SAP NetWeaver Gateway
Any Environment, Any Device, Any Developer
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Technology Tipping Point Requires New IT Approach

- New devices and experiences
  - Consumer innovations in the enterprise

- Growing new communities of agile developers
  - Expansion of business data and decision makers

- Simple access to complex enterprise systems
  - Manage and control mission critical systems AND deploy innovative solutions
SAP NetWeaver Gateway

Open
Any Device, Any Experience, Any Platform

People
Optimized for user interaction scenarios

Timeless
Non-disruptive, any SAP Business Suite version

Developers
Simple APIs, no SAP knowledge required

Standards
Based on REST and OData/ATOM
The Open Data Protocol (OData) is a web protocol for querying and updating data. It has been referred to as “ODBC for the Web”.

OData is based on HTTP(S) communication and the Atom Publishing Protocol (AtomPub).

For more detailed information, please refer to http://www.odata.org
OData Architecture

- Based on a non-proprietary, license free protocol
- Offers database like access to business data (“ODBC for the Web”)
- No prior knowledge of SAP required
- Supports object navigation
- Dynamic binding takes place at run time
- Conforms to the constraints of a REST-based architecture
  - Uses the standard GET, PUT, POST & DELETE methods
  - Stateless interface

OData + SAP Annotations

OData

Atom Publishing Protocol

Atom Syndication Format
Data Model - an Example

- First, you start with a consumption model.
- This then becomes the corresponding OData metadata service document.

```xml
<?xml version="1.0" encoding="utf-8" ?>
  <edmx:DataServices m:DataServiceVersion="2.0" xmlns:m="http://schemas.microsoft.com/adonet/2007/08/ds">
      <EntityContainer Name="SimpleYardMgmt" Description="Simple Yard Mgmt" m:IncludeInAll="true">
        <EntitySet Name="DockAppointment" m:Resources="#DockAppointment, #EndDateTime"/>
        <EntitySet Name="TimeSlot" m:Resources="#TimeSlot, #EndDateTime"/>
        <EntitySet Name="TimeOfDay" m:Resources="#TimeOfDay, #StartDateTime"/>
      </EntityContainer>
      <EntityContainer Name="SimpleYardMgmt.AsoTimeOfDayTimeSlot" Description="Simple Yard Mgmt. Aso TimeOfDay TimeSlot" m:IncludeInAll="true">
        <EntitySet Name="DockAppointment" m:Resources="#DockAppointment, #EndDateTime"/>
        <EntitySet Name="TimeSlot" m:Resources="#TimeSlot, #EndDateTime"/>
        <EntitySet Name="TimeOfDay" m:Resources="#TimeOfDay, #StartDateTime"/>
      </EntityContainer>
    </Schema>
  </edmx:DataServices>
</edmx:Edmx>
```

A data object of a consumption model

An association „1 to many“ between two data objects.

A property which is a key

A property of type String

A property of type Simple Type

Simple Type

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SAP NetWeaver Gateway Planned Architecture

IDEs
Plug-ins

Consumer
Consumer
Consumer

Network Standards

Tools
Generators
BOR/SCR/RFC
Custom Dev.

Gateway Core Technology
REST
Service Adaptation
Metadata Repository
Events
OData with SAP Annotations
Supportability
Monitoring
Security

Data Source Providers
BAPI
RFC
WS

Data Conn.

SAP Business Suite [ERP, CRM, SRM…]

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Redefining SAP Development Experience

Opening the door for millions of developers to create solutions connecting to SAP

Reduce complexity, skill set requirements and deployment barriers

Shorten development times/cycles

Engage developers with and without SAP knowledge

Within their development tool of choice

Rapid development approach

Standard and simple service interfaces (REST) and data protocols (OData/ATOM)
Application Examples
Social Leads (Facebook/Twitter)
Facebook/Twitter with SAP CRM to Drive Marketing Campaigns

Publish product design polls in Facebook
Collect feedback to impact product decisions
Capture leads into SAP CRM application

Built in the Facebook framework
Developed in 3 weeks
Sales Manager (HTML5)
Location-based customer information and collaboration

Gather Account Information from SAP CRM

Present on a device location map

Update Team using SAP StreamWork application

Built using HTML5
Developed in 3 weeks
Planned SAP Mobility Platform

Sybase Unwired Platform 2.0

Other connector technologies
- Web service
  - JDBC
  - Rest

Data consolidation and distribution
- BAPI Wrapper
  - (Suite)

Notifications and subscriptions

OData connector

Onboarding, monitoring lifecycle, and administration

Sybase development tools and lifecycle

Apps (native, container)

Reusable libraries

SDK* on MBO**

SDK on OData+

Back ends running SAP software
- SAP Business Suite
- SAP Business ByDesign
- SAP BusinessObjects solutions

*Software development kit ** Mobile business object

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Staffing Application (Rich UI)
Staff Projects with the Best People

Obtain project and people information from the SAP ERP application
Assign people to project based on skills, experience, team work
Connect with external workforce resources

Built using Adobe Air
Developed in 3 weeks
Citizen City Connect (Mobile)
Mobile application integrated with public sector solutions

Citizens connect with their municipality
Citizens can report multiple events (security, pothole, recycling, and so on)
Back end routes the report to the right department (or contractor)

Built using x-code
Developed in 3 weeks
Know Your Customer (.NET)
Face recognition integrated with CRM and social networks

Face recognition (using face.com)
Customer Information from SAP CRM
Social network analysis
Personalized offer from SAP CRM
Lead capturing

Built in .NET
Developed in 3 weeks
SAP NetWeaver Gateway Development Process
Development Process

Step 1 (Gateway)
- Pick a Dynpro, a BAPI or existing Gateway Model
- Create a Data Source Model through the Gateway Design Time
- Create a simplified Model and the Adaptation Logic in the Gateway Design Time

Step 2 (Consumer IDE)
- Create Proxy Classes using Plug-ins
- Create a consumer application
Adaptation – Reduction of Data Model Complexity

An SAP Data Source Model (DSM) is complex because it is designed to account for the many possible permutations and combinations that exist within a real-life business process. However, such an interface is not suitable for the vast majority of users.

A Public Solution Model (PSM) on the other hand, provides a simplified interface to the SAP Data Source Model.

The PSM is created by adapting the fields in the DSM leaving only those fields needed for the simplified business scenario.
Development in the Gateway Server

Life Cycle Management
Development on the Gateway Server
Service generators for specific data sources (BAPI/RFC/Dynpro Screens*)

Requirements
Screen Scraping:
Backends must be based on NW 7.00 SP14 or higher + AddOn: IW_SCS

RFC/BAPI & Custom Dev:
Backends must be based on 4.6C or higher

Recommendation
Partners/Customers with Backend < ECC 6.0 EHP 0 or where AddOns must not be installed in Backend Systems (RFC/BAPI & Custom Dev)

Partners/Customers that do not want to code (Generators)

SAP Business Suite
[ERP,CRM,SRM…]
Development in the Backend System - OData Channel

Life Cycle Management
Development in the SAP Backend

Gateway Server: Configuration only

Requirements
Backends must be based on NW 7.00 SP18 or higher & AddOn: IW_BEP

Recommendation
Is used by SAP for Standard Software Development

Most flexible since it allows access to all backend resources and not only to remote enabled interfaces.
## SAP NetWeaver Gateway Planned Roadmap*

<table>
<thead>
<tr>
<th>Version</th>
<th>Q2-2010/Q1-2011</th>
<th>H1 2011</th>
<th>To be announced</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.5/1.0</td>
<td><strong>Embedded version</strong> (Duet Enterprise; User productivity Mobile Apps) Pilot for Standalone</td>
<td><strong>First stand alone release</strong> Used for SAP application delivery</td>
<td><strong>Focus on external facing customers scenarios</strong> Focused support for partner solutions</td>
</tr>
<tr>
<td>2.0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Next Version</td>
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</tr>
</tbody>
</table>

*Roadmap is provided for illustration purposes only and can be changed without notice (see full disclaimer)
SAP NetWeaver Gateway
One Technology, a World of Experiences

Promote new ways of working
Drive innovation while keeping IT control
Engage developers with no SAP knowledge
Thank You!