Enterprise Service-Oriented Architecture Made Easy: Driving Adoption with SAP Discovery System Software

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Success Factors for Adopting Enterprise Service-Oriented Architecture

Case Study:
SAP Discovery System at CDI AG

Summary
Success Factors for Adopting Enterprise Service-Oriented Architecture

Adoption Path
- Enterprise Service-Oriented Architecture: Skills
- SAP Discovery System for Enterprise SOA

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Summary
The Technical Path to Enterprise Service-Oriented Architecture: Stepwise Adoption of New Technologies

Step 1
Build the foundation with the SAP NetWeaver platform
- Implementation of the technical infrastructure for enterprise service-oriented architecture (SOA)

Step 2
Implement custom-developed composites
- Service-enablement of existing back-end systems and development of custom services

Step 3
Realize quick wins with enterprise services
- Leverage productized services, such as enterprise services (ES) bundles

Productization of business content
Step1: SAP NetWeaver Foundation for Enterprise SOA

The SAP NetWeaver platform provides the technical platform for enterprise SOA

SAP NetWeaver components for the enterprise SOA infrastructure

- SAP NetWeaver Enterprise Portal
  - User interface for service consumption
- SAP NetWeaver Exchange Infrastructure
  - Communication bus for message exchange
  - Service orchestration in application-centric scenarios (A2A)
  - Business process management
- SAP NetWeaver Master Data Management
  - Providing consistent, harmonized, and consolidated information
- SAP NetWeaver Business Intelligence and SAP xApp Analytics composite application
  - Reports
  - Dashboards and decision cockpits
Step 2: Composite Applications
Innovation on Top of Existing Applications

Composite applications can be used to build new business applications by service-enabling existing systems.

Composite applications make use of data and functions provided as services by platforms and applications, combining them into user-centric processes and views supported by their own business logic and specific user interfaces.

Characteristics of composite applications:

- Usage- and process-centric: manage business processes that use different underlying, usually more data-centric, applications and components.
- Based on services: deployed on top of underlying components, combining them with new application logic and user interfaces.
- Loosely coupled to backend systems: have their own lifecycle.
- Abstraction from back-end systems: run in heterogeneous system landscapes.
Step 3: Enterprise Services Bundles
Predefined Content for New Business Applications

ES bundles make enterprise SOA tangible and easy to adopt with productized enterprise services

ES bundles include everything to get the business capability up and running

- Out-of-the-box service-enablement of SAP ERP 2005 based on enterprise services
- Definition of enterprise services in the Enterprise Services Repository
- Consuming applications
  - Links to applications
  - Sample code
  - Best practices
  - Composites
- Content and advice provided by SAP, partners, and other customers, delivered via social media technology (Wiki)
  - Processes
  - Enterprise services
  - Quick deployment
The Business Path to Enterprise SOA: Stepwise Creation of Business Value

Adoption paths follow business strategies

DIFFERENTIATION

PRODUCTIVITY

1. DESIGN REUSE
   Leverage product master data

2. COINNOVATION
   Extend processes to partners

3. DECISION MAKING
   Leverage information

4. FLEXIBILITY
   Service-enablement Upgrade applications

5. REDESIGN FOR INNOVATION
   Build composites

Compose applications

REDESIGN
Build composites

Service-enabled applications

FLEXIBILITY
Service enablement Upgrade applications

MEASURE
Leverage information

Integrate processes

AUTOMATE
Integrate processes

Clean master data

CONSOLIDATE
Clean master data

"Texas Instruments: Reduced the time to partner"
"Carl Zeiss: Reduce time and cost to integrate new"
"General Electric: 400-500 new launches, better"
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Adoption Path

Enterprise Service-Oriented Architecture: Skills

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Phases in an Enterprise SOA Composition Project

Enterprise SOA projects follow an adapted implementation approach

**COMPOSITION**
- From services to applications
- Service composition
- Building composite applications

**DESIGN AND IMPLEMENT**
- From service model to service implementation
- Design and implementation of services
- Design and implementation of user interfaces for service consumption

**IDENTIFY AND MODEL**
- From business needs to service model
- Identifying business processes and business needs
- Modeling of services and flow between services
Roles in an Enterprise SOA Composition Project

Enterprise SOA projects require strong architectural skills, composition expertise, and skills with components of SAP NetWeaver.

Identify and model
- Business process expert
- Technical solution architect
- Enterprise SOA development architect

Design and implement
- Enterprise SOA development architect
- Software engineer (ABAP and Java)
- Technical engineer
  - Platform technology (basis)
  - People and information integration (SAP NetWeaver Portal)
  - Business process integration (SAP NetWeaver XI)

Compose
- Business process expert
- Enterprise SOA development architect
- Technical engineer
  - Composition
  - Business process integration (SAP NetWeaver XI)
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Summary
SAP Discovery System for Enterprise SOA: Preconfigured SOA Sandbox, Learning, and Development Environment

- Experience enterprise SOA today
- No assembly required
- Preconfigured environment
  - SAP ERP 2005
  - SAP NetWeaver 04s
  - Sample enterprise SOA–enabled composite application
  - Fully documented configuration
  - Preinstalled operating system and database
  - Based on SAP Best Practices
  - Flexibly packaged on a server
  - Provided by hardware vendors (HP and Fujitsu Siemens)

Prototyping, developing, and learning environment at your fingertips

SAP Discovery System – server, software and SOA application – facilitates realization of enterprise SOA scenarios
The implementation of enterprise SOA scenarios is shown in SAP Discovery System along a procurement process.

**USER ROLES**

- Salesperson
- Purchasing agent
- Warehouse manager

**PROCESS STEPS**

1. Create sales order*
2. Analyze stock
3. List suppliers
4. Request quotation
5. Place PO*
6. Confirm order
7. Receive goods*

*Use of enterprise services
Extended Documentation and Collaterals on SAP Developer Network

http://www.sdn.sap.com/irj/sdn/esadiscovery

- Recorded demonstration
- Step-by-step exercises
- Set-up instructions
- SAP Discovery System: forum
- Recorded customer case study
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Typical Barriers for Enterprise Service-Oriented Architecture

Usage Scenarios for SAP Discovery System

Lessons Learned and Experiences

Summary
Independent technology consulting company since 2000

Regionally focused service provider for small and larger enterprises

Over 30 qualified consultants in Dortmund, Germany

SAP services partner

Special expertise partner for Java EE development with SAP NetWeaver Application Server

More information → http://www.cdi-ag.de
Typical Barriers for Enterprise SOA Projects

- Customer perspective
  - Motivation and need
  - Lack of skills
  - Concrete adoption process

- ISV and IT service perspective
  - Management commitment
  - Environment and infrastructure
  - Risks and opportunities

SAP Discovery System as a platform for and enabler of a smooth transition to enterprise SOA
Usage of SAP Discovery System to Drive Customer Projects

Project initiation
- Positioning of enterprise SOA
- Demonstration of showcases for IT and business units
- Presentation of reference projects

Pilot and implementation phase
- Development of proof-of-concepts
- Build up reference architecture
- Platform for customer workshops and training
- Sandbox for technical scenarios
Usage of SAP Discovery System to Drive Corporate Development

Jumpstart for enterprise SOA on SAP NetWeaver

- Clear calculable investment
  - Hardware and license costs
  - Setup effort
- Preconfigured scenarios as starting point

Out-of-the-box infrastructure for educational purposes

- Building an enterprise SOA knowledge pool
  - Implementation of customer demo scenarios
  - Sandbox for personnel training and development
  - Reference system
- Platform for internal enterprise SOA projects
  - Development of composite applications
  - Development of integration scenarios
  - Migration of existing IT solutions
SAP Discovery System at CDI AG:
Lessons Learned and Experiences

**Setup**

One-day, out-of-the-box installation

Additional effort necessary for individual adaptation

- Operating system and SAP user management
- Backup

SAP Discovery System as a sandbox, not a full-scale development environment

- SAP NetWeaver development infrastructure installed separately
- Additional installations for team development scenarios

**Usage**

Easy-to-use, preconfigured business scenarios

- Sample data and processes
- Scenario description
- Starting point for simple development scenarios

Full-blown demonstration environment

- SAP NetWeaver Portal, SAP NetWeaver AS (Java and ABAP), SAP NetWeaver PI, SAP NetWeaver BI, SAP NetWeaver MDM, and SAP ERP
- No industry solutions: SAP CRM, SAP SRM, and SAP SCM
- SAP NetWeaver Visual Composer, SAP Interactive Forms by Adobe, CAF Guided Procedures, and so on

Starting point for more complex development scenarios
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THANK YOU FOR YOUR ATTENTION!