Discover SAP’s Integration Solution Advisory Methodology (ISA-M) Methodology for a Hybrid Integration Platform

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October, 2019
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Integration Challenge for Enterprise Architects
ISA-M in Action
CIO Guides for Integration
ISA-M Template for Enterprise Architects
Agenda

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CIO Guides for Integration
ISA-M Template for Enterprise Architects
Intelligent Enterprises are Integrated Enterprises

Key Integration Principles

1. OUT-OF-THE-BOX INTEGRATION
2. OPEN INTEGRATION
3. HOLISTIC INTEGRATION
4. AI-DRIVEN INTEGRATION
The Increased Scope of Integration
Integration Challenge for Enterprise Architects

Fast evolving hybrid landscapes

Hybrid Cloud
- SaaS
- IoT
- Cloud ERP
- SAP
- Non-SAP

Intelligent Enterprise
- API Economy
- Business Networks
- Digital Transformation

M&A
- B2B
- Industry 4.0

Analytics
- Machine Learning

Microservices
- Robotic Process Automation

Mobile
- Blockchain

Distributed Business Processes

B2C
- Master Data

Big Data
- Artificial Intelligence

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)
- +1.400 registered customers, partners and SAP consultants
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Integration Challenge for Enterprise Architects

ISA-M in Action

CIO Guides for Integration

ISA-M Template for Enterprise Architects
ISA-M Cycle
Overview: Use Cases for Enterprise Architects
ISA-M Cycle
Phase 1: Assess Your Integration Strategy

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
- A2A Integration
- B2B Integration
- Business Network Integration
- Customer-Specific Use Case

Data Integration
- Master Data Synchronization
- Data Replication
- Data Virtualization
- Data Quality Management

User Integration
- UI Integration
- Mobile Integration
- Desktop Integration
- ... (Cross Use Cases)

Thing Integration
- Thing to Analytics
- Thing to Process
- Thing to Data Lake
- 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

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, ...

Customer context
- ESB | IPaaS | B2B gateway | API management | ETL | Data management | IoT platform | ...

Technology-agnostic concepts
SAP and/or Non-SAP components
SAP Technology Mapping for Your Hybrid Integration Platform

Example 1: Process Integration

1. Select integration domain(s) and integration style

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
SAP Technology Mapping for Your Hybrid Integration Platform
Example 2: Process Integration – Future Direction for SAP-2-SAP scenarios*

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

* Lab Preview
SAP Technology Mapping for Your Hybrid Integration Platform

Example 3: Data Integration

1. Select integration domain(s) and integration style

2. Sample mapping to SAP technologies / services

SAP Data Hub / SAP Data Intelligence
- 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)
Technology Guidance
SAP Cloud Platform Integration and SAP Data Hub / SAP Data Intelligence

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

* Also table access possible by CPI (like CPI-DS) and API level access possible by SAP Data Hub, but not key focus

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Hybrid Integration Platform (HIP)
Example 4: UI Integration

1. Select integration domain(s) and integration style

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
SAP Technology Mapping for Your Hybrid Integration Platform

Example 5: Thing Integration

1. Select integration domain(s) and integration style

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 providers (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
SAP Technology Mapping for Your Hybrid Integration Platform

Example 6: Event-based Integration

1. Select integration domain(s) and integration style

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
Summary
Simplify Integration by a Holistic Integration Approach for the Intelligent Enterprise

Further Information
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

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
Use Case Pattern: Digital Integration Hub
Sample Solution Architecture Blueprint

SAP® Cloud Platform

End User

Desktop
SAP Fiori

Mobile

API Management

Read

Write

Third-Party
Cloud Apps

Your Application

SAP HANA Database

Data Provisioning Agent

Smart Data Integration (SDI)

TCP

HTTP/RFC

Enterprise Messaging

Open Connectors

Pub/Sub

Pub/Sub

Cloud Integration

Cloud Connector

SAP® S/4HANA
or Business Suite

Your Datacenter

Database

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ISA-M Cycle
Phase 4: Enable an Agile Integration Practice in Your Organization

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

Integration Solution Advisory Methodology (ISA-M)
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ISA-M Template for Enterprise Architects
CIO Guide: Process and Data Integration in Hybrid Landscapes

Content Map

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

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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 >

- 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:
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Key Takeaways
Summary and Outlook

Key use cases

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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