Business Partner Replication from S/4HANA to S/4HANA Public Cloud

Content

1 Prerequisites

The following configurations are required when implementing this interface:
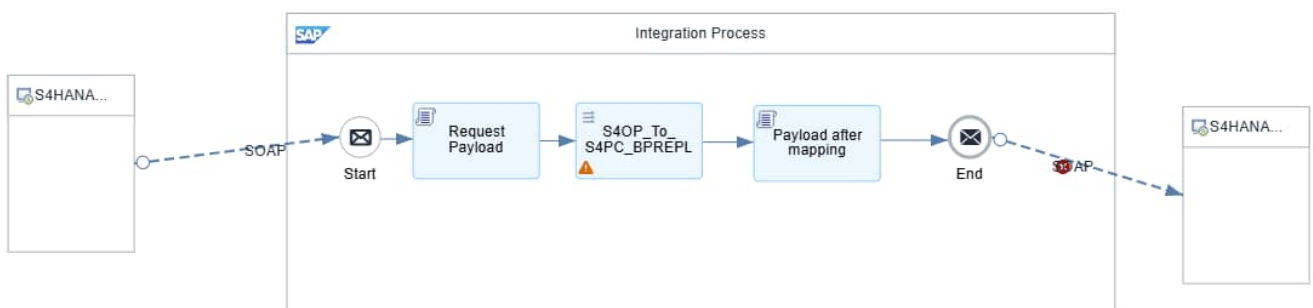1. Cloud Connector is recommended to be setup for the connectivity between SAP BTP Integration Suite and S/4HANA On-Premise system.
2. Communication Scenario SAP_COM_0179 is activated in S/4HANA Public Cloud.
3. SOAMANAGER Logical Ports are setup in S/4HANA On-Premise.
4. Data Replication Framework Configuration is completed within S/4HANA On-Premise.

2 Documentation

SAP S/4 HAHA On-Premise	**Start**	Enable and Configure Data Replication Framework with appropriate filter criteria.	Send Business Partner Data via Replication model or background job
SAP BTP Integration Suite IFLOW			Transform the data and map necessary fields for S/4HANA Public Cloud API.
SAP S/4 HAHA Public Cloud		**End**	Create or update Business Partner in S/4HANA Public Cloud
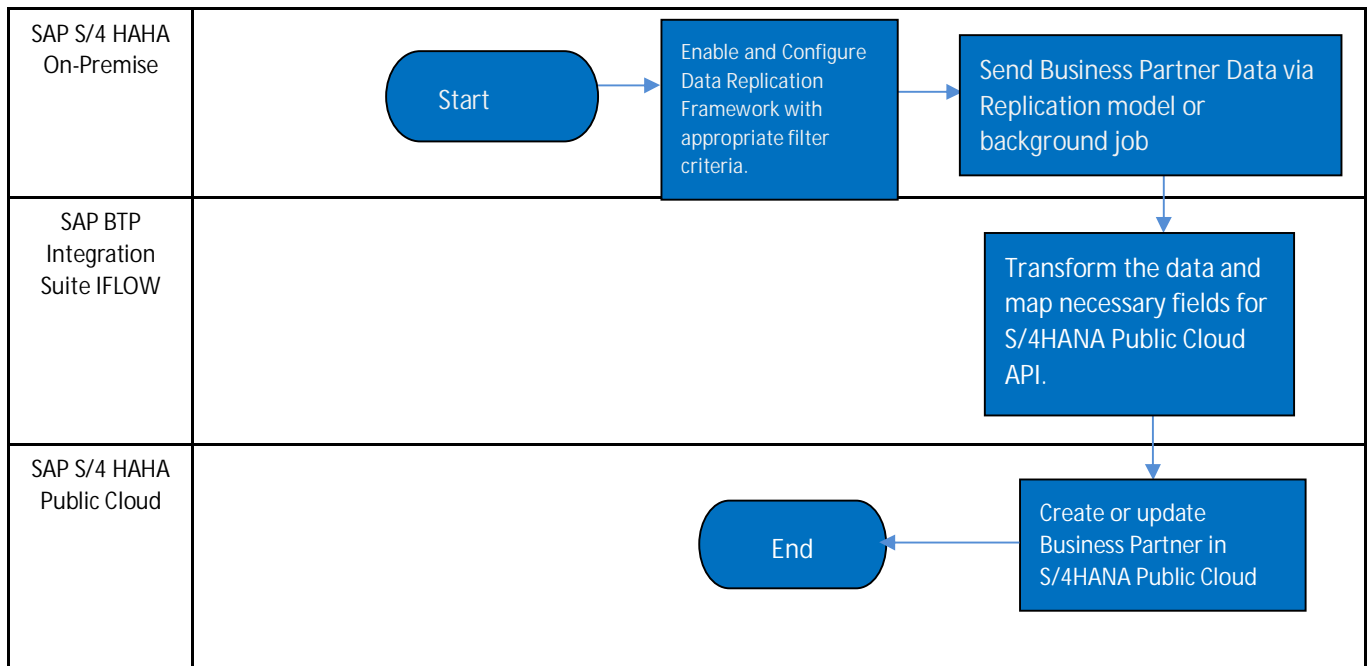
Business Partner Replication Process Flow

Business Partner Replication Integration Flow

3 Configuration steps on SAP Cloud Integration

3.1 Configure Sender Adapter

The following needs to be configured in the Sender Adapter. This will be forming the part of the endpoint to be called from the SAP S/4HANA On-Premise SOAMANAGER Logical Port:

SOAP			Externalize	⑦	⤢	⤢

General | **Connection** | **WS-Security** | **Conditions**

CONNECTION DETAILS

Address:*	/businesspartner_repl
Service Definition:	Manual ⌄
Use WS-Addressing:	☐
Message Exchange Pattern:	One-Way ⌄
Processing Settings:	WS Standard ⌄
Authorization:	User Role ⌄
User Role:*	ESBMessaging.send	Select

Sender Adapter Configuration	
Address	Configure a meaningful unique Address after a slash. This will be used from the S/4HANA Public Cloud Communication Arrangement URL.
Service Definition	Manual
User Role	This will depend on the preference of the organization, whether to use 'ESBMessaging.send' or Certificate Authentication

3.2 Configure Receiver Adapter

The following needs to be configured in the Receiver Adapter to be able to connect to SAP S/4HANA Public Cloud:

SOAP

General   **Connection**   **Processing**

CONNECTION DETAILS

Address: *	https://<S4PC URL>/sap/bc/srt/scs_ext/sa|
URL to WSDL:	/wsdl/BUSINESSPARTNERSUITEBULKREPLIC (3).wsdl **Select**
Service:	p1:service
Endpoint:	p1:binding
Operation Name:	p1:BusinessPartnerSUITEBulkReplicateRequest_In
Proxy Type:	Internet
Authentication:	Basic

Authentication:	Basic
Credential Name: *	<Define Value>
Timeout (in ms):	60000
Keep-Alive:	☑
Compress Message:	☐
Allow Chunking:	☑
Return HTTP Response Code as Header:	☐
Clean-up Request Headers:	☑

Receiver Adapter Configuration	
Address	This will consist of the URL to the S/4HANA Public Cloud system and the indicated suffix in the standard package.
URL to WSDL	<Maintain the same URL indicated>
Endpoint	<Maintain the same Endpoint indicated>
Operation Name	<Maintain the same Operation Name indicated>
Proxy Type	Internet
Authentication	Basic
Credential Name	This is the Credential created within the SAP BTP Security Material section
Timeout	60000

4 Confirmation Configuration steps on SAP Cloud Integration

4.1 Configure Sender Adapter

The following needs to be configured in the Sender Adapter. This will be forming the part of the endpoint to be called from the SAP S/4HANA Public Cloud:

Configure "Replicate Business Partner Confirmation from SAP S4HANA Public Cloud Edition to S4HANA Private Cloud"

| Sender | Receiver |

Connection

Sender:	S4HANA_Public_Edition
Adapter Type:	SOAP
Address:	/v1/BusinessPartnerRepConfirmation
Authorization:	User Role
User Role:	ESBMessaging.send	Select

Conditions

| Body Size (in MB): | 40 |
| Attachments Size (in MB): | 100 |

Sender Adapter Configuration	
Address	Configure a meaningful unique Address after a slash. This will be used from the S/4HANA Public Cloud Communication Arrangement URL.
Service Definition	Manual
User Role	This will depend on the preference of the organization, whether to use 'ESBMessaging.send' or Certificate Authentication

4.2 Configure Receiver Adapter

The following needs to be configured in the Receiver Adapter to be able to connect to SAP S/4HANA Private Cloud:

Configure "Replicate Business Partner Confirmation from SAP S4HANA Public Cloud Edition to S4HANA Private Cloud"

| Sender | Receiver |

Connection

Receiver:	S4HANA_Private_Edition
Adapter Type:	SOAP
Address:	{{S4OP_URL}}/sap/bc/srt/xip/sap/businesspartnersuitebulkrepli1/<SYS_ID>/businesspartnerrep_in/businessp...
S4OP_URL:	http://<host>:<port>
Proxy Type:	On-Premise
Location ID:	
Authentication:	Basic
Credential Name:	S4HANA_OP_SOA_CREDENTIALS_UAT
Timeout (in ms):	60000

Receiver Adapter Configuration	
Address	This will consist of the URL to the S/4HANA On-premise system and the indicated suffix in the standard package. The corresponding Client System ID must be added as well.
URL to WSDL	
Endpoint	
Operation Name	
Proxy Type	On-Premise (for Cloud Connector setup)
Location ID	Cloud Connector Location ID if applicable
Authentication	Basic
Credential Name	This is the Credential created within the SAP BTP Security Material section
Timeout	60000

5 Configuration steps on S/4HANA On-Premise

Business Partner is sent from the S/4HANA On-Premise system via DRF (Data Replication Framework).

5.1 Activation of Standard SOAMANAGER Service

SOAMANAGER Logical Port

The Business partner data requires a Standard Service Definition to be activated with its Logical Port configured via SOAMANAGER to enable the receipt of data within S/4HANA On-Premise:

Details of Consumer Proxy: CO_MDG_BP_RPLCTRQ

Logical Port:

User ID and Password pertains to the BTP Service instance and key:

URL Access Path is the SAP BTP Integration Suite IFLOW:

Configuring and Triggering the Business Partner Replication interface from S/4HANA On-Premise

The following are the configuration in done in On-prem in order to activate the DRF replication:

Business Partner – DRF Configuration

In transaction code BD54, create the logical system:

BUPA_CALL_FU

Activate the highlighted item below:

Go to the transaction DRFIMG using the IMG following path: Define Custom Settings for Data Replication -> Define Technical Settings -> Define Technical Systems for Business Systems

Choose the Business System and double-click Define Bus. Systems, Bos in the left navigation panel.

In the Change View Define Bus. Systems, Bos: Overview, choose New Entries:

Choose the BO Type and double click Define Bus. Systems, Bos, Communication Channel in the left navigation panel.
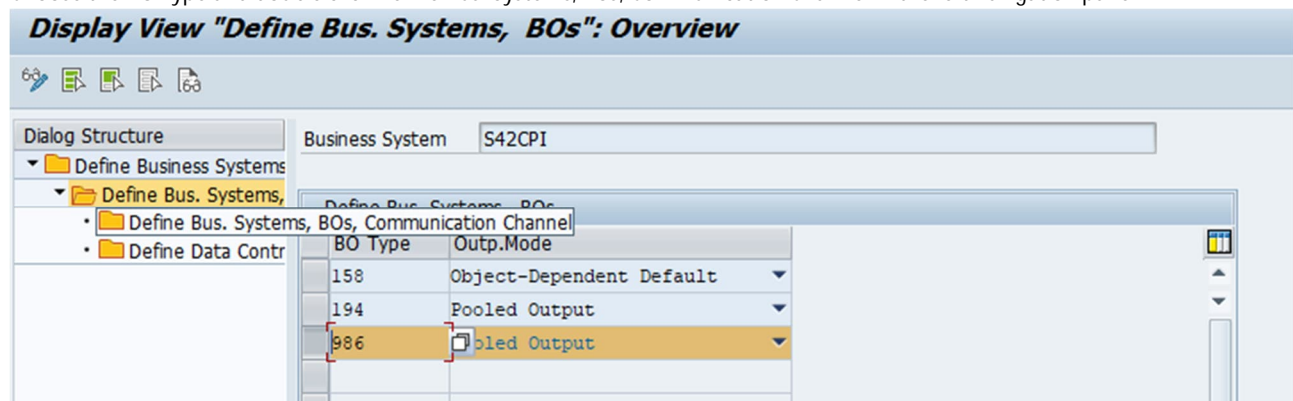
In the Change View Define Bus. Systems, Bos, Communication Channel: Overview, choose New Entries:
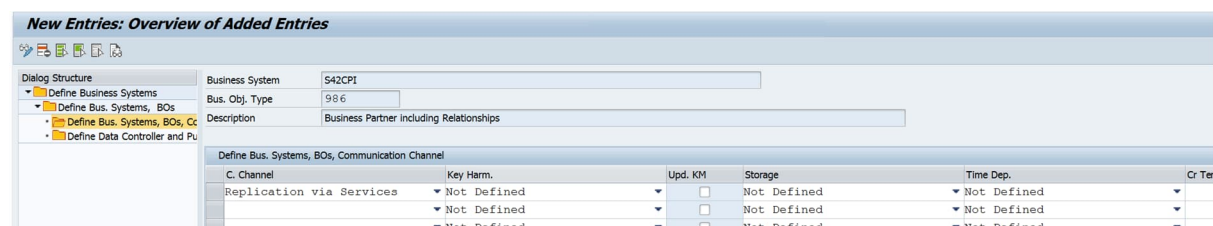
Go to the transaction DRFIMG using the following IMG path: Define Custom Settings for Data Replication -> Define Replication Models
In the Define Replication Model: Overview, choose New Entries:

Display View "Define Replication Model": Overview

Replication Model	Description	Log Days	Data Model	Active	
PC_CPI_BPE	Public Cloud CPI - Business Partner Employee	50		☐	
PC_CPI_BPV	Public Cloud CPI - Business Partner Vendor	50		☑	
PC_CPI_CC	Cost Centre - OP to PC	50		☐	
PC_CPI_PM	Replication Model for Product Master to CPI	50		☑	
SLP_VENDOR	SLP Vendor Replication	50		☑	
ZPLANT	Plant	14		☑	
ZXCHRATE	Excahnge rate Replication	14		☑	

Choose the replication model and choose Assign Outbound Implementation in the left navigation panel.

In the Assign Outbound Implementation: Overview, choose New Entries:

New Entries: Overview of Added Entries

Replication Model   PC_CPI_BP   Public Cloud CPI - Business Partner

Assign Outbound Implementation

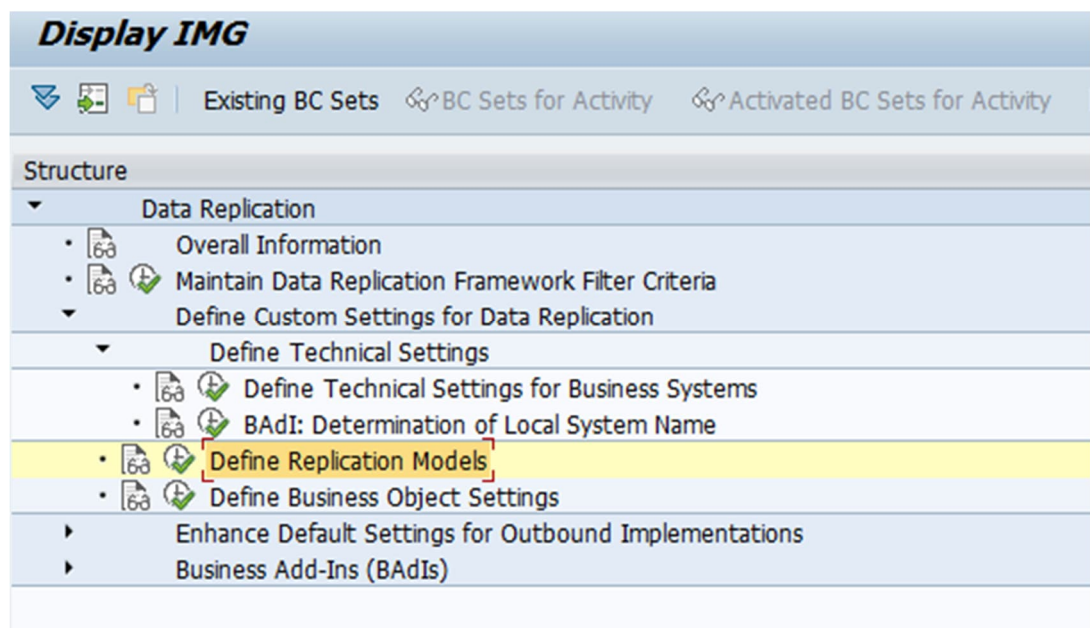| Outbound Implementation	Description	Sequence	Communication Channel	Filter Time	
986_3	Outbound Impl. for BP/REL via Services		Replication via Services	Filter After Change Analysis	
☑			0	Filter After Change Analysis	
☑			0	Filter After Change Analysis	
☑			0	Filter After Change Analysis	

Choose the new outbound implementation and choose Assign Target Systems for Repl. Model/Outb.Impl. in the left navigation panel.

In the Assign Target Systems for Repl. Model/Outb.Impl.: Overview, choose New Entries:
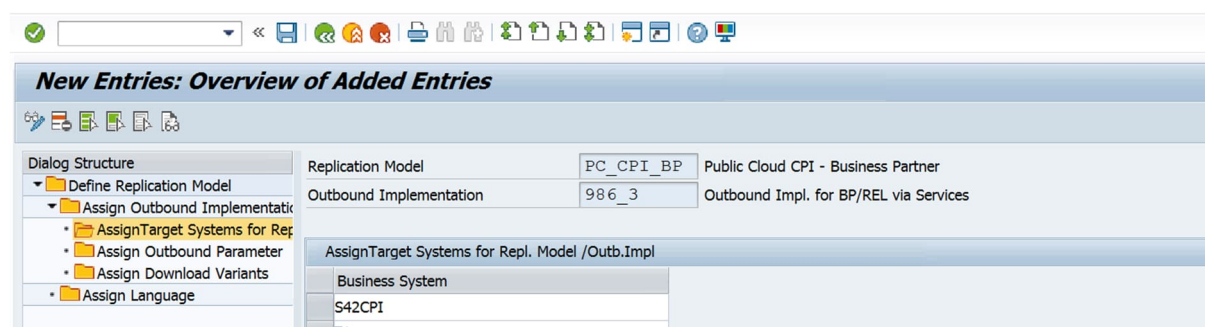
Choose the new Business System and double-click and click Assign Outbound Parameter in the left navigation panel.

In the Assign Outbound Parameter: Overview, choose New entries:
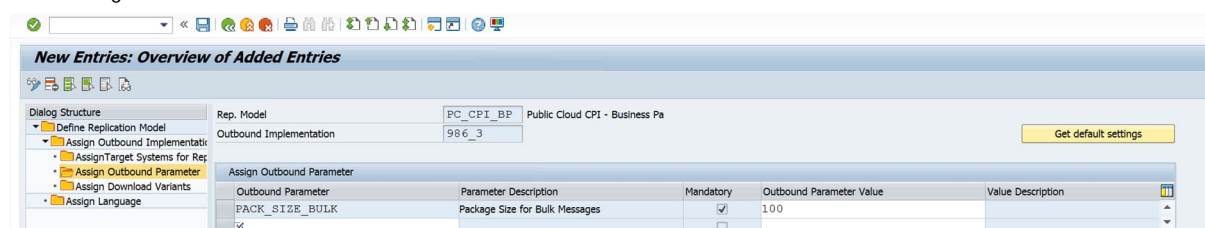
Go to the Define Replication Model and activate.

6 Configuration steps on S/4HANA Public Cloud

6.1 Communication System

A communication system is a way for the SAP BTP Integration Suite to call standard Business Partner relevant APIs. The hostname is the application URL for the BTP application. This is then secured with OAUTH2 and client credentials for outbound, this is secured with BASIC for inbound.

6.2 Communication Arrangement

Needs to be set up to link the communication system with the scenario. In this case it will be using the standard communication scenario SAP_COM_0008.

7 Security and Authentication

7.1 SAP BTP Integration Suite Security Material

SAP BTP Integration Suite will have the following to connect to SAP S/4HANA On-Premise system (depending on which instance – Sandbox, DEV, UAT). These will be referenced in the Integration Flows:

Overview / **Manage Security Material**

Security Material (68)			OP_SOA	X Q	Create ∨	Upload ∨	⟳	⚙

Name	Type	Status	Deployed By	Deployed On		
S4HANA_OP_SOA_CREDENTIALS_UAT_320	User Credentials	Deployed	▮▮▮▮▮@sap.com	Jun 12, 2024, 15:19:04	✎	🗑
S4HANA_OP_SOA_CREDENTIALS_UAT	User Credentials	Deployed	▮▮▮▮▮com	Jun 04, 2024, 12:13:52	✎	🗑
S4HANA_OP_SOA_CREDENTIALS_DEV	User Credentials	Deployed	▮▮▮▮▮@sap.com	May 13, 2024, 10:26:59	✎	🗑
S4HANA_OP_SOA_CREDENTIALS_SAT	User Credentials	Deployed	▮▮▮▮▮p.com	Mar 20, 2024, 21:17:25	✎	🗑

7.2 S/4HANA Public Cloud Security

The communication user will need to be created in the S/4HANA Public Cloud. This is then referenced in the ZSAP_COM_0179 Communication Arrangement/Communication System.

Communication System ∨			Q ⟳ ⑦ 🔔 MM

ZSAP_COM_BTP
ZSAP_COM_BTP   Edit   Display Changes   Delete

General ∨   **Users for Inbound Communication**   Users for Outbound Communication   Business Partners   Communication Arrangements

Users for Inbound Communication

Authentication Method	User Name/Client ID
User ID and Password	R_PC_BTP_INT

8 Error Handling

8.1 S/4HANA On-Premise

User can monitor the error log via transaction code SRT_MONI.
Refer to Section 8 for the details of Scheduling the DRF Replication.

8.2 SAP S/4HANA Public Cloud Interface Monitoring

AIF Monitor:

Ensure that the user has the following access to AIF Namespace (/FINAC for Financial Accounting) in view "Assign Recipients to Users":
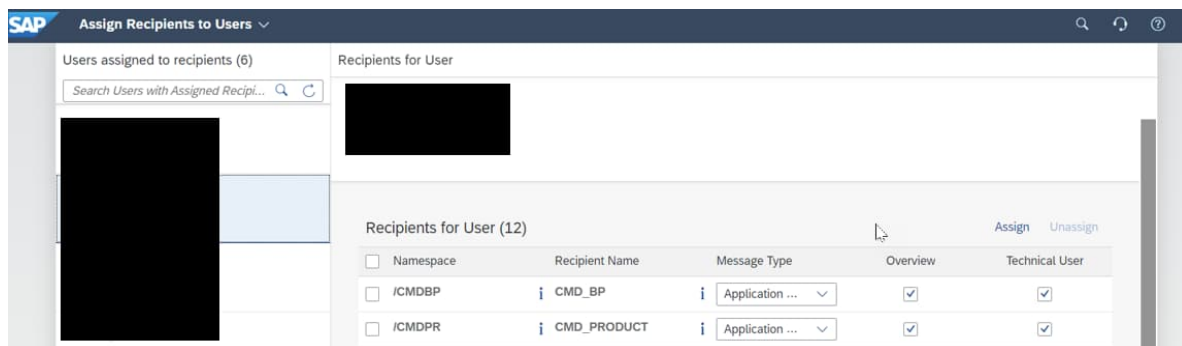
Standard AIF Monitoring can be accessed via the App 'Message Dashboard SAP – Application Interface Framework'

SAP Message Dashboard ⌄

Calendar Monitor

Current Week | Current Month | From (Date/Time): 06/05/2024 00:00:00 To (Date/Time): 06/19/2024 23:59:59 | Search

	January 2024								February 2024								March 2024								April 2024								May 2024								June 2024				

Result List

Message Summary | Interface Key Fields | My Messages | WS Technical Log

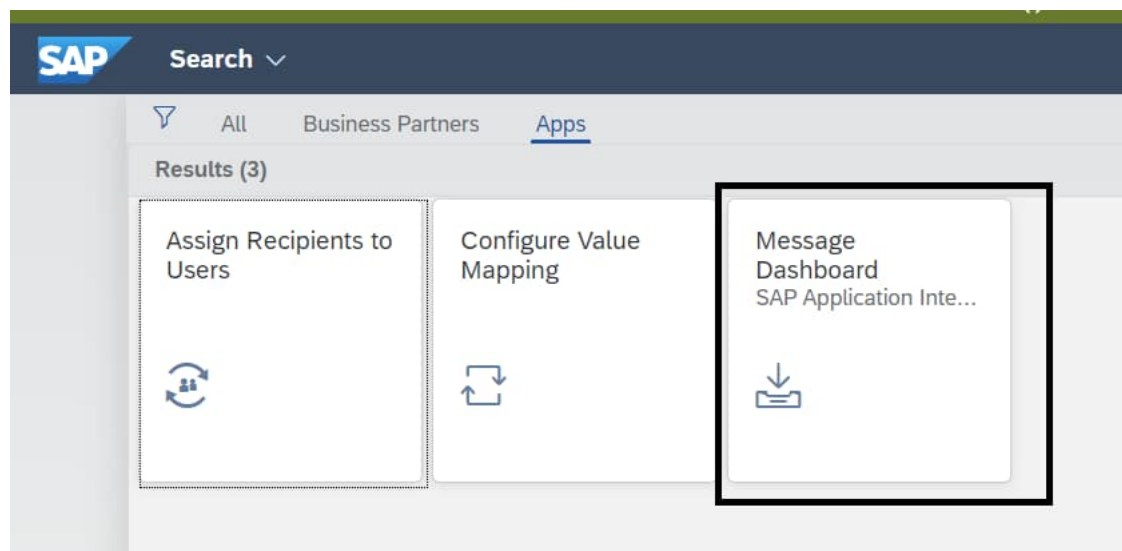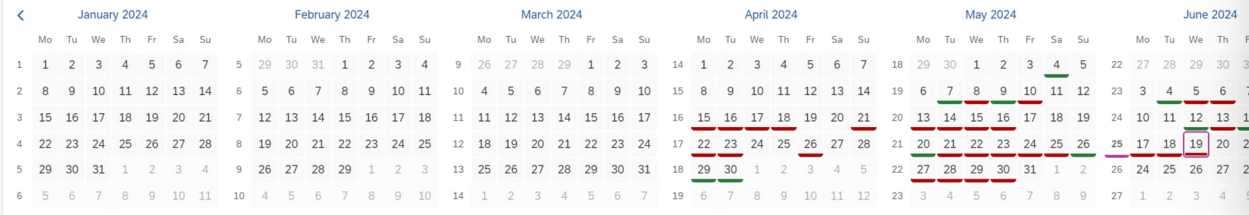|	Namespace / Interface	Status	Alert	Notification	All Messages	Warnings	Errors	Technical Errors	In Process	Successfully Processed	Canceled Messages	Key Field Name
○	⌄ Business Partner, Customer, Supplier - /CMDBP	●			Σ 25		⚡ 3	⚑ 6		⚐ 16		
○	ADR2MAS Replication from Client - ADR2MAS_IN/00001	∞	⬧	✉								
○	ADR2MAS Replication to Client - ADR2MAS_O/00001	∞	⬧	✉								
○	ADR3MAS Replication from Client - ADR3MAS_IN/00001	∞	⬧	✉								
○	ADR3MAS Replication to Client - ADR3MAS_O/00001	∞	⬧	✉								
○	ADRMAS Replication from Client - ADRMAS_IN/00001	∞	⬧	✉								
○	ADRMAS Replication to Client - ADRMAS_OUT/00001	∞	⬧	✉								

9 DRFOUT and Job Scheduling

DRFOUT is the transaction to be used to execute the BP replication to public cloud. There are 2 types of replications using DRFOUT

- Manual replication and

- Scheduled (Automatic) replication

9.1 Manual replication:

Using DRFOUT a replication can be triggered manually. In the following are the initial selection of the DRF screen:

1. Select the replication model "PC_CPI_BPV"

2. Select the outbound implementation as "986_3"

3. Select the replication mode as "Manual"

4. If the Manul mode is selected, it is important to select the "manual replication filter criteria"

In the above Manual replication filter criteria, you can use the following filters :

5. The BP number

6. BP role or Vendor account group or Both

7. Company code and

8. Pur. Organization to restrict the organization element,

Once all the filters are filled. Pls save the filter criteria and execute the transaction.

9.2 Scheduled (automatic) replication:

The replication can be scheduled in background using DRFOUT transaction.

Pre-requisite for this is maintain the filter criteria using transaction code : DRFF

1. Select the replication model and

2. Click on create button to create the filter criteria

SAP   **Create Filter Criteria**

Copy Criteria From   ~~Delete All Criteria~~   5

Replication Model: Public Cloud CPI - Business Partner Vendor Business Object: Business Partner including Relationships

	Filter Description	⌃
○	BP & Rel. Filter for MDC	
○		
○		
○		
○		

Show Segment Filters (9)   3

Filter Criteria to Include Business Objects

| ⌄ | | ⌄ | | ⊕ ⊖ |

Filter Criteria to Exclude Business Objects   4

| ⌄ | | ⌄ | | ⊕ ⊖ |

In the next screen, you have option to

3. Filter Criteria to include the business objects

4. Filter Criteria to exclude the business objects

5. Copy the filter criteria from existing one.

⚠ Not secure | awssapqasapp1.fmguat.local:8000/sap/bc/webdynpro/sap/drf_filter_bo_fpm?MODE=INS&BO=986&APPL=PC_CPI_BPV&FILTER_C

SAP   **Create Filter Criteria**

Purchasing Category ID ▲ riteria

DPP selection mode

Exclude Business Partners   - Business Partner Vendor Business Object: Business Partner including Relationships

Exclude Sites   ⌃

BPSelectionMode

Vendor Company Code

Customer Comp. Code

Purch. Organization

Cust. Accnt. Grp.

Vendor Account Grp.

~~Filter Criteria to~~ Business Objects

| ⌄ | | ⌄ | | ⊕ ⊖ |

~~Filter Criteria to Exclude Business Objects~~

| ⌄ | | ⌄ | | ⊕ ⊖ |

There are number fields that can be used as filter criteria as combination of one or multiple fields in the filter criteria for include/exclude business objects, list are as follows :

Business partner number

Vendor Company code

Purchasing Org

Vendor account group

Supplier

BP category etc.

Once the filter criteria are maintained, pls save it.

Once the filter criteria is defined the next step is to schedule back ground jobs for DRFOUT.

In the DRFOUT transaction,

1. Select the replication model "PC_CPI_BPV"

2. Select the outbound implementation as "986_3

3. In the replication mode, there are 2 options 1. Initialization and 2 Changes, Initialization is used to process all the business object as per filter criteria, it is used for initial upload of all existing data and changes can be used where program analyzes all data that was changed since the last change run or since you last performed an initialization. The recommendation is to perform "initialization" once so all the existing data will be replicated and schedule the replication change mode to consider the changes and any new objects created afterward.

4. By clicking filter criteria, you can see the filters maintained in DRFF.

▸ ☑ Select All		
▾ ● MDG_BP_SFT - BP Service Filter (OTC 986)		
▾ ⚑ 01 - BP: General DRF Filter		
▾ ☐ Vendor Company Code		
· ⊠ Select: Include pattern	*1315*	Filter Object (General)
▾ ☐ Purch. Organization		
· ☐ Select: Equal to	BP01	Filter Object (General)
▾ ☐ Vendor Account Grp.		
· ☐ Select: Equal to	OSEA	Filter Object (General)

Once the selection parameter is maintained, pls go to "Program" and select "Execute in background" to schedule the job accordingly.