the following items:

- Home
- Master Data
- Inbox
- Requirements Man...
- Change Request M...** (highlighted with a red box)
- IT Service Manage...
- Service Operations
- Create
- Incident
- Incident from Template
- Service Request
- Change Cycle
- Request for Change
- RFC from Template
- Task
- Knowledge Article
- Problem
- Defect Correction
- Business Requirement
- IT Requirement
- Service Order
- Monitoring Requirement
- Recent Items

The main content area displays several management modules:

- My Appointments Today**: Shows 'No result found'.
- My Open Tasks**: Shows 'No result found'.
- Workflow Tasks**: Shows 'No result found'.
- My Saved Searches**: Shows 'No Result Found'.
- Favorites**: Shows 'My Favorites' and 'My Favorites'.
- Tags**: Shows 'My Cloud' and 'Alphabetically Ascending'.
- My Sharebox**: Shows 'All Shared Item Types' with 'Inbox' and 'Sent' options.

Create a Change Cycle.

SAP Solution Manager IT Service Management

Search for Business Requirement by Solution Documentation Element

Share Personalize System News Log Off

Change Request Management

Home Master Data Inbox Requirements Man... Change Request M... IT Service Manage... Service Operations Create Incident Incident from Template Service Request Change Cycle Request for Change RFC from Template Task Knowledge Article Problem Defect Correction Business Requirement IT Requirement Service Order Monitoring Requirement Recent Items

Search

- Administrative Changes
- Change Cycles
- Change Documents
- Defect Corrections
- General Changes
- Normal Changes
- Request for Change Templates
- Requests for Changes
- Standard Changes
- Urgent Changes

Create

- Administrative Change
- Change Cycle
- Defect Correction
- General Change
- Normal Change
- Request for Change
- Request for Change Template
- Standard Change
- Urgent Change

Reports

- Change Control Analytics
- IT Service & Change Dashboard

Administration Cockpit

- Administration Cockpit

Release Management

- Release Planning

I selected 'Continual Cycle'.

Select Transaction Type - Internet Explorer

Select Transaction Type

Filter:

Transaction Type Description	Transaction Type Long Description	Transaction Type
Continual Cycle	Alternative,for Task List Variant SAP1	SMAI
Phase Cycle	For Impl.,Tmpl. or Upgrade Projects	SMIM

The cycle is created in an initial state.

SAP Solution Manager IT Service Management

Continual Cycle: 8000001919, New

Search for Business Requirement by Solution Documentation Element

Share Personalize System News Log Off

Save Display Cancel Edit Actions Send E-Mail Print Preview Print Display Object Relationships Manage Substitutes More

Status Overview

1 Created 2 Active 3 Withdrawn 4 Completed

Details Edit

General Data

ID: 8000001919  
Description: Demo of TMS - ChaRM integration  
Status: Created

Solution Landscape Data

Solution: CTS\_transport\_solution  
Branch: DEVOPS Test Landscape

Key Dates

Development Start: 00:00  
Development Close: 00:00

General Dates

Creation Time: 00:00  
Last changed: 00:00

Description of Change

Text Add Text Insert Text Template Maintain Text Templates

Language: English

I entered a description and selected the solution which contains the Transport Management nodes.

SAP Solution Manager IT Service Management

Continual Cycle: 8000001919, New

Search for Business Requirement by Solution Documentation Element

Share Personalize System News Log Off

Save Display Cancel Edit Actions Send E-Mail Print Preview Print Display Object Relationships Manage Substitutes More

Status Overview

1 Created 2 Active 3 Withdrawn 4 Completed

Details Edit

General Data

ID: 8000001919  
Description: Demo of TMS - ChaRM integration  
Status: Created

Solution Landscape Data

Solution: CTS\_transport\_solution  
Branch: DEVOPS Test Landscape

Key Dates

Development Start: SOF System Landscape  
Development Close: SOF System Landscape old

General Dates

Creation Time: 00:00  
Last changed: 00:00

Description of Change

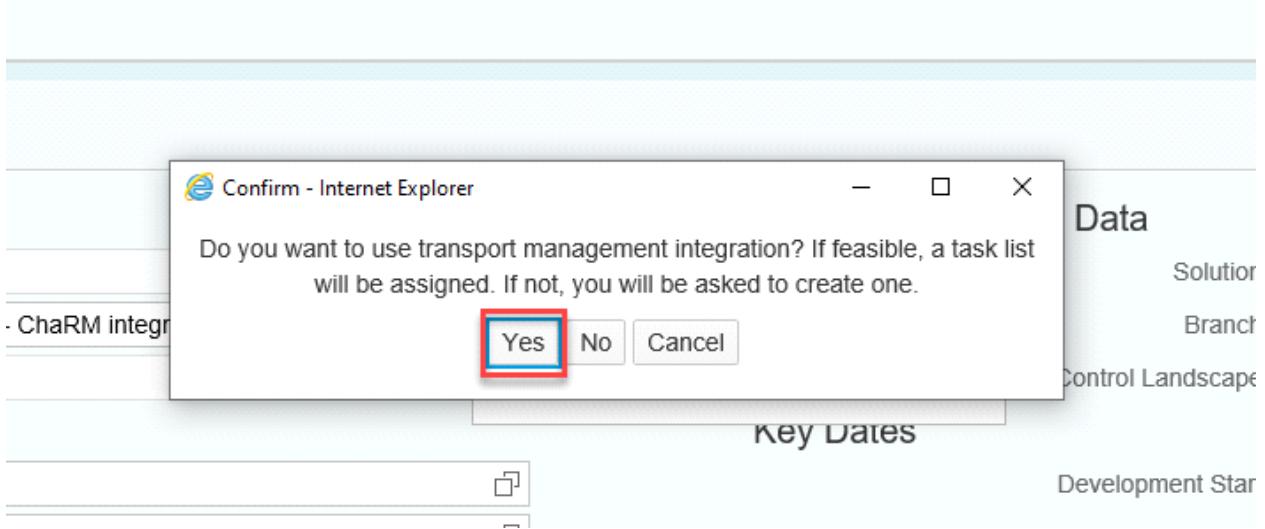
Text Add Text Insert Text Template Maintain Text Templates

Language: English

I selected the branch of the solution. In this example only 'Maintenance' is available.

Now the cycle had to be saved and activated.

I confirmed the use of Transport Management integration.



Now the task list for this cycle is created. The prerequisite checks completed successfully, so I clicked 'Next'.

A screenshot of the "Continual Cycle: 8000001919 - Create Task List" dialog. The top navigation bar includes "Back", "Forward", and a refresh icon. Below the navigation is a progress bar with four steps: 1. Check Prerequisites (highlighted in blue), 2. Define Scope, 3. Check Cluster Assignment, and 4. Complete. Step 1 has a sub-label "Prerequisite Checks". Below the progress bar are "Previous" and "Next" buttons, with "Next" highlighted with a red box. The main content area is titled "Prerequisite Checks" and contains a table:

Checks	Status
Transport Management	■
System RFC	■
Number Range	■

Below the table is a section titled "Details of Check: Transport Management" with a "Help" link. It contains a table:

Status	Message Text	Help
■	Calculating transport tracks...	
■	Transport tracks successfully calculated	
■	Transport track (Source System:S2D~ABAP/300) calculated	
■	Transport track (Source System:TGD~EXT_SRV) calculated	

I double-checked the scope. The transport tracks look as expected.

Continual Cycle: 8000001919 - Create Task List

[Cancel](#)

[Details](#) Read long text for tips on track selection possibilities.

1 2 3 4

Check Prerequisites   Define Scope   Check Cluster Assignment   Complete

◀ Previous **Next ▶**

Branch: Maintenance   Landscape: DEVOPS Test Landscape  
 Use Central Change and Tr...   \* Task List Variant: Variant with Deletion of Import Buffer

**Branches**  
 Select the branches with the development systems that are to be used for development activities in this cycle.

Scope	Branch	Development System	Type
<input checked="" type="checkbox"/>	Maintenance	S2D-ABAP/300,TGD~EXT_SRV	Maintenance Branch

Retrofit Systems

Additional Production Systems

**Transport Tracks Overview**

```

graph LR
    S2D[S2D:300] --> S2Q[S2Q:300]
    S2Q --> S2P[S2P:300]
    TGD[TGD] --> TGT[TGT]
    TGT --> TGP[TGP]
  
```

The task list creation can now be triggered.

Continual Cycle: 8000001919 - Create Task List

[Cancel](#)

1 2 3 4

Check Prerequisites   Define Scope   Check Cluster Assignment   **Complete**

◀ Previous **Create ▶**

Branch: Maintenance   Landscape: DEVOPS Test Landscape  
 Task List Variant: Variant with Deletion of Import Buffer

**Transport Tracks Overview**

```

graph LR
    S2D[S2D:300] --> S2Q[S2Q:300]
    S2Q --> S2P[S2P:300]
    TGD[TGD] --> TGT[TGT]
    TGT --> TGP[TGP]
  
```

The task list has been successfully created and the change cycle is active.

Continual Cycle: 8000001919, Demo of TMS - ChaRM integration

Save | Display | Cancel | Edit | Actions | Send E-Mail | Print Preview | Print | Display Object Relationships | Manage Substitutes | More | Back | [SAP Fiori](#) | [Help](#) | [Logout](#)

**Task list M000000179 was created by user [REDACTED] on 14.04.2020 at 16:48:59**  
**Transaction 8000001919 saved**

2 Messages

Status Overview

1 Created    2 Active    3 Withdrawn    4 Completed

Details | Edit

**General Data**

ID: 8000001919  
Description: Demo of TMS - ChaRM integration  
Status: Active

**Solution Landscape Data**

Solution: DEVOPS Test Landscape  
Branch: Maintenance  
Change Control Landscape:

**Personal**

Change Manager:  
Change Advisory Board:  
Current Processor:

**Key Dates**

Development Start: 00:00  
Development Close: 00:00

**General Dates**

Creation Time: 14.04.2020 16:36  
Last changed: 14.04.2020 16:49

Text | Add Text | Insert Text Template | Maintain Text Templates

**Text Log**

General Note  
14.04.2020 16:49:02

Task list M000000179 was created by user [REDACTED] on 14.04.2020 at 16:48:59

However, the task list is created in a locked status and must be unlocked. For this I opened the task list in the 'Related Transactions' of the change cycle (scroll down for this).

Continual Cycle: 8000001919, Demo of TMS - ChaRM integration

Save | Display | Cancel | Edit | Actions | Send E-Mail | Print Preview | Print | Display Object Relationships | Manage Substitutes | More | Back | [SAP Fiori](#) | [Help](#) | [Logout](#)

**Downgrade Protection**    Very critical conflicts: 0, critical conflicts: 0, warning conflicts: 0 (including history)  
**Cross-Reference Check**    Error issues: 0, warning issues: 0 (including history)

**Critical Object**  
**ABAP Test Cockpit**  
**Code Inspector**  
**Custom Check**

**DOWNGRADE PROTECTION**    CROSS-REFERENCE CHECK    CRITICAL OBJECT    ABAP TEST COCKPIT    CODE INSPECTOR    CUSTOM CHECK

Ignore | Show Conflict History | Filter: [ ]

Actions	Check ...	Check ...	Conflict...	Checked Objec...	Checked Object	Conflict Objec...	Conflict Object	Status of Conf...	Conflicts	Cycle/Scen...	System	Archived	Ignored by	Ignored at
<b>No result found</b>														

Landscape | Refresh | Filter: [ ]

Actions	Relevant for Logon	System	System Type	Risk Status	Transport Risks	Next Scheduled Import Job
<span style="color: green;">●</span>		S2D~ABAP/300	Development System	<span style="color: green;">■</span>		
<span style="color: green;">●</span>		TGD~EXT_SRV	Development System	<span style="color: green;">■</span>		
<span style="color: green;">●</span>		S20~ABAP/300	Test System	<span style="color: green;">■</span>		
<span style="color: green;">●</span>		TGT~EXT_SRV	Test System	<span style="color: green;">■</span>		
<span style="color: green;">●</span>		S2P~ABAP/300	Production System	<span style="color: green;">■</span>		
<span style="color: green;">●</span>		TGP~EXT_SRV	Production System	<span style="color: green;">■</span>		

**Related Transactions** | Edit List | Filter: [ ]

Transaction ID	Description	Status	Priority	Transaction Type	Transaction Type Description
M000000179	Demo of TMS - ChaRM integration	Active			Task List

Application Log

I unlocked all tasks of the task list by selecting a group and pressing the 'Lock/Unlock Group' button.

Task List			
Task	Status	Lifecycle Status	Mandatory
▼ Demo of TMS - ChaRM integration	🔓		
▶ General Tasks	🔒		
Track (Source System S2D~ABAP/300)	🔒		
▼ Source Systems	🔒		
▼ Development System	🔒		
▶ S2D~ABAP/300 (S2D-300, Time Zone: CET)	🔒	🔓	
▼ Target Systems	🔒		
▼ Quality Assurance System	🔒		
▶ S2Q~ABAP/300 (S2Q-300, Time Zone: CET)	🔒	🔓	
▼ Production Systems	🔒		
▼ Production System	🔒		
▶ S2P~ABAP/300 (S2P-300, Time Zone: CET)	🔒	🔓	
▼ Track (Source System TGD~EXT_SRV)	🔒		
▼ Source Systems	🔒		
▼ Development System	🔒		
▶ TGD~EXT_SRV	🔒	🔓	
▼ Target Systems	🔒		
▼ Quality Assurance System	🔒		
▶ TGT~EXT_SRV	🔒	🔓	
▼ Production Systems	🔒		
▼ Production System	🔒		
▶ TGP~EXT_SRV	🔒	🔓	
General Completion Tasks	🔒		

After that all tasks should have the status unlocked.

Task List			
	Status	Lifecycle Status	Mandatory
Task			
▼ Demo of TMS - ChaRM integration			
► General Tasks			
▼ Track (Source System S2D~ABAP/300)			
▼ Source Systems			
▼ Development System			
► S2D~ABAP/300 (S2D-300, Time Zone: CET)			
▼ Target Systems			
▼ Quality Assurance System			
► S2Q~ABAP/300 (S2Q-300, Time Zone: CET)			
▼ Production Systems			
▼ Production System			
► S2P~ABAP/300 (S2P-300, Time Zone: CET)			
▼ Track (Source System TGD~EXT_SRV)			
▼ Source Systems			
▼ Development System			
► TGD~EXT_SRV			
▼ Target Systems			
▼ Quality Assurance System			
► TGT~EXT_SRV			
▼ Production Systems			
▼ Production System			
► TGP~EXT_SRV			
General Completion Tasks			

Create a change document within the change cycle

In the next step I created a change document in the change cycle I just created.

Currently the Transport Management integration is based on normal changes only, so I created a normal change.

The screenshot shows the SAP Solution Manager IT Service Management interface. On the left, there's a navigation sidebar with links like 'Home', 'Master Data', 'Inbox', 'Requirements Man...', 'Change Request M...', 'IT Service Manage...', 'Service Operations', 'Create', 'Incident', 'Incident from Template', 'Service Request', 'Change Cycle', 'Request for Change', 'RFC from Template', 'Task', 'Knowledge Article', 'Problem', 'Defect Correction', 'Business Requirement', 'IT Requirement', 'Service Order', and 'Monitoring Requirement...'. The main area is titled 'Change Request Management' and contains sections for 'Search', 'Create', 'Reports', and 'Administration Cockpit'. The 'Create' section has a dropdown menu with options: 'Administrative Change', 'Change Cycle', 'Defect Correction', 'General Change', 'Normal Change' (which is highlighted with a red box), 'Request for Change', 'Request for Change Template', 'Standard Change', and 'Urgent Change'. Below this is a 'Release Management' section with 'Release Planning'.

The change is created in an initial state. I now have to select the change cycle I just created.

This screenshot shows the 'Normal Change' creation screen. At the top, there's a toolbar with 'Save', 'Display', 'Cancel', 'Edit', 'Create Follow-Up', 'Actions', 'Send E-Mail', 'Print Preview', 'Print', 'Display Object Relationships', and 'More'. Below the toolbar is a 'Status Overview' timeline with steps 1 through 10. Step 1, 'Created', is highlighted with a blue background. The other steps are greyed out. The timeline includes labels: 'In Development', 'To Be Tested', 'Successfully Tested', 'Preliminary Import Requested', 'Testing for Preliminary Import', 'Tested for Production Import', 'Authorized for Import', 'Imported into Production', and 'Withdrawn'. To the right of the timeline, there are sections for 'Implementation Data' (with a 'Change Cycle / Phase' field highlighted with a red box), 'Project Planning' (with a 'Project Name' field set to '<None>'), and 'Category' (with 'Level 1' and 'Level 2' dropdowns). On the left, there are sections for 'General Data' (with fields for ID, Description, Developer, Tester, IT Operator, Change Manager, and Current Processor), 'Processing Data' (with fields for Status, Priority, Creation Time, Last changed, Requested Start, Requested End, and Due By), and 'Dates' (with fields for Creation Time, Last changed, Requested Start, Requested End, and Due By).

I used the term 'TMS' which was part of the change cycle description.

Search: Change Cycles - Internet Explorer

Search Criteria Hide Search Fields

Change Cycle Description	contains	<input type="text" value="TMS"/>	<span style="border: 1px solid red; padding: 2px;">X</span>	<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Change Cycle ID	contains			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Change Cycle Type	is			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Change Cycle Phase	is			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Landscape	is			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Branch	is			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Task List Assignment	is			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Release Number	contains			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Planned Go-Live Date	is		<span style="border: 1px solid blue; padding: 2px;">1</span>	<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>
Related Configuration Item	is			<span style="border: 1px solid blue; padding: 2px;">+</span> <span style="border: 1px solid blue; padding: 2px;">-</span>

Maximum Number of Results:

Search Clear

Result List: 5 entries found

Filter: <input type="text"/> <span style="border: 1px solid #ccc; padding: 2px 10px;"> </span> <span style="border: 1px solid #ccc; padding: 2px 10px;"> </span> <span style="border: 1px solid #ccc; padding: 2px 10px;"> </span>				
Change Cycle Description	Change Cycle Type	Planned Go-Live Date	Landscape	Branch
ChaRM TMS Test PS	Continual Cycle		DEVOPS Test Lan...	Maintenance
Hybrid SAP CTS&TMS integration	Continual Cycle		DEVOPS Test Lan...	Maintenance
Harald Change TMS	Continual Cycle		DEVOPS Test Lan...	Maintenance
TMS ChaRM for Karin	Continual Cycle		DEVOPS Test Lan...	Maintenance
Demo of TMS - ChaRM integration	Continual Cycle		DEVOPS Test Lan...	Maintenance

I now had to provide a Configuration Item for this change.

Normal Change: 8000001920, New

**Make an entry in field 'Configuration Item'!**

General Data		Implementation Data	
ID:	8000001920	Type / ID:	Demo of TMS - ChaRM Integration
Description:		Continual Cycle:	Active
Developer:		Landscape / Branch:	DEVOPS Test Landscape
Tester:		Development Close:	00:00
IT Operator:		Go-Live Date:	00:00
Change Manager:			
Current Processor:			
Processing Data		Project Planning	
Status:	Created	Project Name:	<None>
Priority:	4 Low	Project Number:	
Dates		Project Task:	
Creation Time:	00:00	Start Date:	
Last changed:	00:00	Finish Date:	
Requested Start:	14.04.2020	Task Duration:	
Requested End:	17.04.2020	Estimated Work:	
Due By:		Total Work:	0.00
Relationships		Category	
Related Document:		Level 1:	
		Level 2:	
		Level 3:	
		Level 4:	
Reference Objects			
<b>Configuration Item:</b>			

In this example I chose the productive node of the Transport Management landscape. However, this choice does not influence the transport behavior.

Search: Object/Product - Internet Explorer

Search Criteria Hide Search Fields

Search for:	Object via Product Details		
Description	contains	<input type="text"/>	<input type="button" value="+"/> <input type="button" value="-"/>
Object ID	contains	<input type="text"/>	<input type="button" value="+"/> <input type="button" value="-"/>
Maximum Number of Results: <input type="text" value="100"/>			
<input type="button" value="Search"/>	<input type="button" value="Clear"/>		

Result List: 2 Search by Landscape Details Found

Object ID	Description	Object Fa...	System Type	Partner
7100000121	S2P SAP-INTERN 300	Landsc...	ABAP	
7100935310	TGP EXT_SERVIC	Landsc...	EXT_SERVIC	

The change document is now complete and can be saved.

Normal Change: 8000001920, New

**General Data**

ID:	8000001920
Description:	
Developer:	
Tester:	
IT Operator:	
Change Manager:	
Current Processor:	

**Processing Data**

Status:	Created
Priority:	4: Low

**Dates**

Creation Time:	00:00
Last changed:	00:00
Requested Start:	14.04.2020 17:27:39
Requested End:	17.04.2020 17:27:39
Due By:	

**Relationships**

Related Document:	
-------------------	--

**Implementation Data**

* Change Cycle / Phase:	Demo of TMS - ChaRM integration
Type / ID:	Continual Cycle
Landscape / Branch:	DEVOPS Test Landscape
Development Close:	00:00
Go-Live Date:	00:00

**Project Planning**

Project Name:	<None>
Project Number:	
Project Task:	
Start Date:	
Finish Date:	
Task Duration:	
Estimated Work:	
Total Work:	0.00

**Category**

Level 1:	
Level 2:	
Level 3:	
Level 4:	

**Reference Objects**

- \* Configuration Item: #7100935310  TGP EXT\_SERVIC

In order to attach transport requests to the change document it must be set to 'In Development' (and saved).

Normal Change: 8000001920

**Actions**

- Save
- Display
- Cancel
- Edit
- Create Follow-Up
- Actions
- Send E-Mail
- Print Preview
- Print
- Display Object Relationships
- More

**Status Overview**

- ✓ Transaction 8000001920 saved
- Withdraw Normal Change
- Create Project Management Task

**Workflow Steps**

- 1 Created
- 2 In Development
- 3 To Be Tested
- 4 Successfully Tested
- 5 Preliminary Import Requested
- 6 Testing for Preliminary Import
- 7 Tested for Production Import
- 8 Authorized for Import
- 9 Imported into Production
- 10 Withdrawn

**General Data**

ID:	8000001920
Description:	
Developer:	
Tester:	
IT Operator:	
Change Manager:	
Current Processor:	

**Processing Data**

Status:	Created
Priority:	4: Low

**Dates**

Creation Time:	14.04.2020 17:55
Last changed:	14.04.2020 17:55
Requested Start:	14.04.2020 17:27:39
Requested End:	17.04.2020 17:27:39
Due By:	28.04.2020 17:55:03

**Implementation Data**

* Change Cycle / Phase:	Demo of TMS - ChaRM integration
Type / ID:	Continual Cycle
Landscape / Branch:	DEVOPS Test Landscape
Development Close:	00:00
Go-Live Date:	00:00

**Project Planning**

Project Name:	<None>
Project Number:	
Project Task:	
Start Date:	
Finish Date:	
Task Duration:	
Estimated Work:	
Total Work:	0.00

**Category**

Level 1:	
----------	--

The change document is now ready for the assignment of transport requests.

Normal Change: 8000001920

The screenshot shows the SAP Fiori Change Management interface for a change document with ID 8000001920. The status is currently 'In Development'. The interface includes sections for General Data, Implementation Data, Processing Data, Dates, Project Planning, and Category. It also features a timeline at the top with 10 stages: Created, In Development, To Be Tested, Successfully Tested, Preliminary Import Requested, Testing for Preliminary Import, Tested for Production Import, Authorized for Import, Imported into Production, and Withdrawn.

### Create content for transport

In contrast to the ABAP world for Transport Management the transport requests are not created from within the change document but rather assigned to it after they have been added to the import queue of the test node in Transport Management (pointing to the test subaccount in SAP Cloud platform).

There are several options to achieve this:

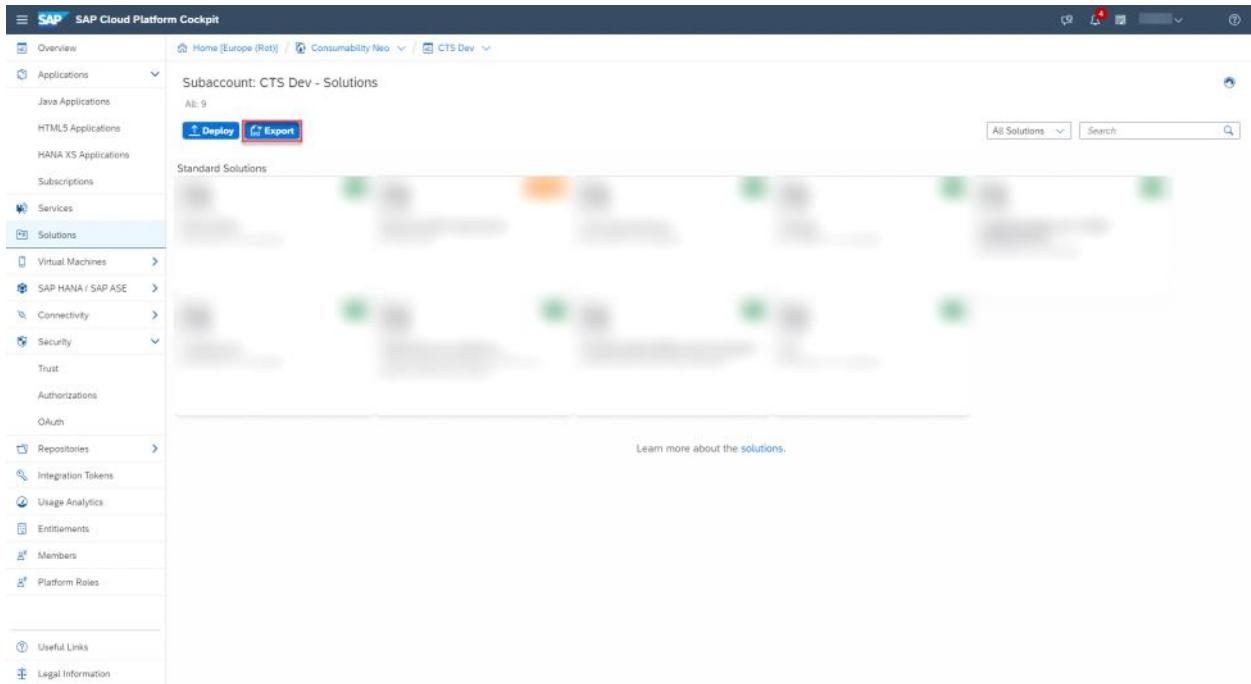
- Manual upload of the content to the development node and import into the development node. By this the transport request is forwarded into the test node queue.
- Automated upload to the development node from a CI/CD pipeline and manual import into the development node. By this the transport request is forwarded into the test node queue.
- Direct export from the development subaccount using the Solution Export Wizard (only available for SAP Cloud Platform Neo environment).

Currently we are working to enable the direct upload of the content to the test node, so that the manual import into the development node is not necessary anymore.

For this example, I have used the Solution Export Wizard approach.

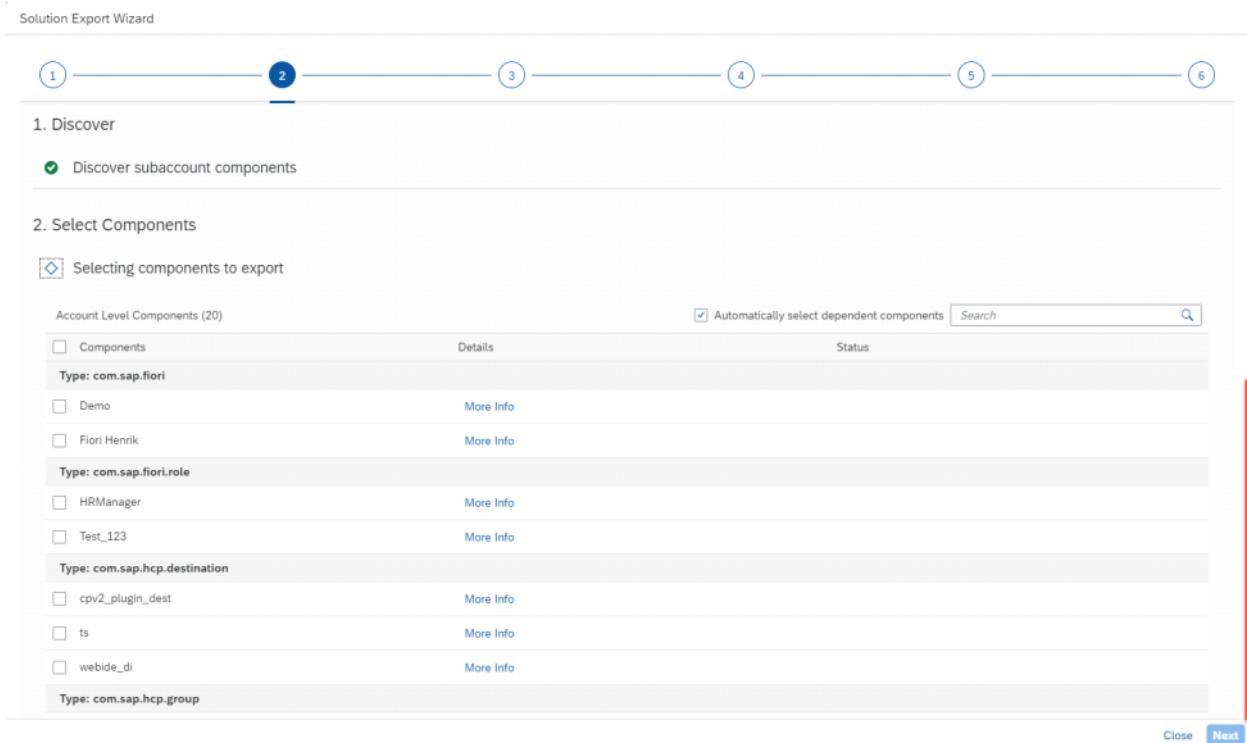
In my SAP Cloud Platform development subaccount, I opened the 'Solutions'

tab and clicked on 'Export'. This starts the Solution Export Wizard.



The screenshot shows the SAP Cloud Platform Cockpit interface. On the left, there's a sidebar with various navigation options like Overview, Application, Services, and Solutions. Under the Solutions section, it lists Virtual Machines, SAP HANA / SAP ASE, Connectivity, Security, trust, Authorizations, OAuth, Repositories, Integration Tokens, Usage Analytics, Entitlements, Members, and Platform Roles. Below the sidebar, the main area is titled 'Subaccount: CTS Dev - Solutions' and shows 'All: 9'. It features a grid of colored dots representing different solutions. At the top of this grid, there are two buttons: 'Deploy' and 'Export'. A tooltip for 'Export' says 'Exports the selected solution(s) to a ZIP file'. To the right of the grid, there are buttons for 'All Solutions' and 'Search'.

The Solution Export Wizard now analyzes which applications are running in this subaccount and puts them into a list sorted by application type.



The screenshot shows the 'Solution Export Wizard' with step 2, 'Select Components', highlighted. The wizard has six steps numbered 1 to 6. Step 1, 'Discover', is completed with a green checkmark next to 'Discover subaccount components'. Step 2, 'Select Components', is currently active. It contains a sub-step 'Selecting components to export' with a checkbox. Below this is a table titled 'Account Level Components (20)' with columns for 'Components', 'Details', and 'Status'. The table lists several items under different types: com.sap.fiori, com.sap.fiori.role, com.sap.hcp.destination, and com.sap.hcp.group. Each item has a checkbox and a 'More Info' link. A red vertical bar highlights the right edge of the component list. At the bottom right of the wizard, there are 'Close' and 'Next' buttons.

I selected the content I wanted to transport (in this case an HTML5 application). It is also possible to select several items. Please note that Java applications can currently not be exported.

Solution Export Wizard

Type: com.sap.hcp.destination

- cpv2\_plugin\_dest More Info
- ts More Info
- webide\_di More Info

Type: com.sap.hcp.group

- Test001 More Info

Type: com.sap.hcp.html5

- till-demo More Info
- example More Info
- fioriapp More Info
- front More Info
- till-demo More Info
- teccheddemo2 More Info
- teccheddemo2001 More Info
- tmsdiscovery More Info
- weatherapp More Info

Type: com.sap.java

- example More Info

Type: java.tomcat

- back More Info

[Close](#) [Next](#)

I now had to provide some information for the export:

- Title and description
- Solution ID (here 'Demo.ChaRM.Neo')
- Three part version number

I also selected the Export of the MTA archive to Transport Management Service. This subaccount was configured to act as transport node 'Till\_DEV' in my transport landscape as described [here](#). I confirmed my entries by pressing 'Export'.

## 3. Select Subcomponents

- Select subcomponents to export

## 4. Configure

- Finalizing the export data

## General solution information

Title <input type="text" value="Demo TMS ChaRM"/>	Solution ID * <input type="text" value="Demo.ChaRM.Neo"/>
Description <input type="text" value="Demo TMS ChaRM integration"/>	Version * <input type="text" value="1.0.0"/>

## Export options

- Export MTA archive ('.mtar')

 Download Transport Management Service CTS+ Direct

Transport User

 Use TransportSystemCTS destination user Use current user(D019911)

Close

**Export**

The export completed successfully and created a transport request in the queue of the node 'Till\_TEST'.

- Select subcomponents to export

## 3. Select Subcomponents

- Select subcomponents to export

## 4. Configure

- Finalize the export data

## 5. Export

- Export solution

## 6. Export Overview

- Summary

The operation finished successfully

Transport Request ID: Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo[Till\_TEST]

[Download Deployment Descriptor \(mtad.yaml\)](#)

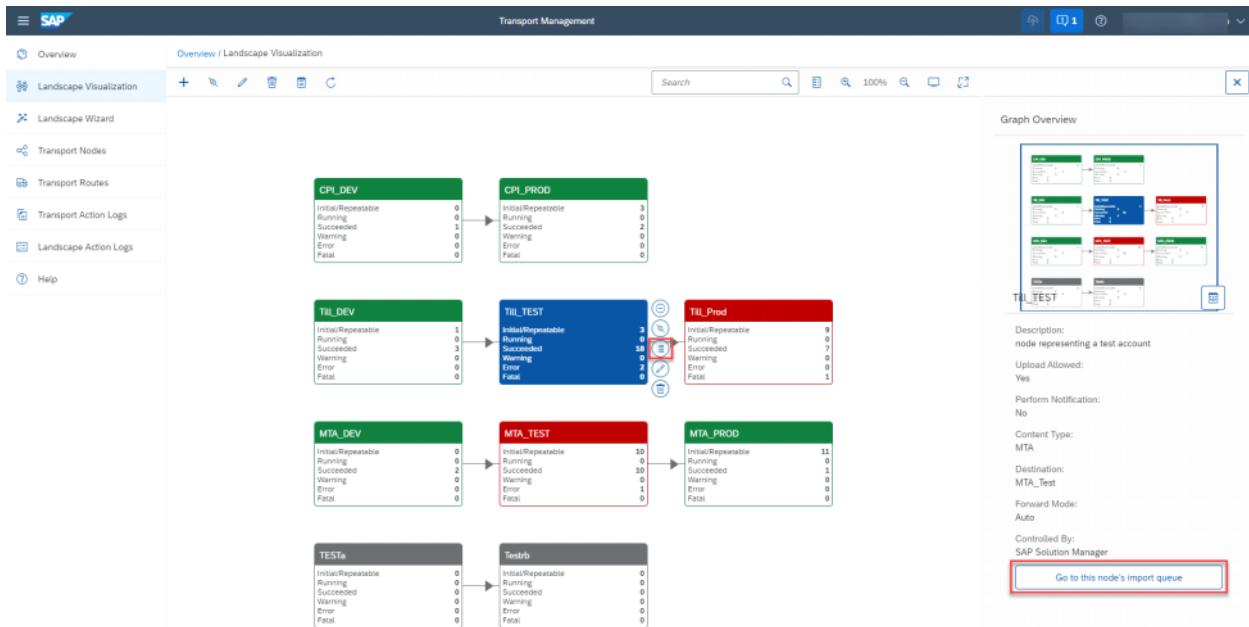
[Download Development Descriptor \(mta.yaml\)](#)

[Download Extension Descriptor Template](#)

[Download MTA archive](#)

Finish

To verify the success, I switched to Transport Management and opened the queue of the transport node 'Till\_TEST'.



You can see the newly created transport request in the import queue of the node. As the node is controlled by Solution Manager, it is not possible to manually trigger the import.

The screenshot shows the SAP Transport Management Import Queue interface. At the top, it shows the path: Overview / Transport Nodes / TIL\_TEST / Node: TIL\_TEST. Below this, detailed node information is displayed, including description, content type, upload status, and controlled by. The 'IMPORT QUEUE' tab is selected, showing a table of transport requests. One request, 'Demo TMS CharM; MTA ID: Demo.CharM.Neo', is highlighted with a red box. The table includes columns for Status, Owner, Status, and Entry Node.

Transport Description	Owner	Status	Entry Node
Harrys Test; MTA ID: test.harry.demo1		Initial	TIL_DEV
Demo TMS CharM; MTA ID: Demo.CharM.Neo		Initial	TIL_DEV

## Assign Transport Request to Change Document

Now it is possible to assign this transport request to the change document in SAP Solution Manager ChaRM. The corresponding functionality can be found when scrolling down on the change document screen.

Normal Change: 8000001920

Save | Display | Cancel | Edit | Create Follow-Up | Actions | Send E-Mail | Print Preview | Print | Display Object Relationships | More | Back | Home | Help | Log Out

Status Overview

1 Created    2 In Development    3 To Be Tested    4 Successfully Tested    5 Preliminary Import Requested    6 Testing for Preliminary Import    7 Tested for Production Import    8 Authorized for Import    9 Imported into Production    10 Withdrawn

**General Data**

ID:	8000001920
Description:	
Developer:	
Tester:	
IT Operator:	
Change Manager:	
Current Processor:	

**Processing Data**

Status:	In Development
Priority:	4 Low

**Dates**

Creation Time:	14.04.2020	17:55
Last changed:	14.04.2020	17:57
Requested Start:	14.04.2020	17:27:39
Requested End:	17.04.2020	17:27:39
Due By:	28.04.2020	17:55:03

**Relationships**

**Implementation Data**

Change Cycle / Phase:	Demo of TMS - ChaRM Integration
Type / ID:	Continual Cycle
Landscape / Branch:	DEVOPS Test Landscape
Development Close:	00:00
Go-Live Date:	00:00

**Project Planning**

Project Name:	<None>
Project Number:	
Project Task:	
Start Date:	
Finish Date:	
Task Duration:	
Estimated Work:	
Total Work:	0.00
Level 1:	
Level 2:	

**Category**

In the 'Transport Management' section I opened the drop-down 'More' and started 'Assign Transport Request'.

Normal Change: 8000001920

Save | Display | Cancel | Edit | Create Follow-Up | Actions | Send E-Mail | Print Preview | Print | Display Object Relationships | More | Back | Home | Help | Log Out

General Note  
14.04.2020 17:57:24

The status was set to the value 'In Development'

General Note  
14.04.2020 17:55:04

The status was set to the value 'Created'

**Transport Management**

Transport Request | Task | Transport of Copies | Refresh | More | Assign Transport Request

No result found

**Tasks**

Task ID | Task Type | Task Owner | Status Text

No result found

**Transport-Related Checks**

Perform check | Refresh | Filter

Status	Type	Result
Green	Downgrade Protection	Very critical conflicts: 0; critical conflicts: 0; warning conflicts: 0 (including history)
Green	Cross-Reference Check	Error issues: 0; warning issues: 0 (including history)
Yellow	Critical Object	
Yellow	ABAP Test Cockpit	
Yellow	Code Inspector	

The search can be specified by search criteria (which I didn't do).

Assign Transport Request - Internet Explorer

Search Criteria [Hide Search Fields](#)

Text	is	<input type="text"/>	<a href="#">+</a> <a href="#">-</a>
Request/Task	is	<input type="text"/>	<a href="#">+</a> <a href="#">-</a>
User Name	is	<input type="text"/>	<a href="#">+</a> <a href="#">-</a>
Source System	is	<input type="text"/>	<a href="#">+</a> <a href="#">-</a>
Status	is	<input type="text"/>	<a href="#">+</a> <a href="#">-</a>
Type	is	<input type="text"/>	<a href="#">+</a> <a href="#">-</a>

Maximum Number of Results:

[Search](#) [Clear](#)

Result List

Assign Transport Request	Request/Task	User	Status	Source System	Type	Text
Filter: <input type="text"/>	<a href="#">«</a>	<a href="#">»</a>				

The Transport Management transport requests appear with an internal request ID. Therefore, it is important to identify the correct transport request by the descriptive text. After selecting the required requests, I pressed 'Assign Transport Request'.

Assign Transport Request - Internet Explorer

Search Criteria Hide Search Fields

Text	is	<input type="text"/>	<span style="color: blue; font-size: small;">+</span> <span style="color: blue; font-size: small;">-</span>
Request/Task	is	<input type="text"/>	<span style="color: blue; font-size: small;">+</span> <span style="color: blue; font-size: small;">-</span>
User Name	is	<input type="text"/>	<span style="color: blue; font-size: small;">+</span> <span style="color: blue; font-size: small;">-</span>
Source System	is	<input type="text"/>	<span style="color: blue; font-size: small;">+</span> <span style="color: blue; font-size: small;">-</span>
Status	is	<input type="text"/>	<span style="color: blue; font-size: small;">+</span> <span style="color: blue; font-size: small;">-</span>
Type	is	<input type="text"/>	<span style="color: blue; font-size: small;">+</span> <span style="color: blue; font-size: small;">-</span>

Maximum Number of Results:

Search Clear

Result List: 17 entries found

	Request/Task	User	Status	Source System	Type	Text
	C0000000000000002651		Released	TGD	Workbench Req...	Harrys Test
	C0000000000000002768		Released	TGD	Workbench Req...	Demo TMS ChaRM
	S2DK900002		Changeable	S2D	Customizing Re...	FIORI_HCM_TRAN...
	S2DK900090		Changeable	S2D	Workbench Req...	MDI_TEST2(80000...
	S2DK900093		Changeable	S2D	Customizing Re...	MDI_TEST2(80000...
	S2DK900096		Changeable	S2D	Workbench Req...	Test HTA
	S2DK900102		Changeable	S2D	Workbench Req...	aaa
	S2DK900124		Changeable	S2D	Workbench Req...	BCOS_CUST
	S2DK900143		Changeable	S2D	Workbench Req...	BCUST_CSOL
	S2DK900183		Changeable	S2D	Customizing Re...	Test TR

◀ Back 1 2 Forward ▶

The transport request is now assigned to the change document. It is not yet imported to the test subaccount.

The screenshot shows the SAP Fiori interface for a 'Normal Change' document (ID: 8000001920). The top navigation bar includes options like Save, Display, Edit, Create Follow-Up, Actions, Send E-Mail, Print Preview, Print, Display Object Relationships, and More. Below the navigation is a 'Text Log' section with a red box highlighting a log entry: 'Transport request C0000000000000002768 is assigned to change 8000001920'. The main content area shows a table of 'Tasks' with one row selected, also highlighted with a red box. The row details a 'Transport Request' with ID C00000000000000027, description 'Demo TMS ChaRM', and type 'Workbench Request', all in the 'Released' status.

### Set Change Document to 'To be Tested'

I now changed the status of the change document to 'To be Tested'. This triggers the import of the assigned transport request into the test subaccount.

I selected 'Pass Normal Change to Test' from the 'Actions' menu and saved the change document. This triggers the import of the assigned Transport Management transport requests (and also a transport of copies of potentially assigned ABAP transports).

The screenshot shows the SAP Fiori interface for the same 'Normal Change' document (ID: 8000001920). The 'Actions' menu is open, and the 'Pass Normal Change to Test' option is highlighted with a red box. The main content area displays the 'Status Overview' timeline, which includes the step 'Pass Normal Change to Test'. The 'Details' tab is selected, showing sections for General Data, Implementation Data, Project Planning, and Category. Under General Data, the ID is 8000001920 and the Status is 'In Development'. Under Implementation Data, the Change Cycle / Phase is 'Demo of TMS - ChaRM Integration' and the Type / ID is '8000001919'. Under Project Planning, there are fields for Project Name, Project Number, Project Task, Start Date, Finish Date, Task Duration, Estimated Work, Total Work, Level 1, Level 2, and Level 3.

The change document is now in the status 'To be Tested'.

Normal Change: 8000001920

Status Overview

1 Created    2 In Development    3 To Be Tested    4 Successfully Tested    5 Preliminary Import Requested    6 Testing for Preliminary Import    7 Tested for Production Import    8 Authorized for Import    9 Imported into Production    10 Withdrawn

**General Data**

- ID: 8000001920
- Description: [empty]
- Developer: [empty]
- Tester: [empty]
- IT Operator: [empty]
- Change Manager: [empty]
- Current Processor: [empty]

**Processing Data**

- Status: To Be Tested
- Priority: 4 Low

**Dates**

- Creation Time: 14.04.2020 17:55
- Last changed: 17.04.2020 11:50
- Requested Start: 14.04.2020 17:27:39
- Requested End: 17.04.2020 17:27:39
- Due By: 28.04.2020 17:55:03

**Implementation Data**

- Change Cycle / Phase: Demo of TMS - ChaRM integration
- Type / ID: Continual Cycle
- Landscape / Branch: DEVOPS Test Landscape
- Development Close: 00:00
- Go-Live Date: 00:00

**Project Planning**

- Project Name: <None>
- Project Number: [empty]
- Project Task: [empty]
- Start Date: [empty]
- Finish Date: [empty]
- Task Duration: [empty]
- Estimated Work: Total Work: 0.00

**Category**

- Level 1: [empty]

The import status of the request has changed to green (= imported).

Normal Change: 8000001920

The status was set to the value 'In Development'

General Note

The status was set to the value 'Created'

**Transport Management**

Actions	Transport ID	Request Description	Request Type	Transport of Copies	Tasks	Owner	Status	Critical Object	Import Status
	C0000000000000027...	Demo TMS ChaRM	Workbench Request				Released		

**Tasks**

Task ID	Task Type	Task Owner	Status Text
No result found			

**Transport-Related Checks**

Status	Type	Result
	Downgrade Protection	Very critical conflicts: 0; critical conflicts: 0; warning conflicts: 0 (including history)
	Cross-Reference Check	Error issues: 0; warning issues: 0 (including history)
	Critical Object	

I checked the status of the transport request in the queue of the test node in Transport Management. It has been successfully imported. I also opened the transport log by clicking on the corresponding icon.



Node: Till\_TEST

Description: node representing a test account  
 Content Type: Multi-Target Application  
 Upload Allowed: Yes  
 Perform Notification: No  
 Forward Mode: Auto  
 Controlled By: SAP Solution Manager  
 Destination: MTA\_Test

**IMPORT QUEUE** **TRANSPORT ROUTES**

Items (0 selected, 5 visible)				<a href="#">Add</a>	<a href="#">Import All</a>	<a href="#">Import Selected</a>	<a href="#">Reset</a>	<a href="#">Remove</a>
<input type="checkbox"/>	Transport Description	Owner	Status	Entry Node				
<input type="checkbox"/>	[REDACTED]	[REDACTED]	Succeeded	Till_DEV				
<input type="checkbox"/>	[REDACTED]	[REDACTED]	Initial	Till_DEV				
<input type="checkbox"/>	Harrys Test; MTA ID: test.harry.demo1	[REDACTED]	Succeeded	Till_DEV				
<input type="checkbox"/>	[REDACTED]	[REDACTED]	Succeeded	Till_DEV				
<input type="checkbox"/>	[REDACTED]	[REDACTED]	Succeeded	Till_DEV				
<input type="checkbox"/>	Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo	[REDACTED]	Succeeded	Till_DEV				

The transport log shows the successful import.

Overview / Till\_TEST / Transport Request: Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo /  
 Log of Transport Request: Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo

Info

[09:50:27] Process ID [1166880] contains [1] MTA file(s)

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

[09:50:27] MTA with number [1] has ID [5daad1ca-dac4-4dc4-bdd9-209507119d4a] name [Demo.ChaRM.Neo.mtar]

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

[09:50:27] Processing MTA archive number [1], name [Demo.ChaRM.Neo.mtar]

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

[09:50:27] MTA archive contains modules [tmsdiscovery]

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

[09:50:27] Delivering module [1/1], name [tmsdiscovery], type [com.sap.hcp.html5] to subaccount [REDACTED]

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

[09:50:27] Module parameters [{ "\_name": "tmsdiscovery", "\_version": "1.0.0" }]

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

[09:50:28] Module [tmsdiscovery] delivered successfully

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

[09:50:28] MTA archive [Demo.ChaRM.Neo.mtar] delivered successfully

Fri, Apr 17, 2020, 11:50:29 AM GMT+2

Info

Import ended for transport request 'Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo' (id: 2768) with status 'Success', at Apr-17-2020 09:50:30 GMT

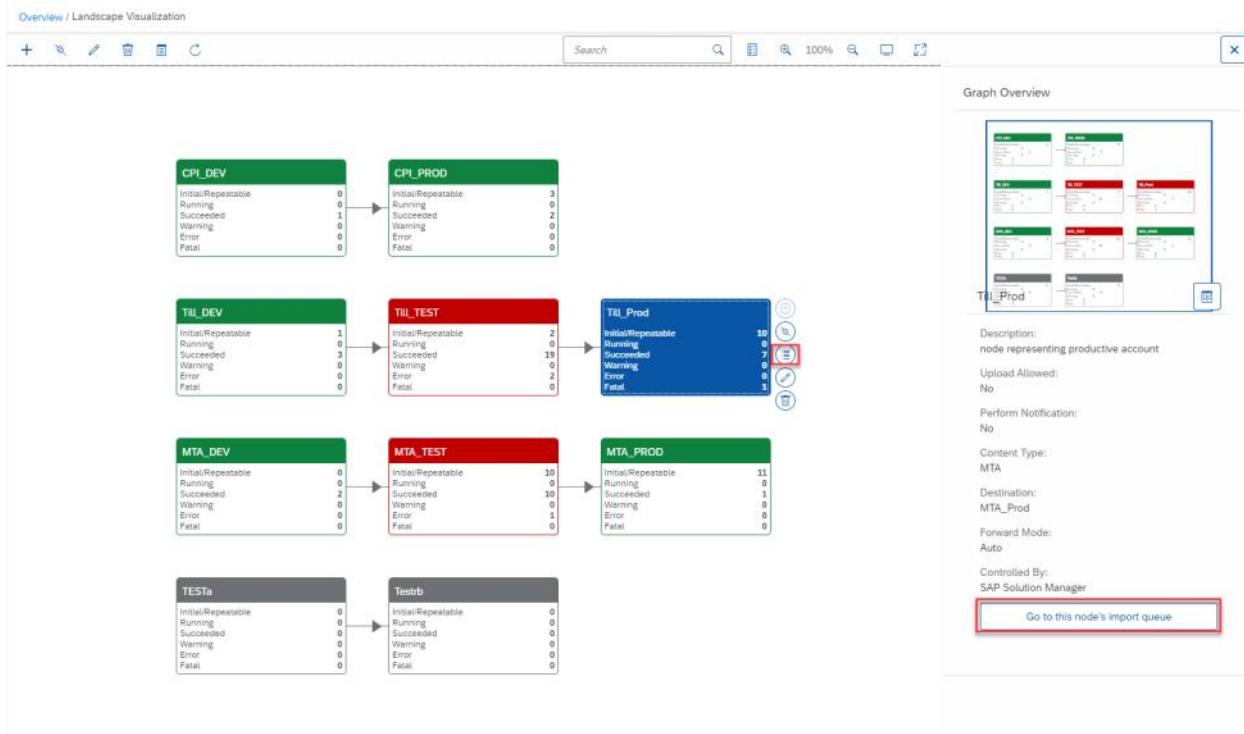
Info

Fri, Apr 17, 2020, 11:50:30 AM GMT+2

Info

Close

Additionally, I checked the import queue of the production node.



The transport request has automatically been forwarded to the import queue of the production node and is waiting there to be imported when the change document reaches the corresponding status.

Overview / Transport Nodes / TIL\_Prod

**Node: TIL\_Prod**

Description: node representing productive account  
Content Type: Multi-Target Application  
Upload Allowed: No  
Perform Notification: No  
Forward Mode: Auto  
Controlled By: SAP Solution Manager  
Destination: MTA\_Prod

**IMPORT QUEUE**

Search...		Restore	
Status:	Preset Date Range:	Custom Date:	
Fatal X	3 More	Last 7 Days	
<input type="button" value="Enter date range..."/>			
<b>Items (0 selected, 4 visible)</b>			
<input type="checkbox"/> Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo	Initial	TIL_DEV	
<input type="checkbox"/> [REDACTED]	Initial	TIL_DEV	
<input type="checkbox"/> [REDACTED]	Initial	TIL_DEV	
<input type="checkbox"/> [REDACTED]	Initial	TIL_DEV	

Handling of errors during test

Please note that in contrast to the ABAP transport request there is no transport of copies for the Transport Management transport requests. If you find errors during testing which require development changes on the SAP Cloud Platform you have to create a new transport request and add it to the queue of the test node (with the methods discussed above). However, in order to assign it to the change document you have to reset the status of the change document to 'In Development'. The import of the new transport request is then triggered upon the status change to 'To be Tested'.

I did not use this option in this example.

The screenshot shows the SAP Solution Manager ChaRM interface. At the top, a message says "Transaction 80000001920 saved" and "Confirm Successful Test". A context menu is open over this message, with the option "Reset Status to 'In Development'" highlighted with a red box. Below this, there are links to "Create Project Management Task" and "Create BPCA Analysis".

Under "General Note", it says "The status was set to the value 'In Development'" at 14.04.2020 17:57:24. Another note below says "The status was set to the value 'Created'" at 14.04.2020 17:55:04.

In the main content area, there is a table titled "Transport Management" with columns: Actions, Transport ID, Request Description, Request Type, Transport of Copies, Tasks, Owner, Status, Critical Object, and Import Status. One row is shown: C0000000000000000027... Demo TMS ChaRM Workbench Request, Status: Released, Critical Object and Import Status both green.

A "Tasks" section follows, with a table showing Task ID, Task Type, Task Owner, and Status Text. It says "No result found".

At the bottom, a "Transport-Related Checks" section shows results for four categories:

Status	Type	Result
Green	Downgrade Protection	Very critical conflicts: 0; critical conflicts: 0; warning conflicts: 0 (including history)
Green	Cross-Reference Check	Error issues: 0; warning issues: 0 (including history)
Yellow	Critical Object	
Yellow	ABAP Test Cockpit	

## Perform further status changes

I now ran through the next status changes of the change document in SAP Solution Manager ChaRM. Due to my comparably simple landscape this resulted not in further transports (of Transport Management Requests).

I confirmed the successful test.

Normal Change: 8000001920

**Actions** Save Display Cancel Edit Create Follow-Up Confirm Successful Test Reset Status to "In Development" Create Project Management Task Create BPCA Analysis

The status was set to the value 'In Development'  
14.04.2020 17:57:24

General Note  
14.04.2020 17:55:04

The status was set to the value 'Created'

Transport Management Transport Request Task Transport of Copies Refresh More

Actions	Transport ID	Request Description	Request Type	Transport of Copies	Tasks	Owner	Status	Critical Object	Import Status
	C0000000000000000000000000000027...	Demo TMS ChaRM	Workbench Request				Released		

Tasks

Task ID	Task Type	Task Owner	Status Text
No result found			

Transport-Related Checks Perform check Refresh

Status	Type	Result
Green	Downgrade Protection	Very critical conflicts: 0; critical conflicts: 0; warning conflicts: 0 (including history)
Green	Cross-Reference Check	Error issues: 0; warning issues: 0 (including history)
Yellow	Critical Object	
Yellow	ABAP Test Cockpit	

The status changed to 'Successfully Tested'.

Normal Change: 8000001920

**Actions** Save Display Cancel Edit Create Follow-Up Actions Send E-Mail Print Preview Print Display Object Relationships More Back

The tester role cannot be identical to the developer  
Transaction 8000001920 saved 2 Messages

Status Overview

1	2	3	4 Successfully Tested	5 Preliminary Import Requested	6 Testing for Preliminary Import	7 Tested for Production Import	8 Authorized for Import	9 Imported into Production	10 Withdrawn
Created	In Development	To Be Tested	Successfully Tested	Preliminary Import Requested	Testing for Preliminary Import	Tested for Production Import	Authorized for Import	Imported into Production	Withdrawn

Details Edit

General Data

ID: 8000001920	Implementation Data
Description:	Change Cycle / Phase: Demo of TMS - ChaRM integration Active
Developer:	Type / ID: Continual Cycle 8000001919
Tester:	Landscape / Branch: DEVOPS Test Landscape Maintenance
IT Operator:	Development Close: 00:00
Change Manager:	Go-Live Date: 00:00
Current Processor:	Project Name: <None>

Processing Data

Status: Successfully Tested	Project Number:
Priority: 4 Low	Project Task:

Dates

Creation Time: 14.04.2020	17:55	Project Start Date:
Last changed: 17.04.2020	13:56	Finish Date:
Requested Start: 14.04.2020	17:27:39	Task Duration:
Requested End: 17.04.2020	17:27:39	Estimated Work:
Due By: 28.04.2020	17:55:03	Total Work: 0.00

Category

Level 1:
----------

I approved the preliminary transport.

Normal Change: 8000001920

**Actions** Save Display Cancel Edit Create Follow-Up Approve Preliminary Import Set Production Status Request Preliminary Import Create Project Management Task

The tester role cannot be identical to the developer  
Transaction 8000001920 saved

Status Overview

1 Created 2 In Development 3 To Be Tested 4 Successfully Tested 5 Preliminary Import Requested 6 Testing for Preliminary Import 7 Tested for Production Import 8 Authorized for Import 9 Imported into Production 10 Withdrawn

General Data

ID: 8000001920 Description: Developer: Tester: IT Operator: Change Manager: Current Processor:

Processing Data

Status: Successfully Tested Priority: 4: Low

Dates

Creation Time: 14.04.2020 Last changed: 17.04.2020 Requested Start: 14.04.2020 Requested End: 17.04.2020 Due By: 28.04.2020

Implementation Data

Change Cycle / Phase: Demo of TMS - ChaRM Integration Active Type / ID: Continual Cycle 8000001919 Landscape / Branch: DEVOPS Test Landscape Maintenance Development Close: 00:00 Go-Live Date: 00:00

Project Planning

Project Name: <None> Project Number: Project Task: Start Date: Finish Date: Task Duration: Estimated Work: Total Work: 0.00

Category

Level 1:

The status changed to 'Testing for Preliminary Import'.

Normal Change: 8000001920

**Actions** Save Display Cancel Edit Create Follow-Up Approve Preliminary Import Set Production Status Request Preliminary Import Create Project Management Task

The requester for preliminary import cannot be the same as the approver  
Transaction 8000001920 saved

Status Overview

1 Created 2 In Development 3 To Be Tested 4 Successfully Tested 5 Preliminary Import Requested 6 Testing for Preliminary Import 7 Tested for Production Import 8 Authorized for Import 9 Imported into Production 10 Withdrawn

General Data

ID: 8000001920 Description: Developer: Tester: IT Operator: Change Manager: Current Processor:

Processing Data

Status: Testing for Preliminary Import Priority: 4: Low

Dates

Creation Time: 14.04.2020 Last changed: 17.04.2020 Requested Start: 14.04.2020 Requested End: 17.04.2020 Due By: 28.04.2020

Implementation Data

Change Cycle / Phase: Demo of TMS - ChaRM Integration Active Type / ID: Continual Cycle 8000001919 Landscape / Branch: DEVOPS Test Landscape Maintenance Development Close: 00:00 Go-Live Date: 00:00

Project Planning

Project Name: <None> Project Number: Project Task: Start Date: Finish Date: Task Duration: Estimated Work: Total Work: 0.00

Category

Level 1:

I confirmed the successful test.

Normal Change: 8000001920

**Actions** Save Display Cancel Edit Create Follow-Up Actions Confirm Successful Test Send E-Mail Print Preview Print Display Object Relationships More Back

The requester for preliminary import cannot be the same as the approver  
Transaction 8000001920 saved

Status Overview

1 Created 2 In Development 3 To Be Tested 4 Successfully Tested 5 Preliminary Import Requested 6 Testing for Preliminary Import 7 Tested for Production Import 8 Authorized for Import 9 Imported into Production 10 Withdrawn

Testing for Preliminary Import  
Tested for Production Import  
Authorized for Import  
Imported into Production  
Withdrawn

Details

**General Data**

ID: 8000001920  
Description:  
Developer:  
Tester:  
IT Operator:  
Change Manager:  
Current Processor:

**Processing Data**

Status: Testing for Preliminary Import  
Priority: 4 Low

**Dates**

Creation Time: 14.04.2020 17:55  
Last changed: 17.04.2020 14:01  
Requested Start: 14.04.2020 17:27:39  
Requested End: 17.04.2020 17:27:39  
Due By: 28.04.2020 17:55:03

**Implementation Data**

Change Cycle / Phase: Demo of TMS - ChaRM Integration Active  
Type / ID: Continual Cycle 8000001919  
Landscape / Branch: DEVOPS Test Landscape Maintenance  
Development Close: 00:00  
Go-Live Date: 00:00

**Project Planning**

Project Name: <None>  
Project Number:  
Project Task:  
Start Date:  
Finish Date:  
Task Duration:  
Estimated Work:  
Total Work: 0.00

**Category**

Level 1:

The status changed to 'Tested for Productive Import'.

Normal Change: 8000001920

**Actions** Save Display Cancel Edit Create Follow-Up Actions Send E-Mail Print Preview Print Display Object Relationships More Back

✓ Transaction 8000001920 saved

Status Overview

1 Created 2 In Development 3 To Be Tested 4 Successfully Tested 5 Preliminary Import Requested 6 Testing for Preliminary Import 7 Tested for Production Import 8 Authorized for Import 9 Imported into Production 10 Withdrawn

Testing for Preliminary Import  
Tested for Production Import  
Authorized for Import  
Imported into Production  
Withdrawn

Details

**General Data**

ID: 8000001920  
Description:  
Developer:  
Tester:  
IT Operator:  
Change Manager:  
Current Processor:

**Processing Data**

Status: Tested for Production Import  
Priority: 4 Low

**Dates**

Creation Time: 14.04.2020 17:55  
Last changed: 17.04.2020 14:06  
Requested Start: 14.04.2020 17:27:39  
Requested End: 17.04.2020 17:27:39  
Due By: 28.04.2020 17:55:03

**Implementation Data**

Change Cycle / Phase: Demo of TMS - ChaRM Integration Active  
Type / ID: Continual Cycle 8000001919  
Landscape / Branch: DEVOPS Test Landscape Maintenance  
Development Close: 00:00  
Go-Live Date: 00:00

**Project Planning**

Project Name: <None>  
Project Number:  
Project Task:  
Start Date:  
Finish Date:  
Task Duration:  
Estimated Work:  
Total Work: 0.00

**Category**

Level 1:

I authorized the productive import.

Normal Change: 8000001920

**Actions** ▾ Save □ Display □ Cancel □ Edit □ Create Follow-Up □ Authorize for Import □ Cancel Preliminary Import □ Create Project Management Task □ Print Preview □ Print □ Display Object Relationships □ More ▾

Status Overview

Created In Development To Be Tested Successfully Tested Preliminary Import Requested Testing for Preliminary Import Tested for Production Import Authorized for Import Imported into Production Withdrawn

General Data

ID: 8000001920  
Description:   
Developer:   
Tester:   
IT Operator:   
Change Manager:   
Current Processor:

Implementation Data

Change Cycle / Phase: Demo of TMS - ChaRM Integration Active  
Type / ID: Continual Cycle 8000001919  
Landscape / Branch: DEVOPS Test Landscape Maintenance  
Development Close: 00:00  
Go-Live Date: 00:00

Project Planning

Project Name: <None>  
Project Number:   
Project Task:   
Start Date:   
Finish Date:   
Task Duration:   
Estimated Work:   
Total Work: 0.00

Category

Level 1:   
Level 2:   
Level 3:

Processing Data

Status: Tested for Production Import  
Priority: 4 Low

Dates

Creation Time: 14.04.2020 17:55  
Last changed: 17.04.2020 14:06  
Requested Start: 14.04.2020 17:27:39  
Requested End: 17.04.2020 17:27:39  
Due By: 28.04.2020 17:55:03

Relationships

Related Document:

The status changed to 'Authorized for Import'.

Normal Change: 8000001920

**Actions** ▾ Save □ Display □ Cancel □ Edit □ Create Follow-Up □ Authorize for Import □ Cancel Preliminary Import □ Create Project Management Task □ Print Preview □ Print □ Display Object Relationships □ More ▾

Status Overview

Created In Development To Be Tested Successfully Tested Preliminary Import Requested Testing for Preliminary Import Tested for Production Import Authorized for Import Imported into Production Withdrawn

General Data

ID: 8000001920  
Description:   
Developer:   
Tester:   
IT Operator:   
Change Manager:   
Current Processor:

Implementation Data

Change Cycle / Phase: Demo of TMS - ChaRM Integration Active  
Type / ID: Continual Cycle 8000001919  
Landscape / Branch: DEVOPS Test Landscape Maintenance  
Development Close: 00:00  
Go-Live Date: 00:00

Project Planning

Project Name: <None>  
Project Number:   
Project Task:   
Start Date:   
Finish Date:   
Task Duration:   
Estimated Work:   
Total Work: 0.00

Category

Level 1:   
Level 2:   
Level 3:

Processing Data

Status: Authorized for Import  
Priority: 4 Low

Dates

Creation Time: 14.04.2020 17:55  
Last changed: 17.04.2020 14:11  
Requested Start: 14.04.2020 17:27:39  
Requested End: 17.04.2020 17:27:39  
Due By: 28.04.2020 17:55:03

Relationships

Related Document:

Trigger transport into productive node

The final step was to set the status of the change document to 'Import Normal Change into Production'. This triggers the import of the transport request into the productive node in Transport Management.

Normal Change: 8000001920

**Status Overview**

**Actions**

- Save
- Display
- Cancel
- Edit
- Create Follow-Up
- Actions
- Send E-Mail
- Print Preview
- Print
- Display Object Relationships
- More

**Implementation Data**

**General Data**

ID:	8000001920
Description:	
Developer:	
Tester:	
IT Operator:	
Change Manager:	
Current Processor:	

**Processing Data**

Status:	Authorized for Import
Priority:	4: Low

**Dates**

Creation Time:	14.04.2020	17:55
Last changed:	17.04.2020	14:11
Requested Start:	14.04.2020	17:27.39
Requested End:	17.04.2020	17:27.39
Due By:	28.04.2020	17:55.03

**Relationships**

**Implementation Data**

Change Cycle / Phase:	Demo of TMS - ChaRM integration
Type / ID:	Continual Cycle
Landscape / Branch:	DEVOPS Test Landscape
Development Close:	00:00
Go-Live Date:	00:00

**Project Planning**

Project Name:	<None>
Project Number:	
Project Task:	
Start Date:	
Finish Date:	
Task Duration:	
Estimated Work:	
Total Work:	0.00

**Category**

Level 1:	
Level 2:	
Email:	

The status changed to 'Imported into Production'.

Normal Change: 8000001920

**Status Overview**

**Actions**

- Save
- Display
- Cancel
- Edit
- Create Follow-Up
- Actions
- Send E-Mail
- Print Preview
- Print
- Display Object Relationships
- More

**Implementation Data**

**General Data**

ID:	8000001920
Description:	
Developer:	
Tester:	
IT Operator:	
Change Manager:	
Current Processor:	

**Processing Data**

Status:	Imported into Production
Priority:	4: Low

**Dates**

Creation Time:	14.04.2020	17:55
Last changed:	17.04.2020	14:16
Requested Start:	14.04.2020	17:27
Requested End:	17.04.2020	17:27
Due By:	28.04.2020	17:55

**Implementation Data**

Change Cycle / Phase:	Demo of TMS - ChaRM integration
Type / ID:	Continual Cycle
Landscape / Branch:	DEVOPS Test Landscape
Development Close:	00:00
Go-Live Date:	00:00

**Project Planning**

Project Name:	
Project Number:	
Project Task:	
Start Date:	
Finish Date:	
Task Duration:	
Estimated Work:	
Total Work:	0.00

**Category**

Level 1:	
----------	--

I switched to the import queue of the productive node Till\_PROD in SAP Cloud Platform Transport Management. The transport request has been successfully imported into the productive subaccount.

Node: Till\_Prod

Description: node representing productive account  
 Content Type: Multi-Target Application  
 Upload Allowed: No  
 Perform Notification: No  
 Forward Mode: Auto  
 Controlled By: SAP Solution Manager  
 Destination: MTA\_Prod

The screenshot shows the SAP Transport Management Import Queue interface. At the top, there are tabs for 'IMPORT QUEUE' and 'TRANSPORT ROUTES'. Below the tabs is a search bar and filter options for status ('Succeeded') and date range ('Last 7 Days'). A table lists transport requests with columns for 'Transport Description', 'Owner', 'Status', and 'Entry Node'. One row, 'Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo', is highlighted with a red border and has the status 'Succeeded'.

Transport Description	Owner	Status	Entry Node
Demo TMS ChaRM; MTA ID: Demo.ChaRM.Neo	Succeeded	Till_DEV	<span style="color: blue;">🔗</span> <span style="color: blue;">🔍</span>

## Troubleshooting

There are many potential sources for issues in this rather complex setup. For troubleshooting purposes in the SAP Transport Management setup I would propose the following approach:

- Check the destinations pointing to the target subaccounts. They should return HTTP code 200 (success)
- Set up your landscape without the 'Controlled by SAP Solution Manager' flag
- Manually upload a test MTA to the first node in your landscape using the 'Add' functionality in the import queue
- Import the transport request in all your nodes
- This proves that transporting works in principle. Otherwise analyse the error messages provided in the transport logs
- Enable the 'Controlled by SAP Solution Manager' for the test node and the productive node and continue with tests including SAP Solution Manager

For analysing potential issues with SAP Solution Manager Change Request Management I recommend [this very extensive Wiki](#).

## Summary

The new integration of SAP Cloud Platform Transport Management into SAP Solution Manager Change Request Management and Quality Gate Management allows you to document all aspects of a change, on premise and in the cloud, in one place. It also synchronizes the transports in the different landscapes. This is a great step forward for managing changes in hybrid landscapes.



# How to trace a API call from APIGEE -> CPI -> SAP

Wednesday, July 5, 2023 6:00 PM

The screenshot shows the SAP Inventory management API documentation. On the left, there's a sidebar with 'SAP INVENTORY MANAGEMENT' and 'PATHS' sections. Under 'PATHS', two items are listed: '/inventories/adjustments' (POST) and '/inventory' (GET). The main content area is titled 'POST /inventory'. It includes an 'HTTP request' section with the URL <https://api-qa.eaton.com/sap/inventorymanagement/v1/inventory>. Below that is a 'Request Body' section with the following JSON example:

```
{
  "inventoryReconciliationRequest": [
    {
      "eventCode": "string",
      "sourceApplicationId": "string",
      "groupNumber": "string",
      "isGroupLast": "string",
      "materialNumber": "string",
      "plant": "string",
      "storageLocation": "string",
      "batchNumber": "string",
      "UoM": "string",
      "unrestrictedStock": "string",
      "qualityInspection": "string",
      "blockedStock": "string"
    }
  ]
}
```

The screenshot shows the Apigee API proxy list. The left sidebar has sections like 'Develop', 'Specs', 'API Proxies' (which is selected), 'Shared Flows', 'Offline Trace', 'Publish', 'Analyze', 'Admin', 'Help', and 'Feedback'. The main area lists proxies under 'Environment: qa' and 'All' filter. One proxy, 'SAPInventoryManagement-v1', is highlighted with a yellow background.

NAME	STATUS
MockDistributorInventory-v1	●
DistributorInventory-v1	●
SAPInventoryManagement-v1	●
SapInventoryManagement-v1	●
SapInventoryManagement-v1	●
DistributorInventory-v1-Ethan-Liaw	●
Distributor-Inventory-v1	●
Distributor-Inventory	●

SAP Inventory management | Int. | Cloud Integration | SAP Orders and

API Proxies > SAPInventoryManagement-v1 > Overview > 9

Project Save Revision 9 Deployment

Revision 9 Summary  
Created: Jun 2nd, 2022, Updated: Jun 2nd, 2022.  
Description: commit e42e3f76 from e42e3f769d3fa61167bb3886a058db8cff4d58e1 branch. Deployed by Jenkins

Deployments

Environment	Revision	Status	URL
dev	7	●	<a href="https://api-dev.eaton.com/sap/inventorymanagement/v1">https://api-dev.eaton.com/sap/inventorymanagement/v1</a>
lab	6	●	<a href="https://eaton-nonprod-lab.apigee.net/sap/inventorymanagement/v1">https://eaton-nonprod-lab.apigee.net/sap/inventorymanagement/v1</a>
qa	8	●	<a href="https://api-qa.eaton.com/sap/inventorymanagement/v1">https://api-qa.eaton.com/sap/inventorymanagement/v1</a>
sit	9	●	<a href="https://api-sit.eaton.com/sap/inventorymanagement/v1">https://api-sit.eaton.com/sap/inventorymanagement/v1</a>

Proxy Endpoints

Name	Base Path	Target Endpoints
default	/sap/inventorymanagement/v1	InventoryReconciliation, InventoryAdjustments

Target Endpoints

Name	Target	Used by Proxy Endpoints
InventoryAdjustments	none	default
InventoryReconciliation	none	default

API Proxies > SAPInventoryManagement-v1 > Develop > 9

Project Save Revision 9 Tools Deployment Help for Selected Flow

Navigator Search

Flow: PreFlow

Code: InventoryReconciliation

```

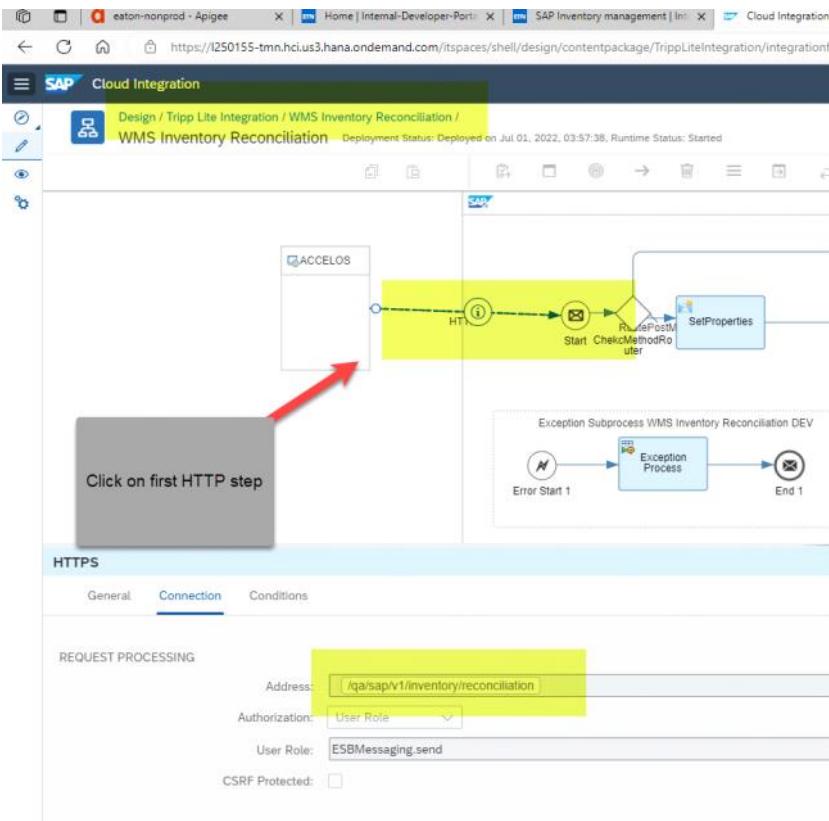
19 <Step>
20   <Name>FC.CPILogin</Name>
21   <Condition>cachedToken = null</Condition>
22 <Step>
23   <Name>EV.ExtractCPIToken</Name>
24   <Condition>calloutResponse != null and cachedToken = null</Condition>
25 <Step>
26   <Name>PC.CPI Token</Name>
27   <Condition>cachedToken = null</Condition>
28 <Step>
29   <Name>AM.CachedCPI Token</Name>
30   <Condition>cachedToken != null</Condition>
31 <Step>
32   <Name>AM.SetAuthHeader</Name>
33   <Condition>cachedToken != null</Condition>
34 <Step>
35   <Name>FC.CPI Login</Name>
36   <Condition>calloutResponse != null and cachedToken = null</Condition>
37 <Step>
38   <Name>FC.ErrorHandler</Name>
39   <Condition>calloutResponse != null and cachedToken = null</Condition>
40 <Step>
41   <Name>HTTPTargetConnection</Name>
42   <Condition>calloutResponse != null and cachedToken = null</Condition>
43 <Step>
44   <Name>HTTPTargetConnection</Name>
45   <Condition>calloutResponse != null and cachedToken = null</Condition>
46 <Step>
47   <Name>HTTPTargetConnection</Name>
48   <Condition>calloutResponse != null and cachedToken = null</Condition>
49 <Step>
50   <Name>HTTPTargetConnection</Name>
51   <Condition>calloutResponse != null and cachedToken = null</Condition>
52 </TargetEndpoint>

```

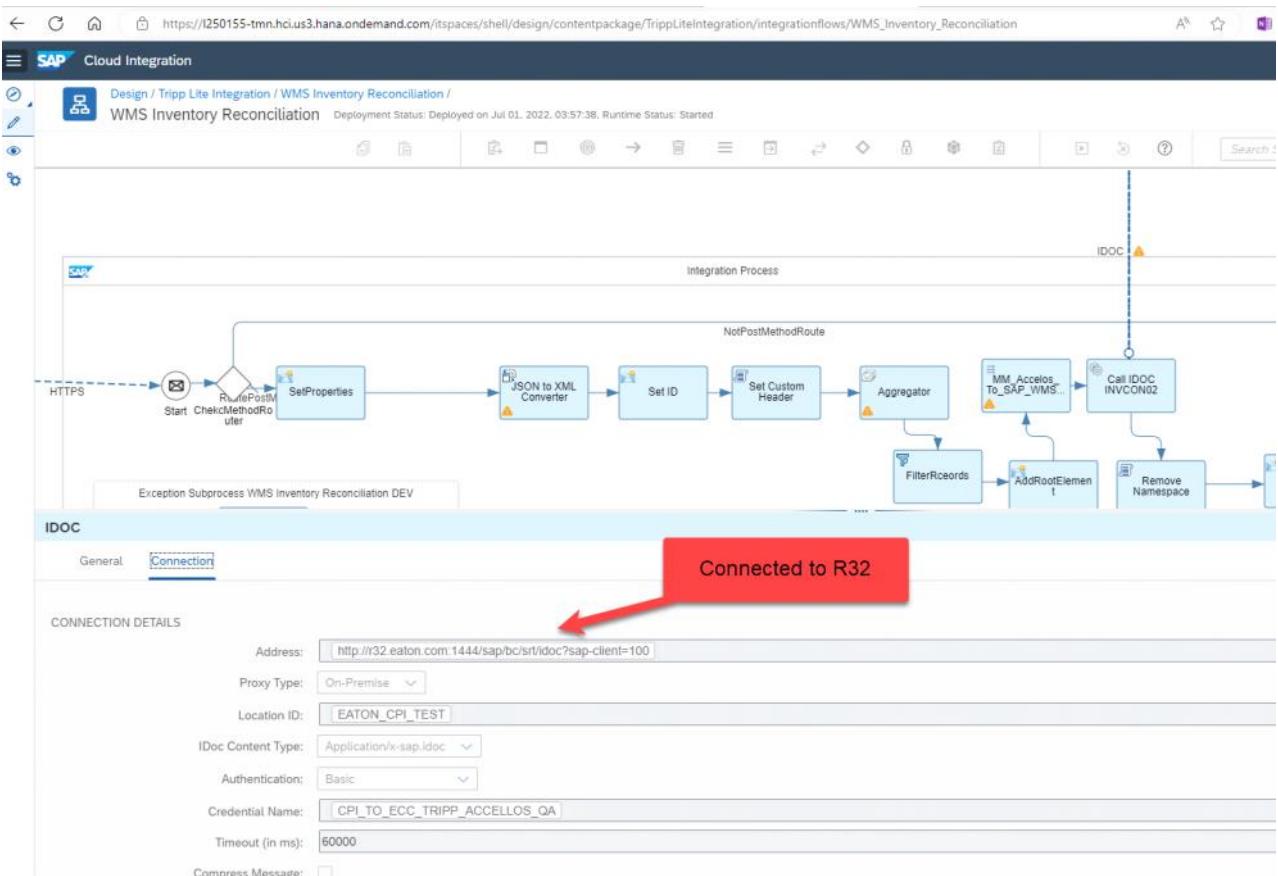
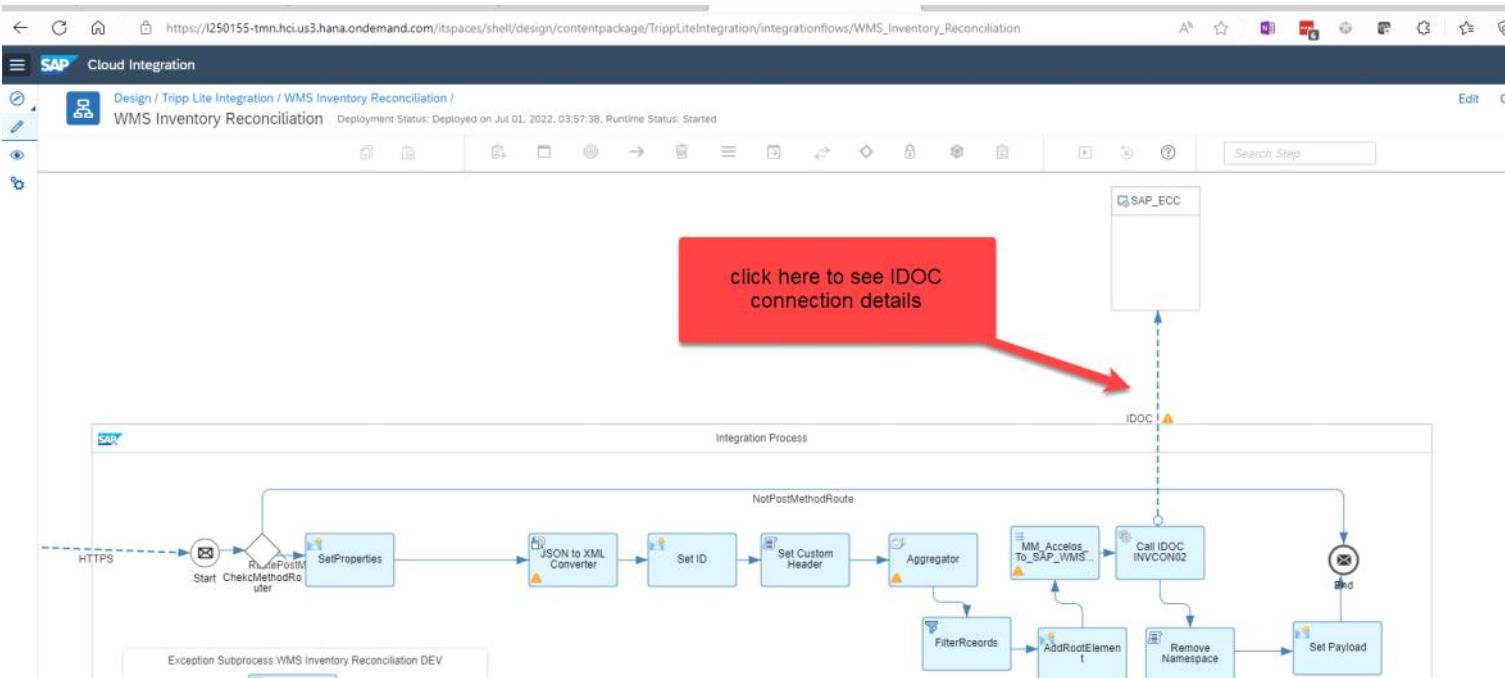
https://1250155-tmn.hci.us3.hana.ondemand.com/itspaces/shell/design

SAP Cloud Integration					
	Design / Design				
SAP Document Compliance: Electronic Invoicing for Colombia TEST	Editable	2.0.3	S0007525492	Tue, 19 Nov	
SAP Document Compliance: Electronic Invoicing for Italy.N	Editable	1.2.5	S0021928637	Mon, 07 Jun	
SAP Document Compliance: Electronic Tax Register Books for Greece	Editable	1.0.12	S0021928637	Tue, 06 Oct	
Update Available					
SAP To Star Track Integration	Editable	1.0.0	S0024185857	Fri, 13 May	
Service Order Management API	Editable	1.0	S0021928637	Mon, 17 Jan	
Shipping API	Editable	1.0.0	S0024242132	Thu, 17 Mar	
Test Iflow	Editable	1.0.0	S0008444719	Tue, 29 Jun	
Test POC	Editable	1.0.0	S0021928637	Fri, 02 Apr	21
TEST-Retry Mechanism	Editable	1.0.0	S0024108755	Tue, 01 Feb	
TestDemoPackage	Editable	1.0	S0025320262	Thu, 11 May	
Tripp - Salesforce Integration	Editable	1.0.0	S0024242132	Thu, 23 Jun	
Tripp - Supplier Portal Integration	Editable	1.0.0	S0024242132	Thu, 23 Jun	
Tripp Lite Integration	Editable	1.0.0	S0024108755	Thu, 20 Jan	
Value Mappings	Editable	1.0	S0021928637	Wed, 12 Jan	
WMS Inventory API	Editable	1.0.0	S0024242132	Fri, 07 Oct	21

Click on first step to see the incoming request (from Apigee) :-



Click on IDOC to see the outgoing request (to ECC):-



# PI CPI access

Monday, March 27, 2023 12:39 PM



Jandhyala, Ramesh Friday 9:23 AM

I created ticket now.

Edited

FYI Shilna asked to add you for PI Dev , CPI Dev and BTP Integration Dev read only access.

The screenshot shows a Service Now interface. At the top, there's a message from 'RJ' stating 'I created ticket now.' Below it, another message says 'FYI Shilna asked to add you for PI Dev , CPI Dev and BTP Integration Dev read only access.' Underneath these messages, there's a link to a 'Request Summary' page. This page displays a new request with the following details:

- Submitted: 17-Mar-23 11:56:29
- Request Number: REQ0134764
- Estimated Delivery: 24-Mar-23

The request table shows one item:

Item	Delivery Date	Stage	Price (each)	Quantity	Total
Request Service-SAP Unity	24-Mar-23	Initiating	---	--	---

Total: \$0.00

The screenshot shows an Excel spreadsheet with two tables of data. The top table has columns: Sno, Name, Email, S Number, System, Environment (tenets), Role, and Expiry date. The bottom table has columns: Sno, Name, Email, Systems, Environment, Role, and Expiry date. Both tables contain 12 rows of data, mostly identical to the ones in the Service Now request.

Sno	Name	Email	S Number	System	Environment (tenets)	Role	Expiry date
1	Visuvaram, Diana	DianaVisuvaram@eaton.com	S0024242132	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	Dec 31 2023
2	Nalla, Karthikreddy	KarthikreddyNalla@eaton.com	S0024242161	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	Dec 31 2023
3	Joshi, Shilna N	ShilnaNjoshi@eaton.com	S0024857342	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	
4	Ramesh Jandhyala	RameshJandhyala@eaton.com	S000844719	BTP Integration Suite and CPI	Prod & Event Mesh	Developer	
5	Gawai, Sanjay	SanjayGawai@eaton.com	S0024857360	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	
6	Soneson, Craig J	CraigJSoneson@Eaton.com	S User id Need to be created	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	
7	Tawde, Shreya	ShreyaSTawde@Eaton.com	S User id Need to be created	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	
8	Shekhawat, Anupama	AnupamaShekhawat@eaton.com	S User id Need to be created	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	
9	Kukade, Atharya	AtharyaKukade@eaton.com	S0024185863	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	
10	Kanauje, Sheikh Jameer	JameerSheikh@Eaton.com	S User id Need to be created	BTP Integration Suite and CPI	Dev/QA and Prod & Event Mesh	Developer	
11	Hari Vedula	harivedula@eaton.com	S0009837495	BTP Integration Suite and CPI	Dev/QA	Developer Read Only	
12	Vaka, Raghu R	RaghuRVaka@eaton.com	S0009828609	BTP Integration Suite and CPI	Dev/QA	Developer Read Only	

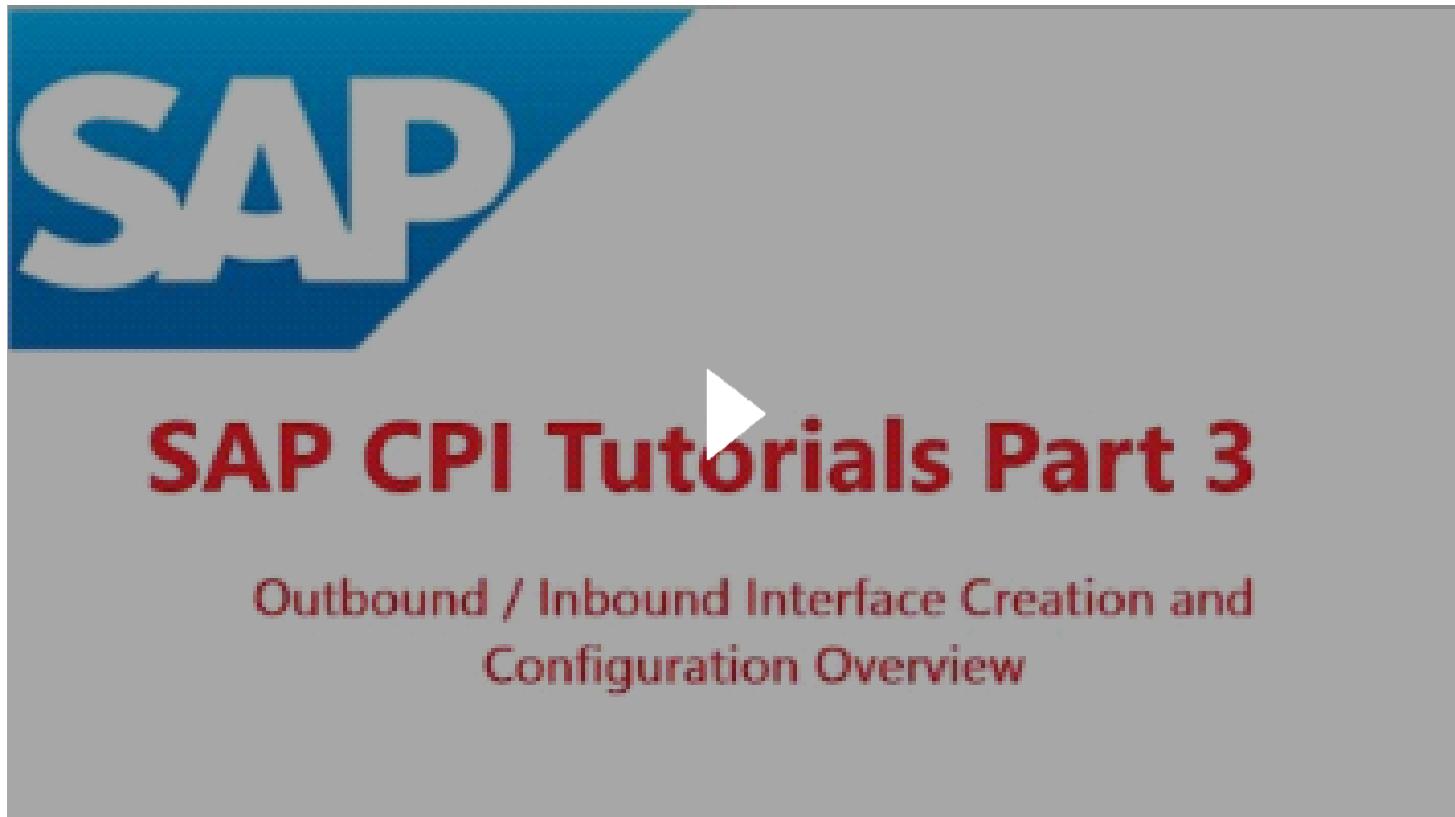
Sno	Name	Email	Systems	Environment	Role	Expiry date
1	Joshi, Shilna N	ShilnaNjoshi@eaton.com	SAP PXP,PX1,PX2,PXD and Nfe Client 001	Dev , QA and Prod	Developer	
2	Gawai, Sanjay	SanjayGawai@Eaton.com	SAP PXP,PX1,PX2,PXD and Nfe Client 001	Dev , QA and Prod	Developer	
3	Soneson, Craig J	CraigJSoneson@Eaton.com	SAP PXP,PX1,PX2,PXD and Nfe Client 001	Dev , QA and Prod	Developer	
4	Tawde, Shreya	ShreyaSTawde@Eaton.com	SAP PXP,PX1,PX2,PXD and Nfe Client 001	Dev , QA and Prod	Developer	
5	Shekhawat, Anupama	AnupamaShekhawat@eaton.com	SAP PXP,PX1,PX2,PXD and Nfe Client 001	Dev , QA and Prod	Developer	
6	Kanauje, Sheikh Jameer	JameerSheikh@Eaton.com	SAP PXP,PX1,PX2,PXD and Nfe Client 001	Dev , QA and Prod	Developer	
7	Hari Vedula	harivedula@eaton.com	SAP PXD	Dev	Developer Read Only	
8	Vaka, Raghu R	RaghuRVaka@eaton.com	SAP PXD	Dev	Developer Read Only	

# CPI Tutorials

Tuesday, March 28, 2023 7:23 AM

[SAP CPI Tutorials Part 3 \( Outbound / Inbound Interface Creation and Configuration Overview Cont.\)](#)

Delta Learning Hub



# RE: (Please pick 1 of 2 meetings) 51185 - SAP PI 7.5 Upgrade- New SAP PI Environment configuration

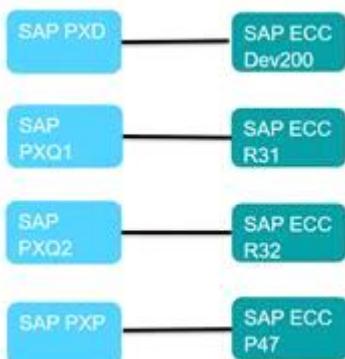
Thursday, March 5, 2020 4:41 PM

Subject	<b>RE: (Please pick 1 of 2 meetings) 51185 - SAP PI 7.5 Upgrade- New SAP PI Environment configuration</b>
From	Jandhyala, Ramesh
To	Sours, Brian E; Gay, Alan; sawant, sameer; Brzezicki, Richard M; Gieringer, Michael K; Olliff, John; Lorenz, Martin; Vedula, Hari; Subbusamy, Mohan; O'Neill, Richard; Srivastava, Komal; Kant, Gaurav; Mayreddy, Maddy
Sent	Thursday, March 5, 2020 4:35 PM
Attachments	 pi_migration_pi711...

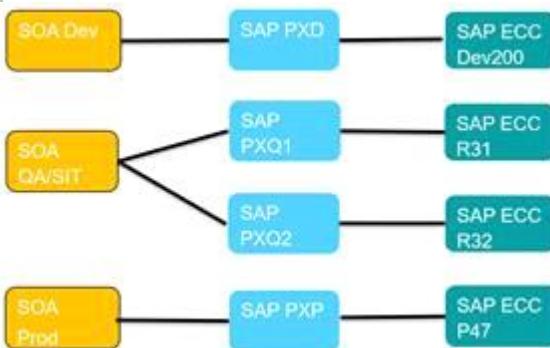
Team

Please see below details and let me know if you are looking for any other information.

## *High level diagram for SAP and New SAP PI pointers*



## *SOA and PI in landscape*



## *What is changing with New PI in landscape*

- 1) Host names and URLs ( mentioned below) for New PI.
- 2) Now we will have 2 PIs for QA( PX1 and PX2). Previously we used to have only one QA PI.

#### ***What are new and Old Server details***

New hosts

sapuxpxd.tcc.etn.com:50100  
 sapuxpx1.tcc.etn.com:50100 ( pointing to R31)  
 sapuxpx2.tcc.etn.com:50100 ( pointing to R32)  
 sapuxpxp.tcc.etn.com:50100

Old hosts

sapuxpid.ci.root:50000  
 sapuxpiq.ci.root:50000  
 sapuxpip.ci.root:50100

#### ***Where are inventory of Interfaces***

Please see attached file. You can filter by application or middleware ( we can check for both Sender and Receiver)

#### ***Below list teams that have to make changes***

SOA  
 Control M  
 Flash  
 Bidman  
 Redpraire

#### ***Changes required Now***

All Pointers should be pointing to New PI ( above mentioned PI) in Dev .

We are in process of moving all transports to QA and after PI changes moved , all teams mentioned will point to new PI.

#### ***On-Going Projects Till May( For Dual Maintenance)***

For ongoing projects , we will switch back to old PI and test/Develop until we go live in May.

We will revert back to new PI when testing or development is complete.

Regards

**Ramesh Jandhyala**

Eaton | SAP Integration, IPA COE  
 203 Cooper Circle, Peachtree City, GA 30269 **Ph** 770.486.3910 **Mobile** 732 781 6439

-----Original Appointment-----

**From:** Sours, Brian E <BrianESours@eaton.com>

**Sent:** Monday, March 2, 2020 12:48 PM

**To:** Sours, Brian E; Gay, Alan; sawant, sameer; Brzezicki, Richard M; Gieringer, Michael K; Olliff, John; Lorenz, Martin; Vedula, Hari; Subbusamy, Mohan; O'Neill, Richard; Srivastava, Komal; Jandhyala, Ramesh; Kant, Gaurav; Mayreddy, Maddy

**Subject:** (Please pick 1 of 2 meetings) 51185 - SAP PI 7.5 Upgrade- New SAP PI Environment configuration

**When:** Thursday, March 5, 2020 7:00 AM-7:30 AM (UTC-05:00) Eastern Time (US & Canada).

**Where:** EC - 8430T Conf Rm - Huddle

Please note, this is meeting 1 of 2, just asking you to attend 1 (Except Ramesh and Gaurav 😊 )

Hello,

All of you should be aware at this point that we are upgrading SAP PI to version 7.5. As part of this upgrade we have built new Dev, QA, and Prod environments. For testing, we need various custom apps and other interface platforms configured to point to the new servers. Scheduling time to go over this work.

The interfaces that need changed are filtered on this spreadsheet:

[https://eaton.sharepoint.com/:x/r/sites/PP51185-SAPPI7.11Upgrade/Shared%20Documents/General/PIP%20Inventory%20%26%20other%20Details/PI\\_Interface\\_Final%20list.xlsx?d=wf6bee77d38f5423e8e947a0eebe045c8&csf=1&e=1ZulvA](https://eaton.sharepoint.com/:x/r/sites/PP51185-SAPPI7.11Upgrade/Shared%20Documents/General/PIP%20Inventory%20%26%20other%20Details/PI_Interface_Final%20list.xlsx?d=wf6bee77d38f5423e8e947a0eebe045c8&csf=1&e=1ZulvA)

Many of them will be changed via other middle ware (SOA, Tibco, etc.) but some will require changes elsewhere.

Thanks,  
Brian

-- Do not delete or change any of the following text. --

## [Join WebEx meeting](#)

Meeting number (access code): 647 221 482 Meeting password: ZVkmrMmC752

**Join from a video system or application**

Dial [647221482@eaton.webex.com](mailto:647221482@eaton.webex.com)

You can also dial 173.243.2.68 and enter your meeting number.

From the Eaton internal network, dial \*77\* and the 9-digit meeting number.

From the Eaton internal network, open below link for Video address list.

[http://wcm-prod-ct.etn.com/ecm/groups/intranet/@etn/@voice/documents/content/ct\\_285723.pdf](http://wcm-prod-ct.etn.com/ecm/groups/intranet/@etn/@voice/documents/content/ct_285723.pdf)

### **Join by phone**

Tap to call in from a mobile device (attendees only)

[+1-669-234-1708](#) US Toll

[1-844-531-9388](#) US Toll free

[Global call-in numbers](#) | [Toll-free calling restrictions](#)

[Can't join the meeting?](#)

If you are a host, [go here](#) to view host information.

# SAP PI interfaces

Thursday, March 5, 2020 4:42 PM



PI\_Interfa  
e\_Final list

[https://eaton.sharepoint.com/sites/PP51185-SAPP17.11Upgrade/Shared%20Documents/General/Issues%20and%20Tracking/pi\\_migration\\_pi711\\_prodMarchfinal.xls](https://eaton.sharepoint.com/sites/PP51185-SAPP17.11Upgrade/Shared%20Documents/General/Issues%20and%20Tracking/pi_migration_pi711_prodMarchfinal.xls)

## NEW PI monitoring

Wednesday, April 15, 2020 12:37 PM

The screenshot shows the SAP PI Monitoring Home App interface. At the top, there are tabs for 'Message Status Overview', 'PI Messages', and 'PI Messages Archive'. The 'Message Status Overview' tab is selected. Below it, a table displays message status details. The table has columns for Error, Scheduled, Successful, Terminated with error, Sender Partner, Sender Component, Receiver Partner, Receiver Component, Interface, Interface Namespace, and Scenario Identifier. The table contains 15 rows of data, each representing a different message component and its status.

Error	Scheduled	Successful	Terminated with error	Sender Partner	Sender Component	Receiver Partner	Receiver Component	Interface	Interface Namespace	Scenario Identifier
0	0	2	0	BC_BIDMAN	R31100_Q	SI_OA_OrderCreateUpdate	um.ehn.com.pi.Bidman.OrderCreateUpdate	BC_BIDMAN_SI_OA_OrderCreateUpdate		
0	0	1	0	BC_BIDMANAGER	R31100_Q	SI_OA_BIDMAN_QuoteCreate	um.ehn.com.pi.Bidman.QuoteCreate.10	BC_BIDMAN_SI_OA_BIDMAN_QuoteCr...		
0	0	2	0	BC_CPO	R31100_Q	SI_OA_QuoteCreation_SOA	http.eaton.com/pi/common/Quote	BC_CPO_SI_OA_QuoteCreation_SOA		
0	0	0	0	BC_DHL	R31100_Q	ZDHL_MBGMCR_MBGMCR02	um.sap.com/document/sap/soap/messages	BC_DHL_ZDHL_MBGMCR_MBGMCR02		
0	0	5	0	BC_PDH_Material_SOA	R31100_Q	SI_OA_PDH_LongForm_SOA_OUT	um.ehn.com.pi.PDHMaterialLongForm	BC_PDH_Material_SOA_SI_OA_PDHLo...		
0	0	4	0	BC_PDH_Material_SOA	R31100_Q	SI_OA_PDH_ShortForm_SOA_OUT	um.ehn.com.pi.PDHMaterialShortForm	BC_PDH_Material_SOA_SI_OA_PDHSh...		
0	0	1	0	BC_STERLING	R31100_Q	SI_OA_PickConfirm1	http.eaton.com/pi/WMS/PickConfirmation	BC_STERLING_SI_OA_PickConfirm1		
0	0	6	0	BC_SUPPLIERVIZ	R31100_Q	SI_OA_POAck855_EDII	um.ehn.com.pi.SupplierViz.PurchaseOrderAck855.10	BC_SUPPLIERVIZ_SI_OA_POAck855_E...		
2	0	4	0	BC_SUPPLIERVIZ	R31100_Q	ZSVORDRSP_ORDER05	um.sap.com/document/sap/soap/messages	BC_SUPPLIERVIZ_SI_OA_POAck855_E...		
0	0	2,759	3	BS_eSHOP	R31100_Q	SI_IS_ATPCheckNetPrice_SAP_Receiver	um.ehn.com.pi.ATPCheckNetPriceShop	BS_eSHOP_SI_IS_ATPCheckNetPrice...		

## New PI development

Wednesday, April 15, 2020 12:45 PM

The screenshot shows the Eclipse IDE interface with the title "eclipse-workspace - ZDHL\_LOIPRO.LOIPRO02 [Read Only] - Eclipse". The main window displays the WSDL code for the service "ZDHL\_LOIPRO.LOIPRO02". A tooltip is displayed over the "URL" element at line 47, containing the following information:

Webex Meeting Reminder  
SE 51185 - SAP PI Upgrade - Continue C...  
1:30 PM - 2:00 PM  
Host: Souris, Brian E  
Snooze Join Meeting (03:13)

```
1 <?xml version="1.0" encoding="UTF-8" standalone="no"?>
2 <wsdl:definitions xmlns:wsdl="http://schemas.xmlsoap.org/wsdl/" name="ZDHL_LOIPRO.LOIPRO02" targetNamespace="urn:sap-com:document:sap:idoc:messages">
3   <wsdl:types>
4     <xsd:schema xmlns:xsd="http://www.w3.org/2001/XMLSchema">
5       <xsd:element name="LOIPRO02">
6         <xsd:complexType>
7           <xsd:sequence>
8             <xsd:element name="IDOC" type="ZDHL_LOIPRO.LOIPRO02"/>
9           </xsd:sequence>
10          </xsd:complexType>
11        </xsd:element>
12        <xsd:complexType name="LOIPRO02_E14FDP0">
13          <xsd:annotation>
14            <xsd:documentation>Originals for Documents as PRT</xsd:documentation>
15          </xsd:annotation>
16        </xsd:sequence>
17        <xsd:element minOccurs="0" name="ORIGINAL">
18          <xsd:annotation>
19            <xsd:documentation>Application number</xsd:documentation>
20          </xsd:annotation>
21        </xsd:element>
22        <xsd:complexType>
23          <xsd:restriction base="xsd:string">
24            <xsd:length value="5"/>
25          </xsd:restriction>
26        </xsd:complexType>
27      </xsd:element>
28      <xsd:element minOccurs="0" name="DESCRIPTION">
29        <xsd:annotation>
30          <xsd:documentation>Short description of the original</xsd:documentation>
31        </xsd:annotation>
32        <xsd:simpleType>
33          <xsd:restriction base="xsd:string">
34            <xsd:maxLength value="40"/>
35          </xsd:restriction>
36        </xsd:simpleType>
37      </xsd:element>
38      <xsd:element minOccurs="0" name="FILENAME">
39        <xsd:annotation>
40          <xsd:documentation>Original of document</xsd:documentation>
41        </xsd:annotation>
42        <xsd:simpleType>
43          <xsd:restriction base="xsd:string">
44            <xsd:maxLength value="255"/>
45          </xsd:restriction>
46        </xsd:simpleType>
47      </xsd:element>
48      <xsd:element minOccurs="0" name="#URL">
49        <xsd:annotation>
50          <xsd:documentation>NE Integration: URL for Accessing ERP Objects</xsd:documentation>
51        </xsd:annotation>
52        <xsd:simpleType>
53          <xsd:restriction base="xsd:string">
54            <xsd:maxLength value="255"/>
55          </xsd:restriction>
56        </xsd:simpleType>
57      </xsd:element>
58    </xsd:sequence>
59    <xsd:attribute fixed="1" name="SEGMENT" type="xsd:string" use="required"/>
60  </xsd:complexType>
61</wsdl:definitions>
```

Service Definition Edit Goto Utilities Environment System Help

Display Service Definition ZSI\_IS\_OrderSimulate\_SAP\_Recei

Service Definition (autogenerated) ZSI\_IS\_OrderSimulate\_SAP\_Recei Active

Properties External View Internal View Objects Configuration WSDL Classifications

**Identification**

Technical Name	ZSI_IS_ORDERSIMULATE_SAP_RECEI
Porttype Name	SI_IS_OrderSimulate_SAP_Receiv
Short Description	For the structure which PI receiving from ECC
SOAP Namespace	urn:etn-com:pi:OrderSimulationeSHOP

**Endpoint**

Endpoint Type	Service Interface
Referenced Object	ZQTCII_SI_IS_ORDER_SIMULATE_SA

**General Data**

Package	ZUNITY_QTC			
Original Language	EN			
Created by	C9993972	on	07/21/2015	08:55:21
Changed by	E0488577	on	01/30/2019	05:37:27



Display Service Provider SI\_IS\_OrderSimulate\_SAP\_Receiver

Service Provider SI\_IS\_OrderSimulate\_SAP\_Receiver Active

Properties External View Internal View Objects Configuration WSDL Classifications

**Service Provider**

Name	SI_IS_OrderSimulate_SAP_Receiver
Namespace	urn:etn-com:pi:OrderSimulationeSHOP
ABAP Object	INTF Interface
ABAP Name	ZQTCII_SI_IS_ORDER_SIMULATE_SA
Prefix	ZQTC
Source	Enterprise Services Repository
Description	For the structure which PI receiving from ECC
Implementing Class	ZCL_QTC_ESHOP_ORDER_SIMULATE
WebService Definition	ZSI_IS_OrderSimulate_SAP_Recei

**General Data**

Package	ZUNITY_QTC
Original Language	EN English

General Data					
Package	ZUNITY_QTC	Release Status	Not Released		
Original Language	EN English				
Created by	C9993972	on	07/21/2015	08:55:07	
Changed by	E0488577	on	01/30/2019	05:37:27	



The screenshot shows the SAP Class Builder interface for class **ZCL\_QTC\_ESHOP\_ORDER\_SIMULATE**. The title bar displays "Class Builder: Display Class ZCL\_QTC\_ESHOP\_ORDER\_SIMULATE". The toolbar includes standard SAP icons for file operations and navigation. The main area shows the class structure with tabs for Properties, Interfaces, Friends, Attributes, Methods, Events, Types, and Aliases. The **Methods** tab is active, displaying a table of methods. The table has columns for Method, Level, Visibility, and Description. One method is listed:

Method	Level	Visibility	Description
ZOTCII SI IS ORDER SIMULATE SA-SI IS	Instance Method	Public	



Method Edit Goto Utilities Environment System Help

**Class Builder: Class ZCL\_QTC\_ESHOP\_ORDER\_SIMULATE Display**

Pattern Pretty Printer Signature Public Section Protected Section

Ty.	Parameter	Type spec.	Descri...
INPUT		TYPE ZQTCM7_ORDER_SIMULATE_SAP_REQU	
OUTPUT		TYPE ZQTCM7_ORDER_SIMULATE_SAP_RESP	

Method ZQTCII\_SI\_IS\_ORDER\_SIMULATE\_SA-SI\_IS\_ORDER\_SIMULATE\_SAP\_RECEI Active

```

1 | METHOD zqtcii_si_is_order_simulate_sa-si_is_order_simulate_sap_recei.
2 | **** * INSERT IMPLEMENTATION HERE * **** ***
3 |
4 | ***** M O D I F I C A T I O N H I S T O R Y ****
5 |
6 | * Author : Bhumika Mahawar/ Gaurav Kumawat *
7 | * Date : August 12th 2015 *
8 | * Transport : D47K9C1WZ0 *
9 | * Description : Order Simulation Interface *
10 |
11 | * Author : Gaurav Kumawat *
12 | * Date : August 12th 2015 *
13 | * Transport : D47K9C20F8 *
14 | * Description : Usage indicator mapping *
15 |
16 | * Author : Bhumika Mahawar *
17 | * Date : November-23-2015 *
18 | * Transport : D47K9C214V *
19 | * Description : 1)Fill delivery date when requested quantity is equal *
20 | * to confirmed quantity *
21 | * 2)Modify document type according to account group from*
22 | * config table *
23 |
24 | * Author : Ribha Goel *
25 | * Date : December-1-2015 *
26 | * Transport : D47K9C21HM *
27 | * Search term : D47K9C21HM *
28 | * Description : Set flag for Eshop *
29 |
30 | * Author : Bhumika Mahawar *
31 | * Date : December-8-2015 *
32 | * Transport : D47K9C21N7 *
33 | * Search term : D47K9C21N7 *
34 | * Description : ZRMV is appearing multiple times *
35 |
36 | * Author : Ribha Goel *

```

# 51185 - SAP PI 7.5 Upgrade - UAT and QA Apps ready to test

Monday, February 22, 2021 11:59 PM

Subject	<b>51185 - SAP PI 7.5 Upgrade - UAT and QA Apps ready to test</b>
From	<a href="#">Sours, Brian E</a>
To	
Cc	Jandhyala, Ramesh
Sent	Wednesday, March 18, 2020 2:19 PM
Attachments	 Defect Template

Hello Everyone,

We have some good news! The applications listed below are ready for testing after 6pm EST today.

Please use R31 for any interface testing. Please reply to this email if you see any issues with and include application name (and interface name if possible – list is below). If you could fill out the attached Defect Template (if not using ALM to log defects), that would help so that we can manually log to ALM for tracking purposes. If you are able to successfully test , please send me a document that lists your test steps and any screenshots/supporting documentation that you can provide for the test (for those not utilizing ALM test scripts).

Thanks! Brian

**NOTE(for people that log time to portfolio): This is a capital project, so please accurately book any time that you spend on test prep/testing/meetings to the project (it benefits your group's recovery). For all testing/defect resolution, please utilize the task "Phase 4 - UAT (Testing, Defect Management, Rework, Approval)" on the capital hours tab in Portfolio when you log your time.**

## Applications:

Flash ( Except Order Create response)  
Bidman ( Except Order Create response)  
Direct Connect  
GTS  
Elgate – Still working on OAG team to repoint to new PI.  
DHL  
EHSM  
AFIP  
CLC  
SCHENKER  
MSR  
Sterling

Interface details:

Interface	Comp Name
SI_OA_ProductionOrder	BC_DMM
ZSVORDCHG.ORDERS05	BC_SUPPLIERVIZ
ZSVORDERS.ORDERS05	BC_SUPPLIERVIZ
ZRTC_SV_FORECAST.ZSV_FORECAST	BC_SUPPLIERVIZ
SI_OS_InvoiceCreditCard_SAP	BS_eSHOP
ZC360_QUOTES.ORDERS05.ZC360_QUOTES	BC_C360
SI_OA_ProdOrderChar_CLC	BC_CLC
ZDHL_WHSORD.DELVRY03	BC_DHL
ZDHL_ORDERS.ORDERS05	BC_DHL
ZDHL_DESADV.DELVRY03	BC_DHL
ZDHL_MATMAS.MATMAS05	BC_DHL
ZDHL_LOIPRO.LOIPRO02	BC_DHL
SI_OS_ACDC	BC_EHSM
SI_OS_ACDC_ECC	BC_EHSM
ZSCHEN_DESADV.DELVRY03	BC_SCHEKER
ZSCHEN_WHSORD.DELVRY03	BC_SCHEKER
ZSCHEN_MATMAS.MATMAS05	BC_SCHEKER
ZMXINVOIC.INVOIC02.ZINVOIC02	BC_MEXICO_ATEB
SI_OA_ECC_PriceAvailabilitySiteCat	BC_NAM_HOTKEY
ZRP_DESADV.DELVRY03	BC_RedPrairie_1057
ZRP_ORDERS.ORDERS05	BC_RedPrairie_1057
ZRP_SHPMNT.SHPMNT05	BC_RedPrairie_1057
SI_OA_DR861_ECC	BC_SUPPLIERVIZ
SI_OA_MM852_ECC	BC_SUPPLIERVIZ
SI_OA_ATGProductExclusions_SAP	BS_eSHOP
ZORS_CONDA.COND_A02	BC_OSM_SOA
ZCPQ_DEBMAS.DEBMAS07.ZCPQ_DEBMAS07	BC_CPQ
ZCPQ_COND_A.COND_A02	BC_CPQ
ZCPQ_MATMAS.MATMAS05.ZCPQ_MATMAS05	BC_CPQ
ZCPQ_IRM/AGRMNTS./IRM/AGRMNTS01	BC_CPQ
ZCPQ_CMIR.ZCMIRMAS01	BC_CPQ
BAPI_AR_WS_EXP_CONN_TEST	BC_AFIP
SI_OUT_IDEA_PRODUCT_DATA	IDEA_DMP_P

ZRP_MATMAS.MATMAS05	BC_RedPrairie_1057
ZDOMASN.DELVRY03	BC_VMI_DOMINION
SI_OUT_IDEA_PRODUCT_DATA_R4	IDEA_DMP_P
SI_OA_DMRCreation	BC_WISPER
ZC360_DEBMAS.DEBMAS07	BC_C360
ZKWL_SHPMNT.SHPMNT06.ZSHPMNT06	BC_Kewill_PQ
SI_OA_PSI_DESADV	BC_PSI
SI_OA_PSI_MATMAS	BC_PSI
SI_OA_QANotification_Res_SAP	BC_C360
BAPI_AR_WS_CONN_TEST	BC_AFIP
BAPI_AR_WS_EXP_FEXAUTHORIZE	BC_AFIP
BAPI_AR_WS_EXP_REJ_RESP_2758	BC_AFIP
BAPI_AR_WS_REJ_RESP_2485	BC_AFIP
BAPI_AR_WS_2485	BC_AFIP
ZSELA_WHSORD.DELVRY03	BC_SELA
ZSELA_MATMAS.MATMAS05	BC_SELA
ZSELA_DEBMAS.DEBMAS07.ZSELA_DEBMAS07	BC_SELA
ZSELA_DESADV.DELVRY03	BC_SELA
ZORDSTATUS.ORDERS05.ZORDSTATUS	BC_FLASH
ZST_DEBMAS.DEBMAS07	BC_STERLING
ZSVORDCHG.ORDERS05.ZRTC_SVORDERS05	BC_SUPPLIERVIZ
ZSVORDERS.ORDERS05.ZRTC_SVORDERS05	BC_SUPPLIERVIZ
ZSVORDSCH.ORDERS05.ZRTC_SVORDERS05	BC_SUPPLIERVIZ
ZESHOP_CMIR.ZESHOP_CMIR	BS_eSHOP
ZESHOP_CONDA2.COND_A02	BS_eSHOP
ZESHOP_MATMAS.MATMAS05.ZESHOP_MATMAS05	BS_eSHOP
ZESHOP_DEBMAS.DEBMAS07.ZESHOP_DEBMAS07	BS_eSHOP
SI_OA_OrderAckeShop	BS_eSHOP
ZMSR_EIM_SHPMNT.ZMSR_EIM_SHPMNT	BC_MSR
ZORS_DEBMAS.DEBMAS07	BC_OSM_SOA
SI_OS_RegenerateAuthReqID_SAP	BS_eSHOP
SI_OS_ReverseAuthReqID_SAP	BS_eSHOP
INVOIC.INVOIC02	BC_OTTO_FISCHER
SI_OUT_FICO_GL_HYPERION	DOL PTS P
ZDOMRSP.ORDERS05	BC_VMI_DOMINION
ZDOMOR.ORDERS05	BC_VMI_DOMINION

ZST_WMATMAS.MATMAS05		BC_STERLING
ZST_CREMAS.CREMAS05		BC_STERLING
ZST_ORDERS.ORDERS05		BC_STERLING
ZST_ORDDELVRY.DELVRY05		BC_STERLING
ZST_MATMAS.MATMAS05		BC_STERLING
ZST_DELVRY.DELVRY05		BC_STERLING
ZMSR_EIM_CREMAS.ZMSR_EIM_VENDOR		BC_MSR
ZMSR_EIM_MATMAS.MATMAS05		BC_MSR
ZMSR_EIM_DEBMAS.ZMSR_EIM_CONSIGNEE		BC_MSR
ZTMSDESADV.DELVRY07.ZTMC_DELVRY07		BC_TMS
ZTMSDESADV.DELVRY07.ZTMC_DELVRY07		BC_TMS
SI_OS_ETNBRG_SOSYNC_RESPONSE		BC_ORACLE_ECP
SI_OS_ETNBRG_SOUNLOCK_S20		BC_ORACLE_ECP
ZQTC_ETNBRG_SOUNLOCK_S20		BC_ORACLE_ECP
SI_OA_PSI_WHSORD		BC_PSI
ZST_INB_DELVRY.DELVRY05.ZDELVRY05		BC_STERLING
IORDER.IORDER01.ZIORDER01_WKCTR		BC_C360
ZESHOP_ORDRSP.ORDERS05		BS_eSHOP
SI_OA_ECC_Quote		BC_CPQ
ZCPQ_CREMAS.CREMAS06.ZCPQ_CREMAS06		BC_CPQ
ZCEVA_MATMAS.MATMAS05.ZE1MARA_CLAS		BC_CEVA
ZCEVA_DESADV.DELVRY03		BC_CEVA
ZCEVA_WHSORD.DELVRY03		BC_CEVA
ZBID_MATMAS.MATMAS05.ZBID_MATMAS05		BC_BIDMAN
ZBID_COND_A.COND_A02		BC_BIDMAN
SI_OA_OrderAckStatus_Failure		BC_BIDMAN
COD_STOCK_REPLICATE.COD_STOCK_REPLICATE01		LR1_051
COD_PRODUCT_CATEGORY_SAVE.COD_PRODUCT_CATEGORY_SAVE01		LR1_051
ADRMAS.ADRMAS03		LR1_051
ZC4S_ADRMAS.ADRMAS03		LR1_051
COD_CONTRACT_CREATEFROM_DAT.COD_CONTRACT_CREATEFROM_D AT01		LR1_051
COD_CONFIRM_CREATEFROMDAT.COD_CONFIRM_CREATEFROMDAT01		LR1_051
ConnectivityCheckConsumer		LR1_051
COD_EQUIPMENT_SAVE.COD_EQUIPMENT_SAVE01		LR1_051
MATMAS_CFS.MATMAS05		LR1_051
DEBMAS_CFS.DEBMAS06		LR1_051
ZBID_DEBMAS.DEBMAS07.ZBID_DEBMAS07		BC_BIDMAN
ZCPQ_IRM/AGRMNTS./IRM/AGRMNTS01.ZCPQ_IRM_AGRMNTS01		BC_CPQ

ZDHL_MATMAS_DE.MATMAS05.ZE1MARA_CLAS			BC_DHL
ZDHL_WHSORD.DELVRY03.ZQTC_DHL_WHSORD			BC_DHL
ZDHL_MATMAS.MATMAS05.ZE1MARA_CLAS			BC_DHL
ZBIDMAN_ORDRSP.ORDERS05.ZORDRS05			BC_BIDMAN

			Sender	
Comp Name		Adapter	Comm Chan	Interface
BC_SUPPLIER_VIZ	TIBCO	File/FileCSV	CC_SND_FILE_POFncAck_SupplierViz	SI_OA_POFncAck997_EDI
BC_DHL	Control M	File/File	CC_SND_File_DeliveryConfirmation_DHL	ZDHL_WHSCON.DELVRY03
BC_DHL	Control M	File/File	CC_SND_File_ProductionOrderConfirmation_DHL	ZDHL_CONF21.CONF21
BC_DHL	Control M	File/File	CC_SND_File_StockTransfer_DHL	ZDHL_WMMBX_Y_CHS.WMMBID02
BC_DHL	Control M	File/File	CC_SND_File_GoodsIssue_DHL	ZDHL_WMMBX_Y_GIWO.WMMBID02
BC_DHL	Control M	File/File	CC_SND_File_PurchaseOrderReceipt_DHL	ZDHL_WMMBX_Y_POGR.WMMBID02
BC_DHL	Control M	File/File	CC_SND_File_StockAdjustment_DHL	ZDHL_WMMBX_Y_ADJ.WMMBID02
BC_SCHENKER	Control M	File/File	CC_SND_File_GoodsMovement_SCHENKER	ZSCHEN_MBGMCR.MBGMCR02
BC_SCHENKER	Control M	File/File	CC_SND_File_WarehouseVerification_SCHENKER	ZSCHEN_WHSCON.DELVRY03
BC_SELA	Control M	File/FileCSV	CC_SND_File_PickConfirm_SELA	SI_OA_PickConfirm
BC_WISPER	Control M	FTP/FileCSV	CC_SND_FILE_PPAPInspectionFlag_WISPER	SI_OA_PPAPInspectionRecord
BC_EHSM	Control M	File/FileCSV	CC_SEN_FILE_EHSM_VendorMaster	SI_OA_ERPVendor
BC_EHSM	Control M			SI_OA_VENNNAFT
BC_EHSM	Control M	File/File	CC_SEN_FILE_EHSM_VendorMaster_UNZIP	SI_OA_VENZIP
BC_KeWill	Control M	SOAP/SOAP	CC_SEN_UpdateShipment_KeWill	SI_OA_UpdateShipment_Kewill
BC_EHSM	Control M	File/File	CC_SEN_FILE_EHSM_BOM_UNZIP	SI_OA_BOMZIP
BC_EHSM	Control M			SI_OA_BOMNONAFT
BC_EHSM	Control	File/FileCSV	CC_SEN_FILE_EHSM_BOM	SI_OA_ERPBOM

	M	V		
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_CustomerList	SI_OS_CustomerList
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_MaterialList	SI_OS_MaterialList
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_DSCProductSearch	SI_OS_DSCProductSearch
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_MaterialDetail	SI_OS_MaterialDetail
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_GetIdocAndOrder	SI_OS_GetIdocOrder
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_SalesOrderView	SI_OS_SalesOrderView
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_InventoryStatus	SI_OS_InventoryStatusInfo
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_CustomerDetail	SI_OS_CustomerDetail
BC_FLASH	Developer	SOAP/SOAP	CC_SEN_SOAP_Flash_OrderSummary	SI_OS_OrderSummary
BC_DMM	Control M	FTP/File	CC_SEN_FILE_ProductionOrderConfirmation	SI_OA_ProductionOrderConfirmation_File
BC_TMS	Control M	File/File	CC_SEN_FILE_PlannedShipment_TMC	SI_OA_TmsTmc_PlannedShipment
BC_EHSM	Control M	File/FileCSV	CC_SEN_FILE_EHSM_MaterialMaster	SI_OA_ERPMaterial
BC_EHSM	Control M	File/File	CC_SEN_FILE_EHSM_MaterialMaster_UNZIP	SI_OA_MATZIP
BC_EHSM	Control M			SI_OA_MATNONAFT
BC_SELA	Control M	File/FileCSV	CC SND_File_GoodsReceipt_SELA	SI_OA_GoodsReceipt_SELA
BC_EHSM	Control M	File/FileCSV	CC_SEN_FILE_EHSM_AMPL	SI_OA_ERPAMPL
BC_EHSM	Control M			SI_OA_AMPLNONAFT
BC_EHSM	Control M	File/File	CC_SEN_FILE_EHSM_AMPL_UNZIP	SI_OA_AMPLZIP
BC_SELA	Control M	File/FileCSV	CC SND_File_Inventory_SELA	SI_OA_Inventory_SELA
BC_Elgate	Developer	SOAP/SOAP	CC_SEN_SOAP_Elgate_Price	SI_OS_PriceElgate_Elgate_Sender
BC_CEVA	Control M	File/File	CC SND_File_StockReport_CEVA	ZCEVA_INVCON.INVCON02
BC_CEVA	Control M	File/File	CC SND_File_MovementsConfirmation_CEVA	ZCEVA_MBGMCR.MBGMCR02

BC_CEVA	Control M	File/File	CC_SND_File_PickPackConfirmation_CEVA	ZCEVA_WHSCON.DELVRY03
BC_Elgate	Developer	SOAP/SOAP	CC_SEN_SOAP_Elgate_Availability	SI_OS_AvailabilityElgate_Elgate_Sender
BC_Elgate	Developer	SOAP/SOAP	CC_SEN_SOAP_Elgate_StdAvailability	SI_OS_StdAvailabilityElgate_Elgate_Sender
BC_DHL	Control M	File/File	CC_SND_File_StockMovements_DHL	ZDHL_MBGMCR.MBGMCR02
BC_DHL	Control M	File/File	CC_SND_File_Shipments_DHL	ZDHL_SHPMNT.SHPMNT05
BC_DHL	Control M	File/File	CC_SND_File_InventoryReconciliation_DHL	ZDHL_INVCON.INVCON02

# SAP PI Functional Catalog 2.0.pdf

Friday, March 10, 2023 11:08 AM

Clipped from: <https://teams.etn.com/corp/EnterpriseApplicationIntegration/SAPPI/SAPPIKnowledgebase/Standards%20and%20Processes/SAP%20PI%20Functional%20Catalog/SAP%20PI%20Functional%20Catalog%202.0.pdf#search=record>



Version 2.0

## SAP PI Functional Catalog

Author  
Ramesh Jandhyala

Reviewed by  
Keith Popendieker  
Corrigan, Malcolm

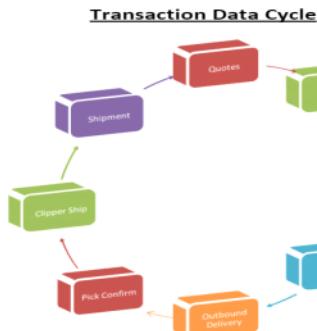
Orders
RedPrairie Orders
Dominion Change Orders
Dominion Order Request
Dominion Order response
Dominion Order
Flash Order View
Flash Order Summary
Flash Order Create
Flash Order Status Email
PRM Order Details
PRM Order Update
BidMan Orders
Eshop Order Create
Eshop Order History
Eshop Simulate Order
Eshop Order Ack
Supplier Viz PO Change
Dominion Planning Schedule
BidMan Orders
PSI Orders
WMS Order Download

Delivery
WMS Delivery
RedPrairie Delivery
TMS Delivery
Dominion Delivery
OTM Delivery
WD OTM Delivery
PSI Delivery

Inventory Management
RedPrairie Inventory Adjustments
RedPrairie Inventory Status
WMS Receipts Adjustments
Red Prairie MTOS
RedPrairie Receipts Confirmations

Vendors
Sterling Vendor Master
MSR Vendor Master
MSR Vendor Consignee
EHSM ERP Vendor
EHSM DS Vendor

Products / Material
EHSM Material for a Plant
EHSM Material HERs
EHSM Material UOM
PDH Material
EHSM BOM
EHSM AMPL
PDH Material Long Form Create
PDH Material Short Form Create
PSI Material Master



RMA
RedPrairie RMA
RedPrairie Non RMA
RedPrairie RMA Delivery

Invoices
Mexico Invoice I/O

Net price
Eshop NetPrice

List Price
Eshop List Price
OSM List Price

Receipts
WMS Receipts
RedPrairie Receipts Confirmation
RedPrairie RMA Receipts
Wisper Receipts

Customers
Flash Customer Details
Flash Customer List
WMS Customer Master
Eshop Customer Master

Quotes
Bid Man Quote Create
Bid Man Quote status

ATP Check
Eshop ATP Checks

Finance
Dol Vendors
Dol payment history
Dol Void Check
Dol Invoices
Dol Open Items

SAP PI Functional Catalog V2 Page 1

# SAP PI vs Sap gateway

Tuesday, December 3, 2019 3:28 PM

<http://www.beginners-sap.com/sap-gateway-vs-sap-pi/>

[http://www.beginners-sap.com/wp-content/uploads/2017/06/SAP-Gateway\\_vs\\_SAP-PI.pdf](http://www.beginners-sap.com/wp-content/uploads/2017/06/SAP-Gateway_vs_SAP-PI.pdf)

Lore, Chris  
In a meeting

JUST one point from our meeting...I just want to make sure the discussion around SAP CPI ... 1:26 PM

😊 1:26 PM

no 1:26 PM

regarding SAP CPI 1:26 PM

I just want to make sure we are not trying to replace SAP gateway with SAP CPI even for internal applications? 1:27 PM

**Lore, Chris**  
no I think they have different uses 1:27 PM

if it's a service that we believe will be used for Fiori and could be exposed externally 1:27 PM

or we want to focus on ODATA/JSON development, especially as an exposed API internal to Eaton 1:28 PM

we'd be going through the Gateway 1:28 PM

**Vedula, Narahari(Hari)**  
makes sense 1:28 PM

that is what I had in mind also 1:28 PM

For external cloud applications we can use SAP CPI may be or PI -> OAG (like we have done for C4S) 1:29 PM

**Lore, Chris**  
yes 1:30 PM

**Vedula, Narahari(Hari)**  
great 1:30 PM

lock icon

Attachment icon, Edit icon, Smiley face icon, T icon, User icon, Share icon

Wednesday, December 4, 2019

Vedula, Narahari(Hari)

Hi Chris 1:24 PM

Lore, Chris

Hi Hari 1:25 PM

Already spotted something wrong huh? 1:26 PM



Vedula, Narahari(Hari)

Just one point from our meeting...I just want to make sure the discussion around SAP CPI ... 1:26 PM



no 1:26 PM

regarding SAP CPI 1:26 PM

I just want to make sure we are not trying to replace SAP gateway with SAP CPI even for internal applications? 1:27 PM

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Vedula, Narahari(Hari)

makes sense 1:28 PM

that is what I had in mind also 1:28 PM

For external cloud applications we can use SAP CPI maybe or PI -> OAG (like we have done for C4S) 1:29 PM

Lore, Chris

yes 1:30 PM

Vedula, Narahari(Hari)

great 1:30 PM

I was not sure why Ramesh was so worried about SAP CPI



# SAP PI Vs SAP Gateway - Beginner's SAP

Sunday, June 21, 2020 5:59 PM

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## **Beginners-SAP** SAP PI Vs SAP Gateway



A common question people usually ask when starting out implementing or learning SAP OData and SAP Gateway is, what is the difference between SAP PI and SAP Gateway – (SAP NetWeaver Gateway is now rebranded as SAP Gateway.. so I will continue to call it SAP Gateway)?

If you haven't yet started to read about the Gateway and OData, then you should start now and if you don't know what is SAP PI, then its fine fair to say its an SAP product used to integrate SAP and non-SAP systems.

SAP PI stands for Process Integration and has been in the industry for a long time. I am sure you must have heard of ALE and IDOCs which is used to transfer data between systems. PI (originally started out as XI) is a much bigger product than ALE. It is an SAP Technology Framework to solve Integration challenges specifically for data transfer between Applications(A2A) and Systems(B2B).

Since SAP Gateway is also related to transferring SAP Data to external consumers hence on initial thought it could be assumed that PI should be able to cater to all that the Gateway does and more. Hence one might wonder, is investing in an additional Gateway really necessary or can PI do the job. Since companies may have already invested in it so really do we need the Gateway?

I will try to answer this question in 2 ways: A simpler example and then some more details further down.

### **Scenario:**

Imagine you have a headache and you walk up to your local pharmacist or chemist and ask them to recommend a headache pill. The Pharmacist suggests you take an over the counter Aspirin. You agree and tell the Pharmacist that you would want to buy one. The Pharmacists checks their inventory and finds that the stock on Aspirin is running low. So she goes inside the warehouse to place a bulk order for a particular brand of Aspirin.

The order however is not dispatched right away. The pharmacy's software system bundles up all the day's orders and dispatches this order to the drug distributor which is responsible for distribution of the drug from the Pharmaceutical company that develops and markets the drug.

The above scenario is a very very simplified version of a very complex system. But let's understand the business scenario here.

In the above example there are two types of transactions that happen.

1. An end user transaction where the customer purchased an Aspirin over the counter from the Pharmacist.
2. A system transaction where the system placed a bulk order to the Distributor's system, the Pharma company's product sales and Distribution network.

If we have to make a broad statement here and keeping all the complexities away for a moment, then for the first transaction case we would use an SAP Gateway, while for the second type of transaction we would use a SAP PI kind of Framework.

Another common requirement could be that you have some flat files in one system and you want to move those files from one system to another system programmatically on a daily basis after applying some programming logic to validate the file content without any manual intervention. In such a case also PI would be a better choice than Gateway.

Lets see why would that be the case. We will then be able to appreciate each technology as it exists.

The answer to this is based on the scenarios that the company is trying to solve.

### **User Requirements:**

In the current era, SAP users can be typically classified into 2 types.

1. Power users : Users who are well versed with using SAP GUI, Portal etc. These are primarily users like administrators for example, purchase administrator, payroll administrator, system administrators.
2. End users : These are "occasional user" who regularly but typically on need basis, use the SAP environment. This group often has difficulty using SAP applications, as they are used differently to what they are accustomed to with other business and consumer applications. Additionally, they want mobile access so as to carry out ad hoc work regardless of the location or time.

When we talk about End users, since they are users who have difficulty using SAP applications, and

expect consumer grade, app like features in their business applications, hence making these user interfaces easy to use is necessary. Plus with the rapid technology changes happening, it is necessary to have the capability to be able to quickly deploy the changes and adapt to newer innovations. For this reason SAP has introduced a completely new concept called as sap FIORI and SAP Gateway is one of its core components which is responsible to feed data for its Apps.

The Gateway is built in such a way as to enable the development of REST based OData services in SAP which can expose underlying SAP data thus keeping the application developer free to develop frontends that can consume the data as per the user requirements without burdening the developer from knowing the details of the underlying data structure(known as metadata). This can happen only because OData is based off of the HTTP protocol which is a REST implementation and since the internet works on HTTP hence all applications that run on the internet invariably understand HTTP.

However when we talk about System to System, Application to Application (A2A) and Business to Business(B2B) type of communication, then we cannot be certain that all business applications will adhere to HTTP. Many of the older (legacy) systems within the company cannot be easily upgraded. Also many of the company's partners like suppliers, vendors, customers etc use system which are non-SAP or spread across multiple domains and technologies. Hence building an integration channel between them based purely on HTTP is difficult.

SAP Process Integration (SAP PI) is a functionally comprehensive SOA middleware platform aimed at A2A (*Application-2-Application*) and B2B (*Business-2-Business*) system integration scenarios.

PI scenarios are often executed independently without the direct involvement of a 'user' whereas Gateway Scenarios mostly are synchronous and require direct involvement of the user.

PI implementation processes are often complex, containing several aspects and several people, applications and environments. It usually takes months (of designing, constructing, testing and validating) to get a new or modified scenario up and running.

### **Architecture of SAP PI:**

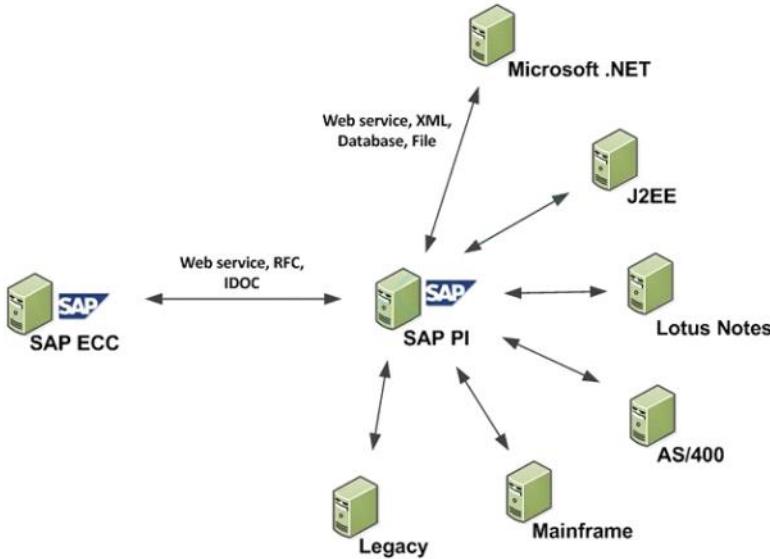
SAP software has many core modules which cater to various necessary business functions of any organization, for example, Accounting, Finance, Sales and Distribution, HR, MM etc. However there are some modules which are additional support modules. As stand alone they are of no significance but with them the software usability and functionality becomes very powerful. SAP Enterprise Portal and SAP PI are two such modules.

SAP PI is built as an SOA (Service oriented architecture) in that meaning the applications that need the SAP PI are not bothered with the internal running of the PI.

A common example of an SOA application could be a payment gateway that comes into picture when you purchase a product online. Your credit card payment is validated and the payment is processed by a third party service company and after the payment goes through, the program control returns back to the original website with a success or failure response. The caller website is not bothered about what happened, all it wants to know is whether the transaction was complete or not.

PI is also an ESB (Enterprise Service Bus) model which means you can integrate different applications by setting up a communication channel between them to enable application to talk through the bus. This decouples systems from each other, allowing them to communicate without dependency on or knowledge of other systems on the bus.

### SAP to Legacy Applications Integrations:



There are many adapters available in the PI system which helps to integrate SAP and non-SAP systems.

- Usually in a typical large scale SAP implementation there may be some legacy applications which cannot be migrated to SAP because of their complexity or SAP just doesn't support them. In such cases its a usual practice to leverage SAP PI to build an interface to transfer data between the 2 systems.
- Also within an SAP system itself its typical to have a CRM, SRM, FI systems to be running on different SAP instances. In such a case a PI system acts as a central box which keeps all these systems in sync.
- There are non-SAP third party systems and partners such as Banks and vendors who's systems have to be integrated with the client's SAP system. Every system may be different and working on its own unique protocol. Because PI has a number of adapters inbuilt hence mapping out the transfer process between heterogeneous systems is possible.
- Another important point to keep in mind is communication between systems is usually synchronous. Particularly in the case of a gateway, a request is sent from a calling application and the application waits for a response before proceeding to the next step. However sometimes you may need the data transfer to be asynchronous. In such cases a PI system allows us to create asynchronous mode of data transfer.
- A Gateway provides OData feed to the calling application by using its own native BAPI and RFCs so when it comes to non-SAP system data using Gateway really doesn't make sense (atleast for now).

There are many points to mention when explaining the difference between Gateway and PI but frankly SAP Gateway cannot be compared to SAP PI, because it only supports synchronous connectivity to a SAP environment. SAP chose this deliberately so that Gateway could be optimally positioned for all developments concerning SAP Mobile, SAPUI5 Modern Apps, etc. SAP Gateway is considered an absolute must in the SAP landscape of the average SAP organization when looking at the SAP roadmap.

Developing in SAP Gateway needs developer to know SAP BAPI, SAP OOABAP and SAP RFC's however the application developer who is tasked with developing the consumption screens and modules need not know about the SAP Data structure. However developing integration scenarios for SAP PI needs extensive knowledge of SAP architecture and the business process.

So Frankly speaking if you want to build an application is dependent on heavy user interaction then SAP Gateway is necessary, however your chief concern is System Integration between 2 or more systems requiring minimal human intervention then you should think about SAP-PI.

Hence next time you are asked this question what's the difference between SAP PI and SAP Gateway, you know better to advise them what to use when.

Thanks for reading this extensive blog. I have tried to keep the blog to the point without going into much details about the internal workings of either the Gateway or PI.

[Click to Download the complete pdf Comparison Chart](#)

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# SAP GATEWAY VERSUS SAP-PI

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## COMPARING THE 2 SAP DATA PROVISIONING BACKEND PRODUCTS

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<p>The focus of SAP Gateway is to enable easy access and consumption of SAP data in the client or device of the customer's choose.</p> <p>It is designed for user-facing applications that are stateless, and require selected data sets of the entire business object definition.</p> <p>Through simple to use standard market protocols such as REST and OData/ATOM, it provides extremely simple access to SAP applications for developers without prior SAP knowledge.</p> <p>In that sense, SAP NetWeaver Gateway builds on the openness of SAP Enterprise Services for the types of solutions described above.</p> <p>Quick Application Development which need minimal SAP knowledge application developers.</p>	<p>SAP NetWeaver Process Integration (SAP NetWeaver PI) is a comprehensive SOA middleware platform focused on A2A and B2B integration.</p> <p>It provides SAP customers a SOA foundation to manage their SOA landscape and SOA development and deployment lifecycle</p> <p>It supports multiple integration scenarios to SAP-2-SAP and SAP-2-Non-SAP environments through the use of supported adapters.</p> <p>Not optimal for Quick Application Development, it requires long development and delivery cycles, involving multiple stakeholders</p>

There are many blogs that address this topic. Following are some blogs if you want to read more.

For more information and samples on PI Check the following links

- <https://blogs.sap.com/2013/05/21/sap-pi-for-beginners/>
- [https://en.wikipedia.org/wiki/SAP\\_NetWeaver\\_Process\\_Integration](https://en.wikipedia.org/wiki/SAP_NetWeaver_Process_Integration)

## 5 Comments



Praveena Naidu

[June 22, 2017 at 4:35 pm](#)

Amazed to read the blog. This has been most bothering question to me for longtime. Thank you so much for the detailed explanation with apt scenarios catering to different levels of SAP aspirants.

[Reply](#)



Suresh Kolisetty

[June 27, 2017 at 11:38 am](#)

Really brilliant way of explaining the difference between PI and Gateway. Thanks Linkin.

[Reply](#)



Sudipta Chakraborty

[November 9, 2017 at 12:00 pm](#)

Great.... Thank you very much for the explanation with simple example, it has been really a typical question asked to me for a long time.

[Reply](#)



Debashish Das

[April 13, 2018 at 9:45 am](#)

Great Article. Nice explanation.

[Reply](#)



Mahi

[April 14, 2018 at 2:29 pm](#)

Well!! I got answer for my question ☺

[Reply](#)

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# SAP-Gateway\_vs\_SAP-PI

Sunday, June 21, 2020 6:01 PM



SAP-Gateway\_vs\_SAP-PI

# SAP GATEWAY

VERSUS

# SAP-PI

## COMPARING THE 2 SAP DATA PROVISIONING BACKEND PRODUCTS



The focus of SAP Gateway is to enable easy access and consumption of SAP data in the client or device of the customer's choose.

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Quick Application Development which need minimal SAP knowledge application developers.



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It provides SAP customers a SOA foundation to manage their SOA landscape and SOA development and deployment lifecycle

It supports multiple integration scenarios to SAP-2-SAP and SAP-2-Non-SAP environments through the use of supported adapters.

Not optimal for Quick Application Development, it requires long development and delivery cycles, involving multiple stakeholders

# SAP GATEWAY

VERSUS

# SAP-PI

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## COMPARING THE 2 SAP DATA PROVISIONING BACKEND PRODUCTS

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Purely uses ABAP Stack for Process Execution



Mostly Java Stack.

Supports BAPI/RFC, ABAP Transaction, ABAP Proxy.

Supports BAPI/RFC, IDOC, ABAP Proxy

Used to Access SAP Backend only

Helps to build access to NON-SAP also

File/FTP, JDBC, JMS, SOAP, HTTP, WS, plus various other 3rd party adapters

Supports only Provider Services

Supports Service Consumption scenarios as well

# SAP GATEWAY

VERSUS

# SAP-PI

## COMPARING THE 2 SAP DATA PROVISIONING BACKEND PRODUCTS

	<p>Build for REST Provides OData and JSON Feed</p>		<p>Supports REST (through adapters) Supports only JSON</p>
	<p>Supports only Synchronous communication. Push channel notifications provides workflow event notifications</p>		<p>Supports both Synchronous as well as Asynchronous communication</p>
	<p>Provides plugins to support easy consumption for Eclipse, XCode, Visual Studio</p>		<p>Eclipse Plugin exists while product provides multiple adaptors for 3rd party scenarios</p>
	<p>Supports only Provider Services</p>		<p>Supports Service Consumption scenarios as well</p>

# Flat file approach interface

Thursday, January 2, 2020 3:53 PM

<https://blogs.sap.com/2017/12/14/posting-fi-documents-using-flat-file-interface-sap-fi-co/>

# Integration Council – Initial Decision Matrix Meeting

Thursday, January 2, 2020 4:23 PM

Subject	<b>Integration Council – Initial Decision Matrix Meeting</b>
Date and Time	12/4/2019 1:00 PM EDT
Location	WebEx
Attendees	Ramesh Jandhyala, Hari Vedula, Chris Lore
Overview	<p>Agenda:</p> <ul style="list-style-type: none"><li>• Define goal of decision matrix – 10 minutes</li><li>• Determine initial decision matrix criteria – 15 minutes</li><li>• Questions/assign actions – 5 minutes</li></ul>
Notes	<p><b>Define Goals</b></p> <ul style="list-style-type: none"><li>• What is our expectation for this decision matrix?<ul style="list-style-type: none"><li>○ Guidelines for which type of interface to use when?<ul style="list-style-type: none"><li>■ Focus will initially be on which interfaces to use when and middleware to be added</li><li>○ Guidelines for which middleware to use when?<ul style="list-style-type: none"><li>■ Will need input from the IPA team</li><li>■ Will be worked on after the initial interface decision matrix is completed</li></ul></li></ul></li></ul></li></ul>
	<p><b>Initial Decision Matrix Criteria</b></p> <ul style="list-style-type: none"><li>• Matrix Format<ul style="list-style-type: none"><li>○ Re-use the use case presentation as the starting format – Ramesh to get the documentation so the team can review</li></ul></li><li>• Interface Types<ul style="list-style-type: none"><li>○ IDOC - Chris</li><li>○ EDI - Chris</li><li>○ SOAP - Ramesh</li><li>○ Web Proxy - Ramesh</li><li>○ ODATA/JSON - Hari</li><li>○ CXML (Ariba) - Chris</li><li>○ Flat File - Hari</li><li>○ SFTP - Hari</li><li>○ RFC - Hari</li></ul></li><li>• Middleware – to be completed after interface decision criteria/high level guides captured below<ul style="list-style-type: none"><li>○ PI<ul style="list-style-type: none"><li>■ Used for all SAP connections and also if exclusive for SAP</li></ul></li><li>○ Sterling Integrator<ul style="list-style-type: none"><li>■ EDI only</li></ul></li><li>○ SAP Cloud Platform Integration<ul style="list-style-type: none"><li>■ Unlimited messages in production</li><li>■ What's the development constraint?</li><li>■ API specific development that will be exposed externally?</li><li>■ Connections to other SAP cloud applications?</li><li>■ OOB Ariba/SAP Cloud Applications Communications</li><li>■ Data should not be ROHS, FAR, DFAR, GDPR compliant; careful with sensitive data; check regulatory requirements for other projects when dealing with custom development</li></ul></li><li>○ SOA<ul style="list-style-type: none"><li>■ If multiple ERPs and needs a reusable component</li></ul></li><li>○ Ariba Network<ul style="list-style-type: none"><li>■ Communication through the CIF (add-on in SAP) or with Ariba</li><li>■ OOB Ariba Communications</li></ul></li></ul></li></ul>

- SAP Netweaver Gateway
  - Custom development
- Licensing impacts
- Data to capture
  - Message counts (worst case & average), timings
  - Message size/width
  - Concurrent connection requirements
  - Real time vs asynchronous
  - Trusted vs not trusted connection and user type

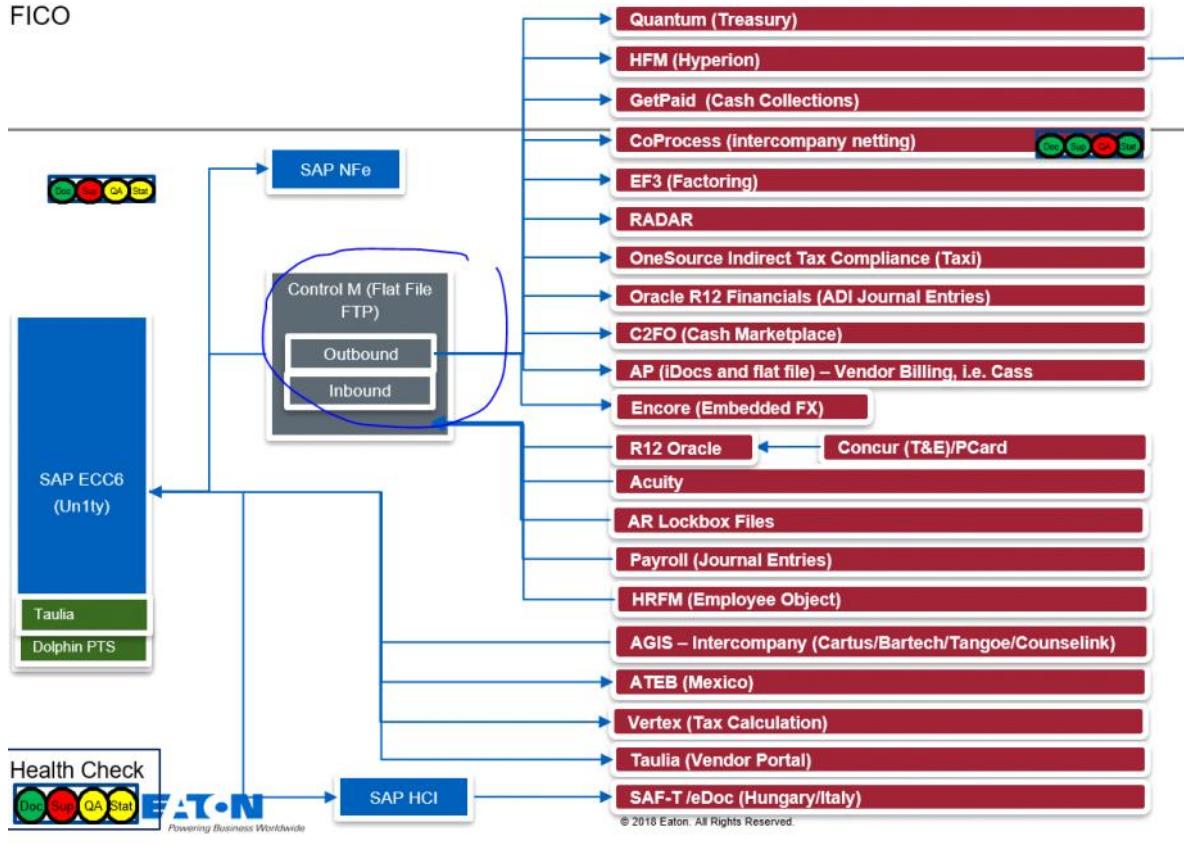
Action	Assigned To	ECD	Status
Provide team with current IPA decision documents	Ramesh Jandhyala	12/5/2019	In Progress
Decision Matrix Format	Team	12/9/2019	Not started
IDOC Decision Matrix Criteria	Chris Lore	1/10/2019	Not started
EDI Decision Matrix Criteria	Chris Lore	1/10/2019	Not started
SOA/SOAP Decision Matrix Criteria	Ramesh Jandhyala	1/10/2019	Not started
webProxy Decision Matrix Criteria	Ramesh Jandhyala	1/10/2019	Not started
ODATA/JSON Decision Matrix Criteria	Hari Vedula	1/10/2019	Not started
cXML (Ariba) Decision Matrix Criteria	Chris Lore	1/10/2019	Not started
Flat File Decision Matrix Criteria	Hari Vedula	1/10/2019	Not started
sFTP Decision Matrix Criteria	Hari Vedula	1/10/2019	Not started
RFC Decision Matrix Criteria	Hari Vedula	1/10/2019	Not started

## Unity Integrations

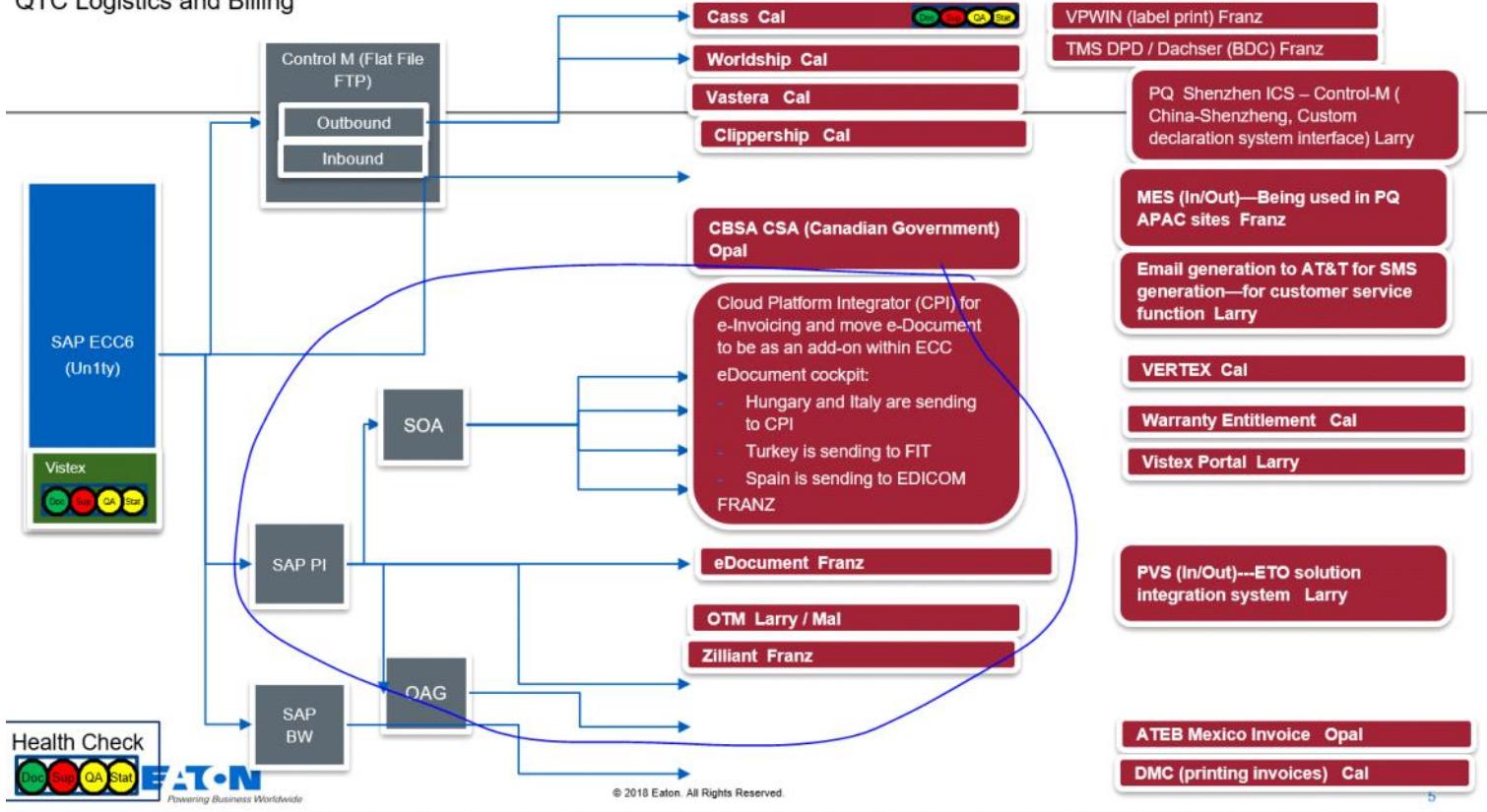
Thursday, January 2, 2020 4:24 PM

<http://teams.etn.com/es/SAPUn1tyCOESite/SAPSolutionDesign/Overview/Unity%20Integration%20Diagram.pptx>

### FICO



## QTC Logistics and Billing

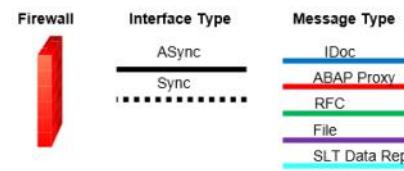


## Bidman interface

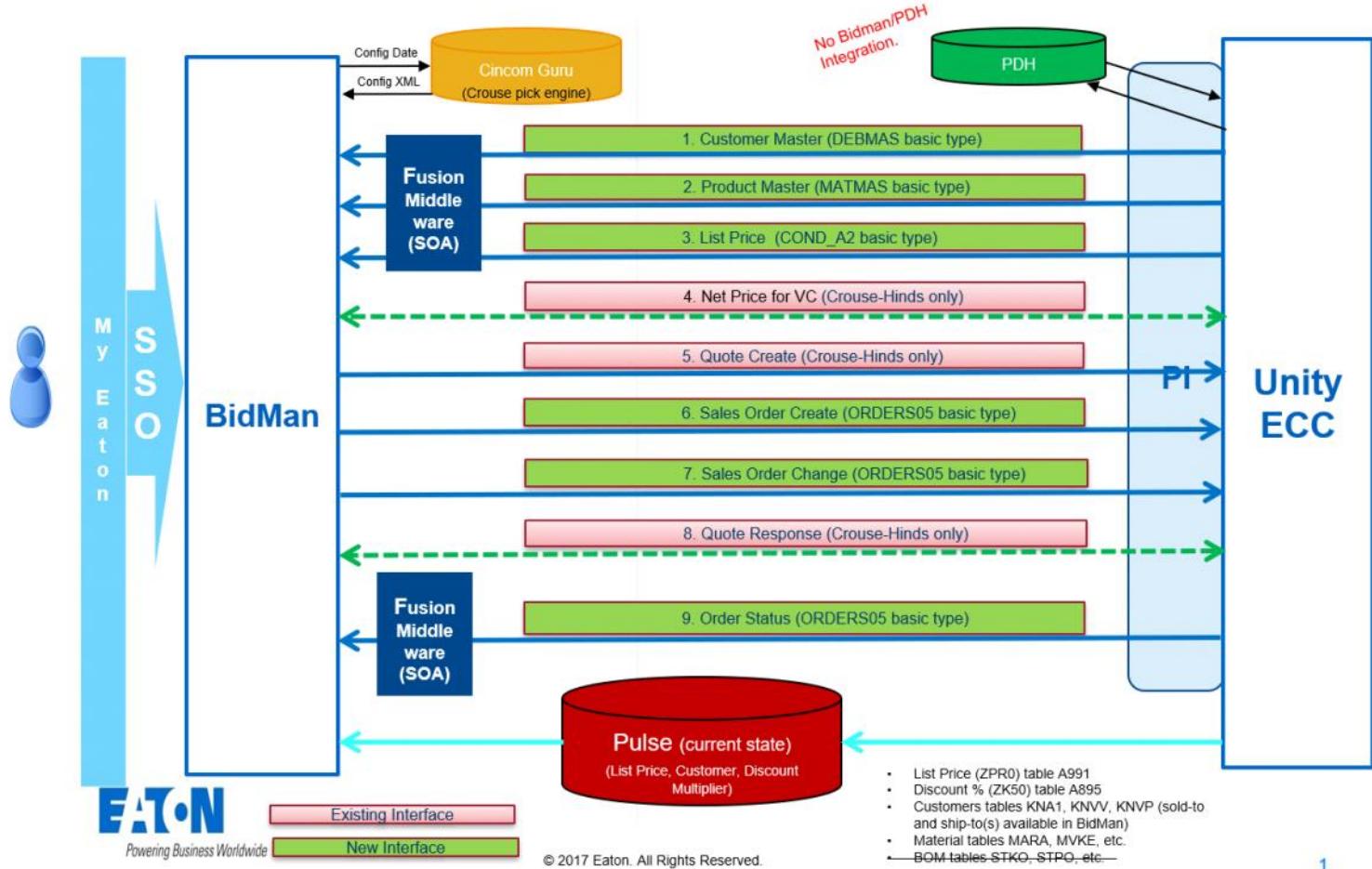
Tuesday, January 28, 2020 10:42 AM

Bidman is a product configuration and pricing tool used by Eaton's Electrical Sector sales teams and distributors. It provides pricing and quoting functionality for detailed and complex jobs that use multiple Eaton products.

Current state (March 2019), Bidman is integrated with SAP for the Crouse-hinds division. Three interfaces were developed to support quote creation (listed below), and Bidman uses Pulse ODS to upload customer master, material master, vendor master, pricing and listings/exclusions.



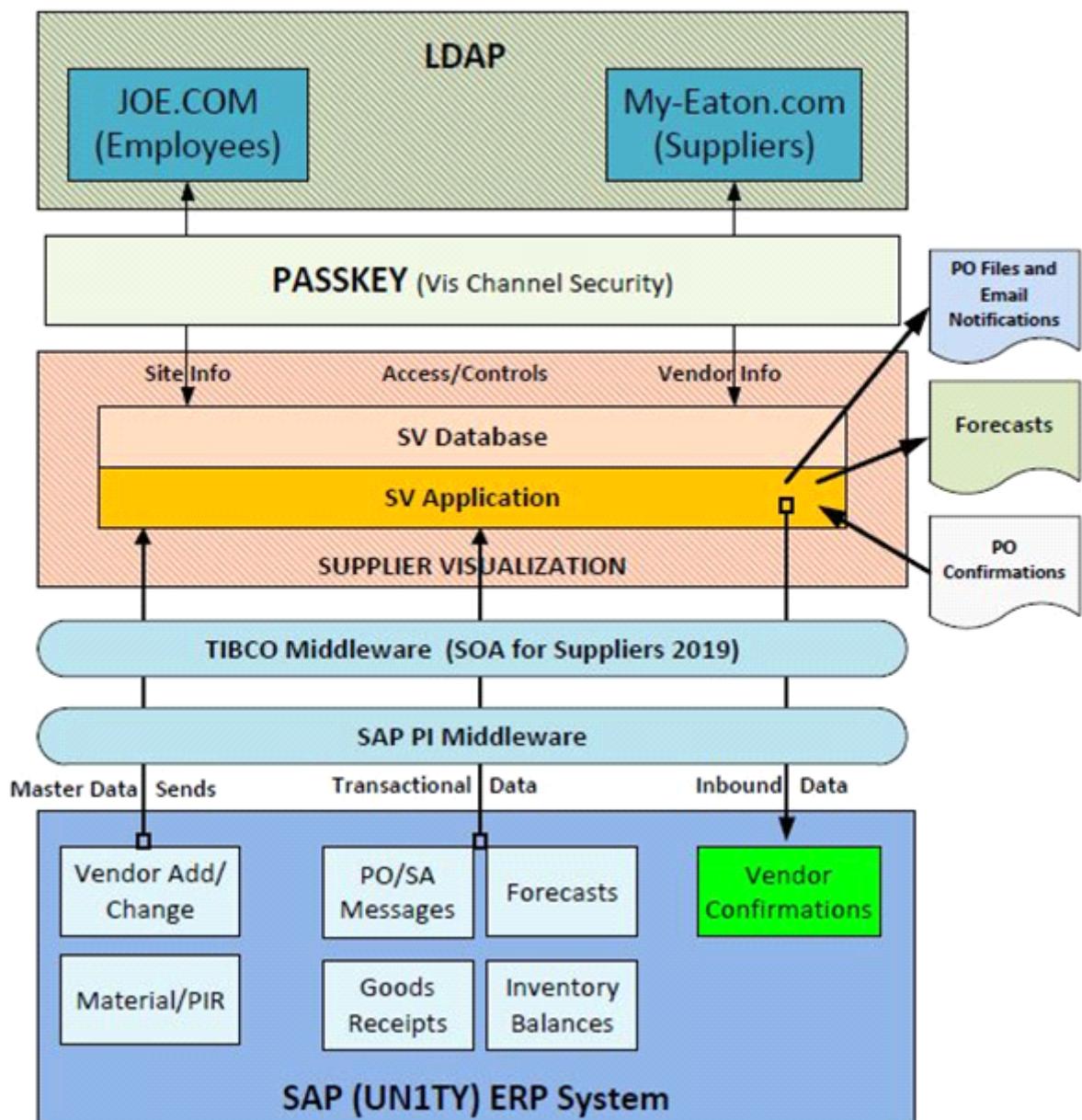
## BidMan to SAP Integration (Future State – Rough Draft)



# Suplier Viz

Tuesday, January 28, 2020 12:06 PM

## Supplier Visualization for SAP UN1TY



# SAP PI course

Thursday, January 23, 2020 2:42 PM

<a href="https://figaf.com/courses/sap-pi-course/">https://figaf.com/courses/sap-pi-course/</a>	SAP PI
<a href="https://www.cpicourse.com/sap-cpi-course">https://www.cpicourse.com/sap-cpi-course</a>	SAP CPI



20191204

Integratio...

- IDOC - Chris
- EDI - Chris
- SOAP - Ramesh
- Web Proxy - Ramesh
- **ODATA/JSON - Hari**
- cXML (Ariba) - Chris
- **Flat File - Hari**
- **sFTP - Hari**
- **RFC - Hari**

IDOC	Chris	Real time Asynchronous (or scheduled batch)
EDI	Chris	
SOAP	Ramesh	
Web Proxy	Ramesh	
ODATA / JSON	Hari	
cSML (Ariba)	Chris	
Flat File	Hari	Control M
sFTP	Hari	
RFC/BAPI	Hari	Synchronous real time <a href="#">Expose RFC as Web Service in SAP PI/PO – SOAP to RFC Synchronous Interface</a>

<a href="http://teams.etn.com/team/ebsit/Services_Team/Dev_Team/SAP%20Integration/Interface%20Inventory/Integration%20DataCollection%20Template_EatonElectricalInterfaces.xls">http://teams.etn.com/team/ebsit/Services_Team/Dev_Team/SAP%20Integration/Interface%20Inventory/Integration%20DataCollection%20Template_EatonElectricalInterfaces.xls</a>	Integration DataCollection Template EatonElectricalInterfaces

# Expose RFC as Web Service in SAP PI/PO – SOAP to RFC Synchronous Interface

Tuesday, January 28, 2020 2:27 PM

<https://sapintegrationhub.com/pi-po/rfc/expose-rfc-as-web-service/>

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[RFC](#), [Service Registry](#), [SOAP](#)

[Home](#)[PI/PORFC](#)Expose RFC as Web Service in SAP PI/PO – SOAP to RFC Synchronous Interface

## Expose RFC as Web Service in SAP PI/PO – SOAP to RFC Synchronous Interface

By [Isuru Fernando](#) [RFC](#), [Service Registry](#), [SOAP](#) 15 Comments

In this article we will look at how to expose a RFC as a Web service in SAP PI/PO. Using SOAP to RFC synchronous interface we would be exposed a RFC as a web service.

Most commonly researched topics under third-party system integration with SAP is how to use RFCs and web services to expose SAP APIs. There are lot of confusion under exposing web services due to different third-party platforms, authentication, connection issues and different PI versions etc.

There are several ways third party applications you can access RFCs.

- **Directly access RFC using SAP credentials.**

I have previously written a article on [how to access a RFC using .NET front-end](#).

- **Exposing RFC as a web service using transaction SE37.**

This can be done using SE37>Utilities>Create web service option.

- **Exposing RFC as a web-service using SAP Process Integration (PI/PO).**

In this article I will provide detail on how to expose a RFC as a web service using SAP PI/PO environment. This would be a SOAP to RFC synchronous interface.

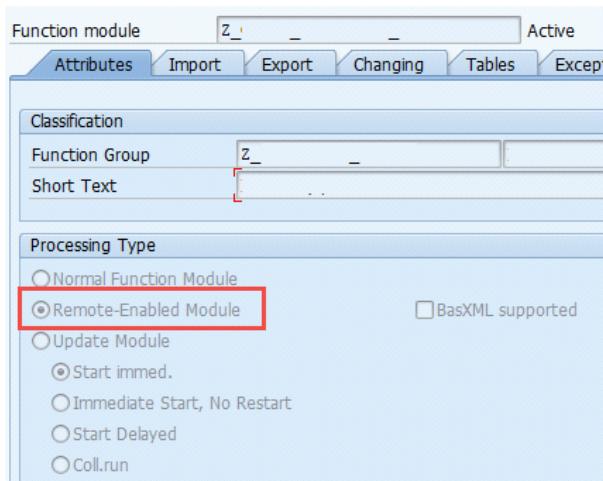
One advantage of using SAP PI in this purpose is you would have comprehensive monitoring capabilities than other two methods. SAP PI has provided detail message monitoring, message logging and error handling capabilities which can be leveraged for any scenario. If you use other methods such as directly exposing a RFC you will have to write your own message monitoring, alert and logging.

One disadvantage I see in using SAP PI is there would be more development effort due to PI development.

This example is a SOAP to RFC synchronous scenario. Third party sends the SOAP call to PI converts the input and calls the RFC then the RFC return data would be converted and sent synchronously to third party using SOAP protocol.

## Configuration Steps How to Expose RFC as a Web Service using PI/PO.

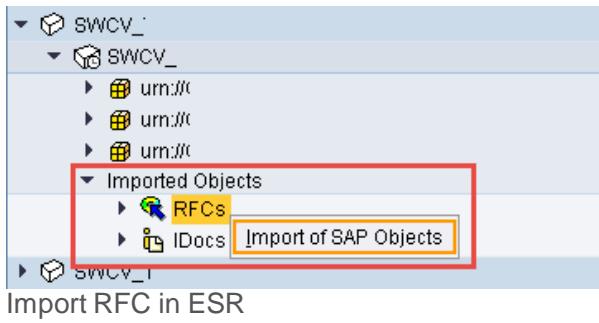
### 1. Make sure your function module or the API is “Remote enabled”. – SE37



Remote Enable Function Module in SE37

### 2. Import RFC to SAP PI.

Right click on RFC under imported objects under software component and provide application server/system number/user credential. Then find the RFC from the list.



### 3. Create input, output data types and message types which correspond to SOAP input and output data formats.

SOAP request data/message type.  
SOAP response data/message type.

### 4. Create message mapping for SOAP request to RFC input.

**Display Message Mapping**

Name	MM_	Status	Active
Namespace	urn://		
Software Component Version	SWCV_		
Description	Soap to RFC Inbound Message Mapping		

**SOAP Request message type** (highlighted by a red box)

**RFC Import and tables** (highlighted by a red box)

Message Mapping for SOAP Request to RFC

Structure	Occurrences	Type
[ ] MT_I _Request	1..1	p4:DT_Inventory_Check_It
[ ] So	0..1	xsd:string
[ ] E	0..1	xsd:string
[ ] C	0..1	xsd:date
[ ] Material_Detail	0..1	

Structure	Occurrences
[ ] Z_I _	1..1
[ ] C	0..1
[ ] S	0..1
[ ] S	0..1
[ ] MATER_DETAILS	0..1

### 5. Create message mapping for RFC output to SOAP response.

**Display Message Mapping**

Name	MM_	RFC_to_SOAP_Out	Status	Active	Dis																		
Namespace																							
Software Component Version																							
Description	RFC Response to SOAP out message mapping																						
<input type="button" value="Definition"/> <input type="button" value="Test"/> <input type="button" value="Signature"/> <input type="button" value="Functions"/> <input type="button" value="Compare Versions"/>																							
<input type="button" value="New"/> <input type="button" value="Delete"/> <input type="button" value="Edit"/> <input type="button" value="Copy"/> <input type="button" value="Import"/> <input type="button" value="Export"/> <input type="button" value="Print"/> <input type="button" value="Help"/>																							
<b>RFC Message: Z_</b> .Response			<b>Message Type: MT_I</b> _Response																				
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Z_ .Response	1..1																						
N_	0..1																						
Structure	Occurrences	Type																					
MT_I .Response	1..1																						
M_il	0..unbound																						

Message Mapping for RFC Response to SOAP

## 6. Create outbound service interface.

This should be a outbound synchronous interface with SOAP request and response message types.

Name	SI_	_Outbound_Sync																																										
Namespace	urn://																																											
Software Component Version	SWCV_																																											
Description	Synchronous Outbound Interface																																											
<input type="button" value="Definition"/> <input type="button" value="WSDL"/> <input type="button" value="Matching Service Interfaces"/> <input type="button" value="Classifications"/>																																												
<b>Attributes</b>																																												
Category	<input type="button" value="Outbound"/>																																											
Interface Pattern	<input type="button" value="Stateless"/>																																											
Security Profile	<input type="button" value="Low"/>																																											
<input type="checkbox"/> Event interface <input type="checkbox"/> Sensitive Data																																												
<b>Operations</b>																																												
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<table border="1"> <thead> <tr> <th>Role</th> <th>Type</th> <th>Name</th> <th>Namespace</th> </tr> </thead> <tbody> <tr> <td>Request*</td> <td>Message Type</td> <td>MT_ Request</td> <td>urn://</td> </tr> <tr> <td>Response*</td> <td>Message Type</td> <td>MT Response</td> <td>urn://</td> </tr> </tbody> </table>			Role	Type	Name	Namespace	Request*	Message Type	MT_ Request	urn://	Response*	Message Type	MT Response	urn://																														
Role	Type	Name	Namespace																																									
Request*	Message Type	MT_ Request	urn://																																									
Response*	Message Type	MT Response	urn://																																									

Build Outbound Synchronous Interface

## 7. Create operation mapping.

Configure Operation Mapping for request and response.

**Display Operation Mapping**

Name	OM_SOAP_To_RFC_Sync	Status	Active	Displayed Language	English (OL)
Namespace	urn:/				
Software Component Version	SWCV_				
Description	SOAP to RFC Synchronous Operation Mapping				

Definition Test

**Outbound synchronous interface**

Name	Namespace	Software Co...	Occurrence
SI_ _Outbound_Sync			

**Target Operation\***

Name	Namespace	Software Co...	Occurrence
Z_			

**Request Response**

**Source Message**

MT_ _Request	→
--------------	---

**Mapping Program**

Type	Name	Namespace	Binding
Message Map...	MM_ _SOAP_To_RFC_In		

**Target Message**

Z_	→
----	---

Build Operational Mapping

**Request Response**

**Target Message**

MT_ _Respo	→
------------	---

**Mapping Program**

Type	Name	Namespace	Binding
Message M...	MM_ _RFC_to_SOAP_Out	urn://Center	...

**Source Message**

Z_ _Response	→
--------------	---

## 8. Create sender SOAP communication channel.

**Display Communication Channel**

Communication Channel	CC_ _SOAP_Sender	Status	Active
Party	P_		
Communication Component	DEV_ _		
Description			

Parameters Identifiers Module

**Adapter Type \*** SOAP http://sap.com/xi/XI/System SAP BASIS 7.40

Sender  Receiver

**Transport Protocol \*** HTTP

**Message Protocol \*** SOAP 1.1

**Adapter Engine \*** Central Adapter Engine

General Advanced

**Inbound Security Checks**

**HTTP Security Level \*** HTTP

**Security Parameters**

Select Security Profile

**Conversion Parameters**

Do Not Use SOAP Envelope  
 Keep Headers  
 Keep Attachments  
 Use Encoded Headers  
 Use Query String

SOAP Sender Communication Channel Configuration

## 9. Create RFC receiver communication channel.

The screenshot shows the 'Display Communication Channel' configuration screen. The top right corner indicates 'Status Active'. The 'Communication Channel' field is set to 'CC\_RFC\_Receiver'. The 'Party' field is 'P\_'. The 'Communication Component' field is 'A1'. A red box highlights these three fields. Below this, the 'Module' tab is selected. Under 'Adapter Type', 'RFC' is chosen, with 'http://sap.com/xi/XI/System' and 'SAP BASIS 7.40' listed. The 'Transport Protocol' is 'RFC' and the 'Message Protocol' is 'RFC (RFC XML)'. The 'Adapter Engine' is 'Central Adapter Engine'. A red box highlights these four fields. At the bottom, there are 'Target' and 'Advanced' tabs, with 'Advanced' selected. The 'RFC Client Parameter' section contains fields for 'RFC Server Type' (SAP System), 'Application Server' (1 6), 'System Number' (00), 'Authentication Mode' (Use Logon Data for SAP System), 'Logon User' (n), 'Logon Password' (redacted), 'Logon Language' (EN), and 'Logon Client' (300). A red box highlights the 'Application Server', 'System Number', and 'Logon Client' fields. The 'Advanced Mode' checkbox is checked. The overall title is 'Receiver RFC Communication Channel Configuration'.

## 10. Create integration scenario.

## 11. Publish the interface under service registry.

if you have any questions on any of the steps discussed how to expose a RFC as a web service, please leave a comment.

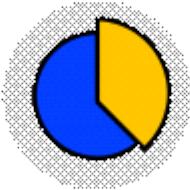
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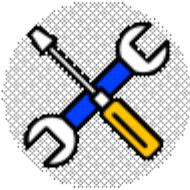
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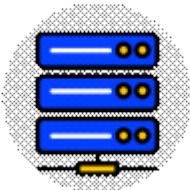
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## Proxy Outbound Interface Example SAP to PI File Receiver



## Proxy Communication Error SLD\_NO\_OWN\_BS



## How to Publish Services in SAP PI/PO Service Registry

### About Author



**Isuru Fernando**

Hi, I am Isuru Fernando, Senior SAP Integration Consultant with 10 years of SAP full-cycle implementation and support project experience. From the early days, I had a passion for coding, software development, and everything tech-related. I started my carrier as an ABAP developer and soon found my love for system integration when I learned SAP XI 3.0 in 2008. Playing a variety of roles from an offshore technical consultant (ABAP, PI/PO, BW, BOBJ) at the beginning of my career to a technical lead managing a team of consultants in different countries, I have gained immense experience in SAP project implementation life cycle. Having the opportunity to work on SAP implementation projects in USA, EU, and Asia, I learned valuable ins and outs of global business processors in Sales and Distribution (SD), Material Management, Retail, Customer Relationship Management (CRM), and Finance and Controlling (FICO). Through this blog, I want to share my expertise in SAP technical areas such as SAP ABAP, PI/PO, AIF, and Basis. I also want to provide a platform for others with similar ambitions who would like to share their SAP technical expertise with the world!

### 15 Comments



Unknown

Hi Isuru Fernando,

I'm new with SAP PI, can you create step-by-step for '10. Create integration scenario.'  
thanks

December 1, 2016 [Reply](#)



best popup ad network

Hello blogger, i have to say you have high quality content here. Keep up good work !

January 18, 2018 [Reply](#)



how to get more instagram followers

Hi I really enjoyed reading this article

January 18, 2018 [Reply](#)



Johny Jackson

Aw, this was a really good post. Taking the time and actual effort to create a really good article... but what can I say... I procrastinate a whole lot and don't seem to get nearly anything done.

January 20, 2018 [Reply](#)



gang świeżaków kolorowanki

Awesome content my friend, keep updating your blog

February 13, 2018 [Reply](#)



Bhargav

Hi Isuru Fernando,

Can multiple systems call this Web service to use the result?!

I have a scenario where i need to send some data from SAP ECC to E-comm sites(multiple) via Web service. All the sites will call the same Web service to get the data. Can we use this approach for that case?.

In the above steps i can see there is a Receiver communication channel, but in my scenario i have multiple receivers who are gonna use the same web service. Thanks in advance for your suggestion.

July 18, 2018 [Reply](#)



Isuru Fernando

Hi Bhargav,

Of cause there are several ways you can handle this in SAP PI/PO. Either create separate ICOs for each consumer or use a common business component for all receivers. Make sure locking of data when multiple consumers access the same data is handled in ECC side.

Cheers!  
Isuru  
August 5, 2018 [Reply](#)



Priyanka  
Hi ,

I have a requirement where When a PO is created , I need to send PO data to SAP PO.For this I have created a RFC Function module in ECC. Besides the steps you have mentioned ( which have to be done in SAP PO side ) , what other steps I need to do in ECC and how can I call the web service/ proxy from my code in ECC to send data to SAP PO , when the Purchase order is created. Kindly provide some help .

February 12, 2019 [Reply](#)



[Isuru Fernando](#)

Hi Priyanka,  
How are you planning to send PO data to PI? using iDocs or Proxy? If its a proxy have you created a custom proxy?

Cheers!

Isuru

February 14, 2019 [Reply](#)



Vinay Kumar

Hi Isuru Fernando,

I'm new to SAP PI so I'm facing while performing IDOC to File scenario.I got struck when configuring logical name setting using BD54 tcode.Can you help me out to defining logical name .

May 1, 2019 [Reply](#)



[Isuru Fernando](#)

Hi Vinay,

Check my post on [iDoc configuration scenario](#) where I have more detail on how to create logical systems using transaction bd54.

Hope it would be helpful!

Cheers!

Isuru

May 3, 2019 [Reply](#)



Vaishali Rani

Hi Isuru,

I have synchronous scenario SOAP-RFC.

This is part of PI7.3 to PI 7. 5upgrade. Its working fine in 7.but ng in 7.5.

MP: exception caught with cause  
com.sap.engine.interfaces.messaging.api.exception.MessagingException:  
com.sap.aii.adapter.rfc.afcommunication.RfcAFWException: error while processing message to  
remote system:com.sap.aii.adapter.rfc.core.client.RfcClientException: could not get a client from  
JCO.Pool: com.sap.mw.jco.JCO\$Exception: (101) RFC\_ERROR\_PROGRAM: Parameter message  
server host (jco.client.mshost) is missing.

Any help would be really appreciated.

Thanks,  
Vaishali

September 24, 2019 [Reply](#)



Vaishali  
Hi Isuru,

I have a synchronous scenario, SOAP-RFC. It is part of PI 7.3 to PO 7.5 upgrade. This scenario is working fine in PI but failing in PO. Error: MP: exception caught with cause

com.sap.engine.interfaces.messaging.api.exception.MessagingException:  
com.sap.aii.adapter.rfc.afcommunication.RfcAFWException: error while processing message to  
remote system:com.sap.aii.adapter.rfc.core.client.RfcClientException: could not get a client from  
JCO.Pool: com.sap.mw.jco.JCO\$Exception: (101) RFC\_ERROR\_PROGRAM: Parameter message  
server host (jco.client.mshost) is missing.

Could you please help me in solving the same.

Regards,  
Vaishali

September 24, 2019 [Reply](#)



[Isuru Fernando](#)

Hi Vaishali,  
Did you check with BASIS team if the RFC connectivity is working?

Cheers!  
Isuru

September 26, 2019 [Reply](#)



Vaishali  
Hi Isuru,  
Yes thee is a RFC lookup channel and that is working fine.

September 26, 2019 [Reply](#)

## Add a Comment

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Inserted from <<https://sapintegrationhub.com/pi-po/rfc/expose-rfc-as-web-service/>>

- helps planning release cycles
- native SAP integration
- Product governance with non-SAP team?
- Career growth for SAP PI developers (cross train on other SAP technologies)
- SAP PI team works primarily with SAP functional team

IDOC fields SAP team will know  
everybody speak the same language KUNNR

proxies SAP - everyone understand what it is  
change in proxy field (adding a field)

SAP PI change is always linked to SAP ABAP

We can build a better integration solution

changes deployment cycle matches SAP

proxy  
idoc  
rfc

new version pi

ALL SAP systems under 1 roof

One side is always ABAP/SAP

Ownership of the server

Support packs / upgrades ABAP system....you have test PI interfaces also

PI is SAP tool easy integration with SAP

Foot print grows  
Cloud more SAP CPI (future cloud apps)

Operational ease - talk to each other well  
Inherently gel together well - understand each other well

1. More interactions with SAP teams, than SOA team:-
  - For SAP PI/ CPI interfaces, one side is always an SAP system (ECC / GTS / GRC / NFE, etc.).
  - 90% of the interaction is with SAP teams (ABAP team / functional teams / Security team). Very high compared to the SOA team.
  - For SAP ONLY integrations, SAP PI 7.5 can now be used without SOA.
  - Native SAP integration by SAP CPI for cloud-based applications (like SAP Ariba / SAP SuccessFactors), without SOA.
2. Having ownership of ALL SAP systems under 1 roof:-
  - helps better manage the release cycles with SAP Change Management processes as most of the SAP PI transports are linked with ABAP transports.
  - As SAP footprint grows, enables better product governance to take full advantage of all the capabilities in SAP PI / CPI for easy integration with SAP systems
  - Most of the SAP PI changes are linked with changes on the SAP ABAP side. Having them in one team will help better resource assignments for projects, operational ease (everyone speaks the same SAP language) and reduced effort.
  - Support packs and upgrades cycles match with other SAP products.
  - Helps coordinate testing of SAP PI/CPI interfaces better every time any SAP source system (ECC/GTD etc.) is upgraded.
  - Career options for SAP PI developers within SAP technologies (cross-train on other SAP technologies like Portal / Fiori / ABAP / BW)

# SAP Cloud Platform Integration for Data Services (CPI-DS)

Friday, March 13, 2020 2:20 PM



The background of the slide features a large, stylized blue cloud shape against a dark blue gradient. Inside and around the cloud are numerous binary digits (0s and 1s) in a lighter blue color. A bright, glowing white line forms a circular path that starts from the bottom left, goes up and around the top of the cloud, and then down again. There are also several small, bright white stars scattered around the cloud.

## Overview of SAP Cloud Platform Integration for Data Services (CPI-DS)

<https://visualbi.com/blogs/sap/sap-cloud-for-analytics/overview-sap-cloud-platform-integration-data-services-cpi-ds/>

<https://wiki.scn.sap.com/wiki/display/TechOps/SAP+Cloud+Platform+Integration+for+data+services>

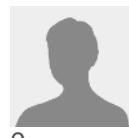
# How do we connect SAP PI and SAP Netweaver Gateway - SAP Q&A

Wednesday, June 3, 2020 12:58 PM

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## How do we connect SAP PI and SAP Netweaver Gateway

Posted on Dec 14, 2016 at 06:16 PM | 1.2k Views

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Dear Experts,

I have seen many blogs and information on two SAP products ,SAP PI and SAP Netweaver Gateway and there has been a very good document by William on when to choose SAP Netweaver Gateway and SAP PI as both are integrating tools.

I would like to know whether it is a good practice to have something like SAP(ECC)-SAP Netweaver Gateway-SAP PI-thirdparty systems.We need to have this scenario as all data to be interfaced needs to go through SAP NW Gateway.

Because of the error handling capabilities which SAP PI offers we would like to know whether it is technically possible to connect from NW Gateway to SAP PI.With newer versions of SAP PO we have that capability where we have java gateway incorporated with SAP PO and Rest adapters which make that possible to connect to SAP Gateway.

Could experts please throw more light on the connection between sap pi (version 7.1) and sap netweaver gateway if we want to have integration scope SAP ECC-SAPGW(Hub)-SAP PI-Thirdparty and how do we achieve it .

Thanks for all the help and suggestions.

Shaik

[SAP NetWeaver Process Integration, adapters | SAP Gateway](#)

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[CSV files to be picked by SAP PI from ARIBA using ITK](#)

By [Santhoshi M](#), Feb 21, 2017

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By [Santhoshi M](#), Feb 22, 2017

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- Best Answer



### [Vinita Kasliwal](#)

Posted on Dec 14, 2016 at 10:25 PM

0

Hi Shaik

I dont understand why would you want to connect PI and gateway ?

They are 2 different software solutions . PI is used for integration and gateway is used for displaying data on a user interface. I also went through the williams link you have mentioned and it says as below and sums it all.

"Does SAP NetWeaver Gateway Replace any Existing SAP Software?In a word—No. SAP NetWeaver Gateway is not designed to be a channel for transactional applications, nor is it designed to replace existing middleware like SAP NetWeaver PI. In addition, applications built on SAP NetWeaver Gateway are not designed to target integration scenarios. user-facing applications "

In my current client landscape we have both the systems installed where gateway offers a better front end capability for CRM and Hybris system and PI is used for system integration between CRM and 3rd Party and also between CRM and ECC systems

Using just the PO system can help in activating OData as mentioned below but many of the capabilities of gateway do not work

"Customers who are already using SAP Process Orchestration as a middleware solution can now activate the OData generation of ABAP-based SAP Systems directly inside PI. This has the advantages that no SAP Gateway hub system is required any more (which saves cost for hardware and operations) and also strengthens central governance."

refer this link as well which helps you exposing gateway services from PO

<https://blogs.sap.com/2014/11/26/exposing-gateway-services-from-process-orchestration/>

<https://archive.sap.com/discussions/thread/3640754>

Refer similar questions asked in the past

<https://archive.sap.com/discussions/thread/3663376>

<https://archive.sap.com/discussions/thread/2029214>

<http://www.sap.com/documents/2015/08/26a5f3e6-557c-0010-82c7-eda71af511fa.html#>

Let me know if this helps

regards

Vinita

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# Chris ODATA integration recommendation

Monday, July 20, 2020 3:40 PM

## Integration

Integration and interoperability will be key to competitive advantage in the manufacturing industry<sup>2,4</sup>

- ERP evolving from local processing to fully integrated across the value chain to allow for agile data driven collaboration with customers and suppliers<sup>1</sup>
- We need to convert from traditional point-to-point interface development to loosely coupled SOA API style integrations and possibly microservices (e.g. IoT)
  - SAP has heavily invested in the use of ODATA for API and microservices development going forward

Recommendation – Switch to ODATA development through Gateway

- ODATA services can be used by Fiori applications, SAP PI (SAP NW PI 711 >=SP12), or other integration engines that consume RESTful services
- ODATA is strategically aligned with future SAP and cloud vendor products
- Service Gateway Builder provides a central location for all registered services



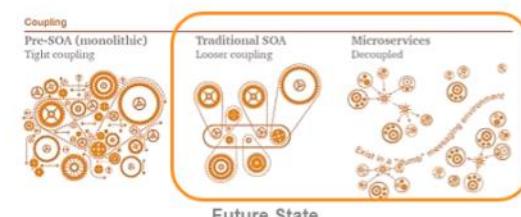
This allows us to more closely align to the IPA team's future strategy around API development/management and sets our group up to deliver integration at the speed of business.

1

## Integration

Integration and interoperability will be key to competitive advantage in the manufacturing industry<sup>2,4</sup>

- ERP evolving from local processing to fully integrated across the value chain to allow for agile data driven collaboration with customers and suppliers<sup>1</sup>
- Eaton will need to convert from traditional point-to-point interface development to loosely coupled SOA API style integrations and possibly microservices (e.g. IoT)
- Enterprise IT is fragmenting and moving to the cloud<sup>3</sup>
  - Boundaries between application, OS, and information are blurring; can provide great opportunities or be disastrous<sup>3</sup>
- SOA can provide more mature and comprehensive architecture for cloud computing<sup>3</sup>
- Requires changes to development methodologies and testing strategies

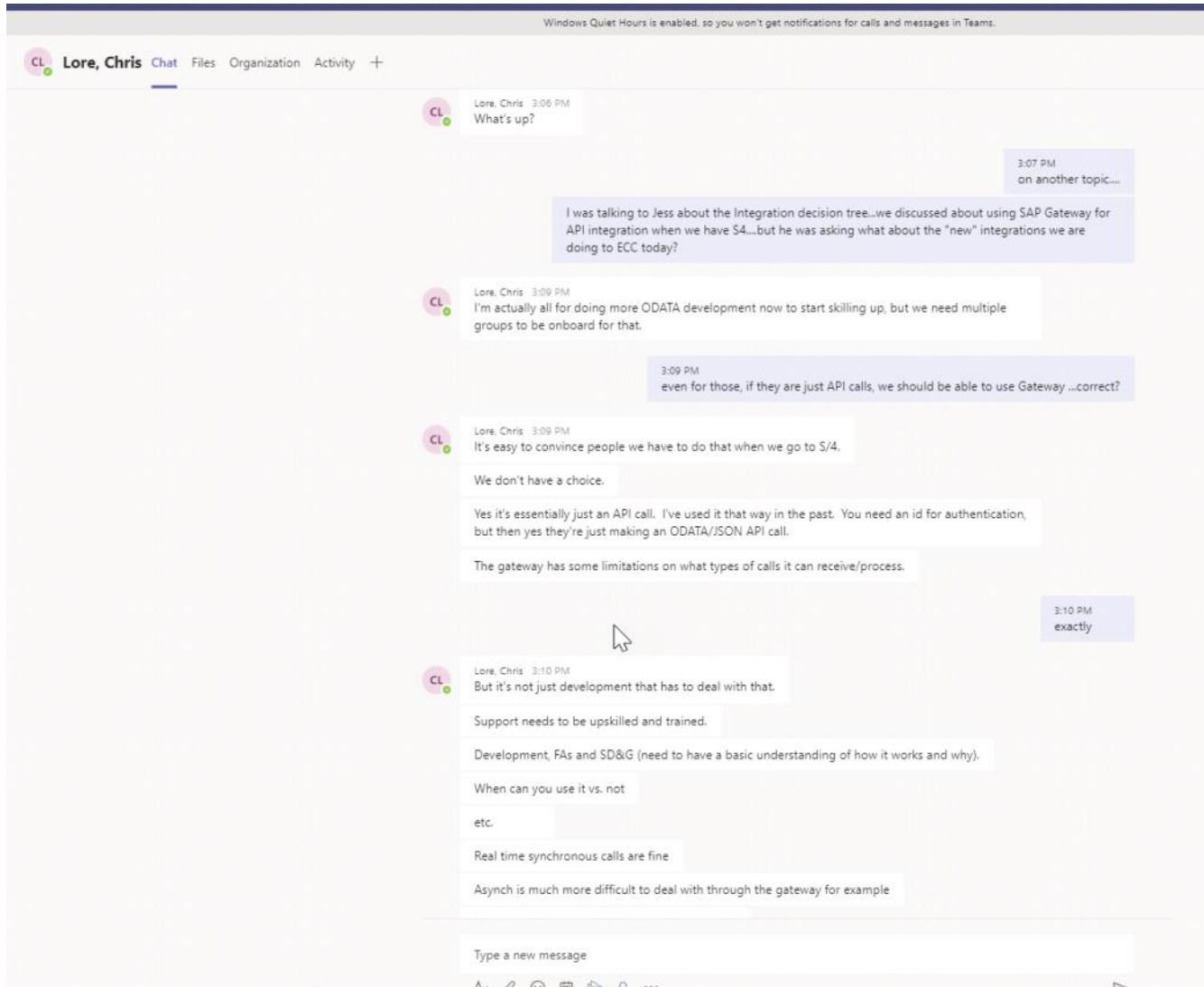


This allows us to more closely align to the IPA team's future strategy around API development/management and sets our group up to deliver integration at the speed of business.

2

# Chris chat Odata

Monday, July 20, 2020 3:49 PM



Windows Quiet Hours is enabled, so you won't get notifications for calls and messages in Teams.

Lore, Chris Chat Files Organization Activity +

CL 3:13 PM right...for asynchronous calls....there is a limitation

Lore, Chris 3:13 PM Just keep those things in mind. It's not just one group that needs to be upskilled. It's a group of people that need to be upskilled. 😊

The question is who pays for that?

Again with an S/4 upgrade nbd.

Or if Aero happens

we know we're forced to then

without those...it's a man it'd be cool if we used this more and aligned to modern standards/practices

and the SAP integration patterns/strategies going forward

I don't know if people have the appetite for that right now, in the current economic climate.

Although honestly if things are slow then there may not be a better time than now.

So for me that's the problem.

Convincing the wider audience we should be doing this.

If you want to take up that fight please feel free too. 😊

CL 3:16 PM If you don't can I get SolMan and BW on HANA done before I go off on that crusade?

CL 😊

3:16 PM 😊

Type a new message

A ⌂ ☺ 📲 ➡ ⓘ ... ➡

# SAP Gateway or Process Integration – which is the Right Tool for the Job?

Wednesday, August 26, 2020 12:37 PM

<https://archive.sap.com/kmuuid2/10ce5cd7-7c55-2f10-aea0-b775b478258c/Gateway%20or%20Process%20Integration%20E2%80%93%20which%20is%20the%20Right%20Tool%20for%20the%20Job.pdf>

# Gateway or Process Integration – which is the Right Tool for the Job?



## Applies to:

SAP NetWeaver Process Orchestration 7.3x, SAP NetWeaver Process Integration 7.1x, PI 7.3x, SAP NetWeaver Gateway 2.0

For more information, visit the [SAP Integration & Certification Center homepage](#).

## Summary

Both SAP NetWeaver Gateway and SAP NetWeaver Process Integration can provision RESTful services to SAP backend applications. What does this mean? Should a company consider one or both? How does a company determine which is the most suitable? How does a company evaluate the products?

In order to answer these questions, we should at least understand what each product does, and the differences and purposes of each product.

This article has been written to provide some of that information to help a company in making the business decision during the evaluation process.

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**Company:** SAP Labs LLC

**Created on:** March 12, 2012

## Author Bio



William Li is a member of the SAP NetWeaver Orchestration and Integration Team in SAP NetWeaver Solution Management. He has been with SAP since 1998 - originally as a SAP America consultant, as a developer at SAPLabs and then as a SAP NetWeaver RIG member focused on Process Integration. He joined SAP NetWeaver Solution Management in April of 2010.

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## Abstract

The objective of this document is to outline the different solutions provided by SAP that provision SAP backend applications as services for easy consumption by client applications or for integrating between SAP and non-SAP systems, focusing on the strengths of each solution and the recommendations for their usage.

A summarization of the findings is available at the end of the document.

## SAP Solutions

Through SAP's history, SAP has provided numerous methods for accessing SAP backend data by external consumer applications. With applications increasingly moving toward a web- or mobile-based environment, this paper will focus specifically on product solutions that enable easy consumption of SAP backend data by web and mobile applications. This paper will discuss the intended use cases so that SAP customers can determine which product will suit their environment best.

This section of the document concentrates on outlining the existing solutions and what use cases they support.

Currently, there are two main products that can provision SAP backend applications for consumption by web- or mobile-based application, SAP NetWeaver Gateway and SAP NetWeaver Process Integration.

### SAP NetWeaver Gateway

SAP NetWeaver Gateway is a technology that provides a simple way to connect devices and applications to SAP software based on market standards (REST and OData). The framework enables development of people-centric solutions by exposing SAP business software data to new experiences such as social and collaboration environments, mobile and tablet devices and rich internet applications. It simplifies connectivity to SAP applications by allowing any programming language or model to be used without the need for SAP knowledge by leveraging REST services and OData/ATOM protocols.

In order to make the OData consumption process even easier, SAP delivers several versions of the Gateway Consumption Tool. This tool can be used in popular integrated development environments (IDE) including Eclipse, Visual Studio 2010 or XCode to generate OData proxy objects and provide other productivity help for software developers. In addition to further ease development, the Gateway Consumption Tool can generate a basic application that wraps the generated proxy object.

The SAP NetWeaver Gateway interface has been designed to conform completely to the six architectural constraints that define a RESTful software system (for details, reference [http://en.wikipedia.org/wiki/Representational\\_state\\_transfer#Constraints](http://en.wikipedia.org/wiki/Representational_state_transfer#Constraints)). This makes the business data content of your SAP systems accessible as RESTful resources through a uniform, stateless interface to any software system that can communicate using HTTP(S) and the OData protocol.

A key capability of SAP NetWeaver Gateway is the REST enablement of SAP business data and functionality, thereby making it easy for non-SAP applications to consume. These could be:

- Any external business application. E.G. Microsoft Office applications via a .Net (or even VBA) interface
- Desktop machines using Web-based applications running PHP, Java, Ruby or any other popular web-development language.
- Native applications on mobile devices e.g., iPad/iPhone, Android device, or Blackberry.
- Embedded devices such as manufacturing robots or route planning software in Satellite Navigation systems.
- Any other business scenario involving a programmable device that can speak HTTP(S).

In providing this capability, it hides the complexities that exist within your system landscape by making use of:

#### *Protocol Adaptation*

OData becomes the only communication protocol needed for you to supply or consume SAP Business Data to or from your SAP systems.

### Service Adaptation

Different types and versions of SAP systems now appear as a single, integrated repository of business information.

**Does SAP NetWeaver Gateway Replace any Existing SAP Software?** In a word—No. SAP NetWeaver Gateway is not designed to be a channel for transactional applications, nor is it designed to replace existing middleware like SAP NetWeaver PI. In addition, applications built on SAP NetWeaver Gateway are not designed to target integration scenarios.

Instead, SAP NetWeaver Gateway provides for mass consumption of SAP business data and functionality in your existing SAP Business Suite systems. The target audience for SAP NetWeaver Gateway applications is a group known as Occasional Platform Users (OPU). These are people who need ad hoc access to SAP data and functionality in an easy-to-consume manner. They may be employees in a company or consumers of its products.

To enable you to define and provide exactly the right OData services for mobile and web applications without coding, the SAP NetWeaver Gateway ABAP-Add-On provides Designtime Tools, which can generate OData services from existing business objects inside the SAP system (such as RFCs, BAPIs or ABAP Dynpro screens). Alternatively you may develop more advanced services using the **OData Channel programming model**. This is a set of ABAP classes and interfaces that can be used to develop specific OData Services within your backend SAP system. For server-notification of change events to the client, Gateway provides a server-API using the Push Channel to update the client, e.g. Gateway can send an asynchronous event message to the client application of shipping information when an order is fulfilled.

For more information about SAP NetWeaver Gateway please see: <http://www.sdn.sap.com/irj/sdn/gateway>

### Process Integration capabilities of SAP NetWeaver Process Orchestration

Integration across heterogeneous IT landscapes is critical for all companies. The trend to heterogeneity is further driven by mergers and acquisitions as well as software-as-a-service or on-demand offerings. Process Integration is SAP's Enterprise Service Bus (ESB) solution for all kinds of integration needs including SAP and non-SAP systems either through message exchange or via web service calls. Whether application-to-application (A2A) or business-to-business (B2B) integration is needed, Process Integration helps customers connect systems in a secure, standards-based, reliable, and scalable way. Process Integration especially provides best-in-class connectivity to SAP systems and delivers SOA foundation capabilities to SAP customers. Using Process Integration, customers can leverage enterprise services delivered by SAP and also benefit from existing investments in third-party and legacy applications by integrating and service-enabling these applications.

Process Integration provides a set of technical and partner adapters for application and B2B integration. The following is a sample set of adapters provided by SAP and partners: File/FTP, JMS, JDBC, SOAP, HTTP, RFC, IDoc, AS2, CICS, IMS, PeopleSoft, Oracle Applications, etc. For a full set of adapters, please examine the following links:

#### Partner Adapters:

<http://www.sap.com/partners/directories/ProductSearchResults.epx?context=21B87D61C0F646A22B2A6DB254A010CA8C9C141B7529F02972463D54EC8217D707ADFB1B61328B27A6200891D1824987C4A2286C415FA5583A680E633FB258D6F702338D4AE86843C5ADEB30E7160581899BB4603C9793EC%7c6F12B862C581661DDC24764F9C7927F5419DC328C62BA22B835E8506997D10B55A354B13B4227E92D6D369658167CE044A394E1123E665900CBD8ACCA30E1EC9D7F14ED7E2299D541D7BFBB8130BD4A3802CB838F8F43980E803085B912820024E1B92198E403D6183CDAC5A5C969468>

#### SAP Technical Adapters:

[http://help.sap.com/saphelp\\_nw73ehp1/helpdata/en/48/ce24473a8e5430e1000000a42189b/frameset.htm](http://help.sap.com/saphelp_nw73ehp1/helpdata/en/48/ce24473a8e5430e1000000a42189b/frameset.htm)

SAP NetWeaver PI includes:

- Enterprise Service Repository (ES Repository) to build, model, and manage (Web-) services, e.g. publish to the Service Registry.
- High-volume enterprise services bus that supports distributed integration
- Principal propagation for trusted communication helping ensure compliance
- Application-to-application (A2A) and business-to-business (B2B) integration capabilities

- Predefined integration scenarios to jump-start integration projects

Process Integration provides access to an extensive set of mapping and transformation programs such as XSLT and Java mappings. Process Integration also has its own easy-to-use graphical mapping/transformation tool with extensive function support for flexibility and extensibility. One of Process Integration's strengths is the ease of integration to SAP backend systems. Process Integration provides a multitude of connectivity options using adapters for access to BAPIs, RFC-enabled function modules, and IDocs or by using ABAP/Java proxies, which can be automatically generated based on the service information available in the ESR. With configurations, those accesses can be exposed as HTTP or SOAP web services.

Process Integration is intended as an enterprise integration broker. It enables multiple consumption and integration patterns, whether they be system-to-system interaction, business to business interaction, or simple consumption of backend systems via various interaction channels. This is accomplished via Process Integration's strength in integrating backend systems, regardless of if they are SAP, non-SAP, or external customer and business partners.

The interactions between the consumer and provider applications can either be synchronous or asynchronous. With asynchronous communication, Process Integration guarantees delivery of the information where the consumer applications will not need to resend the information in case of system or network failures.

For consumer application development, SAP NetWeaver Developer Studio (SAP NWDS) provides a plug-in to access Process Integration's ES Repository and is able to generate proxies from the service interfaces that have been designed and stored in the repository. In addition, without requiring ES Repository, any SOAP web services can be used by the NWDS plug-in to generate the proxies needed to ease and jump-start the consumer application development.

Finally, Process Integration supports the orchestration of message exchanges and service calls via a BPMN-based process engine. (For more information on BPMN, please reference <http://en.wikipedia.org/wiki/BPMN>.) It allows the stateful handling of integration-centric processes, based on standard integration patterns to support more sophisticated integration scenarios such as collecting and aggregating messages or bringing messages in the right order.

## Comparative Summary

This section is intended to provide a summarized perspective on the topics discussed in this document.

	SAP NetWeaver Gateway	SAP NetWeaver Process Orchestration
Platform	ABAP	ABAP+Java or Java only
Access to SAP ERP		
BAPI/RFC	Y	Y
ABAP Transaction	Y	N
IDoc	N	Y
ABAP Proxy	Y	Y
Access to non-SAP	N	Y <sup>1</sup>
Providing Services	Y	Y

Consuming Services	N <sup>5</sup>	Y
REST	Y	Y <sup>2</sup>
OData	Y	N <sup>2</sup>
JSON	Y <sup>6</sup>	Y <sup>2</sup>
SOAP	N	Y
Synchronous Service	Y	Y
Asynchronous Service	N <sup>3</sup>	Y
Eclipse Plug-In	Y <sup>4</sup>	Y
Visual Studio 2010 Plug-In	Y <sup>4</sup>	N
XCode Plug-In	Y <sup>4</sup>	N
Stateful orchestration of message exchanges and service calls	N	Y

<sup>1</sup> Access to non-SAP via adapters: File/FTP, JDBC, JMS, SOAP, HTTP, WS, plus various other 3rd party adapters.

<sup>2</sup> Using NetWeaver certified PI REST adapter, which can be licensed from Advantco. The REST adapter supports JSON. OData support will be available in the future. MuleSoft is also planning on providing a REST adapter for PI in the near future.

<sup>3</sup> Only for notification in workflow or business events by using the Push Channel, which provides an asynchronous event message to be sent to the client from Gateway.

<sup>4</sup> The plug-ins can provide application specifically targeted for mobile devices, e.g. Blackberry and iPhone. This eases the developer's tasks significantly.

<sup>5</sup> Technically possible, but there is no use-case.

<sup>6</sup> Will be available in SP4 May 2012.

## Product Decision Factors

Gateway is recommended for user-centric applications. Use Gateway when there is a need for synchronous access to business objects of an SAP Business Suite system (like BAPI/RFCs or transactions) via light-weight REST services. Access using mobile devices is especially easier due to the available developer tool plug-ins which can target those specific devices.

Use Process Integration when general purpose integration is needed, involving disparate systems and applications requiring asynchronous and synchronous services involving SAP and non-SAP applications and systems. Process Integration is especially useful for service enabling of SAP and non-SAP applications in establishing standards based on SOA. Finally if you need stateful handling of message and/or service call orchestrations, SAP NetWeaver Process Orchestration is the right choice.

For new customers without either SAP NetWeaver Gateway or SAP NetWeaver Process Orchestration, customers should evaluate their selections based on the following considerations:

1. Application development: Gateway can provide simple, flat interfaces by using a simple mapping tool and "wizard-like" add-on in ABAP to generate the services. Gateway also provides plug-ins in Eclipse and Visual Studio to jumpstart the client application development. In addition, Gateway can also access ABAP transactions (i.e. screen-scraping) as services, which Process Integration does not support. Development in Process Integration of the same interface requires a higher learning curve due to the number of components, e.g. ESR, ID, SLD. Since Process Integration requires Java knowledge and Gateway is based on ABAP, those customers without Java expertise will be able to benefit from Gateway quicker without additional training.
2. Systems support: When developing REST services, Gateway uses the ABAP server, which is already supported in the customer's environment. Supporting Gateway should fit into the existing SAP support infrastructure easily with minimum interruption. Since Process Integration requires Java server, and if such expertise is not present with the customer, additional training will be required.
3. Requirement to access non-SAP applications: Process Integration provides access to both SAP and non-SAP applications and systems, whereas Gateway provides access to only SAP applications. By using the SOAP or REST adapters in Process Integration, both SAP and non-SAP applications can be consumed by client applications.
4. Requirement for A2A or B2B integrations: Gateway does not support A2A or B2B integrations, where consumption and provisioning of both synchronous and asynchronous services are required. Process Integration provides both synchronous and asynchronous interfaces to client applications. Asynchronous interfaces are primarily used in A2A and B2B integrations. Process Integration can consume and provision services, whereas Gateway can only provision services.
5. Requirement for stateful message/service call handling: SAP NetWeaver Process Orchestration supports the stateful coordination of message exchanges and/or service calls via a standards-based BPMN-engine. A dedicated graphical modeler as part of the SAP NetWeaver Developer Studio allows the efficient development of sophisticated integration scenarios. SAP NetWeaver Gateway doesn't provide a comparable feature.

In a brief context, Gateway provides REST services based on HTTP/OData to SAP backend applications for simple consumption by light weight applications and devices. Process Integration provides A2A and B2B integrations between applications and systems using adapters.

During the evaluation, the customer should consider whether there is or will be a need for capabilities provided by an enterprise service bus (e.g. A2A, B2B integration) such as SAP NetWeaver Process Orchestration. If not, then SAP NetWeaver Gateway is likely the preferred solution. If so, then a more detailed evaluation should be conducted to determine whether the REST or SOAP adapter in Process Integration can meet the requirement to access SAP backend applications.

## FAQ

**Q:** Who is the target audience for SAP NetWeaver Gateway?

**A:** SAP customers who want to provide user access to SAP backend applications using mobile devices or web applications using REST web services. The applications are synchronous and involving user-interaction.

**Q:** Who is the target audience for SAP NetWeaver Process Orchestration?

**A:** SAP and non-SAP customers who want to provide integrations of services/message exchanges between SAP and non-SAP systems, applications, and partners.

**Q:** If I have Process Integration, do I need SAP NetWeaver Gateway?

**A:** It depends, since both Gateway and Process Orchestration can provide REST services to SAP backend application. However, Gateway has to be considered if the SAP backend application is transaction-base, where screen-scraping must be used. With the availability of REST adapter(s) from SAP's partner(s), a detailed evaluation of requirements and business case for each should be performed.

**Q:** If I have SAP NetWeaver Gateway, do I need SAP NetWeaver Process Orchestration?

**A:** Yes, if there is a need for heterogeneous integrations between SAP and non-SAP systems involving A2A and B2B, for both synchronous and asynchronous scenarios.

## Related Content

For more information, visit the [SAP Integration & Certification Center homepage](#).

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# [EXTERNAL] Sap gateway vs pi

Wednesday, August 26, 2020 1:13 PM

Subject	<b>[EXTERNAL] Sap gateway vs pi</b>
From	<a href="#"><u>Hari Vedula</u></a>
To	Vedula, Hari
Sent	Wednesday, August 26, 2020 6:58 AM

<https://www.mindsetconsulting.com/when-to-use-sap-netweaver-gateway-vs-pi-2/>

# RE: SAP Integration Council

Thursday, August 27, 2020 10:17 AM

Subject	<b>RE: SAP Integration Council</b>
From	Lore, Chris
To	Vedula, Hari
Sent	Thursday, August 27, 2020 8:49 AM
Attachments	 IGC - Enterpris...

Here you go.

**Chris Lore**

SAP Enterprise Architect, SAP Solution Design and Governance – PROCOE  
Eaton Corporation  
**mobile:** +1 678-216-6164  
[chrislore@eaton.com](mailto:chrislore@eaton.com)  
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**From:** Vedula, Hari <NarahariVedula@Eaton.com>

**Sent:** Thursday, August 27, 2020 9:39 AM

**To:** Lore, Chris <ChrisLore@Eaton.com>

**Subject:** RE: SAP Integration Council

Chirs,

I cannot access the link. Could you download it and send it to me?

**Hari Vedula**

Sr Specialist – SAP Web Development, APPS CoE  
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Mobile: +1 630 864 9921  
[harivedula@eaton.com](mailto:harivedula@eaton.com)  
[www.eaton.com](http://www.eaton.com)

**From:** Lore, Chris <[ChrisLore@Eaton.com](mailto:ChrisLore@Eaton.com)>

**Sent:** Tuesday, August 25, 2020 4:10 PM

**To:** Vedula, Hari <[NarahariVedula@Eaton.com](mailto:NarahariVedula@Eaton.com)>

**Subject:** FW: SAP Integration Council

**Chris Lore**

SAP Enterprise Architect, SAP Solution Design and Governance – PROCOE  
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mobile: +1 678-216-6164  
[chrislore@eaton.com](mailto:chrislore@eaton.com)  
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**From:** Corrigan, Malcolm <[MalcolmCorrigan@Eaton.com](mailto:MalcolmCorrigan@Eaton.com)>  
**Sent:** Tuesday, August 25, 2020 4:32 PM  
**To:** Lore, Chris <[ChrisLore@Eaton.com](mailto:ChrisLore@Eaton.com)>  
**Subject:** Fwd: SAP Integration Council

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**From:** Mayreddy, Maddy <[MaddyMayreddy@Eaton.com](mailto:MaddyMayreddy@Eaton.com)>  
**Sent:** Tuesday, August 25, 2020 4:14:22 PM  
**To:** Corrigan, Malcolm <[MalcolmCorrigan@Eaton.com](mailto:MalcolmCorrigan@Eaton.com)>  
**Subject:** RE: SAP Integration Council

Mal,

Here is the link to the presentation that has the integration technologies and patterns details:  
[https://eaton.sharepoint.com/sites/Team\\_IntegrationGovernanceCouncil/\\_layouts/15/Doc.aspx?sourceid=%7B3A17F272-C970-448A-8FD2-F1F5932B37A3%7D&file=IGC%20-%20Enterprise%20Integration%20Technology%20and%20Patterns.pptx&action=edit&mobileredirect=true&CT=1598386298556&OR=ItemsView](https://eaton.sharepoint.com/sites/Team_IntegrationGovernanceCouncil/_layouts/15/Doc.aspx?sourceid=%7B3A17F272-C970-448A-8FD2-F1F5932B37A3%7D&file=IGC%20-%20Enterprise%20Integration%20Technology%20and%20Patterns.pptx&action=edit&mobileredirect=true&CT=1598386298556&OR=ItemsView)

Slide#4 is where you will see questions to determine the right integration technology.

Please let me know if this helps.

Thanks,  
Maddy

**From:** Corrigan, Malcolm <[MalcolmCorrigan@Eaton.com](mailto:MalcolmCorrigan@Eaton.com)>  
**Sent:** Tuesday, August 25, 2020 1:28 PM  
**To:** Mayreddy, Maddy <[MaddyMayreddy@Eaton.com](mailto:MaddyMayreddy@Eaton.com)>  
**Subject:** RE: SAP Integration Council

Excellent! looking forward to seeing it.

Regards  
**Malcolm Corrigan**

Director, SAP Solution Design and Governance – PROCOE, [Eaton](#)

**From:** Mayreddy, Maddy <[MaddyMayreddy@Eaton.com](mailto:MaddyMayreddy@Eaton.com)>  
**Sent:** Tuesday, August 25, 2020 1:08 PM  
**To:** Corrigan, Malcolm <[MalcolmCorrigan@Eaton.com](mailto:MalcolmCorrigan@Eaton.com)>  
**Subject:** RE: SAP Integration Council

Hi Mal,

I hope all is well at your end.

I realized there is one item on me in this list below. More than questionnaire it's a decision matrix. I will share the slide relating to the topic today.

Thanks,  
Maddy

-----Original Appointment-----

**From:** Corrigan, Malcolm <[MalcolmCorrigan@Eaton.com](mailto:MalcolmCorrigan@Eaton.com)>  
**Sent:** Friday, April 24, 2020 12:19 PM  
**To:** Corrigan, Malcolm; Svoboda, Jess R; Lore, Chris; Sanchez, Eduardo; Vedula, Hari; Torres Lara, Jesus; Jandhyala, Ramesh  
**Cc:** Mayreddy, Maddy  
**Subject:** SAP Integration Council  
**When:** Tuesday, August 25, 2020 4:30 PM-5:00 PM (UTC-05:00) Eastern Time (US & Canada).  
**Where:** Microsoft Teams Meeting

### Agenda

- Review SAP projects with integration to review potential data volumes
- Review project with integration design
- Roadmap future integration best practices

### Team Site/Meeting Notes

<https://teams.microsoft.com/l/channel/19%3a88d46899b70e4c16aeec2b7b9e76b0b0%40thread.skype/General?groupId=b5122c2c-19f3-483d-8b27-090d71cac83b&tenantId=d6525c95-b906-431a-b926-e9b51ba43cc4>

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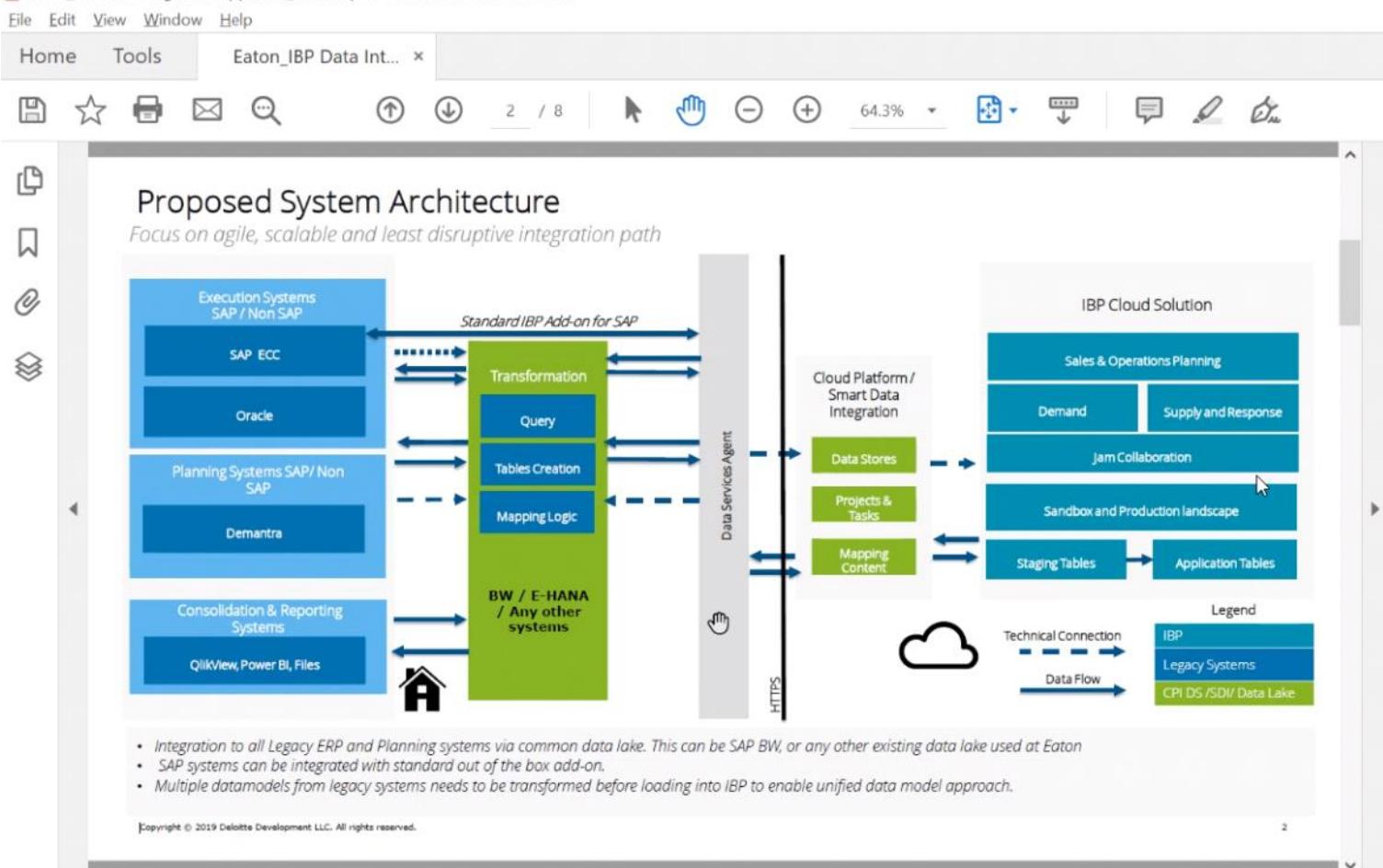
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[+1 216-273-0465](#) United States, Cleveland (Toll)

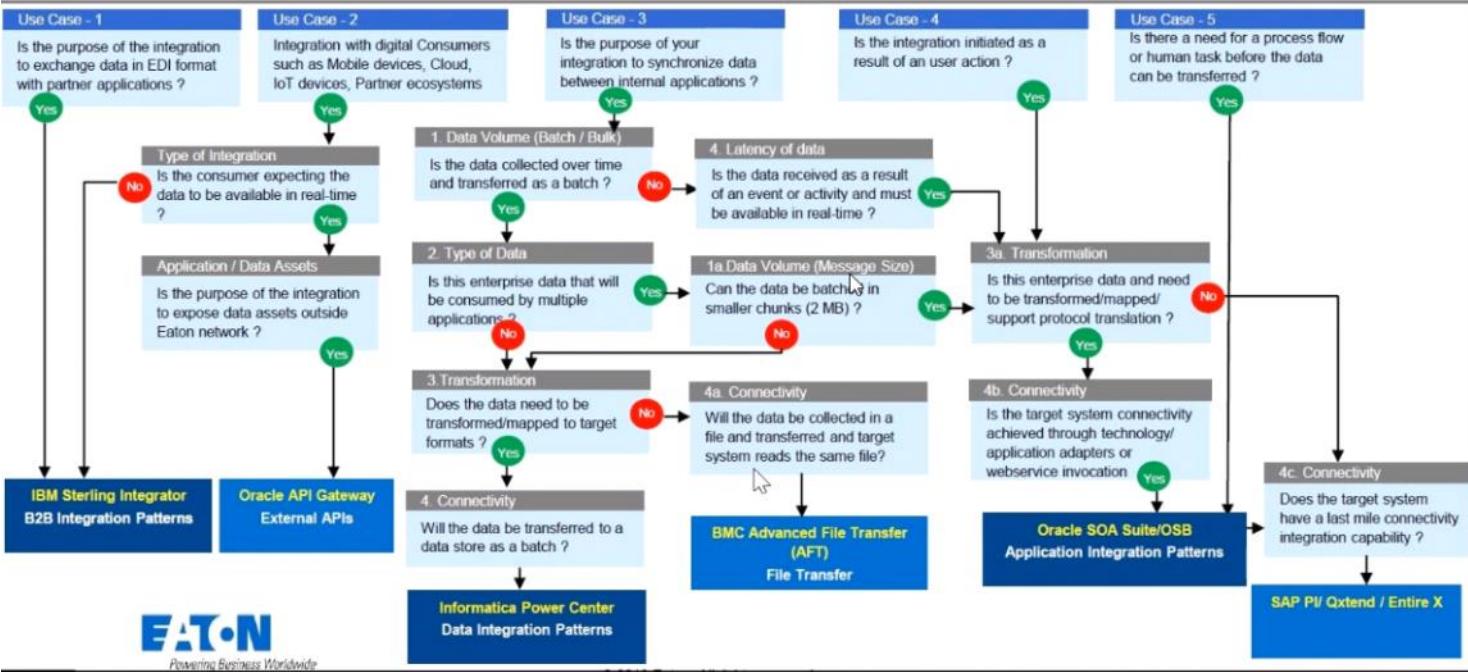
Conference ID: 429 062 938#

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# Decision on Technology Choices



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# When to use SAP Netweaver Gateway vs. PI | Mindset Consulting

Friday, February 12, 2021 7:21 AM

Clipped from: <https://www.mindsetconsulting.com/when-to-use-sap-netweaver-gateway-vs-pi-2/>

What does integration mean to your SAP implementation? Integration seems like it should be a very simple problem to solve with SAP. Connect two systems ...

What does integration mean to your SAP implementation?

Integration seems like it should be a very simple problem to solve with SAP. Connect two systems together, either directly or through SAP PI. But what about mobile users or consumers of SAP data that need light-weight integration? I will explain how people often overstate the reasonable use cases of SAP PI. Finally I will show how SAP Netweaver Gateway may now be a legitimate answer to use cases where PI isn't a good fit.

From SAP's web site, this is how SAP PI is introduced:

Over three thousand organizations are using the SAP NetWeaver Process Integration (SAP NetWeaver PI) offering as their enterprise-class, service-oriented architecture (SOA) middleware to perform application-to-application (A2A) and business-to-business (B2B) integration, and to accelerate composite application development.

<http://www.sap.com/platform/netweaver/components/pi/index.epx>

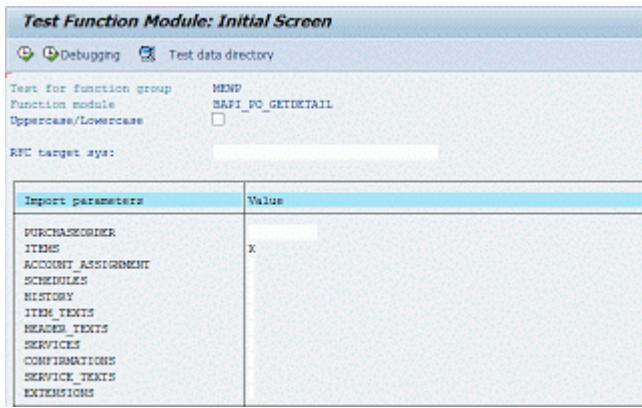
If you read that carefully, the scenario described above is not very broad. What about mobile-to-SAP? What about Microsoft SharePoint connections to SAP?

PI is best used with asynchronous communication which is described in the Best-Built Application Guide: <http://www.sdn.sap.com/irj/sdn/bestbuiltapps?rid=/library/uuid/d0619693-ce8f-2c10-07b5-fc222ad36370>.

One of the most interesting new products of SAP is Netweaver Gateway, and in particular the 2.0 release.

<http://www.sap.com/platform/netweaver/components/gateway/index.epx>

Gateway allows you to expose your SAP systems with REST HTTP service calls instead of cryptic BAPIs, or even highly complex SOAP services (that are better suited for PI). REST is a really simple and fast web service interface that is extremely easy to integrate. If you aren't familiar with BAPI's, they can be very powerful and critically useful. If you are an ABAP programmer they may even be easy to use. However, to a 3rd party, or anyone integrating with SAP, these are downright cryptic:



SAP Netweaver Gateway is an ABAP Add-On for Netweaver 702. It generates these simple REST services (create, read, update, delete, and query) based on the back-end business objects. Once these services are exposed, you can easily consume them from consumers like mobile-devices.

There are a few challenges I would like to note. This is a relatively new product, and very few of these business objects come out of the box. A good knowledge of the business objects and ABAP is really important to create these. Also the basis and technical setup is not arbitrary. Those points aside, I was able to create a RESTful set of services based on Invoices in ERP in just a few hours. As this product matures, and more objects come out of the box, it will be exciting to see the innovative ways that SAP data can be used throughout the enterprise.

# What Are B2B and A2A Integration? | US Daily Review

Friday, February 12, 2021 8:18 AM

Clipped from: <https://usdailyreview.com/what-are-b2b-and-a2a-integration/>



Business-to-Business and Application-to-Application Integration are not new concepts. Many enterprises from all around the world have been using them extensively, lately. If you wonder [what is B2B integration](#), you should know that such projects have been up and running since the late '60s. Simply put, B2B integration involves the integration, automation and optimisation of several key business processes that go beyond the physical premises of a company or organization. Application-to-Application Integration is based on the emergence of certain technological advancements and developments, more specifically software products like software as a service (SaaS) and cloud computing. While the two are very similar, they are fundamentally different in certain areas. But for more information on each type of integration, keep reading below.

## B2B Integration – What Is It?

B2B integration is a process that allows businesses to [electronically exchange information, data and important documents in the context of interlinked systems](#). The exchange of data and information can take place between businesses, their suppliers, various key-institutions with which they should remain in contact, governmental bodies, customers and other internal systems.

All the data used in B2B integration comes from a source application. There are multiple types of source applications out there, from [enterprise resource planning \(ERP\)](#) applications, accounting packages or even [state-of-the-art CRM systems](#).

In case the source application is an ERP application, the data is typically mapped, identified or translated to a standard that is specific to a certain

industry (the one in which the enterprise using it activates) and contains virtually any sort of information that is held in the ERP application, from purchase orders, sales data, invoices and sales forecasts, without being limited to this.

When inquired, the files containing different types of information are sent to the recipient as a message or a standard protocol. These usually come protected by different [security protocols](#) and have an increased performance and reliability. These are the same for the industry as a whole, but they are also dictated by a trading partner of each company.

B2B integration has become over the years a standard across all industries, mainly because B2B integration makes it easier for companies to keep in touch and manage their business relationships and communities, exchange information in a facile manner and trade in a safe and secure way. Plus, the entire process is automated and removes the necessity to manually process the documents usually necessary in business processes.

In this context, [companies can process order information faster and more accurately](#), in real time. Considering the fact that nowadays, thanks to B2B integration, businesses are able to process order information faster and better, they become more responsive to their customer's needs and requirements. In the end, this allows businesses to increase sales, customer retention rates and improve their customer relations capabilities.

Based on the same principle, companies in various industries can gain a better insight on their suppliers' shipment status, they become able to automate all warehousing and distribution needs and demands and beautifully optimise stock and inventory. Ultimately, B2B integration is only due to increase companies' working capabilities and lowering operational costs.

## A2A Integration – What Is It?

[Application-to-Application Integration software](#) or simply put, application integration software is a product that allows customers to rapidly complete integrations that are specific to various applications and that don't involve any sort of coding. The process involves, however, some configuration.

Most frequently than not, reliable vendors will offer a wide array of pre-configured templates that make the entire process significantly easier. In this context, businesses have the opportunity to complete various projects of a high importance for their activity in a matter of days. Otherwise, these tasks associated with various projects would take months to complete. There are some key features you should consider when searching for a reliable A2A integration tool or software.

- **Data interfaces. Reliable A2A integration systems allow an easy connection between various types of users and IT staff. User-ready templates and interfaces allow businesses to create**

**simple connections between apps of different kinds. Naturally, these connections are based on pre-configured connectors put at user's command by the IT staff. Simply put, these templates allow a simple and fast connection between applications, mainly with the web's help. What makes these data interfaces so great? Simply the fact that they allow self-service integration for businesses, decreasing the way in which they are dependant on their IT departments.**

- **Web Services and APIs.** User-ready A2A integration templates are also great because they offer comprehensive support for Web Services. This makes utilization easier and more approachable by all users.
- **Data Mapping Features.** Templates that come ready for use usually come with a graphical tool that makes it easier for the user to configure data transformation, mapping, validation and cleaning. This boost any businesses' capability to complete otherwise complex processes without writing a single line of code. These types of systems allow users to apply transformation rules regardless of the formats of both targets and sources. State-of-the-art templates for A2A Integration feature a library of pre-created functions that can be reused in the future. Plus, the whole process can be easily verified on-the-go, to assure the necessary accuracy levels.
- **Process Design Features.** When users need to create process flows, they can easily approach this tool and take advantage of the process design tool.

A2A integration tools come with numerous benefits and advantages for a wide range of businesses, but mainly their IT departments as these decrease the volume of work and effort put into integration and configuration.

- They boost the IT efficiency of a business because they increase a business' self-service capabilities. Besides, they allow the IT staff to offer business users higher self-care capabilities when it comes to integration and configuration. This way, IT teams and departments have all the necessary time to focus on the strategic side of their tasks.
- A2A integration tools and templates boost productivity. Because the entire process is automated, this reduces the manual steps and necessary time when it comes to processing data and information.
- This reduces errors that may occur in the process, thus leads to lower operational costs.
- The products developed by using A2A integration will reach the market faster. In this case, connections can be created in a matter of hours rather than weeks and integration projects will be achieved faster and more accurately.
- Being a product that doesn't require any coding, the process of creating new connections is immensely simplified.
- Developing new products becomes incredibly rapid and efficient as these systems allow unmatched flexibility. They can be used as needed and, on-premise or even in the cloud.
- These templates, if created by reliable developers, come with pre-built connectors (SaaS, CRM and ERP, database capabilities, messaging

systems and customer support features).

- Management and monitoring capabilities are also simplified in the case of web-based management systems. These systems include alerts and notifications, error alerts and connectivity concern warnings. Besides, they allow real-time monitoring capabilities.
- Similar systems are easy to maintain up and running, as opposed to traditional developer tools.

B2B and A2A integration tools and systems continue to be a valuable asset of businesses across all industries. Offering businesses improved operational capabilities, these tools and systems are due to increase their profitability, reliability and customer retention rates.

# Emailing: Apigee SaaS - Target State Architecture.pdf

Friday, February 12, 2021 8:18 AM

Subject	<b>Emailing: Apigee SaaS - Target State Architecture.pdf</b>
From	Roy, Graham
To	Vedula, Hari
Sent	Friday, February 12, 2021 8:18 AM
Attachments	 Apigee SaaS - Tar...

Your message is ready to be sent with the following file or link attachments:

Apigee SaaS - Target State Architecture.pdf

Note: To protect against computer viruses, e-mail programs may prevent sending or receiving certain types of file attachments. Check your e-mail security settings to determine how attachments are handled.

## Attendees

- Mal
- Chris Lore
- Eduardo
- Jess
- Jesus
- Hari
- Ramesh
- Maddy

## Agenda

- Purpose of SAP Integration Council
  - Review SAP projects with integration to review potential data volumes, size, concurrent users
  - Review projects and problem tickets with integration design
    - Review the SAP project roadmap - Chris
    - Review problem areas
  - Roadmap future integration best practices and integration retirement
    - Decision tree, standards and matrix for integration design (PI vs CPI, RFC vs Odata, etc.)
    - Chris to resend to the team to ensure everyone has a copy to review
    - Hari and Ramesh have changes to apply; Ramesh has reviewed with the integration team
  - Changes to projects to review
    - Capture all projects and list high level integration patterns
    - Break the list up into projects to review and which ones we need to focus
      - ◆ Project Focus should be on new integrations or major changes/rewrites
      - ◆ Break out new integration types/patterns and technologies that are used to possibly be presented to the IGC

Action	Assignees	Status
<p>Create decision tree, standards and matrix for integration design . Reviewing and standardizing with IGC on templates as IGC has a decision tree already - reviewed during meeting. 2 updates "PI as solution for Idoc batch not bulk" and "Remove Direct SQL"</p> <p><a href="https://teams.microsoft.com/l/file/2DEC8801-AB86-4F0C-A2EC-D8C23C0D625E?tenantId=d6525c95-b906-431a-b926-e9b51ba43cc4&amp;fileType=pdf&amp;objectUrl=https%3A%2F%2Featon.sharepoint.com%2Fsites%2FSAPIntegrationCouncil%2FShared%20Documents%2FGeneral%2FSAP%20Integration%20Decision%20TreeV5.pdf&amp;baseUrl=https%3A%2F%2Featon.sharepoint.com%2Fsites%2FSAPIntegrationCouncil&amp;serviceName=teams&amp;threadId=19:88d46899b70e4c16aeecc2b7b9e76b0b0">@thread.skype&amp;groupId=b5122c2c-19f3-483d-8b27-090d71cac83b"&gt;https://teams.microsoft.com/l/file/2DEC8801-AB86-4F0C-A2EC-D8C23C0D625E?tenantId=d6525c95-b906-431a-b926-e9b51ba43cc4&amp;fileType=pdf&amp;objectUrl=https%3A%2F%2Featon.sharepoint.com%2Fsites%2FSAPIntegrationCouncil%2FShared%20Documents%2FGeneral%2FSAP%20Integration%20Decision%20TreeV5.pdf&amp;baseUrl=https%3A%2F%2Featon.sharepoint.com%2Fsites%2FSAPIntegrationCouncil&amp;serviceName=teams&amp;threadId=19:88d46899b70e4c16aeecc2b7b9e76b0b0@thread.skype&amp;groupId=b5122c2c-19f3-483d-8b27-090d71cac83b</a></p> <pre> graph TD     SAPCloud[SAP Cloud Platform] --&gt; SAPIntegrationNetCloud[SAP Integration Net Cloud]     SAPCloud --&gt; PIPOPI[PIPOPI, SAP Managed service]     SAPCloud --&gt; ArbaCloud[Arba Cloud]     SAPCloud --&gt; C4SCloud[C4S Cloud]     SAPCloud --&gt; SuccessFactors[Success Factors Cloud]     SAPCloud --&gt; ConcurCloud[Concur Cloud]      SAPIntegrationNetCloud --&gt; DMZ[Eaton]     SAPIntegrationNetCloud --&gt; PIPOPI     SAPIntegrationNetCloud --&gt; ArbaCloud     SAPIntegrationNetCloud --&gt; C4SCloud     SAPIntegrationNetCloud --&gt; SuccessFactors     SAPIntegrationNetCloud --&gt; ConcurCloud      PIPOPI --&gt; CloudConnector[Cloud Connector]     ArbaCloud --&gt; CloudConnector     C4SCloud --&gt; CloudConnector     SuccessFactors --&gt; CloudConnector     ConcurCloud --&gt; CloudConnector      CloudConnector --&gt; SAPIntegrationNetCloud     CloudConnector --&gt; PIPOPI     CloudConnector --&gt; ArbaCloud     CloudConnector --&gt; C4SCloud     CloudConnector --&gt; SuccessFactors     CloudConnector --&gt; ConcurCloud      CloudConnector --&gt; ORG[ORG]     CloudConnector --&gt; SAPPI[SAP PI]     CloudConnector --&gt; FI[File Based Integration]     CloudConnector --&gt; Oracle[Oracle Financials]      ORG --&gt; SAPIntegrationNetCloud     ORG --&gt; PIPOPI     ORG --&gt; ArbaCloud     ORG --&gt; C4SCloud     ORG --&gt; SuccessFactors     ORG --&gt; ConcurCloud      SAPPI --&gt; SAPIntegrationNetCloud     SAPPI --&gt; PIPOPI     SAPPI --&gt; ArbaCloud     SAPPI --&gt; C4SCloud     SAPPI --&gt; SuccessFactors     SAPPI --&gt; ConcurCloud      FI --&gt; SAPIntegrationNetCloud     FI --&gt; PIPOPI     FI --&gt; ArbaCloud     FI --&gt; C4SCloud     FI --&gt; SuccessFactors     FI --&gt; ConcurCloud      Oracle --&gt; SAPIntegrationNetCloud     Oracle --&gt; PIPOPI     Oracle --&gt; ArbaCloud     Oracle --&gt; C4SCloud     Oracle --&gt; SuccessFactors     Oracle --&gt; ConcurCloud   </pre>	Chris / Ramesh / Martin / Hari	Pending Integration review (Maddy and Ramesh)

<p><b>SAP Cloud</b> SAP Cloud Security Strategy – IAS/IPS?</p> <ul style="list-style-type: none"> <li>▪ What is IAS? <ul style="list-style-type: none"> <li>▪ IAS is SAP Cloud Platform Identity Authentication Service</li> <li>▪ It's a robust Identity Management Tool that SAP has been selling for many years. It competes in the marketplace with products like Ping Identity, Okta and Azure.</li> <li>▪ SAP is bundling IAS for free for the purpose of logging into SuccessFactors.</li> </ul> </li> <li>▪ What is IPS? <ul style="list-style-type: none"> <li>▪ IPS is SAP Cloud Platform Identity Provisioning Service</li> <li>▪ It is included with IAS.</li> <li>▪ IPS is used to sync users from SuccessFactors to IAS and our new People Analytics tool.</li> </ul> </li> <li>▪ Why is SuccessFactors Implementing IAS/IPS? <ul style="list-style-type: none"> <li>▪ SAP has an ongoing initiative to have a user login one time and get access to all of their SAP products.</li> <li>▪ While this is a multi year project, SF is one of the first SAP products to offer this feature.</li> <li>▪ IAS offers the features of a modern identity provider tool that were not part of the native SF login platform.</li> </ul> </li> </ul> <p><b>EATON</b> Powering Business Worldwide © 2018 Eaton. All rights reserved. PRODCE 28</p>		
<p>Integration catalog to be built in solution manager.</p> <p>ADQS SAP support team is documenting integrations...need to ensure that we are aligned with them and whatever they created fits with our standards/templates and can be used with solman.</p> <p>SolMan - SMD now live. interfaces will begin being collected there; some already included Ariba, CPQ, Order Center, Raleigh PQ, etc.</p>	Chris / Martin / Ramesh / Hari	Chris to kick off in 2020.
<p><b>Hana POC</b></p> <ul style="list-style-type: none"> <li>• SAP - Integration to Hana DB. Demo order history / shipping status <ul style="list-style-type: none"> <li>• Realtime data replication from ECC QAS to HANA</li> <li>• Data queries exposed for oData / webservice connection</li> <li>• Connect SAP Gateway or SAP PI to HANA for oData / webservice</li> <li>• DB performance – query response times of ECC vs HANA</li> </ul> </li> </ul> <p></p> <p>52263 - SAP HANA Poc...</p>		
<p><b>Phase 2 Project Questionnaire</b></p> <p>Purpose is to understand the system impact, licensing impact and validate the integration design</p> <ul style="list-style-type: none"> <li>• Overall integration diagram (BPMN template, Chris to provide) <ul style="list-style-type: none"> <li>◦ number of data points</li> <li>◦ Realtime vs batch</li> <li>◦ Types of integration (IDoc, RFC, proxy, etc.)</li> <li>◦ Proposed middlewares</li> <li>◦ System End points</li> <li>◦ Error handling</li> </ul> </li> <li>• Data volumes per data point (need to align with solution manager) <ul style="list-style-type: none"> <li>◦ Average payload size</li> <li>◦ number of calls</li> <li>◦ peak times</li> <li>◦ If realtime, max concurrent connections</li> </ul> </li> <li>• User information <ul style="list-style-type: none"> <li>◦ Who are the potential users calling SAP? (indirect liability)</li> </ul> </li> </ul>	All	<p>Maddy to provide existing questionnaire used by the integration teams.</p> <p>Hari/Chris/Ramesh - Need to continue development of questionnaire, can use some of the integration pattern information provided by Maddy as a starting point; break out in a lower level of detail for projects due 10/1/2020</p>
<p><b>Integration Project Review</b></p> <ul style="list-style-type: none"> <li>• 51991 - Ariba - Self Guided Buying. <ul style="list-style-type: none"> <li>◦ Cloud connector (in DMZ) and in prod</li> <li>◦ CIG...now in production. No issues</li> </ul> </li> </ul>		

- Production connectivity established new expected pilot site go-live early Oct for BLIne
- 50986 - CPQ bulk data integration
  - needs to be reworked to use alternative to SOA/PI, potential to use ETL tool (SAP data services)
  - Potential to review for current and future mass data integrations (order center, bidman, etc.). To be built into the decision tree
  - Realtime services from D47 to DS POC is working. Now can perform the data services development. 7 interfaces that we could migrate, probably only move 3 (material and 2 pricing). Load testing?
  - Confirmed three interfaces; First two specs completed; DS team to begin development mid October due to bandwidth constraints would like go-live in Nov. or prior to Jan 2021 due to organization rollouts
- 52356 - eInvoicing Norway - same go-live date as Ariba
  - Added by Eduardo because the project requires the cloud connector (which is now available in development as part of project 51991)
  - PEPPOL now active in dev and prd.
  - Cloud connector for PRD should be complete this week with high availability (2 cloud connectors, so there is a failover).
- 51946 - TPH Supplier Master - FUTURE
- 50314 - Italy Oracle to Unity LES - FUTURE (order center, CPQ, oracle services)
  - Will need to include discussions on the broader ORA2SAP program
- 50667 - Global Service Management - FUTURE
- 52489 - Modify Shipping Interface in Un1ty SAP to Star Track new software - FUTURE
- 52018 - Streamline/Automate the Supplier Add Process - 1 interface for supplier search
- 52035 - BidMan.
- 51892 - eInvoicing Germany - B2G - PP2020
- 52364 - Direct Connect Advantage
  - Someone was looking at the option of integrating with ECC or real-time ODS; way Vista pulls data for DC is real-time ODS; they've decided to use SAP and not real-time ODS; COCOE says short-term this is OK long term want this data going to HANA and coming from HANA side car; already putting in the back of their minds this is short term but if you scale this up it'll cause issues
  - Mike Lula(sp?) has a HANA PoC, asked for this scenario of replicating this order data into his HANA PoC, which is being led by the BICOE, real life scenario that we have requirements for and want to do in the long term; going to be a sandbox which is being built as of today; ongoing conversations with BICOE on what it would take to install additional applications in that environment, eventual integration into IS/DS
- 52662 - Change of 3PL for Israel Distribution Center
- 52509 - Direct Connect Onboarding and Pricing Syndication Discovery -

Direct connect and other API management.

#### Projects to be aware of that include integrations

- 48909 - ANZ Oracle to SAP
  - Reusing existing Raleigh integrations with some modifications
  - EDI will be used, Mohit Jain working on these
- 50992 - Talent Management System Implementation - SuccessFactors.
  - Only integration highlighted to date is for HRMS using SuccessFactors "integration center" which is for flat file integration.

**Attendees**

- Mal
- Chris Lore
- Eduardo
- Jess
- Jesus
- Hari
- Ramesh

**Agenda**

- Purpose of SAP Integration Council
  - Review SAP projects with integration to review potential data volumes, size, concurrent users
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    - Review the SAP project roadmap - Chris
    - Review problem areas
  - Roadmap future integration best practices and integration retirement
    - Decision tree, standards and matrix for integration design (PI vs CPI, RFC vs Odata, etc.)
    - Changes to projects to review
      - Capture all projects and list high level integration patterns
      - Break the list up into projects to review and which ones we need to focus
        - ◆ Project Focus should be on new integrations or major changes/rewrites
        - ◆ Break out new integration types/patterns and technologies that are used to possibly be presented to the IGC

Project	Integration Pattern	Status

Action	Assignee	Status

Thursday, February 4, 2021 9:19 AM

- Project Review (review integration approach)

# Agenda

Friday, February 12, 2021 7:19 AM

- 1) Get list of projects
- 2) Review existing integrations?

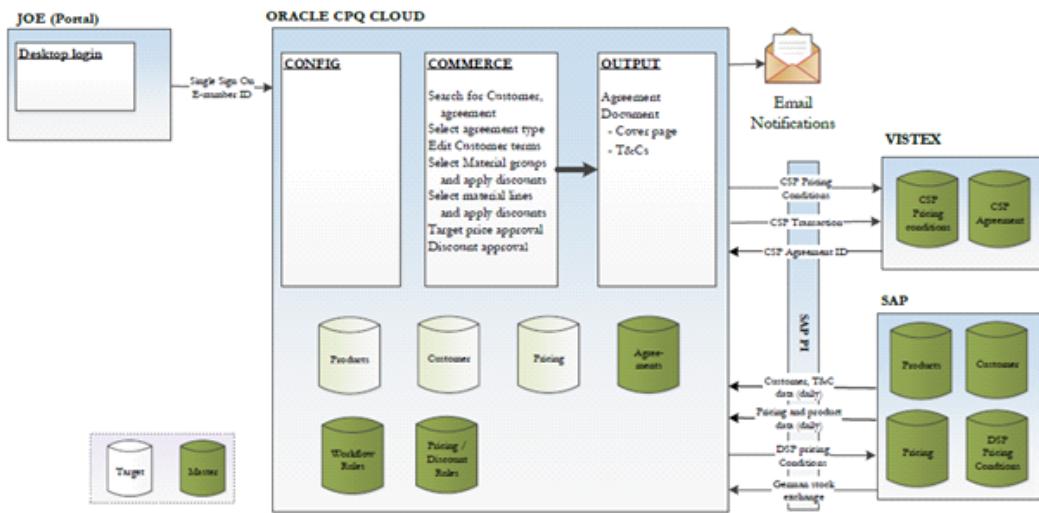
# Topics for 7/21

Tuesday, July 20, 2021 9:18 AM

- 1) Interface Template sent by Chirs Lore
- 2) Cloudera integration update
- 3) SalesForce integration for TrippLite
- 4) APIGEE training

## Product Configuration, Pricing, &amp; Quoting (CPQ) Bulk data load

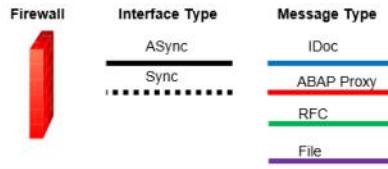
Term	Definition
CPQ	<p>Oracle's CPQ (Configure – Price – Quote) tool that is used for configuration, pricing and generating an output proposal.</p> <p>For Eaton Germany, CPQ will be used for pricing of transactions within the tool that will then send pricing conditions to either Vistex or SAP and converted into an agreement for the Customer.</p>



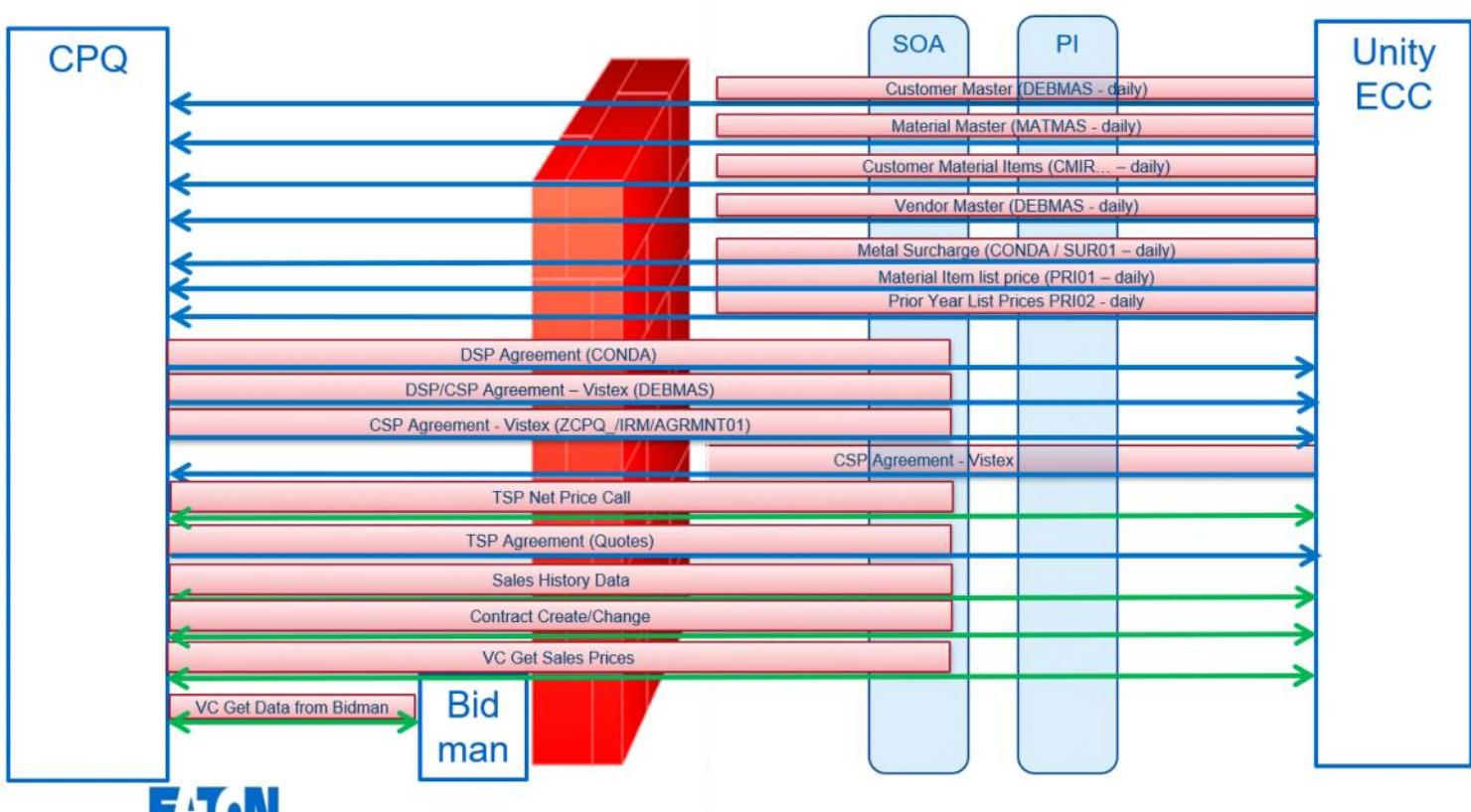
## Interface requirements

- 1 – INBOUND to CPQ from SAP- Customers
- 2 – INBOUND to CPQ from SAP- Agents
- 3 – OUTBOUND from CPQ to SAP – Customer Agreements & Price Guidelines
- 4 – OUTBOUND from PDH to SAP – Finished Goods to SAP (In scope of PDH implementation)
- 5 – OUTBOUND from SAP to Price Calculation Engine – Customer Price & Guidelines
- 6 – OUTBOUND from My Eaton to CPQ – User Authentication
- 7 – OUTBOUND from PDH to CPQ – Product Catalog and Attributes
- 8 – OUTBOUND from PDH to CPQ – Pricing Product Hierarchy
- 9 – INBOUND from Pricing Service to CPQ – Real Time Price Call
- 10 – OUTBOUND from CPQ to Output Formats – Production of .pdf and Electronic Catalog
- 11 – INBOUND from SAP to CPQ – Sales History
- 12 – OUTBOUND to VConfig and Return Punchout to CPQ – Punchout to VConfig and Return
- 13 – INBOUND from CPQ to SAP – Contract Create
- 14 – INBOUND from CPQ to SAP – Contract Change

From <[https://eaton-my.sharepoint.com/personal/naraharivedula\\_eaton\\_com/Documents/6\\_SAP%20solution%20Design%20and%20Governance/Application%20solution%20Design%20CoE%20SAP%20QTC%20solution%20Design%20CPQ.docx](https://eaton-my.sharepoint.com/personal/naraharivedula_eaton_com/Documents/6_SAP%20solution%20Design%20and%20Governance/Application%20solution%20Design%20CoE%20SAP%20QTC%20solution%20Design%20CPQ.docx)>



## CPQ – Configure Price Quote



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1

# SAP BODS Tutorial for Beginners: What is, Architecture

Friday, March 6, 2020 10:10 AM

GURU99

## SAP BODS Tutorial for Beginners: What is, Architecture

### Details

Last Updated: 20 February 2020

Before we learn SAP BODS, let's understand

#### What is ETL?

ETL stands for Extract-Transform-Load, and it is a process of how data is loaded from the target system to the data warehouse. Data is extracted from a database and transformed to match according to the data warehouse schema. After that, it is loaded back to the data warehouse database in the form of dimension and fact tables.

#### What is SAP BODS?

SAP BODS is an ETL tool by SAP which can extract data from disparate systems, transform them into meaningful information and load them in various kinds of systems.

Full form of SAP BODS is **Business Objects Data Services**. It is designed to deliver an enterprise-class solution for data integration, data quality, data processing, data profiling, and text data.

In this beginner's tutorial, you will learn,

- [History of SAP BODS](#)
- [SAP BODS Architecture](#)
- [Important terms in SAP BODS](#)
- [SAP Data Services Advantages](#)
- [Disadvantages of SAP BODS](#)

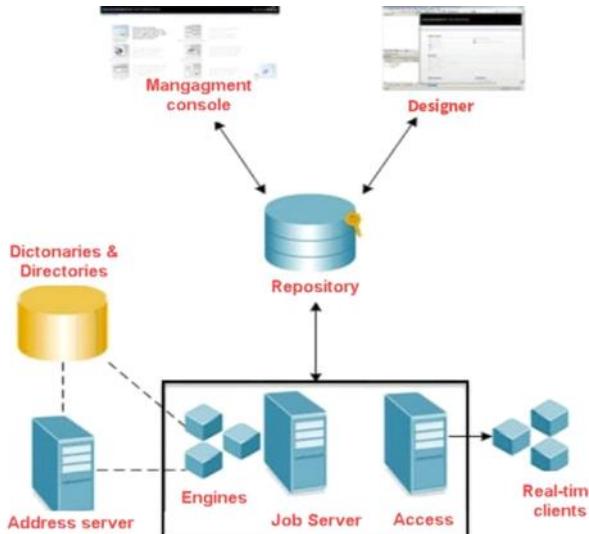
#### History of SAP BODS

Here, are famous landmarks in the history of SAP BODS:

- In 2002, BusinessObjects rebranded the two software products of Acta as BusinessObjects Data Quality tool and BusinessObjects Data Integration tool.
- Business Objects acquired by SAP in 2007 and both of these products were renamed as SAP BODQ and SAP BODI.
- In 2008, SAP merged both of these products in a single tool and renamed it as SAP BusinessObjects Data Services (BODS)

#### SAP BODS Architecture

Here, are some basic components of SAP BODS architecture:



SAP BODS Architecture Diagram

#### Repository:

A repository is a set of a table which holds user-created and predefined system object, source, target metadata, and transformation rules. It allows you to set up repositories on an open client/server platform. This helps you for sharing metadata with other enterprise tools. Each local repository is connected with one or more job server which runs the job you have created.

#### Management Console

SAP BODS Data Services Management Console is the web-based application with the following features.

- Impact and Linear Analysis
- Administration
- Auto Documentation
- Operational Dashboard
- Data Validation
- Data Quality Data Reports.

#### Job server:

The Job Server component helps you to start the data movement engine. It allows you to integrate data from multiple sources. It helps you to perform complex data transformations and manages transactions and extractions from ERP systems and other sources.

The Data Integration Job server tool allows you to move data in either batch or real-time mode. It delivers high data throughput and scalability. Moreover, while designing a job, you can also run it from the Designer which tells the Job Server to run the job. The Job Server also allows you to get the job from its associated BODS repository.

#### Data Services Designer

The Data services Designer tool offers an easy-to-use graphical user interface that helps you define transformations, data mappings, and control logic.

This component helps you to build applications containing data and workflows. This component also allows you to manage metadata stored in a repository.

#### Engines:

After SAP BusinessObjects Data Services jobs are executed, the Job Server starts the engine to perform data extraction, transformation, and movement. The engine uses parallel processing and in-memory data transformation to offer high data connectivity, quality, and scalability.

#### Access server:

Access server offers real-time request-reply message that collects message requests routes them to a real-time service and delivers a message reply in a specific duration. The Access Server queries messages and sends them to the next available real-time service across numerous computing resources.

#### Address Server:

The next component is the Address Server. It offers address validation and corrections. The Address Server must be started before processing data flows which contain the Global address Cleanse or Global Suggestion list transform with the EMEA engine enabled.

#### Important terms in SAP BODS

##### Datastore

A Datastore offers a connection to a data source like a database. It is a linking interface between the actual backend database and Data services. Data store also allows data services to import the description of the data source such as metadata.

##### CMC (Central Management Console)

CMC is a web-based administration tool for BODS. It is a helpful tool to perform some essential functions like repository registration, user management, etc.

##### Data Integrator Web Administrator

Data Integrator web administrator is also known as DI web admin. It helps you to maintain repositories in Data services. These SAP BODS services included in DI web admin are Meta Repository, Central Repository, job services, and web services.

##### SAP Data Services Advantages

Here are a few pros of SAP BODS

- SAP Business Objects offers better profiling because of too many acquisitions of other companies.
- The learning curve of this ETL tool is quick, and it is easy to use.
- Offers an easy-to-UI interface to perform data manipulation tasks.
- The objects and functions of BODS allow you to perform manipulations and transformation of data very efficiently.
- There are system-provided objects and functions which you can easily drag and drop.
- SAP BODS allows you to implement various data transformations using Data Integrator language
- SAP BODS helps you to perform complex data transformations for building customized functions.
- Data Integrator Designer allows you to store real-time and batch jobs and new projects in the repository.

##### Disadvantages of SAP BODS

Here are few drawbacks of using SAP BODS.

- It is an expensive tool, so the initial purchase cost is very high.
  - Business Objects may need a number of servers and extensive hardware.
  - Business Objects is a developer platform which means organizations that want to use Business Objects will require the support of a highly skilled development team.
- Summary**
- SAP BODS is an ETL tool by SAP which can extract data from disparate systems, transform them into meaningful information and load them in various kinds of systems.
  - Full form of SAO BODS is **Business Objects Data Services**.
  - Repository, Management Console, Designer, Job Server, Access Server, are important components of SAP BODS Architecture
  - SAP Business Objects offers better profiling because of too many acquisitions of other companies.
  - BODS is an expensive tool, so the initial purchase cost is very high

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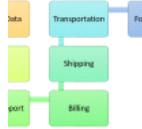


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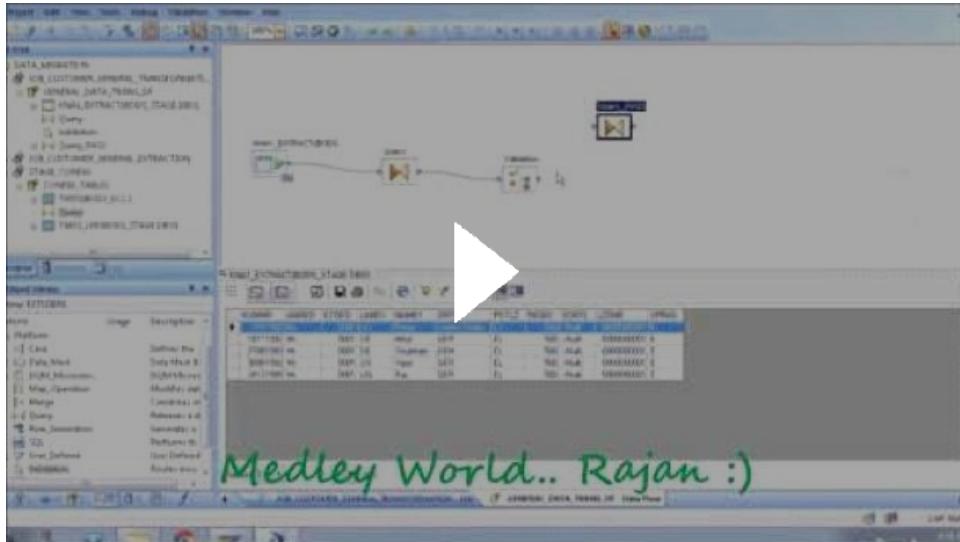
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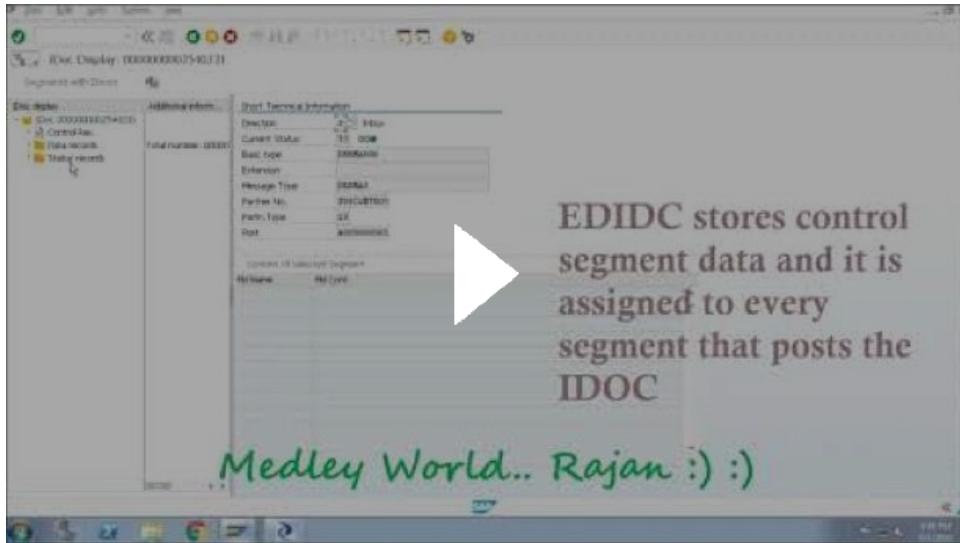
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Medley World



# PI to SAP BTP migration

Monday, April 10, 2023 4:10 PM

## Vinay Mittal's Post

### Vinay Mittal

Sr. Manager -Projects-Integration

1d Edited

We recently did a very successful and fast SAP PO to SAP Integration Suite (BTP) migration. There were very numerous learnings during the migration and just to list out... a couple of those were 1) That you really can't migrate your update\_insert jdbc scenarios from SAP PO to Delete and Insert in SAP CI (batch) or even to update\_insert that kills the performance. You have to rely on Stored Procedures. 2) For SELECT / UPDATE operations SAP CI jdbc adapter doesn't behave in the same manner as SAP PO JDBC adapter. You do SELECT and UPDATE in different calls to the DB server and you run the risk of updating the flag for more entries than you selected again you should rely on stored procs. 3) Another interesting find was that SOAP RM adapter has a limit of 50k records both inbound and outbound which can be increased on request by SAP. therefore you should either limit your reports/ programs in SAP to select / push less than the number of records you have set for your tenant OR increase SAP CI Tenants record limit from 50K records per SOAP message to a really large number lets say 300k records but then run the risk of crossing the threshold of 100 mb message size which most of have (configurable) for outbound webservice / proxy message size sent via http out of S4. 4) You can convert your RFC/proxy scenarios to soamanager webservices (consumer proxies / service definitions) leaving IDOC scenarios as is. 5) For NFS scenarios you can either convert them to outbound async Webservices / XML or you can replace that NFS with a SFTP server. During a typical SAP PO to Integration suite migration the build activity only takes up-to 20- 30 % of the effort the testing takes 30-40% of the total effort while the connection set up, collaboration with different teams and Quality control takes up the remaining. We had many other learnings but perhaps it would need a blog to summarize that. What were the most interesting learnings you had during such migrations? If you also have a SAP PO Integration bus on which you are heavily relying for your Integration scenarios, then this is the right time to make your move to SAP Integration Suite before it becomes too late. Please get in touch with us at Cognizant if you have plans to do the same.

From <[https://www.linkedin.com/posts/vinay-mittal\\_sap-sapintegrationsuite-cognizant-activity-7050756661912731648-Wsq/?utm\\_source=share&utm\\_medium=member\\_ios](https://www.linkedin.com/posts/vinay-mittal_sap-sapintegrationsuite-cognizant-activity-7050756661912731648-Wsq/?utm_source=share&utm_medium=member_ios)>

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# SAP API Management Technical Presentation

Thursday, October 6, 2022 7:35 AM

<https://help.sap.com/doc/980f5f55402145b1ad140359a7257229/CLOUD/en-US/Unit%20%20Overview%20of%20SAP%20API%20Management%20and%20its%20Components.pdf>



Unit 2 - Overview of SAP API Management and its Compo...



# SAP API Management Technical Presentation

Sven Huberti, Senior Solution Specialist

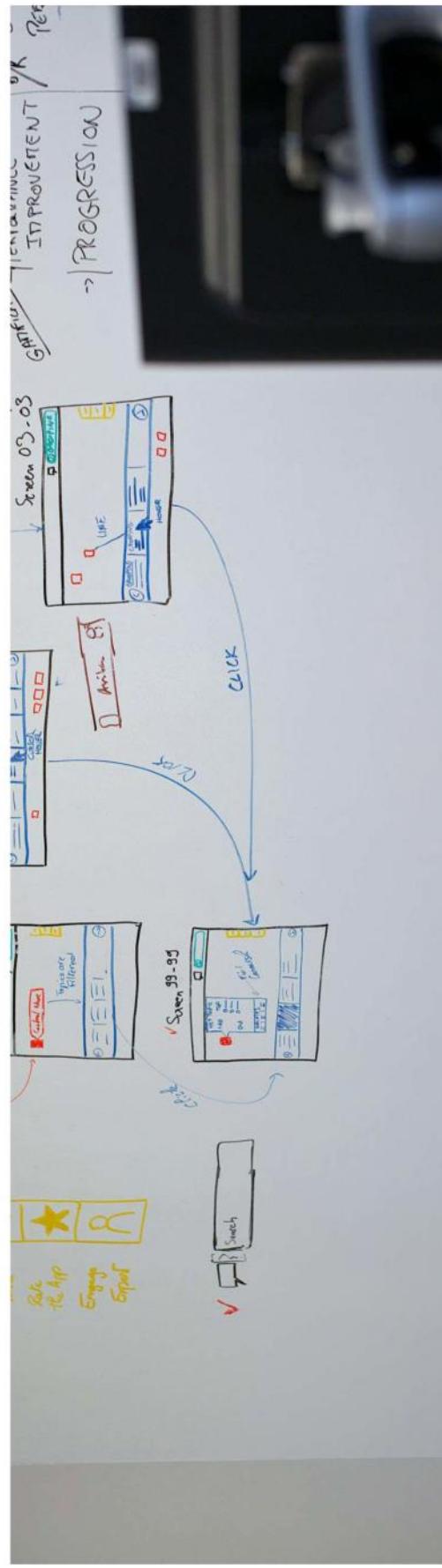
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# Agenda

Topic	Slide
Overview	3
Personas	6
Features and Functions	9
Components	19
Architecture	29
Additional Information	38

# Overview



# SAP Cloud Platform API Management

SAP Cloud Platform API management provides simple, scalable and secure access to digital assets through application programming interfaces (APIs) and enables developer communities to consume these.



## Key capabilities

- Unified standards-based API access of REST/OData or SOAP services
- Enterprise Grade Security for the APIs against attacks like DoS, CSRF, XSS etc. and robust traffic management
- Real-time insights & analytics on the APIs traffic, usage, error reporting and monitoring
- Developer services to enable developers to try, subscribe, use and manage API consumption

## Benefits

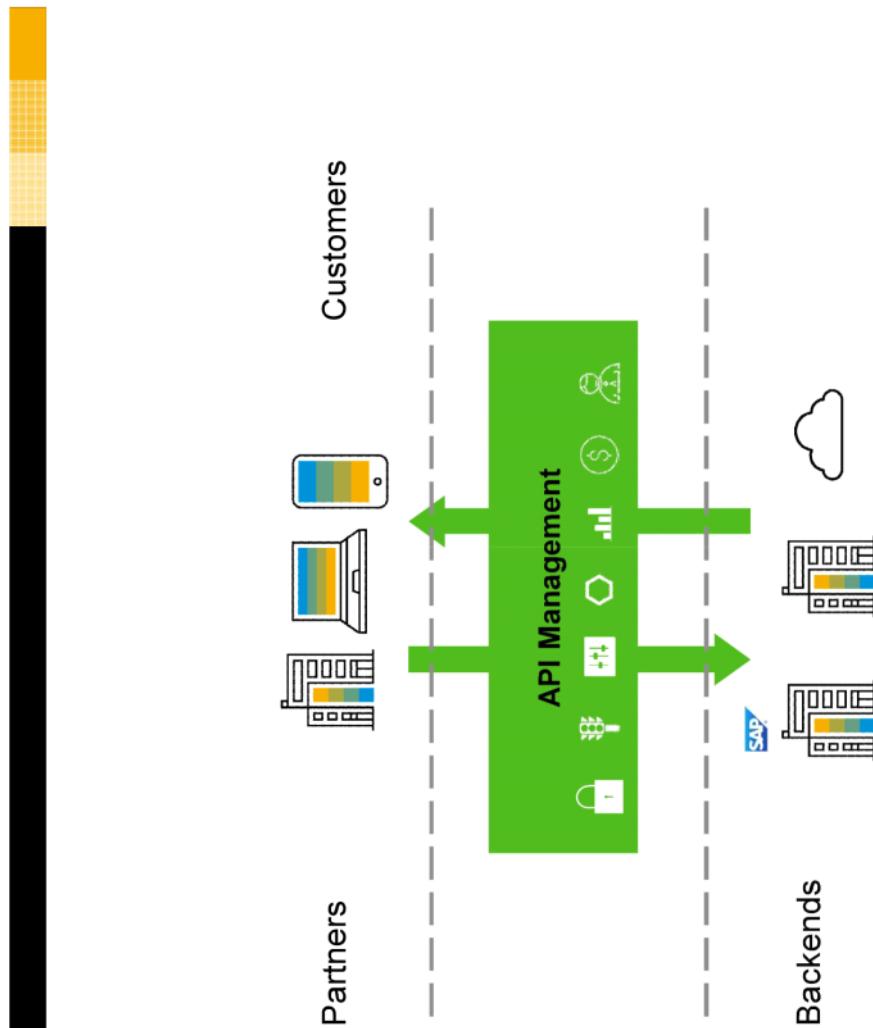
- Platform for engaging with and enabling employees and developers - internal and external

[Read more: SAP Cloud Platform API management](#)

## SAP API Management

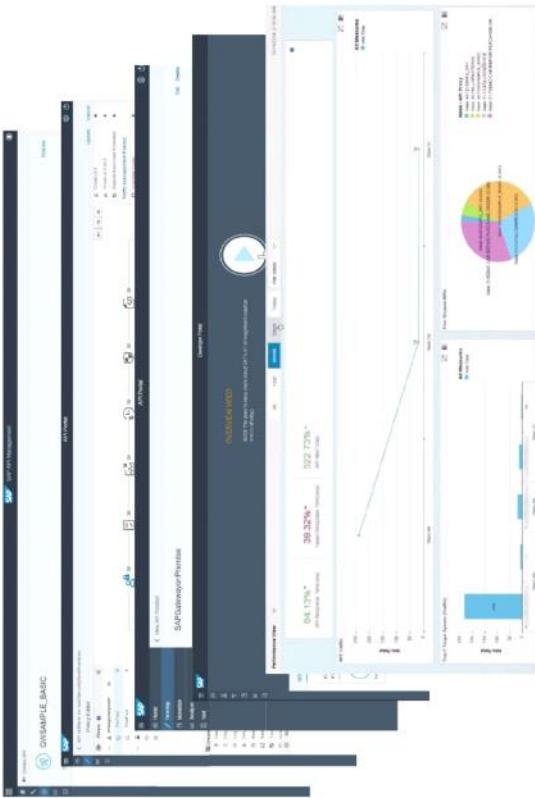
### Typical use cases

1. Enterprise-wide governance and security for REST APIs
2. Omni-channel experience for customers and employees
3. Low-touch Open Integrations with partners, suppliers and marketplaces



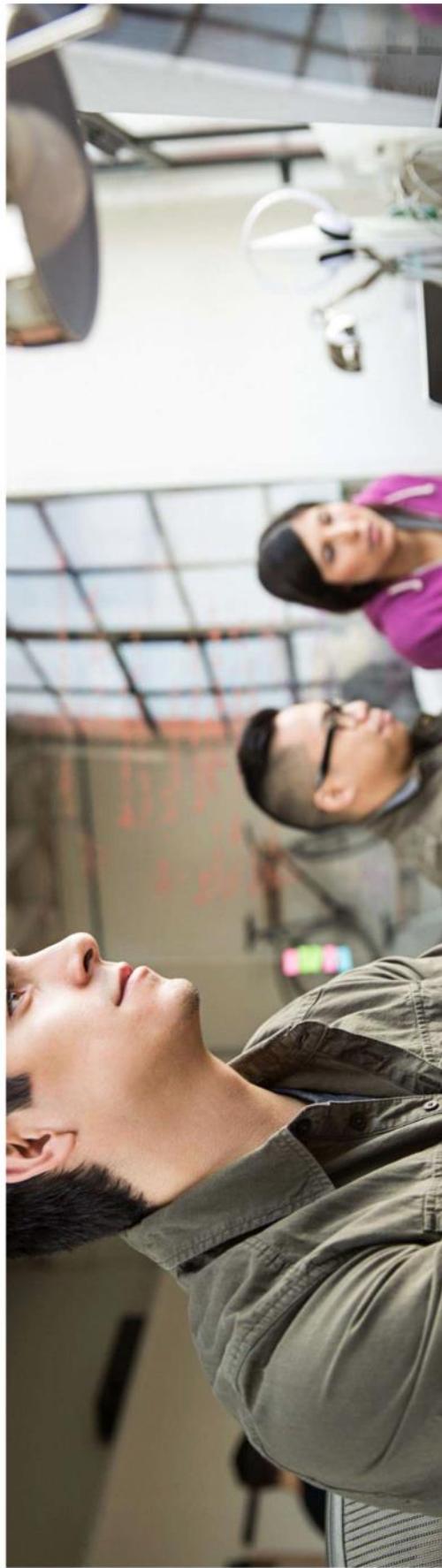
## Highlights

- Best of breed engine with streamlined admin and developer experience in SAP Cloud Platform
- Increased productivity with to OData
- Agnostic REST/OData or SOAP services management
- Enterprise Grade Security for the APIs against attacks like DoS, CSRF, XSS etc. and robust traffic management
- Secure connection to on-premise systems with Cloud connector
- Integration with SAP Cloud Platform services such as SAP API Business Hub, mobile service, WebIDE, Leonardo IoT etc.
- Platform for engaging with, and enabling employees and developers – internal and external
- Real-time insights & analytics on the APIs traffic, usage, error reporting and monitoring

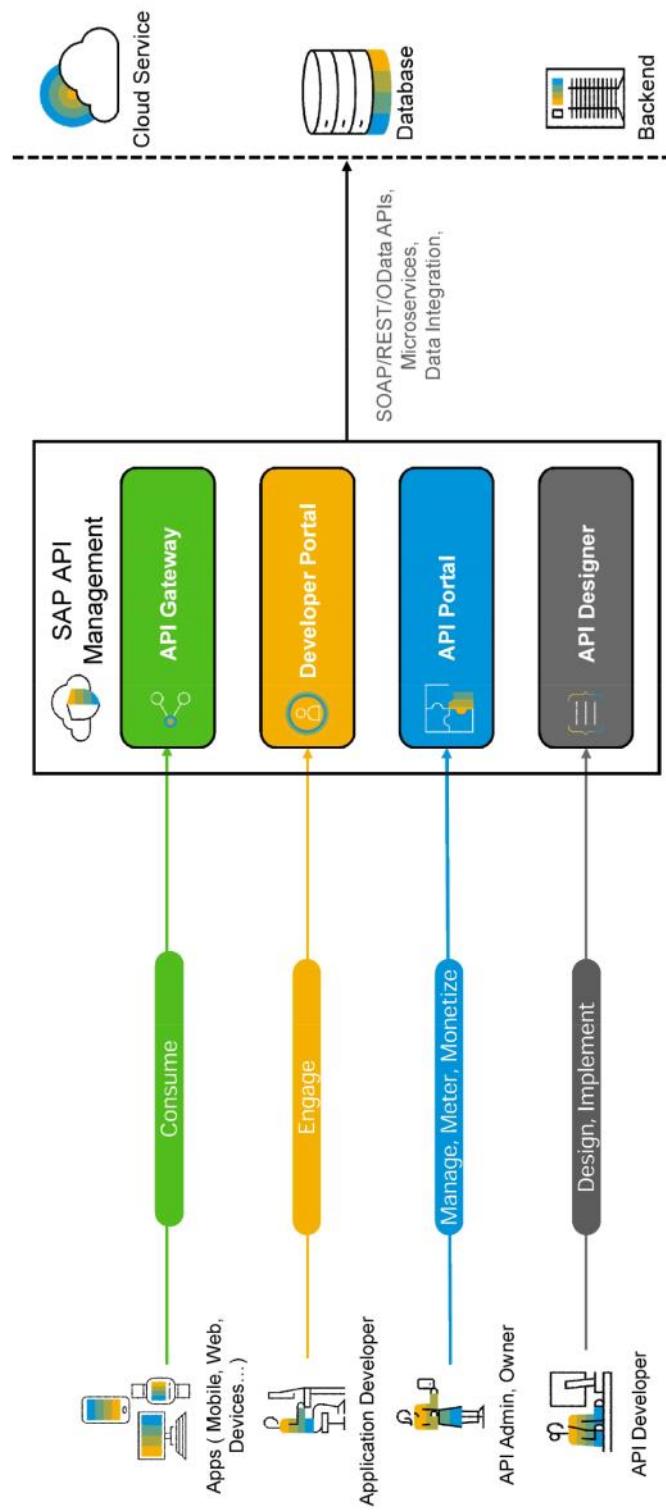


Read more: [SAP Cloud Platform, API management](#)

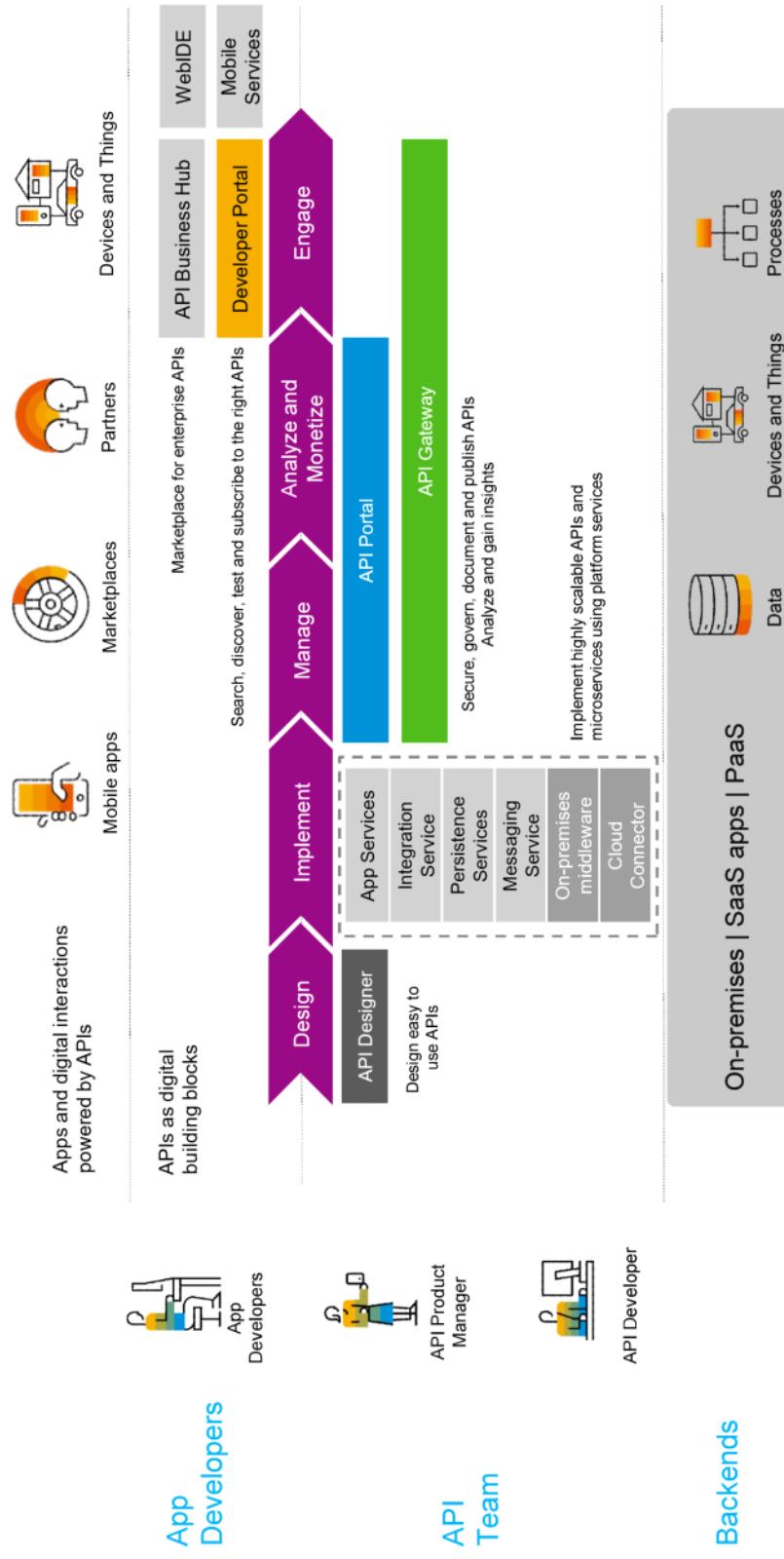
# Personas and interactions



## Personas and interactions

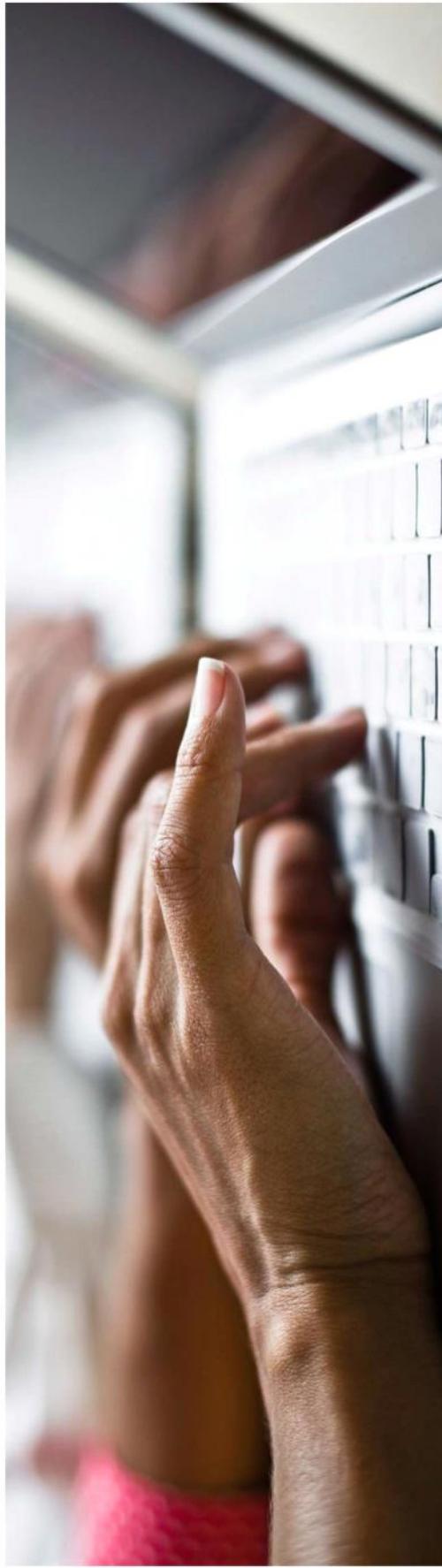


## Full lifecycle API Management with SAP



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# Features and functions



# API Portal: API Designer

{ } Design-first approach

- OpenAPI support
- Import your APIs from:
  - RAML
  - Odata
- Generate Server Stubs
  - NodeJS
  - JAX-RS
  - Spring
- Generate API in API Management

The screenshot shows the SAP API Management API Designer interface. On the left is a code editor with Raml code:

```
swagger: '2.0'
info:
  title: 'FinServDemo API'
  version: '1.0'
  description: 'This API provides information about bank branches. It uses OAuth2 authentication. The API key provided by the developer portal is required for authentication. The radius (in km) in which to search for branches is optional. The radius must be between 0 and 1000. The API returns all branches within the specified radius or all branches if no radius is specified.'
```

On the right is a detailed API documentation panel for the `/branches` endpoint:

Method	Path	Description
GET	/branches	Returns all branches
GET	/branches?radius={radius}	This method returns all branches of the bank located within the radius of the postal code. Example of use: /branches?radius=123&postalCode=d5123&radius=25

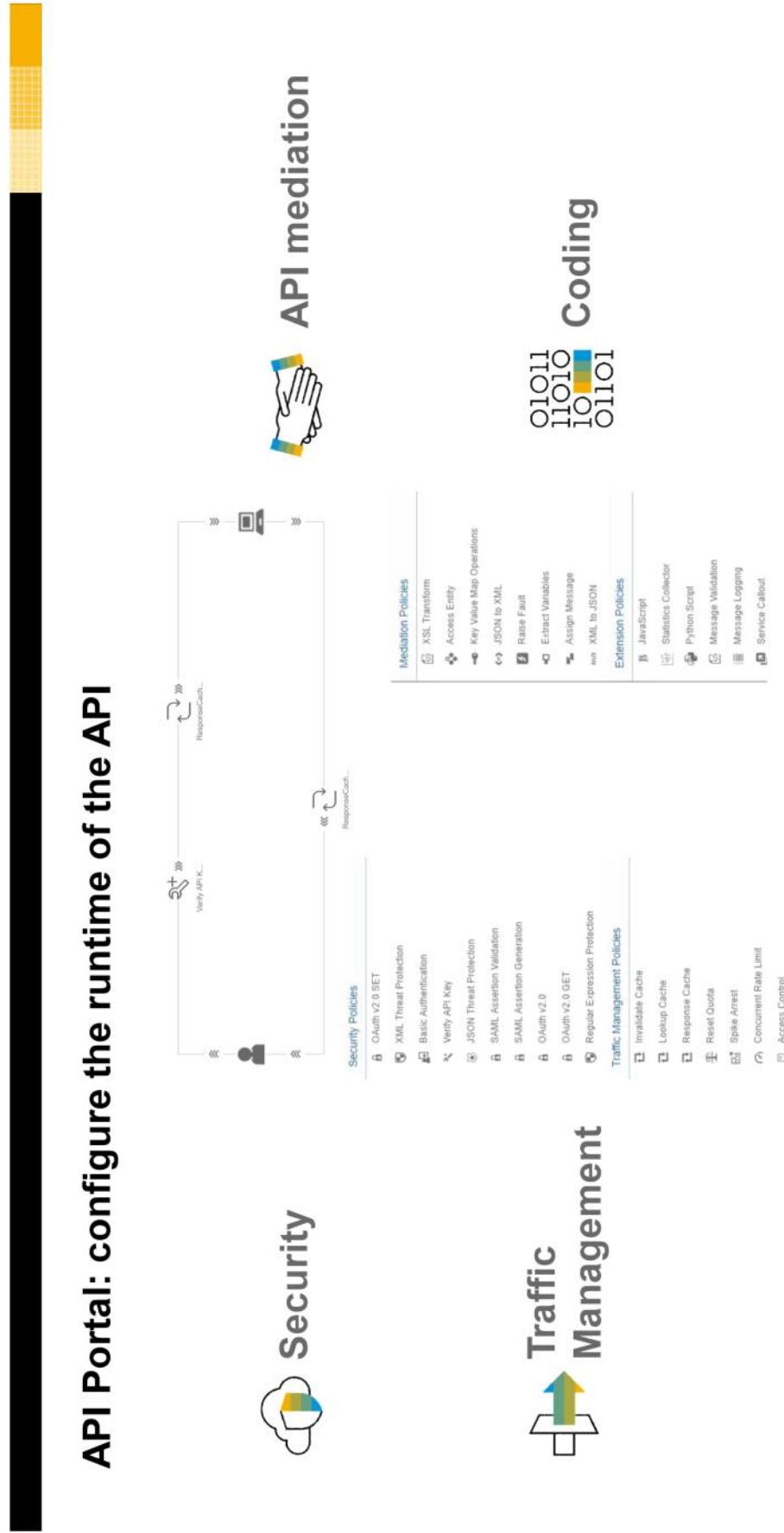
The panel also shows parameters, responses, and descriptions for the API.

## API Portal: Proxies

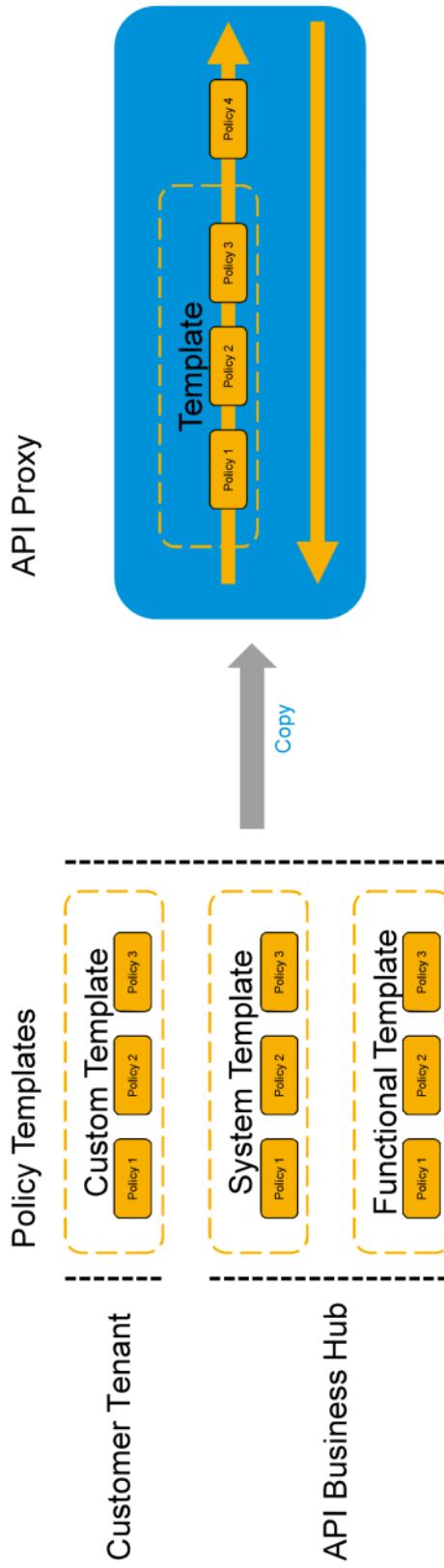
 Hide internal information and add specific behavior



## API Portal: configure the runtime of the API



## API Portal: re-use configurations through templates



## API Portal: Security on all levels



The screenshot shows the SAP API Portal Policy Editor interface. At the top, there's a navigation bar with 'API Portal' and other tabs. Below it is a search bar and a toolbar with icons for 'Create', 'Edit', 'Delete', etc. The main area is divided into several sections:

- Policy Editor:** Shows a flow diagram with nodes like 'Proxy Endpoint', 'Proxy Flow', 'BasicAuth...', 'Amplify...', 'TargetEndpoint', 'Proxy Flow', 'Amplify...', 'BasicAuth...', and 'ResponseCache...'. Arrows indicate the flow between these nodes.
- Condition String:** A code editor containing an XML snippet for threat protection conditions.
- XML Threat Protection:** A section showing a complex XML configuration for threat protection.
- Created Policies:** A list of security policies:
  - BasicAuth
  - FilterAll
  - FilterDyna
  - ResponseCache
  - RepPathFilters
  - SAMLAuthentication
  - VerifyAPICall
  - VerifyAPICall
  - XMLThreatProtection
- Policy Template:** A list of policy templates:
  - OAuth on OData
  - XML Threat Protection
  - Basic Authentication
  - Verify APICall
  - JSON Threat Protection
  - SAML Assertion Validation
  - SAML Assertion Generation
  - OAuth on OData
  - OAuth on GET
  - Regular Expression Protection
  - Traffic Management Policies
  - Transient Cache
  - Lookup Cache
  - Response Cache
  - Request Options
  - Static Assets
  - Consumer User List
  - Access Control
  - Published Cache
  - QoS
  - Mediation Policies
  - ABC Translation
  - Access Entry

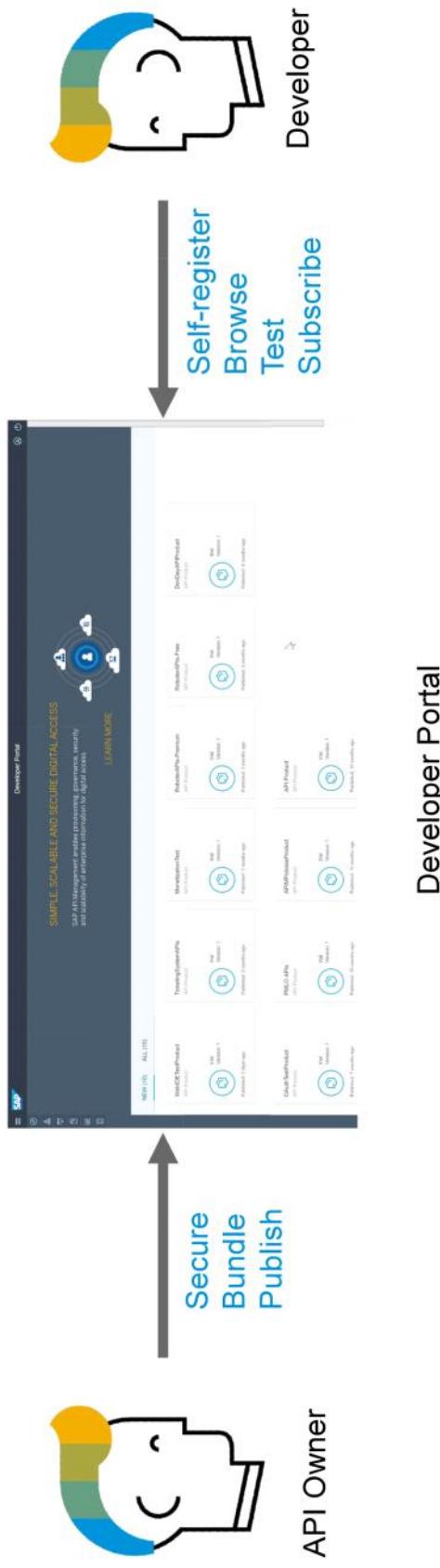


## API Portal – Developer Portal: publish APIs

 **Developer self-registration**

 **Documentation and testing**

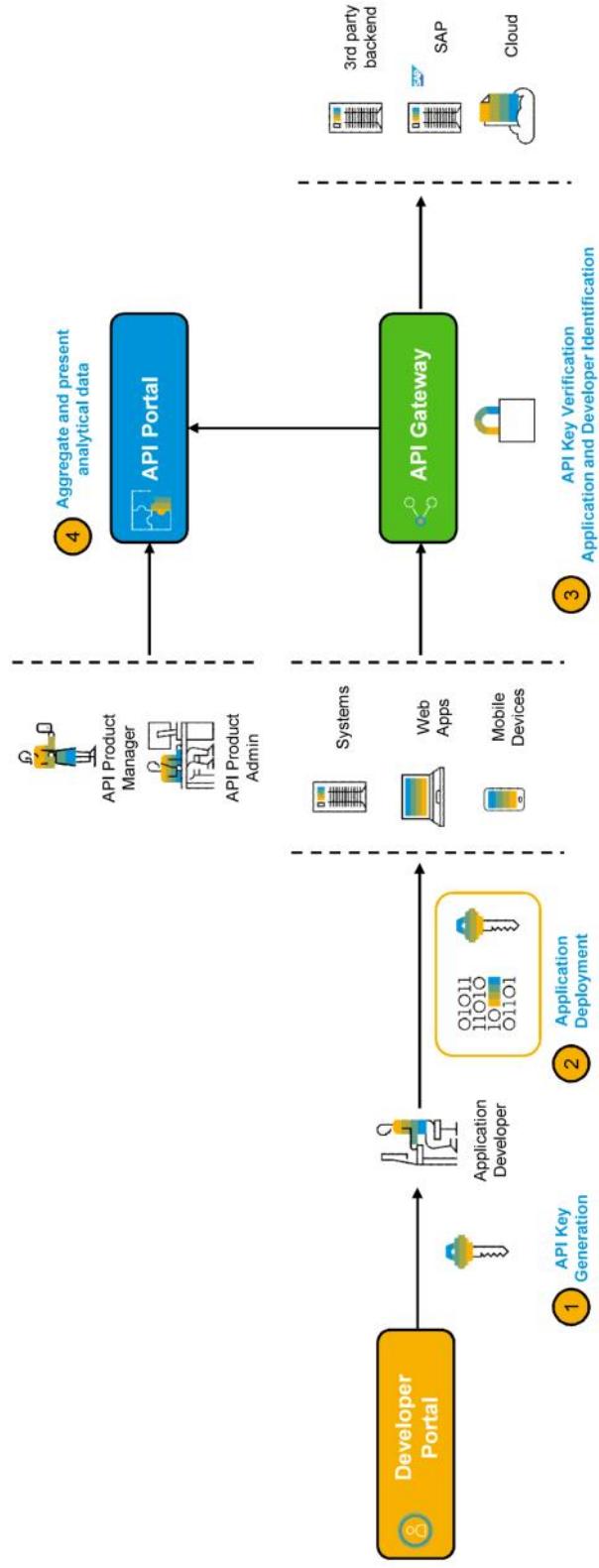
 **API Subscription**



## API Portal – Developer Portal: integrated API key



Track developer and application API usage through the API Key



## API Portal: Analytics



## API Program Analysis



## Custom Dashboards



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## API Management: Monetize



Create flexible rate plans



Provide billing to API users

SAP API Portal

Create Rate Plan

Plan Overview

Name: DataPlan

Description:

Frequency: Monthly

Currency: EUR

Rate Plan Type: Tar

Tariff

API Calls From	API Calls To	Rate per API Call
0	1000	0.10
1001	5000	0.05
5001	unlimited	0.02

## Additional features

1. **Custom Templates**  
Re-use enterprise-wide API patterns: **centralize governance**.



2. **Pre-defined Policy Templates**

Typical operations such as data filtering, CORS, SQL Threat Protection, URL Masking, error handling, quota, ... are available out-of-the-box from SAP: **speed-up configuration**.



3. **Interpretation of OData metadata**

OData metadata interpreted in SAP API Management (Resources, Documentation, ...): **speed-up documentation and reduce errors**.



4. **SAP API Management APIs**

Access artifacts and analytical information of SAP API Management through APIs: **automate operations and integration into monitoring tools**.



## A platform approach: integration into SCP

1. **SAP Gateway Hub support**  
Through the „Discovery“ feature: automatic creation of APIs including documentation and resources for SAP backend integration: **reduce implementation time and errors.**  

2. **OpenAPI (fka. Swagger) support**  
All SAP APIs are available in the API Business Hub as OpenAPI artifacts and API proxies can be created from OpenAPI definition files:  
**re-use your assets to speed up your API project.**  

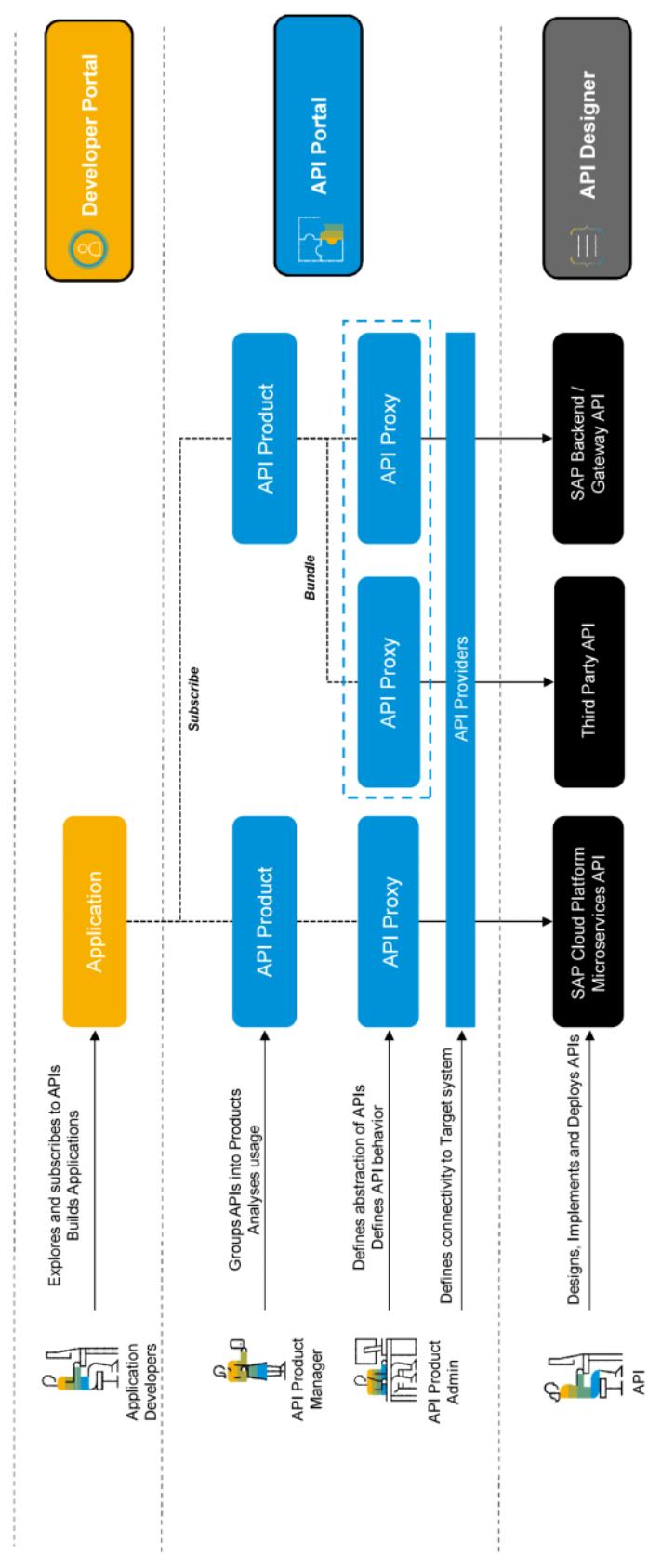
3. **CloudFoundry support**  
Automatic binding of Cloud Foundry applications to API management, generation of stubs from the API Designer to be deployed directly in CF: **centrally manage your APIs from any platform**  

4. **WebIDE support**  
Discovery and usage of APIs from the Developer Portal in WebIDE:  
**simplify your Developer's work.**  


# Components



## API Management: Personas and Components



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## SAP API Management Platform – [API Portal](#)

**SAP API Management Portal** is the main entry-point for the API Builder / API Owner. From here the API Owner can:

- Create and manage API Providers
- Create and manage API Proxies
- Create and manage Products
- Analyze the usage of APIs
- Create and manage rate plans



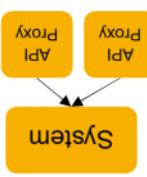
## SAP API Management Platform – API Portal – API Provider

- Logical representation of a backend
- Not mandatory
- Simplifies management (eg. transport)
- Simplifies discovery

System

The screenshot shows the SAP API Management Platform's API Portal interface. At the top, there's a navigation bar with links: Home, View API Provider (which is selected), Discover, Develop, Monitorize, Analyze, and Test. On the right side of the header, there are 'Edit' and 'Delete' buttons. The main content area is titled 'XSEngine'. It displays details such as 'Created By: D080245' and 'Changed On: 8/24/2017, 12:48:07 PM'. Below this, there are tabs for 'CONNECTION', 'AUTHENTICATION', and 'CATALOG SERVICE SETTINGS'. Under 'CONNECTION', it shows 'Description: dev01at015o4.hana.ondemand.com', 'Host: \*', 'Port: 443', 'Use SSL: checked', and 'On-Premise: unchecked'. Under 'AUTHENTICATION', it shows 'HANA XS Engine'.

## SAP API Management Platform – API Portal – API Proxies

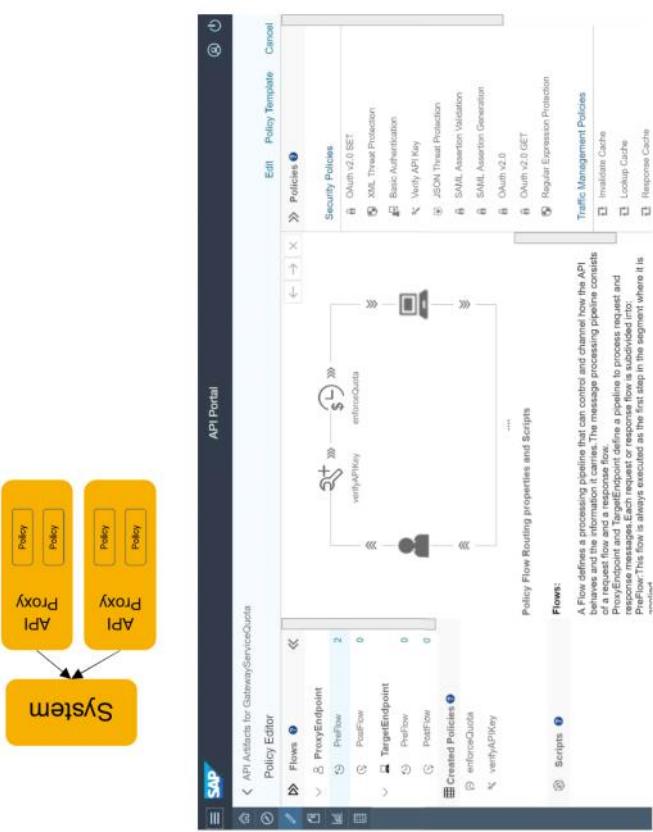


- Facade of an existing REST API or SOAP service
- API Proxy allows for:
  - Hiding internal implementation information
  - Versioning
  - Security, Traffic Management, Transformation
  - Documentation
  - Usage analytics
  - Technical analytics

API Portal					
API PROVIDERS (10)		CERTIFICATES (0)	APIs (27)	PRODUCTS (12)	APPLICATIONS (11)
		Import API			
Name	Status	Type	Last Updated	Description	Calls Per This Month [TENANT]
XS	Deployed	ODATA	8/24/2017 2:51:49 PM		1
GatewayServiceCloud	Deployed	REST	8/11/2017, 10:44:27 AM		98
TicketSystemAPI	Deployed	REST	7/26/2017, 9:27:57 AM	TokenSystemAPI	2
PromotionSystemAPI	Deployed	REST	7/26/2017, 9:27:57 AM	This is the API of the one-promises promotion system of the	3
PolicyTemplateExample	Deployed	REST	3/21/2017, 9:46:40 AM		0
LackierarbeitenAPI	Deployed	REST	3/26/2017, 1:51:39 PM	Diese API stellt alle Sonderarbeiten vom Lackierarbeiter bereit.	0
SchneidarbeitenAPI	Deployed	REST	2/22/2017, 3:19:44 PM	Diese API stellt alle Sonderarbeiten vom Schneidarbeiter bereit.	0
SchweiessarbeitenAPI	Pending	REST	2/22/2017, 3:19:44 PM	Diese API stellt alle Sonderarbeiten vom	n

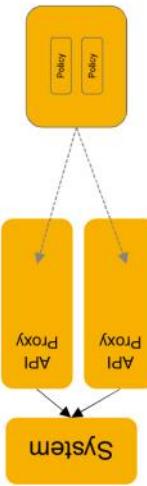
## SAP API Management Platform – API Portal – API Proxies - Policies

- Pre-defined, configurable behavior
- Used in the **Policy Editor**, and positioned on the **request or response**
- Preconfigured for:
  - Security
  - Traffic Management
  - Message transformation
  - Caching
- Coding can be added through Java Script



## SAP API Management Platform – API Portal – Policy Templates

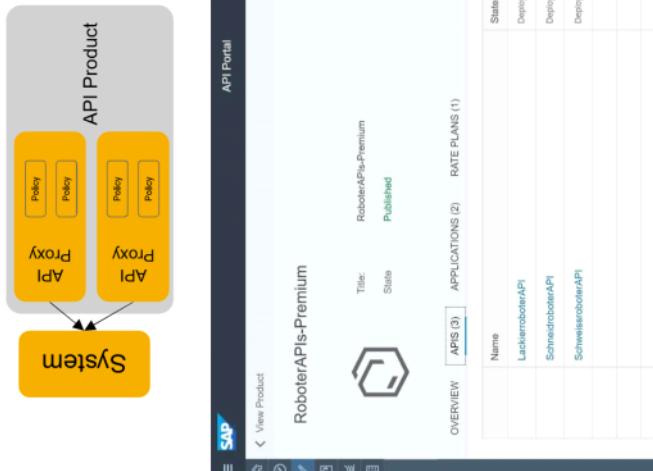
- Bundle of policies that can be re-used
- Can be created and managed individually
- Can be re-used from the SAP API Business Hub



The screenshot shows the SAP API Portal interface. In the top navigation bar, there are links for 'API PROVIDERS (10)', 'CERTIFICATE', and 'API PORTAL'. The main content area is titled 'POLICY TEMPLATES (6)'. A sub-menu 'Template Details' is open, showing a table with one row for 'FilterResponse'. The table includes columns for 'Name', 'Description', 'Available Policies', and 'Actions'. The 'Actions' column contains icons for edit, delete, and copy. The 'Description' field states: 'This policy template lets you filter specific fields out of an XML or JSON response'. The 'Available Policies' section lists several other policy types with their descriptions.

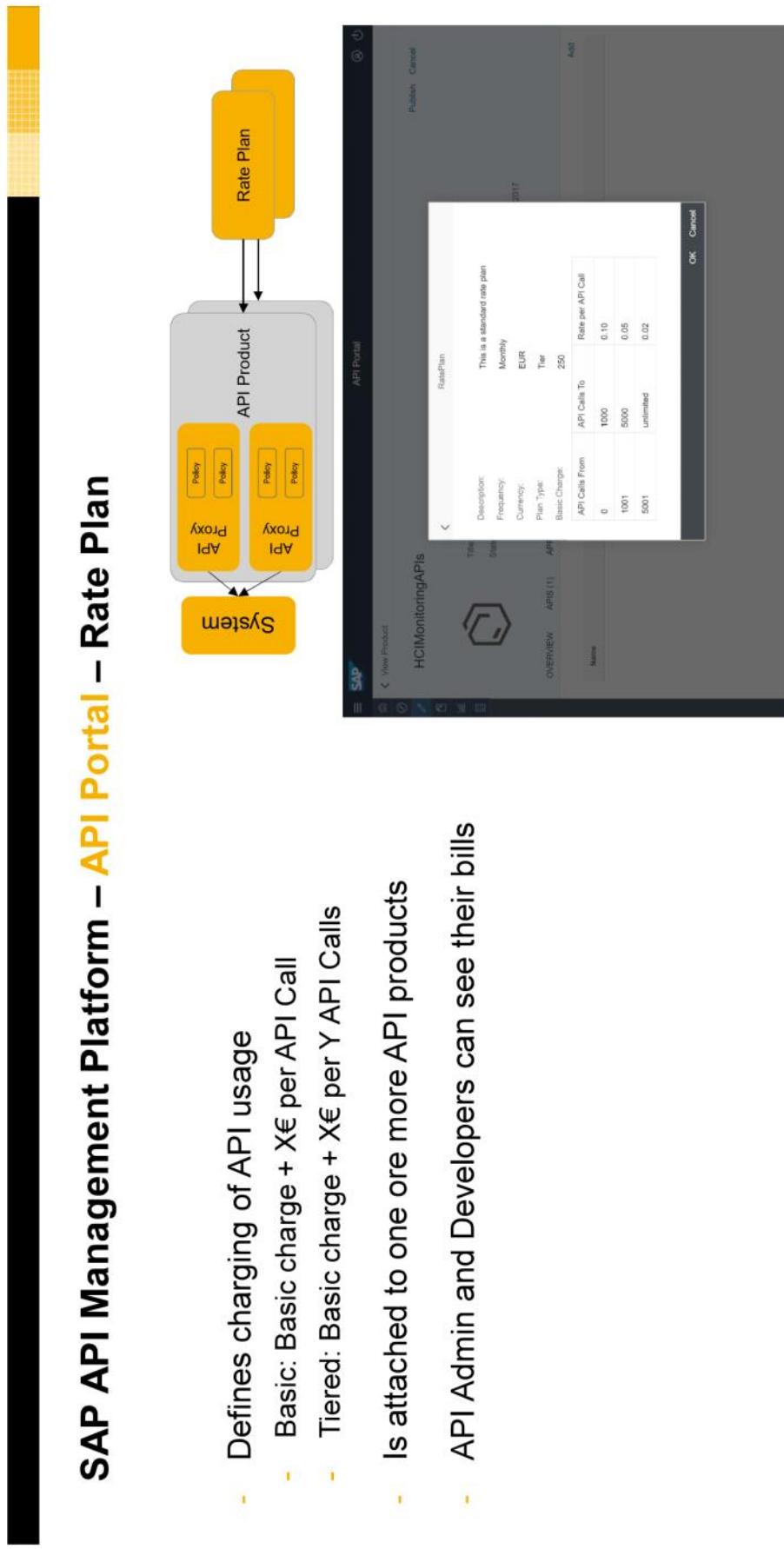
## SAP API Management Platform – **API Portal** – Product

- Logical bundle of APIs
- Can be configured with Quota:
  - Premium Product with ilimited use
  - Standard Product with 1000 API Calls/Month
- Developers subscribe to API Products in the Developer Portal

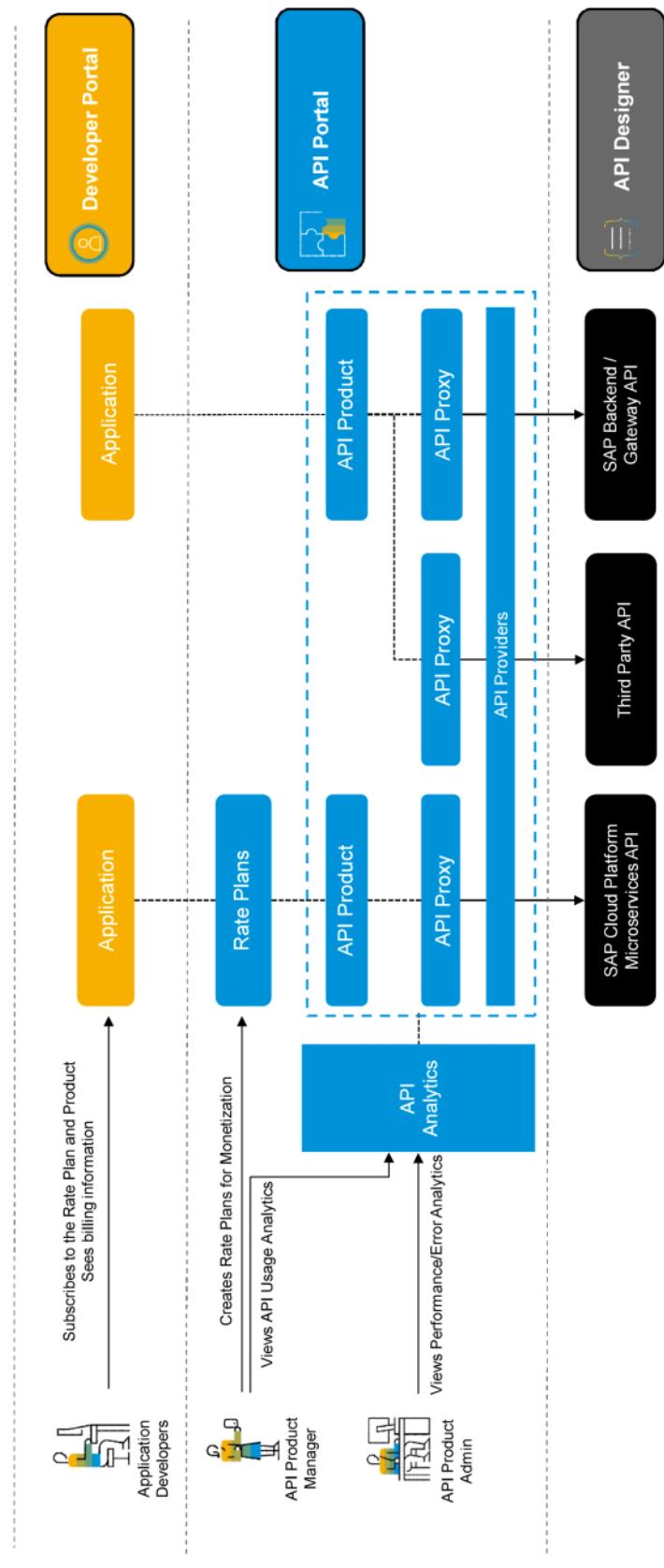


## SAP API Management Platform – API Portal – Rate Plan

- Defines charging of API usage
- Basic: Basic charge + X€ per API Call
- Tiered: Basic charge + X€ per Y API Calls
- Is attached to one or more API products
- API Admin and Developers can see their bills

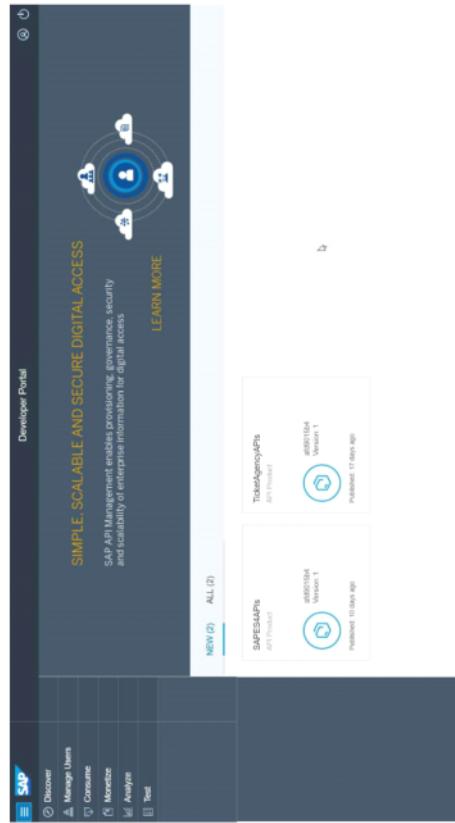


## API Portal: Monetize



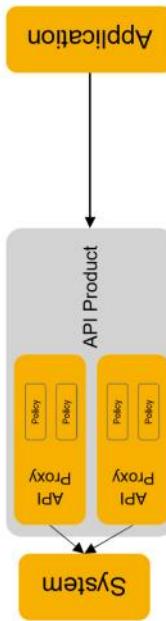
## SAP API Management Platform – Developer Portal

- main entry-point for the application developer
- Developers self-register and can:
  - Discover available products and the API Proxies which are included,
  - Test APIs online,
  - **Subscribe to an API product** by creating an **Application** (a representation of the „real“ application which he will develop),
  - Manage his API keys.



## SAP API Management Platform – Developer Portal – Application

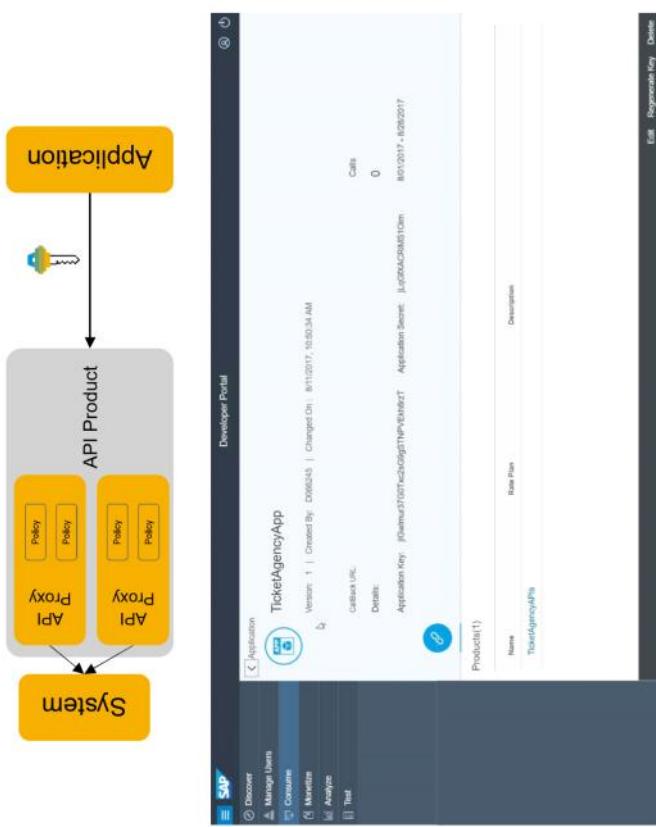
- Applications represent an **API consumer**
- Applications can be Apps, Web applications, ...  
it is not relevant.
- Upon subscription, an API key is created



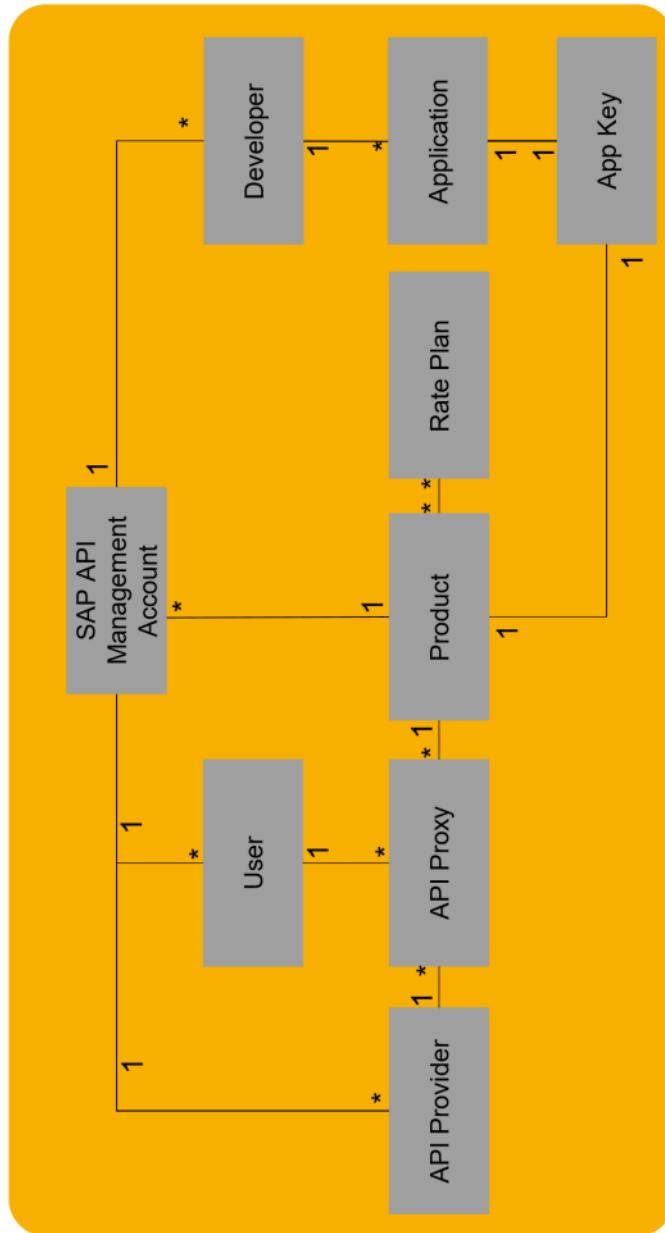
The screenshot shows the SAP API Management Platform's Developer Portal interface. The main title is "TicketAgencyApp". The page displays various details about the application, including its name ("TicketAgencyApp"), creation date ("2017-01-11"), and creator ("System"). It also shows statistics like "Calls: 0" and "Details: 0". The "Details" section includes fields for "Application Key" and "Application Secret". On the left, there is a sidebar with links like "Discover", "Manage Users", "Create API", "Monitor", "Analyze", and "Test". The bottom right corner of the screenshot has a small note: "© 2017 SAP SE or an SAP affiliate company. All rights reserved. | INTERNAL".

## SAP API Management Platform – Developer Portal – App Key

- Each Application is tied to a Developer through an **API Key**: the API key identifies the Application, and is used primarily for analytics
- It is a **best-practice** to use API keys
- API keys are managed by the Application Developers
- API Key is not a security feature!



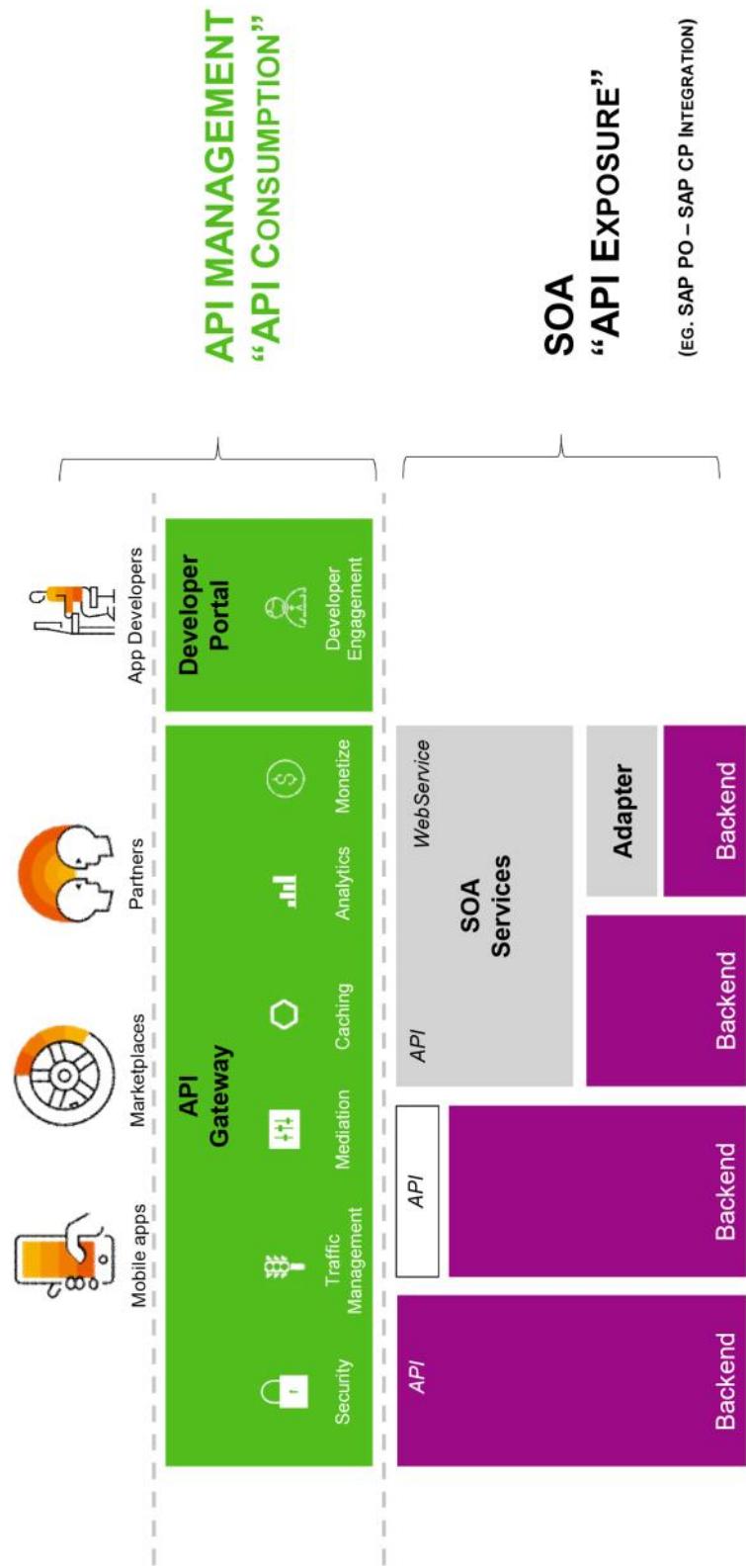
## Concepts of API Platform for SAP API Management



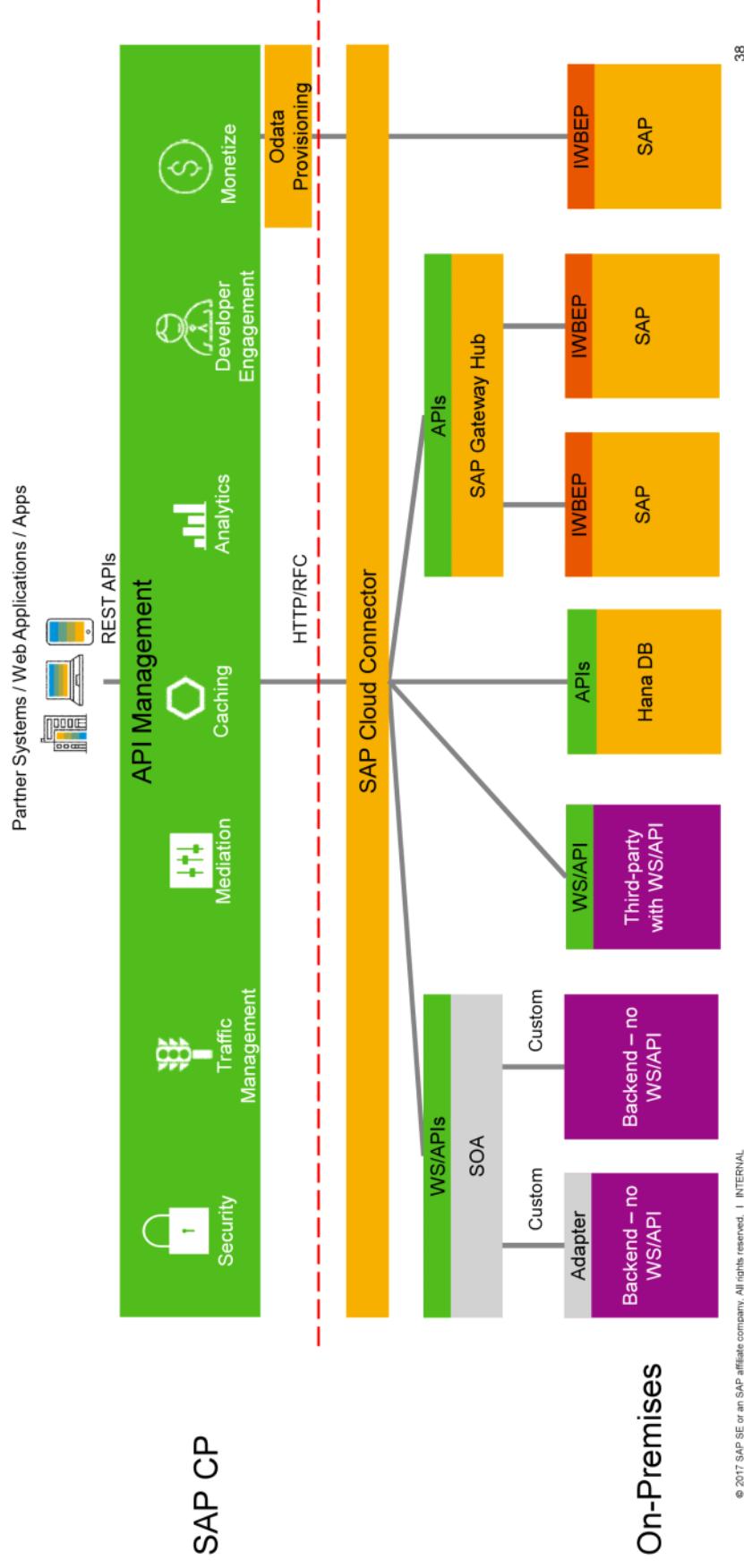
# Architecture



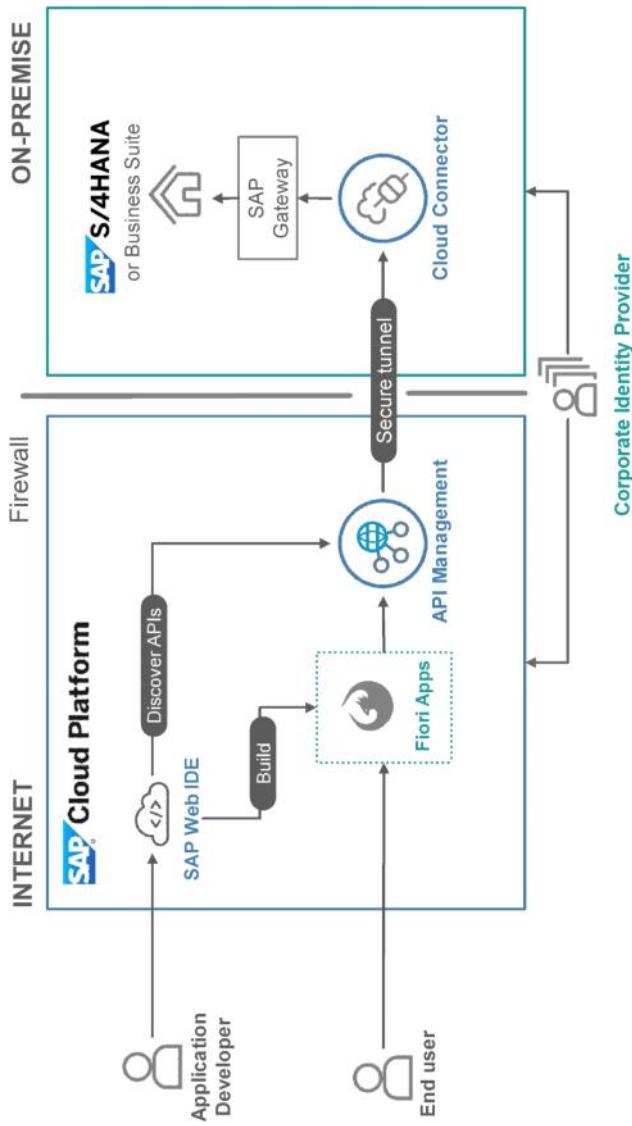
## SAP API Management – High-Level Architecture



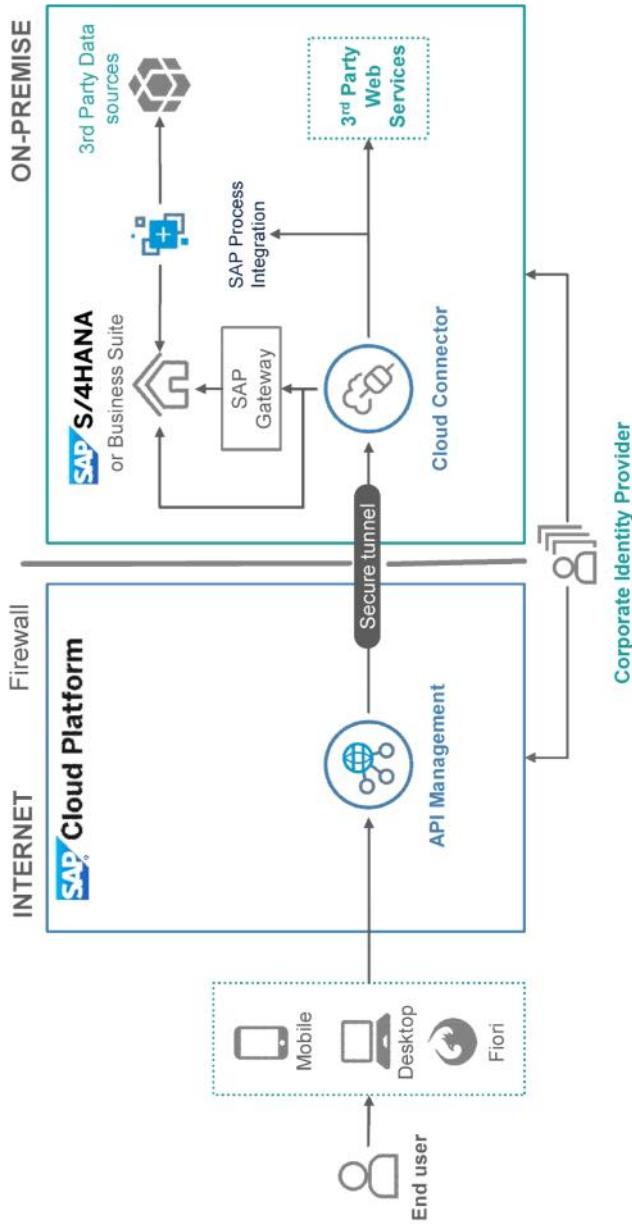
## High-Level Architecture in an SAP Ecosystem



## Fiori apps with SAP API Management and Gateway – Web IDE Integrations



## SAP API Management and On Premise connectivity



## Additional information

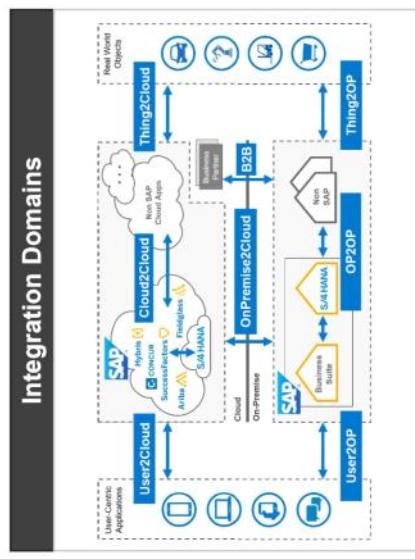


## One Platform for Process Integration and API Management

Both covered in SAP Cloud Platform Integration

Functions	Process Integration	API Management
Data Mapping	Complex data mapping	Limited
Process Orchestration	Exhaustive features, support for EAI patterns, persistence	Request-Reply pattern, Mash-Up capabilities
Adapters and Connectors	Exhaustive list	SOAP and APIs over HTTP
Scalability	Good	Built from ground up for high throughput and low latency
Authentication	SAML, Certificates	SAML, OAuth
Security	WS-Security, Encryption, Decryption, Signature	JSON and XML threat-protection, RegEx threat protection
Message formats	Exhaustive list	No specific message type, focus on XML and JSON
Developer Portal	No	Self-service Portal with API catalog capabilities
Traffic Management	No	Exhaustive features

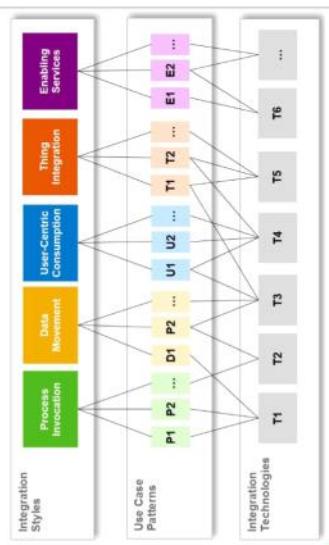
## Integration? Integration Solution Advisor - Methodology



### Integration Styles and Patterns



### Technology Mapping

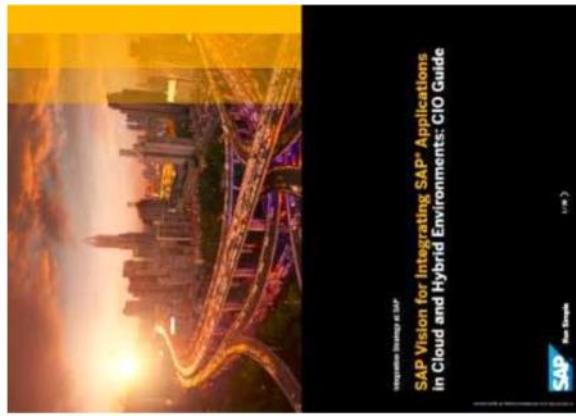


<https://blogs.sap.com/2016/03/04/int203-integration-solution-advisor-methodology-isa-m-sap-tauched-lecture-of-the-week/>

## CIO Guide

SAP's Vision for Integrating SAP Applications in Cloud & Hybrid Environments

- Outlines SAP's long-term integration strategy
- Focus on scenarios in the cloud and in hybrid environments
- Technology Recommendations
  - Process Integration
  - Data Integration
- Outlook & future strategy including application design and integration technology



## More information...

Try it out on SAP Cloud Platform Trial!

<https://blogs.sap.com/2016/02/10/how-to-use-sap-api-management-on-hcp-trial/>

Enterprise Architecture Explorer:

<https://eaexplorer.hana.ondemand.com/item.html?id=11470#/overview>

Sap.com:

<https://www.sap.com/germany/product/technology-platform/api-management.html>

Blogs:

<https://blogs.sap.com/tags/67838200100800006828/>

The screenshot shows the SAP API Management cloud edition homepage. At the top, there's a navigation bar with links for Products, Industries, Support, Training, Community, and Developer. Below the navigation, there's a main content area with several cards. One card is titled "SAP API Management, cloud edition" and has a link to "Display All Content". Another card is titled "API Cloud Platform Side for iOS" and discusses the transition from REST to App Backend. There are also cards for "API Cloud Platform Side for iOS 2.0", "API Business Hub", "API Business Integration", and "API Cloud Platform Side for OS". Each card includes a small profile picture of a person and some descriptive text.

## Jump Start Service Package for SAP API Management



**FAST**  
3 days hands-on, onsite training workshop to kick-off



**RELEVANT**  
Get a comprehensive overview over API Management



**PRACTICAL**  
Actively work on customer use cases and APIs hands-on



Service Category	Description	Amount	Price per Day	SUM
G3	Design Service, Education Service	6	1.625,40 EUR	9.752,40 EUR

**Thank you!**

Sven Huberti  
Sven.Huberti@sap.com



# Helpful links

Thursday, October 6, 2022 7:38 AM

<a href="https://www.sap.com/products/technology-platform/integration-suite/pricing.html#cpea">https://www.sap.com/products/technology-platform/integration-suite/pricing.html#cpea</a>	Pricing CPEA funds
<a href="https://blogs.sap.com/2017/08/18/sap-api-management-faq/">https://blogs.sap.com/2017/08/18/sap-api-management-faq/</a>	FAQs
<a href="https://help.sap.com/doc/980f5f55402145b1ad140359a7257229/CLOUD/en-US/Unit%20-%20Overview%20of%20SAP%20API%20Management%20and%20its%20Components.pdf">https://help.sap.com/doc/980f5f55402145b1ad140359a7257229/CLOUD/en-US/Unit%20-%20Overview%20of%20SAP%20API%20Management%20and%20its%20Components.pdf</a>	API management technical components

# SAP Cloud Migration

Friday, February 17, 2023 12:18 PM

<https://www.sap.com/products/technology-platform/integration-suite/migration.html>

Overton, Bill

**Event Driven Architecture Strategic Roadmap**

The slide illustrates a three-phase implementation strategy:

- Initial Implementation (2023):**
  - WHAT:** CURRENTLY HAVE: No features currently deployed.
  - NEW CAPABILITIES:** Foundational Capabilities (Project Center, Direct Connect, Relato).
  - WHERE:** CURRENTLY IN: No current users, working on initial MVPs.
- Expanded Implementation (2024):**
  - WHAT:** Begin deployment of Confluent Kafka.
  - NEW CAPABILITIES:** Aerospace MfgPro.
  - WHERE:** Project Center, Direct Connect, Relato.
- Enterprise Self-Service Model (2025+):**
  - WHAT:** Expand producer and consumer applications, engage additional Value Chain teams.
  - NEW CAPABILITIES:** Order Center, Kinaxis.
  - WHERE:** Self-service DevOps automation, automated governance, templatization.

Maturity Key:

- Does not exist
- Exists
- Modern
- Automated
- Self-Service
- Rising

Target Maturity (Yellow circle)

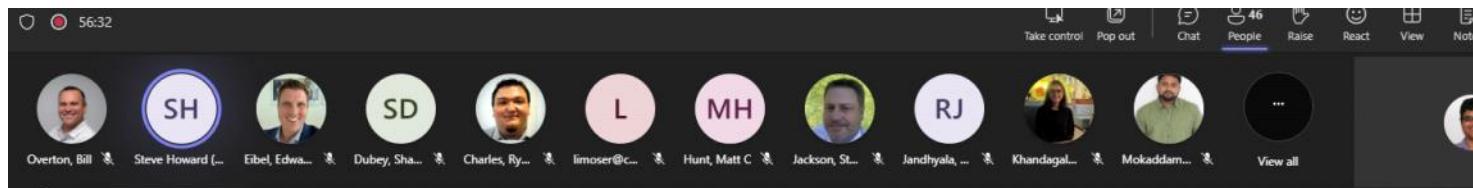
© 2023 Eaton. All rights reserved.

Slide 16 of 18 English (U.S.)

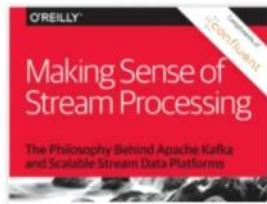
# Useful links

Wednesday, August 30, 2023 8:48 AM

<a href="https://www.confluent.io/hub/">https://www.confluent.io/hub/</a>	
<a href="https://developer.confluent.io/home/">https://developer.confluent.io/home/</a>	
<a href="https://resources.confluent.io/">https://resources.confluent.io/</a>	



## Resources Site



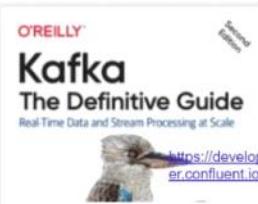
Making Sense of  
Stream Processing

Read Ebook



Mastering Kafka  
Streams and ksqlDB

Read Ebook



Kafka: The Definitive  
Guide v2

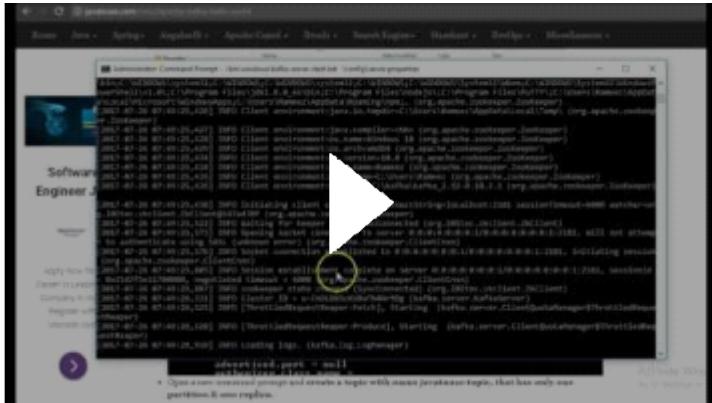
Read Ebook

<https://resources.confluent.io>

# Kafka - Java simple example

Wednesday, August 30, 2023 10:54 AM

## Starting Apache Kafka on Windows - Hello World Example



<https://www.javainuse.com/misc/apache-kafka-hello-world>

# Getting Started with Apache Kafka - Hello World Example | JavaInUse

Wednesday, August 30, 2023 10:55 AM

Clipped from: <https://www.java-inuse.com/misc/apache-kafka-hello-world>

Home Java ▾ Spring ▾ Angular ▾ Full Stack ▾ Apache Camel ▾ Cloud Frameworks ▾ Messaging ▾ Drools ▾

Search Engine ▾ Hazelcast DevOps ▾ Webseries Crypto Tools Azure Certifications ▾ Online Certifications

## Getting Starting with Apache Kafka

In this post we will download and start an Apache Kafka instance.

Apache Kafka is an open-source stream processing platform developed by the Apache Software Foundation written in Scala and Java. The project aims to provide a unified, high-throughput, low-latency platform for handling real-time data feeds.



The Advantages of using Apache Kafka are as follows-

- **High Throughput-**

The design of Kafka enables the platform to process messages at very fast speed. The processing rates in Kafka can exceed beyond 100k/seconds. The data is processed in a partitioned and ordered fashion.

- **Scalability-**

The scalability can be achieved in Kafka at various levels. Multiple producers can write to the same topic. Topics can be partitioned. Consumers can be grouped to consume individual partitions.

- **Fault Tolerance-**

Kafka is a distributed architecture which means there are several nodes running together to serve the cluster. Topics inside Kafka are replicated. Users can choose the number of replicas for each topic to be safe in case of a node failure. Node failure in cluster won't impact. Integration with Zookeeper provides producers and consumers accurate information about the cluster. Internally each

impact. Integration with Zookeeper provides producers and consumers accurate information about the cluster. Internally each topic has its own leader which takes care of the writes. Failure of node ensures new leader election.

- **Durability-**

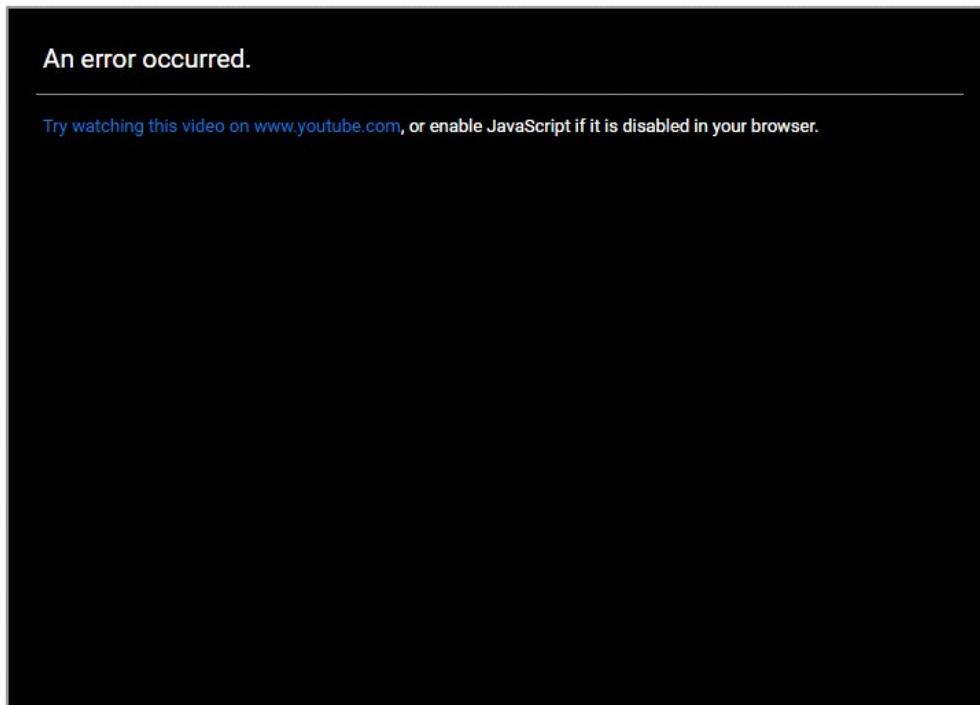
Kafka offers data durability as well. The message written in Kafka can be persisted. The persistence can be configured. This ensures re-processing, if required, can be performed.

#### RabbitMQ - Table Of Contents

[What is Apache Kafka](#)  
[Understanding Apache Kafka Architecture](#)  
[Internal Working Of Apache Kafka](#)  
[\*\*Getting Started with Apache Kafka - Hello World Example\*\*](#)  
[Spring Boot + Apache Kafka Example](#)

## Video

This tutorial is explained in the below Youtube Video.



## Lets Begin-

Got to the [Apache Kafka downloads page](#) and download the  
<https://kafka.apache.org/download> the **Scala 2.12 kafka\_2.12-**

Got to the [Apache Kafka downloads page](#) and download the  
<https://kafka.apache.org/download> the **Scala 2.12 kafka\_2.12-0.10.2.1.tgz**



Next unzip it to a particular location-



We will now start Apache Kafka-

- This Kafka installation comes with an inbuilt zookeeper. Zookeeper is mainly used to track status of nodes present in Kafka cluster and also to keep track of Kafka topics, messages, etc.

Open a command prompt and **start the Zookeeper**-

```
C:\kafka_2.12-0.10.2.1>.\bin\windows\zookeeper-server-start
```



- Open a new command prompt and **start the Apache Kafka**-

```
C:\kafka_2.12-0.10.2.1>.\bin\windows\kafka-server-start
```



- Open a new command prompt and **create a topic with name javainuse-topic, that has only one partition & one replica**.

```
C:\kafka_2.12-0.10.2.1>.\bin\windows\kafka-topics.bat
```



- Next Open a new command prompt and **create a producer to send message to the above created javainuse-topic and send a message - Hello World Javainuse to it**-

```
C:\kafka_2.12-0.10.2.1>.\bin\windows\kafka-console-producer.bat
Hello World Javainuse
```



- Finally Open a new command prompt and **start the consumer which listens to the topic javainuse-topic we just created above**. We will get the message we had sent using the producer

```
C:\kafka_2.12-0.10.2.1>.\bin\windows\kafka-console-consumer.bat
```

```
C:\kafka_2.12-0.10.2.1>.\bin\windows\kafka-console-consumer.bat --bootstrap-servers localhost:9092 --topic boot21_7
```



#### See Also

[Spring Boot + Apache Kafka Example](#)  
[Spring Boot Tutorial-Spring Data JPA](#)  
[Spring Boot + Simple Security Configuration](#)  
[Pagination using Spring Boot Simple Example](#)  
[Spring Boot + ActiveMQ Hello world Example](#)  
[Spring Boot + Swagger Example Hello World Example](#)  
[Spring Boot + Swagger- Understanding the various Swagger Annotations](#)  
[Spring Boot Main Menu](#)  
[Spring Boot Interview Questions](#)

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- [Angular 7 + Spring Boot Application Hello World Example](#)
- [Build a Real Time Chat Application using Spring Boot + WebSocket + RabbitMQ](#)
- [Pivotal Cloud Foundry Tutorial - Deploy Spring Boot Application Hello World Example](#)
- [Deploying Spring Based WAR Application to Docker](#)
- [EIP patterns using Apache Camel](#)
- [Spring Cloud- Netflix Eureka + Ribbon Simple Example](#)
- [Spring Cloud- Netflix Hystrix Circuit Breaker Simple Example](#)
- [Spring Boot + Swagger Example Hello World](#)

### Example

- Spring Boot + Swagger Example Hello World Example
  - Spring Boot Batch Simple example
- 
- Spring Boot + Apache Kafka Example
  - Spring Boot Admin Simple Example
  - Spring Boot Security - Introduction to OAuth
  - Spring Boot OAuth2 Part 1 - Getting The Authorization Code
  - Spring Boot OAuth2 Part 2 - Getting The Access Token And Using it to Fetch Data.
  - JBoss Drools Hello World-Stateful Knowledge Session using KieSession
  - Understand Drools Stateful vs Stateless Knowledge Session
  - JBoss Drools- Understanding Drools Decision Table using Simple Example

## See Also

- Spring Batch Interview Questions
- Spring AOP Interview Questions
- Angular 2 Interview Questions
- Apache Camel Interview Questions
- JBoss Fuse Interview Questions
- Drools Interview Questions
- Java 8 Interview Questions
- Spring Cloud Interview Questions

- Java 8 Interview Questions
- Spring Cloud Interview Questions
- Microservices Interview Questions
- Java HashMap and ConcurrentHashMap Interview Questions
- Mule ESB frequently asked interview questions
- Apache Kafka Interview Questions
- Tosca Testing Tool Interview Questions
- Top Maven Build Tool Interview Questions
- Top Gradle Build Tool Interview Questions
- Top Cosmos DB Interview Questions
- Miscellaneous Topics

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# Kafka Tech Talk - Integration with Kafka Connect

Wednesday, August 30, 2023 11:12 AM

**Meeting Date:** 8/30/2023 8:00 AM

**Location:** Microsoft Teams Meeting

**Link to Outlook Item:** [click here](#)

**Invitation Message**

**Participants**

## Notes

# Decoupling: When to use a broker like SAP Event Mesh – integration://excellence – The blog of Whitepaper InterfaceDesign

Clipped from: <https://www.integration-excellence.com/decoupling-when-to-use-a-broker-like-sap-event-mesh/>

We often hear "we need a messaging broker to be able to decouple applications". Moving away from Point-To-Point-Integration is really great to remove the dependencies between systems. But what does decoupling (or loose coupling) mean and which dimensions does it bring?

Here's an overview (for more [check out this video from AWS re:invent by Gregor Hohpe](#)):

Decoupling	Runtime (async messaging)	Data Format (XML, JSON, ...)	Data Structure (Address)
<b>Broker</b> (e.g. SAP Event Mesh)	X		
<b>API-M</b> (e.g. SAP API Management)		(X)	(X)
<b>ESB</b> (e.g. SAP Cloud Integration)	X	X	X

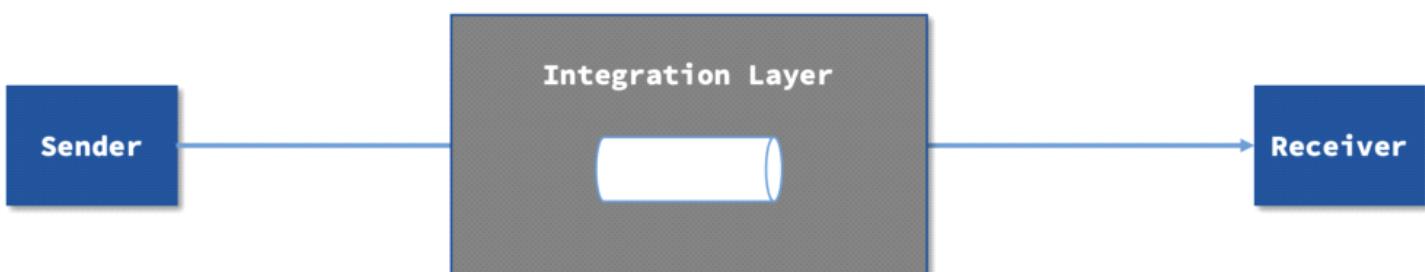
## Decoupling dimensions

Among all different types of dependencies we look at the most important ones:

- **Runtime** dependencies can be solved with asynchronous messaging, where the sender (system) can submit a message to the middleware and this is independent from the availability of the receiver.
- **Data Format** dependencies, where both systems have to speak the same technical language (XML/JSON/CSV/...). The decoupling takes place via converters. In API-M this can be solved with policies.
- **Data Structure** dependencies look at structural, technical and semantic differences of the fields and elements, which can include
  - the structure and arrangement of field names in a message (e.g. ZipCode vs. ZIP),
  - the data type behind a field (e.g. string/int, null/empty),
  - the semantic content of a field, e.g. the country code (DE vs. GER)The decoupling done with mappings like XSLT (for XML) or scripting/programming or via graphical mapping tools. In API-M it can be also done via policies, but we would not recommend that way.

Going further in this article, let's even combine Data Format and Data Structure into Message Format (for simplification). SAP calls this "aligned APIs", when sender and receiver speak the same language and where no mediation is required through a middleware (which is performing transformations, message mappings and even protocol switch).

A broker is **decoupling runtime dependencies** through this pattern:

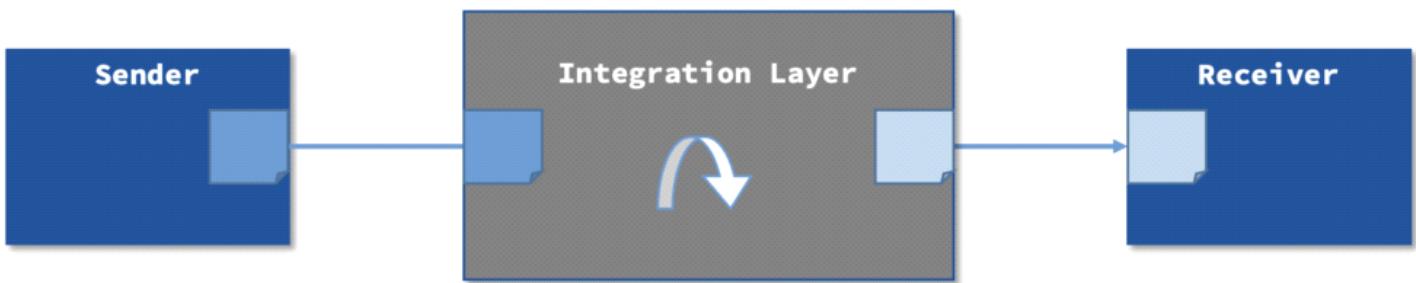


## Runtime Decoupling

There are many brokers available in the market, from our experience we see mainly those below, who serve this main purpose, but have different implementation approaches of course. They typically handle (only) protocols like AMQP, MQTT or plain HTTP. Messages are being exchanged through topics and/or queues and sometimes work with Webhooks (to push messages to consumers).

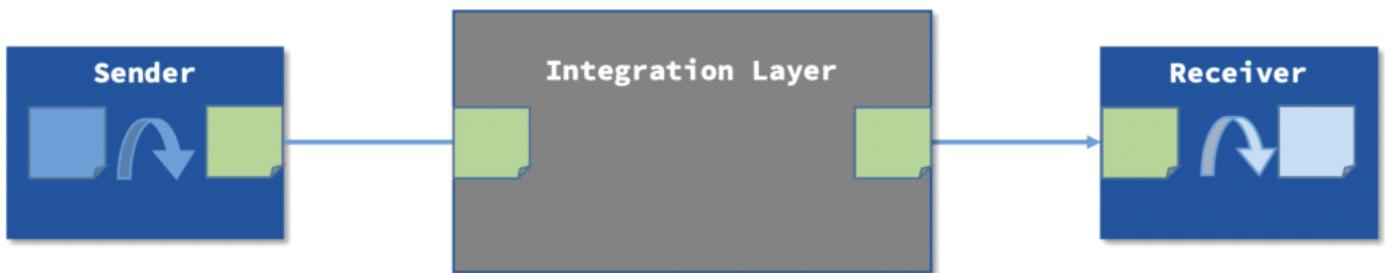
- Rabbit MQ
- Kafka (Confluent)
- Solace
- SAP Event Mesh, SAP Advanced Event Mesh (technology: Solace)
- Microsoft Service Bus
- AWS SQS

An ESB is **decoupling Message Format dependencies** through this pattern:



#### Message Format decoupling

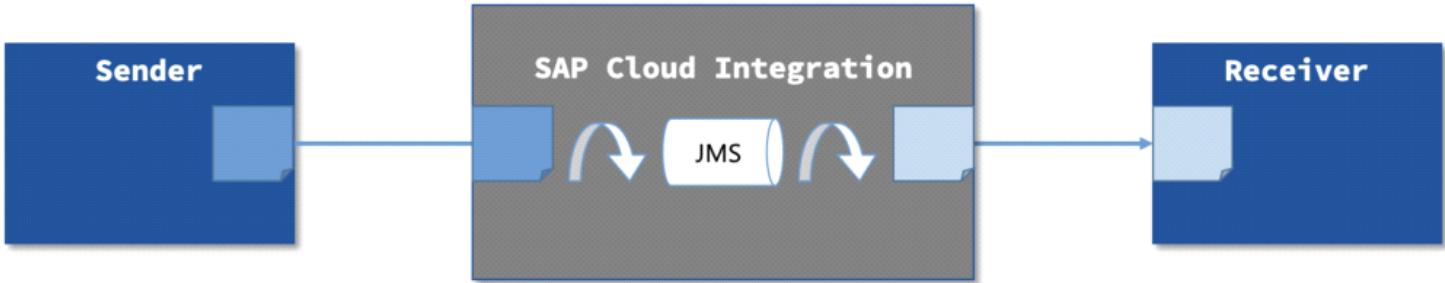
The main focus is to transform messages from one format to another. One can argue, this is creating a lot of "mediated point-to-point" integrations (which is true), but what is the alternative? Mediation here brings transparency and a clear approach to map the 2 different message formats. Solving this with a canonical data model, where all applications speak the same language is a nice theory, but the reality is hard: Each application has to map to this canonical data model with its own programming technique (which is rarely better)... In the end, connecting the dots (aligned message formats) through API Management or decoupled through a broker brings a mediated point-to-point landscape as well (at least from a connectivity point of view)!



#### Message Mapping in the applications

Actually **SAP Cloud Integration**, as an ESB, can decouple in all areas.

- There are standard transformers and converters to support Data Format Decoupling (JSON <-> XML <-> CSV), Zip/Unzip, Decode/Encode and Data Structure Decoupling (XSLT Mappings, Groovy/JavaScript Mappings, (graphical) Message Mappings in a low-code fashion).
- What many people forget: SAP Cloud Integration can also decouple the runtime through queuing mechanisms like JMS or Data Store. For more information on queuing check out [this article](#). The JMS-Queuing feature is technically based on SAP Event Mesh, which is a white-label product of Solace!



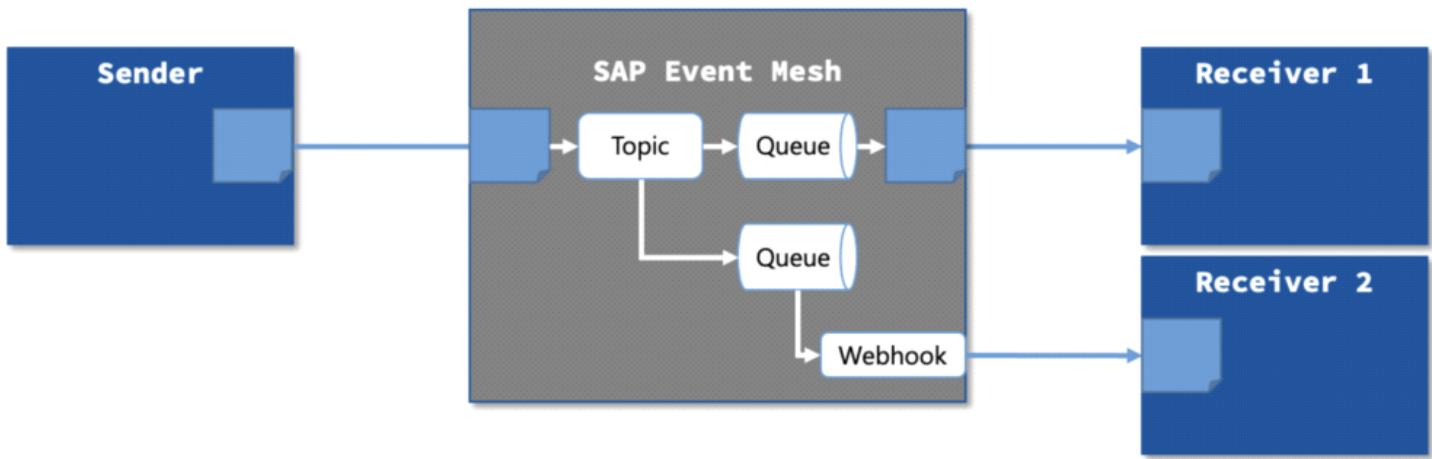
Runtime and Message Format Decoupling with SAP Cloud Integration

### **Do I still need a Broker?**

SAP Event Mesh can connect directly with event consumers or producers through AMQP, MQTT, JMS or HTTP, such as SAP S/4HANA, where a lot of events are available meanwhile (see [SAP API Business Hub](#)), so there is a natural fit. But choosing a broker in all asynchronous messaging depends on the use case.

### **PubSub**

The typical integration pattern is PubSub (Publish & Subscribe). You can easily configure a connection between different event producers and event consumers through topics and queues (or Webhooks where needed). This makes sense, if you dispatch the same event (message) to different receivers. However, please keep in mind, that you can send messages to multiple receivers as well by configuring this in a low-code environment.



PubSub with SAP Event Mesh

### **Replay**

Another aspect is a replay capability which is available with brokers like Kafka, Solace or SAP Advanced Event Mesh. You can go back e.g. 2 days and replay all messages that were processed through a particular topic or queue (typically for one receiver only).

### **Additional Aspects**

Brokers for Event-Driven Architectures serve the purpose of handling large volumes (but with a limited message size) in a scalable, low-latency way to decouple and ensure reliable messaging.

All of this can be achieved with SAP Cloud Integration, but with a higher price tag. SAP Cloud Integration is depending on the amount of messages (and volume: 1 message = 256 KB, so 1 MB = 4 messages), whereas SAP

Event Mesh is licensed by bandwidth in GB. The calculation (and comparison) can be done in the [SAP discovery center](#).

### When do you need a broker then of you have an ESB already?

- If your event producer/consumer speaks natively with a broker (e.g. via AMQP/MQTT)
- If you need a distribution model to multiple receivers and you want to implement a PubSub pattern
- If you need replay capabilities
- If you need to ensure FIFO (First-In-First-Out)/EOIO (Exactly-Once-In-Order) which is not (yet) available in SAP Cloud Integration
- For high-volume messaging (large volumes with high throughput, e.g. in IoT-scenarios or custom-developed mobile apps to process small messages from sensors or real-time analytics and eventing)

### Conclusion

You can achieve all aspects of decoupling with an ESB/iPaaS like **SAP Cloud**

**Integration**. You might consider brokers like **SAP Event Mesh** for transparency reasons using PubSub when integrating multiple receivers or when you have the need for replay capabilities (SAP Advanced Event Mesh, Solace, Kafka). You can also use it, when you have event producers like SAP S/4HANA who can connect to your broker via AMQP/MQTT natively.

Please consider there are scenarios, where both components make sense (e.g. SAP Cloud Integration together with SAP Event Mesh (via AMQP-Adapter) or Kafka (via Kafka-Adapter)) and you can use the best of the 2 components together.



# Event-driven architecture – now available for SAP ECC users | SAP Blogs

Friday, April 21, 2023 6:35 PM

Clipped from: <https://blogs.sap.com/2020/07/01/event-driven-architecture-now-available-for-sap-ecc-users/>

## Overview

[Wikipedia](#) defines an event as a “significant change in state”. If for example a Material Master is being updated, other processes in other systems need to be informed. This whole journey of generating the event, channeling and processing is called Event-driven architecture (EDA).

According to industry analysts, customers and user group feedback, event-driven architecture is already an important topic and will most likely become even more central in the future. As an example I still remember the last DSAG annual meeting in Mannheim (sitting in the keynote together with 1000nds of people...), listening to the great [Keynote](#) from Steffen Pietsch (in German only, from 0:32:00 on).

## Event-driven architecture with SAP

In the last couple of years, SAP has put a lot of effort into providing holistic support for EDA, just to mention a few highlights:

One missing – but important – stakeholder was the group of the SAP ECC customers. To let this group also participate on event-driven architecture we just released the ABAP Add-On **SAP NetWeaver, add-on for event enablement**. This Add-On works as an SDK, customers will be able to enable objects with just a few clicks, generating their own content (events). Of course the events generated in an SAP ECC System will follow the same standard (<https://cloudevents.io/>) as events coming from an S/4HANA System.

## What is the benefit, especially for SAP ECC customers?

Event-driven architecture in general is offering a lot of advantages like decoupling or the avoiding of polling. With this new Add-On, SAP ECC customers particularly, will be able to leverage SAP Cloud Platform as an extension platform even more – as now the event-centric pattern is also supported in addition to REST / OData via SAP Gateway. In combination with SAP S/4HANA this will open up some great new opportunities:

- In order to serialize activities during the SAP S/4HANA Migration, it is now easier to port existing event-driven extensions from SAP ECC to SAP Cloud Platform. A guide on the general topic of side-by-side extensions is available [here](#)
- This will bring back your SAP ECC System closer to the standard – and

- this will then reduce complexity during the migration to SAP S/4HANA
- As SAP S/4HANA already supports events, the switch to SAP S/4HANA will be easy – if you already designed the cloud extension with the SAP S/4HANA Events and OData services accordingly.

Several missions are available showing in more detail on how to extend an S/4HANA System based on event-driven architecture (e.g <https://discovery-center.cloud.sap/#/missiondetail/3156/3192>). We are currently working on the same scenario – only using an SAP ECC system instead of an S/4HANA system.

## Summary

The Add-On **SAP NetWeaver, add-on for event enablement** (ASANWEE) is available for NetWeaver 7.31 and higher ([Documentation](#)) and is based on an ABAP Add-On from the partner company ASAPIO (<https://www.asapio.com/en/index.html>), but adapted for the usage with the SAP Cloud Platform.

**2020 – Dec 22nd – Update:**

**2021 – June 1st – Update**

# SAP Event Mesh - Learning Series

Tuesday, April 25, 2023 12:00 PM

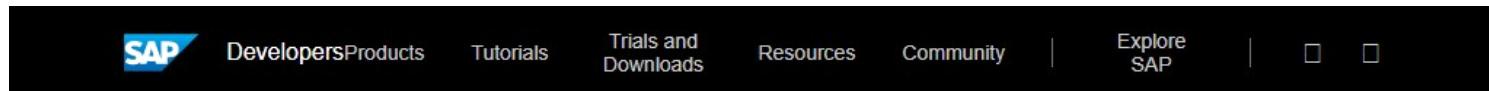
## [SAP Event Mesh](#)

SAP Developers



<https://developers.sap.com/tutorials/cp-enterprisemessaging-learn-messaging-concepts.html>

Clipped from: <https://developers.sap.com/tutorials/cp-enterprisemessaging-learn-messaging-concepts.html>



Tutorial Navigator ▾

Learn about SAP Event Mesh ▾

Feedback

Share

# Learn about SAP Event Mesh

Beginner 10 min. SAP Event Mesh, Beginner, Tutorial, Java, SAP Business Technology Platform, Node.js

Learn about SAP Event Mesh, central concepts, and the benefits of decoupled communication and capabilities supported.

You will learn

- What the SAP Event Mesh service is
- What you can do with SAP Event Mesh
- Messaging protocols and libraries
- Basic messaging concepts



PRADEEP PANDA

March 4, 2022

Created by



November 12, 2019

Contributors



## Prerequisites

- [Start Developing on SAP Business Technology Platform](#)

[Open all](#) [Close all](#)

STEP 1

## What is the SAP Event Mesh service?

SAP Event Mesh is a fully-managed service to connect applications, services, and systems so they can interact with each other through messages and events.

It replaces traditional point-to-point communication by introducing a central message broker. While point-to-point communication is fine for sharing data between a limited number of senders and receivers, scalability can quickly become an issue. SAP Event Mesh solves this issue and ensures messages can be exchanged reliably between senders and multiple receivers at large scale.

In addition, through the introduction of a message broker, you decouple communication between applications, services, and

Mesh solves this issue and ensures messages can be exchanged reliably between senders and multiple receivers at large scale.

In addition, through the introduction of a message broker, you decouple communication between applications, services, and systems so that messages can be sent asynchronously (non-blocking). Asynchronous communication improves performance and scalability since senders are not slowed down or blocked while they wait for individual receivers to be online to receive direct messages.

Since SAP Event Mesh is responsible for message delivery, senders do not need to know which applications, services or systems will receive what data.

- Sending applications are not slowed down by waiting for a non-critical response from receivers that might be offline and unable to receive and respond to a message as it is published.
- Receiving applications can subscribe to messages of business importance and ensure to receive all relevant updates and can consume these messages at their own pace.

**What communication options does SAP Business Technology Platform offer to connect applications, services and systems?**

- Messages
- RFC Calls
- Events
- API Calls

[Log in to complete tutorial](#)

[Check answer](#)

STEP 2

Use cases



STEP 3

Protocols and libraries



STEP 4

Messaging concepts





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# Turn your ERP into a Team Player: Introducing SAP Integration Suite, advanced event mesh | SAP Blogs

Friday, April 28, 2023 4:38 PM

Clipped from: <https://blogs.sap.com/2022/10/28/turn-your-erp-into-a-team-player-introducing-sap-integration-suite-advanced-event-mesh/>

## How team sports explain Event-Driven Architecture

Have you experienced these moments when you hear a single sentence – and this sentence sums up things better than anything you could have come up with? That moment in respect to event-driven architecture took place on Tuesday for me.

I had been presenting to an American Fortune 500 customer on SAP Integration Suite, advanced event mesh and I had come up with this new slide wrapping up the advantages of event-driven architecture, comparing an EDA to team sports.



This comparison is in the end quite obvious since soccer players for example act loosely coupled while always knowing what is going on around them (situational awareness is the buzzword here) and ideally notifying each other in real time about their plans and actions.

In order to win, players need to act as a team. And in order to act as a team, they need situational awareness. You can replace soccer with your favourite team sport here – ice hockey, basketball, football, rugby. You pick. It's the same story. It is about situational awareness and teamwork. Talent wins games, teamwork wins championships.

Now transfer this to your SAP landscape – wouldn't it be great if your SAP S/4HANA system could inform your SAP Business Technology Platform and your SAP ECC system in real time of changes that are important? Of significant changes? Or even beyond your SAP landscape, if your SAP S/4HANA system would inform your Microsoft Teams of significant changes in real time.

My customer did this transfer in almost real time and worded it close to

**perfect: I want my ERP to be a team player!**

I simply love this sentence. It sums things up so well.

Let's make the next step: what do you need for that? In order to turn your ERP into a team player, you need an event-enabled backend, suitable event consumers and you need the appropriate infrastructure to transport and distribute your events: an event broker or event mesh.

So far SAP Event Mesh has been SAP's single offering in this space. Lately, beginning of August 2022 to be exact, we have added SAP Integration Suite, advanced event mesh to our portfolio. Advanced Event Mesh complements SAP Event Mesh for more demanding scenarios and offers a highly sophisticated feature set perfectly suited for the SAP Event-Driven Ecosystem and beyond.

### [SAP Integration Suite, advanced event mesh](#)

SAP Integration Suite, advanced event mesh is a fully managed event streaming and management service that enables enterprise-wide and enterprise-grade event-driven architecture.

#### [What is Advanced Event Mesh?](#)

- Advanced Event Mesh is a distributed mesh of event brokers that can be deployed across environments, both in the cloud and on-premise
- It offers a full purpose set of eventing services covering all relevant use cases
- AEM supports event streaming, event management and event monitoring
- Brokers fully scale as required and come in T-shirt sizes to perfectly fit different needs

## Advanced Event Mesh Cockpit

### What features and benefits does AEM offer?

- AEM offers enterprise-grade performance, reliability, security and governance.
- It scales to very large use cases – and very means very very very in this case. On the other hand, you can start small, if needed, as well.
- SAP Integration Suite, advanced event mesh offers deployment options across different hyperscalers and in private cloud environments. All it takes is a Kubernetes environment.
- AEM can be configured to form a distributed mesh of event brokers. Events can flow across the mesh to be consumed where desired.
- It includes a sophisticated toolset to address tasks like cluster management, mesh management and monitoring/tracing.
- SAP Integration Suite integrates with SAP backends via different options

[SAP Integration Suite, advanced event mesh in ten short statements](#)

General Purpose	Use Case Scenarios	Distributed	Deployable Anywhere	Authentication and Security
General purpose, multi-site EDA platform and portal	<ul style="list-style-type: none"> <li>SAP to SAP</li> <li>SAP to Everything</li> <li>Everything to Everything</li> </ul>	Supports distributed networks of event brokers deployed in different clouds and on-premises	Can be deployed in your cloud of choice or in your on premise K8S	Customer's own - basic, TLS cert, Kerberos, OAuth  Private Connectivity
Filtering	Real-Time Monitoring	Pricing	Openness	Performance
Sophisticated, fine-grained filtering	Real-Time monitoring, capacity insights and distributed tracing	Highly competitive pricing  Start cheap, scale as you go	Supports JMS, REST and AMQP & MQTT & SMF (native and over WebSocket)	Outstanding performance based on various selectable T-shirt Sizes  Up to billions of events / day
6	7	8	9	10

## SAP Integration Suite, advanced event mesh

1. is a general purpose, multi-site EDA platform and portal
2. allows for SAP to SAP, SAP to Everything and Everything to Everything scenarios
3. supports distributed networks of event brokers deployed in different clouds and on-premises
4. can be deployed in your cloud of choice or in your on premises K8S
5. provides sophisticated authentication and security features like Kerberos, OAuth or TLS
6. offers fine-grained filtering options
7. allows for real-time monitoring, capacity insights and distributed tracing
8. provides support for all relevant protocols like JMS, REST, AMQP and MQTT, plus SMF.
9. allows to start small and upgrade to bigger T-shirt sizes when your business grows
10. provides an outstanding performance up to billions of events per day

Think Event Network!



You can think of Advanced Event Mesh as an event network. It is ideal for real-time high availability use cases: event distribution, event-driven integration, event-driven extensions of business applications, microservices and real time applications.

Advanced Event Mesh is a highly valuable addition to SAP's event-driven ecosystem and will allow you to target globally distributed, high load event-driven use cases complementing SAP Event Mesh for more demanding

scenarios.

[Additional Information on AEM and SAP's Event-Driven Ecosystem](#)

For additional information on SAP Integration Suite, advanced event mesh and SAP's Event-Driven Ecosystem check out the following blogs:

[SAP Integration Suite, advanced event mesh vis-a-vis SAP Event Mesh and SAP Integration Suite](#)

[SAP's Event-Driven Ecosystem Revisited](#)



There are two sessions at TechEd 2022 that can help you to get started with SAP Integration Suite, advanced event mesh:

[Experience Event-Driven Integrations Hands-On with SAP Integration Suite \(IN261\)](#)

and

[Discover Event-Driven Integration with SAP Integration Suite \(IN103\)](#)

# [Blog Post] SAP Event Mesh – Enable SAP Cloud Integration Suite to Consume Messages from SAP Event Mesh Service | SAP Blogs

Clipped from: <https://blogs.sap.com/2022/06/14/blog-post-enable-sap-cloud-integration-suite-to-consume-messages-from-sap-event-mesh-service/>

**Authors:** [Vipul Khullar](#) & [Ayush Kumar](#)

## **Previous blog posts in this series:**

### **Introduction**

In the previous blog posts, we saw how we can communicate between different CAP-based microservices using the SAP Event Mesh service to achieve true asynchronous communication and how the CAP framework facilitates the same.

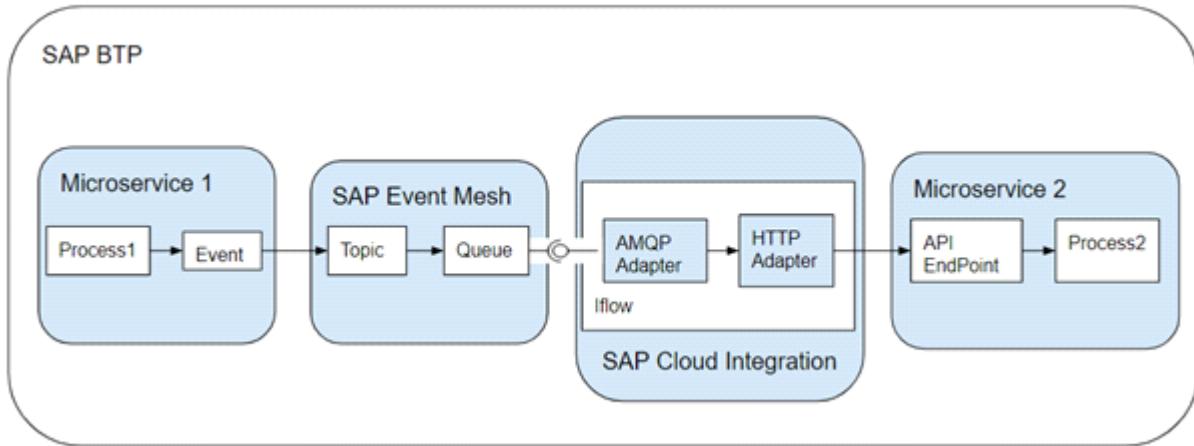
In this blog post, we will try to achieve the same by leveraging SAP Cloud Integration Suite by acting as a middleware between the two microservices, which will be useful, especially in cases where specific event handling is not desired within the 2<sup>nd</sup> microservice (communication is intended via API only).

### **Prerequisites:**

To execute the following scenario, you need.

- BTP account (trial account would also work).
- Event Mesh subscription for your subaccount.
- Service key for the Event Mesh instance.
- Cloud Integration Suite subscription for your subaccount.
- Local Setup for CAP JAVA (if you already have a CAP application initialized upgrade the CDS service version to 1.22.1 or higher, else you might face runtime errors complaining about bean error).

### **Scenario:**



Architecture Diagram for Event Mesh-based Communication Between two microservices via SAP Integration Suite

In this scenario, we have created two CAP-based microservices on BTP and we have tried to set up an event-based communication between the services with the help of Event Mesh and SAP Cloud Integration Suite. We have tried to leverage the AMQP adaptor in cloud integration flow to listen to the event raised by the first microservice and then leveraged the API endpoint in 2<sup>nd</sup> microservice to replicate the data to the same.

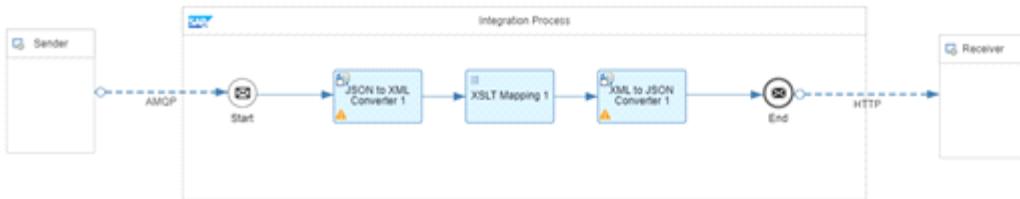
### Steps in SAP Event Mesh:

- Open the SAP Event Mesh Message Client UI.
- Select your instance (Message Client).
- Create a queue with any name of your choice.
  - Note: you can use the default queue as well which is generated by the CAP Application at run time.

Note: For demo purposes, we will use the queue name as emDataMappingQueue and subscribe to the same topic as used in the previous blogs.

- Now run the **event-producer** application which we have created in the previous blog. In the Event Mesh UI now you will see the messages are incremented in both the queues that are the CAP-created queue and the queue created by us.

### Steps in SAP Cloud Integration:



## Integration Flow

- Open the SAP Cloud Integration Suite and navigate to security material. Create an oAuth2.0 client Credentials using the SAP Event Mesh instance key created in the previous blogs. (We will use this credential configuration to connect to the Event Mesh)
- Create a new artifact.
- Now connect the sender to the start using AMQP->WebSocket adapter.
- Now again open the key and under the AMQP section, you will find all the values which are required to configure AMQP.

## Credentials

```
myServiceKey
14    "messaging": [
15        {
16            "oam2": {
17                "clientid": "REDACTED",
18                "clientsecret": "REDACTED",
19                "tokenendpoint": "REDACTED",
20                "granttype": "client_credentials"
21            },
22            "protocol": [
23                "amqp10ws"
24            ],
25            "broker": {
26                "type": "sapmgw"
27            },
28            "uri": "wss://enterprise-messaging-messaging-gateway"
29        },
30    ],
31 }
```

[Copy JSON](#)   [Download](#)   [Close](#)

## Event Mesh Instance Service Key

In the Processing section:

**AMQP**

- General
- Connection
- Processing**

**PROCESSING DETAILS**

Queue Name:	queue://com/eventmesh/blog/emDataMappingQueue
Number of Concurrent Processes:	1
Max. Number of Prefetched Messages:	5
Consume Expired Messages:	<input type="checkbox"/>

**RETRY DETAILS**

Max. Number of Retries:	0
Delivery Status After Max. Retries:	REJECTED

## Event Mesh Configuration in Cloud Integration Flow – Processing Section

In the Connection Section:

**AMQP**

- General
- Connection**
- Processing

**CONNECTION DETAILS**

Host:	
Port:	
Path:	
Proxy Type:	Internet
Connect with TLS:	<input checked="" type="checkbox"/>
Authentication:	OAuth2 Client Credentials
Credential Name:	SAPEventMeshDemo

## Event Mesh Configuration in Cloud Integration Flow – Connection Section

- Create an XSLT mapping to change the data in the format expected by the consumer.

### **Input:**

Now run the Event Producer application and create a post request to post student details as done in the previous blog post.

```

POST http://localhost:8080/odata/v4/EnterpriseMessagingProducerService/Students
{
  "firstName": "SAP",
  "lastName": "Event Mesh",
  "currentClass": "1",
  "placeOfBirth": "Germany"
}

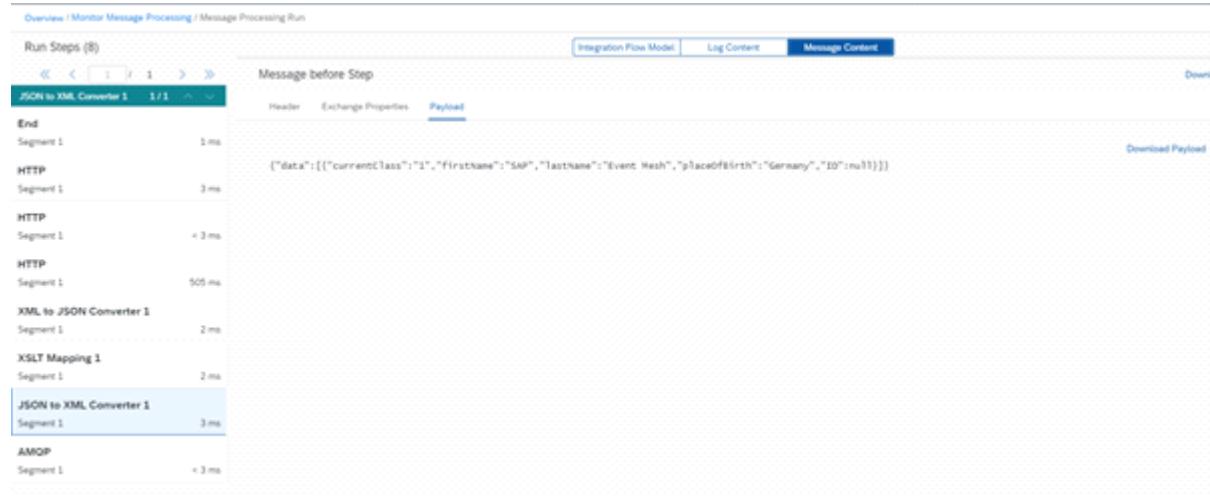
```

Status: 201 Created Time: 385 ms Size: 671B Save Response

## Post Request to Create a Student Record

### Output:

Now, let's check the trace corresponding to the event raised, in Cloud Integration Suite.



## Incoming Event Payload

The screenshot shows the SAP Cloud Integration Suite's "Message Processing Run" interface. It displays a sequence of steps: Segment 1 (HTTP), Segment 1 (HTTP), Segment 1 (HTTP), Segment 1 (HTTP), XML to JSON Converter 1, Segment 1 (XSLT Mapping 1), Segment 1 (JSON to XML Converter 1), and Segment 1 (AMQP). The "Message before Step" section shows the raw JSON payload: {"data": [{"classEnrolled": "1", "firstName": "SAP", "lastName": "Event Mesh"}]}. The "Payload" section shows the mapped data: {"data": [{"classEnrolled": "1", "firstName": "SAP", "lastName": "Event Mesh"}]}.

## Payload After Mapping to the New Data model

```

2022-06-06 11:37:41,538 INFO 368 --- [main] c.sap.cdo.services.impl.util.BuildInfo : git.commit.id: b4d20647ae12f1ea439c521de1fe2773a6379a5
2022-06-06 11:37:41,538 INFO 368 --- [main] c.sap.cdo.services.impl.util.BuildInfo : maven.version: 1.20.0-m223
2022-06-06 11:37:41,538 INFO 368 --- [main] c.sap.cdo.services.impl.util.BuildInfo : Initialising messaging connection 'shared-d'
2022-06-06 11:37:41,738 INFO 368 --- [main] o.s.c.c.m.m.AbstractBrokerConnectionProvider : Connection started on port 8082 (Http) with context path ''
2022-06-06 11:37:41,793 INFO 368 --- [main] o.s.c.c.m.m.AbstractBrokerConnectionProvider : Started Application in 3.929 seconds (JVM running for 4.923)
2022-06-06 11:37:45,462 INFO 368 --- [demand.com:443] org.apache.http.jms.Connection : Connection ID: connected to server: amqp://enterprise-messaging-gateway
2022-06-06 11:37:45,479 INFO 368 --- [main] o.s.c.c.m.m.BrokerConnection : The messaging broker connection 'shared-d' has been established
2022-06-06 11:37:45,479 INFO 368 --- [main] o.s.c.c.m.m.AbstractMessagingService : Initialising subscriptions of messaging service 'messaging'
2022-06-06 11:37:45,479 INFO 368 --- [main] o.s.c.c.m.m.AbstractMessagingService : There are no queue subscriptions available for the service 'messaging'
2022-06-06 11:37:45,479 INFO 368 --- [main] o.s.c.c.m.m.AbstractDispatcherServlet : Initialising dispatcher servlet 'dispatcherServlet'
2022-06-06 11:37:54,748 INFO 368 --- [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Initializing Servlet 'dispatcherServlet'
2022-06-06 11:37:54,748 INFO 368 --- [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : Complete Initialization in # ms
2022-06-06 11:38:05,497 INFO 368 --- [nio-8082-exec-1] o.s.web.servlet.DispatcherServlet : [DispatcherServlet] reading from sap Integration Suite ...
2022-06-06 11:38:05,498 INFO 368 --- [nio-8082-exec-1] o.s.c.c.m.m.ConsumerListener : {"data": [{"classEnrolled": "1", "firstName": "SAP", "lastName": "Event Mesh"}]}

```

## Reading Consumer Microservice After Update

We observe that now the data has been mapped according to the consumer microservice which can now consume this information without knowing the data model of the event producer.

**Conclusion:** In this blog post, we presented a use case where we can enable multiple microservices which may or may not have similar data models to communicate with each other without having to modify anything within the microservices. We achieved this with the help of SAP Event Mesh and SAP Cloud Integration Suite.

In the next few blog posts, we will cover how we can raise and consume business events from an SAP S/4HANA system using SAP Event Mesh and how we can consume them in SAP Cloud Integration Suite or any other application on BTP.

Please do like the blog post if you find the content helpful. Also, do share your comments and inputs, if any.

Next blog post in the series: [\[Blog Post\] SAP Event Mesh – S/4HANA On](#)



# [Blog Series] SAP Event Mesh – Deep Dive | SAP Blogs

Wednesday, May 3, 2023 11:43 AM

Clipped from: <https://blogs.sap.com/2022/05/16/blog-series-sap-event-mesh-deep-dive/>

**Authors:** [Ayush Kumar](#) & [Vipul Khullar](#)

## Introduction:

Hi all, for the past couple of months me and my team are working on the SAP Event Mesh service to decouple our SAP BTP-based solution from tight integration with other SAP products/services. Through the course of our implementation of the SAP Event Mesh service, we learned quite a lot. Hence we would like to share those findings with others as well. To help other developers/customers get an understanding of various concepts involved in SAP Event Mesh service, we are starting with a series comprising of multiple technical how-to-guides. Since we are planning to publish multiple blog posts on the same topic, it's good to have a single reference for all the content we publish.

## Main Content:

[SAP Event Mesh](#) is a fully managed cloud service on the **SAP Business Technology Platform** that allows asynchronous communication between different systems with the help of business events. This allows greater agility and scalability when you create responsive applications that work independently and participate in event-driven business processes across your business ecosystem.

Topics that we plan to cover as part of this series are as follows:

1. [\[Blog Post\] SAP Event Mesh – Event-Driven Architecture Explained](#): In this blog post we have tried to explain event-driven architecture, its use cases, and how the SAP Event Mesh service in BTP facilitates event-driven architecture.
2. [\[Blog Post\] SAP Event Mesh – Single Tenancy & Multi-Tenancy Explained](#): In this blog post we have explained the concept of single tenancy and multi-tenancy and a rest Based implementation for the same.
3. [\[Blog Post\] SAP Event Mesh – CAP based implementation of SAP Event Mesh in a Single-Tenant Scenario | SAP Blogs](#): In this blog post we have explained a scenario where we have tried to set up an event-based communication between two CAP-based microservices with the help of Event Mesh.
4. [\[Blog Post\] Enable SAP Cloud Integration Suite to Consume Messages from SAP Event Mesh Service | SAP Blogs](#): In this blog post, we will try to achieve event-based communication by leveraging SAP Cloud

Integration Suite by acting as a middleware between the two microservices, which will be useful, especially in cases where specific event handling is not desired within the 2<sup>nd</sup> microservice (communication is intended via API only).

5. [\[Blog Post\] SAP Event Mesh – S/4HANA On-Premise integration with Event Mesh](#): In this post, we have explained on how to setup S4HANA for communication to SAP Event Mesh.  
Event-Based Communication from SAP S/4HANA to Event Mesh.
6. [\[Blog Post\] SAP Event Mesh – Consuming S4 events simultaneously in CAP-based applications and SAP Integration Suite](#): In this blog post, we have presented a use case where different sets of systems need to listen to the same events via different channels.
7. Error Handling Scenarios.

#### **Conclusion:**

This blog post is just heads-up information on what you can expect from this blog series.

We will try to keep this page up to date with all the links as and when they are available, if not please refer to the bottom space of every subsequent blog post to find the reference link for the next blog.

Let us know in the comments if you are looking for something apart from the topics already covered or if you have any suggestions/questions related to the topics we plan on covering.

# [Blog Post] SAP Event Mesh – Event Driven Architecture Explained | SAP Blogs

Wednesday, May 3, 2023 11:44 AM

Clipped from: <https://blogs.sap.com/2022/05/11/sap-event-mesh-event-driven-architecture-explained/>

Authors: [Vipul Khullar](#) & [Ayush Kumar](#)

This is the first blog post in the series [SAP Event Mesh – Deep Dive](#).

Before we deep dive into the technical implementation details of the SAP Event Mesh service, it is paramount to understand the general overview of the event-driven architecture and how SAP Event Mesh in BTP enables the same.

## **What is Event-Driven Architecture and why should we care about it?**

Let's take an example from day-to-day life. You take your car out for a ride and you encounter a signal which is red, what do you do, you apply the brakes and stop the car.

Again when the signal turns green, you put your leg on the accelerator and start moving.

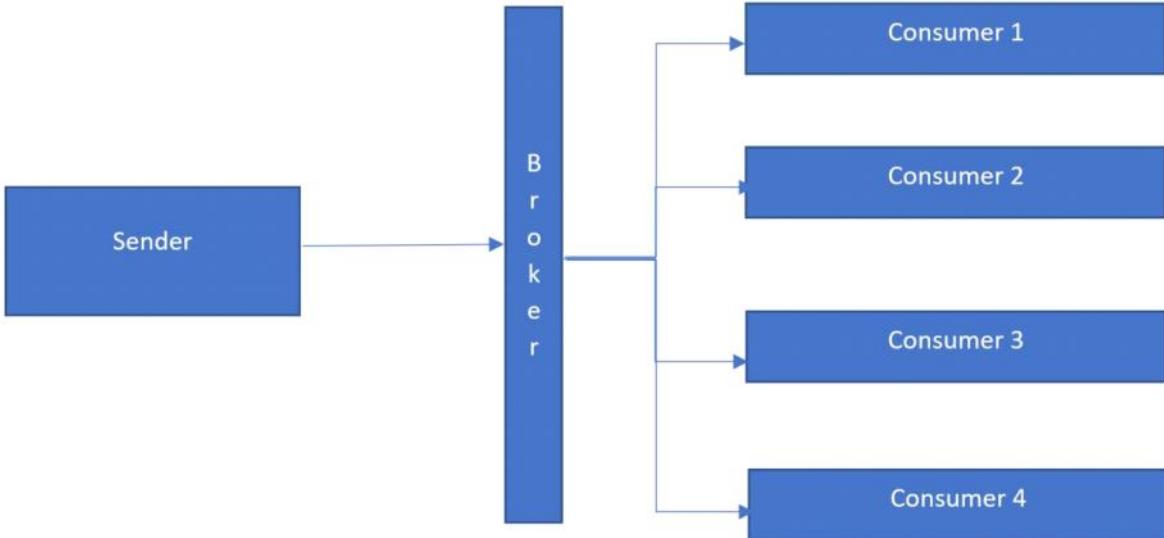
In this example, your actions are dictated based on the signal. Red light is an event signal to stop the car and is similar to a green light to move.

This is the very basic foundation/essence of the event-driven architecture, that is you don't react until and unless an event occurs.

In the current world and the industry requirement, a consumer does not prefer to work with a strongly coupled solution. Event-driven architecture provides us the advantage to decouple our solution and communicate with any system only through events. This means that the systems are no longer required to know each other.

Raising the event is not the same as calling an API because, in an API call, we need to decide the end systems, but the events are just raised and now the **broker** can take care of routing it.

The advantage of such events is that once it is raised it can be consumed by any consumer who wishes to, without requesting it explicitly in real-time.



## Event-Driven Architecture

Generic use cases for Event-Driven Architecture are as follows:

1. **Communication between different microservices** – Information can be efficiently shared between independent micro-services without the need for tight coupling.
2. **Data replication between different systems** – Save events (create, change and delete) can be consumed by different services/systems at once.
3. **Parallel processing** – A single event can trigger multiple processes which execute asynchronously.
4. **Resilience via redundancy** – If the consumer service is not available, the data persists with the broker until the service is live again.

## How does SAP Event Mesh fit in?

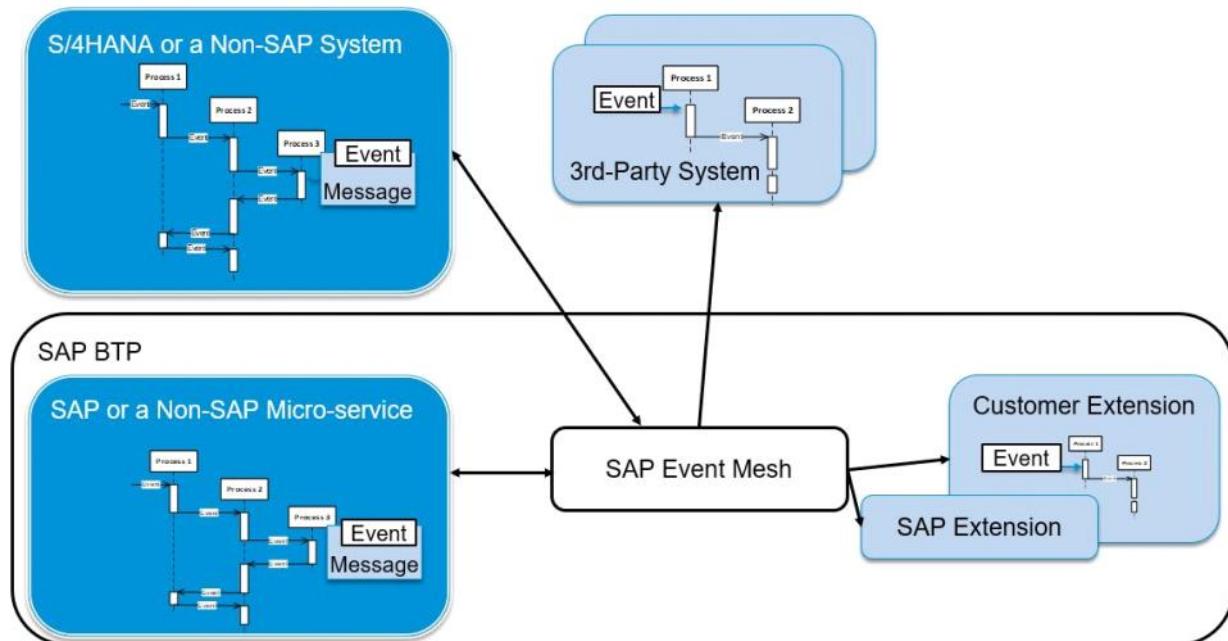
Sap Event Mesh is a fully managed service by SAP that allows you to communicate between different systems, applications, or services using event/messages allowing us to decouple our solutions at different levels/services.

It acts as a central message broker/messaging service which captures the messages when and where the event is raised. Now it's up to the end consumer on how it is going to consume those events. It can be done via SAP Cloud Integration, some Webhooks, CAP-based applications, etc.

Since SAP Event Mesh is responsible for the delivery of the messages, the sender need not worry about the endpoints. Hence, they can perform their functions without worrying about the end systems.

Use SAP Event Mesh to:

- Support **event-driven architectures** and **microservices**.
- **Publish business events** from SAP and non-SAP sources across hybrid landscapes from the digital core to extension applications
- Build **event-driven extensions and integrations** and subscribe to events from core SAP systems to enable cloud-native extensions and integrations to respond to the latest business developments in **real-time**
- Part of the **SAP Integration Suite and SAP Extension Suite** to implement extension and integration scenarios in guided and at the same time flexible approaches



SAP Event Mesh Use-Case Architecture

In this blog post, we tried to explain event-driven architecture, its use cases, and how the SAP Event Mesh service in BTP facilitates event-driven architecture.

In the next few blog posts in the series, we will talk in detail about the SAP Event Mesh service in SAP BTP and how it caters to single-tenancy and multi-tenancy scenarios.

Please do like the blog post, if you find the content helpful. Also, do share your comments and inputs, if any.

Next blog post in the series: [\[Blog Post\] SAP Event Mesh – Single Tenancy & Multi-Tenancy Explained](#)

# [Blog Post] SAP Event Mesh – CAP based implementation of SAP Event Mesh in a Single-Tenant Scenario | SAP Blogs

Wednesday, May 3, 2023 11:45 AM

Clipped from: <https://blogs.sap.com/2022/06/06/blog-post-sap-event-mesh-cap-based-implementation-of-sap-event-mesh-in-a-single-tenant-scenario/>

**Authors:** [Ayush Kumar](#) & [Vipul Khullar](#)

**Previous blog post in this series:**

**Introduction:**

In the previous few blog posts, we covered the basic concept and understanding of event-driven architecture, SAP Event Mesh Service, and its rest-based implementation.

In this blog post, we will explore how we can use the CAP framework to abstract ourselves from the underlying implementation thereby simplifying the work for us, unlike what we saw in the rest-based examples in the previous blog post.

There are multiple flavors of Messaging services, but the focus of this blog will be on SAP Event Mesh.

1. Local Messaging
2. File-Based Messaging
3. Real Broker Based [SAP Event Mesh]

It is also possible to use local messaging and file-based messaging in CAP for asynchronous event-based communication. However, as part of this ongoing series, we will only focus on SAP Event Mesh Implementation.

**Note:**

1. We will showcase all the implementations in a local setup, using the event mesh instance created in the previous [blog post](#) and not by deploying to BTP. However, all the steps remain the same even if you deploy to BTP.
2. We plan only to cover the JAVA-based implementation, for Node-based implementation you can refer to [SAP Event Mesh: Multitenant Sample Scenario 1 | SAP Blogs](#)

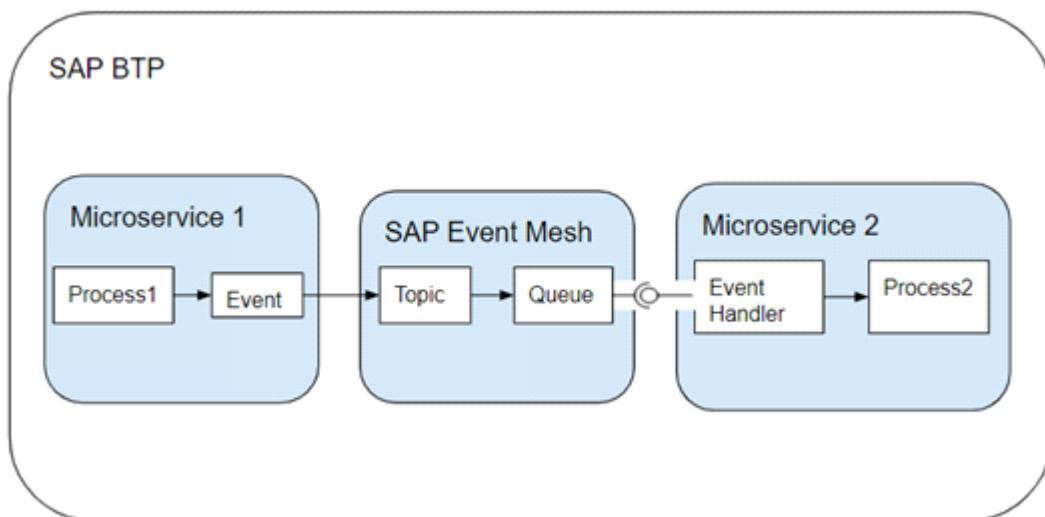
**Pre-requisites:**

To execute the following scenario, you need.

1. BTP account (trail account would also work).
2. Event Mesh entitlement for your subaccount.

3. Service key for the Event Mesh instance.
4. Local Setup for CAP JAVA (if you already have a CAP application initialized upgrade the CDS service version to **1.22.1** or higher, else you might face runtime errors complaining about bean error).

## Scenario:



Architecture Diagram for Event Mesh-based Communication Between Two CAP based Microservices

In this scenario, we have created two CAP-based microservices on BTP and we have tried to set up an event-based communication between the services with the help of Event Mesh. We have tried to leverage the CAP framework in JAVA for the emission and consumption of the event.

## Project Setup

- Use the CAP Java Maven archetype to bootstrap a new CAP Java project< [capire – Getting Started \(cloud.sap\)](#)>

```
mvn archetype:generate -DarchetypeArtifactId="cds-services-archetype" -DarchetypeGroupId="com.sap.cds" -DarchetypeVersion="RELEASE"
```

This opens an interactive mode to setup your application in terminal/Command Line.

## OR

you can download our sample application [here](#).

**Note: Your application name need not be the same as ours.**

- Navigate to **db** and create a **schema.cds** file

```

namespace sap.capi.re.enterpriseMessagingProducer;

using {  cuid, managed } from '@sap/cds/common';

entity student : cuid , managed {

    firstName : localized String(100);
    lastName : localized String(100);
    currentClass : String(10);

}

```

- **Create a <service>.cds file**

```

using { sap.capi.re.enterpriseMessagingProducer as db}  from
'..../db/schema';

service EnterpriseMessagingProducerService {

    entity Students as projection on db.student;

}

```

- **In parent Pom.xml add the dependencies**

```

<dependency>
    <groupId>com.sap.cds</groupId>
    <artifactId>cds-feature-enterprise-messaging</artifactId>
    <scope>runtime</scope>
</dependency>

```

- **Navigate to srv->src->main->resources->application.yaml**

```

cds:
  messaging.services:
    - name: "messaging"
      kind: "enterprise-messaging"

```

**If you get a message saying MessagingService bean not found try adding the below snippet in the application.yaml file**

```

cds:
  messaging.services:
    messaging-em:
      name: "messaging"
      kind: "enterprise-messaging"

```

```
publishPrefix: '$namespace/'  
subscribePrefix: '$namespace/'
```

- **Add default-env.json file to simulate binding to the Event Mesh instance in BTP**

```
{  
  "VCAP_SERVICES" : {  
    "enterprise-messaging": [{  
      "label": "enterprise-messaging",  
      "credentials":{  
        /* add your service key here*/  
  
      }  
    }]  
  }  
}
```

- **Producer Handler.java**

```
package com.sap.enterpriseMessagingproducer.handlers;  
  
import java.util.List;  
  
import org.slf4j.Logger;  
import org.slf4j.LoggerFactory;  
import org.springframework.beans.factory.annotation.Autowired;  
import org.springframework.beans.factory.annotation.Qualifier;  
import org.springframework.stereotype.Component;  
  
import com.nimbusds.jose.shaded.json.JSONArray;  
import com.nimbusds.jose.shaded.json.JSONObject;  
import com.sap.cds.services.cds.CdsService;  
import com.sap.cds.services.handler.EventHandler;  
import com.sap.cds.services.handler.annotations.On;  
import com.sap.cds.services.handler.annotations.ServiceName;  
import com.sap.cds.services.messaging.MessagingService;  
  
import cds.gen.enterpriseMessagingproducerService.Students;  
import cds.gen.sap.capire.enterpriseMessagingproducer.Student;  
  
@Component  
@ServiceName("EnterpriseMessagingProducerService")  
public class ProducerHandler implements EventHandler {  
  
  private static final Logger logger =  
LoggerFactory.getLogger(ProducerHandler.class);  
  
  @Autowired
```

```

@Qualifier("messaging")
MessagingService messagingService;

@On(event = CdsService.EVENT_CREATE, entity =
"EnterpriseMessagingProducerService.Students")
    public void produceStudentEnrollementEvent(List<Students>
studentlists) throws Exception {

        JSONObject payload = new JSONObject();

        JSONArray jsonArray = new JSONArray();

        for (Students students : studentlists) {
            JSONObject jsonObject = new JSONObject();

            jsonObject.put(Student.FIRST_NAME,
students.getFirstName());
            jsonObject.put(Student.LAST_NAME, students.getLastName());
            jsonObject.put(Student.CURRENT_CLASS,
students.getCurrentClass());

            jsonArray.add(jsonObject);
        }

        payload.put("data", jsonArray);

        logger.info("Data Emitted to the topic {}",

payload.toJSONString());
        messagingService.emit("com/eventmesh/blog/StudentEnrolled",
payload);
    }
}

```

Here, we have used a handler to emit events but it is also possible to emit events directly from CDS service layer. You can refer [here](#) for more details.

- Now run the application

```

2023-05-28 11:24:08.385 INFO 21804 --- [main] c.a.e.Application : Starting Application using Java 11.0.15+8.1 on w-PP7WVIR with PID 21804 (C:\users\...
2023-05-28 11:24:08.397 INFO 21804 --- [main] c.a.e.Application : The active profile is set to: default
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Application: main() called with arguments: []
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registered service ApplicationConfigurableServiceDefault
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registered service AuthorizationServiceDefault
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registered service ConfigurationServiceDefault
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registered service DataValidationServiceDefault
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registered service MetadataServiceDefault
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Loaded default application properties from directory: C:\users\...
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registering application: ...
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registered service messaging
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Registered service EnterpriseMessagingProducerService
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : EnterpriseMessagingProducerService is explicitly disabled.
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.s.boot.SpringApplication : Server initialized with port(8080) from http://...
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.apache.catalina.core.StandardService : Starting service [tomcat]
2023-05-28 11:24:08.397 INFO 21804 --- [main] org.apache.catalina.core.StandardEngine : Starting Servlet engine: [Apache Tomcat/9.0.41]
2023-05-28 11:24:08.397 INFO 21804 --- [main] o.a.c.c.Catalina.startup.Catalina : Root Webapp[localhost] initialization completed in 2080 ms
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.a.c.c.m.MBeanRegistration : Initialization Default RDBMS vs Provider
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.a.c.c.m.MBeanRegistration : Service EdmDbService mapped to /database
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.a.c.c.m.MBeanRegistration : Service EdmDbService mapped to /database
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.a.c.c.m.MBeanRegistration : Service EnterpriseMessagingProducerAdapter mapped to /messaging/v0.8/rm
2023-05-28 11:24:08.405 INFO 21804 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool - Starting...
2023-05-28 11:24:08.405 INFO 21804 --- [main] com.zaxxer.hikari.HikariDataSource : HikariPool - Started.
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Registered service PersistenceServiceDefault
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Registered handler class com.eventmesh.messagingproducer.handlers.ConsumerHandler
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Registered handler class com.eventmesh.messagingproducer.handlers.ProducerHandler
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Registered handler class com.eventmesh.messagingproducer.handlers.TunnelHandler
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Version: 1.20.0-WI21
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Initializing messaging connection 'shared-r'
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Shared messaging connection 'shared-r' has been established.
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Initializing subscriptions of messaging service 'messaging'.
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Subscriptions initialized.
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Created queue com.eventmesh/blog/initialization/messaging/data for service 'messaging'.
2023-05-28 11:24:08.405 INFO 21804 --- [main] o.s.c.r.DriverManager : Subscribed topic 'com.eventmesh/blog/initialization/messaging' on queue 'messaging'.

```

# Application Log for CAP Microservice

## Observations:

1. If you do not explicitly create a queue and assign a topic to it, then the enterprise-messaging service automatically creates a queue for you and subscribes to the topic implicitly.
2. If you create a queue yourself and refer to it in your application.yaml file no such random queue is created.
3. It will also point out that we are not able to register the queue subscription automatically, the reason being that we did not follow the rules specified by the event mesh service to append the topic/queue names with respective namespaces (**if you don't follow the specified naming structure as described in the previous blog post**).

The screenshot shows the SAP Event Mesh Queue Management interface. At the top, there's a navigation bar with tabs: Overview, Rules, Queues, Webhooks, Events, Service Descriptor, and Test. The 'Queues' tab is selected. Below the tabs, there's a search bar and a refresh button. A prominent 'Create Queue' button is located at the top left of the main content area. The main content displays a table with one row. The columns are: Queue Name, Messages, Unacknowledged Messages, Queue Size (bytes), Access Type, and Actions. The Queue Name is 'com/eventmesh/blog/loc...', Messages and Unacknowledged Messages are both 0, Queue Size is 0 bytes, Access Type is 'NON\_EXCLUSIVE', and the Actions column contains a small icon.

Queue Created in SAP Event Mesh by CAP

## Queue Subscriptions

The screenshot shows the SAP Event Mesh Queue Subscription Management interface. At the top, there's a message box stating: 'This queue can only subscribe to topics which follow the rules defined in the service descriptor'. Below this, there's a form to add a new subscription. The 'Queue Name' field contains 'com/eventmesh/blog/loc.../f5dd/messaging/d41d'. The 'Topic:' field has a placeholder 'Enter a topic or topic pattern'. A blue 'Add' button is located to the right of the topic input field. Below the form, a table lists the current subscription. The columns are: Subscribed Topic Name and Actions. There is one entry: 'com/eventmesh/blog/StudentEnrolled' with a delete icon in the Actions column.

Queue Subscription Created by CAP

## Input:

```

1
2   "firstname": "SAP",
3   "lastname": "Event Mesh",
4   "currentClass": "1"
5

```

Body Cookies Headers [E] Test Results

Pretty Raw Preview Visualize JSON

```

1
2   "@context": "#metadata#Students#entity",
3   "#metadata#etag": "W/\"e946a6c0b6aef323a4d0025640bede23404e09c52ae52c5644a0d78803a(cT6)\"",
4   "id": "9834720c-70f2-429d-b0e4-254eeff27ne9",
5   "createdAt": "2022-06-08T06:02:21.079478Z",
6   "createdBy": "anonymous",
7   "modifiedAt": "2022-06-08T06:02:21.079478Z",
8   "modifiedBy": "anonymous",
9   "firstname": "SAP",
10  "lastname": "Event Mesh",
11  "dateOfBirth": null,
12  "placeOfBirth": null,
13  "currentClass": "1"
14

```

## Post Request to Create a Student Record

### Output :

Queue Name	Messages	Unacknowledged Messages	Queue Size (bytes)	Access Type	Actions
com/eventmesh/blog/local#messaging#01d	1	0	280	NON_EXCLUSIVE	

## Receiving Message from CAP Based Microservice

The screenshot shows the SAP Event Mesh UI interface for consuming messages from a queue. The queue selected is 'com/eventmesh/blog/local/f5dd/messaging/d41d'. There are 0 messages and 0 unacknowledged messages. A specific message with ID 1 is selected, displaying its JSON data: {"data": [{"currentClass": "1", "firstName": "SAP", "lastName": "Event Mesh"}]}. A green button labeled '1' indicates the message is selected. Buttons for 'Refresh' and 'Consume Message' are also present.

## Reading the Event In SAP Event Mesh UI

Now let's create two consumers one within the same microservice and the other one in a different microservice.

1. For the same microservice you just need to create a new handler/java class.
2. For different microservice we need to follow the same steps as we have followed to create the producer or you can download it from [here](#)
  1. You need to have the same default-env.json as that of the producer to bind it to the same instance.
  2. Now run it on any other port as we will run the first microservice on 8080.

### • Consumer Handler.java

```
import org.slf4j.Logger;
import org.slf4j.LoggerFactory;
import org.springframework.stereotype.Component;

import com.sap.cds.services.handler.EventHandler;
import com.sap.cds.services.handler.annotations.On;
import com.sap.cds.services.messaging.TopicMessageEventContext;

@Component
public class ConsumerHandler implements EventHandler{

    private static final Logger logger =
LoggerFactory.getLogger(ConsumerHandler.class);

    @On(service = "messaging", event =

```

```

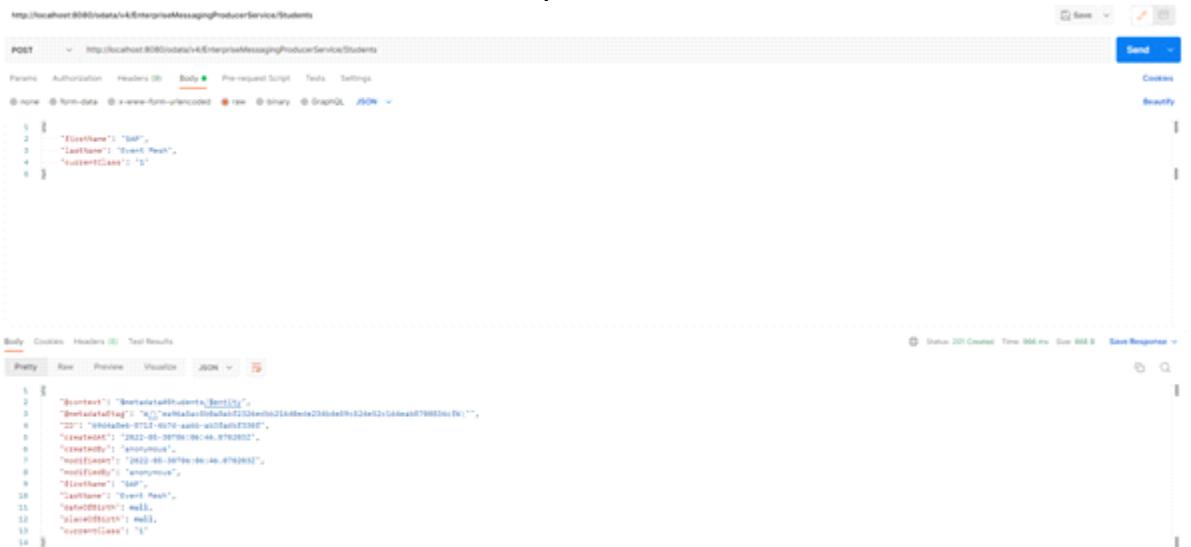
"com/eventmesh/blog/StudentEnrolled")
    public void listen(TopicMessageEventContext context) {

        logger.info("-----Reading Payload
Emitted by the
Event-----");
        logger.info("checking if the message if read from SAP Event
Mesh
{}",context.getIsInbound());
        logger.info("reading event id{}",context.getMessageId());
        logger.info("reading event data{}", context.getData());
    }

}

```

- **context.getIsInbound** returns true if the message is received from a remote service and not locally.



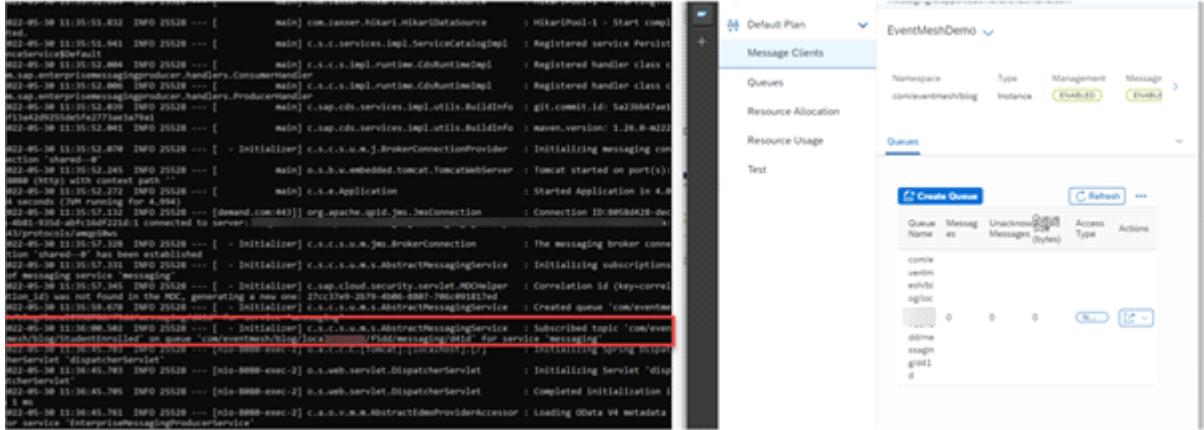
The screenshot shows a POST request to the URL `http://localhost:8080/v4/EnterpriseMessagingProducerService/Students`. The request body is a JSON object with three fields: `FirstName`, `LastName`, and `CurrentClass`. The response status is 201 Created, and the response body contains the event details, including the context information which includes the `getIsInbound` method returning true.

## Creating a New Student Entity in Producer Microservice



The screenshot shows two terminal windows. The left window shows the producer microservice log output, where an event is published with context information. The right window shows the consumer microservice log output, where the event is received and processed, and the context information is also present in the logs.

## Consuming Event in a Different Microservice



## Snapshot of the Queue and the Consuming Microservice

If you look at the SAP Event Mesh queue you will see that we have read the message from the queue.

Sometimes it might happen that for a fraction of a second you might see the message count as non-zero but that's because the messages in the queues are waiting for the acknowledgment from your application before it gets removed.

## Conclusion:

In this blog post, we have showcased how we can leverage the CAP framework to easily implement SAP Event Mesh Service in our application. It is also important to note that we can use multiple types of messaging services in a single application to perform various operations if required. Also since this series is specifically related to SAP Event Mesh, we did not discuss the working and implementation of other types of messaging services available in CAP. But we will highly encourage you to look at our [repository](#) where we have implemented all of them in separate branches.

We also did not look upon the webhook mechanism which can be very useful if we are using any other application apart from CAP to communicate with SAP Event Mesh. Let us know in the comment section if you wish to know more about them then we will take these topics in future blog posts.

In the next few blog posts of this series, we will focus on how we can leverage SAP Integration Suite to establish communication between different microservices.

Next blog in this series: [\[Blog Post\] SAP Event Mesh – Enable SAP Cloud Integration Suite to Consume Messages from SAP Event Mesh Service | SAP Blogs](#)

# ESA and AERO Event mesh

Thursday, February 22, 2024 10:43 AM

[https://eaton.sharepoint.com/sites/Team\\_EMEAHSSharePoint/EMEA%20EHS%20Procedures/EMEA-EHS-PROCEDURE-041-MESH%2010%20EVENT%20REPORTING%20AND%20INVESTIGATION%20rev3.pdf](https://eaton.sharepoint.com/sites/Team_EMEAHSSharePoint/EMEA%20EHS%20Procedures/EMEA-EHS-PROCEDURE-041-MESH%2010%20EVENT%20REPORTING%20AND%20INVESTIGATION%20rev3.pdf)



Adding a New Event Mesh Outbound Message Work Instructions

## Adding a New Event Mesh Outbound Message Work Instructions

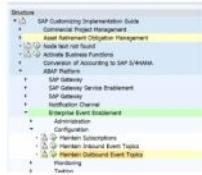
### Purpose

Provide the steps necessary to add a standard event to the SAP Event Mesh service and then consume that message in SAP CPI.

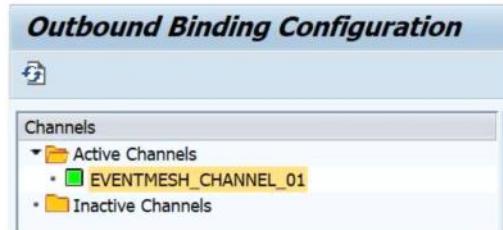
## Add the outbound event configuration in S/4

1. Log into the S/4 instance
2. Go to transaction SPRO
3. Execute the maintain outbound event topics configuration item

a. Path: ABAP Platform→Enterprise Event Enablement→Maintain Outbound Event Topics



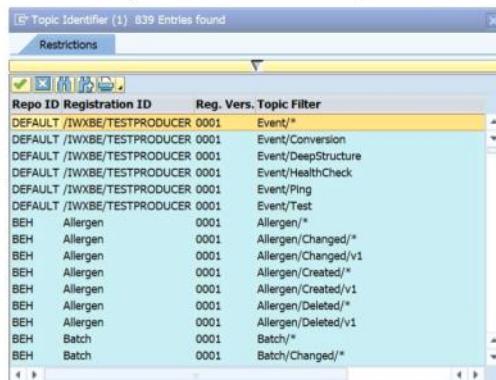
4. Double click the EVENTMESH\_CHANNEL\_01 active channel



- a.
5. Click the create button
6. Select the topic parameter and then the drop down menu (or press F4)



a. You will be presented with a drop down menu



7. Click the expand selection criteria icon

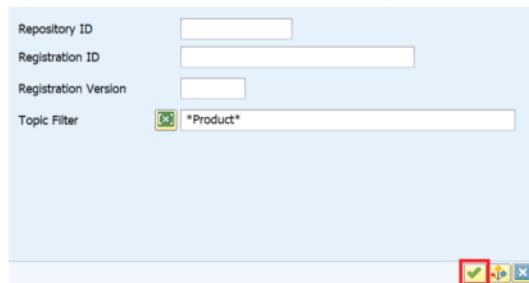


8. In the topic filter enter your logical search criteria

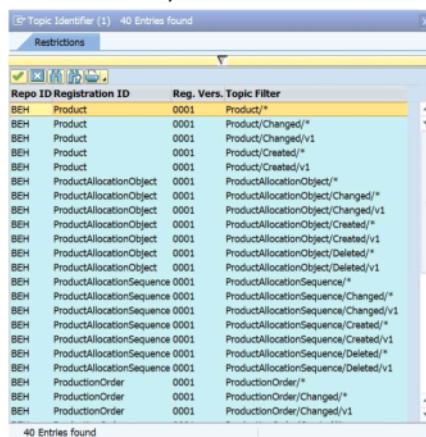


\*Hint you can search for events at api.sap.com

9. Click OK (green checkmark in the bottom right)



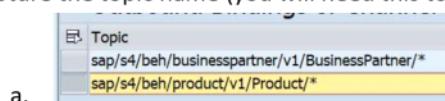
10. Double click the event you want to include



11. Click save

a. S/4 will now begin sending these events to the configured channel

12. Capture the topic name (you will need this to add the topic to SAP Event Mesh)



a.

## Add the event to a Topic in SAP Event Mesh

1. Connect to the [SAP Event Mesh Application](#)
2. Click the EatonEM messaging client

The screenshot shows the SAP Event Mesh application interface. On the left, there's a sidebar with options: Default Plan, Subdomain : eatoncorporation-02, Message Clients, Queues, Resource Allocation, Resource Usage, and Test. Under 'Message Clients', there's a list with one item: EatonEM, Type: Instance. This item is highlighted with a red box.

3. Click Queues

The screenshot shows the 'Queues' tab selected in the SAP Event Mesh application. At the top, there's a dropdown menu labeled 'EatonEM'. Below it, there are tabs for Overview, Rules, Queues, Webhooks, Events, Service Descriptor, and Test. The 'Queues' tab is active. There are four status indicators: Namespace (ENABLED), Type (ENABLED), Management (ENABLED), Messaging (ENABLED), and Messaging REST (ENABLED).

4. Select Actions -> Queue Subscriptions

The screenshot shows the 'Edit Queue' modal for a queue named 'Eaton02/EatonEM/POC-01/S4\_POC'. In the 'Actions' menu, the 'Queue Subscriptions' option is highlighted with a red box.

b.

5. Enter the topic name <namespace> + / + S/4 topic name

- a. In this case the namespace is Eaton02/EatonEM/POC-01 (everything up to the final / in the queue name) and the topic name is sap/s4/beh/product/v1/Product/\*
- b. So the final topic name is Eaton02/EatonEM/POC-01/ce/sap/s4/beh/products/v1/Product/\*

6. Click Add

The screenshot shows the 'Add Queue Subscription' dialog. It has fields for 'Queue Name:' (Eaton02/EatonEM/POC-01/S4\_POC) and 'Topic:' (Eaton02/EatonEM/POC-01/ce/sap/s4/beh/products/v1/Product/\*). There is an 'Add' button at the bottom right.

a.

7. Click Close

- a. When a product is changed in S/4 we will now see the message incremented in this queue



# Event Mesh Channel Configuration

Thursday, February 22, 2024 10:45 AM

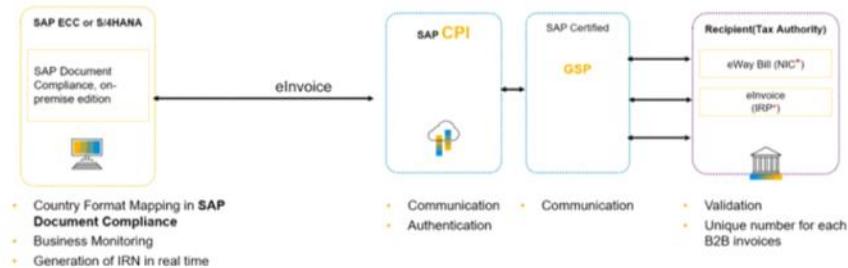
[Event Mesh Channel Configuration](#)





The GST council of India has decided to introduce with centralized issuance of a unique number (Invoice Reference Number) and a QR code for each B2B invoice on reporting of invoice data to a central portal with effective mandate date from 1<sup>st</sup> April 2020 for tax payers having turnover of INR 100 Cr and above. As per the automated solution provided by SAP below will be the setup of the data flow. The invoices will be get available in the E-document cockpit in ECC and once submit will flow to SAP CPI then to a SAP certified GSP (GST Suvidha provider) and then to the IRP (Invoice Registration Portal). The IRN number and the QR code will be generated in the IRP portal and communicated back through the same flow to the SAP ERP system.

### SAP eInvoice for India (Automated) - Components



**GSP** - Goods and Service Suvidha Provider  
**CPI** - Cloud Platform Integration

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**NIC\*** - National Informatics Centre  
**IRP\*** - Invoice Registration Portal

9

# SAP CPI course

Sunday, March 1, 2020 6:22 PM

[https://www.cpicourse.com/sap-cpi-course?  
track=dgyoutube&utm\\_source=youtube&utm\\_medium=video&utm\\_campaign=learnncpi](https://www.cpicourse.com/sap-cpi-course?track=dgyoutube&utm_source=youtube&utm_medium=video&utm_campaign=learnncpi)

CRQ000000379295			<div style="border: 1px solid #ccc; padding: 5px;"><p>6 entries returned - 6 entries matched</p><table border="1"><thead><tr><th>Type</th><th>Summary</th></tr></thead><tbody><tr><td>Test Results - Details</td><td>UAT test results for Hungary E...</td></tr><tr><td>Technical Design</td><td>IFlow will...</td></tr><tr><td><b>Install Plan</b></td><td>To resolve...</td></tr><tr><td>Backout Plan</td><td>Jitendra S...</td></tr><tr><td>Communication Plan</td><td>Process F...</td></tr><tr><td>General Information</td><td></td></tr></tbody></table><p>... <small>(Detailed description available in the document)</small></p></div>	Type	Summary	Test Results - Details	UAT test results for Hungary E...	Technical Design	IFlow will...	<b>Install Plan</b>	To resolve...	Backout Plan	Jitendra S...	Communication Plan	Process F...	General Information		<div style="border: 1px solid #ccc; padding: 5px;"><p>Change – Notes:</p><p>IFlow will be deployed manually by jitendra Shirath at 4/12/2020 7:00 AM Install plan is to deploy new artifacts for e-documents CPI Hungary.</p></div>	<p>File   S</p> <p>X</p> <p>1 4 4 4 4 4 4 4 4 4 4 4</p>
Type	Summary																		
Test Results - Details	UAT test results for Hungary E...																		
Technical Design	IFlow will...																		
<b>Install Plan</b>	To resolve...																		
Backout Plan	Jitendra S...																		
Communication Plan	Process F...																		
General Information																			

# CPI Instances in global account

Wednesday, August 30, 2023 3:42 PM

The screenshot shows the SAP BTP Cockpit interface for a global account. The left sidebar navigation includes Overview, Services (selected), Service Marketplace, Instances and Subscriptions (selected), Cloud Foundry (selected), Spaces, Quota Plans, Org Members, HTML5 Applications, Connectivity, Destinations, Cloud Connectors, Security, Users, Data Collection, Help and Support, and Useful Links. The main content area displays the 'Subaccount: Int\_Suite\_Dev - Instances and Subscriptions' page. It shows a table of instances with the following data:

Instance	Service	Plan	Runtime Environment	Scope	Created On	Status
aero-eventmesh-dev	Event Mesh	def...	Clo...	AERO_EVENTMESH_SPACE	2 k...	Created
aero-processintegrationruntime-dev	Process Integration Runtime	inte...	Clo...	AERO_SPACE	1 key	Created
cloud_transport_ms	aero-processintegrationruntime-dev	pud...	sta...	CTMS_SPACE	1 key	Created
content_agent_service	Content Agent Service	sta...	Clo...	CONTENT_AGENT_SPACE	1 key	Created
esa-eventmesh-dev	Event Mesh	def...	Clo...	ESA_EVENTMESH_SPACE	1 key	Created
esa-iasapi-dev	Authorization and Trust Manag...	api...	Clo...	ESA_DEV_IAS	1 key	Created
esa-processintegrationruntime-dev	Process Integration Runtime	inte...	Clo...	ESA_SPACE	6 k...	Created
processintegration_api_dev	Process Integration Runtime	api	Clo...	PI_API_DEV_SPACE	1 key	Created
unity-processintegrationruntime-dev	Process Integration Runtime	inte...	Clo...	UNITY_IntegrationSuite_SPAC	2 k...	Created

Below the table, there is a section titled 'Environments (1)'.

On the right side of the screen, there are two user profiles: Oishi, Diego M and Njoroge, Peter N.

The screenshot shows the SAP BTP Cockpit interface for a QA subaccount. The left sidebar navigation is identical to the previous screenshot. The main content area displays the 'Subaccount: Int\_Suite\_QA - Instances and Subscriptions' page. It shows a table of instances with the following data:

Instance	Service	Plan	Runtime Environment	Scope	Created On	Status
esa-eventmesh-prep	Created					
esa-eventmesh-qas	Created					
esa-eventmesh-qas2	Created					
esa-processintegrat...	Created					
processintegration_a	Created					
unity-processintegr...	Deleted					
unity-processintegr...	Created					

Below the table, there is a section titled 'Environments (1)'. A detailed view of one instance is shown on the right:

Instance ID: 8a619cab-0f3e-4e75-89e-9dd3d14404e9  
Service: Process Integration Runtime (qa)  
Plan: integration-flow

Runtime Environment: Cloud Foundry  
Scope: UNITY\_IntegrationSuite\_SPACE  
Status: Created

View Credentials

Bound Applications (0) | Service Keys (2) | Labels (0)

Name	Status	Create
	No bound applications.	

Service Keys (2)

Name	Status	Create
R31_SSL_Client_Standard	Created	
SCI_QA_Keystone	Created	

Labels (0)

Add

3:40 PM  
8/30/2023

# CPI account

Friday, November 10, 2023      11:00 AM

Diana's CPI password

S0024242132

Cooper@2023

## ERP Integration Patterns (SAP)

Friday, September 8, 2023 3:15 PM

<https://confluence-prod.tcc.etn.com/display/AMMD/Application+Connectivity+Guidelines>

Application Connectivity Guidelines

ERP Integration Patterns (SAP)



<https://webinars.sap.com/2021-12-31-sap-btp-customer-value-network-global/en/upcoming#03072024>

<a href="https://community.sap.com/t5/technology-blogs-by-sap/sap-integration-suite-advanced-event-mesh-vis-%C3%A0-vis-sap-event-mesh-and-sap/ba-p/13531535">https://community.sap.com/t5/technology-blogs-by-sap/sap-integration-suite-advanced-event-mesh-vis-%C3%A0-vis-sap-event-mesh-and-sap/ba-p/13531535</a>	Compare Event mesh and Advanced Event mesh
---	--