

Overview of Integration Methodologies with SAP Solutions

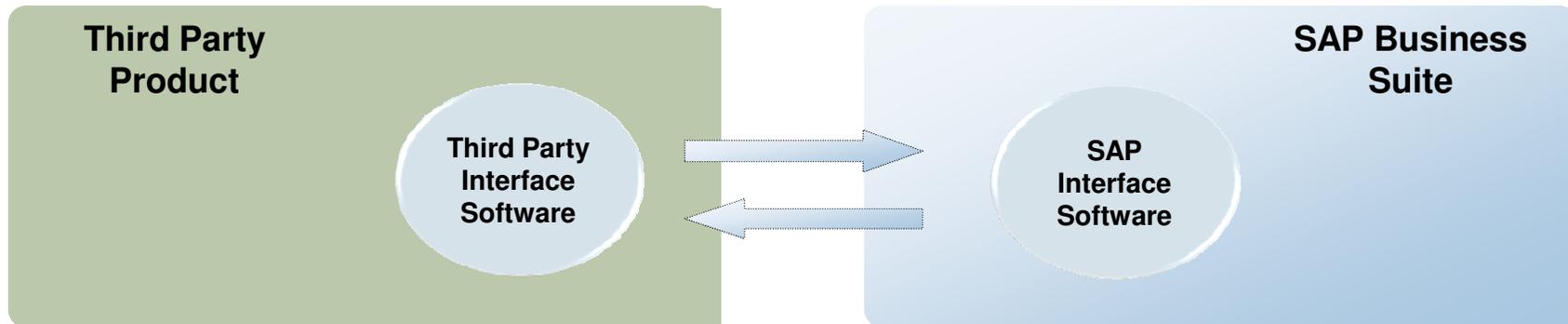
SAP Integration and Certification Center

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Vikas Marwaha, SAP ICC

Why We're Here

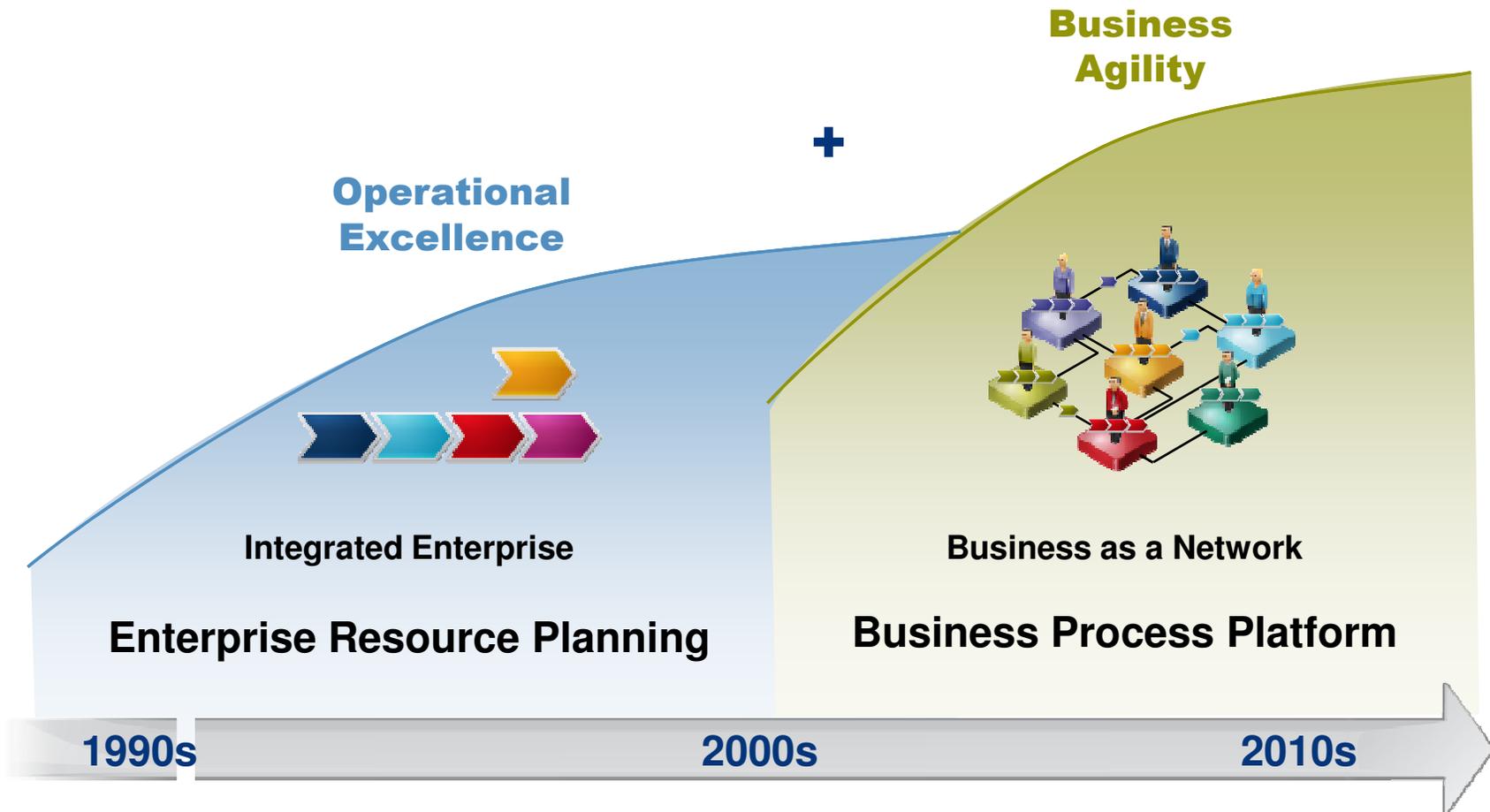
HELP ISVs INTEGRATE THEIR PRODUCT WITH SAP BUSINESS SUITE



- ❑ **Clear Approach** for integrating third party products with SAP Business Suite
- ❑ **Seamlessly Integrate** third-party products with SAP Business Suite
- ❑ **Build and Package** the interface software with third party products

Operational Excellence to Business Agility

Deliver Competitive Advantage with a Business Process Platform



SAP Solutions : Competitive Advantage

The breadth and depth you need



❑ **Trusted business partner**

Around **86,000** companies run SAP software, the largest installed base in the enterprise software sector

❑ **Deep vertical expertise**

Strategic solutions for more than **25** industries

❑ **Vast user base**

12 million users in 120+ countries work on SAP Solutions to integrate their business processes

❑ **IT architecture for business**

Business Process Platform leveraging enterprise SOA for improved adaptability, reliability, and overall TCO



Agenda



Overview of SAP Business Suite

Overview of SAP Business Suite

- SAP Business Suite



Integration Methodologies

Integration Methodologies

- Interface Technologies
- Integration Tools
- Development and Composition



Integration Certification

Managing Integration Project

- Integration Assessment
- Remote Access and Connectivity
- Interface Certification
- SAP Guidelines for Best Built Applications

Agenda



**Overview of SAP
Business Suite**

Overview of SAP Business Suite

- SAP Business Suite

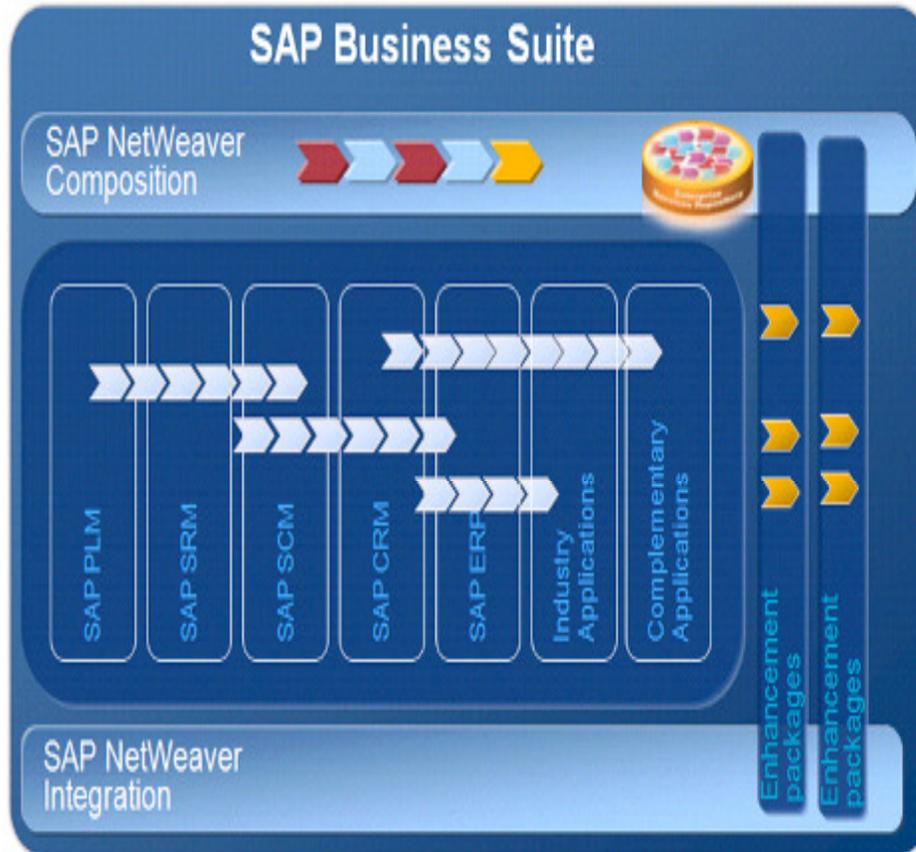


**Integration
Methodologies**



**Integration
Certification**

SAP Business Suite



SAP® Business Suite is a comprehensive, fully integrated family of applications that helps enterprises achieve process excellence, lower operational cost, and capture business opportunities

Agenda



Overview of SAP Business Suite



Integration Methodologies

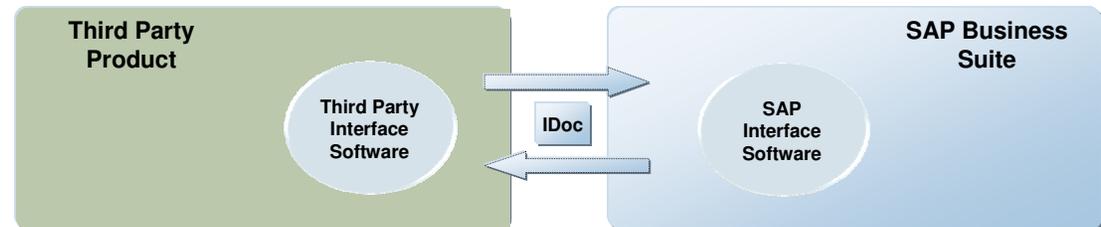
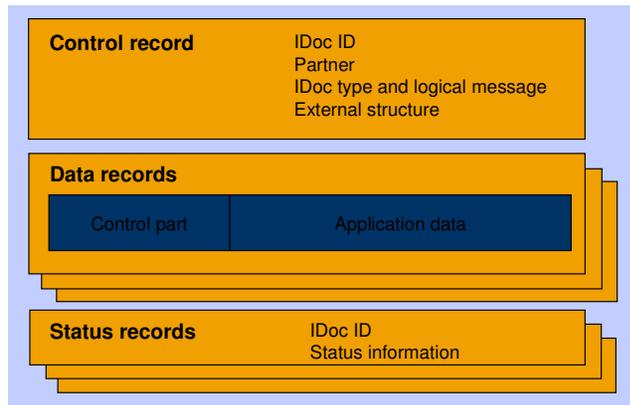
Integration Methodologies

- Interface Technologies
 - Intermediate Document
 - Remote Function Module
 - Business Application Programming Interface
 - Web Service
 - Enterprise Service
- Integration Tools
- Development and Composition



Integration Certification

Intermediate Document

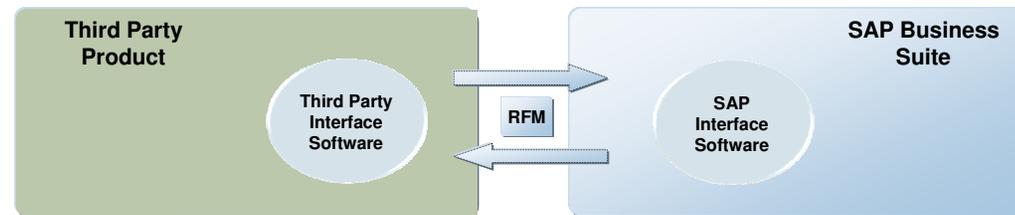


- ❑ IDoc is a standard data structure for electronic data interchange
- ❑ Used in the SAP Application Link Enabling technology as data containers
- ❑ ALE is SAP proprietary technology that enables data communications between SAP Business Suite Solution and third party product



Check transaction WE60 for the Documentation of IDoc Record Types

Remote Function Module

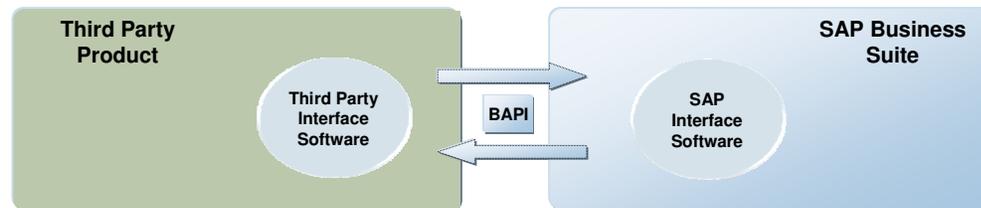


- Remote calls between an SAP Business Suite and a third party product
- Import and Export parameters to send and receive data
- RFC is based on the known Remote Procedure Call model
- Based on a CPI-C interface implemented by SAP



Check transaction “SE37” to find list of all released RFMs

Business Application Programming Interface

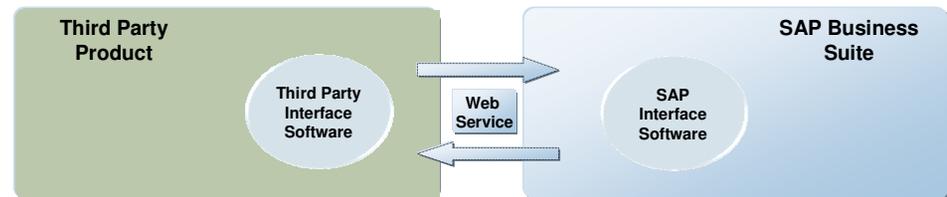
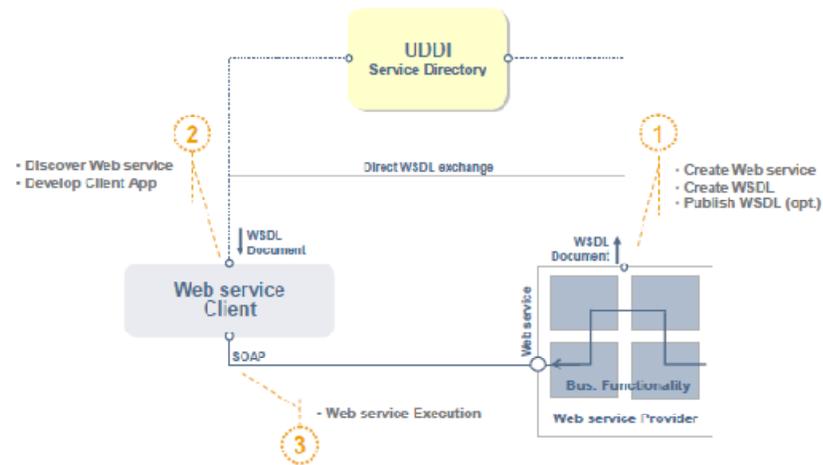


- ❑ Provide an open, object-oriented view of the business processes and data in an SAP Business Suite
- ❑ Business Objects are accessed through BAPIs
- ❑ Defined in the Business Object Repository (BOR)
- ❑ Technically implemented as Remote Function Call enabled Function Modules inside SAP Business Suite



Check transaction “BAPI” / “SE37” to find list of all released BAPIs

Web Services



WEB SERVICES are SELF CONTAINED and SELF DESCRIBING APPLICATION FUNCTIONALITIES that can be PROCESSED through OPEN INTERNET STANDARDS

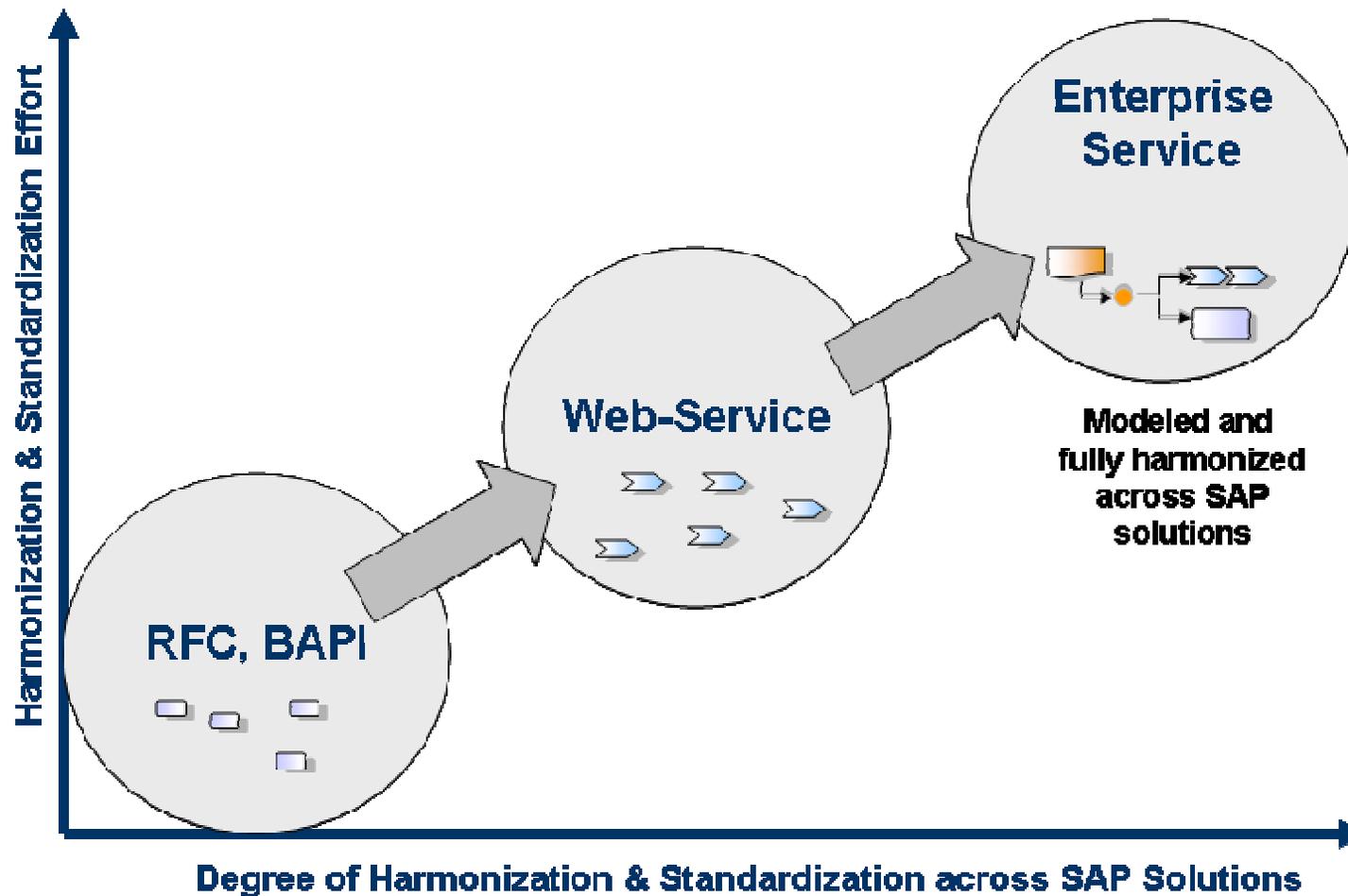


Check transaction “WSADMIN” to find list of Web Services

What Makes a Web Service an Enterprise Service



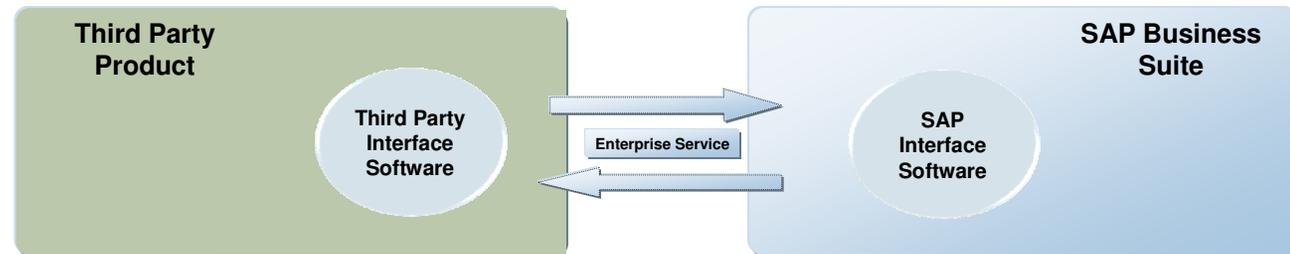
DRIVING WEB SERVICES TO THE ABSTRACTION LEVEL OF PROCESS STEPS TO CLOSE THE GAP BETWEEN BUSINESS & IT



What Is an Enterprise Service?



- Business functionality
- Enterprise Model, GDTs
- ESR
- Interface Stability
- Documentation
- Open standards



- ❑ Is a **callable entity** that provides **business functionality**
- ❑ Is structured according to a **harmonized enterprise model**
- ❑ Is **published** by SAP in the **Enterprise Service Repository**
- ❑ Guarantees **quality and stability**
- ❑ Is technically a **web service** and based on **open standards**



Check transaction “WSADMIN” to find list of Enterprise Services



SOA is an approach for building systems using autonomous services

It relies on:

- ❑ **An ideal level of abstraction** for aligning business needs and technical capabilities, and creating reusable, coarse-grain business functionalities
- ❑ **A reusable library of services** for common business and IT functions
- ❑ **Strong governance, processes, modeling**
- ❑ **A strong architectural focus**
- ❑ **A deployment infrastructure** on which new applications can quickly and easily be built

Enterprise Services Workplace



Browse

Enterprise Services
Enterprise Services bundles
Solution maps

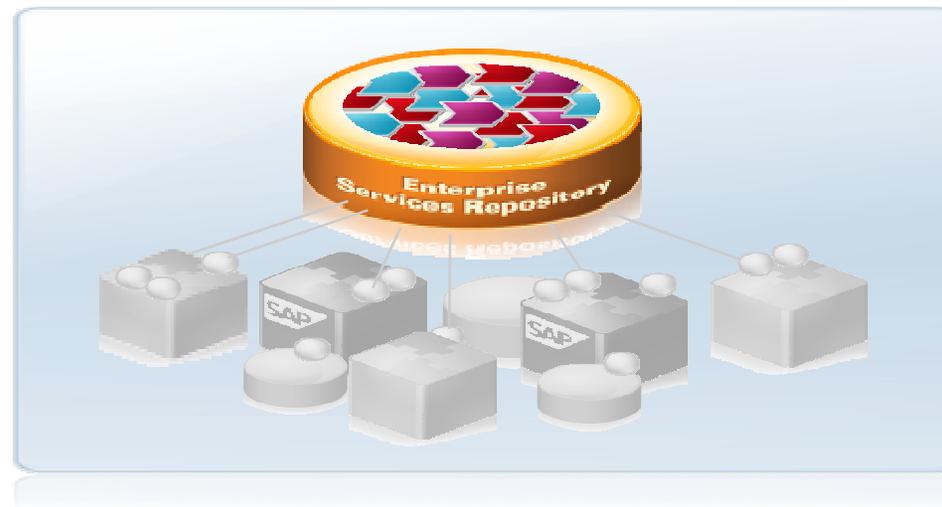
Test-drive

Access Enterprise Service
Repository

Consume and Test enterprise
services

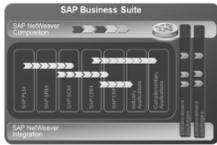
Use

Easy access to implement
required pieces



www.sdn.sap.com → Enterprise SOA → ES Workplace

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**Overview of SAP
Business Suite**



**Integration
Methodologies**

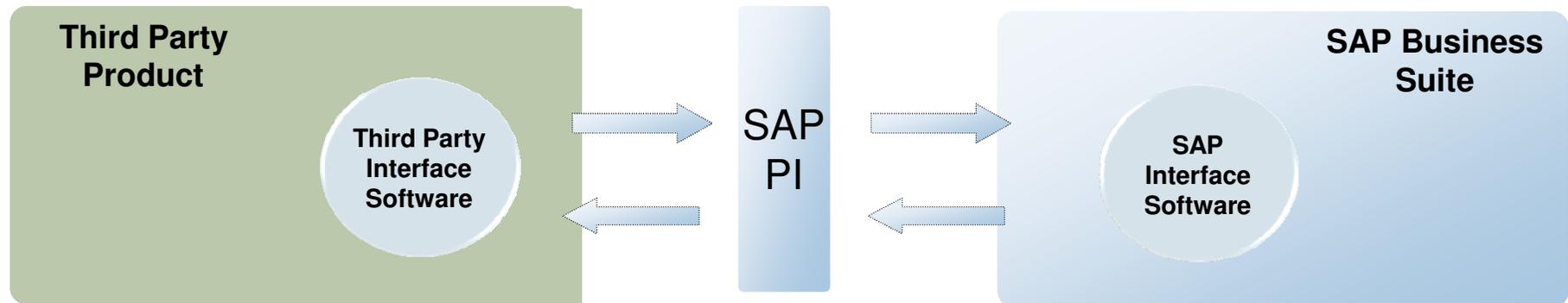
Integration Methodologies

- Interface Technologies
- Integration Tools
 - SAP Process Integration
 - SAP Java Connector
 - SAP .NET Connector
 - SAP NW RFC SDK
- Development and Composition



**Integration
Certification**

SAP NetWeaver Process Integration

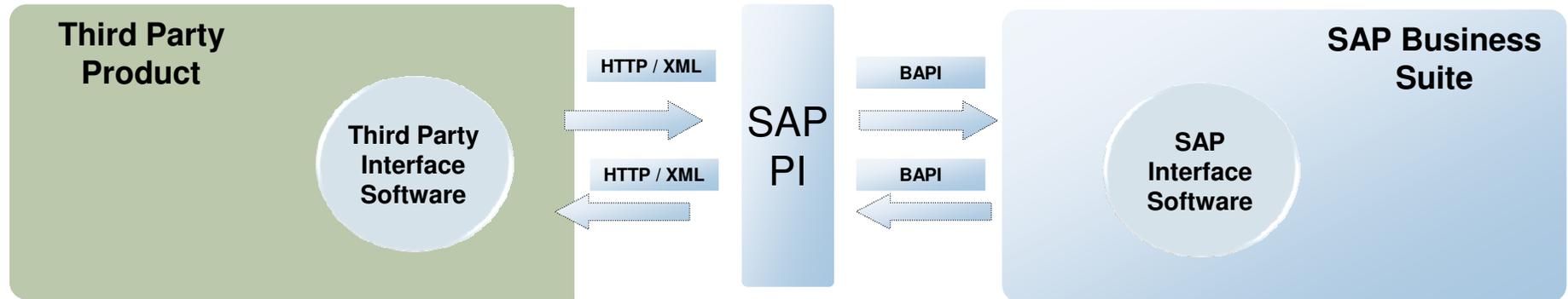


- ❑ SAP NetWeaver Process Integration is **SAP's implementation of SOA middleware** and provides **SOA foundation capabilities** for customers
- ❑ SAP NetWeaver PI is the **Process Integration Platform**
 - within SAP NetWeaver
 - for SAP and non-SAP applications
 - for A2A and B2B scenarios
 - for a service oriented architecture
 - for cross-component Business Process Management



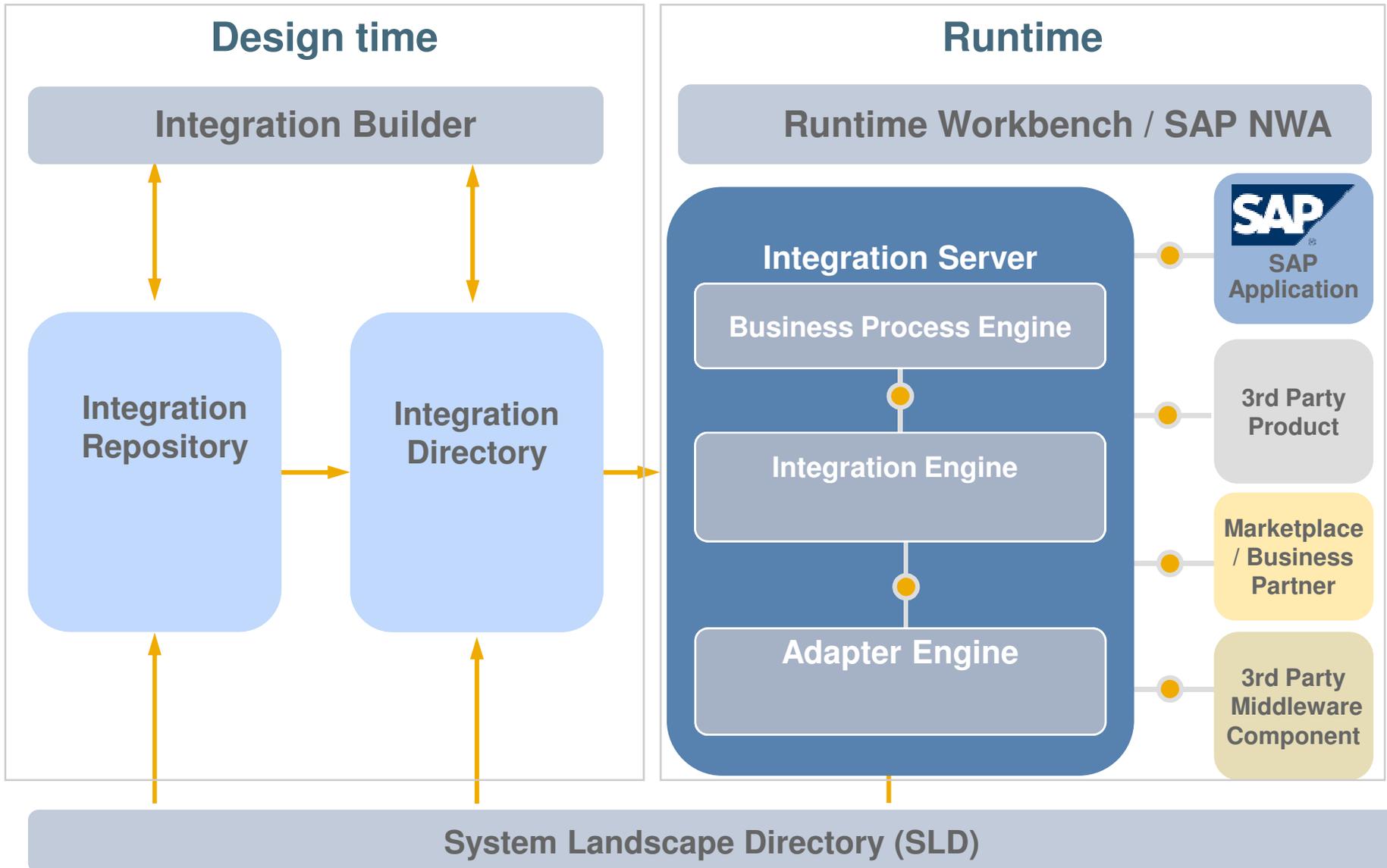
An in-house PI System / Subscribe to RAC Basic Service

Process Integration Scenario

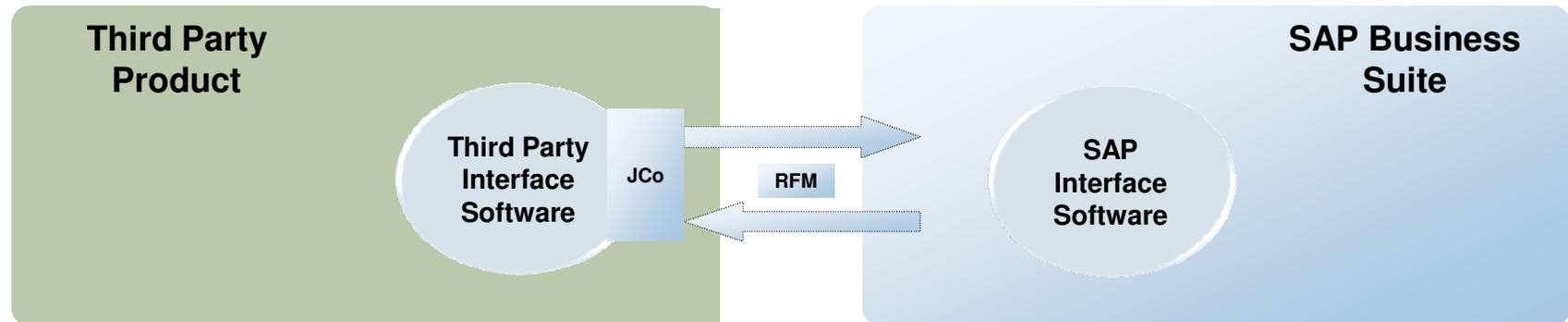


- | | |
|-------------|--------------------|
| HTTP / XML | BAPI |
| JDBC | Web Service |
| File / FTP | Enterprise Service |
| Web Service | RFM |
| JMS | IDoc |
| SMTP | |

Architecture of Process Integration



SAP Java Connector

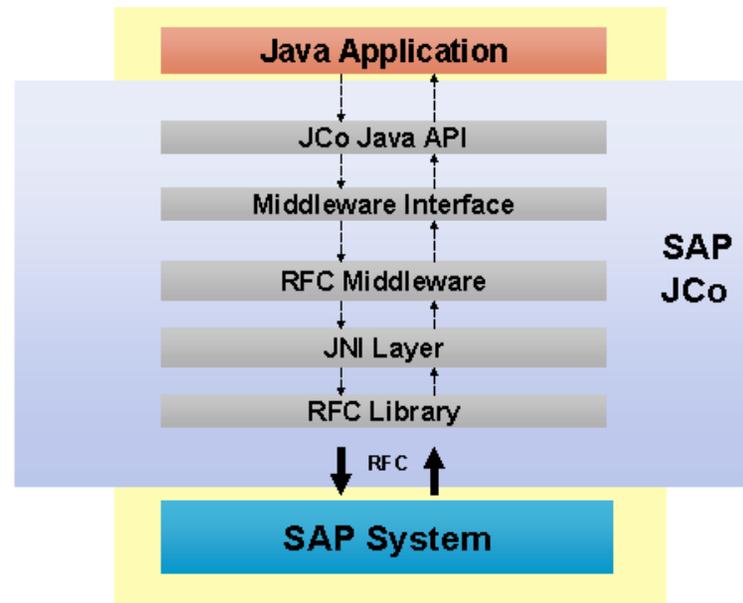


- ❑ Is **a toolkit** that allows a Java application to communicate with SAP Business Suite
- ❑ Combines an easy to use API with unprecedented **flexibility and performance**
- ❑ High Performance **JNI based RFC middleware**



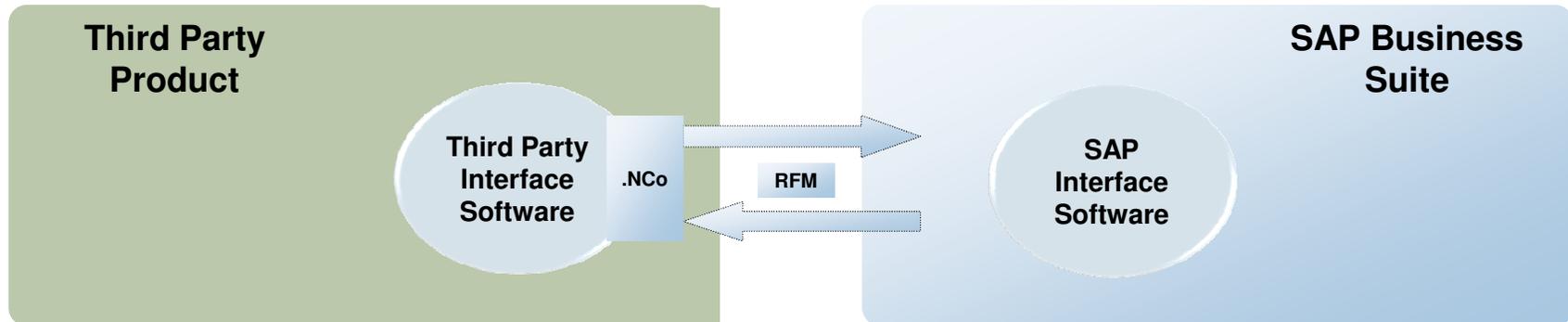
Download from SAP Service Market Place / Subscribe to SAP RAC Standard Service

Architecture of SAP Java Connector



- ❑ Enables communication between SAP Business Suite and Java applications
- ❑ Supports inbound as well as outbound communication
- ❑ Support for Unicode and non-Unicode systems

SAP .NET Connector

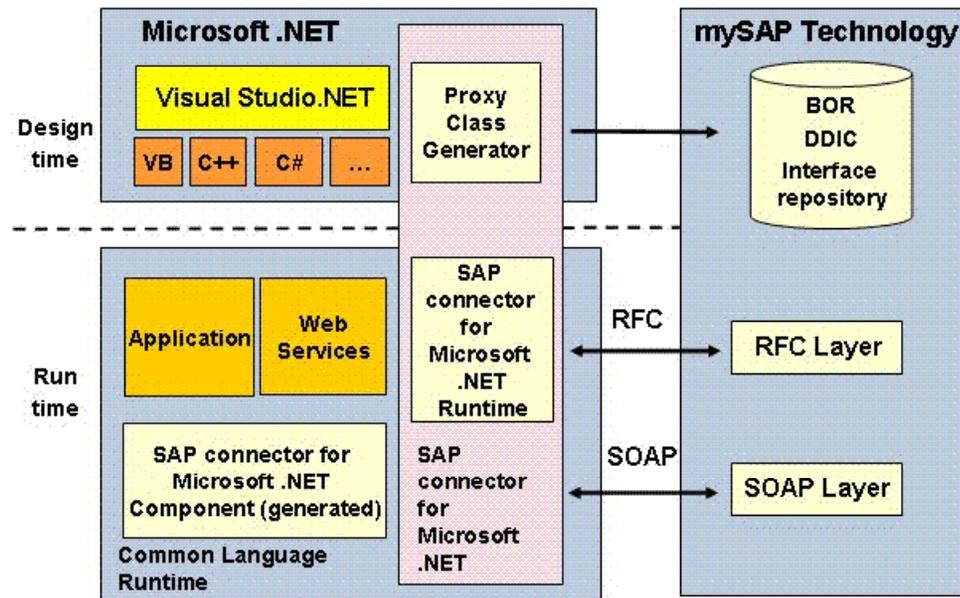


- ❑ An **add-in for Microsoft Visual Studio**
- ❑ **Enables design-time and runtime connectivity** between the Microsoft .NET platform and SAP Business Suite
- ❑ Expose SAP function modules to .NET application



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Architecture of SAP .NET Connector



- ❑ Enables communication between SAP Business Suite and .NET applications
- ❑ Supports inbound as well as outbound communication
- ❑ Support for Unicode and non-Unicode systems
- ❑ Supports RFC and SOAP protocol



SAP NW RFC SDK

- ❑ Offers a C/C++ interface for connecting to SAP Systems from release R/3 4.0B up to today's NetWeaver Systems
- ❑ Available on all SAP-supported platforms
- ❑ Exists in a Unicode and non-Unicode version
- ❑ Dynamic Metadata Retrieval
- ❑ Support of the classical RFC protocol and the binary protocol (basXML)

SAP RFC SDK

- ❑ Provides a set of C-language routines to develop C programs accessing SAP Business Suite
- ❑ Available on all SAP-supported platforms
- ❑ Exists in a Unicode and non-Unicode version



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**Overview of SAP
Business Suite**



**Integration
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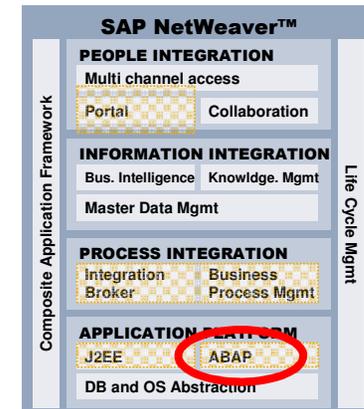
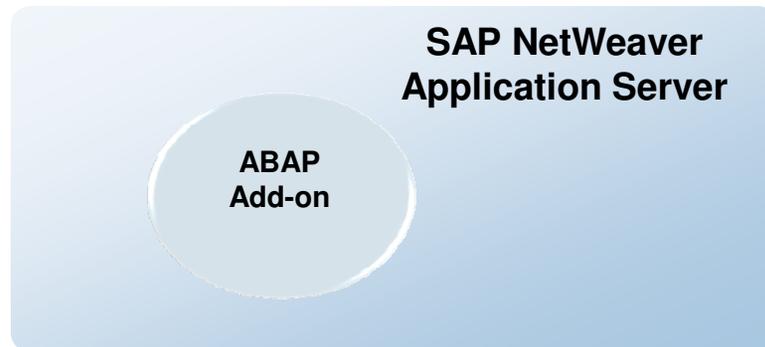
Integration Methodologies

- Interface Technologies
- Integration Tools
- Development and Composition
 - ABAP Development
 - Java Development
 - SAP WebDynpro
 - Packaged Composite Applications



**Integration
Certification**

ABAP Development



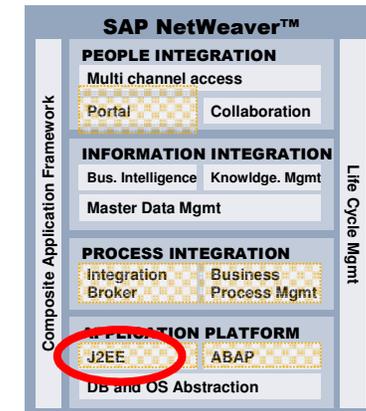
SAP NetWeaver® Platform

- ❑ SAP Proprietary Language
- ❑ Develop business applications to complement existing SAP Solutions or to cater specific business needs
- ❑ Development and Enhancements through ABAP Workbench



Need Application Developer License / Registered Namespace

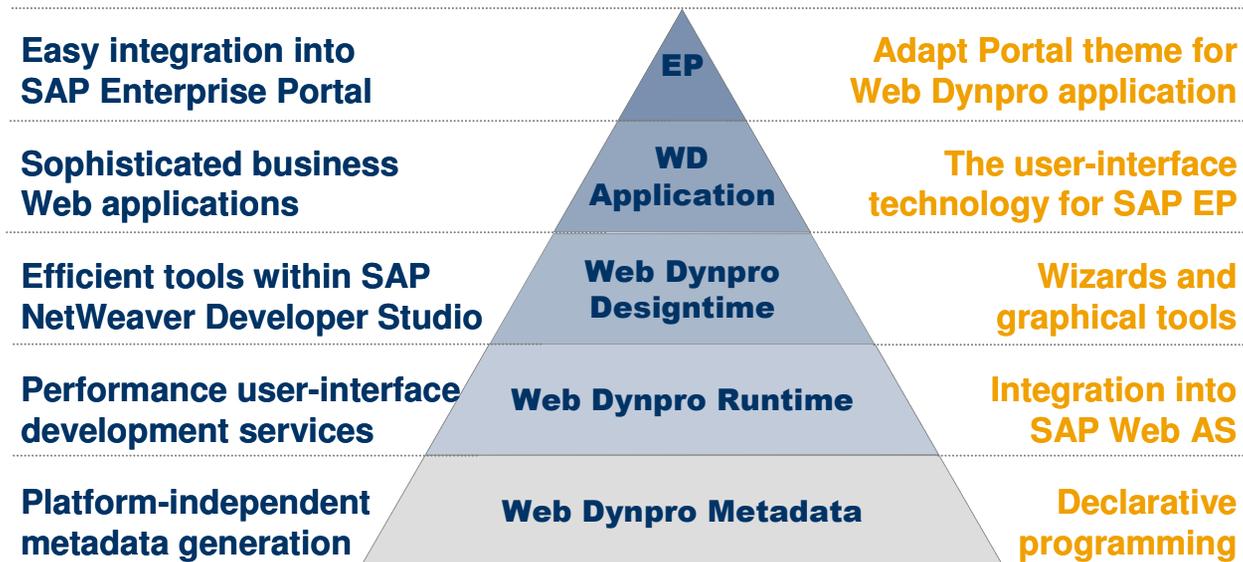
Java Development



SAP NetWeaver® Platform

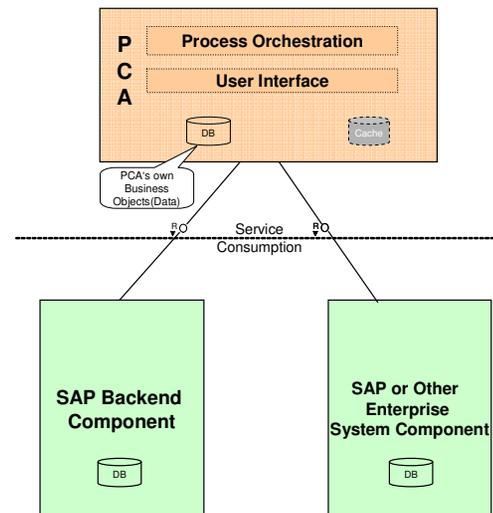
- ❑ SAP NetWeaver provides complete support for Java technology
- ❑ SAP NetWeaver offers the integrated, fully J2EE-compliant SAP NetWeaver Application Server
- ❑ Integrated development environment built on the open-source Eclipse framework

➔ Need NetWeaver Developer License



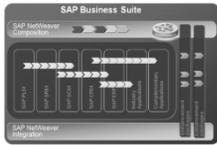
- ❑ Standard SAP UI technology for creating business applications that have web-based user interfaces
- ❑ Web Dynpro applications can be developed using either Java or ABAP

SAP NetWeaver Packaged Composite Applications



- ❑ *“Reuse, integrate, and orchestrate functionality from existing application assets in the context of an enterprise services architecture, with only the selective development of new functionality where needed to fill gaps.” – SAP xApps Strategy*
- ❑ Implement start-to-end business processes to solve concrete business problems
- ❑ Be configurable without code change

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**Integration
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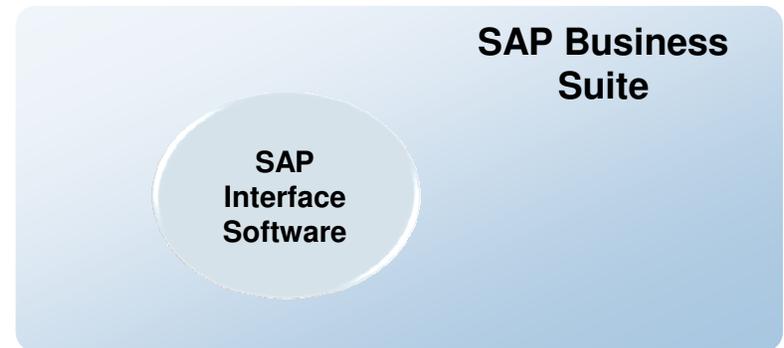
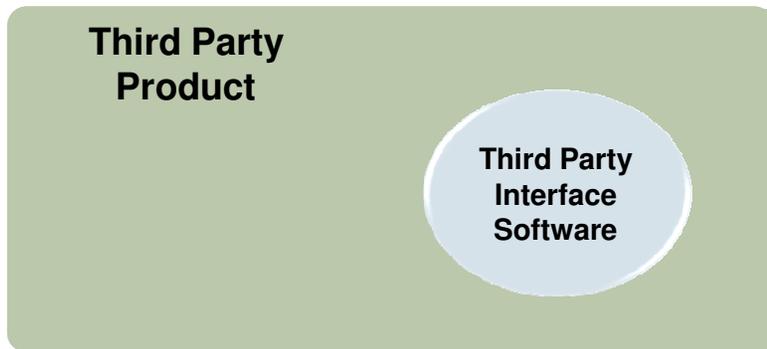


**Integration
Certification**

Managing Integration Project

- Integration Assessment
- Remote Access and Connectivity
- Interface Certification
- SAP Guidelines for Best Built Applications

Integration Assessment



- ❑ Good starting point to kick-start a completely new integration project or to review an existing integration
- ❑ Dedicated ICC Expert
- ❑ Summarize Technical Recommendations on best possible integration points

SAP RAC Service Flavors



exclusive
System
use

**SAP RAC Service
Premium**

**SAP RAC Service
Exclusive**

**SAP RAC Service
Standard**

**SAP RAC Service
Basic**

shared
system
use

Multiple Service Options for different Requirements



WHAT IS INTERFACE CERTIFICATION?

WHY DO I NEED TO CERTIFY THE INTERFACE?

HOW CAN I CERTIFY THE INTERFACE?

Technical Benefits

- Reduce integration costs with pre-certified solutions for SAP applications
- Decrease deployment risks for solutions running on SAP NetWeaver with SAP endorsed technologies
- Aim for minimal interruption during software upgrades

Marketing Benefits

- Certification Logos
- SAP Certificate
- Online listings
- Press Release Reviews

Opportunity for Growth and Participation

- Entry point to participate in SAP PartnerEdge
- Faster sales cycles with proven integration
- Ecohub

SAP Guidelines for Best Built Applications



Architectural Trends Affecting the Enterprise

- Business Networks
- Timeless software
- End-to-end business process solutions



Technology Change

- Increased heterogeneous technology choices for development and integration in customer environments



Large number of ecosystem partners developing applications that complement the SAP Business Suite



Opportunities for clear guidance on how SAP partners can build complementary solutions:

- Help ISVs and system integrators make informed development decisions
- Provide guidance to partners who want their applications to be enterprise-ready

Where to find more information?



Links

SAP Community Network: <https://www.sdn.sap.com/irj/scn>

SAP Help Documentation: <http://help.sap.com>

Service Oriented Architecture: <https://www.sdn.sap.com/irj/sdn/soa>

SAP NetWeaver Process Integration: <https://www.sdn.sap.com/irj/sdn/nw-soa>

SAP Connectors: <http://service.sap.com/connectors> (S-User ID required)

Application Development & Composition: <https://www.sdn.sap.com/irj/sdn/nw-development>

Download Section: <https://www.sdn.sap.com/irj/scn/downloads>

SAP Remote Access Connectivity: <https://www.sdn.sap.com/irj/sdn/saprac>

SAP Guidelines for Best-Built Applications: <http://www.sdn.sap.com/irj/sdn/bestbuiltapps>

Questions?



Thank you!

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