

Integration

Jump Start - IN280

Use SAP Integration Suite with SAP IBP and Third-party systems

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Agenda

WHAT - Objective

WHY - Challenges and Opportunity

HOW

- High Level Architecture Diagram
- Prerequisites
- Required Access
- SAP IBP Inbound
- SAP IBP Outbound
- Exercises

Questions



Prerequisite Skills

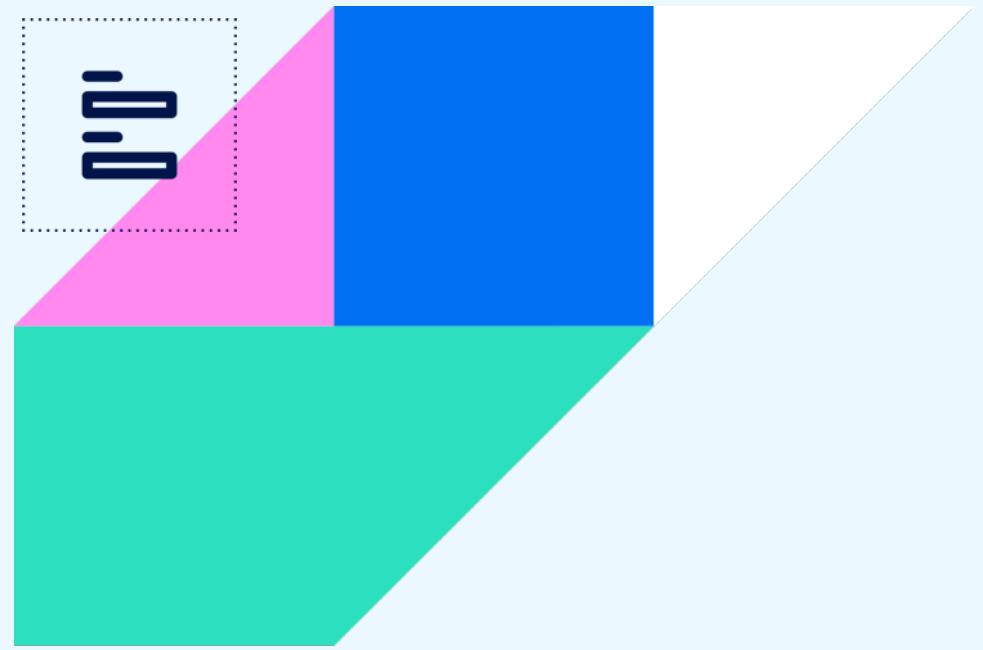
Basic Knowledge of

- SAP Cloud Integration (building & debugging iFlows, configuration of destinations, keys, monitoring etc.).
- SAP Integrated Business Planning (Planning area modeling, key figures, master data, communication arrangement etc.)
- Snowflake (SQL commands, Staging, Monitoring etc.).

Provided System Access only for

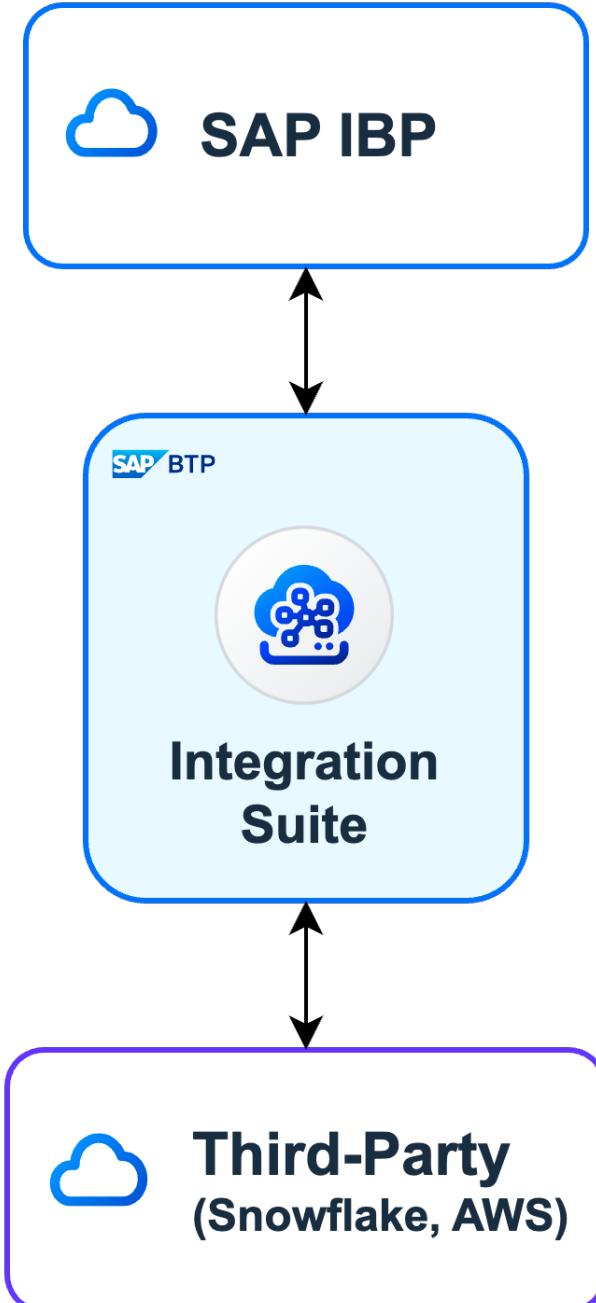
- SAP Cloud Integration (through [Tenant Booker App](#) till **25.10.2024** EOB (CET)).

WHAT ?

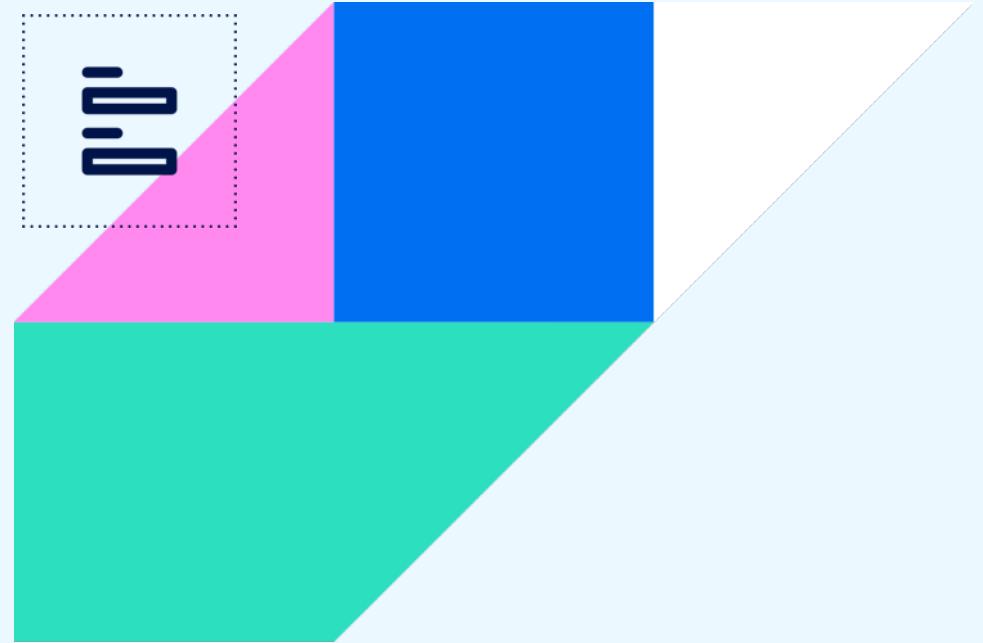


OBJECTIVE

- Integration between SAP IBP and Third-Party Cloud systems (like Snowflake, AWS)
- Mass data exchange
- Explore Snowflake, AWS connectivity
- Explore standard Reusable package for SAP IBP integration



WHY ?



Challenges & Opportunity

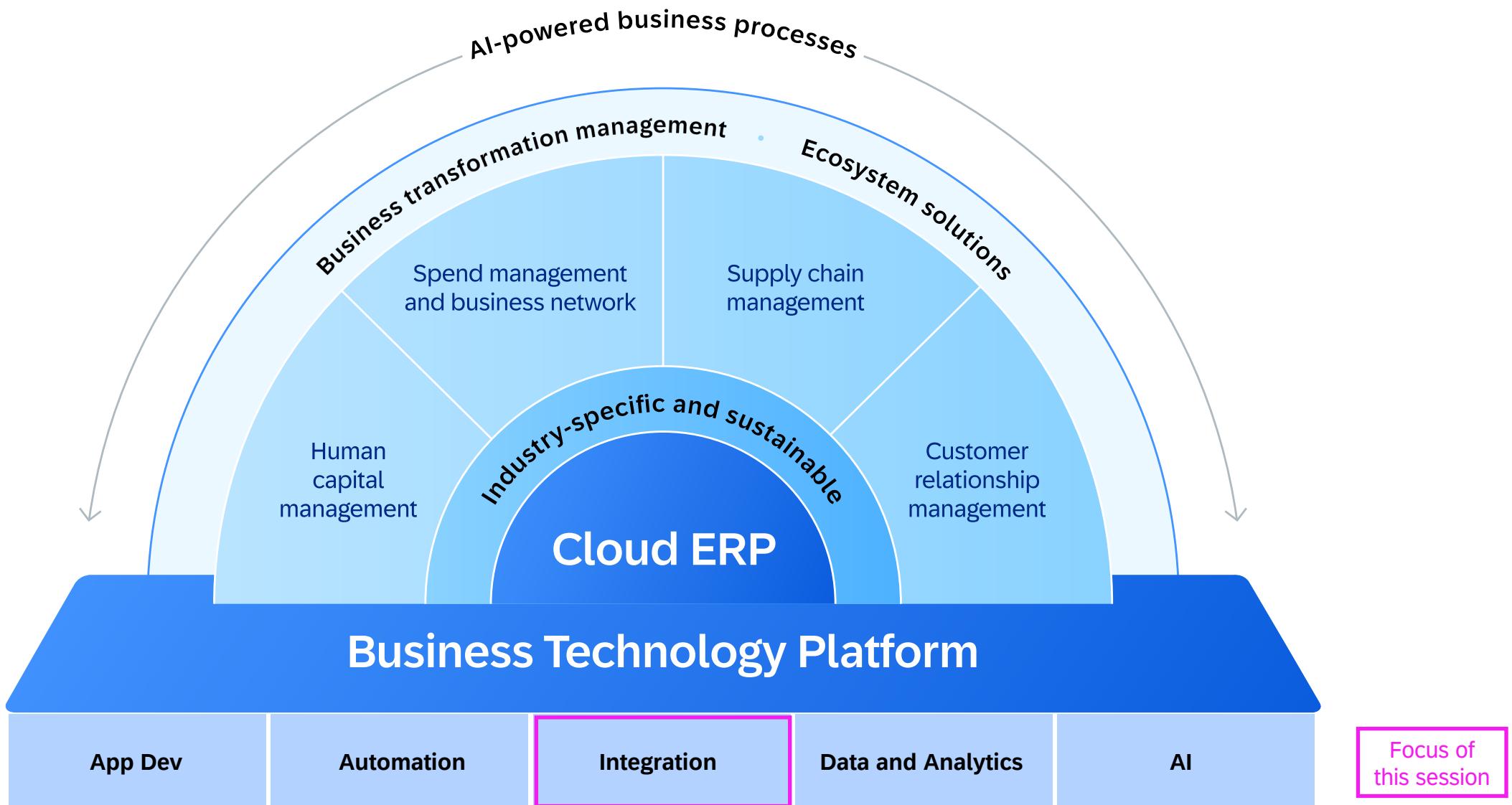
Challenges

- No out of the box integration for Snowflake in SAP IBP for mass data exchange
- Non-SAP connectors like for Snowflake in SAP Cloud Integration for Data Services(a.k.a SAP CI-DS) for Time-Series Integration is unavailable.
- Interim solution with AWS S3 + SAP CI-DS Agent needs manual intervention and automation is limited

Opportunity

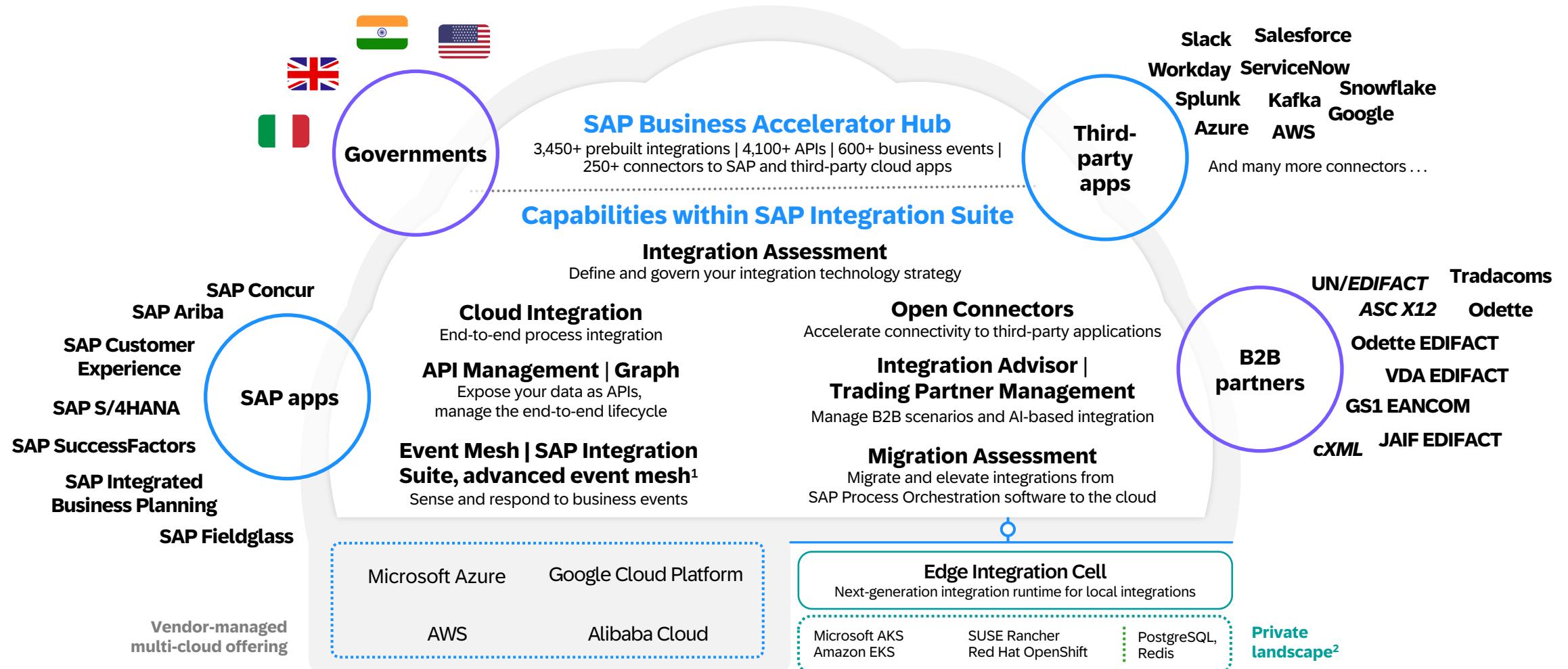
- **SAP_COM_0931** communication scenario release in SAP IBP allowing Basic and SSL authentication with SAP Cloud Integration
- SAP IBP – Reusable Integration Flows standard package availability in SAP Cloud Integration
- New native **Snowflake** and **AmazonWebServices** adapter availability in SAP Cloud Integration

SAP Integration Suite connects the intelligent enterprise



SAP Integration Suite

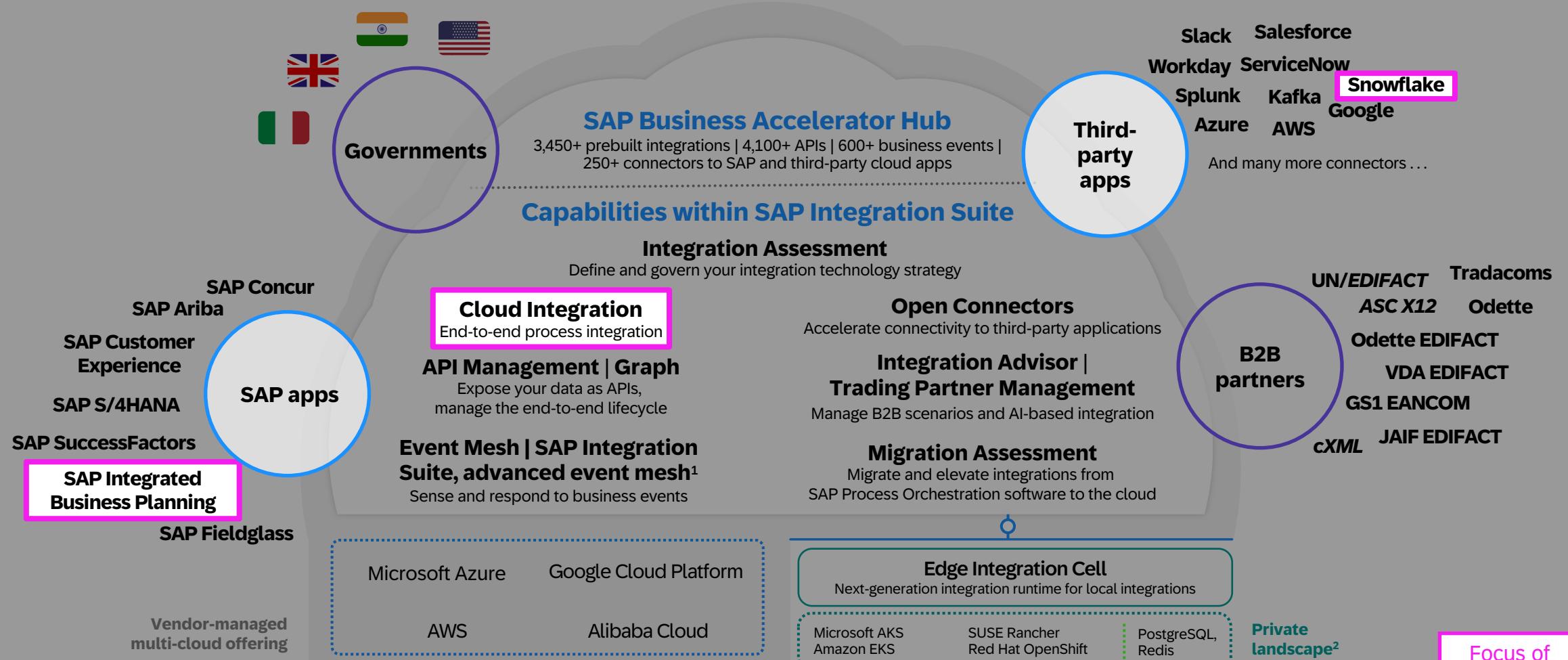
SAP's hybrid integration platform for the Intelligent Enterprise



¹ Optional separate license | ² Private landscape corresponds to on-premise or private cloud

SAP Integration Suite

SAP's hybrid integration platform for the Intelligent Enterprise



¹ Optional separate license | ² Private landscape corresponds to on-premise or private cloud

SAP integration strategy in context of the Intelligent Enterprise

The collage consists of three main components:

- SAP's Integration Strategy | H1 2024:** A dark blue page featuring a large aerial photograph of a landscape with winding water bodies. A cyan rectangular box highlights a specific area of the image. Below the image, the text "Integrate to Innovate" and "SAP's Integration Strategy White Paper" is displayed, along with the SAP logo.
- SAP Integration Suite:** A detailed diagram titled "SAP INTEGRATION SUITE". It shows a central hub connected to various components: "Integrate everything", "Accelerate connectivity", "Connect everybody", "Non-systematic integration", "Assess your integration strategy", "Design your hybrid integration platform", "Define integration best practices", and "Enable a practice of empowerment". The diagram also includes sections for "ACCELERATORS", "DEPLOYMENT MODELS", and "APPS & DATA". A callout box at the bottom left discusses "Leverage AI capabilities for integration".
- Design your “to-be” integration architecture:** A page showing a modern building with a curved glass facade. The text explains the need for a consistent digital architecture across business data and needs. It describes the SAP Integration Solution Advisory Methodology (ISA-M) and its components: "Assess your integration strategy", "Design your hybrid integration platform", "Define integration best practices", and "Enable a practice of empowerment". A callout box at the bottom right discusses "Complementary services" provided by SAP.

Source: SAP Integration strategy paper [Integrate to Innovate](#)

Jump start your integration journey with SAP



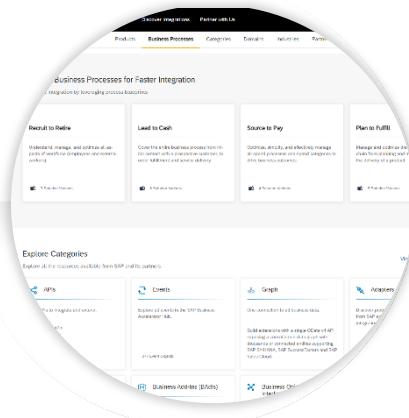
Strategy paper

Intelligent enterprises are integrated enterprises.
[Explore now >](#)



CIO Guide

SAP's hybrid integration platform for the Intelligent Enterprise.
[Read now >](#)



SAP Business Accelerator Hub

provides a single access point to prebuilt integrations, APIs, events, and more.

[Explore now >](#)

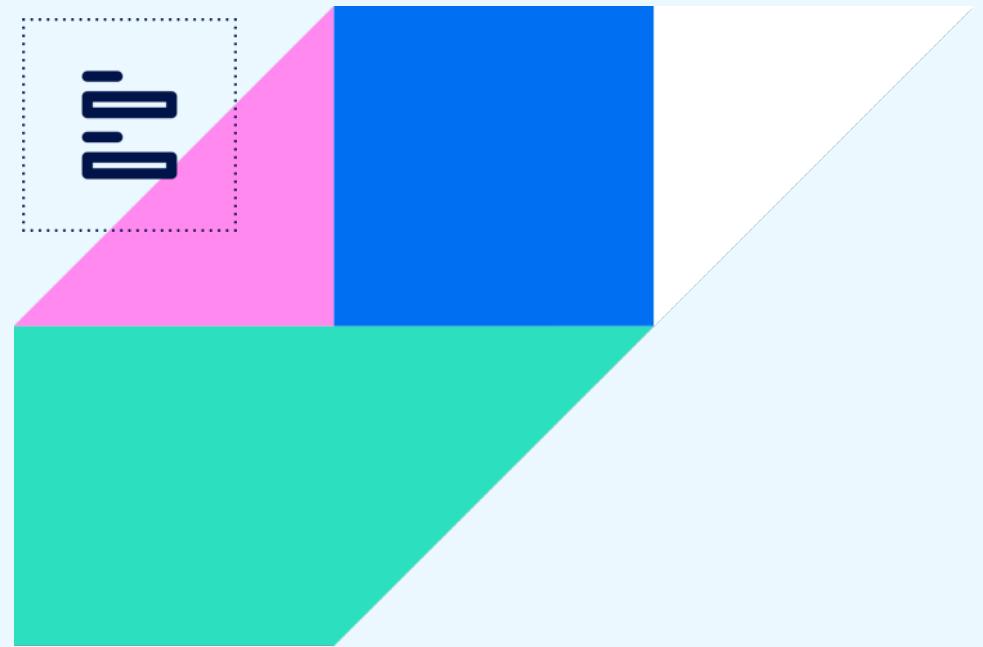


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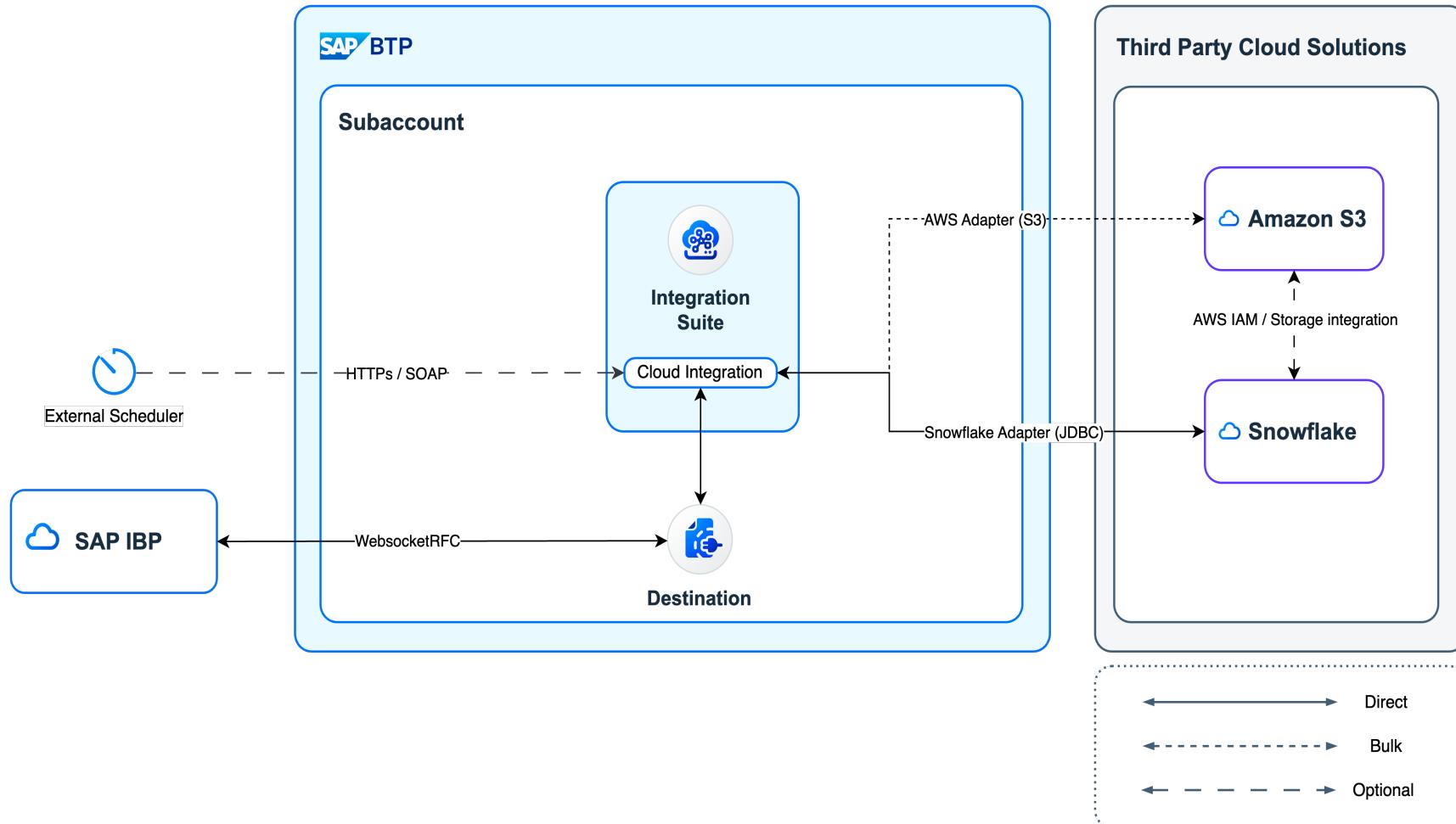
[Blog](#) | [Documentation](#) | Try it out with free BTP Trial | “Get started” mission at SAP Discovery Center

HOW ?



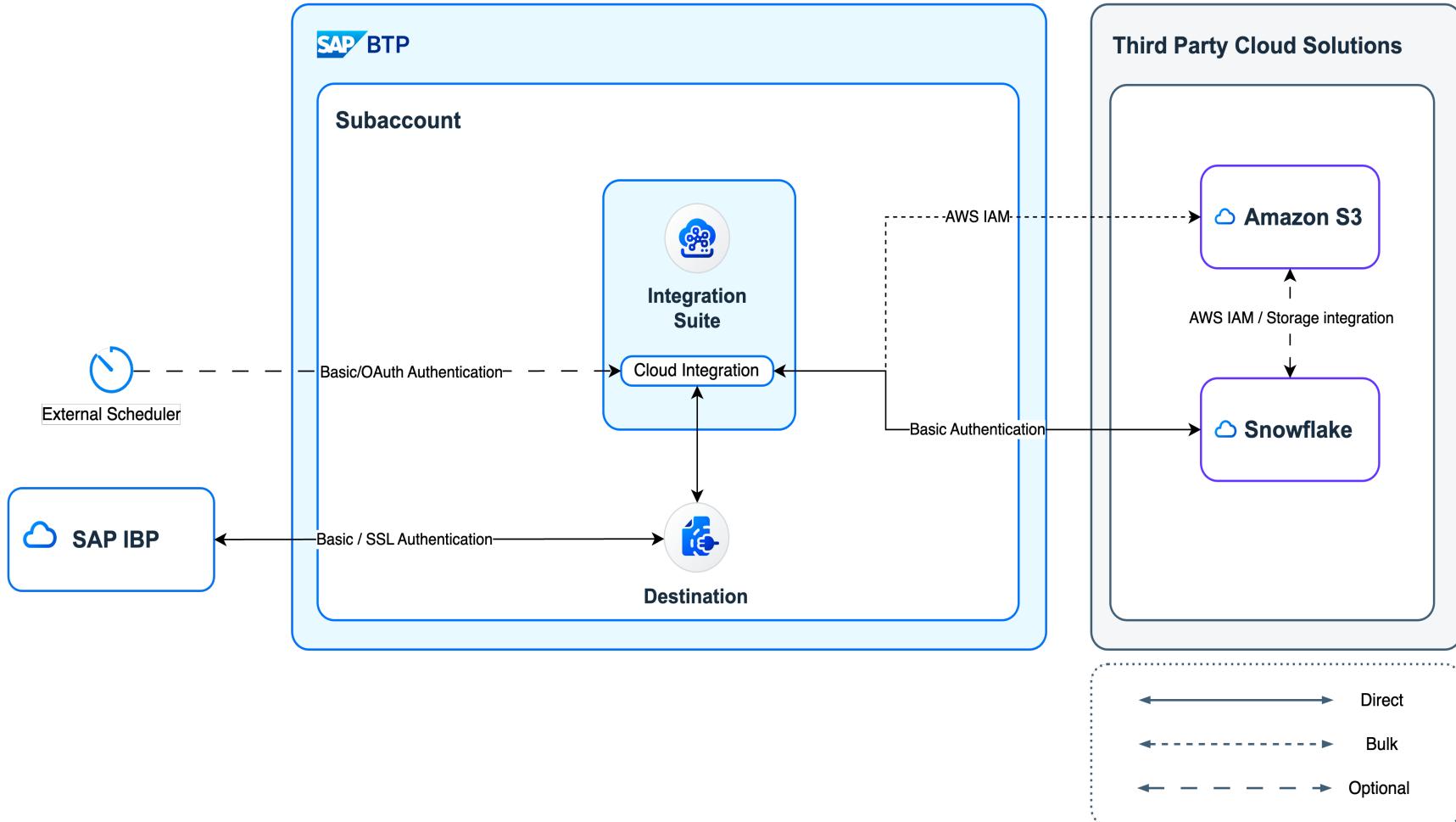
High Level Architecture Diagram

Connectivity

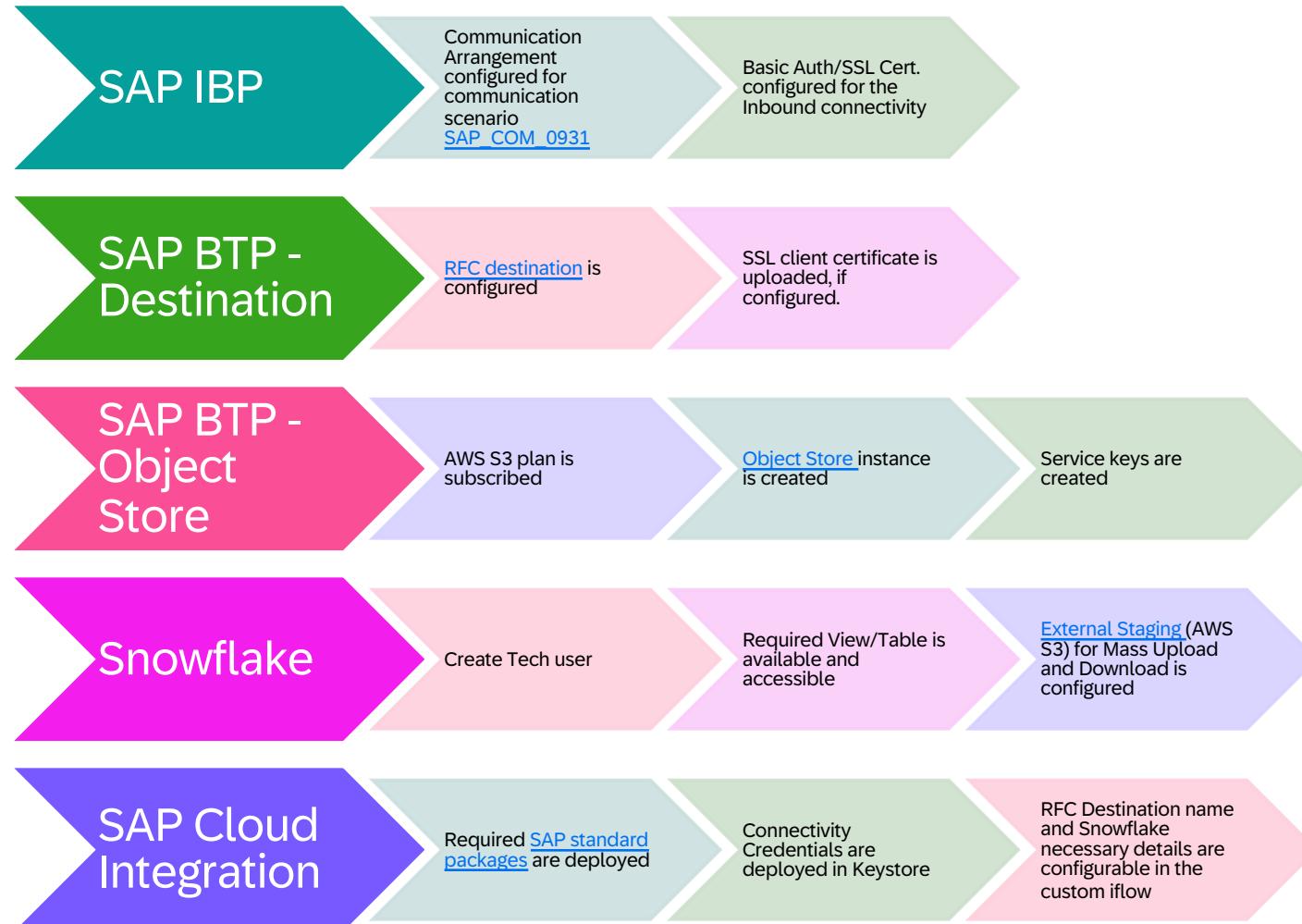


High Level Architecture Diagram

Authentication



Configuration Prerequisites



Required Access



SAP IBP

- Planning area modeling
- MasterData & Keyfigure Modelling
- Communication Arrangement

SAP BTP – Destination

- [RFC Destination](#) configuration
- SSL Certificate Upload (if required)

SAP BTP – Object Store

- [Object Store](#) instance configuration

Snowflake

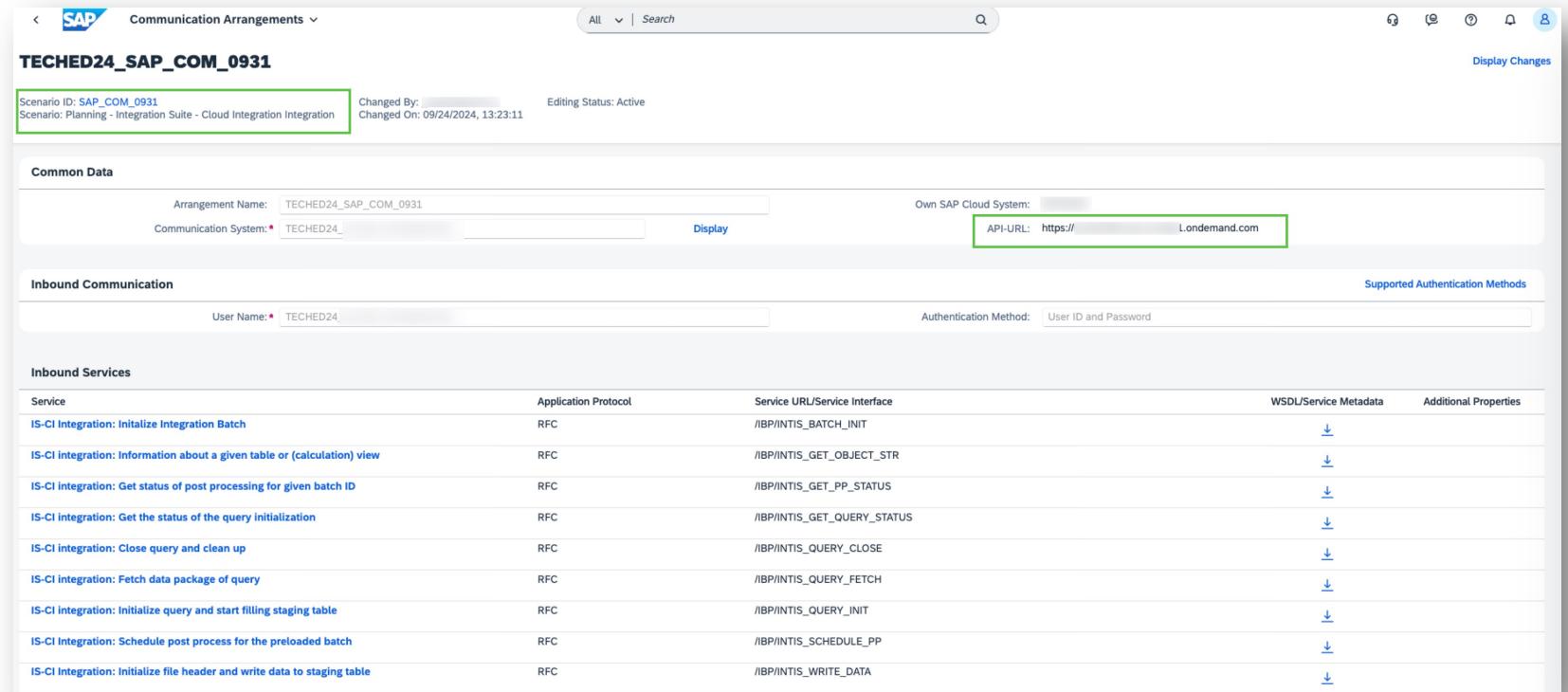
- Database Monitoring
- [External Staging](#) configuration
- SQL command execution

SAP Cloud Integration

- Build & Debugging
- Monitoring & Deployment
- Security Material creation

SAP IBP

- Setup Communication Arrangement for Planning - Integration Suite - Cloud Integration Integration ([SAP_COM_0931](#))
- Expose inbound communication only
- Note the IBP API-URL for BTP destination creation step



The screenshot shows the SAP Communication Arrangements interface. The title bar says "Communication Arrangements". The main area displays a communication arrangement named "TECHED24_SAP_COM_0931". The "Common Data" section includes fields for "Arrangement Name" (TECHED24_SAP_COM_0931), "Communication System" (TECHED24_), and "Own SAP Cloud System" (https://londemand.com). The "Inbound Communication" section shows a user name (TECHED24) and authentication method (User ID and Password). The "Inbound Services" section lists various integration services with their corresponding application protocols (RFC) and service URLs. The API-URL field in the "Common Data" section is highlighted with a green box.

Service	Application Protocol	Service URL/Service Interface	WSDL/Service Metadata	Additional Properties
IS-CI Integration: Initialize Integration Batch	RFC	/IBP/INTIS_BATCH_INIT	Download	
IS-CI Integration: Information about a given table or (calculation) view	RFC	/IBP/INTIS_GET_OBJECT_STR	Download	
IS-CI Integration: Get status of post processing for given batch ID	RFC	/IBP/INTIS_GET_PP_STATUS	Download	
IS-CI Integration: Get the status of the query initialization	RFC	/IBP/INTIS_GET_QUERY_STATUS	Download	
IS-CI Integration: Close query and clean up	RFC	/IBP/INTIS_QUERY_CLOSE	Download	
IS-CI Integration: Fetch data package of query	RFC	/IBP/INTIS_QUERY_FETCH	Download	
IS-CI Integration: Initialize query and start filling staging table	RFC	/IBP/INTIS_QUERY_INIT	Download	
IS-CI Integration: Schedule post process for the preloaded batch	RFC	/IBP/INTIS_SCHEDULE_PP	Download	
IS-CI Integration: Initialize file header and write data to staging table	RFC	/IBP/INTIS_WRITE_DATA	Download	

Refer [help](#) documentation

SAP BTP - Destination

- Setup RFC destination for SAP IBP connectivity
- Possible Authentication via
 - Basic authentication
 - SSL Certificate
- Configure the noted SAP IBP API-URL
- Setup the additional properties

The screenshot shows the SAP BTP Cockpit interface. On the left, the navigation sidebar includes 'Overview', 'Services', 'Service Marketplace', 'Instances and Subscriptions', 'HTML5 Applications', 'Connectivity' (selected), 'Destinations' (selected), 'Destination Certificates', 'Destination Trust', 'Cloud Connectors', and 'Security'. The main content area displays a table of destinations under 'SAP SE / TechEd2024-EU01'. A single row is visible for 'TECHED24_IBP', which is an 'RFC' type destination. The table columns include 'Type', 'Name', 'Basic Properties', and 'Actions'. Below the table is a 'Destination Configuration' panel. It contains fields for 'Name' (TECHED24_IBP), 'Type' (RFC), 'Description' (IBP Connection for TechEd24 Jump Start), 'Proxy Type' (Internet), 'User' (empty), 'Password' (empty), 'Alias User' (TECHED24_), 'Authorization Type' (CONFIGURED_USER), 'Repository User' (empty), and 'Repository Password' (empty). To the right of these fields is a 'Additional Properties' section with two rows: 'jco.client.ser...' and 'columnBased' (with edit icons), and 'jco.client.tls_t...' and '1' (with edit icons). At the bottom of the configuration panel are buttons for 'Edit', 'Clone', 'Export', 'Delete', and 'Check Connection'.

Refer [help](#) documentation

SAP BTP – Object Store Instance

- Create a new Object store instance for plan AWS S3
- Create a Service key for the instance
- It would contain the AWS Bucket, container and credentials
- Use these values to create an external staging in Snowflake

Snowflake_staging_s3

Instance ID: 80000000-0000-0000-0000-000000000000 | [Edit](#)

Service: Object Store
Service Technical Name: objectstore
Status: Created

Plan Display Name: s3-standard
Plan: s3-standard
Runtime Environment: Cloud Foundry
Scope: ib_P_000000000000

[View Credentials](#) [...](#)

[Manage Instance](#)

Bound Applications (2) **Service Keys (1)** **Labels (0)**

Name	Created On	Modified On	Status	...
ib_P_000000000000	5 Jun 2024	5 Jun 2024	Created	...
ib_P_000000000001	5 Jun 2024	5 Jun 2024	Created	...

Service Keys (1)

Name	Created On	Modified On	Status	...
snowflake_staging	16 Feb 2024	16 Feb 2024	Created	...

Refer [help](#) documentation

Snowflake

- External Staging creation in the database
- Authentication
 - Storage Integration
 - AWS IAM credentials

The screenshot shows the 'Stage Details' page for an external stage named 'S3_IBP_STAGE'. The stage is located in the 'TEST_DB / PUBLIC' schema. Key details include:

Region	Location	URL
eu-central-1	AWS	s3://[REDACTED]...

Access Credentials: Has Access Credentials (Yes), Directory Table (Enabled). Directory Table Automated Refresh is disabled.

Privileges: PUBLIC (Current Role) has ownership.

Refer [help](#) documentation

SAP Integration Suite - Cloud Integration

- Copy and Deploy the standard packages.
 - [SAP IBP - Reusable Integration Flows](#)
 - [Snowflake Adapter for SAP Integration Suite](#)
- Orchestrate Iflows to utilize these standard artifacts for SAP IBP Inbound and Outbound integration scenarios to/from Non-SAP systems like Snowflake, AWS

The screenshot shows the SAP Integration Suite interface for the "SAP IBP - Reusable Integration Flows" package. The page title is "Discover (Integrations) / SAP IBP - Reusable Integration Flows / SAP IBP - Reusable Integration Flows". Below the title, it says "Read data from and write data to SAP Integrated Business Planning for Supply Chain (SAP IBP) and reuse this data in other packages." and "Vendor: SAP Mode: Configure-only Version: 1.0.1 Published: 12 Jun 2024". There are tabs for Overview, Artifacts (7), Documents (2), and Tags. The Artifacts section lists seven integration flows:

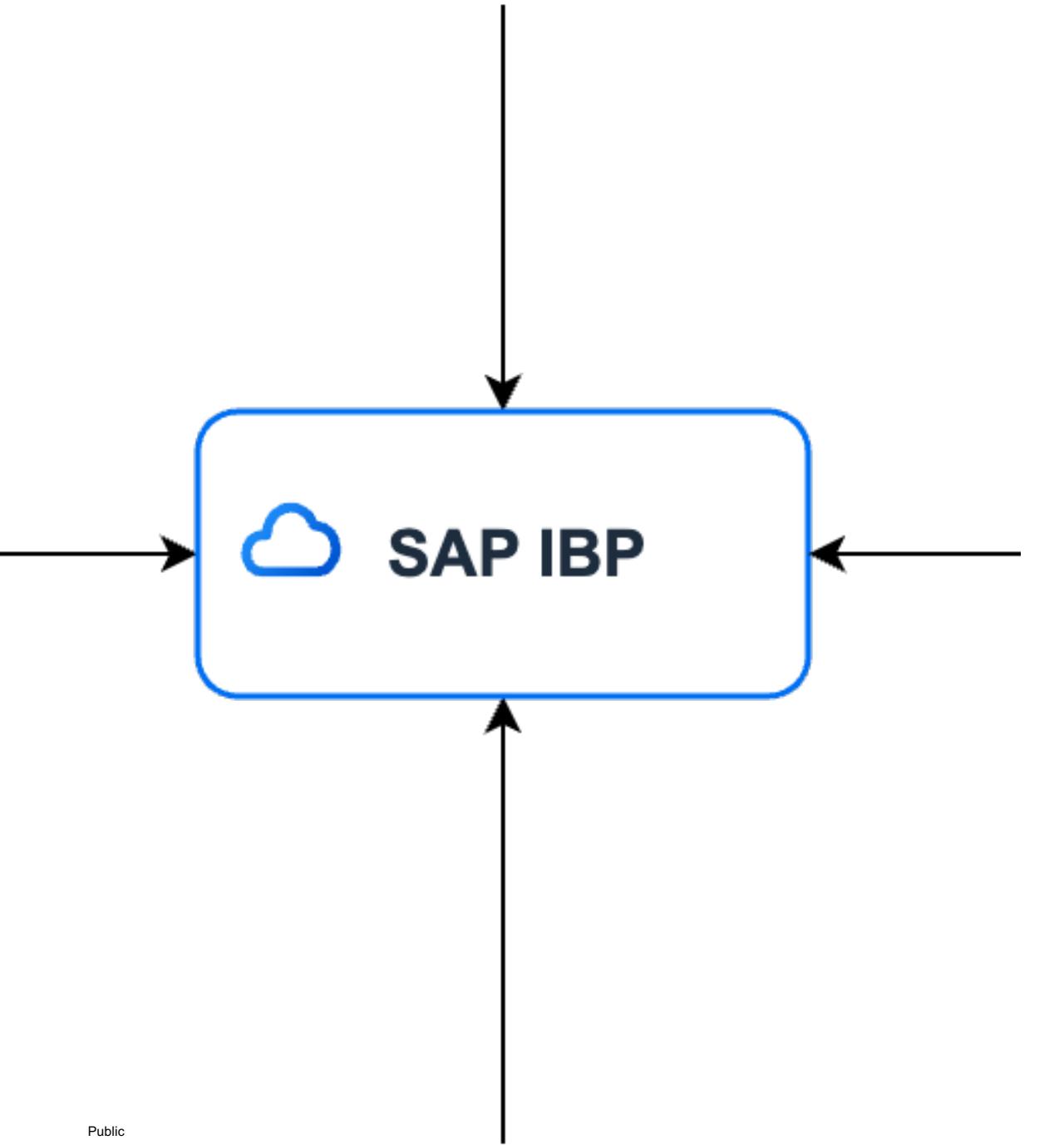
Name	Type	Version	Actions
SAP IBP Read - Cancel	Integration Flow	1.0.2	
SAP IBP Read - Close	Integration Flow	1.0.2	
SAP IBP Read - Fetch Data	Integration Flow	1.0.1	
SAP IBP Read - Initialize	Integration Flow	1.0.1	
SAP IBP Write - Create Batches	Integration Flow	1.0.2	
SAP IBP Write - Post Data	Integration Flow	1.0.2	
SAP IBP Write - Process Posted Data	Integration Flow	1.0.2	

The screenshot shows the SAP Integration Suite interface for the "Snowflake Adapter for SAP Integration Suite" package. The page title is "Discover (Integrations) / Snowflake Adapter for SAP Integration Suite / Snowflake Adapter for SAP Integration Suite". Below the title, it says "This package include the Snowflake Adapter and its documentation. The Snowflake adapter facilitates and accelerates the implementation time of connecting to Snowflake." and "Vendor: SAP Mode: Configure-only Version: 1.0.0 Published: 02 Aug 2024". There are tabs for Overview, Artifacts (1), Documents (3), and Tags. The Artifacts section lists one integration adapter:

Name	Type	Version	Actions
Snowflake	Integration Adapter	1.0.0	

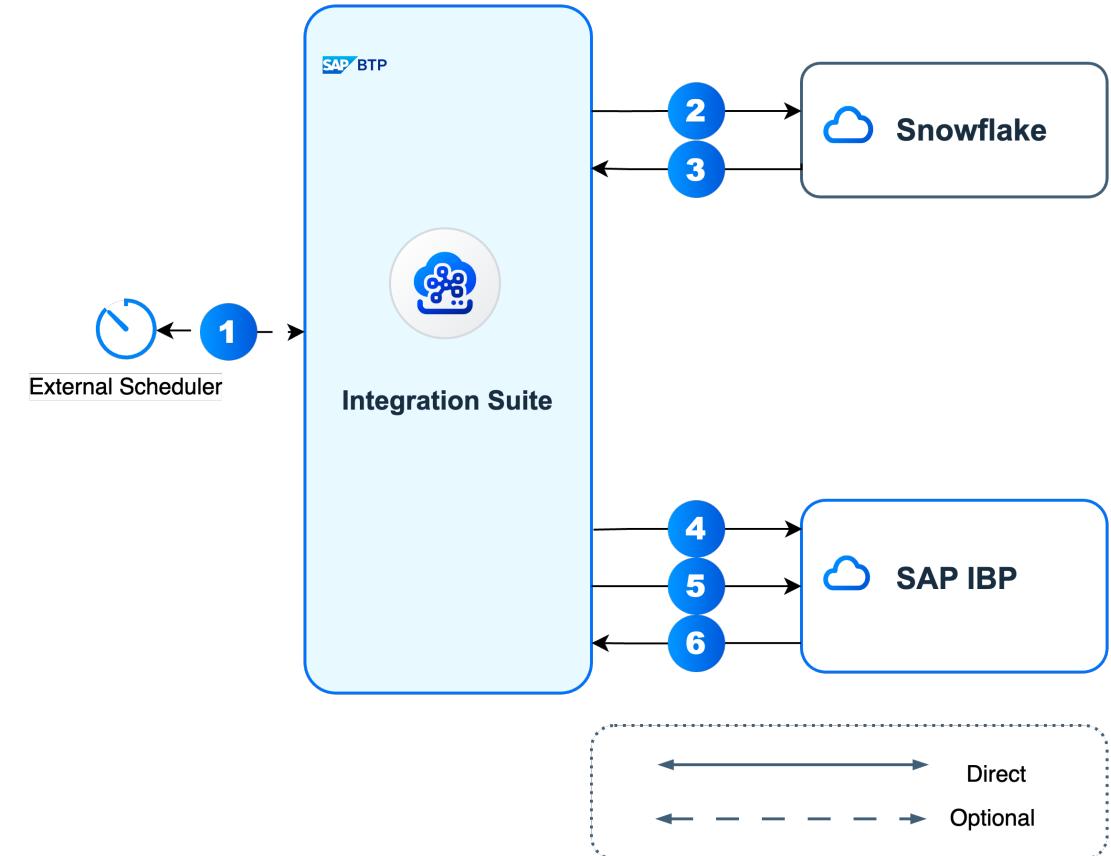
Refer [help](#) documentation

SAP IBP Inbound



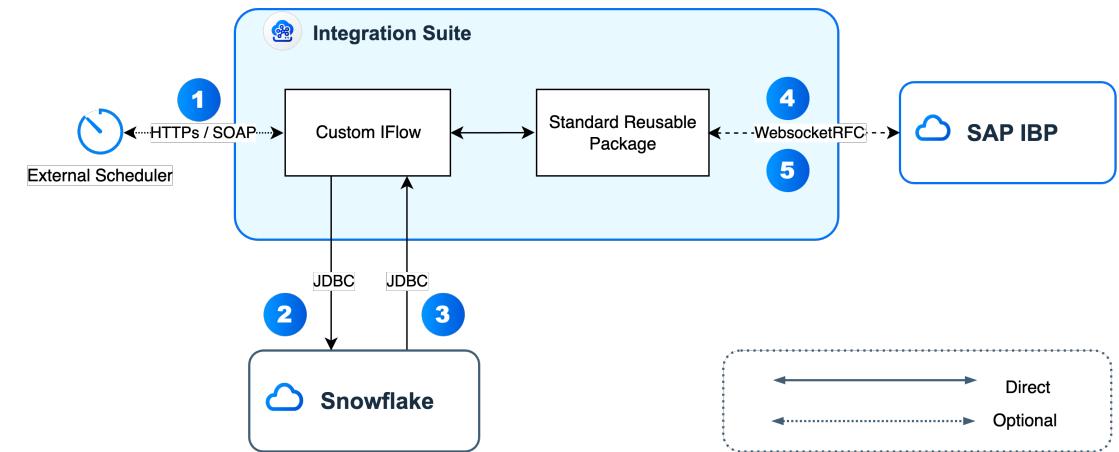
SAP IBP Inbound Steps (small datasets)

1. **Batch Trigger** – SAP Cloud Integration from the self timer / external scheduler
2. **Execute** – Query to fetch data from Snowflake through native Snowflake adapter
3. **Fetch** – data from Snowflake
4. **Post** – the data to SAP IBP, after mapping
5. **Trigger** – SAP IBP post-processing
6. **Fetch** – SAP IBP postprocessing results



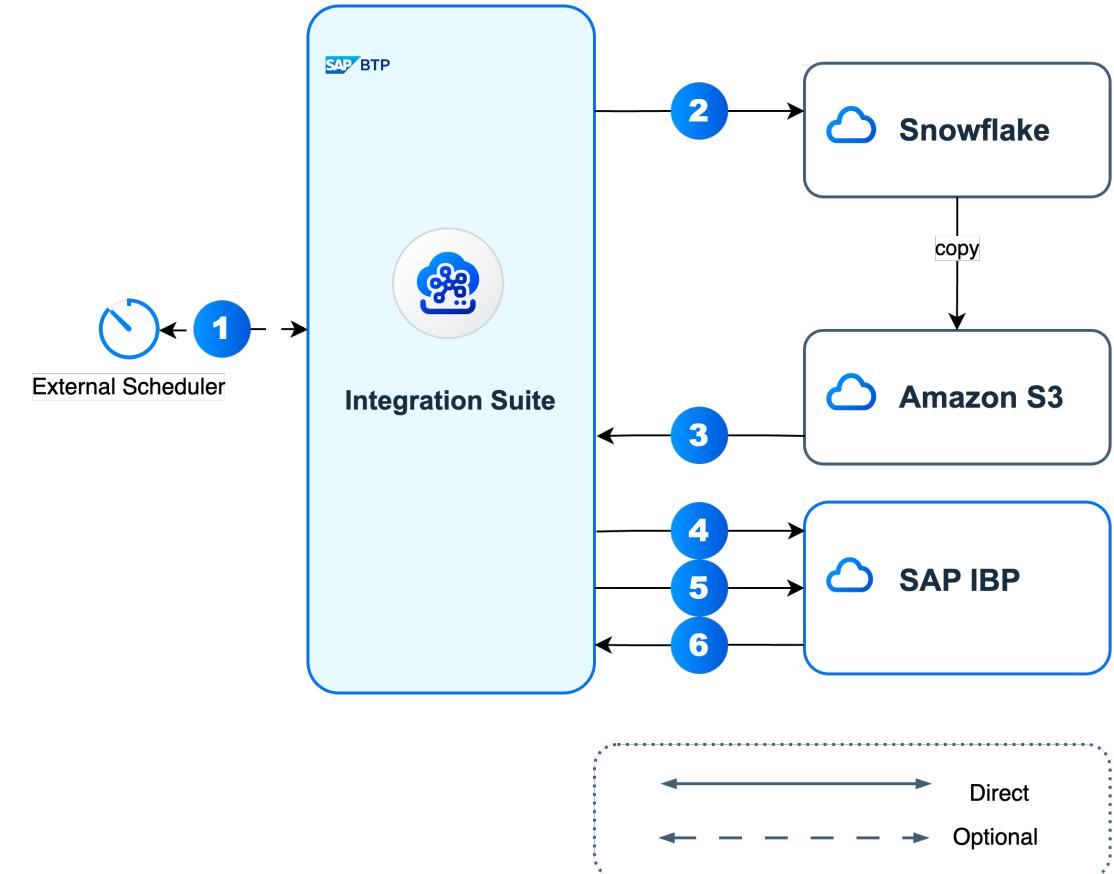
Integration Suite – Breakdown (small datasets)

1. **Batch Trigger** – from self timer / external scheduler
2. **Execute** – Query to fetch data from Snowflake through native Snowflake adapter
3. **Fetch** – data from Snowflake
4. **Post** – the data after mapping to SAP IBP staging table through standard package
5. **Trigger** – the IBP post-processing through standard package
Fetch – IBP postprocessing results through standard package



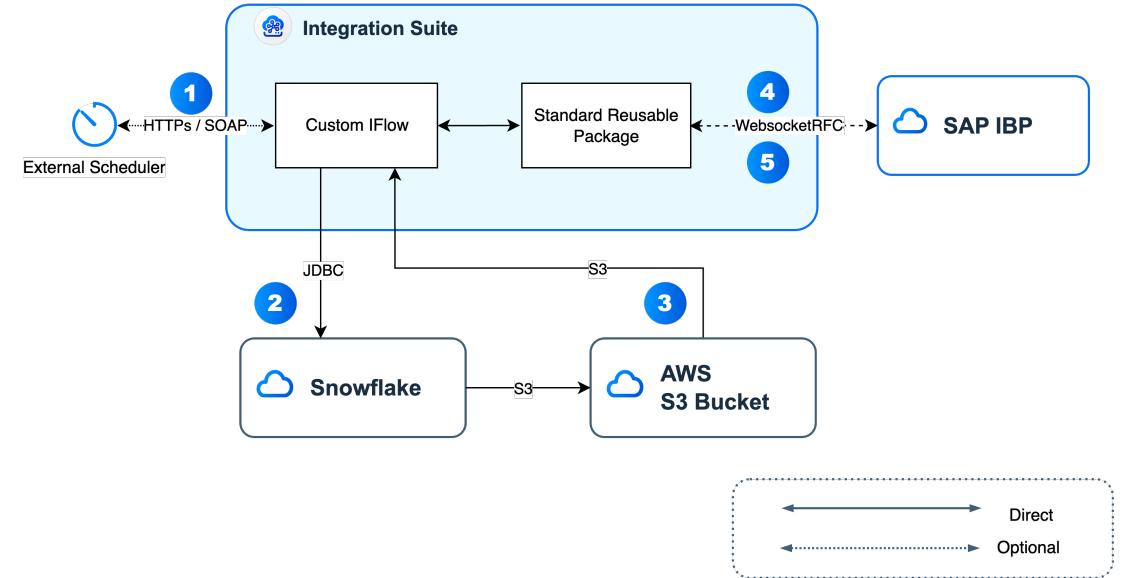
SAP IBP Inbound Steps (large datasets)

1. **Batch Trigger** – SAP Cloud Integration from the self timer / external scheduler
2. **Unload** – Snowflake table as files from native snowflake adapter to external staging. Copy happens through its existing integration setup
3. **Fetch** – the data files from external staging
4. **Write** – the data to SAP IBP staging table, post transformation
5. **Trigger** – SAP IBP post-processing
6. **Fetch** – SAP IBP postprocessing results

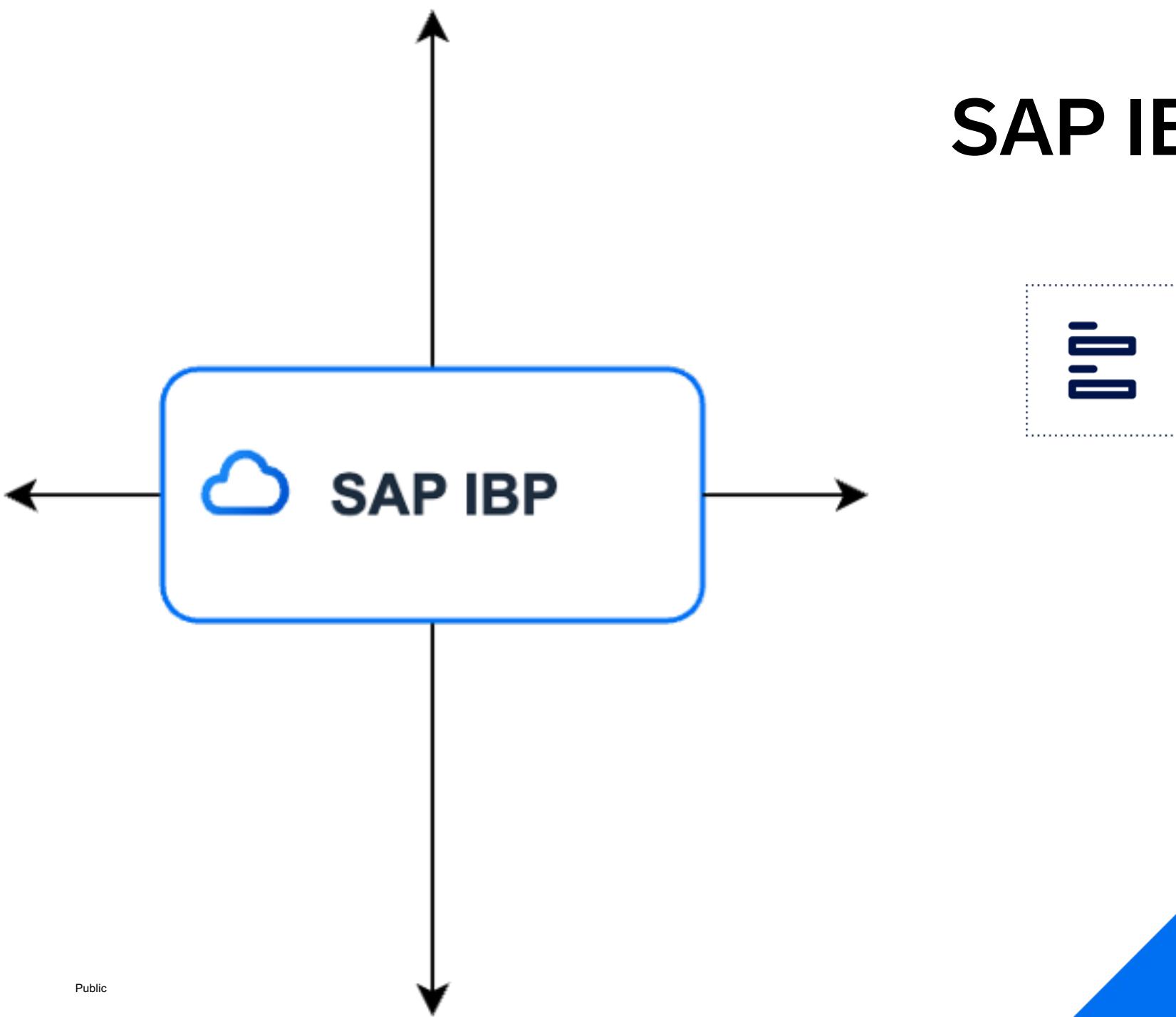


Integration Suite – Breakdown (large datasets)

1. **Batch Trigger** – from self timer / external scheduler
2. **Unload** – data to external staging, S3 bucket through native snowflake adapter
3. **Read** – data file from S3 bucket through native AmazonWebServices adapter
4. **Write** – the data to SAP IBP staging table through standard package
5. **Trigger** – the IBP post-processing through standard package
Fetch – IBP postprocessing results through standard package

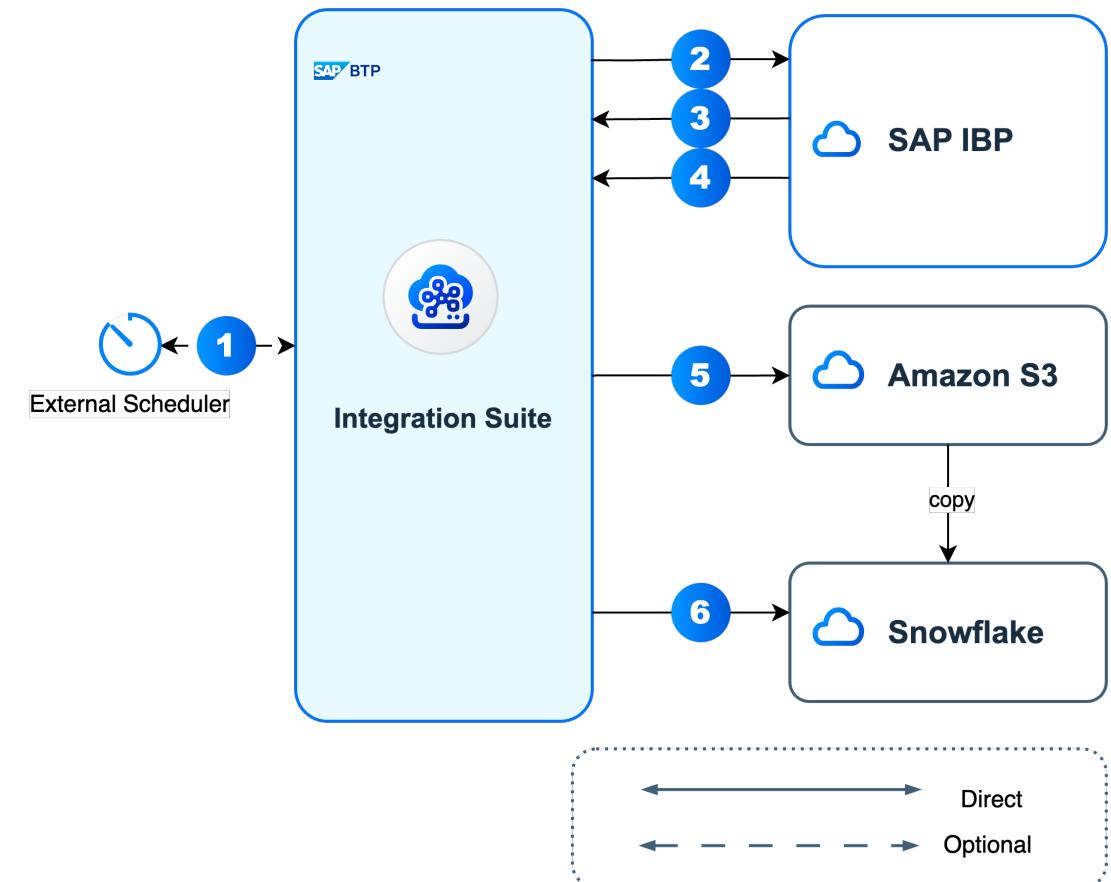


SAP IBP Outbound



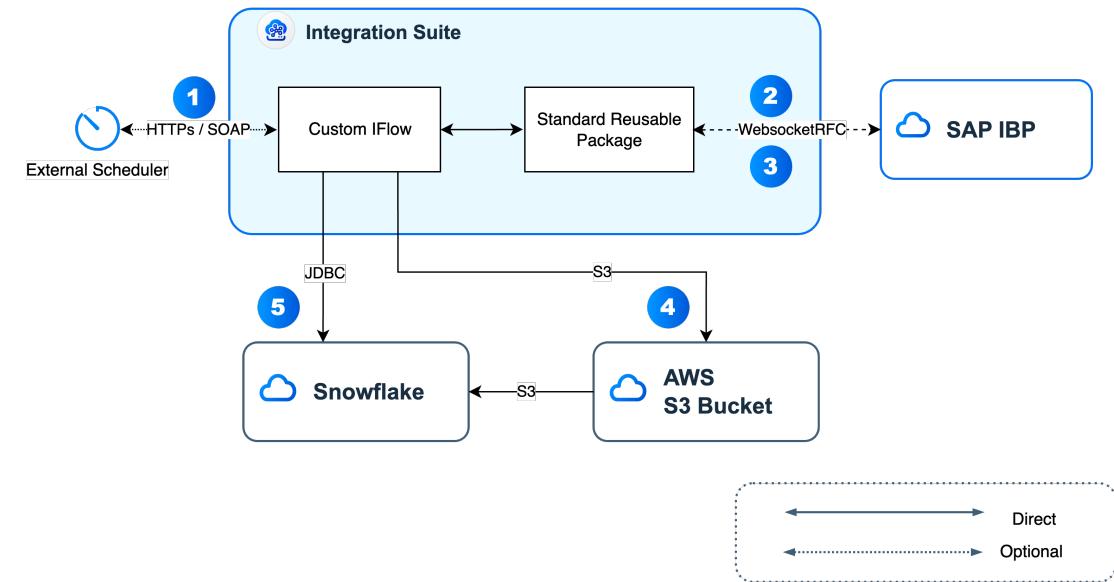
SAP IBP Outbound Steps (large datasets)

1. **Batch Trigger** – SAP Cloud Integration from the self timer / external scheduler
2. **Initialize** – initialize the SAP IBP read action
3. **Get** – the total data count to proceed
4. **Fetch** – data from SAP IBP application table in batch limit loop
5. **Load** – data as files to external staging post transformation
6. **Bulk Upsert** – the files to Snowflake table from external staging to snowflake and copy through its existing integration setup



Integration Suite – Breakdown (large datasets)

1. **Batch Trigger** – from self timer / external scheduler
2. **Initialize** – initialize the SAP IBP read action through Standard Reusable Package
3. **Get** – the data count to proceed to fetch data
Fetch – data from SAP IBP in batch limit through Standard Reusable Package
4. **Load** – data as files to external stagingpost transformation through native AmazonWebServices adapter
5. **Bulk Upsert** – the files to Snowflake table from external staging through native Snowflake adapter to snowflake and copy through its existing integration setup



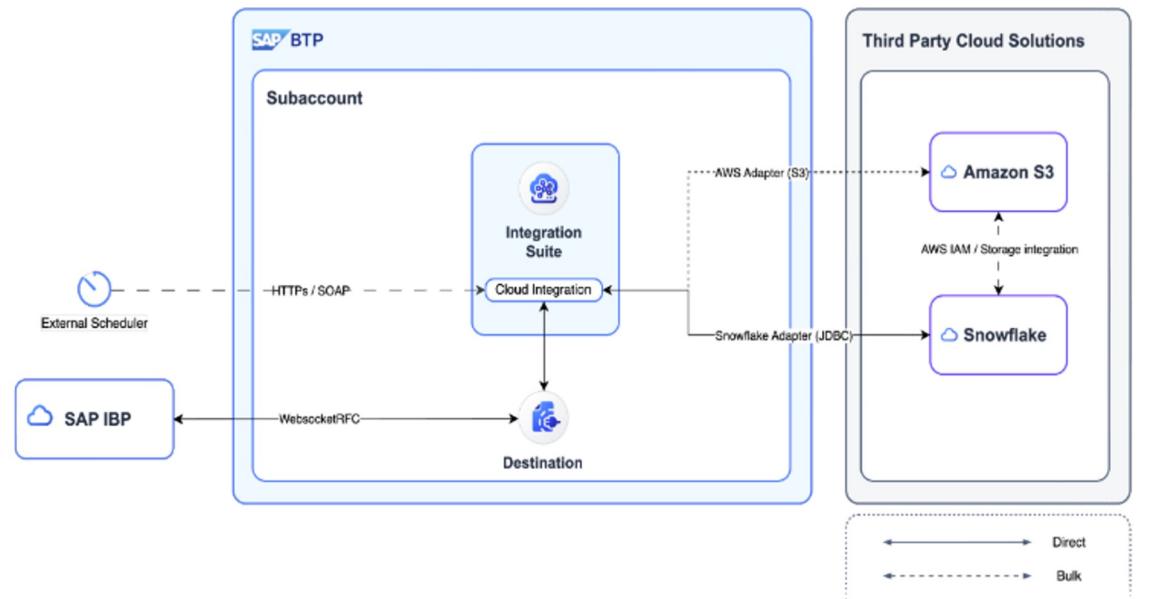
IN280 - Use SAP Integration Suite with SAP IBP and third-party systems

Description

This repository contains the material for the SAP TechEd 2024 session IN280 - Use SAP Integration Suite with SAP IBP and third-party systems.

Overview

This session is aimed to help participants to use SAP Integration Suite as a middleware for integrating SAP IBP and non-SAP cloud technologies. In this session we will be using Amazon AWS S3 and Snowflake as non-SAP cloud services / third-party systems.



Exercises

Do it yourself following the detailed steps in the GitHub link below

<https://github.com/SAP-samples/teched2024-IN280>

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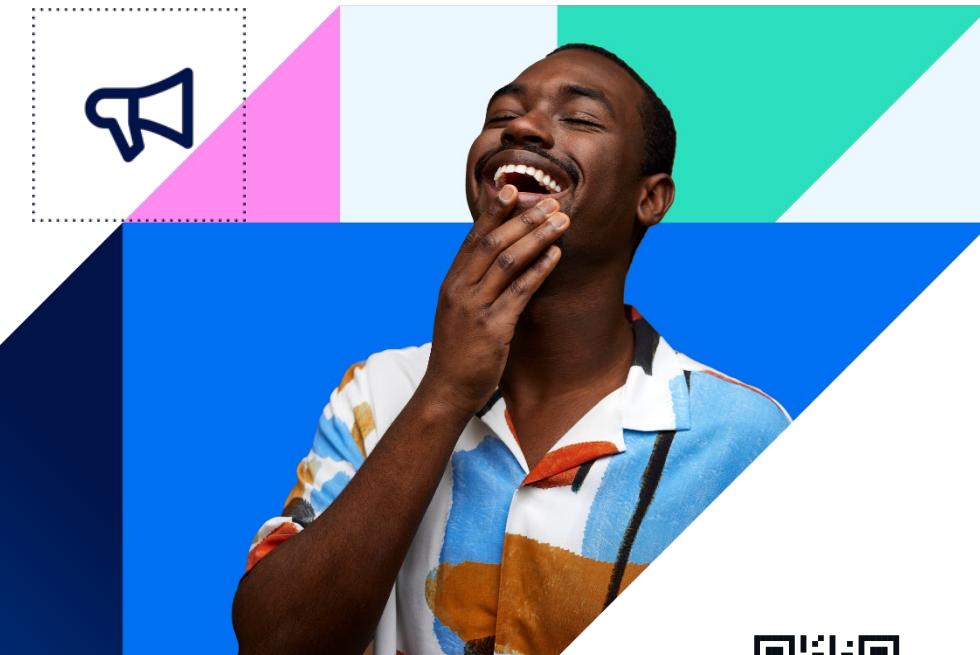
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