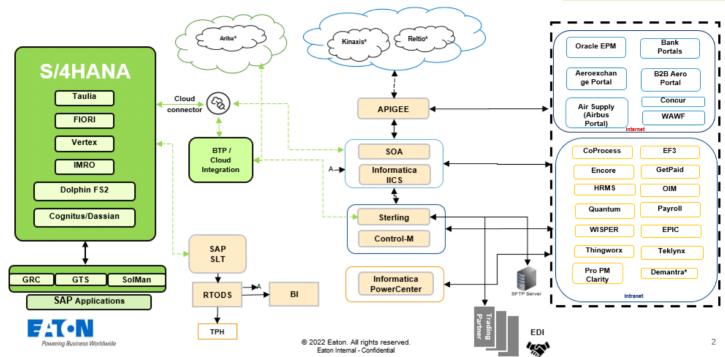
## Aero: S/4HANA Integration Phase 1 (Global Template Release)



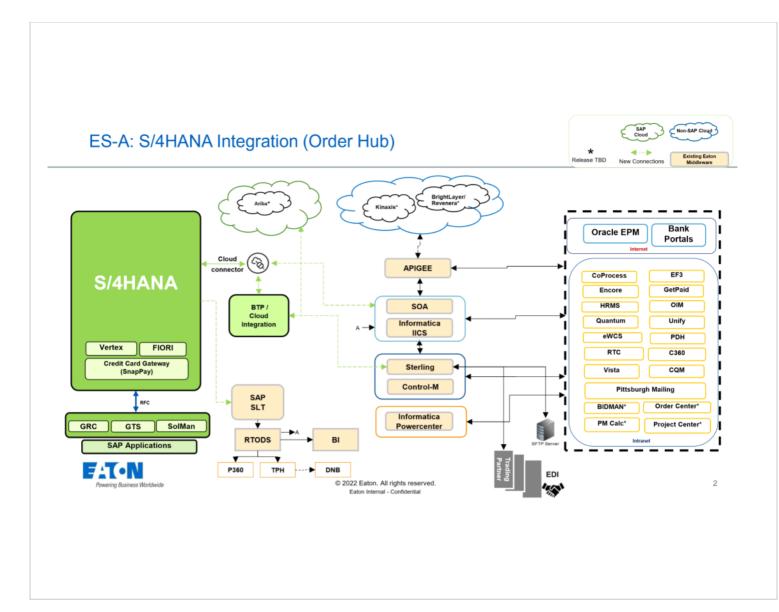


From <a href="https://powerpoint.officeapps.live.com/pods/ppt.aspx?ui=en-US&rs=en-US&wdenableroaming=1&mscc=1&hid=598019A1-E087-5000-166F-4314FE8DDC97.0&uih=sharepointcom&wdlcid=en-US&isapi=1&jsapiver=v2&corrid=189213bf-6061-3b48-8f01-18de985a55ee&newsession=1&sftc=1&uihit=docaspx&muv=1&dchat=1&sc=%7B%22pm%22%3A%22https%3A%2F%2Featon.sharepoint.com%22%2C%22pmshare%22%3Atrue%7D&wdorigin=Sharing.DirectLink&wdpodsurl=https%3A%2F%2Fpowerpoint.officeapps.live.com%2Fpods%2F&wdpopsurl=https%3A%2F%2Fpowerpoint.officeapps.live.com%2F&wdoverrides=devicepixelratio:1.100000023841858,RenderGifSlideShow:true&filename=EATON%20Aero%2054%2Ppostmeration.pptx&filegeturlbool=true&fs=1022833&ro-false&fastboot=true&noauth=1&thpanel=775&sw=876&sh=722&postmessagetoken=189213bf-6061-3b48-8f01-18de985a55ee>





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### ES-A

### **Assumptions:**

- No existing internal/external systems to be phased out.
- Existing middlewares are not to be phased out.
- The connection from BTP to APIGEE is for any services exposed out of BTP from S/4 which needs to be consumed further for any other applications
- API interfaces with non-SAP boundary systems would be via APIGEE or SOA
- BATCH interfaces are File based interfaces which will be handled via Control M
- CDC type of interfaces are Data intensive interfaces which will be handled via SLT

### **Questions:**

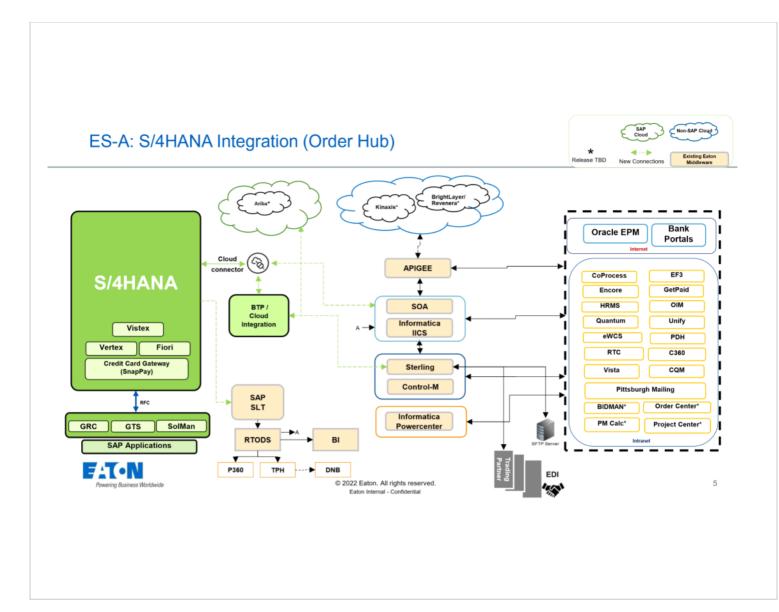
Does Oracle EPM replace Oracle Hyperion in parallel of SAP S/4 implementation?
 What change(s) it means for SAP connecting to Oracle EPM/Hyperion.



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3





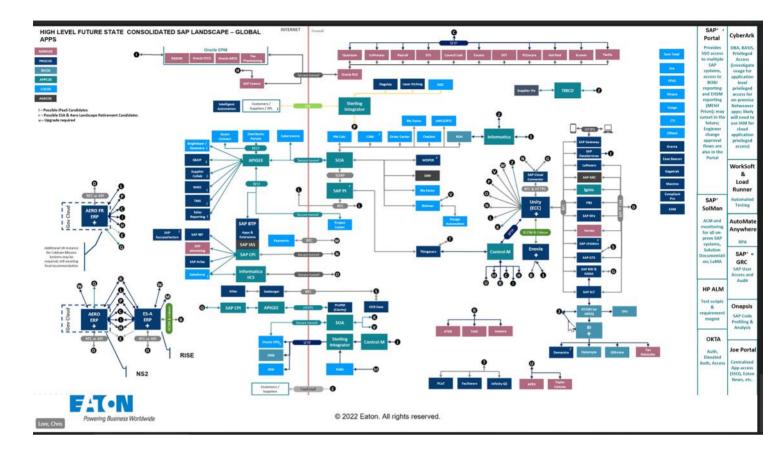
### ES-A

### **Assumptions:**

- No existing internal/external systems to be phased out.
- Existing middlewares are not to be phased out.
- The connection from BTP to APIGEE is for any services exposed out of BTP from S/4 which needs to be consumed further for any other applications
- API interfaces with non-SAP boundary systems would be via APIGEE or SOA
- BATCH interfaces are File based interfaces which will be handled via Control M within the Eaton Network, external SFTP transfers will be performed through Sterling Integrator
- CDC type of interfaces are data change capture interfaces which will be handled via SLT



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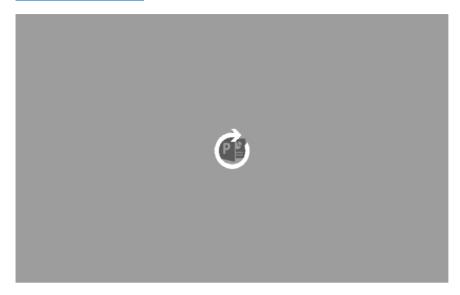


REFARCH\_S4 Programs Reference Architecture.url REFARCH ESA S4 Order Hub.url

### ERP Integrations Patterns - SAP

Thursday, March 28, 2024 11:26 AM

### ERP Integration Patterns (SAP)





ERP Integration Patterns (SAP)





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## **Executive Summary**

### **Objectives**

Provide the architecture community with high-level guidelines and guardrails for appropriate integration patterns with our ERP systems to ensure that all solution architects are following similar patterns when integrating with our ERP systems

### **Approach**

• Outline approved approaches per ERP system (currently only SAP platforms are documented)

### Key take away

• Which approach and middleware tools may be used in each environment per pattern

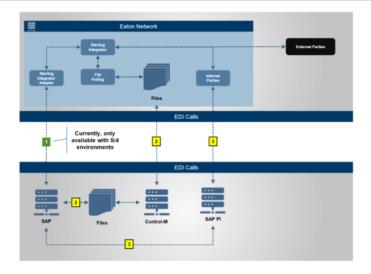


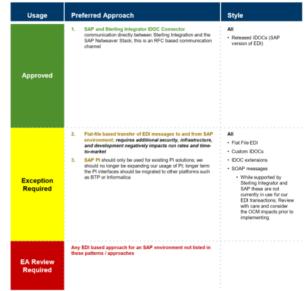
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## SAP ERP - EDI Integration Approaches

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)

DRAFT



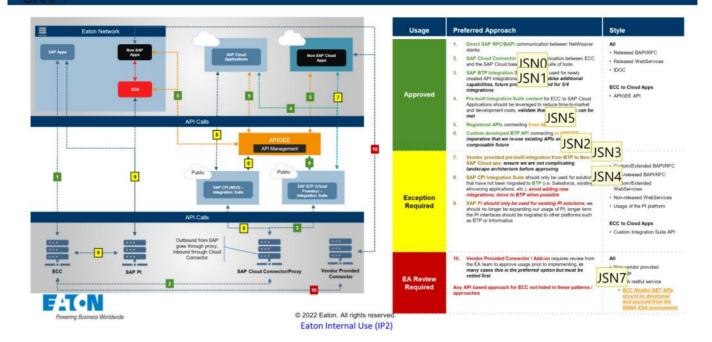




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# SAP ECC - API Integration Approaches

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)



Slide 4	
JSN0	Is this applicable for custom apps ? Should this a separate pattern ? [@Lore, Chris] - Pls confirm Joshi, Shilna N, 2023-09-19T14:19:34.897
LC0 0	Pattern is the same regardless. Custom apps or not. If it is a custom SAP to SAP NetWeaver we can still use standard RFC/BAPI communications between NetWeaver stacks. We do this today and will continue to in the future.  Lore, Chris, 2023-09-19T18:19:03.582
JSN1	(2) Cloud connector is only used for inbound communications to SAP ECC. Outbound connections goes through network proxy. [@Lore, Chris] - Pls correct the diagram Joshi, Shilna N, 2023-09-19T14:22:29.503
LC1 0	Updated with comment and adding proxy to the SAP Cloud Connector. Lore, Chris, 2023-09-19T19:07:56.868
JSN2	(5) Consumption of all APIs will be through Apigee Joshi, Shilna N, 2023-09-19T14:28:00.833
LC2 0	How would you reword 5? Lore, Chris, 2023-09-19T18:32:30.055
JSN3	(6) Integration Suite will publish APIs from SAP ECC to Apigee Joshi, Shilna N, 2023-09-19T14:28:22.037
LC3 0	Yes but does this really need to show that level of detail? How would you like to reword this? Lore, Chris, 2023-09-19T18:33:26.354
JSN4	(7) SAP provided connector or third party connector review before approving. Examples - Salesforce, India tax - GST etc.
	This would include an external API that is not re-usable (point to point) across applications.  Joshi, Shilna N, 2023-09-19T14:34:25.790
LC4 0	Is there an action here? Lore, Chris, 2023-09-19T18:34:02.245
JSN5	(4) This is pre-built mappings Joshi, Shilna N, 2023-09-19T14:34:47.998
LC5 0	Roughly yes but there are also additional capabilities built into the iFlows depending on the pre-built scenario/function. Lore, Chris, 2023-09-19T18:31:45.148
JSN6	(8) Look for opportunities where the CPI integrations can be migrated to IS.

Slide	4	(Continued)

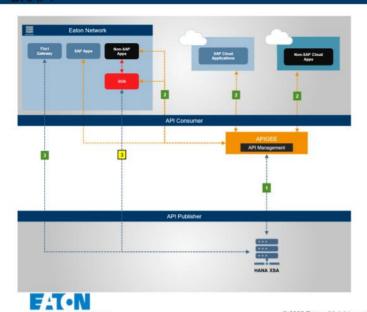
the API standards from this document? Lore, Chris, 2023-09-19T18:36:15.592

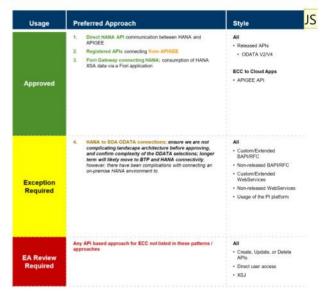
	Joshi, Shilna N, 2023-09-19T14:37:18.074
LC6 0	BTP is IS, commented added to migrate to BTP when possible Lore, Chris, 2023-09-19T18:16:24.453
JSN7	[@Lore, Chris] - Please clarify the difference between 7 and 10. Joshi, Shilna N, 2023-09-19T14:39:36.058
LC7 0	10 does not go through BTP. As an example Vertex provides an RFC/API structure and their own gateway / RFC adapter that we connect to. We install the addon and use it to directly connect to their environment. The same is true of Taulia and other SAP partners.  Lore, Chris, 2023-09-19T18:35:27.450
JSN8	The enterprise API pattern with layered architecture is not covered. The data API will be created in Integration Suite, those will connect to Oracle SOA suite where the process API will be laid out. [@Lore, Chris] , [@Gawai, Sanjay] - PIs add Joshi, Shilna N, 2023-09-19T14:45:21.250
LC8 0	Would a comment suffice? That's a lot of detail to layer into a high-level image. Would it maybe make more sense to link to

## SAP ECC - Restful GET API Approach

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)

DRAFT





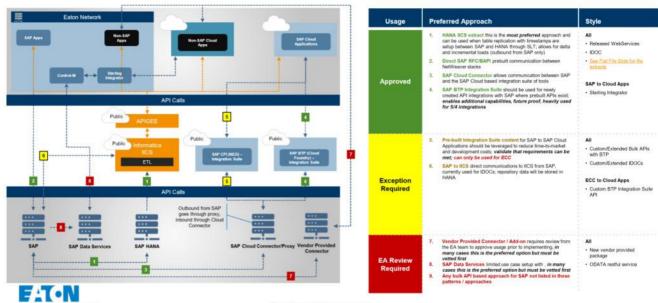
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JSN0	Is this an approved pattern? This needs to be reviewed, the APIs that are exposed from HANA database must follow the enterprise API standards. [@Lore, Chris], [@Gawai, Sanjay] - Please review and confirm the rationale.
JSN1	Joshi, Shilna N, 2023-09-19T14:49:14.978  Need further discussion on this. It has not been a good experience with using HANA APIs as data APIs - [@Lore, Chris], [@Gawai, Sanjay] - Please review and confirm the rationale.  Joshi, Shilna N, 2023-09-19T14:49:112.563
LC1 0	We have to offload API calls from ECC as the number of calls into the ERP itself are causing additional load and strain in the environment. These can be moved to an exception basis, but we have to offload calls these direct calls into the ERP. Long term this should move to an HPDS but for now we will need to continue with the HANA API development in limited fashion. Lore, Chris, 2023-09-19T18:2952.192

## SAP ERP – Bulk API Approach

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)

DRAFT



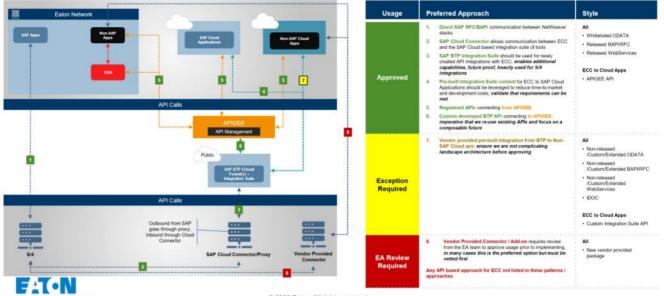
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## SAP S/4 - API Integration Approaches

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)

DRAFT

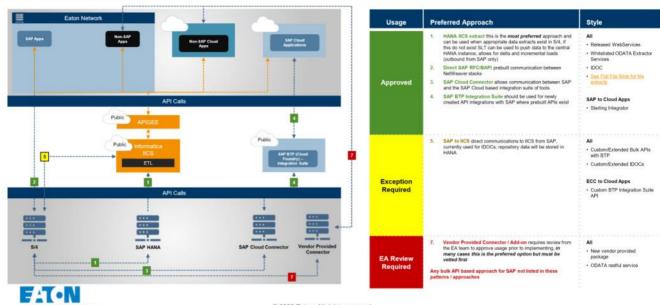


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## SAP S/4 – Bulk API Approach

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)



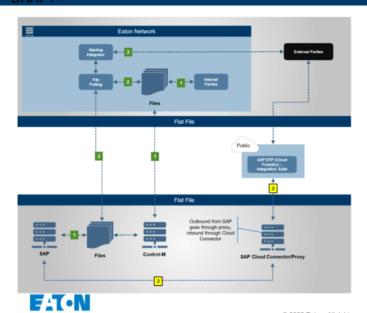


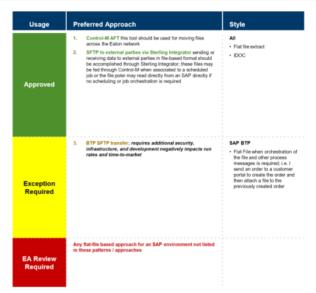
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## SAP ERP – File Based Approaches

Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)

DRAFT



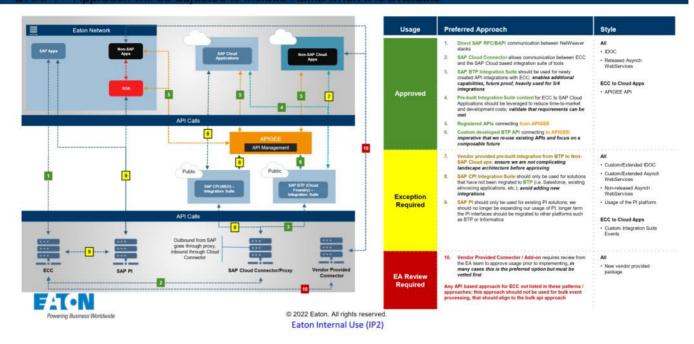


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## SAP ECC – Event Approach

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)

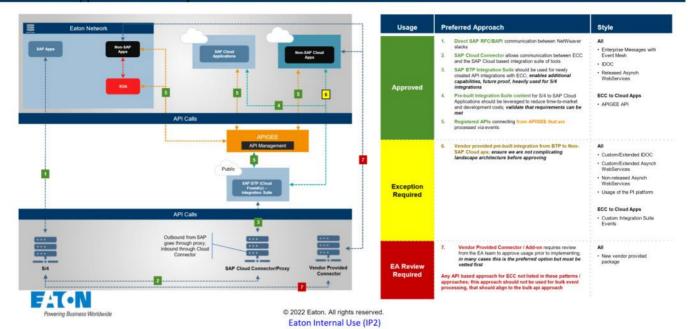
DRAFT - Approach will be adjusted to include Kafka when it is available



## SAP S/4 – Event Approach

Not Approved for Restricted Data (ITAR, EAR, CUI, CTD, etc.)

DRAFT – Approach will be adjusted to include Kafka when it is available

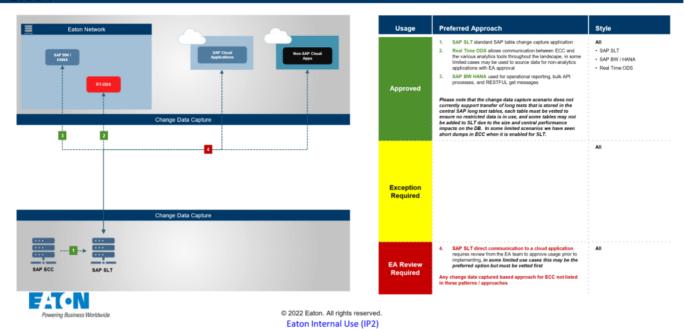


Patterns Page 24

## SAP ECC – Change Data Capture Approach

DRAFT

Approved for Restricted Data - IF TARGET IS OF APPROPRIATE LEVEL (ITAR, EAR, CUI, CTD, etc.)

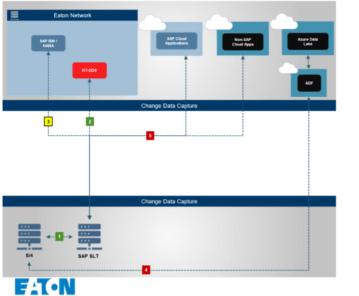


Patterns Page 25

## SAP S/4 – Change Data Capture Approach

Approved for Restricted Data - IF TRANSFER MECHANISM AND TARGET IS OF APPROPRIATE LEVEL (ITAR, EAR, CUI, CTD, etc.)

DRAFT



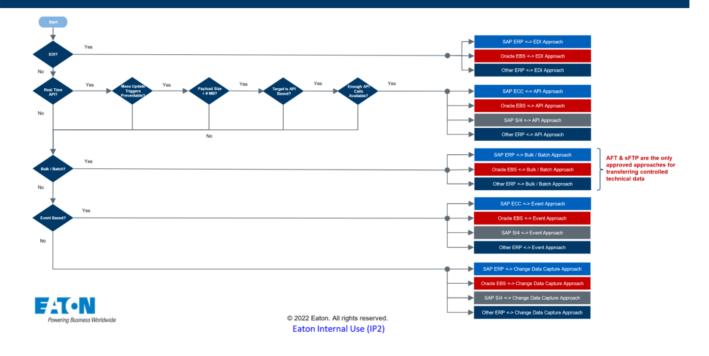
Usage	Preferred Approach	Style
	SAP SLT standard SAP table change capture application     Real Time ODS allows communication between ECC and     the various analytics tools throughout the landscape, in some     limited cases may be used to source data for non-analytics     applications with EA approval	All CDS Extraction Views SAP SLT SAP BW / HANA
Approved	Please note that the change data capture scenario does not currently support transfer of long texts that is stored in the central SAP long text tables, each table must be vetted to ensure no restricted data is in use, and some tables may not be added to SLT due to the size and central performance impacts on the OB. In some limited scenarios we have seen short dumps in BCC when it is enabled for SLT.	Real Time ODS
Exception Required	SAP BW HAMA used for operational reporting and bulk APIs with Skit, we may need to harmonize all SAP ERP data into this layer longer term, but it is not currently in scope	All
EA Review Required	4. SI4 Microsoft Azure Data Factory to Azure Data Lake this pattern is under review and will likely be the means for moving data from a cloud nosted SAP environment to Azure Data Lake or other Cloud based applications  SAP SI Tiderect communication to a cloud application requires review from the EA team to approve usage prior to implementing, in some limited use cases this may be the preferred option but must be vetted first.	All
	Any change data captured based approach for ECC not listed in these patterns / approaches	

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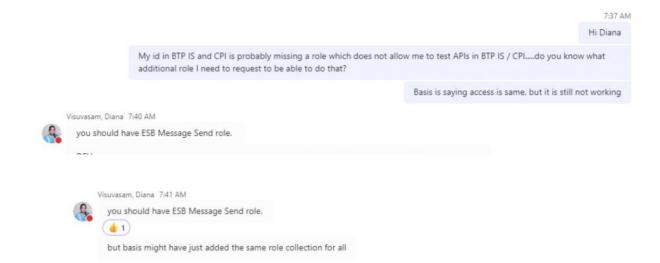


## **ERP Integration Decision Tree**



## BTP IS / CPI missing role for testing APIs

Thursday, April 4, 2024 9:11 AM



SAPOrderManagement-v1

Salesorders Shipments