SAP Cloud Platform Integration Advisor

Marco Ertel, SAP
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PUBLIC

THE BEST RUN **SAP**

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Agenda

Integration Suite capabilities

Current situation in integration projects

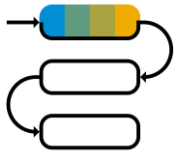Improve it with the Integration Advisor

Recent Innovations

Demo

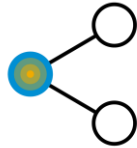Value Proposition and Roadmap

Time for hands-on exercise

SAP Cloud Platform Integration Suite

A modular iPaaS to connect the Intelligent Enterprise

Cloud Integration

Seamlessly integrate anything, anywhere (A2A/B2B) in real time.

API Management

Expose your data and processes as APIs. Manage E2E life cycle.

Integration Advisor

Accelerate implementation and maintenance of B2B scenarios using machine learning.

API Business Hub

Jump start integration projects with APIs, packaged integration content and adapters.

Data Intelligence

Deliver data-driven innovation, unifying enterprise AI and intelligent information management.

Open Connectors

Accelerate connectivity to 3rd party applications.
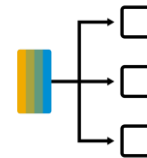
Connectivity

Securely access remote services that run on-premise.
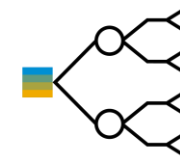
Enterprise Messaging

Decouple communication and send messages & events.

Current situation in integration projects

# Reality: Integrate APIs/interfaces in heterogeneous landscapes

Each interface has its own complexity
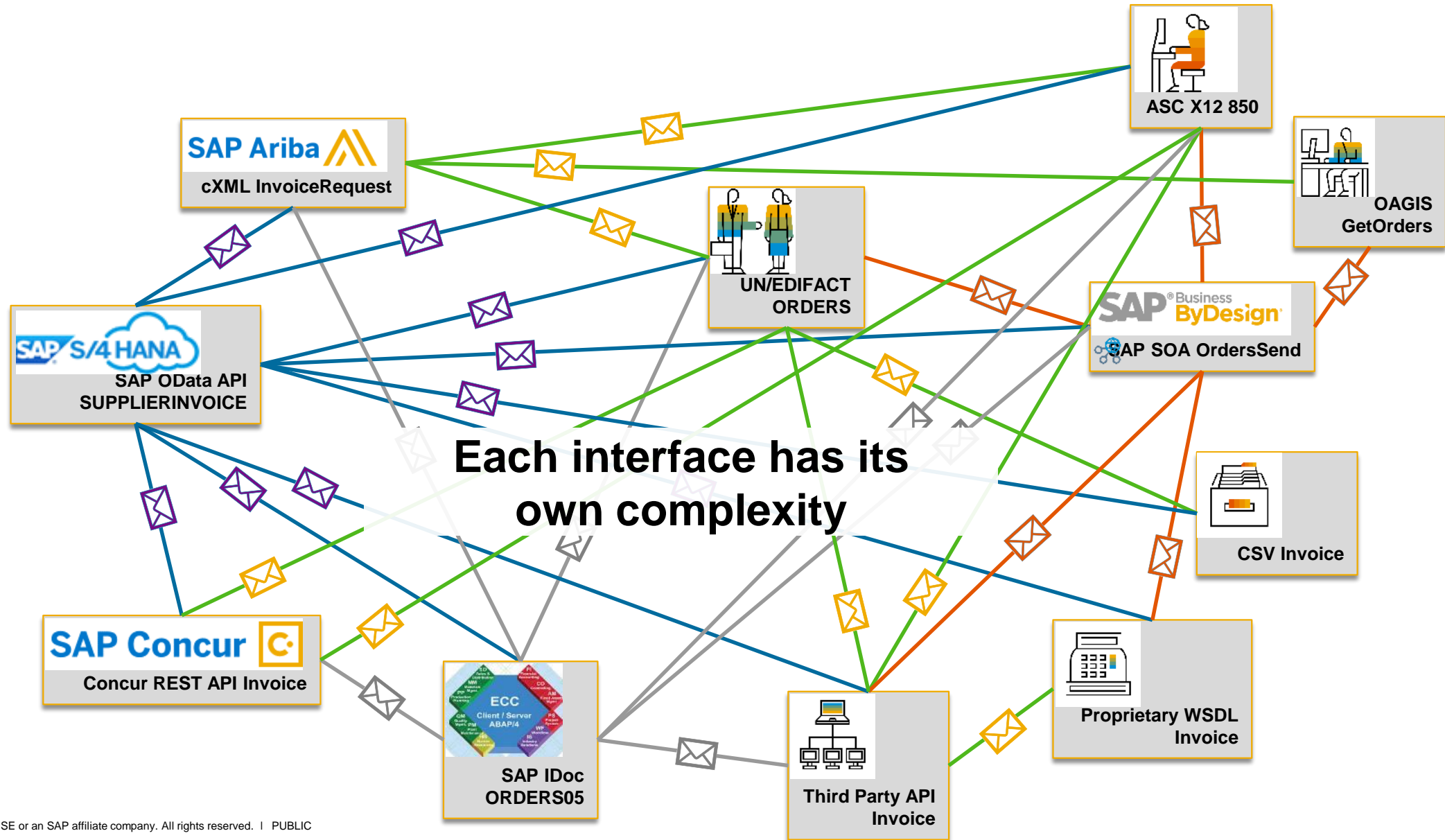
Flow of invoices in Intelligent Enterprise process "Procure-to-Pay"

Business Partners

Payment System

ASC X12*

810 (Invoice)

SAP Fieldglass

ASC X12*

GET
SupplierInvoice
(per business partner)

Vendor Management
System (Payment)

Create & validate
supplier invoice

Open API

POST
SupplierInvoice

SAP® S/4HANA Cloud

Payment

InvoiceRequest_In

SOA

Create &
pay Invoice

Business Partners

Payment System

UN/EDIFACT*

INVOIC

SAP Ariba

Payment System

cXML

InvoiceRequest
(per business partner)

cXML

InvoiceRequest

* Every business partner has their own customized message interface, usually based on different B2B standards   7

Processes between applications via middleware

SAP Cloud Platform Integration

Integration flows per combination
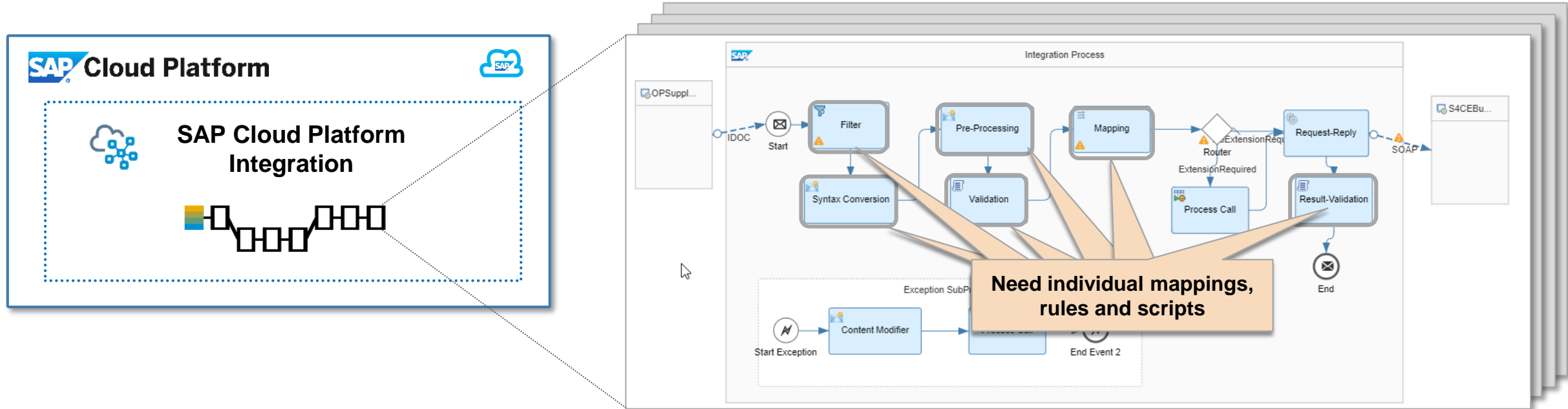
One integration flow per combination and variation

- Combination = between two different applications

- Variations = per message type and per different requirements in given business context

- Business context = considering aspects in different industries, countries, products, roles, etc.

Technical mapping in current middleware solutions

Typical end-to-end flow for building integration content

Business domain experts

Integration experts

| Business requirements | Message implementation guideline | Mapping guidelines | Technical implementation | Testing and correction | Deployment |

Current tools

SAP AIF
SAP Process Orchestration

SAP AIF
SAP Process Orchestration

←————————— **~50%** —————————→ ←— **~15%** —→ ←— **~30%** —→ ←— **~5%** —→

Efforts

Media breaks

no loop back
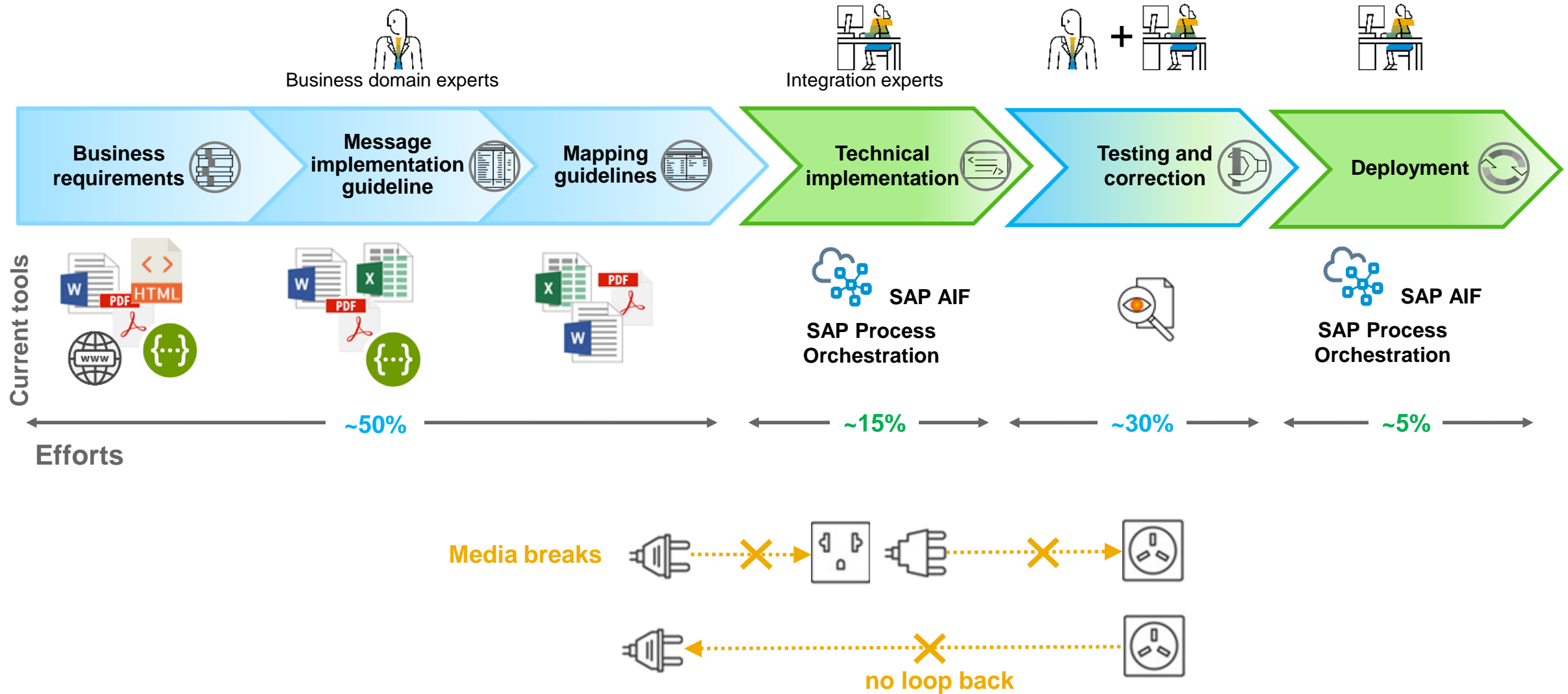
Tools for end-to-end flow steps

Most middleware systems just focus on technical implementations and deployment
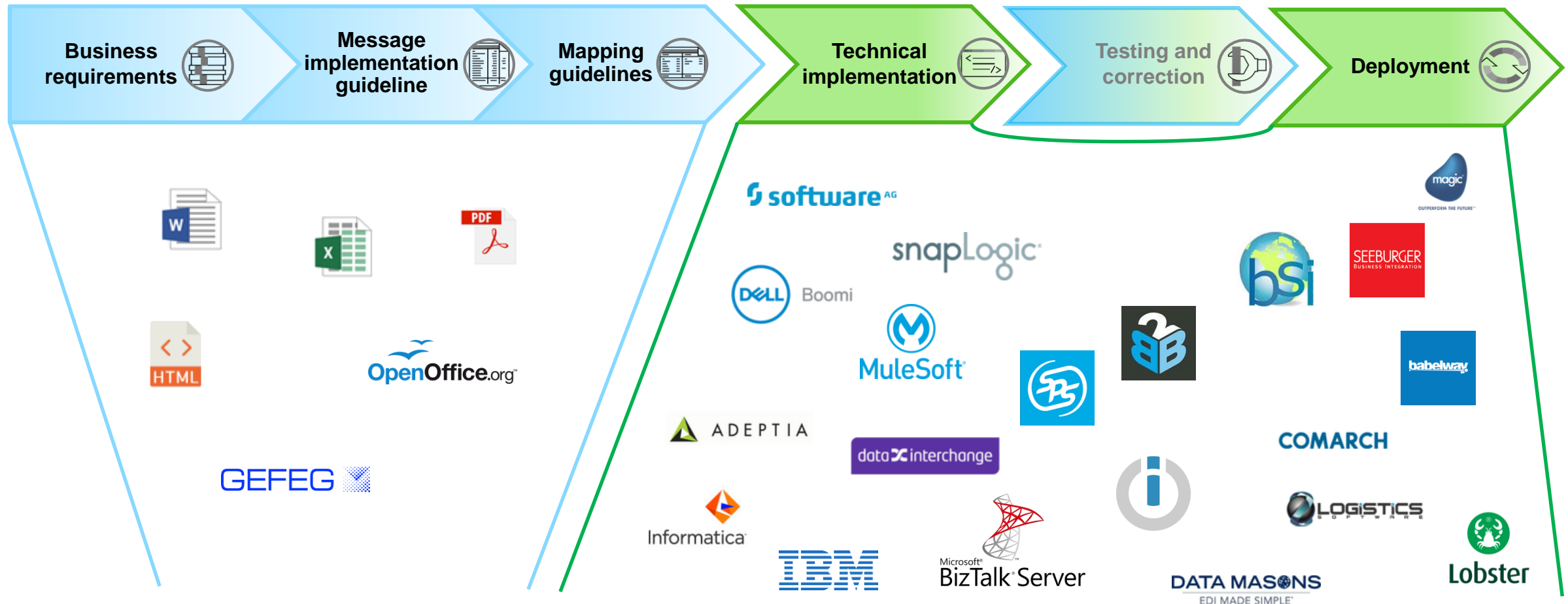
Available information of type systems

- Available on different locations/systems
- Different media types (pdf, html, doc, …)
- Different level of detail
- Several documents for complete understanding necessary
- Available in non-/semi-structured formats
- Some type systems have fees
- Message structures too complex (< 4 billion different semantic expressions)

Message implementation guideline (MIG)

Required for implementation of a "standard" **message interface** based on a message definition of a type system specifying

Scope, context and usage instructions

- Relevant required and optional elements
- Properties per element
- Unambiguous business meaning per element
- Required code lists and code values
- Dependencies and conditions across elements
- Constraints, validation rules and boundary conditions

Anonymized examples

Mapping guidelines (MAGs)

Mapping between source and target message interface

- Which elements have to be mapped in order to fulfill same business meaning and requirements?
- Which elements have to be additionally involved to convey the requirements completely?
- Are there any format or processing instructions such as splitting, assembling of values, or changing the format?
- How the code values have to be mapped?
- Are there any instructions for restructuring element groups?

Every standard interface must be customized

Example

An IDoc purchase order has

- 720 data elements
- 60 code lists with 4,000–5,000 code values
- <5% of these data elements, code lists, and code values are required per implementation
- But which one?

Customization means answering a lot of further questions, such as:

Which elements are required?

What is the exact meaning?

What are the constraints and conditions of this element?

Are the occurrences correct? Is this element mandatory?

∨ ORDERS05	1..1
∨ IDOC	1..1
@BEGIN	1..1
∨ EDI_DC40	1..1
@SEGMENT	1..1
TABNAM	1..1
MANDT	0..1
DOCNUM	0..1
DOCREL	0..1
STATUS	0..1
DIRECT	1..1
OUTMOD	0..1
EXPRSS	0..1
TEST	0..1
IDOCTYP	1..1
CIMTYP	0..1
MESTYP	1..1
MESCOD	0..1
MESFCT	0..1
STD	0..1
STDVRS	0..1
STDMES	0..1
SNDPOR	1..1
SNDPRT	1..1
SNDPFC	0..1
SNDPRN	1..1
SNDSAD	0..1
SNDLAD	0..1

Typical view of an IDoc interface

Influencing factors

Industries
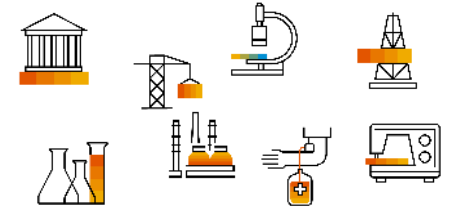
Products and services

Countries and laws

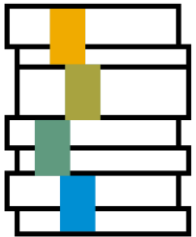# Improve it with the Integration Advisor

SAP Cloud Platform Integration Advisor
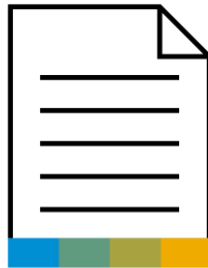
Main components

Library of Type Systems

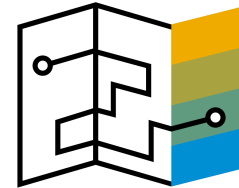library of predefined/stand ardized reusable data types

Message Implementation Guideline (MIGs)

functional specification describing the (source or target) structure of the customized interface

Mapping Guidelines (MAGs)

Specification of a mapping between a source and target MIG

Runtime Artifacts

Deployable scripts and schemas

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Introduction to type systems

A type system has a library of predefined/standardized reusable data types that follow a common syntax and methodology for modeling, naming and structuring

A type system could be a B2B or A2A library based on a specific syntax representation such as XML or JSON

Typical organizations are standardization bodies such as ISO, United Nations, ASC, etc. or software vendors like SAP SE

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Content of a Type System

The library of type systems shows a collection of available B2B or A2A type systems in a central place, including all the necessary information for creating and maintaining your customized interfaces

For each type system, you will find the following components:

Versions   **Messages**   **Complex Types**   **Simple Types**   **Codelists**
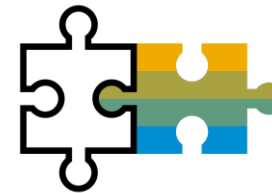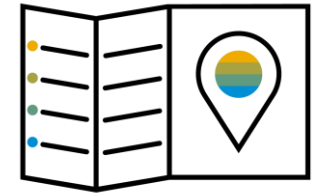
SAP Cloud Platform Integration Advisor
easily create your Message Implementation Guideline (MIG)

1

Select the required type system

2

Select the required version

3

Select the required message type

Or alternatively import a customized structure (xsd Format)

4

Upload a Payload (optional)

5

Provide general information, choose the direction & set the business context

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What is a Mapping Guideline?

A Mapping Guideline (MAG) is used to create a complete **mapping at the semantic level** that covers the aspects, constraints, and parameters from the source and target Message Implementation Guidelines (MIG)

These can be used for internal purpose or can be shared with trading partners as proposal or a reference guideline
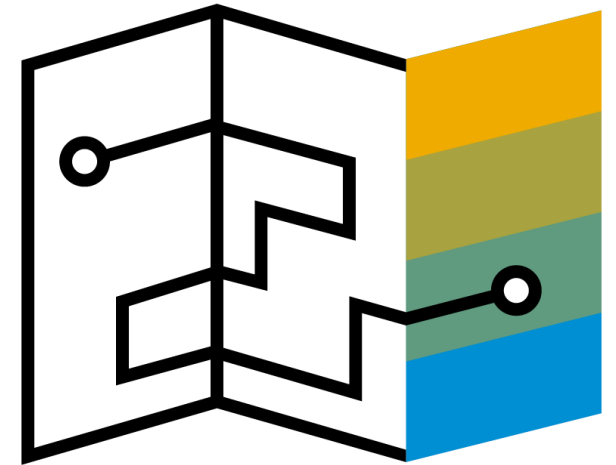
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How does all the pieces work together
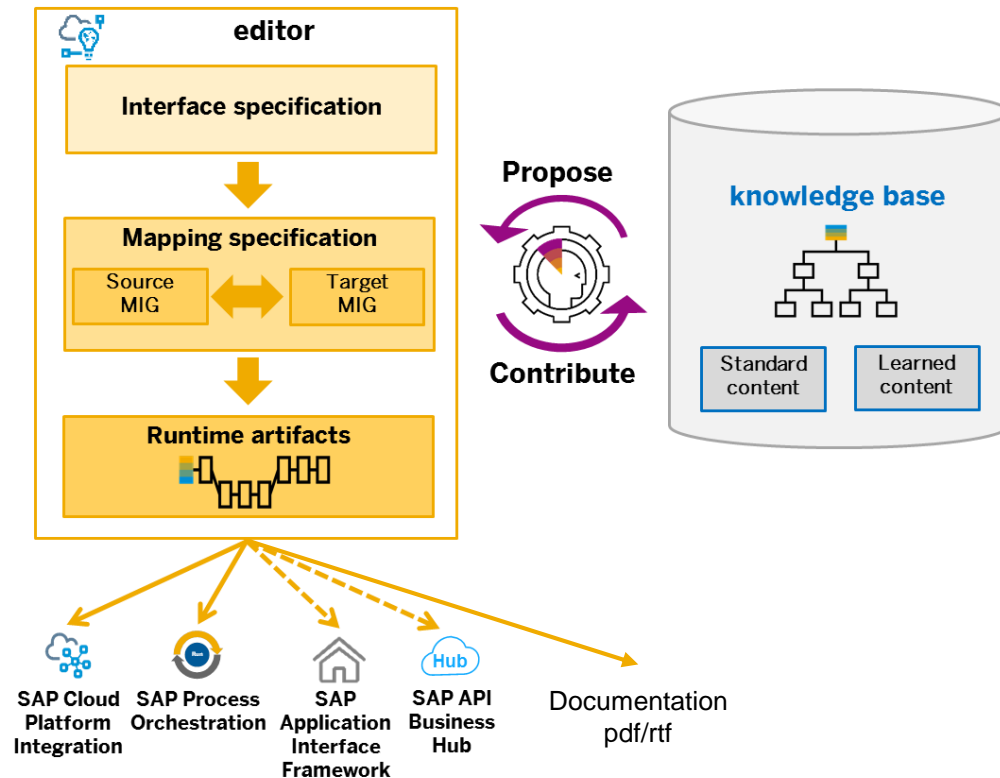
Crowdsourcing capabilities for business oriented interfaces and mappings

- **Machine learning** approach that helps you to get out-of-the-box proposals ready to start your integration projects without the need for deep domain knowledge and reduces your efforts by 60% or more

- Central integration knowledge base for integration wherein all **crowdsource based learnings** from interface customizations and mappings are stored
  - with international and SAP standards

- **Automatic generation** of documentation and runtime artifacts

- **Community collaboration** for creating and maintaining tailored integration interfaces and mappings

This functionality is unique in the market and protected by various patents held by SAP

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simplify projects by using the Trading Partner Management
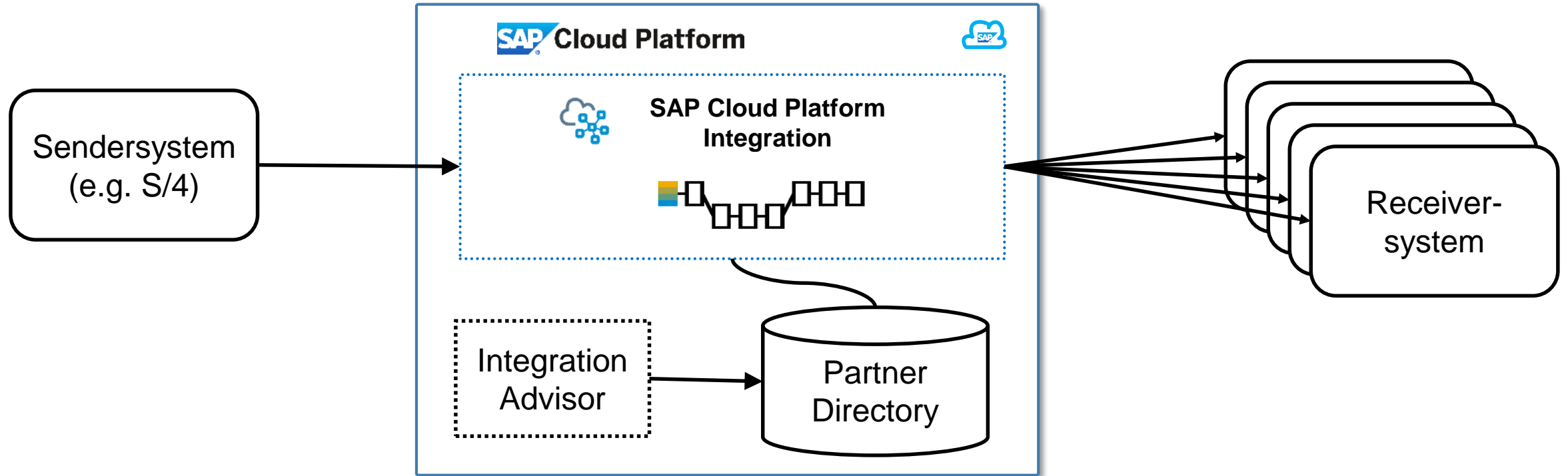
One integration flow for many receivers

- One connection from the sender system
- Mapping, validation coming from the partner directory

Tight connection to SAP's integration and orchestration portfolio

Integration Advisor

Central and intelligent content management system for creating and maintaining integration content, for

SAP Cloud Platform Integration

- Gets content via automatic push service
- Stores content in Partner Directory
- Enables dynamic invocation of content by integration flows

SAP Process Orchestration

Run

- Supports IA's integration content
- In hybrid runtime environment starting with version 7.5
- In JAVA based runtime starting with version 7.3

SAP API Business Hub

Future[1.)]

- Embedded IA editing capabilities
- Enables direct customization/ extensions of provided APIs

SAP Application Interface Framework

Future[1.)]

- Gets validation rules, constraints, code value mappings and data conversion rules
- Pushes updates to IA

1.) This is the current state of planning and may be changed by SAP at any time without notice.

Recent Innovations

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shared functions

- Mapping functions are often used in the same way

- Increases reuse

- Reuse inside the MAG later inside the tenant

- built-in date/time conversion

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MIG comparison

- Compare MIGs to identify similarities and differences

- Can compare 2 to n MIGs

- Can compare different versions of the same MIG but also different MIGs

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exchange MIG version in MAG

- As MIGs can exist in different versions it is now possible to exchange the used version in the MAG

SAP Cloud Platform Integration Advisor
code value mapping

- Code value mappings are often used in the same way

- Increases reuse

- Makes changes to a value mapping easier

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Custom Messages

- Define messages outside a typesystem

- Use IA for every message

Value Proposition and Roadmap
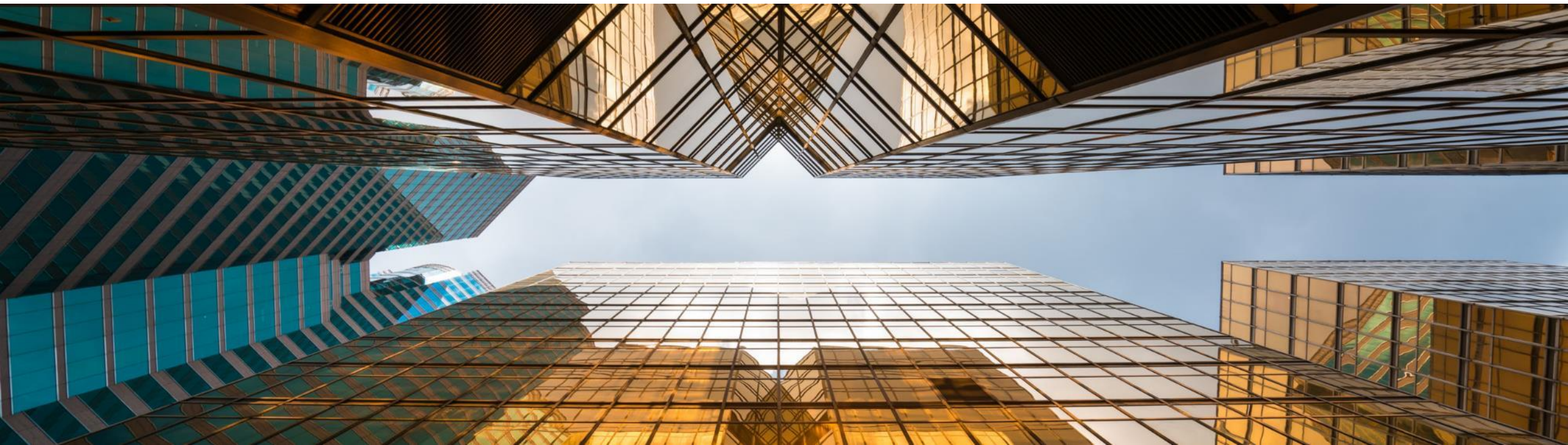
SAP Cloud Platform Integration Advisor
Value proposition

Intelligent tool acting as an accelerator for implementation and enhancements of integration scenarios

- Content management system with complete application-to-application, business-to-business library content
- Embedded proposal service based on continuous deep learning
- Documentation and runtime artifact generation
- Embedded simulation service
- Content governance features
- Accelerated interface enhancements for intelligent enterprise

Reduces integration scenario implementation time and effort by 60% or greater

This functionality is unique in the market and protected by approximately 50 patents held by SAP.

Join the new era of integration content building

The aim is to commoditize the integration content knowledge

- Crowdsourced machine learning
- Collaborative understanding

This facilitates

- Higher flexibility
- Lower cost for implementation
- Better transparency

For definition, review, and deploy of interfaces and mappings in end-to-end integration scenarios

Don't miss the chance to switch the speed of your integration projects

From:
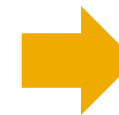
To:

=

Integration Advisor

SAP Cloud Platform Integration Advisor

Product road map overview

https://roadmaps.sap.com/board?q=integration%20advisor&range=CURRENT-LAST#Q3%202020

Customer Influence and Adoption

https://influence.sap.com/sap/ino/#/campaign/2282

Demo

Thank you.

Contact information:

Marco Ertel
Product Manager SAP Cloud Platform Integration Suite
marco.ertel@sap.com

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