

A photograph of a man with a beard and grey hair carrying a young girl with blonde hair tied up on his shoulders. They are outdoors, with a body of water and a cloudy sky in the background.

Start your journey to EDA with SAP Integration Suite, advanced event mesh

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Today's Speakers



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Agenda

01

Introduction to EDA

02

Use Cases & Patterns

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SAP's Event-Driven Ecosystem

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Advanced Event Mesh

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06

Demo



Event-driven Architecture



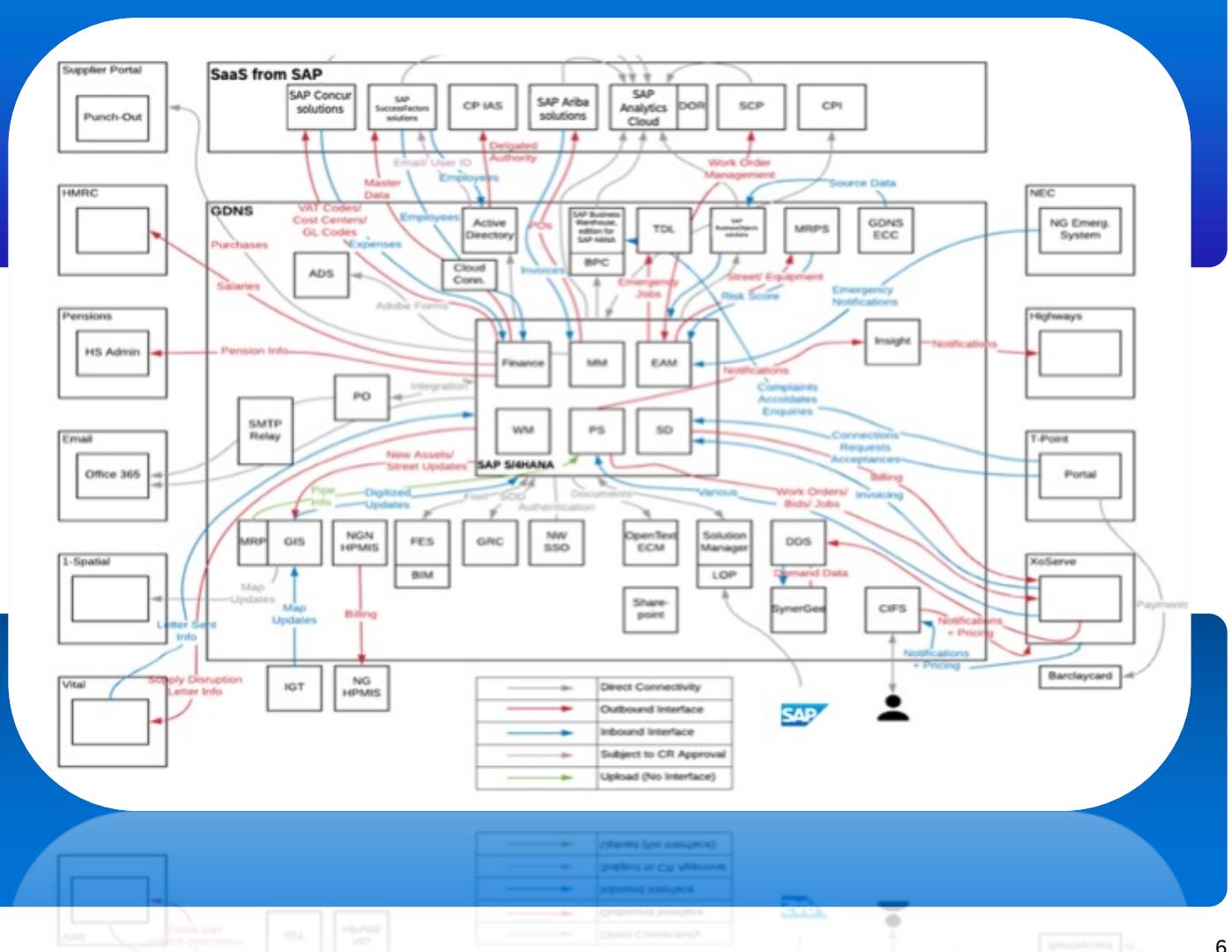
The need for Integration Modernization: Spaghetti anybody?

Complex Integration Landscapes

- Cloud and on-premise
 - SAP and third-party applications
 - Integration silos and data silos

Unprecedented business challenges

- Omnichannel experience in real-time
 - Supply chain transparency and agility
 - Governance & Compliance
 - Mergers & Acquisitions



Event-Driven Architecture

- An **event** is a **significant change** in state.
- **Event source** sends an event to inform of change.
- Message holding event description in encoded format is distributed through **event broker**.
- **Event consumers** have registered with event broker and are informed of event.
- Events come in different flavors: **notification events** or **data events**.



```
{ "type": "sap.s4.beh.product.v1.Product.Changed.v1",  
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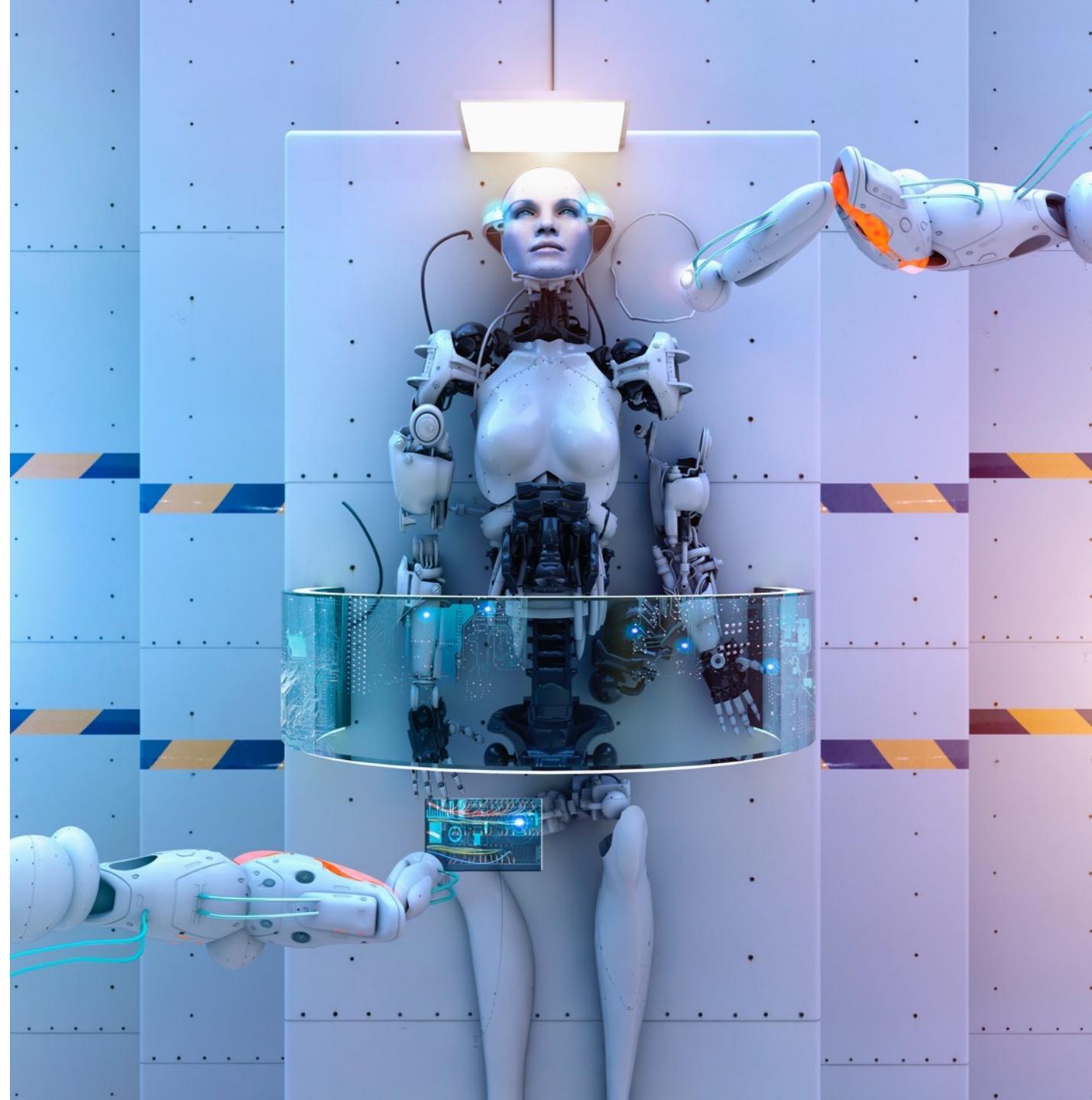
A Mindset Shift

Event Driven Architecture

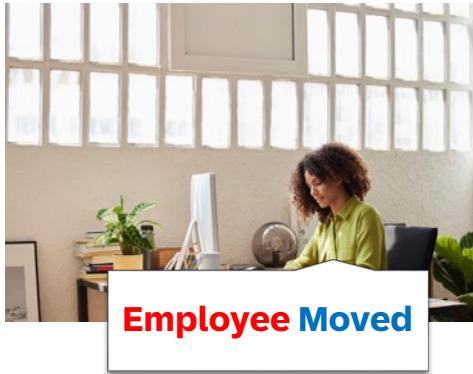
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Mindset Shift

Think Events!



Event-Driven Business Architecture



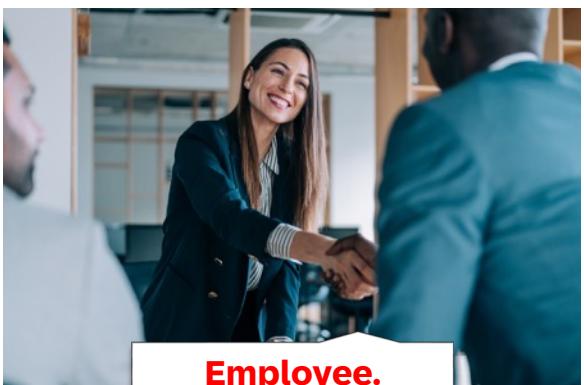
Each event can be described with:

- A noun: The “Thing”
- A verb: What happened to the “Thing”
- Properties: Description

Event =

(noun) + (verb) + [properties]

Event Driven SAP Business Architecture



SAP Business Accelerator Hub Integrations Data Products SAP Build Analytics Transformation

Events

Explore all events in the SAP Business Accelerator Hub.

Event Objects Packages

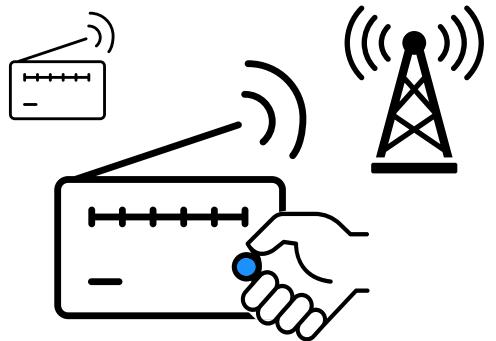
Showing 1-12 of 455 results

< Previous 1 of 37 Next >

Release Decision Trigger Release Scopes Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of release scopes for release decision triggers Version 7.0.0 ACTIVE	Batch Release Countries Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of batch release countries Version 7.0.0 ACTIVE	Transport Records Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of transport records Version 7.0.0 ACTIVE
Restriction Driver Data Changes Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of restriction driver data changes Version 7.0.0 ACTIVE	Temperature Records Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of temperature records Version 7.0.0 ACTIVE	Certificates Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of certificate data Version 7.0.0 ACTIVE
Certificate Documents Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of certificate documents Version 7.0.0 ACTIVE	Release Decision Triggers Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of release decision triggers Version 7.0.0 ACTIVE	Characteristics for Inspection Lots Inbound Informs SAP Batch Release Hub for Life Sciences about the creation or update of characteristics for inspection lots Version 7.0.0 ACTIVE

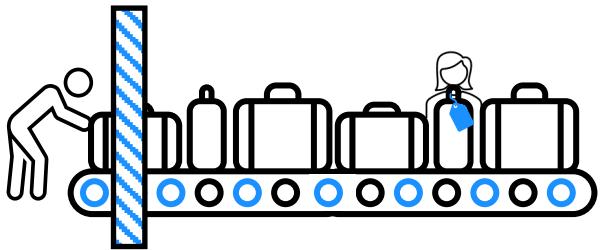
Next Generation Integration

Broadcasting



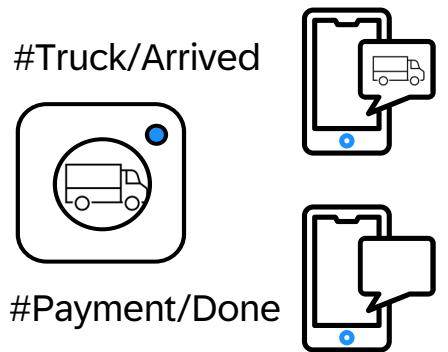
All messages traverse the mesh.
Applications can tune into the
messages they are interested into

Decoupling



The publishing application **does not need to know** who is receiving the messages

Filtering



The system routes the information only to users that have subscribed to it

Successful Event-driven Team: Turn your ERP into a team player

- Communicates in **real time**
- Automates **processes**
- Breaks down **silos**
- Crosses **vendor boundaries**
- Uses **pub/sub style** integration
- Decouples** and **buffers**



Use Cases and Use Case Patterns



25+1 Event-Driven Uses Cases

Industrial Maintenance	Data lake updates	Digital Twin	HR Across Multiple Environment	Personalized Apps
Weather-based Supply Chain	Supply chain visibility	Mobile Workforce Connectivity	Smart Water Platform	Real-time inventory
Sales Order Shock Absorber	Business Process Documentation	Meter to Cash	Oil well monitoring	Demand-based supply chain
Water Quality Monitoring	S/4HANA Extensions	Real Time HR	Medication delivery and tracking	Across Vendor Mesh
Price Distribution	Predictive maintenance	Real-time order management	Regulatory Reporting	Document update notification



365x

increase in in-house leak detection, from a yearly to a daily cadence.

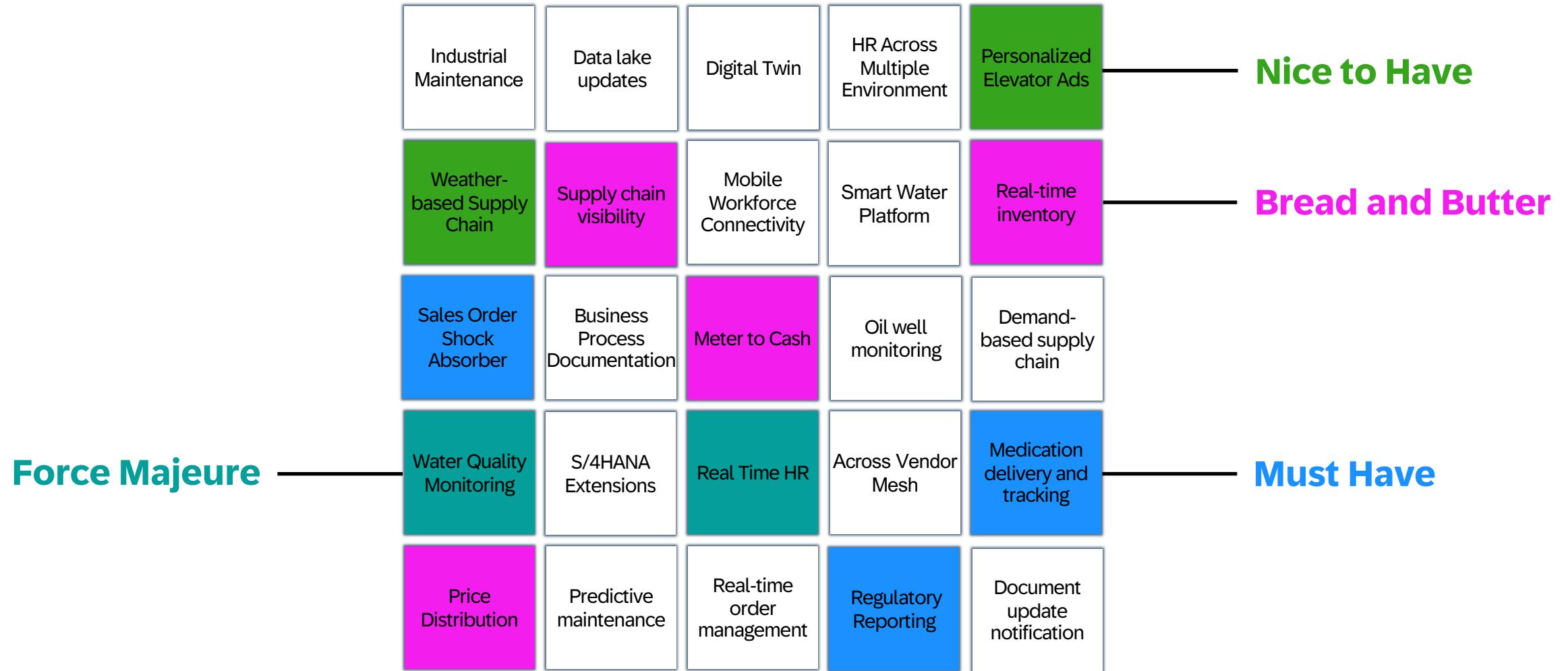
1 day

lead time for annual invoice generation, down from weeks.

30%

cost reduction potential, thanks to more efficient processes.

Use Case Types



Consumer Goods: Supply Chain Optimization

Supply Chain Monitoring: 12000 containers on **1500 ships**

Supply Chain Tracking: **10K container records** a day

Real Time Supply Chain Optimization: including Spot Warehousing

- ✓ **\$10M** annual savings on a single use case
- ✓ **14** use cases live on same infrastructure
- ✓ **Suez Canal blockade** handled in less than 2 hours



Grocery Retailer: Self Checkout Fraud Detection

Automated **monitoring of self-checkout** lanes

Real time **comparison to POS** transactions

Detection of Frauds and alerting of personnel

- ✓ **>\$200M savings** yearly from fraud reduction
- ✓ **15% cost reduction** from increase in self check out lanes



Discrete Manufacturer: Digital Twin

Higher **Inventory Availability** for efficiency increase

Real time **Operational Insights** to executives

Predictive Maintenance to ensure none of the machinery is ever out of order

✓ **23%** higher **efficiency of plants**

✓ **Reduction of Inventory** in motion



Online and In-Store Retailer: Nervous System

Frictionless **data flow** across the business

Real time **operational insights** to executives

Continuous improvement of customer experience

Foundation for **future growth**

- ✓ **Up to 30%** improvement of development efficiency
- ✓ **Customer interactions** up by **15%** due to smoother operations and better customer insights



Nine Typical Use Case Patterns

Smart Data Flow

(Smart Data Distribution)

Shock Absorber

(Act, don't re-act)

Social Media of Enterprise

(PubSub)

Glue

(3rd Party Integration)

Real Time

(Act, don't re-act)

Transforming Distributor

(AEM and IS)

Side-by-Side Extensions

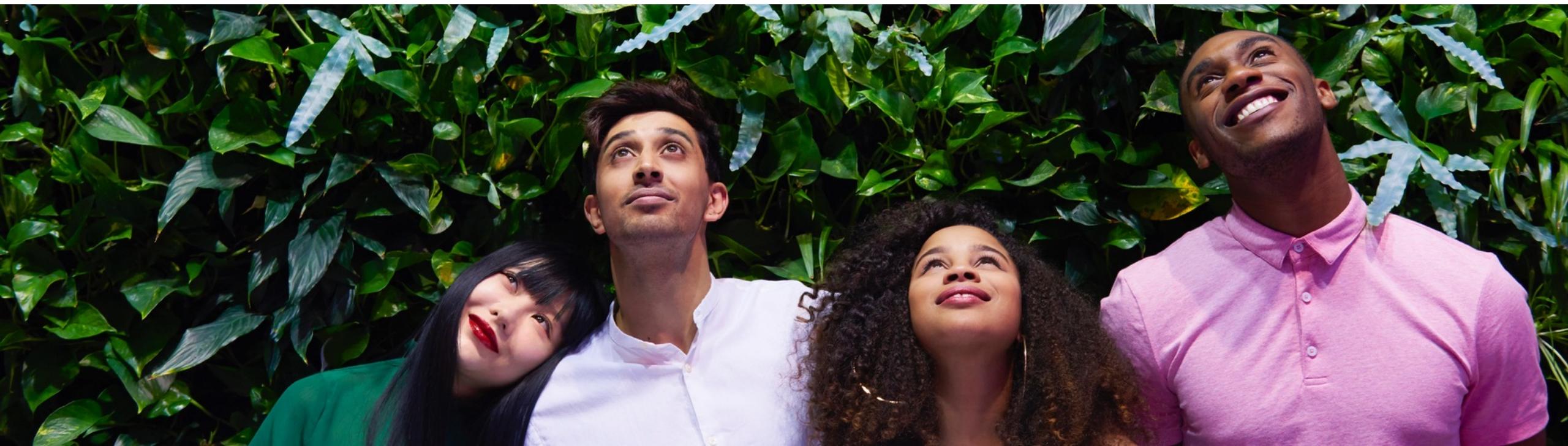
(BTP or 3rd Party)

Messaging

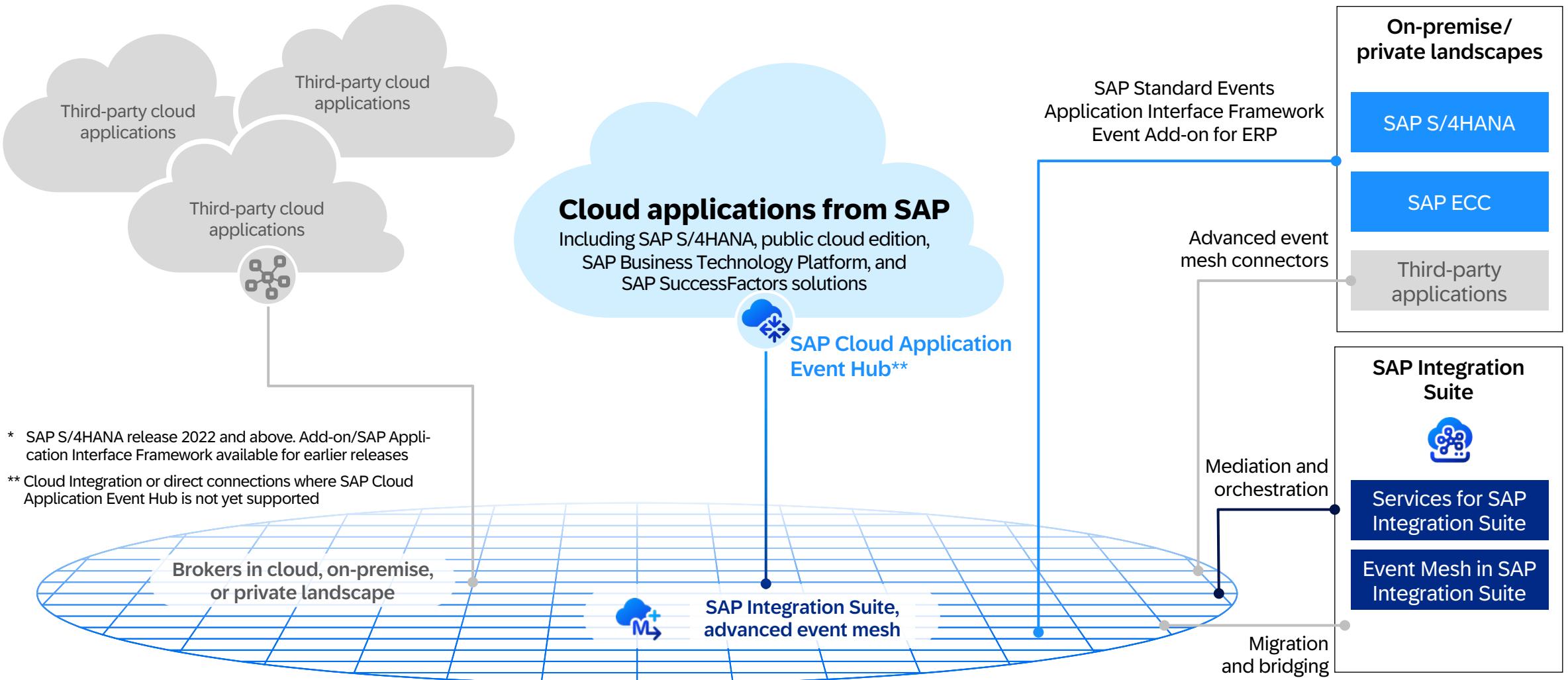
Integration powered AI



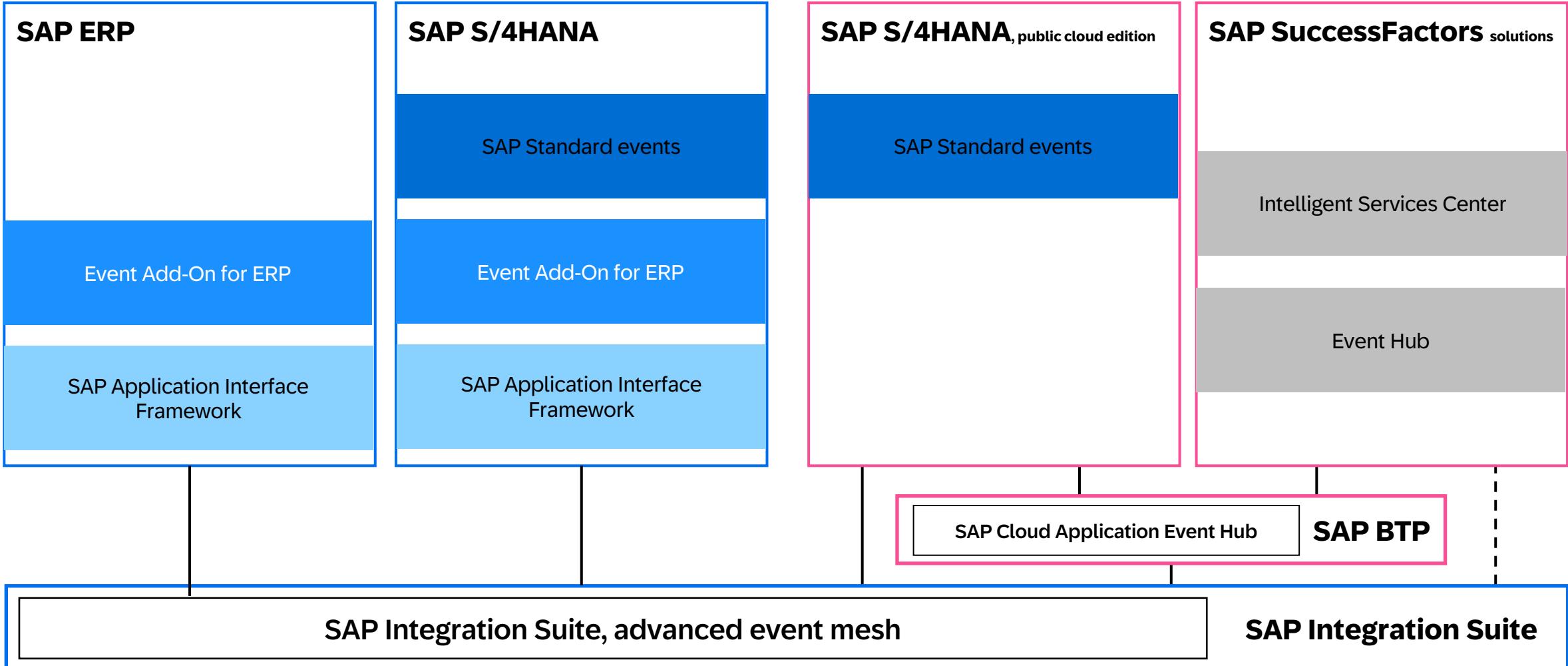
Technical ecosystem and strategy



SAP's Event-Driven Technical Ecosystem and Strategy



Selected Event sources for AEM



Advanced Event Mesh



SAP Integration Suite, advanced event mesh

Advanced Event Mesh the **heart of SAP's EDA ecosystem**

Advanced Event Mesh is a **complete business EDA platform** offering event streaming, event management, and sophisticated monitoring

It is an optional capability of **SAP Integration Suite**

AEM **accelerates EDA adoption** and **enables use cases** that demand real-time, intelligent event-driven architecture

EDA @ Enterprise Scale

The screenshot shows the SAP Integration Suite interface with the "Event Portal" selected. The sidebar on the left lists several modules: Designer, Catalog, Runtime Manager, KPI, Cluster Manager, Mesh Manager, and Insights. The "Event Portal" section at the top includes a toggle for "New Event Portal 2.0 : On". Below this, there are four main cards:

- Designer**: Shows a diagram of interconnected nodes. Description: "Design your event driven architecture components".
- Catalog**: Shows a document icon. Description: "Browse or search for events, schemas, and applications across your enterprise".
- Mission Control**: Shows a globe icon. Description: "Control the lifecycle of your Event Broker Services".
- Insights**: Shows a bar chart and two people icons. Description: "Monitor your Services".

SAP Integration Suite, advanced event mesh

Welcome to SAP Integration Suite, advanced event mesh

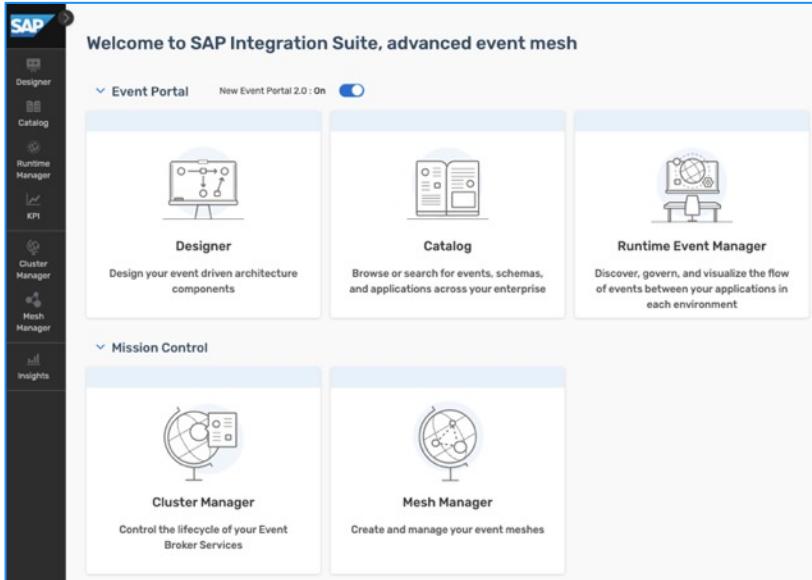
Event Portal New Event Portal 2.0 : On

Designer Catalog Runtime Event Manager

Design your event driven architecture components Browse or search for events, schemas, and applications across your enterprise Discover, govern, and visualize the flow of events between your applications in each environment

Mission Control Cluster Manager Mesh Manager

Control the lifecycle of your Event Broker Services Create and manage your event meshes



Fully managed cloud service

Infrastructure model

Exclusive in T-shirt sizes

Deployment options

Private and public clouds

Connecting SAP and third-party systems

Native support for SAP S/4HANA

Support of standard protocols

Message size and storage Up to 30MB / Up to 6TB

Typical use case size Small to ultra large

Network of event brokers

Create Service

Default Cluster Manager > Create Service

Service Name * My Broker

Environment Default

Cloud * Microsoft Azure

Region * aks-francecentral

Broker Release * 10.11 Default

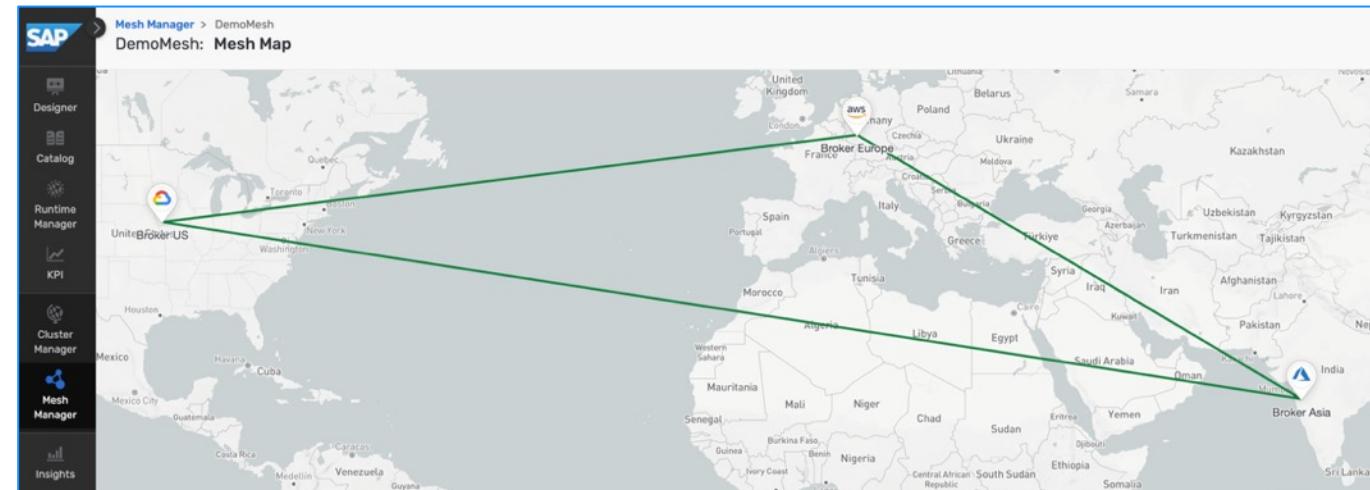
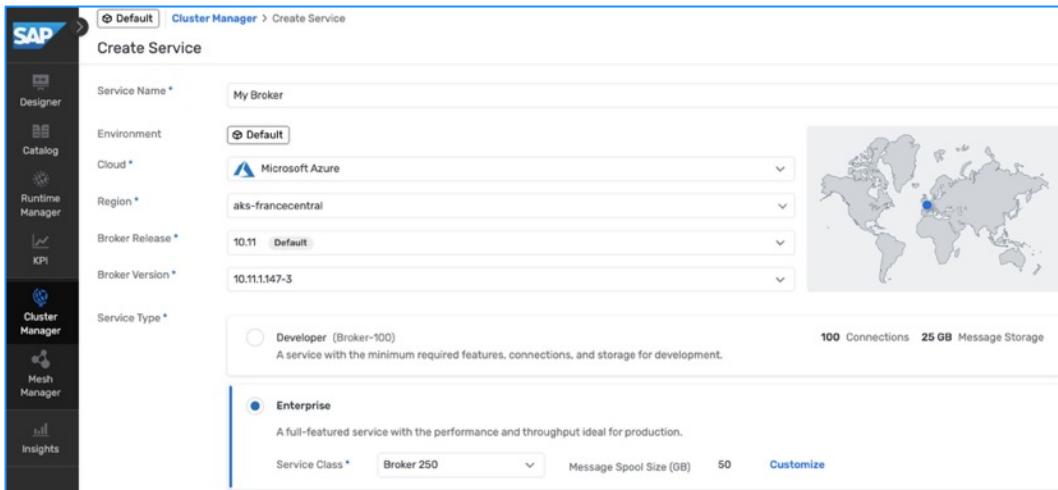
Broker Version * 10.11.147-3

Service Type * Developer (Broker-100)
A service with the minimum required features, connections, and storage for development.

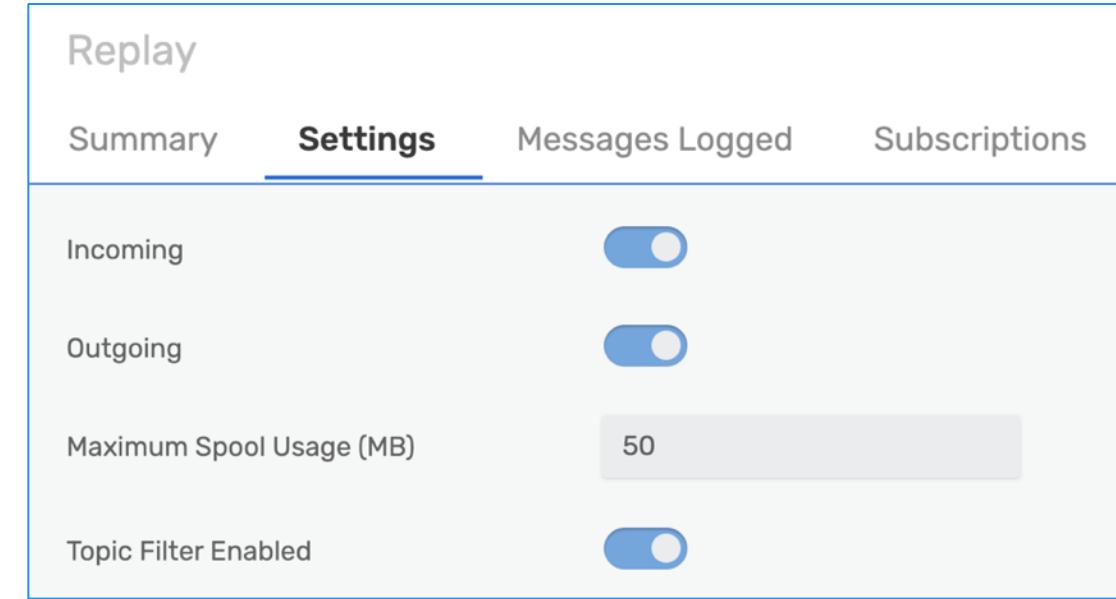
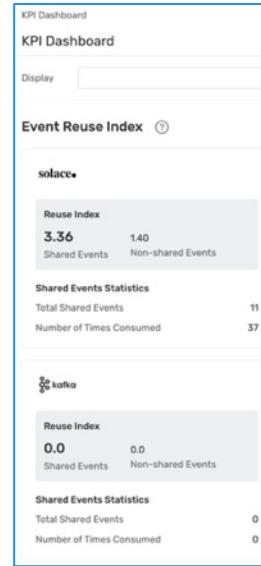
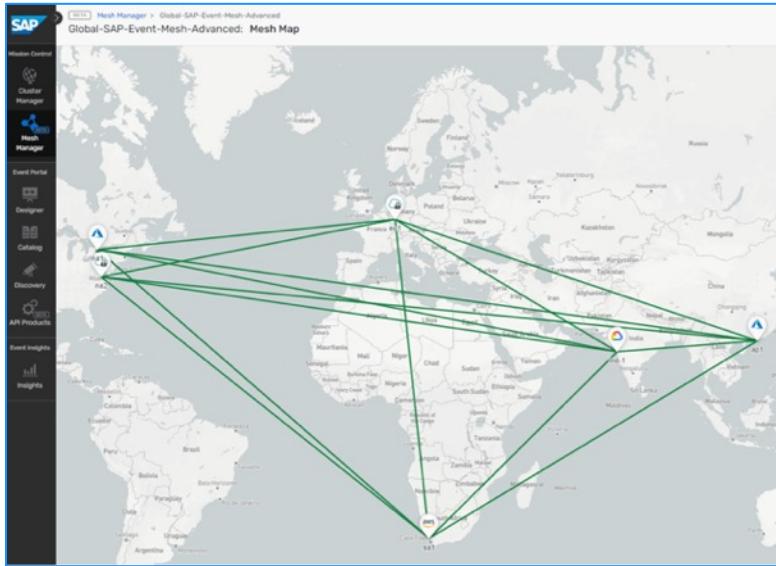
Enterprise
A full-featured service with the performance and throughput ideal for production.

100 Connections 25 GB Message Storage

Service Class * Broker 250 Message Spool Size (GB) 50 Customize



SAP Integration Suite, advanced event mesh: Sophisticated Features



Advanced event monitoring and analysis



Dynamic event routing



Sophisticated filtering



Event replay



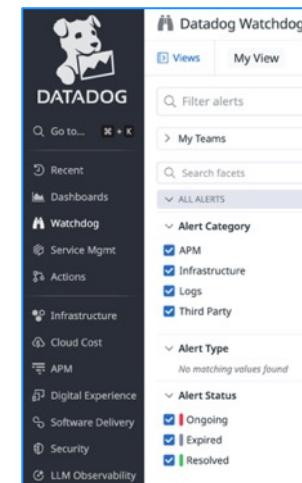
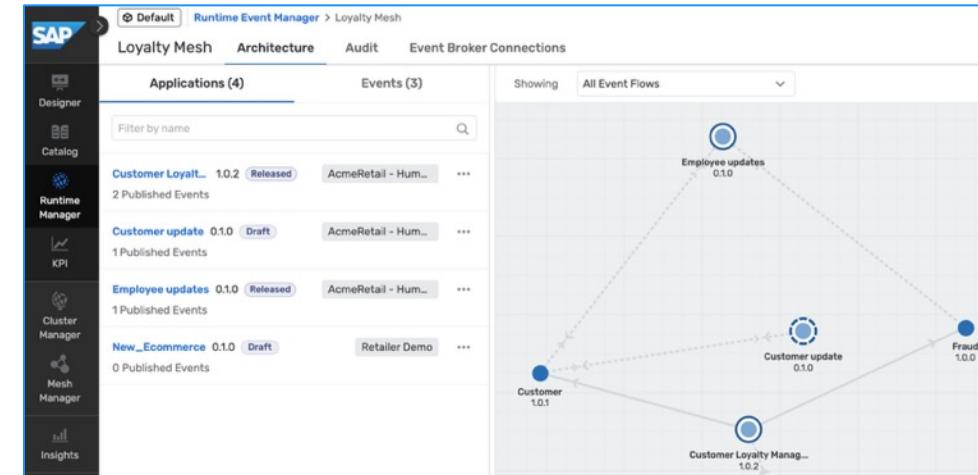
Event management



Distributed tracing



Partitioned queues



AEM: Broker Sizes

	Developer	Enterprise Services						
T-Shirt Size	XXS	XS	S	M	L	XL	XXL	
Availability Configuration	Single node						High-Availability	
Scaling Tier	100	250	1K	5K	10K	50K	100K	
Maximum Queues	100	250	1000	5K	10K	50K	100K	
Maximum Throughput (Mbps)	8	450	750				1,000	
Default Storage (GB)	25	50	200	400	600	800	1000	
Maximum Storage (GB)				6TB				
Maximum Message Size (MB) Persistent	10	10				30		

SAP Integration Suite, advanced event mesh: Differentiators

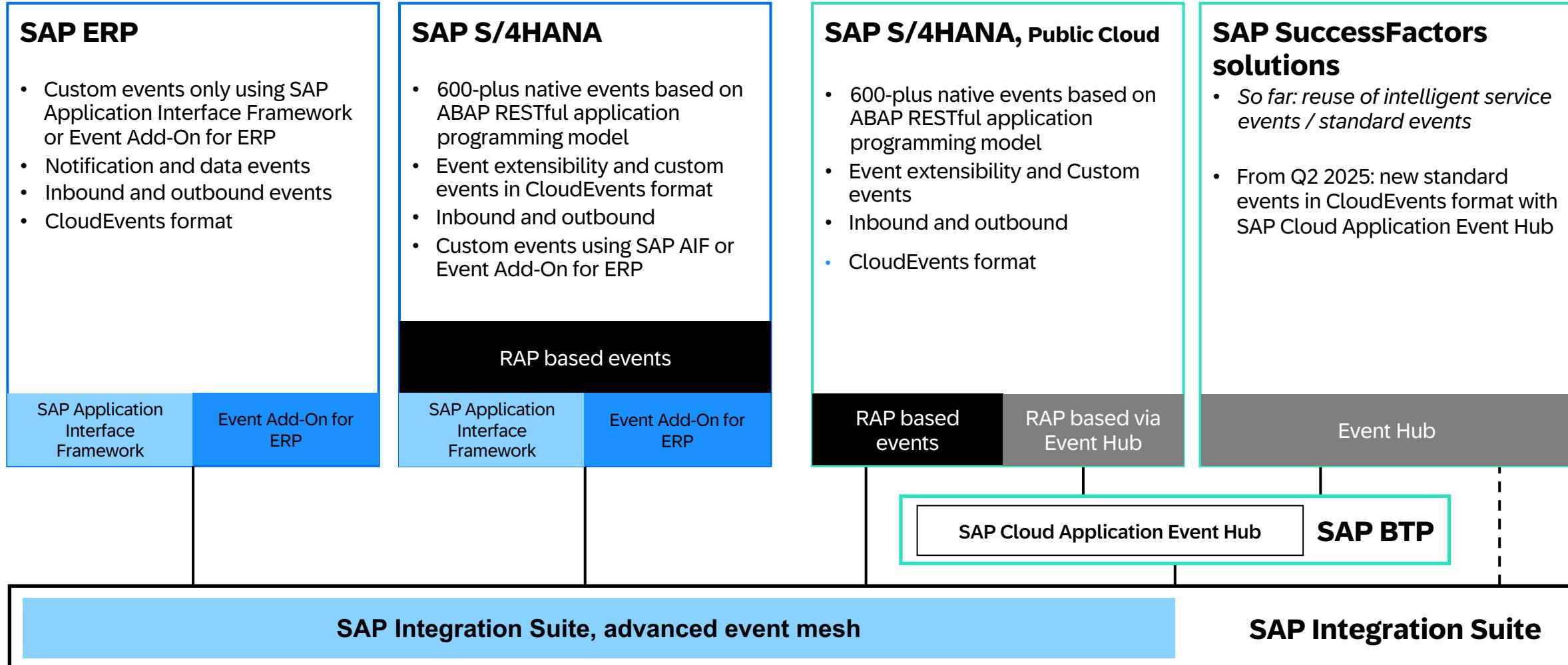
Industrial Maintenance	Data lake updates	Digital Twin	HR Across Multiple Environment	Personalized Elevator Ads
Weather-based Supply Chain	Supply chain visibility	Mobile Workforce Connectivity	Smart Water Platform	Real-time inventory
Sales Order Shock Absorber	Business Process Documentation	Meter to Cash	Oil well monitoring	Demand-based supply chain
Water Quality Monitoring	S/4HANA Extensions	Real Time HR	Across Vendor Mesh	Medication delivery and tracking
Price Distribution	Predictive maintenance	Real-time order management	Regulatory Reporting	Document update notification

- **Scale** of use case
- **Peak Load** or Throughput
- **Event Type** (notification / data events)
- **Distribution** of events sources / consumers
- **Advanced Features** (in order, replay, dynamic topics)
- **Legal** requirements (documentation)
- **Operations** (e.g. monitoring, tracing)
- Meshing different **broker technologies** (e.g. Kafka)

SAP's Event Sources



Selected Event sources for AEM



Comparison RAP based, AIF, and Add-On based event enablement

Criteria	RAP based	Event Add-On for ERP	AIF
Target Scenario	Standard SAP / Go To Approach for SAP S/4HANA environments 2022+	Great choice for all on-prem and private cloud backends	Good choice for older backends specifically for existing AIF customers
Event Type	Extensible Standard Notification and Custom Notification or Data Events	Custom Events (data and notification)	Custom Events (data and notification)
Event Trigger	RAP BOs	BOR Objects, Idocs, BAPIs/RFC , RAP BOs	BOR Objects, Idocs, BAPIs/RFC
Commercials	Free usage with EM, EMIS and AEM	Paid SAP Add-On (BTPEA, CPEA, SAP Store)	Free usage with AEM
Supported Backends	SAP S/4HANA (2022 and 2023) SAP S/4HANA, public cloud edition SAP S/4HANA, private cloud edition	SAP ECC SAP S/4HANA SAP S/4HANA, private cloud edition	SAP ECC SAP S/4HANA SAP S/4HANA, private cloud edition
Delivery	Included in SAP S/4HANA	Add-On for SAP ECC, SAP S/4HANA and SAP S/4HANA, private cloud edition	Included in SAP S/4HANA Add-on for ECC
Product Highlights	<ul style="list-style-type: none"> • 600+ ready to use standard events • Very high scale out • Standard RAP Framework approach • A lot of sophisticated features 	<ul style="list-style-type: none"> • Great time to event • Pre-delivered custom content • Strong Low Code / No Code • Allows for combining all different event creation technologies • Initial/Mass Load 	<ul style="list-style-type: none"> • Huge installed AIF base • Great Monitoring and Reprocessing • Different event creation technologies • Commercials

Event Add-on for ERP Highlights

EVENT-DRIVEN

Unified approach for ECC and S/4HANA
2,500+ event triggers
Predefined + custom data possible

REAL-TIME + BI-DIRECTIONAL

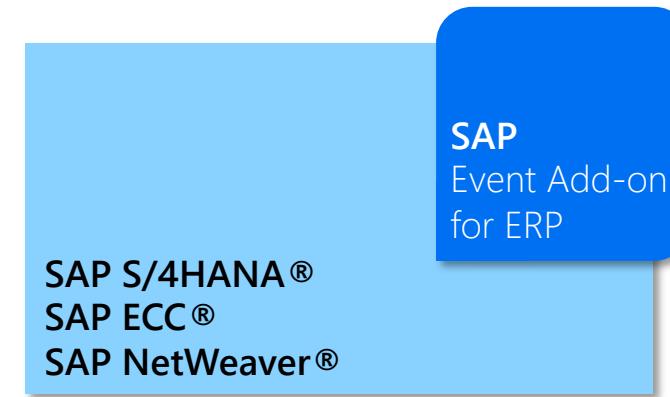
For outbound and inbound data
Real-time events or batch processing
Any deployment (On-prem, IaaS, RISE with SAP)

CODE-LESS + EXTENSIBLE

No-code + low-code tooling
Easy configuration

DIRECT

High Performance
Monitoring
Post-processing, Alerting



AEM Demo



SAP Integration Suite, advanced event mesh

Demo

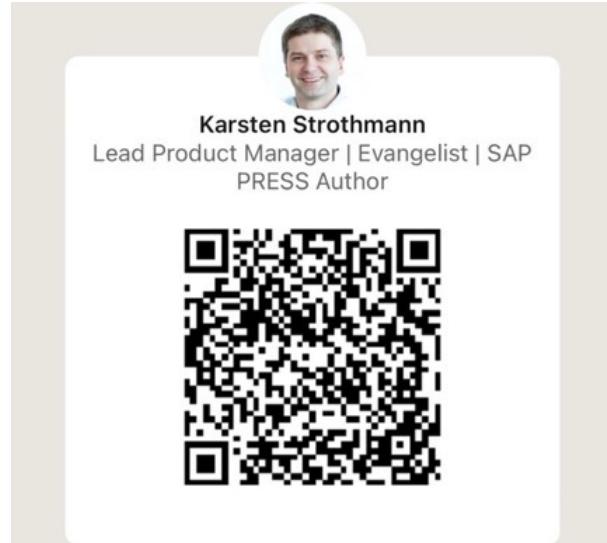


Q & A



Thank You.

Contact information:



SAP Bring out your best.