Enterprise Services Architecture & Semantic Web Services

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SAP Research
Enterprise Services Architecture

Architecture for Change

Semantic Web Services
Time for Change: IT is Entering its Third Market Area

- Enterprise services architecture is more than Web services
- An enterprise services platform for business process innovation emerges
- A huge ecosystem develops around it
Enterprise Services Architecture

is a service-oriented architecture (SOA) which merges SAP’s enterprise
application content with the open
composition platform SAP NetWeaver
to enable flexible business processes by
SAP, partners, and customers
Enterprise Services Architecture

Benefit of Enterprise Services Architecture

HELPING DIFFERENTIATE

Openness
- Open Web services standards
- Open integration platform
- Interoperability

Adaptability
- Model driven
- Configurable
- Extensible
- Services composition
- Process innovation

Composite Applications

SAP NetWeaver

Business Objects, Components, and Engines

Lower TCO
- Deployment options through configuration
- Common operational services
- “Always On” platform

Productivity
- People productivity
- Embedded analytics
- Process efficiency
- Process flexibility

DRIVING PRODUCTIVITY
Enterprise Services Architecture

Architecture for Change

Semantic Web Services
ARCHITECTURE FOR CHANGE

The 5 Key Elements of Enterprise Services Architecture
Five Key Elements of Enterprise Services Architecture

- SERVICE COMPOSITION
- SAP NetWeaver
  - SERVICE ENABLEMENT
  - SAP’s Enterprise Services
  - Business Objects, Components, and Engines
  - Partner Services
  - Enterprise Services Repository
Key Element of Enterprise Services Architecture: 
**Service Enablement**

SAP NetWeaver

SERVICE ENABLEMENT

- SAP's Enterprise Services
- Partner Services
- Business Objects, Components, and Engines

Enterprise Services Repository
Situation Today:
Multiple Application Databases & Proprietary APIs

- Build composite applications
- Build connectors to systems
- Change processes
- Build connectors from systems

Database integration + proprietary techniques for cross-DB integration

ERP (Supplier)
CRM (Supplier)
SRM (internal)
ERP (internal)
CRM (internal)
SRM (Buyer)
What Is Needed:
A Services-Enabled Business Process Platform

User Interfaces

Composite Applications

SAP NetWeaver

Business Objects, Components, and Engines

Openness
- Transparent unlimited access
- Unified cross-system Integration Model
- Extensibility of services
- Standardization of services

Common Enterprise Services
Architecture Services
Repository with Business Content

Common Enterprise Services
Architecture Service Patterns for All Platform Objects

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Key Element of Enterprise Services Architecture: Service Composition
Situation Today:
Coded One-to-One Process Integration

Transactions Within Application Silos

Transactions

Rigid Processes, One-to-One Integrated by Coding

CRM
(Supplier)

SRM
(internal)

ERP
(internal)

CRM
(internal)

SRM
(Buyer)
What Is Needed: Flexible Innovation on Top of a Stable Platform

Flexibility & Extensibility
- Model-driven service composition
- Business Process Management

Stability
- Controlled process execution
- Common ESA implementation for all platform services
- Version Management
- Best-of-breed objects
  - Cross-industry capability
  - High scalability
  - Quality by engineering

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Enterprise Services Architecture

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Semantic Web Services
DIP – Data, Information and Process Integration with Semantic Web

Vision
“DIP's mission is to make Semantic Web Services a reality.

Mission / Core objectives

- Make Semantic Web technology a reality
- Combine Semantic Web technology with Web Services for semantics-based services
- Apply Semantic Web Services as an infrastructure in real world scenarios within an organization and between organizations and its customers/partners
DIP – Direction & Goal

Activity 1 – Semantic Web

- Networked, shared, explicit, evolving ontologies
- Networked, shared, explicit, static ontologies
- Single, shared (exposed), explicit ontologies
- Single, private, implicit ontologies

DIP Research and Development space

- Static Web Services in a closed, trusted, known environment
- Independently evolving Web Services in a closed trusted environment
- Discovery of Web Services in an open environment
- On the fly composition of Web Services in an open environment

Where we started

Where we will be at the end of DIP
Web Services challenges – Addressed by DIP

Enterprise Application Integration:
Seamless interoperability of services

New application domains:
Simplified development of complex services and applications

Dynamic e-Business:
Selection of appropriate services (available, cheapest, best conditions, most trusted, ...) in an open environment

Semantically enhanced services:
Automation of service integration and selection through explicit business context

Use of Semantic Web Services in real-life scenarios:
Case studies in e-Banking, e-Government, and VISP (Virtual ISP)
A New Working Model for Business & Development

FROM INTEGRATION CODING TO BUSINESS MODELING

Information Technology

- Closed packages
- Database, messaging
- Static application UI's
- Coded process integration
- Inflexibility, high TCO

Process Innovation Technology

- One open composition platform
- Enterprise Services Infrastructure
- Adaptive Portal UI's
- Model-driven services composition
- Flexibility, business value

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