Standardized application integration with SAP AIF

Challenges, solution approach, best practices and project examples for SAP application integration in hybrid system landscapes
Challenges in the integration of global, hybrid system landscapes

Today, SAP systems are connected to other SAP systems, third-party systems, external partners and cloud applications via numerous interfaces. Due to the constantly growing complexity of cross-system processes, integration is a critical success factor. In addition, modern, agile project methods require a high degree of flexibility and extensive testing during implementation. The monitoring and support of different interface technologies as well as the responsibilities in case of errors are also critical factors.

Legal requirements involve a high level of auditing and data protection, which also result in additional requirements for system integration.

The solution: SAP AIF

The Application Interface Framework (AIF) enables standardized operation and implementation of interfaces for your SAP applications. The focus is on central monitoring and alerting and the handling of content-related errors directly by the responsible business users.

With regard to interface implementations, AIF can significantly reduce the number of in-house developments, user exits, and modifications. Based on a standardized procedure, interface and application logic can be clearly separated. SAP AIF supports all relevant technologies such as ALE/IDoc, Web services, ABAP proxies, file transfer, SAP CRM- and SCM-specific interface technologies.

As an integral technical component of S/4HANA and SAP’s e-invoicing solutions, AIF plays an important role in SAP’s future integration strategy and fits as an ABAP-based add-on seamlessly into your existing SAP ERP, CRM or SCM landscape.

Standardized implementation approach

SAP AIF provides a standardized approach to the implementation and operation of interfaces. Within the framework of implementation, customer-specific developments can be significantly reduced by a consistent implementation approach. The AIF enables an allocation of interfaces to business processes independent of the underlying interface technologies.

This enables the business SAP user to solve errors without detailed technical knowledge. Audit security and data protection are provided by out-of-the-box authorization and logging functionality.
Architecture

As an ABAP-based tool, AIF complements your SAP application system and uses existing components, frameworks and technologies. Technical connectivity, technical monitoring and the implementation of message structures remain in the integration platform.

AIF supports all common SAP interface technologies such as: ALE/IDoc, Web Service, ABAP proxy, RFC, CIF, OData, file, batch input.

Possible application scenarios

The AIF offers two possible application scenarios, which can also be combined:

- **Standardized interface development**
  Implementation of business logic through a standardized implementation approach based on customizing and predefined development procedures. This can involve the enrichment of message content or checking of single values.

- **Interface monitoring**
  Interfaces can be grouped according to process and business areas. This guarantees a clear assignment of responsibilities in regards to efficient error handling. The end user is able to correct errors independently and monitor interfaces on business level. Proactive, manual monitoring is no longer necessary due to e-mail notification in the case of an error.
Selected application scenarios

**Government and e-invoicing Integration**

SAP uses the eDocument Framework as a central platform for sending and managing electronic documents. As part of the so-called Full Solution, SAP delivers end-to-end scenarios for e-invoicing and government integration based on SAP AIF and SAP Cloud Platform Integration, which is offered for the countries Spain, Mexico and Peru, among others.

**EDI-based order processing**

With EDI-based order processing, industry- and country-specific interface logic can be performed in the application system eliminating the need for lookups from the integration platform. The end user is responsible for ensuring data consistency and maintaining value mappings.
Intercompany process without integration

In the case of an intercompany process between different or within the same SAP ERP system, customer-specific enhancements based on user exits, modifications or complete in-house developments can be significantly reduced by customizing within the AIF add-on.

Global SAP ERP

Order (ORDERS IDoc)

Order confirmation (OR ORDERS IDoc)

Shipping notification (DESADV IDoc)

Invoice (INVOICE IDoc)

Local/regional SAP ERP

SAP AIF

Conversion of customer numbers, materials, VkOrg data, minimum quantity check, etc.

cbs Best Practice & Project Methodology

Based on experience in global AIF implementations and rollout projects, cbs has established a comprehensive best practice framework. This includes naming conventions, development guidelines, authorization concept, training materials and general tool enhancements.

In addition to SAP implementation and roll-out projects, the use of SAP AIF in existing system solutions can be evaluated by a proof of concept. An important factor is the holistic view of the integration architecture.

Benefits

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<th>For IT</th>
<th>For end users</th>
<th>For management</th>
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| › Reduction of in-house developments through AIF standard functionality
› Reusability of logic in different interfaces
› Integrated test tool for simplified testing of interfaces
› Uniform extension logic instead of module-specific user exits, enhancements or Z-programs | › User-friendly, standardized user interface
› (independent of underlying interface technology)
› Error handling and mass changes directly in AIF
› Error highlighting & navigation to the error
› E-mail notification
› Replacement cryptic error messages | › Cost reduction for interface development
› Cost savings through efficient monitoring and error handling of the interfaces
› Transparency and security within the interface lifecycle |
"Based on our experience of multiple global implementation projects, we support our customers in the evaluation, strategy, governance, implementation and rollout of SAP AIF."

Holger Himmelmann
Consulting Director