How to Apply the
Integration Solution Advisory Methodology

INT102

PUBLIC

SAP TECHED

Speakers

Las Vegas
September 24–27, 2019

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Barcelona
October 8-10, 2019

Katrin von Ahsen

Bangalore
November 13-15, 2019
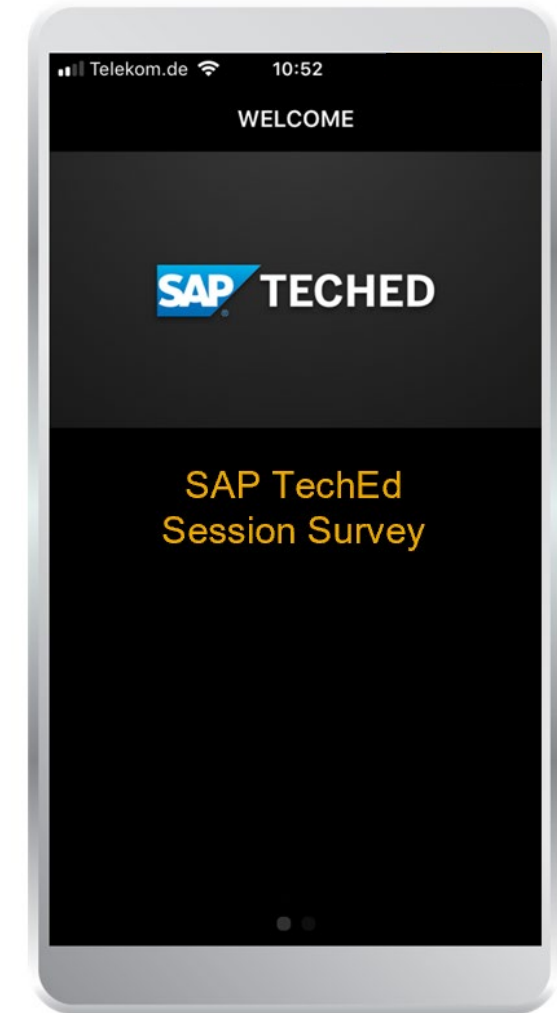
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Agenda

Integration Challenge for Enterprise Architects

ISA-M in Action

CIO Guides for Integration

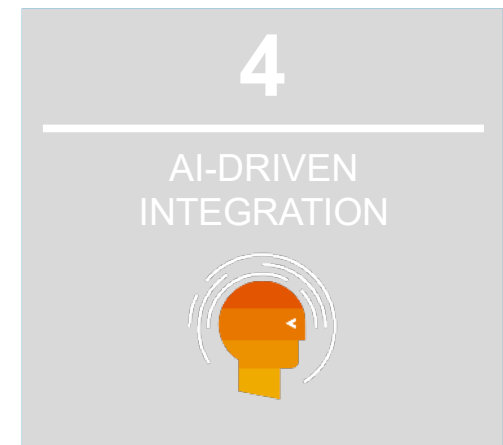ISA-M Template for Enterprise Architects

Integration Challenge for
Enterprise Architects

Intelligent enterprises are integrated enterprises

Key integration principles

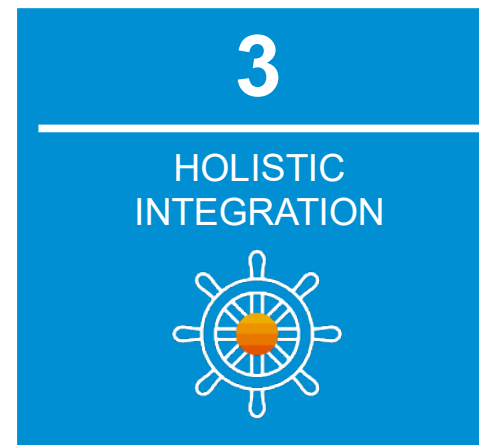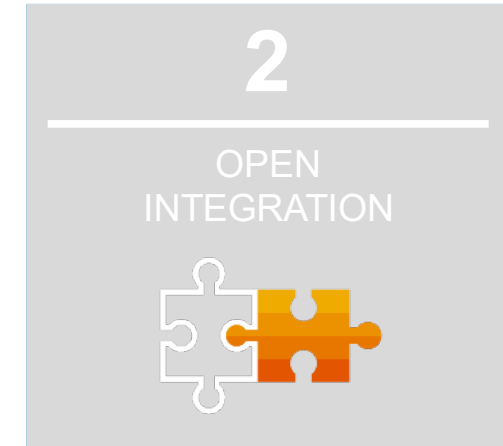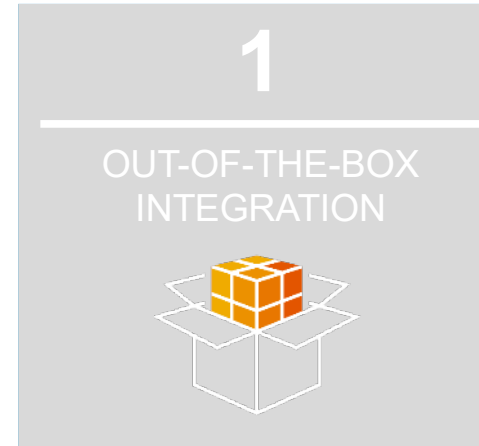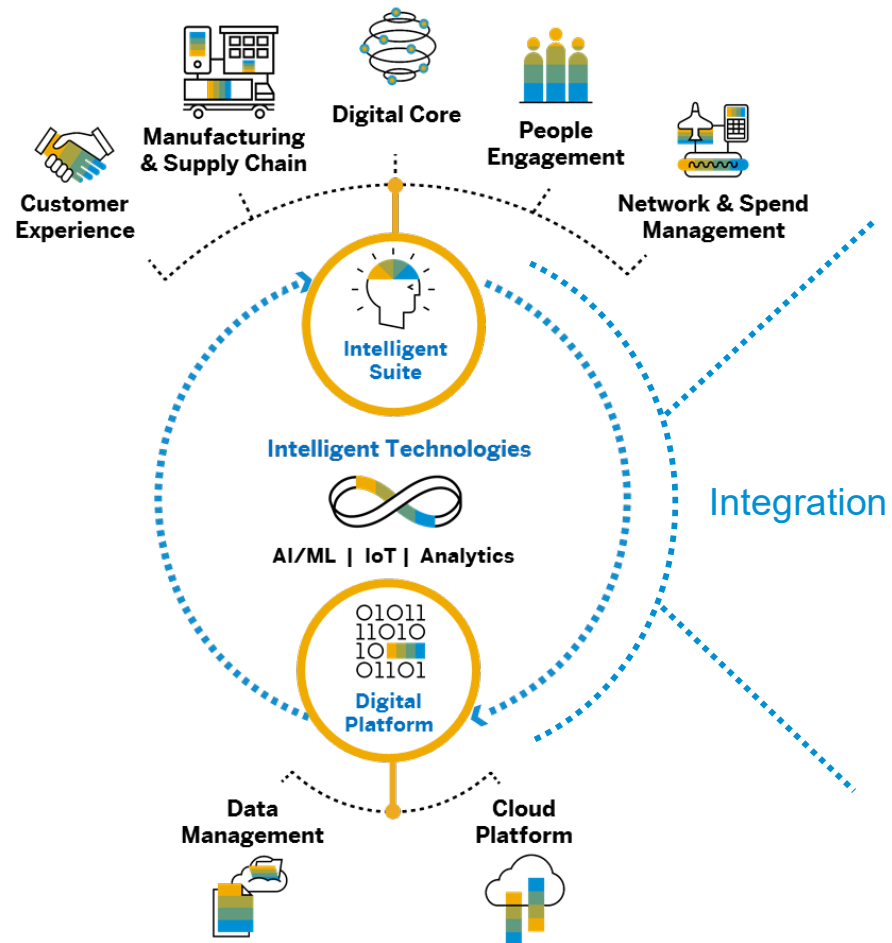| **1**	**2**
OUT-OF-THE-BOX INTEGRATION	OPEN INTEGRATION
3	**4**
HOLISTIC INTEGRATION	AI-DRIVEN INTEGRATION

The increased scope of integration

Integration challenge for enterprise architects

Fast evolving hybrid landscapes

Hybrid Cloud · Intelligent Enterprise · M&A · Microservices · B2C · Distributed Business Processes

SaaS · SAP · API Economy · B2B · Analytics · Mobile · Blockchain

IoT · Non-SAP · Industry 4.0 · Machine Learning · Master Data

Cloud ERP · Digital Transformation · Business Networks · Hybrid Landscapes · Big Data · Artificial Intelligence

Robotic Process Automation · New Business Models

FUTURE INTEGRATION ARCHITECTURE

HYBRID INTEGRATION PLATFORM

INTEGRATION GOVERNANCE

AGILITY AND PRACTICE OF ENABLEMENT

Customer context

Enterprise architecture strategy | Future application landscape | Existing investments | Skillsets | Commercial aspects

Integration Solution Advisory Methodology (ISA-M)

Simplify integration by a systematic integration approach
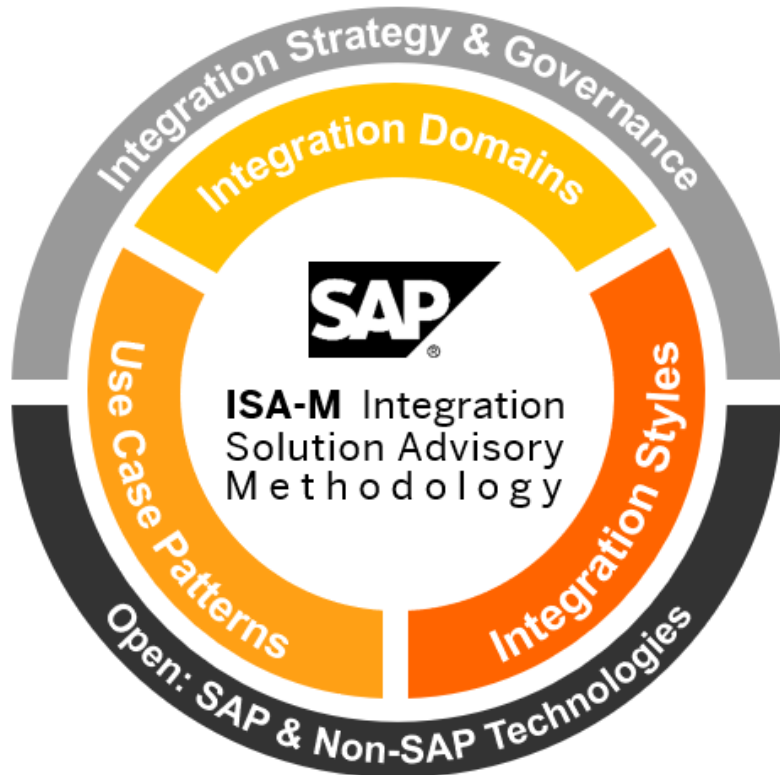
Overview

- Helps enterprise architects to shape their integration strategy
- Collection of typical integration styles and patterns
- Mapping to integration services (based on customer context)
- Open to SAP and Non-SAP services / technologies
- Target Group: Enterprise Architects / Integration Architects

ISA-M Template

- Free PPT template available
- Successfully adopted in multiple global organizations
- SAP Consulting Services (optional)
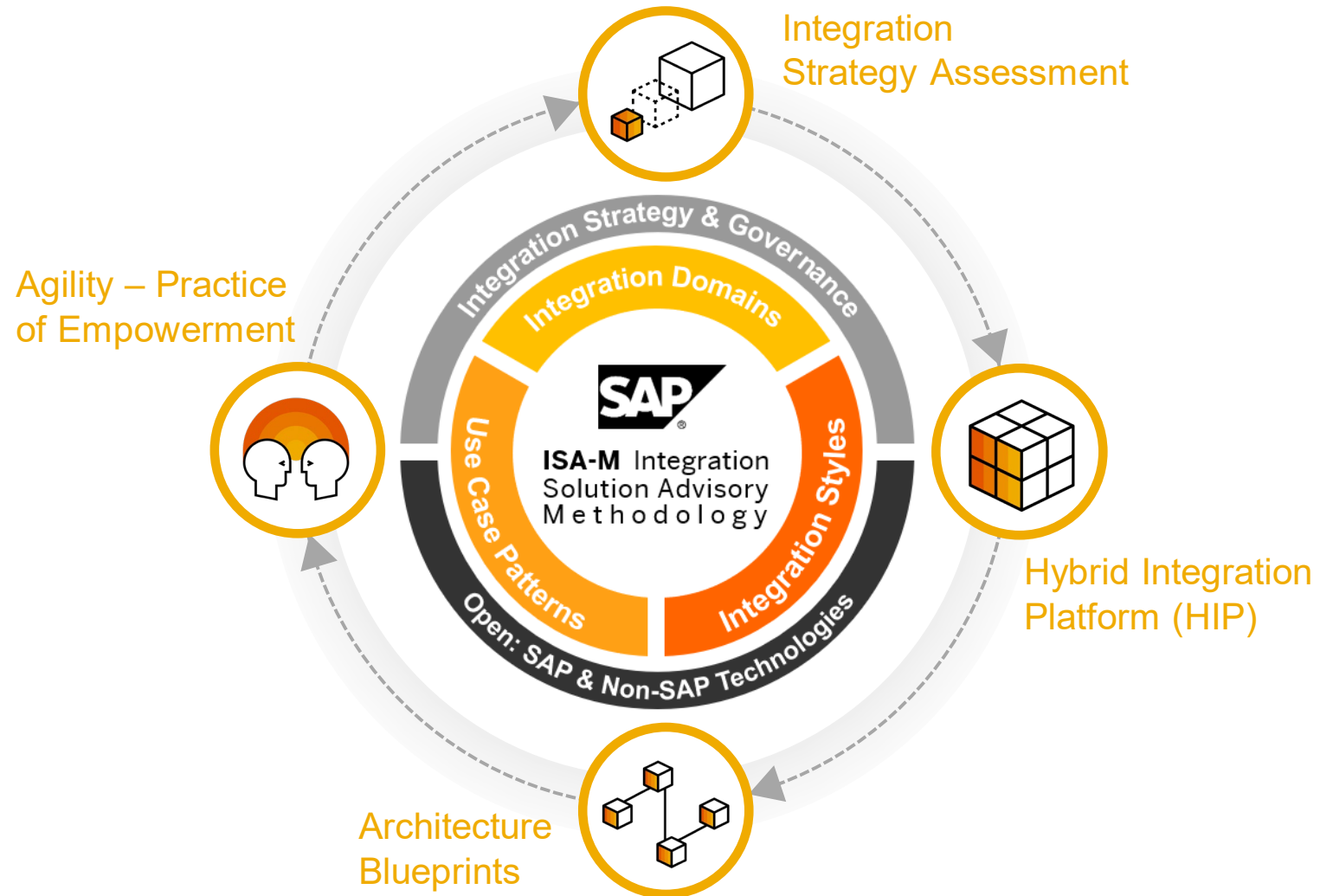- +1.300 registered customers, partners and SAP consultants

ISA-M In Action
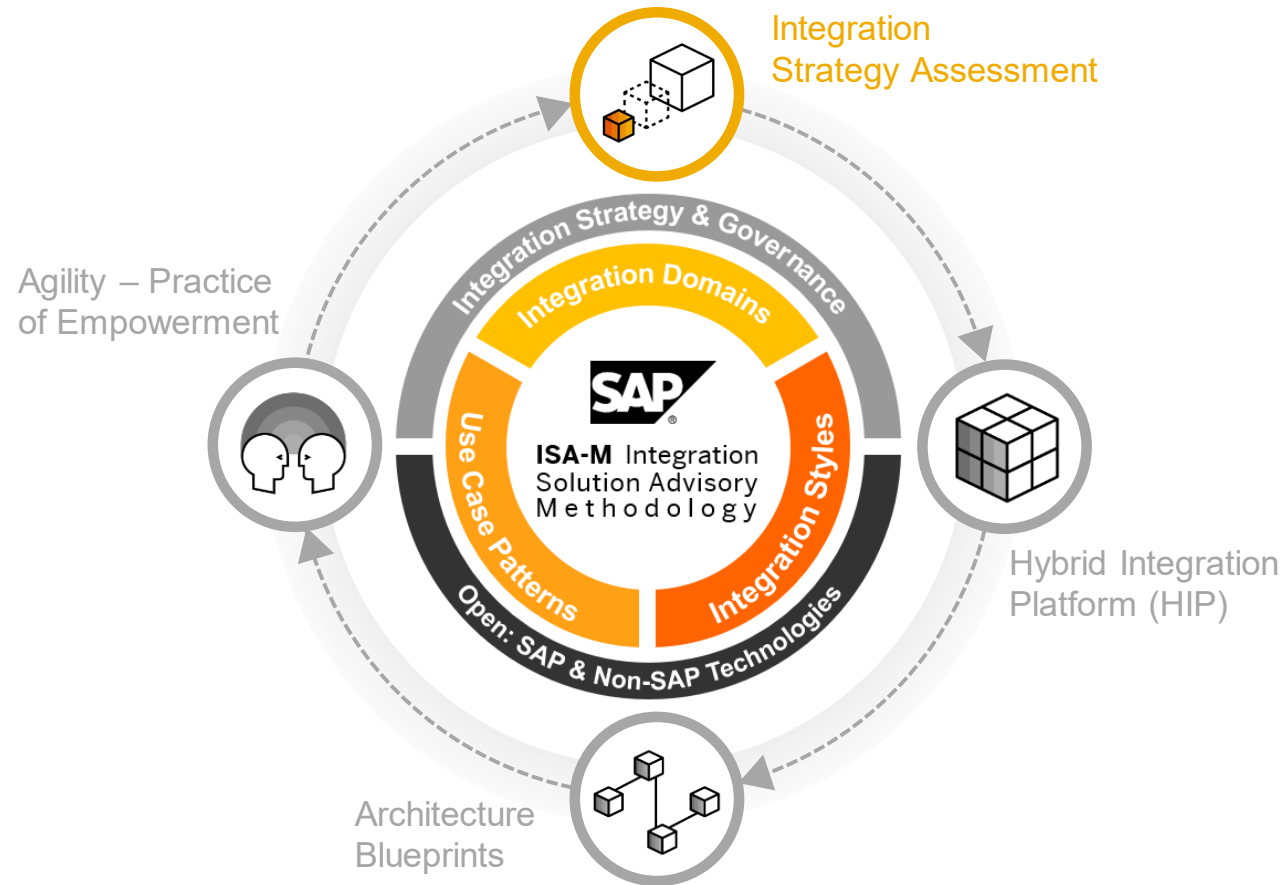## How to Define Your Integration Strategy

ISA-M cycle

Overview: Use cases for enterprise architects

Integration Strategy Assessment

Agility – Practice of Empowerment

Hybrid Integration Platform (HIP)

Architecture Blueprints

Integration Strategy & Governance

Integration Domains

Use Case Patterns

Integration Styles

Open: SAP & Non-SAP Technologies

SAP

ISA-M Integration Solution Advisory Methodology

ISA-M cycle

Phase 1: Asses your integration strategy

Integration Strategy & Governance

Integration Domains

Use Case Patterns

Integration Styles

ISA-M Integration Solution Advisory Methodology

Open: SAP & Non-SAP Technologies

Integration Strategy Assessment

Agility – Practice of Empowerment

Hybrid Integration Platform (HIP)

Architecture Blueprints

Objectives and approach

- Documentation/review of your integration architecture
- Scoping of focus areas e.g. future building blocks
- Use-case driven approach (technology-agnostic)

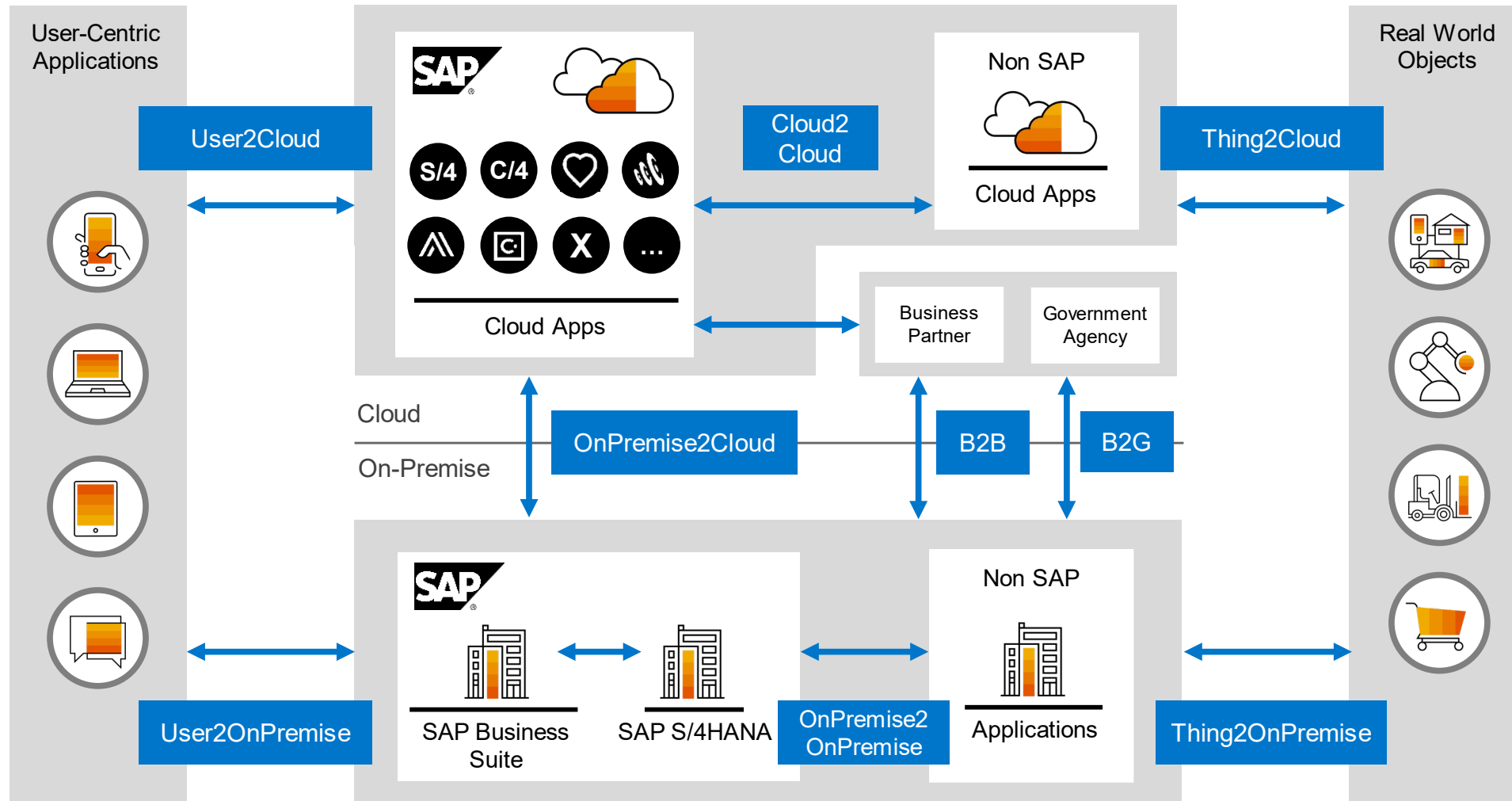**Reasons for integration strategy assessment**

- Need to cover new integration patterns
- Implementation of new cloud applications
- Transition to SAP S/4HANA
- Standardization and Governance
- Integration technology consolidation
- Mergers and acquisitions

Integration domains
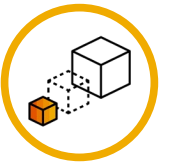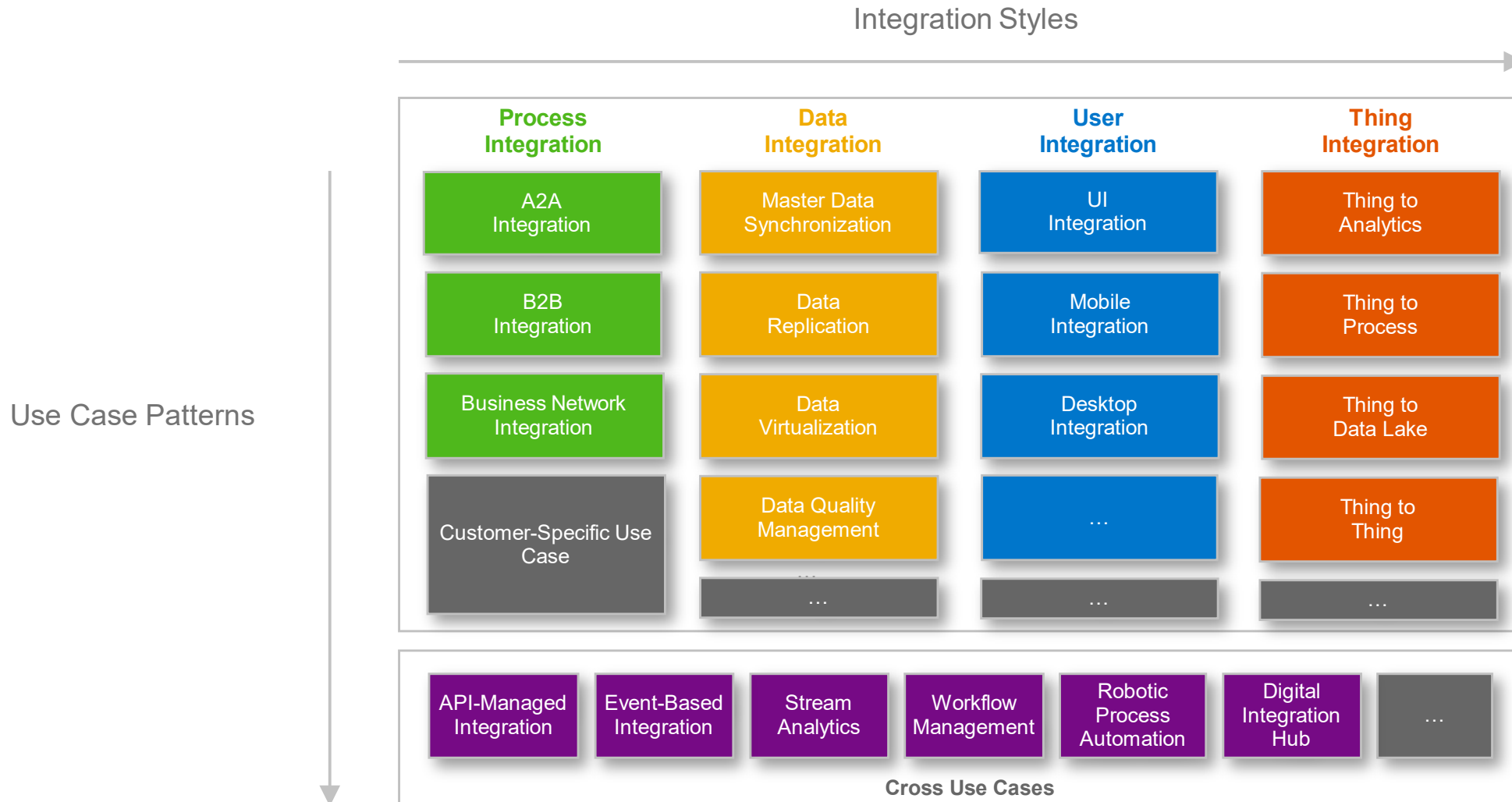## Assessment and scoping of your hybrid integration landscape
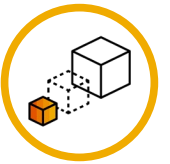
Integration styles and use case patterns
## Technology-agnostic library of integration use cases*

Integration Styles

Use Case Patterns

Process Integration	Data Integration	User Integration	Thing Integration
A2A Integration	Master Data Synchronization	UI Integration	Thing to Analytics
B2B Integration	Data Replication	Mobile Integration	Thing to Process
Business Network Integration	Data Virtualization	Desktop Integration	Thing to Data Lake
Customer-Specific Use Case	Data Quality Management	…	Thing to Thing
	…	…	…

Cross Use Cases

API-Managed Integration	Event-Based Integration	Stream Analytics	Workflow Management	Robotic Process Automation	Digital Integration Hub	…

* Extensible by customers

ISA-M cycle

Phase 2: Define Hybrid Integration Platform for your organization
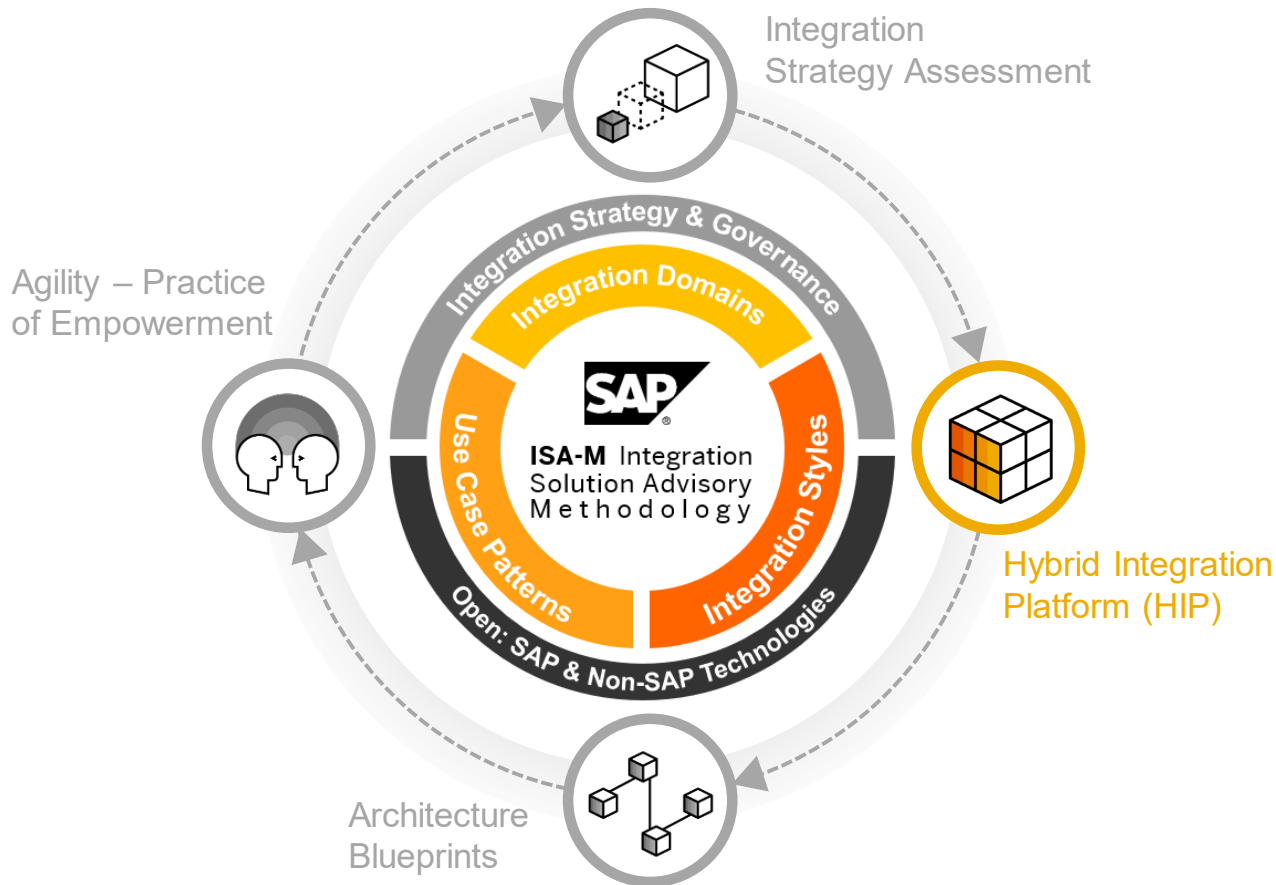
Objectives and approach

- Mapping of use case patterns to integration technologies and services

- Open to SAP and Non-SAP integration services

- Derive integration guidelines for your organization

- Highly depends on the customer context
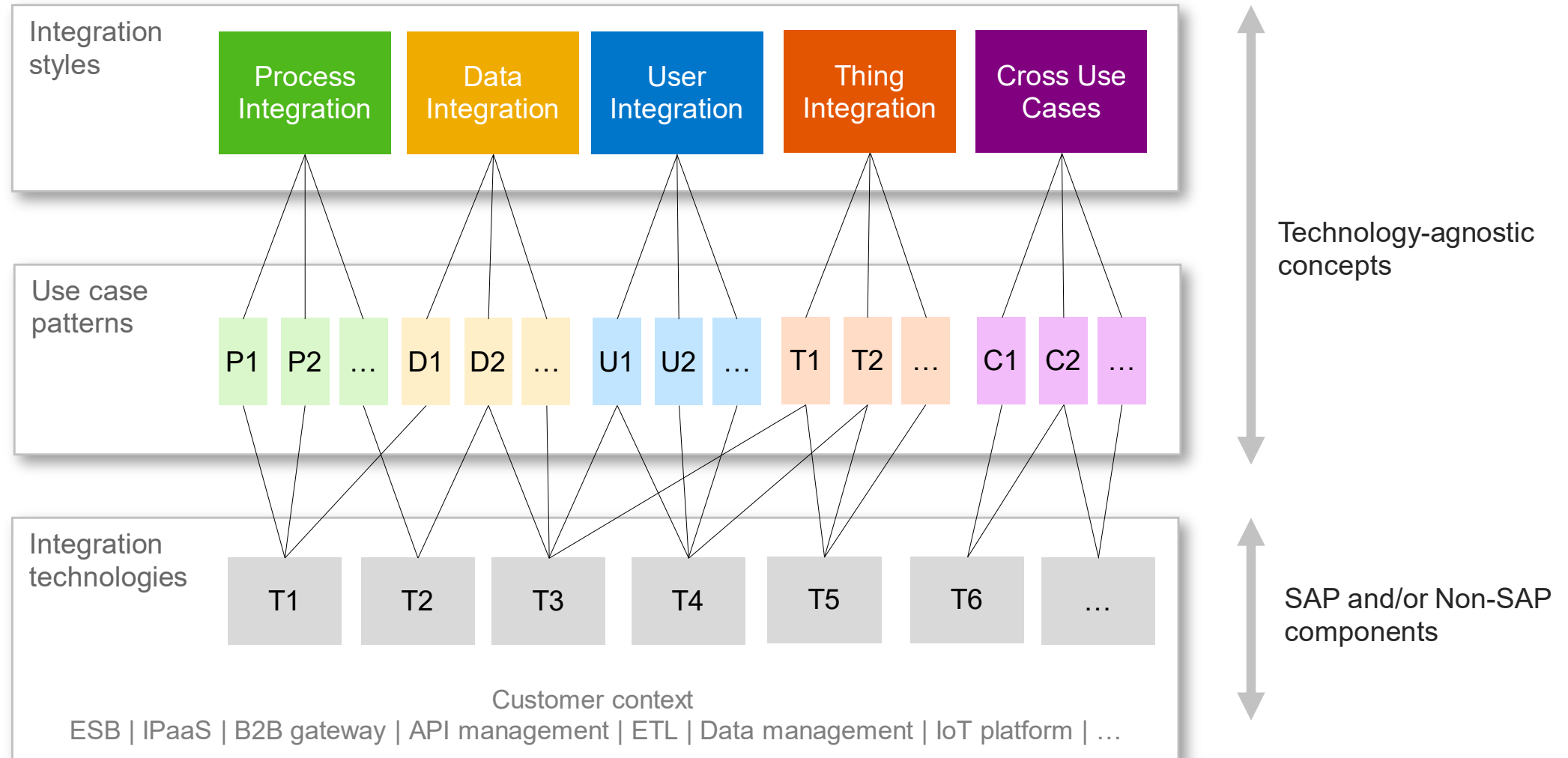
Sample customer context

- Enterprise architecture strategy

- Future application landscape

- Existing investments

- Skillsets

- Commercial aspects

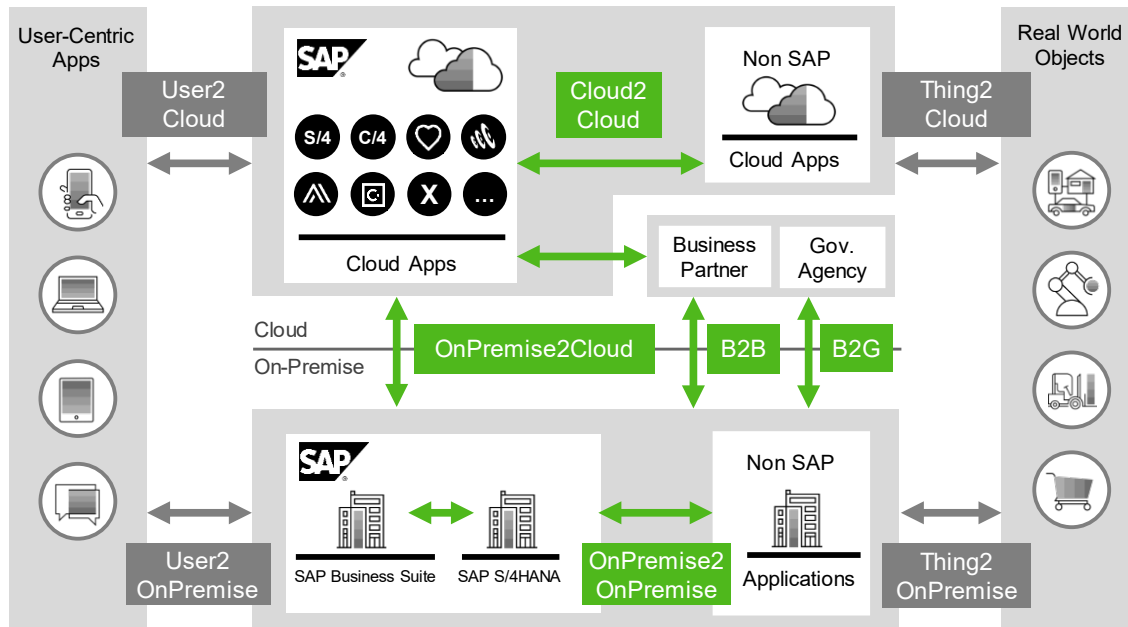# Integration technology mapping

Important: Customer context

SAP technology mapping for your hybrid integration platform

Example 1: Process integration

1 Select integration domain(s) and integration style

| Process integration | Data integration | User integration | Thing integration | Cross use cases |

2 Sample mapping to SAP technologies / services

SAP Cloud Platform Integration Suite

- SAP's IPaaS for cloud and hybrid integration

- Prepackaged content for SAP and non-SAP apps (+1.100 pre-packaged integration flows)

- SAP Cloud Platform Integration Advisor (Simplified integration supported by Artificial Intelligence)

- SAP Cloud Platform Open Connectors (+160 pre-built connectors for Non-SAP apps)

- Complementary: SAP Process Orchestration and SAP Application Interface Framework (AIF)

Key characteristics

- A2A, B2B/B2G, master data synchronization use cases

- API-based integration and near real-time processing

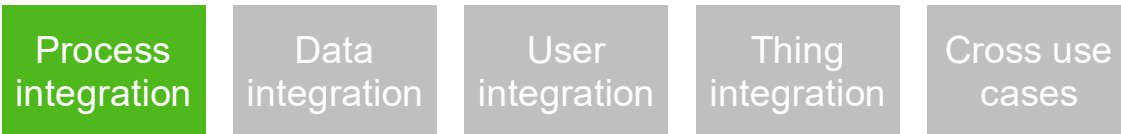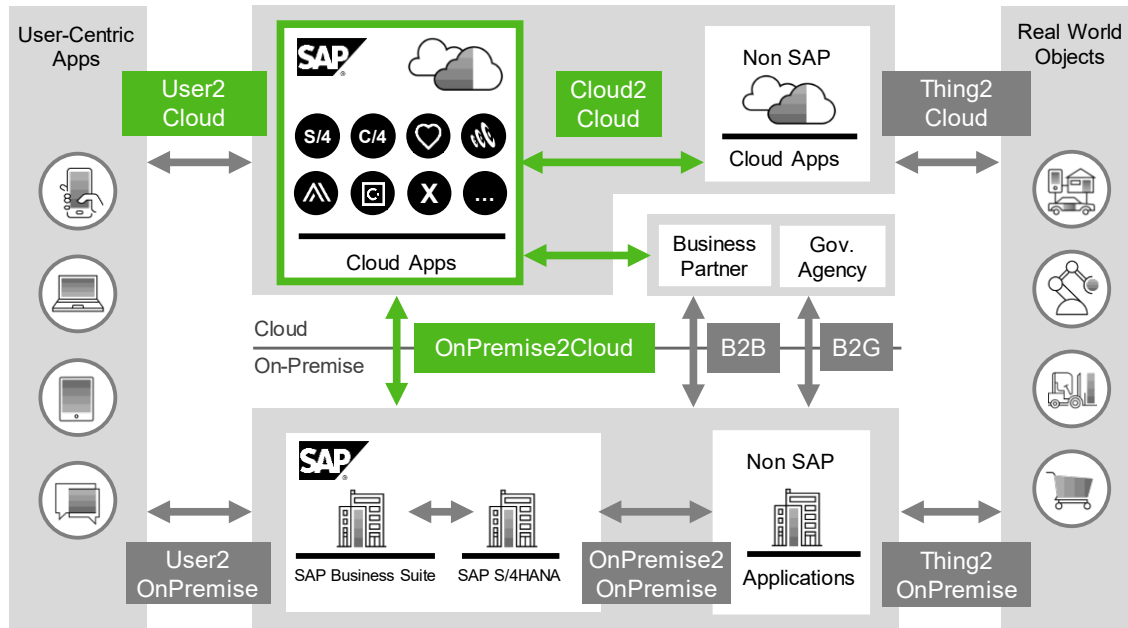- Transactional process integrity

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SAP technology mapping for your hybrid integration platform

Example 2: Process integration – future direction for SAP-2-SAP scenarios*

Hybrid Integration Platform (HIP)

1 Select integration domain(s) and integration style

2 Sample mapping to SAP technologies / services

Simplified integration approach for the Intelligent Suite

- Standardized integration approach
- E2E processes in the context of the Intelligent Enterprise
- Stepwise adoption of technology standards

Technology standards

- E2E process documentation
- Aligned APIs and content SAP Cloud Platform Integration
- Leverage SAP Cloud Platform Master Data Services
- Application lifecycle management
- Security and identity management
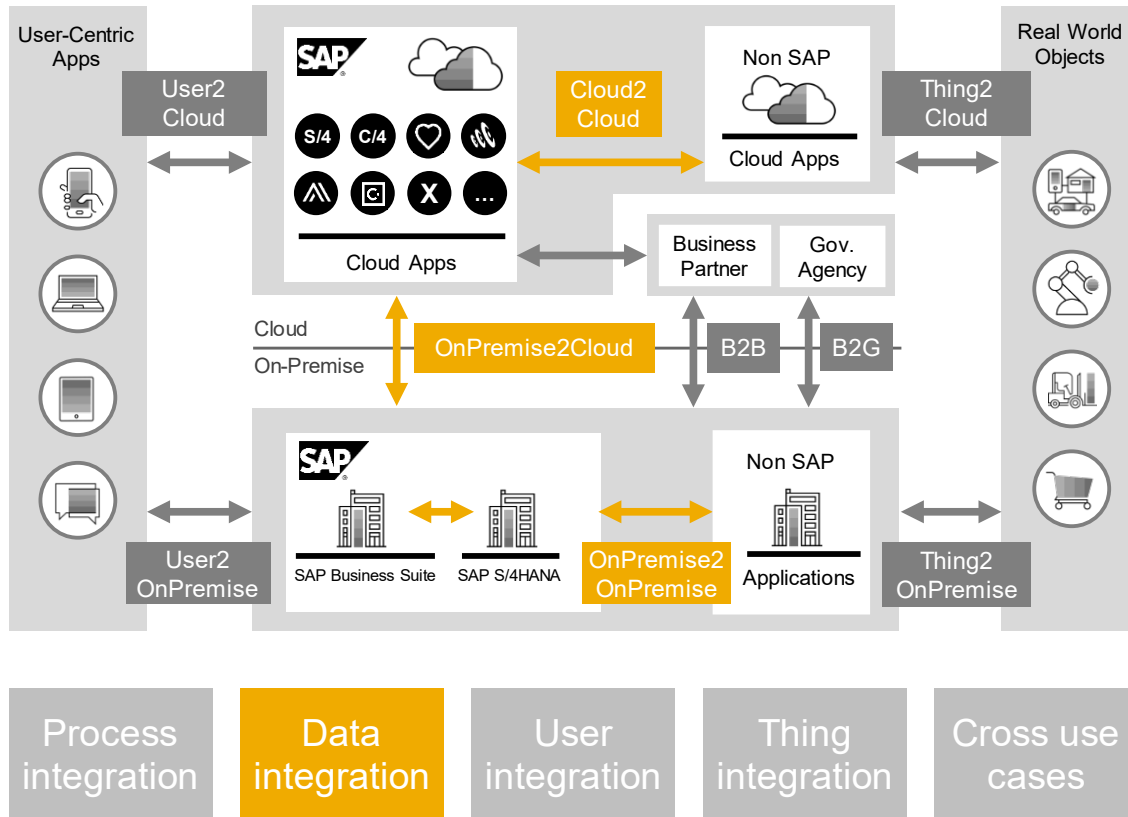- User experience
- Analytics

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* Lab Preview

SAP technology mapping for your hybrid integration platform

Example 3: Data integration

1 Select integration domain(s) and integration style

User-Centric Apps

User2 Cloud

Cloud2 Cloud

Non SAP — Cloud Apps

Thing2 Cloud

Real World Objects

Cloud Apps

Business Partner | Gov. Agency

Cloud / On-Premise

OnPremise2Cloud | B2B | B2G

User2 OnPremise

SAP Business Suite | SAP S/4HANA | OnPremise2 OnPremise | Applications — Non SAP

Thing2 OnPremise

| Process integration | Data integration | User integration | Thing integration | Cross use cases |

2 Sample mapping to SAP technologies / services

SAP Data Hub

- Part of SAP Data Intelligence
- Holistic data management across hybrid landscapes
- Pipelining and orchestration of big data
- Leverages SAP EIM tools, e.g. SAP HANA Smart Data Integration (SDI) or SAP Data Services (DS)

Key characteristics

- Support of multiple data integration use cases
- Data focused (table/view, storages, processing, libraries)
- High frequent event processing (e.g. via Kafka)
- Advanced data transformations & processing (e.g. ML)
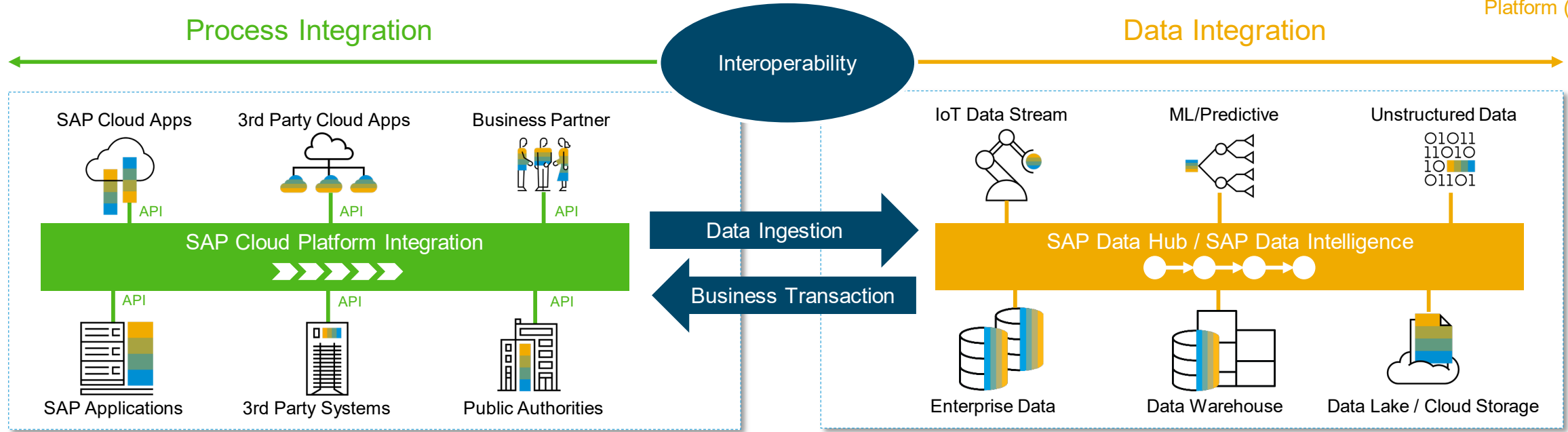
DAT103   DAT200

Technology guidance
SAP Cloud Platform Integration and SAP Data Hub

Hybrid Integration Platform (HIP)

Process Integration

Data Integration

Interoperability

SAP Cloud Apps · 3rd Party Cloud Apps · Business Partner

API · API · API

SAP Cloud Platform Integration

API · API · API

SAP Applications · 3rd Party Systems · Public Authorities

Data Ingestion

Business Transaction

IoT Data Stream · ML/Predictive · Unstructured Data

SAP Data Hub / SAP Data Intelligence

Enterprise Data · Data Warehouse · Data Lake / Cloud Storage

Key Use Cases and Characteristics

- Chaining of distributed business processes
- A2A / B2B, B2G / Master Data Synchronization
- API focused (synch., async., business events)*
- Message-based processing (mapping, routing, monitoring)
- Transactional Integrity (reliable messaging and error handling)
- Pre-packaged integration content for SAP/Non-SAP scenarios

Key Use Cases and Characteristics

- Pipelining and orchestration of big data in complex landscapes
- Big Data Warehousing, IoT Ingestion, EIM (e.g. batch, streaming)
- Data focused (table/view, storages, processing, libraries)*
- Distributed data processing & server less computing
- High frequent event processing (e.g. via Kafka)
- Advanced data transformations & processing (e.g. ML, Predictive, Code)

* Also table access possible by CPI (like CPI-DS) and API level access possible by SAP Data Hub, but not key focus
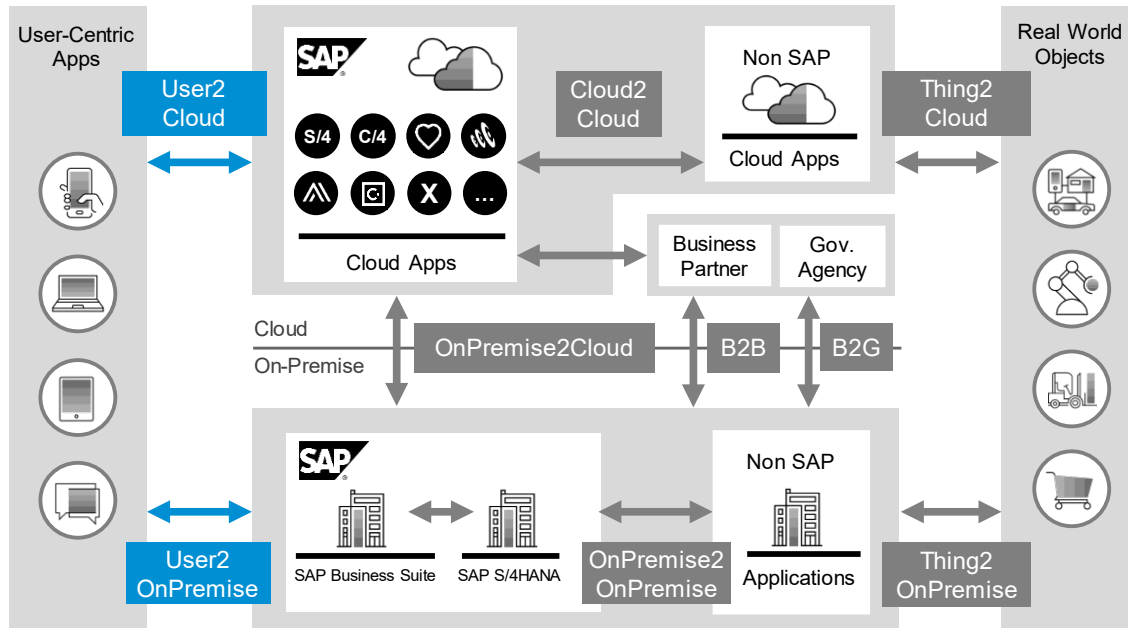
SAP technology mapping for your hybrid integration platform

Example 4: UI integration

Hybrid Integration Platform (HIP)

1 Select integration domain(s) and integration style

| Process integration | Data integration | **User integration** | Thing integration | Cross use cases |

2 Sample mapping to SAP technologies / services

SAP Fiori Launchpad

- Single point of entry for business applications
- Based on SAP Fiori user experience

SAP Cloud Platform Mobile Services

- Development platform for enterprise mobile apps
- SDKs available for multiple devices (e.g. iOS, Android)

Key characteristics

- Role-based access
- Online / offline support
- Application lifecycle management
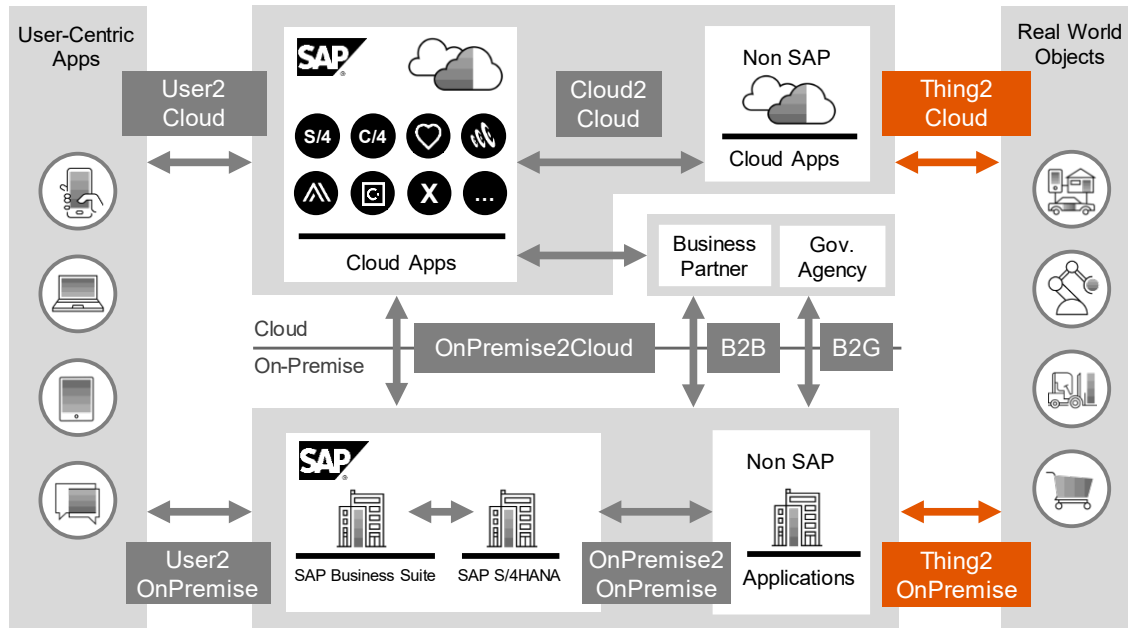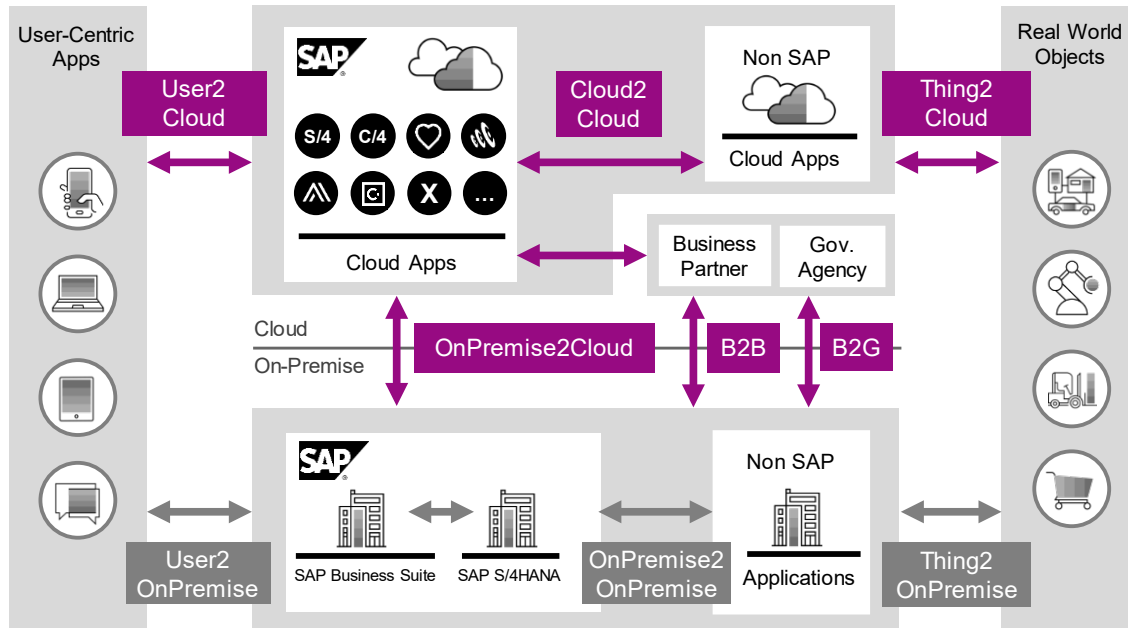- Device management

UX203   UX210

SAP technology mapping for your hybrid integration platform

Example 5: Thing integration

Hybrid Integration
Platform (HIP)

1 Select integration domain(s) and integration style

| Process integration | Data integration | User integration | Thing integration | Cross use cases |

2 Sample mapping to SAP technologies / services

SAP Leonardo IoT and SAP Cloud Platform Internet of Things

- Integrate data from devices (e.g. machines, products, assets) and process it in business or analytical IoT applications
- Interoperability with device management and connectivity components of other cloud provides (e.g. Azure or AWS)
- Data processing at the edge close to the source of IoT data

Key characteristics

- Device lifecycle management
- IoT specific protocol support (e.g. MQTT, OPC-UA)
- Data ingestion, big data storage and time series management
- Edge-level processing capabilities

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SAP technology mapping for your hybrid integration platform

Example 6: Event-based integration

1 Select integration domain(s) and integration style

| User-Centric Apps | | Real World Objects |

- User2 Cloud
- Cloud2 Cloud
- Thing2 Cloud
- Non SAP — Cloud Apps
- SAP — Cloud Apps — S/4, C/4, ...
- Business Partner
- Gov. Agency
- Cloud / On-Premise
- OnPremise2Cloud
- B2B
- B2G
- SAP Business Suite
- SAP S/4HANA
- Non SAP — Applications
- User2 OnPremise
- OnPremise2 OnPremise
- Thing2 OnPremise

| Process integration | Data integration | User integration | Thing integration | Cross use cases |

2 Sample mapping to SAP technologies / services

SAP Cloud Platform Enterprise Messaging

- Cloud-based messaging and event-enabling service
- Integration of loosely-coupled microservices
- Consume business events in side-by-side extension apps
- Event enablement e.g. for S/4HANA Cloud
- Supported protocols: REST, AMQP, MQTT

Key characteristics

- High flexibility by decoupling of applications
- Publish/subscribe and point-to-point messaging patterns
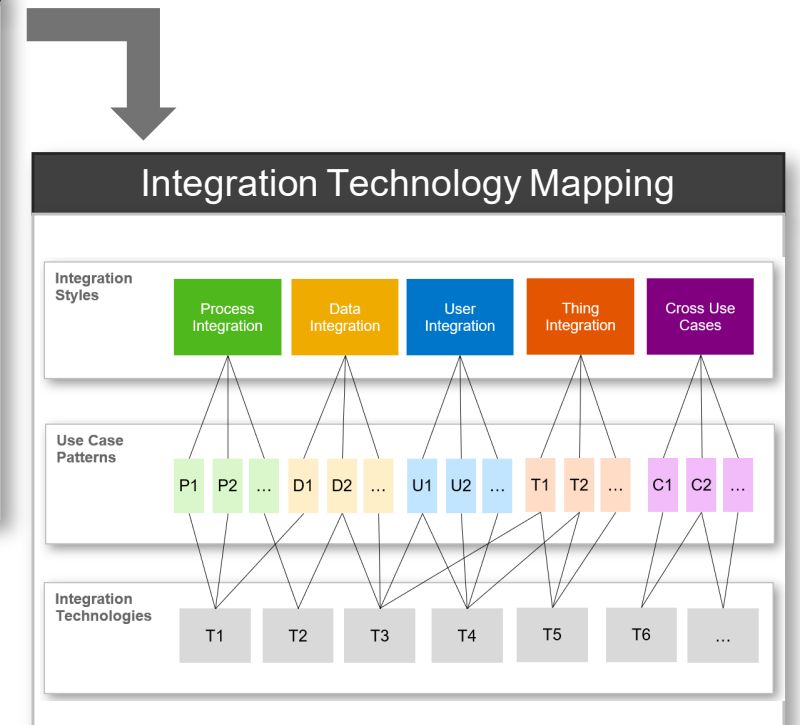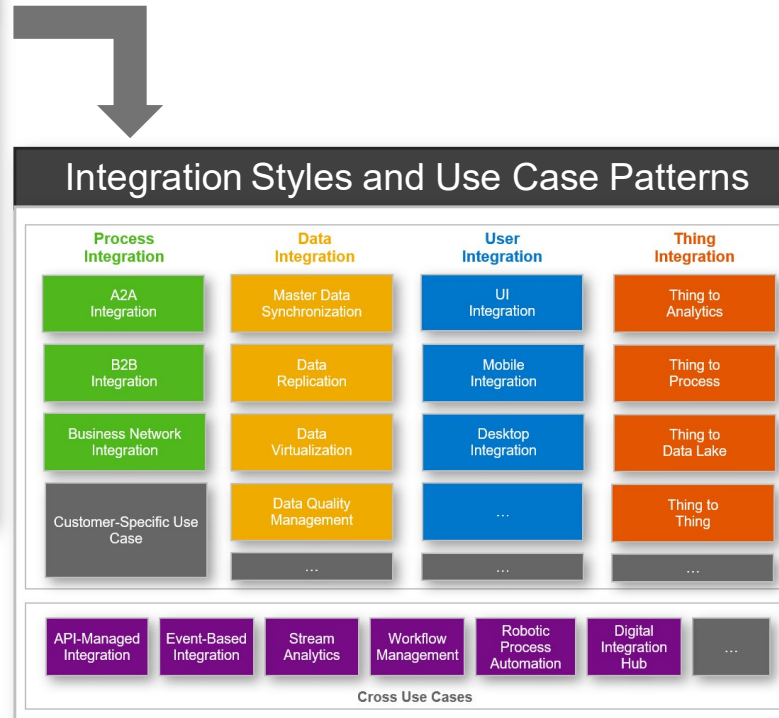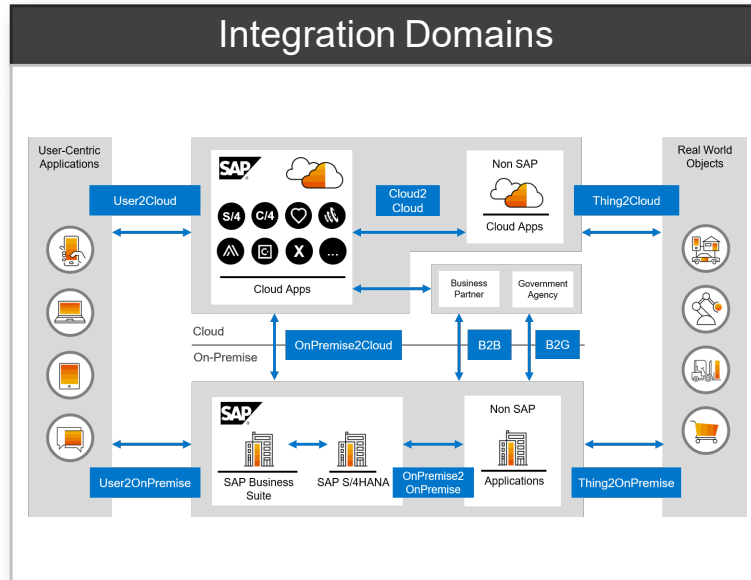- Handle unexpected peaks in data traffic

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Summary

Simplify integration by a holistic integration approach for the Intelligent Enterprise

Hybrid Integration Platform (HIP)

Integration Domains

Integration Styles and Use Case Patterns

Process Integration	Data Integration	User Integration	Thing Integration
A2A Integration	Master Data Synchronization	UI Integration	Thing to Analytics
B2B Integration	Data Replication	Mobile Integration	Thing to Process
Business Network Integration	Data Virtualization	Desktop Integration	Thing to Data Lake
Customer-Specific Use Case	Data Quality Management	…	Thing to Thing
	…	…	…

API-Managed Integration	Event-Based Integration	Stream Analytics	Workflow Management	Robotic Process Automation	Digital Integration Hub	…

Cross Use Cases

Integration Technology Mapping

Integration Styles

Process Integration	Data Integration	User Integration	Thing Integration	Cross Use Cases

Use Case Patterns

P1 P2 … D1 D2 … U1 U2 … T1 T2 … C1 C2 …
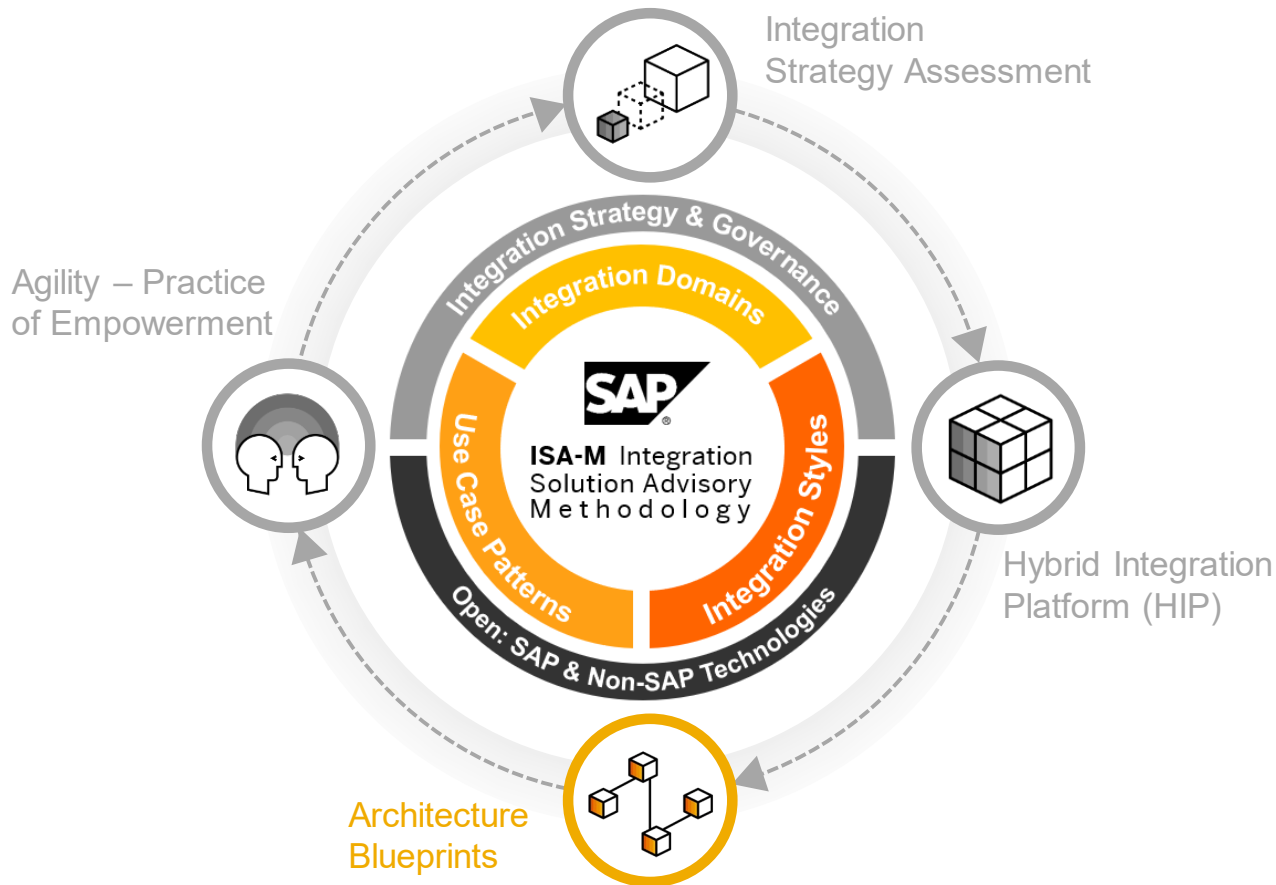
Integration Technologies

T1 T2 T3 T4 T5 T6 …

Further Information

https://blogs.sap.com/2019/02/24/integration-solution-advisory-methodology-isa-m-define-integration-guidelines-for-your-organization/

ISA-M cycle

Phase 3: Define solution architecture blueprints*
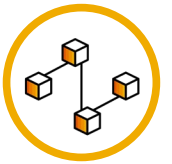

Objectives and approach

- Refine technology agnostic use case patterns with solution architecture blueprints
- Add decision criteria and key characteristics
- Illustrate components and interactions

Usage scenarios

- Use solution architecture blueprints as templates/examples for your projects
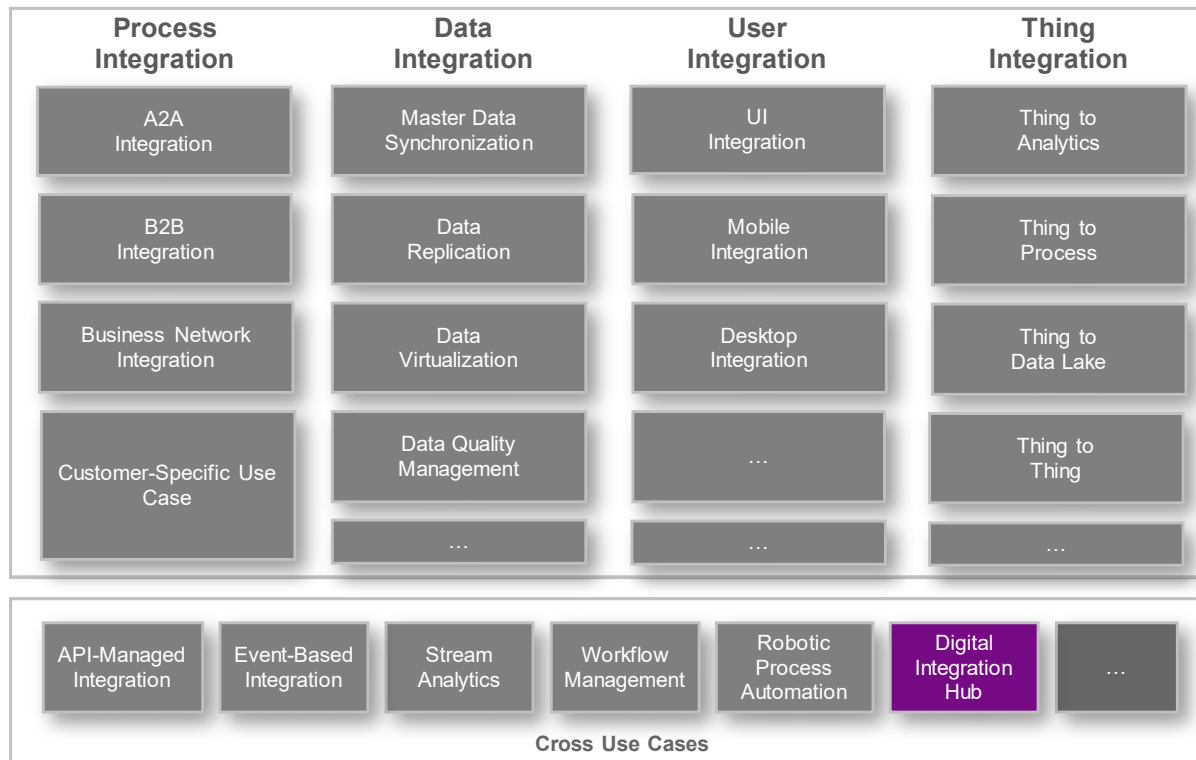- Use solution architecture blueprints as documentation for your integration scenarios

* Outlook: sample blueprints well be added in future versions of ISA-M

Use case pattern: Digital Integration Hub
Sample solution architecture blueprint

Integration styles and use case patterns

Process Integration	Data Integration	User Integration	Thing Integration
A2A Integration	Master Data Synchronization	UI Integration	Thing to Analytics
B2B Integration	Data Replication	Mobile Integration	Thing to Process
Business Network Integration	Data Virtualization	Desktop Integration	Thing to Data Lake
Customer-Specific Use Case	Data Quality Management	...	Thing to Thing
	...	...	...

API-Managed Integration	Event-Based Integration	Stream Analytics	Workflow Management	Robotic Process Automation	Digital Integration Hub	...

Cross Use Cases

Digital Integration Hub Pattern

- Emerging architecture for implementing large-scale, high-throughput APIs
- Inserting an in-memory data store layer between the API layer and the system of record

Key characteristics

- Responsive user experience
- Decoupling of backend apps and front-end APIs
- Protection of backend apps from excessive front-end APIs
- Normalization of the APIs for certain domains
- Real time business insights and analytics

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Use case pattern: Digital Integration Hub
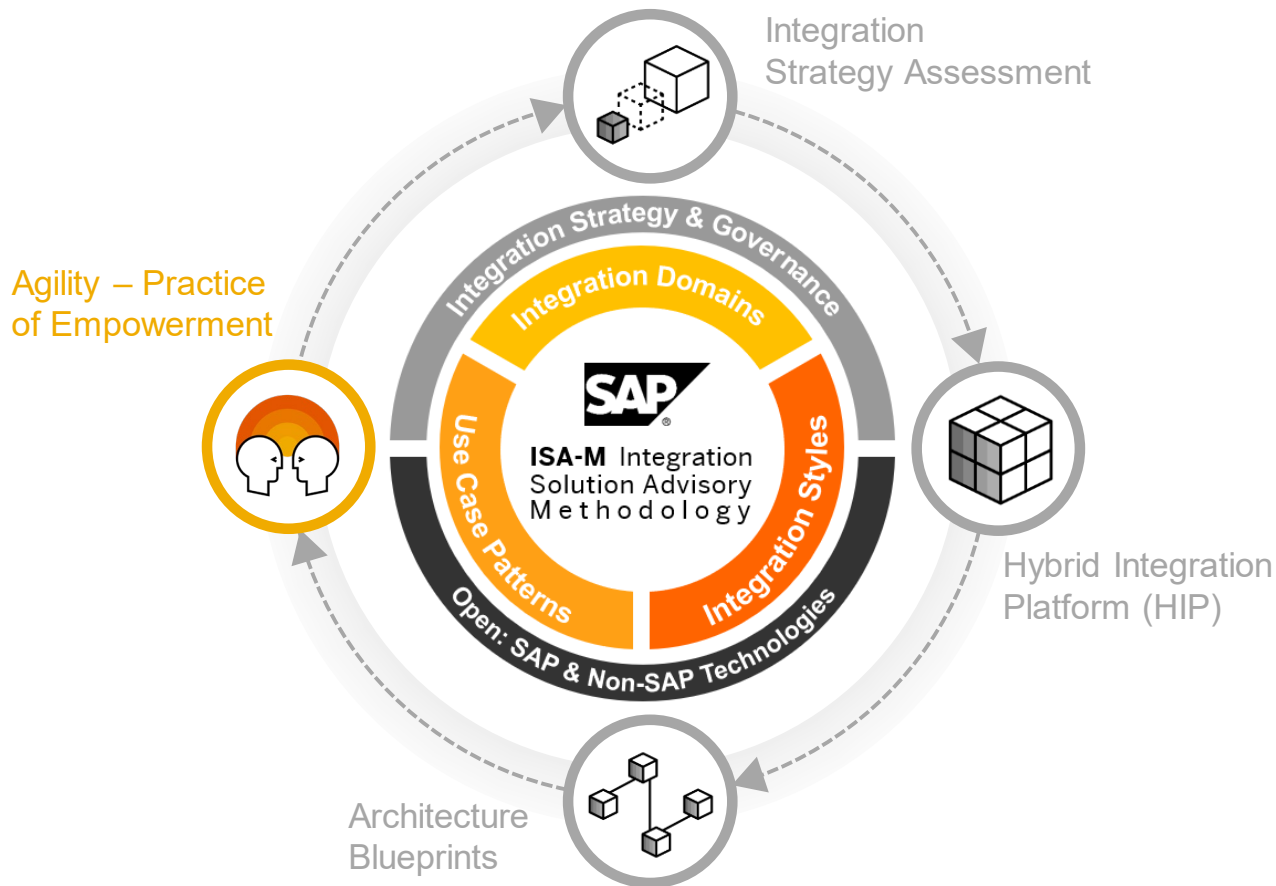
Sample solution architecture blueprint
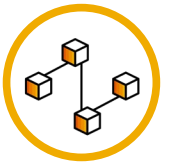
Architecture Blueprints
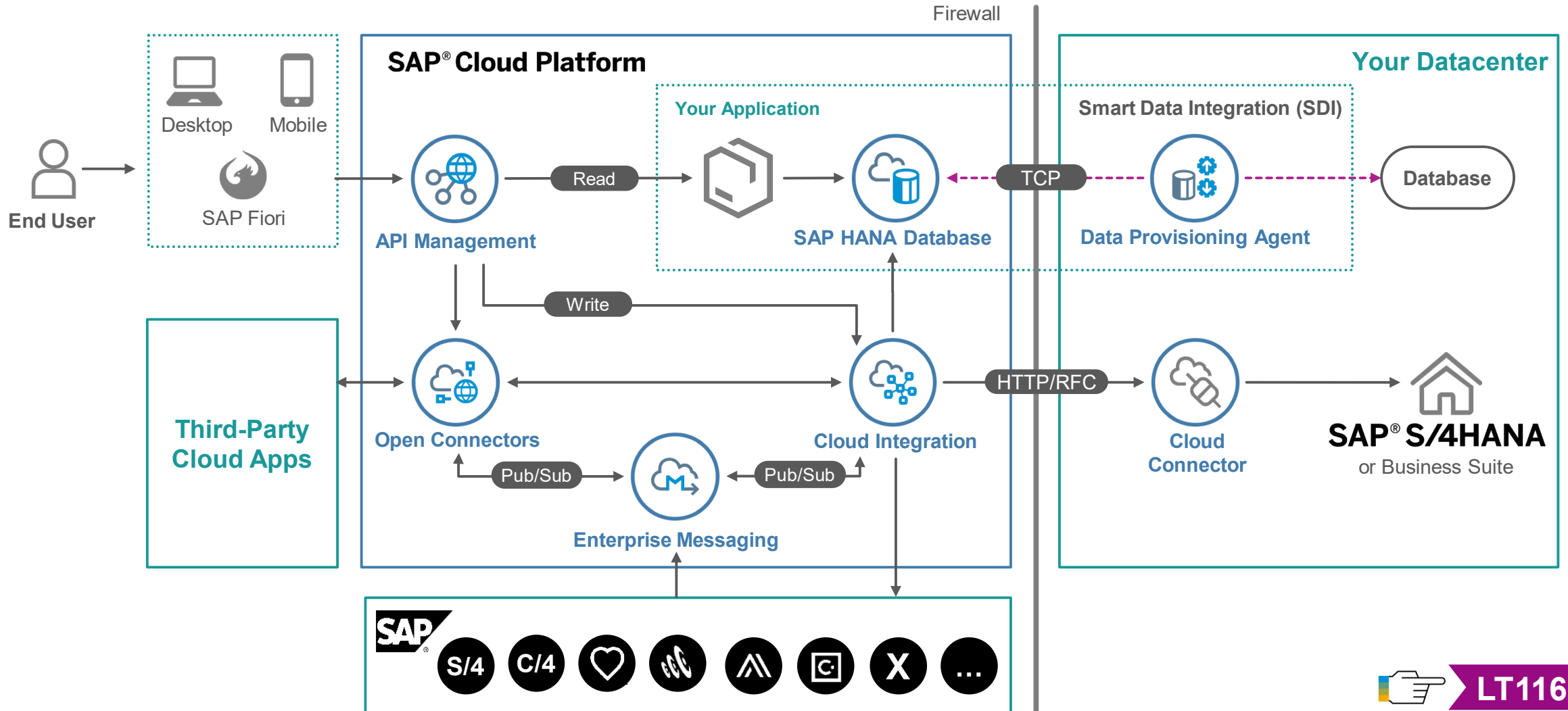
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ISA-M cycle

Phase 4: Enable an agile integration practice in your organization

Integration Strategy Assessment

Agility – Practice of Empowerment

Hybrid Integration Platform (HIP)

Architecture Blueprints

Integration Strategy & Governance

Integration Domains

Use Case Patterns

Integration Styles

Open: SAP & Non-SAP Technologies

SAP

ISA-M Integration Solution Advisory Methodology

Objectives
- Establish integration as recognized discipline
- Position integration as a strategic differentiator
- Provide holistic view on integration
- Democratize integration delivery
- Establish knowledge sharing culture (best practices)
- Improve communication between teams / SIs

Sample approach*
- Setup a dedicated integration strategy team
- Roll-out integration guidelines in your organization
- Establish an enterprise architecture board
- Rollout solution architecture blueprints
- Define areas for self-service integration

* Highly depends on your organizational context

ISA-M: Benefits for your organization

Increase your integration maturity level

0 — Ad hoc integration

1 — Common terminology

2 — Integration strategy

3 — Integration governance

4 — Practice of empowerment

Integration Solution Advisory Methodology (ISA-M)
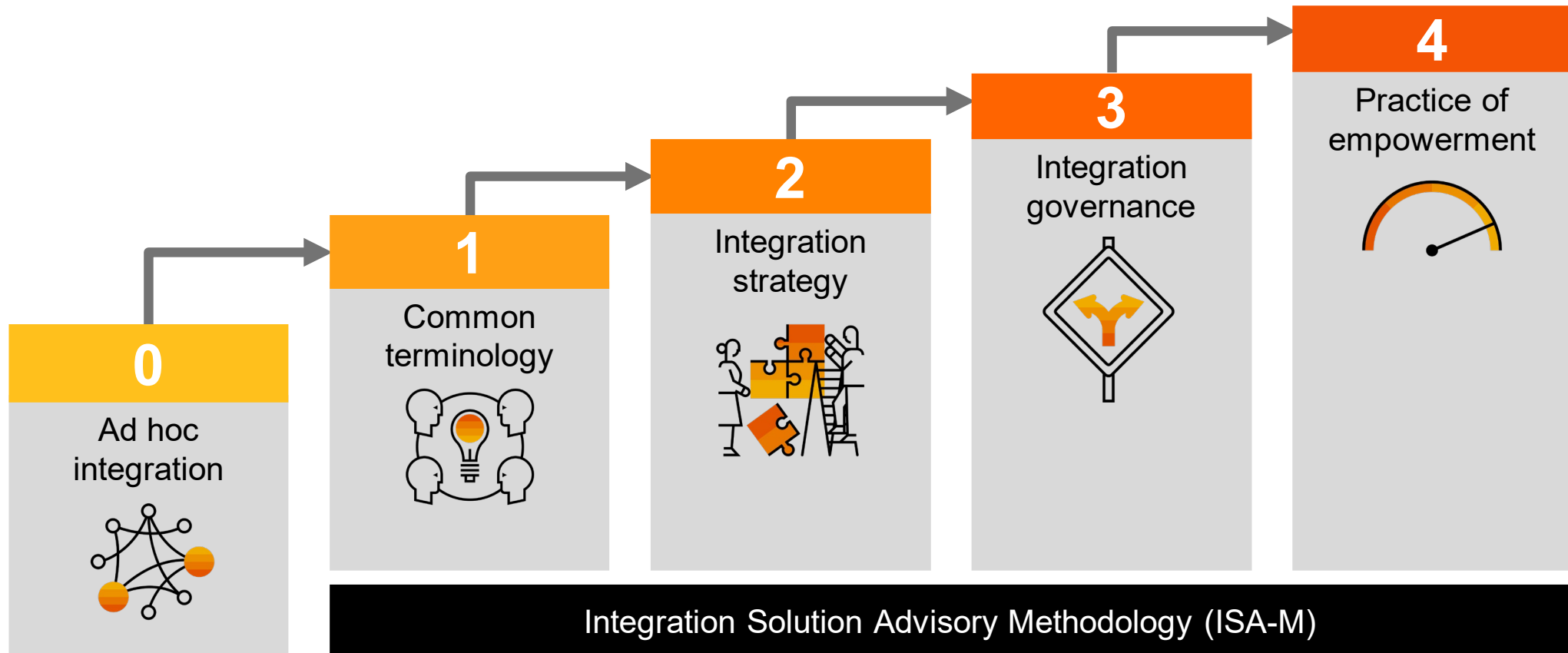
CIO Guides for
Integration

CIO Guide: Process and Data Integration in Hybrid Landscapes
Content map

2018 | 2019

Hybrid Integration

CIO Guide: Process and Data Integration in Hybrid Landscapes

1/92

THE BEST RUN SAP

Download

Out-of-the-box integration

Open integration

Holistic integration

AI-driven integration

Integration solution advisory methodology

Process orchestration

APIs and prepackaged content

Master data management

Integration Styles and Technologies

Process | B2B | Data | UX | IoT | Analytics

API management | Event brokering | Stream analytics

Setup and operations

Monitoring | Automation | Extensibility | Security

Flexible deployment models

On-premise | Multi-cloud | Private cloud | Embedded

ISA-M Template for
Enterprise Architects

SAP integration architecture community
Download ISA-M template

ISA-M Template

Derive Integration Guidelines for Your Organization

< Your Organization >
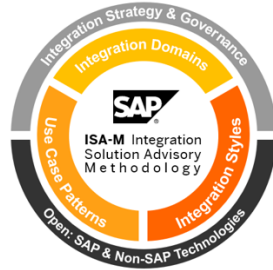
ISA-M Template

Overview
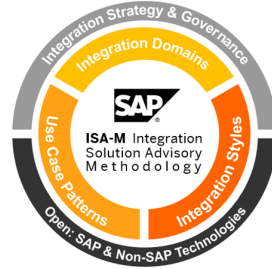
1	2	3	4	5	6	7
Overview & Terms of Use	Integration Roles	Integration Domains	Integration Styles & Use Cases Patterns	Technology Mapping	Interface Assessment	CIO Guides

- Free PPT template
- Successfully adopted in multiple global organizations
- Usage in your organizations, projects or services
- SAP Consulting Services (optional)
- Contribute to ISA-M evolution (optional)

If you are interested in subscribing to the ISA-M template please send a mail to:

matthias.allgaier@sap.com
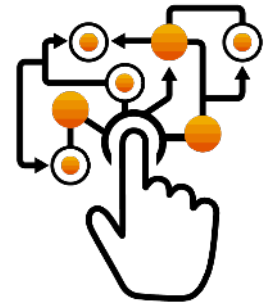
Key takeaways
Summary and outlook

Key use cases

Integration Strategy Assessment

Agility – Practice of Empowerment

Integration Strategy & Governance

Integration Domains

SAP

ISA-M Integration Solution Advisory Methodology

Use Case Patterns

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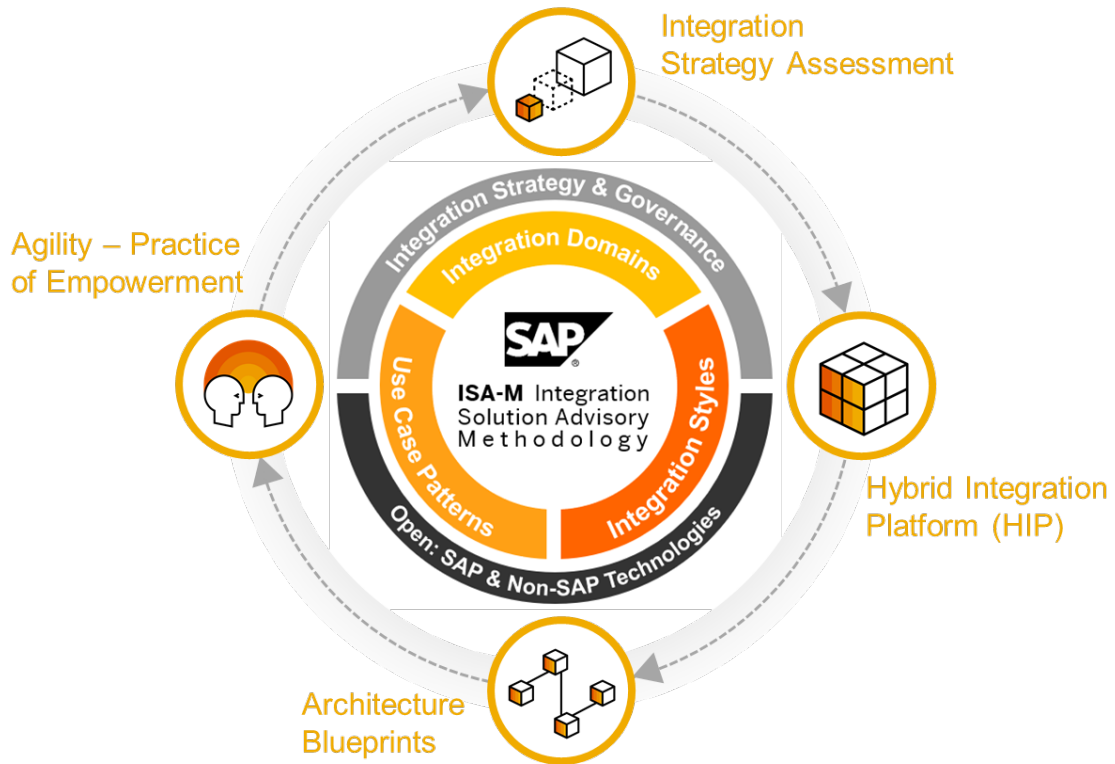
Outlook

1 Enhancement of ISA-M based on customer and partner feedback

2 Enhancement of ISA-M with additional integration patterns

3 Enhancement of ISA-M with sample solution architecture blueprints

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SAP TechEd blog posts

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- INT1 – Connect with an Intelligent Suite in an hybrid landscape
- INT2 – Master integration technologies uniting your intelligent suite
- iENT1 – Deliver the Intelligent Enterprise along key end-to-end processes

Related SAP TechEd sessions

- INT101 - Integrate It All with SAP Cloud Platform Integration Suite
- INT202 - AI-Driven and Open Integration to Customize Intelligent Suite Scenarios
- INT203 - SAP Cloud Platform API Management: Customer Use Cases and Best Practices
- INT362 - Event-Driven Integration of SAP S/4HANA to Non-SAP Apps with Agility
- INT823 – Road Map for SAP Cloud Platform Integration Suite
- INT833 – SAP Process Orchestration Software Road Map
- iENT200 - Experience the Next-Generation Processes of the Intelligent Suite from SAP
- iENT211 - Architecture Blueprint for SAP Leonardo IoT
- iENT212 - Innovate, Extend, and Embed Field Service Management with the IoT
- DAT103 - The Data Management Strategy from SAP
- DAT200 - Data Integration Outlook: What to use when?
- UX203 - All You Need to Know About SAP Fiori Launchpad
- UX210 - Go Mobile with SAP Cloud Platform
- LT116 – Digital Integration Hub: Building Agile Data Grids and Microservices

Public SAP Web sites

- SAP Community: https://www.sap.com/community/topics/cloud-integration.html
- SAP products: https://cloudplatform.sap.com/integration.html

Thanks for attending this session.

Feedback

Please complete your session evaluation
for INT102.

Contact for further topic inquiries

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