



SAP's Event-Driven Ecosystem

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Agenda

Event-Driven Architecture

- SAP's View and Terminology
- Benefits and Challenges

SAP's Event-Driven Ecosystem

- Big Picture
- Event Sources
- Use Cases

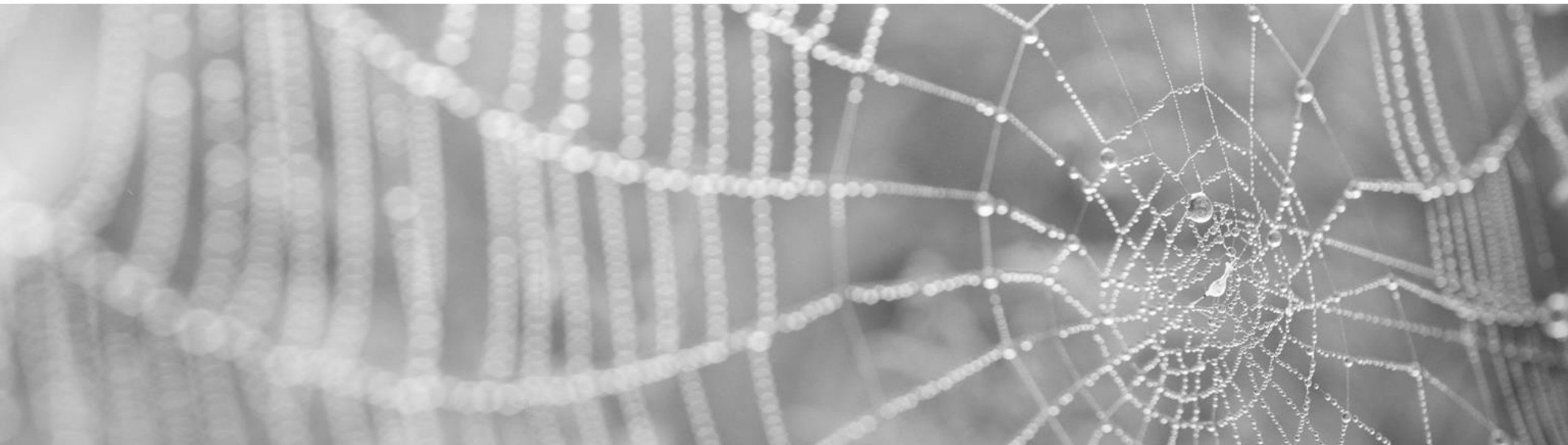
The Road Ahead

- Vision
- Direction and Road Map Highlights

Q&A and Discussion



Business Event-Driven Architecture



Events and Event-Driven Architecture

A **(business) event** is a **significant change in state**

Notification Events or **Data Events** can be sent from the **event source** to inform of the change

A message holding the event description in an encoded format is sent via an **event broker**

Event consumers have registered with the event broker and are informed of the event

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{
  "type": "sap.s4.beh.salesorder.v1.SalesOrder.Changed.v1",
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  "source": "/default/sap.s4.beh/ER9CLNT001",
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    "EventRaisedDateTime": "2022-01-28T13:39:51.9955Z",
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    "DistributionChannel": "01",
    "OrganizationDivision": "01",
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}
```

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```

Notification and Data Events



Notification Event

Advantages

- Very **small**
- Only minimal required data set, **controlled data access**
- Depending on number of required API calls to fetch additional data, can be very efficient

Challenges

- **Additional synchronous step** required
- Depending on number of required API calls to fetch additional data, can be inefficient
- **Suitable API needed** on top of suitable event
- Additional configuration for API access



Data Event

Advantages

- All required **data included** in event
- Good for use cases in which (full) data set required in majority of cases
- Comes in different flavors
 - Full Data Event
 - Custom Data Event
 - Decision Event

Challenges

- **Bigger**
- Raises topics like **data access and protection**
- Potentially **higher resource consumption** for source, event broker and consumer

Benefits and Challenges of Event-Driven Architectures



Benefits

- React to events in other systems and applications in **real time** allowing for a new kind of integrations and extensions
- Loose Coupling results in **flexibility** and **scalability**
- **Incremental** growth by adding event consumers and event sources step by step resulting in better operations and improved quality
- Improved **fault tolerance** by applying suitable patterns
- Open approach across **vendor boundaries** bringing different IT worlds together



Challenges

- Decoupled communication makes **monitoring and understanding** what is going on in an event-driven landscape hard
- **Tracing and debugging** can be more difficult than in traditional landscapes due to highly parallel nature of EDAs
- **Data security** to be watched closely when using **data events**

SAP's Event-Driven Ecosystem



SAP's event-driven ecosystem

Event sources

SAP S/4HANA

SAP S/4HANA Cloud

SAP ERP

SAP SuccessFactors solutions

SAP Marketing Cloud

SAP Fieldglass solutions

SAP Data Intelligence

SAP CPQ

Other SAP solutions

3rd party

Eventing infrastructure

SAP Event Mesh

Event broker

Event routing services

Event catalogs



Event consumer

SAP Integration Suite

SAP Extension Suite

SAP BTP Services

SAP back ends

(SAP ECC and SAP S/4HANA using add-on)

Project "Kyma"

SAP Data Intelligence

Services

Applications

3rd party

End to End Guidance and Learning Material (Missions, Tutorials ...)

SAP Event Mesh

Fully-managed cloud service for enabling applications to communicate asynchronously through events



Event Enablement

- Transports events from event source to the cloud for seamless integration of hybrid landscapes.
- Build responsive applications, integrations and extensions that can react to events without disrupting core business systems.
- Asynchronous patterns provide elasticity meaning unexpected peaks in data traffic can be handled efficiently.



EBaaS & More

- SAP facilitated event broker operations providing an event-broker-as-a-service experience.
- Traffic based pricing following a pay only for what you use concept.
- Low entry barrier and grows with your needs



Speed & Scaling

- Eventing middleware decouples communication between senders and receivers for greater scalability.
- Almost real time transport of events.
- Choose from different Quality of Service levels to ensure events are delivered reliably.



Openness & Focus

- Connect your business applications and microservices seamlessly using standard protocols (MQTT, AMQP 1.0, REST, Webhooks), APIs (Java JMS, Node.js) and exchange patterns (e.g. pub/sub).
- Enjoy an event broker that is fully integrated into SAP's event driven ecosystem.

Selected Capabilities of SAP Event Mesh & Ecosystem

Ecosystem

Event Mesh is not just a plain event broker – it comes as fully integrated part of the SAP Event Driven Ecosystem that includes sophisticated end-to-end offerings (e.g. SAP Extension Suite, SAP Integration Suite)

1

Plug and Play

Efficiency boost and improved ease of use by plug and play with selected other SAP technologies (e.g. queue creation out of CAP)

2

Backend Event Enablement

Native event broker for SAP S/4HANA and the usage of the event enablement add-on for SAP ERP and on premise SAP S/4HANA is included in traffic based pricing

3

Multi Platform Support

Available as part of SAP BTP on different hypercloud provider environments

4

Event Exploration

Exploration of SAP backend events out of the event broker UI for SAP S/4HANA Cloud

5

Connectivity

Highly efficient setup of connectivity and trust with selected SAP backends

6

Ease of Use and Pricing

Fully managed event broker service with traffic based pricing: low entry barrier and pay only for what you use

7

Operations and Support

Event Broker as a service operated by SAP and one-stop SAP support allows for support from event source to event consumers without vendor barriers

8

Openness and Focus

Support of standard concepts (e.g. CloudEvents) and protocols (e.g. AMQP, REST) with additional focus on typical SAP customer use cases

9

Future Proof

Event Mesh is fully future proof in and beyond SAP environments and is SAP's event broker of choice internally as well

10

Selected SAP Specific Example Use Cases

Integrations



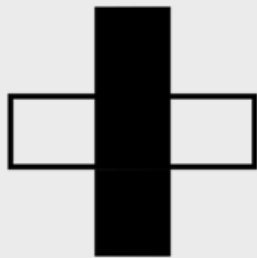
Replication



Real Time



Vendor Boundaries



Data Enrichment



New Channels

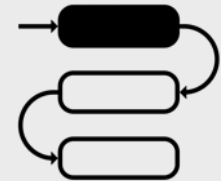


Smart Trigger

Extensions

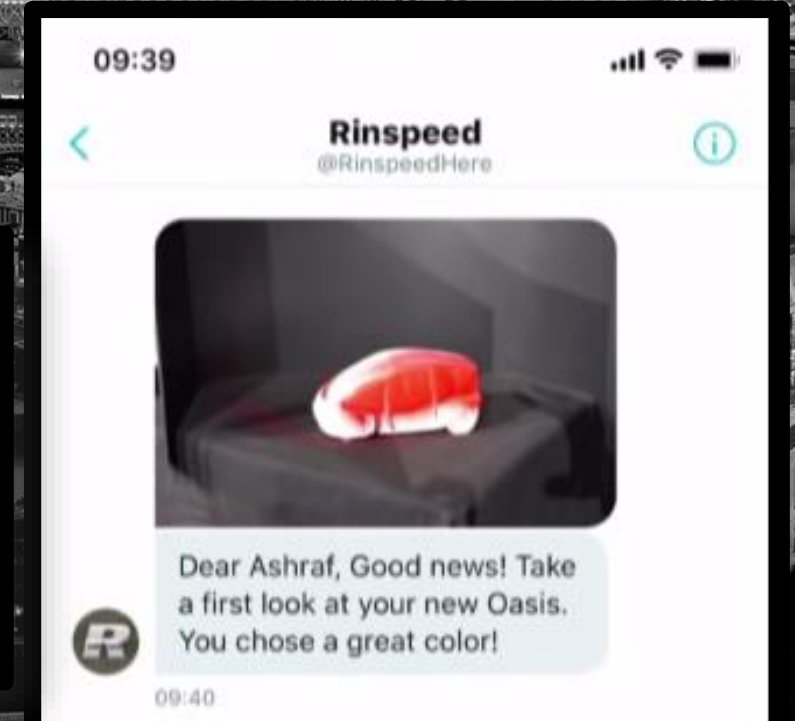
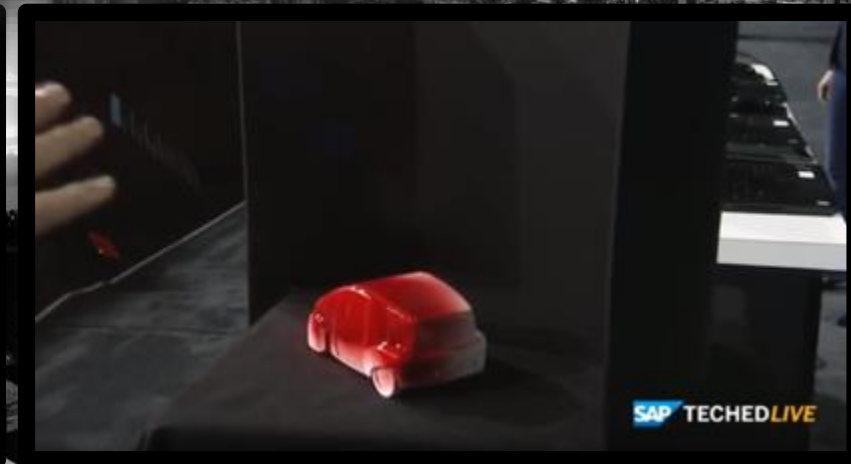
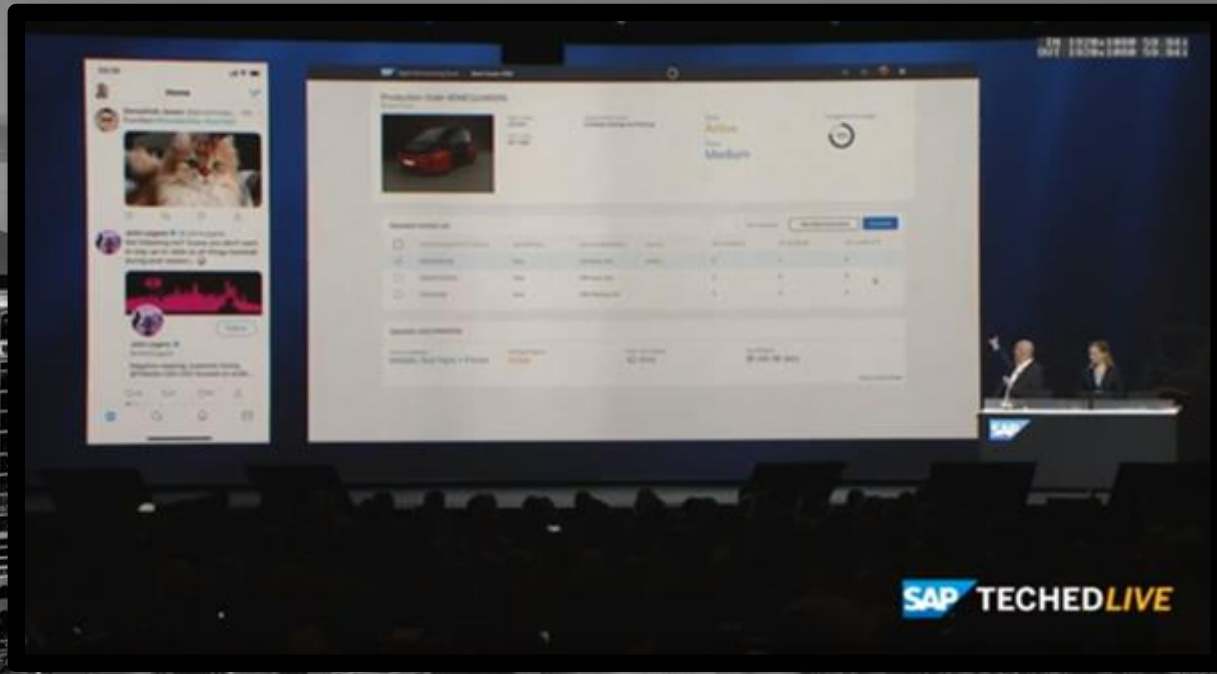


New User Groups

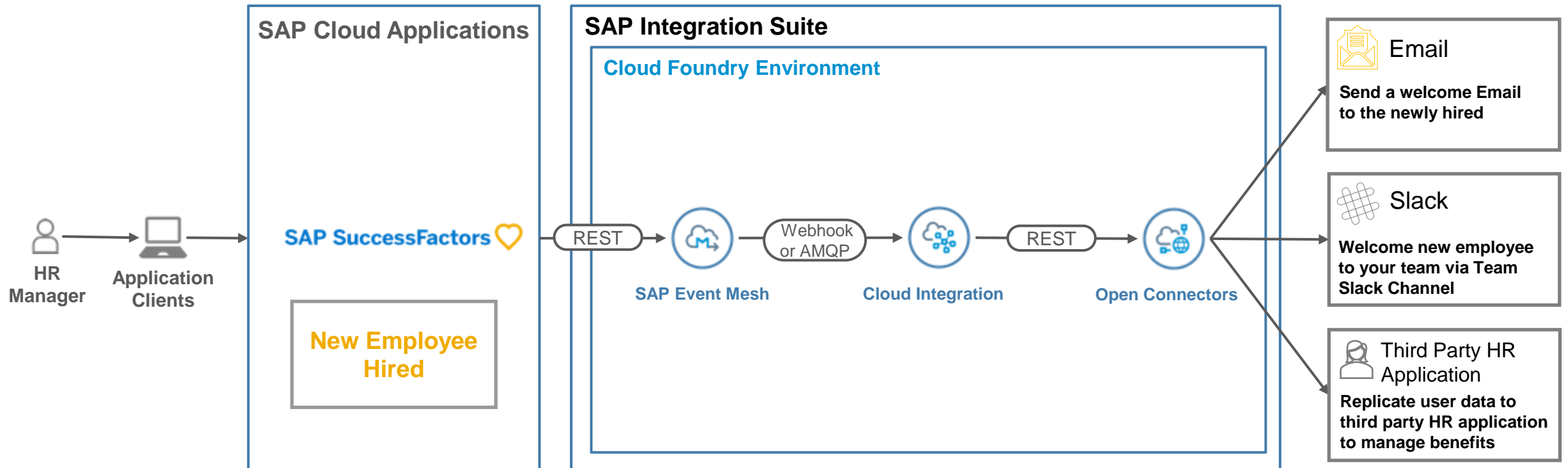


Business Process

Almost Historic: SAP TechEd Las Vegas 2018 – Keynote



Event-based Integration: New Employee Hired in SuccessFactors



The Road Ahead





Just a



beginning

Direction and road map highlights

Direction

- **Extending the mesh**
 - More event sources and more events
 - Grow infrastructure inside and outside of SAP
- **Unifying and standardizing** eventing infrastructure
 - Across ecosystem
 - Beyond vendor boundaries

Road map highlights*

- Going broad and deep in respect to **event sources**
- Increase # of **consumers**
- Extending & Unifying **eventing infrastructure**
 - Pathway into **hyperscaler eventing services** (partnership with Microsoft Azure)
 - Heavy use cases, **cloud-native event brokers** (Solace partnership extended)

Some Winter/Spring 2022 Updates

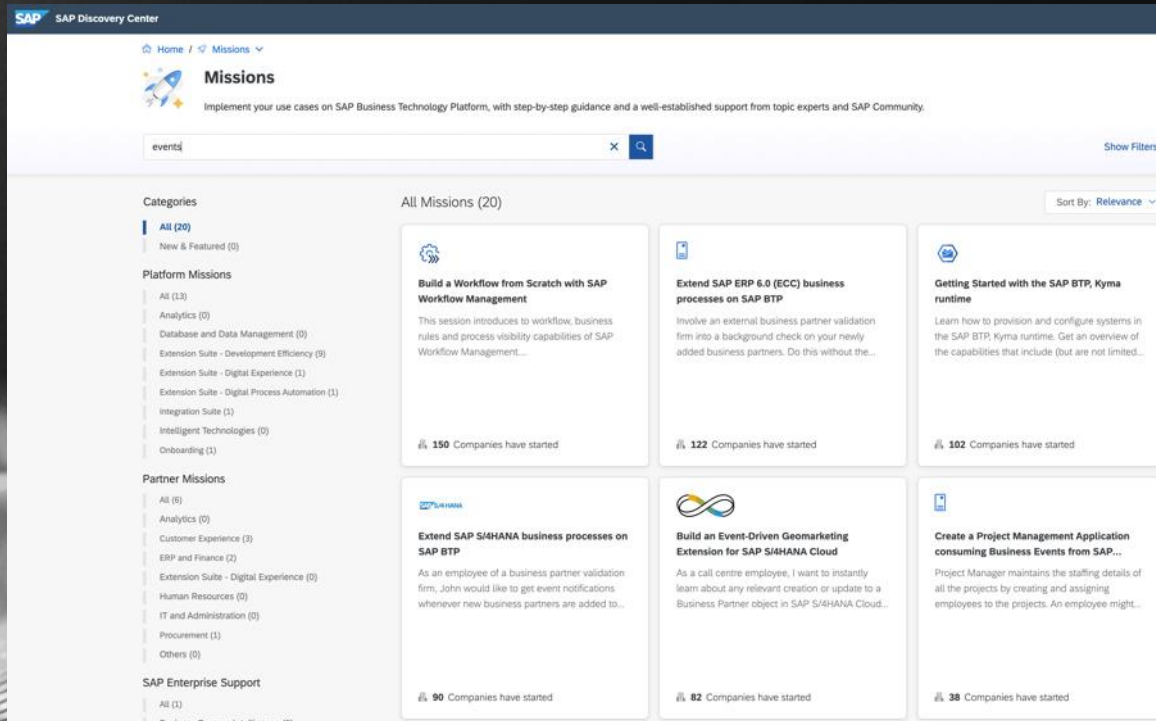
Event Mesh

- **Connectivity Plan** to Azure Event Grid in joint CEI with Microsoft
- **Public Preview** of Connectivity Plan planned for Q2
- Heavy load option with dedicated Solace VMR via SAP being worked on
- SAP Managed option available SAP internally

Ecosystem

- **RAP based approach** for S/4HANA Cloud on track for S/4HANA 2208; on prem to follow
- Fieldglass as Event Source using Add-On
- Stronger focus on **Inbound for Add-On**
- Event Consumption in Kyma (now) and AppGyver (summer 2022)
- Improved experience with Event Mesh in SAP Integration Suite
- Closer alignment with surrounding technologies (e.g. SAP Graph)

Additional Material



The screenshot shows the SAP Discovery Center Missions page. The header includes the SAP logo and 'SAP Discovery Center'. Below the header, there are navigation links for 'Home' and 'Missions'. The main content area is titled 'Missions' and features a search bar with the text 'events'. A sidebar on the left lists various categories and missions, including 'Platform Missions' and 'Partner Missions'. The main content area displays a grid of mission cards, each with a title, a brief description, and the number of companies that have started the mission. The cards are sorted by relevance.

Product Information



Murali Shanmugham

August 11, 2021 | 5 minute read

Enable your business to operate in real-time with SAP Event Mesh of SAP Business Technology Platform

4 19 2,580

Follow

Like

RSS Feed

Event-Driven Architecture (EDA) is gaining more popularity these days as businesses are looking to leverage it to become more agile, flexible, and scalable. Over the last few years, there has been lot of focus within SAP to enable organizations to adopt Event-Driven Architectures with processes that touch SAP & 3rd party systems. There are plenty of [articles](#) online which describe the significance of an Event-Driven Architecture for enterprises today. In this blog post, I want to touch upon the key enhancements and point you to some of the assets to get started.

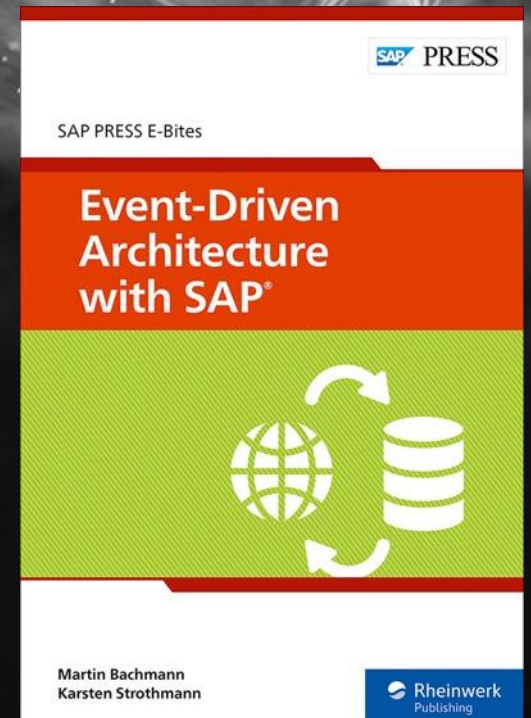


openSAP Invites

Episode 18: Learn About Extensibility Concepts Using SAP Extension Suite

Learn about extensions and event-driven extensibility with SAP Extension Suite.

▶ 45:44



The cover of the SAP PRESS E-Bites book 'Event-Driven Architecture with SAP'. The cover features the SAP PRESS logo at the top, the title 'Event-Driven Architecture with SAP' in large white text on a red background, and a green section with a white icon of a globe and a database cylinder. The authors' names, Martin Bachmann and Karsten Strothmann, are listed at the bottom left, and the Rheinwerk Publishing logo is at the bottom right.

Thank you.



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