



Introducing SAP NetWeaver Connect for VisualWorks

VisualWorks as First Class Citizen in the
SAP World



SIMPLIFICATION THROUGH INNOVATION™



Agenda

Introduction

Demonstration

Technical Details

Outlook & Conclusions

Introduction

- SAP NetWeaver Connect enables
 - SAP to use Smalltalk for explorative modelling
 - SAP Customers to profit from advantages of Smalltalk
 - An easy and standard way of integration into SAP projects

Integration with SAP projects

- SAP NetWeaver Connect
 - Integrates VisualWorks Products with SAP Solutions
 - Opens the door to powerful backend functionalities
 - First step to SAP Enterprise Service Architecture

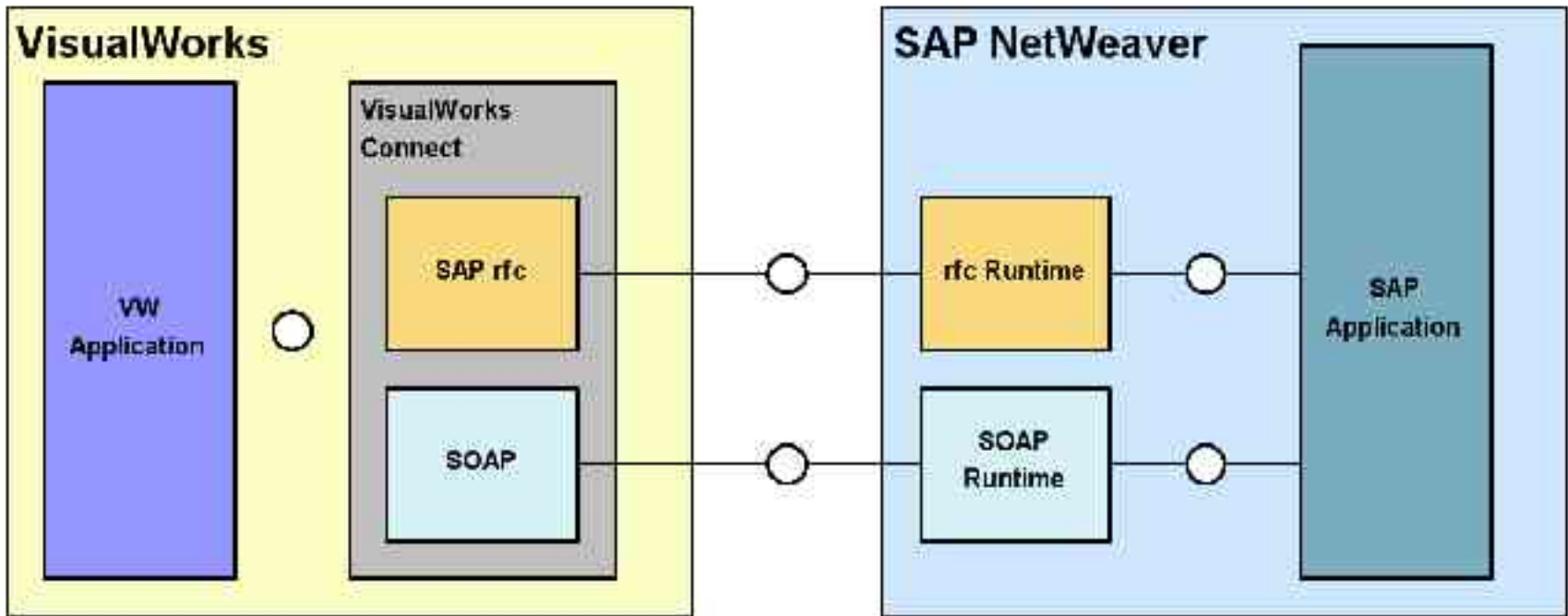
Integration Technologies

- Based on SAP-Endorsed Integration Technologies
 - Industry-standard WSDL/SOAP-based approach
 - Invoke RFC-enabled function modules
 - **eXchange Infrastructure Adaptor** (*in development*)

First class citizen

- NetWeaver Connect enables
 - Smalltalk as a “first class citizen” in the SAP NetWeaver World
 - SAP Customers to use Smalltalk next to ABAP and Java.
 - Tight process integration of Smalltalk into SAP NetWeaver Applications

General Architecture



General Architecture

- Enhances VisualWorks Web Services
- Service Oriented Application Model
- Separation of Application and Services
- Session-based Service execution



Agenda

Introduction

Demonstration

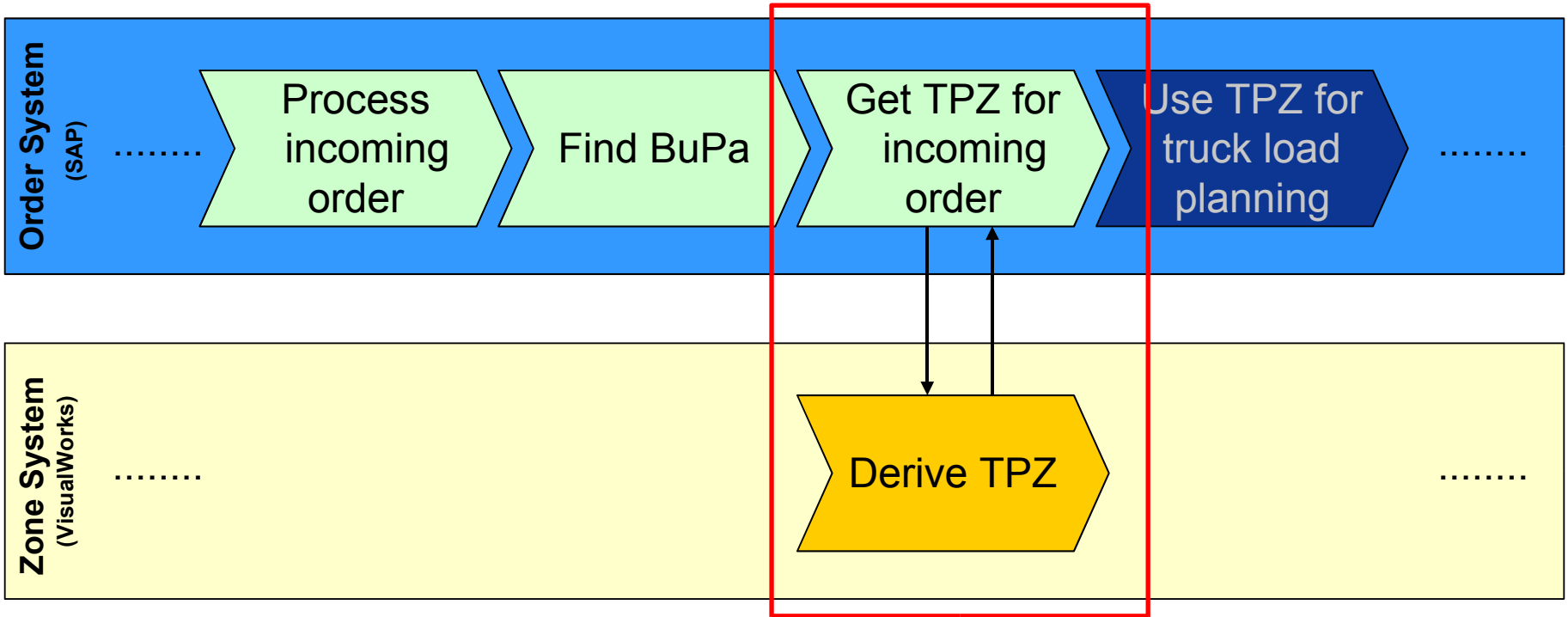
Technical Details

Outlook & Conclusions

Truck Load Planning

- Business Case: Truck Load Planning
- System Components:
 - SAP Order System
 - VisualWorks Transportation Zone System

Truck Load Planning



Find Business Partner

The screenshot shows the SAP 'Retrieve Transportation Zone for Business Partner' dialog box. The window title is 'Program EJ. GUI System EJ9' and the SAP logo is visible in the top right corner. The main title of the dialog is 'Retrieve Transportation Zone for Business Partner'. Below the title, there is a search prompt: 'Please enter Business Partner number or press -4 Help'. The 'Business partner' field contains the value '10' and is highlighted in yellow. Below this, the name 'Michael Schmidt' is displayed. A section titled 'Michael Schmidt' contains the following address details:

Fiscal Code	09790
City	Walden
Street	E Smart-Topp-Allee
House Number	16

At the bottom of the dialog, there is a status bar showing 'NSF (1) (000)' and 'MSPT=J INS'.

Demonstration

- Show the SAP GUI
- Find a Business Partner
- Calculate Transportation Zone with a break in VisualWorks
- Proceed in Debugger
- Show the result in SAP GUI

Show the TPZ

The screenshot shows the SAP 'Retrieve Transportation Zone for Business Partner' dialog box. The window title is 'Program EJ. GUI System E50' and the SAP logo is visible in the top right corner. The dialog box contains the following information:

Please enter Business Partner number or press F4 Help

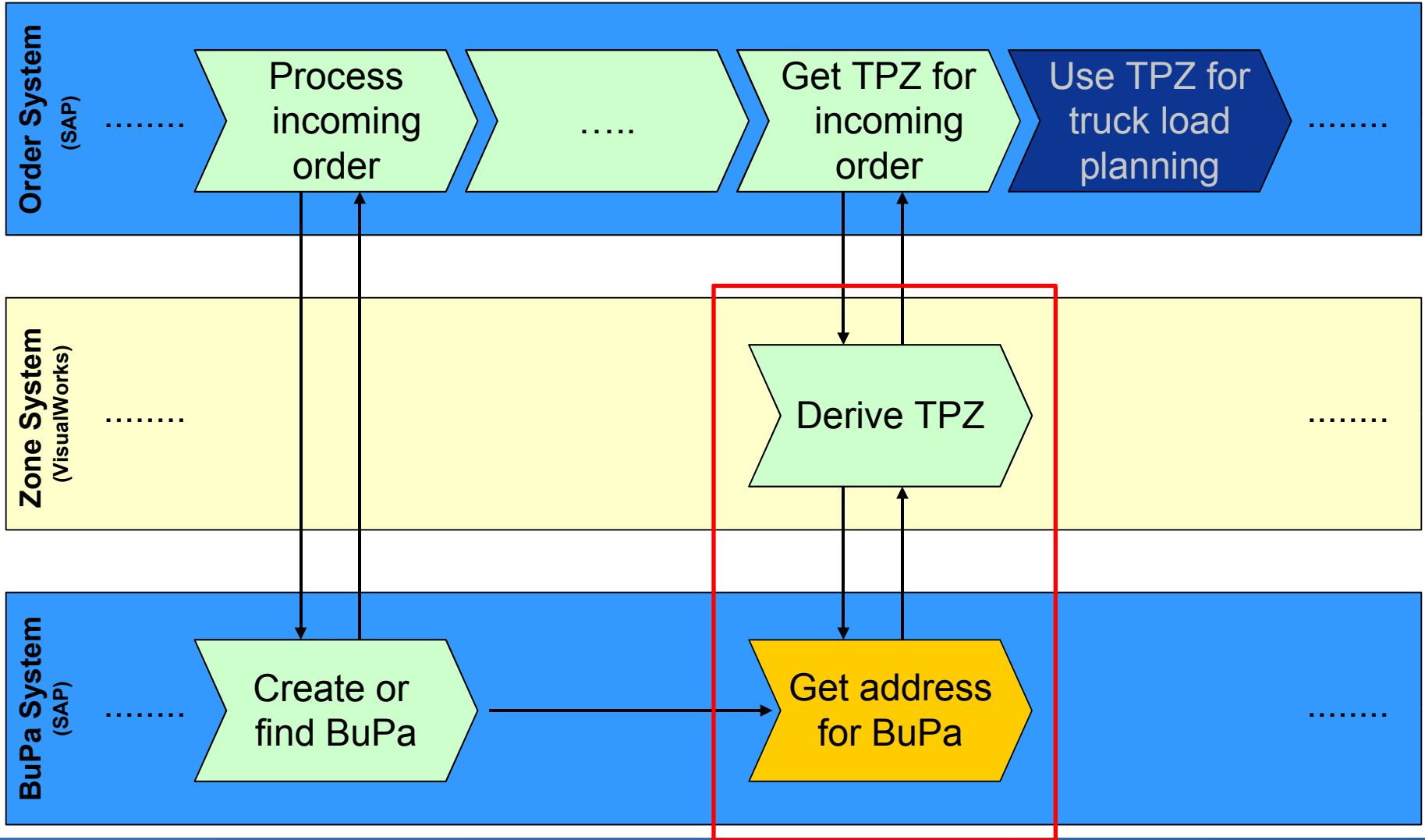
Business partner	10
Michael Schmidt	
Michael Schmidt	
Postal Code	09198
City	Walden
Street	E. Starn-Hopp-Allee
House Number	16

Zone information from Vendor

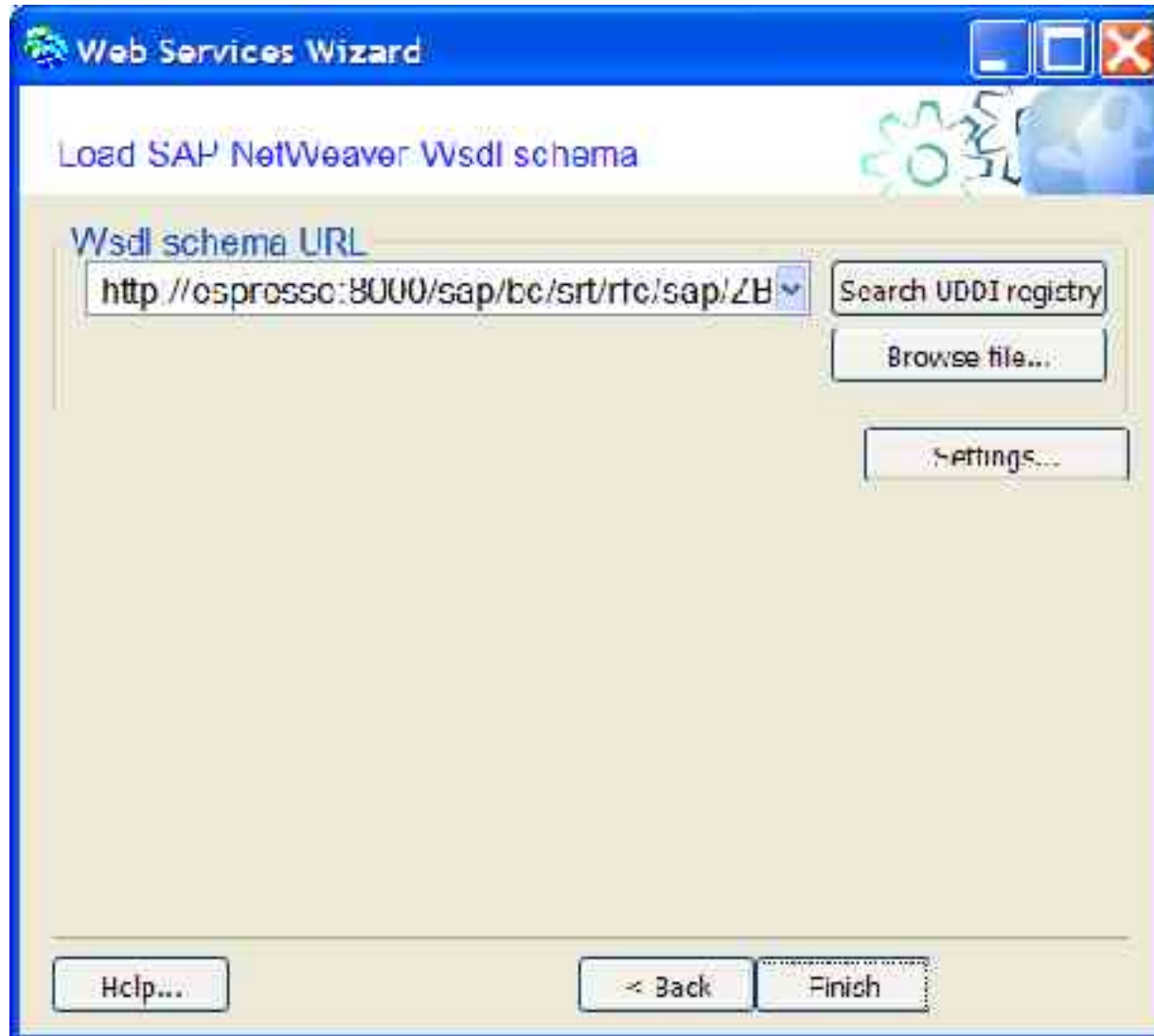
Transportation zone	00001004
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At the bottom of the dialog box, there is a status bar showing 'NSF (1) 000', 'MSPTESJ', and 'INS'.

Next Process Step



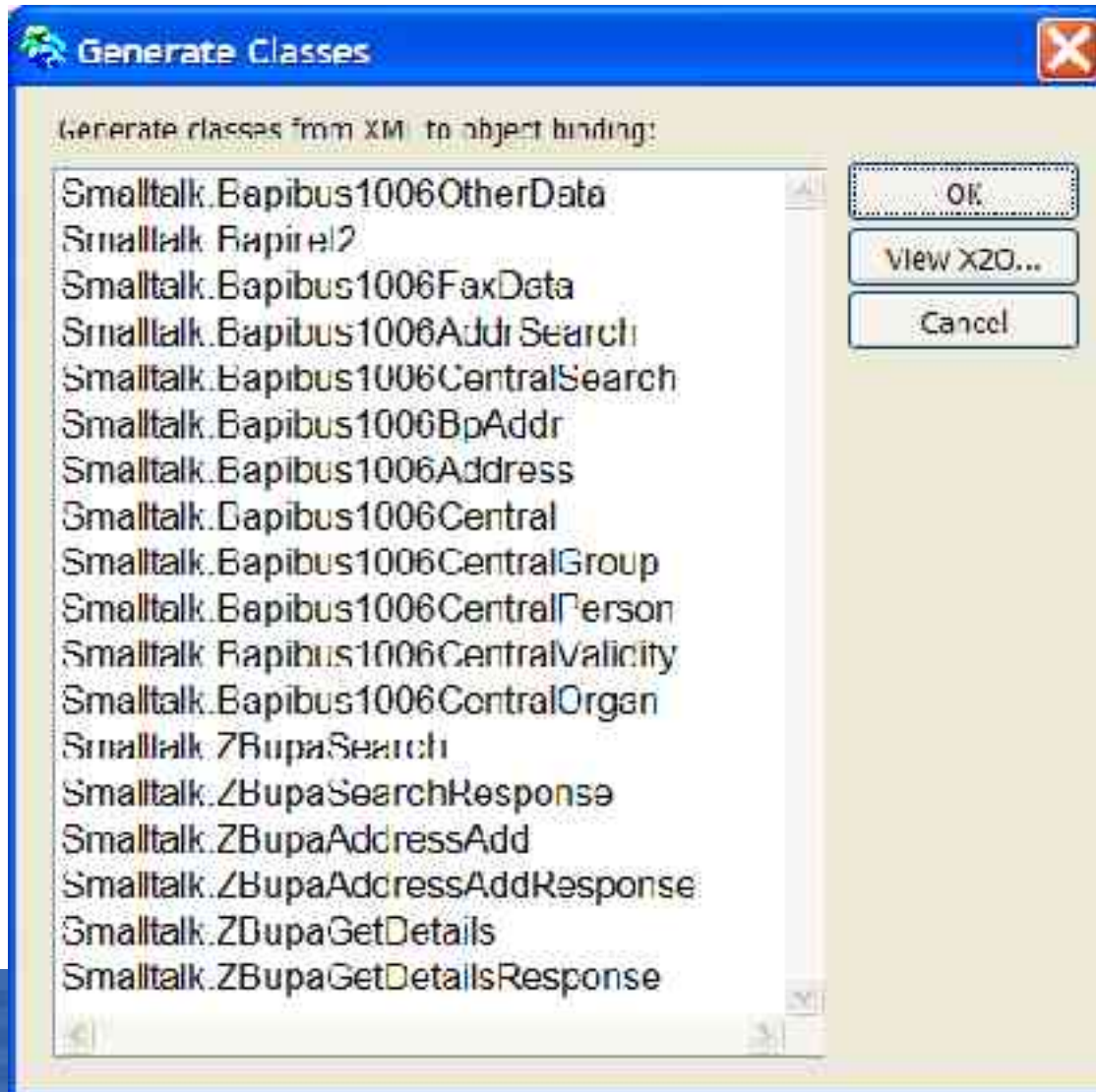
Service Import – Step 1



Demonstration

- VisualWorks Application needs additional information from Business Partner System
- Import Address Web Service Description (WSDL) into VisualWorks
- Generate Service Classes using the Service Wizard
- Create a ServiceModule

Service Import – Step 2



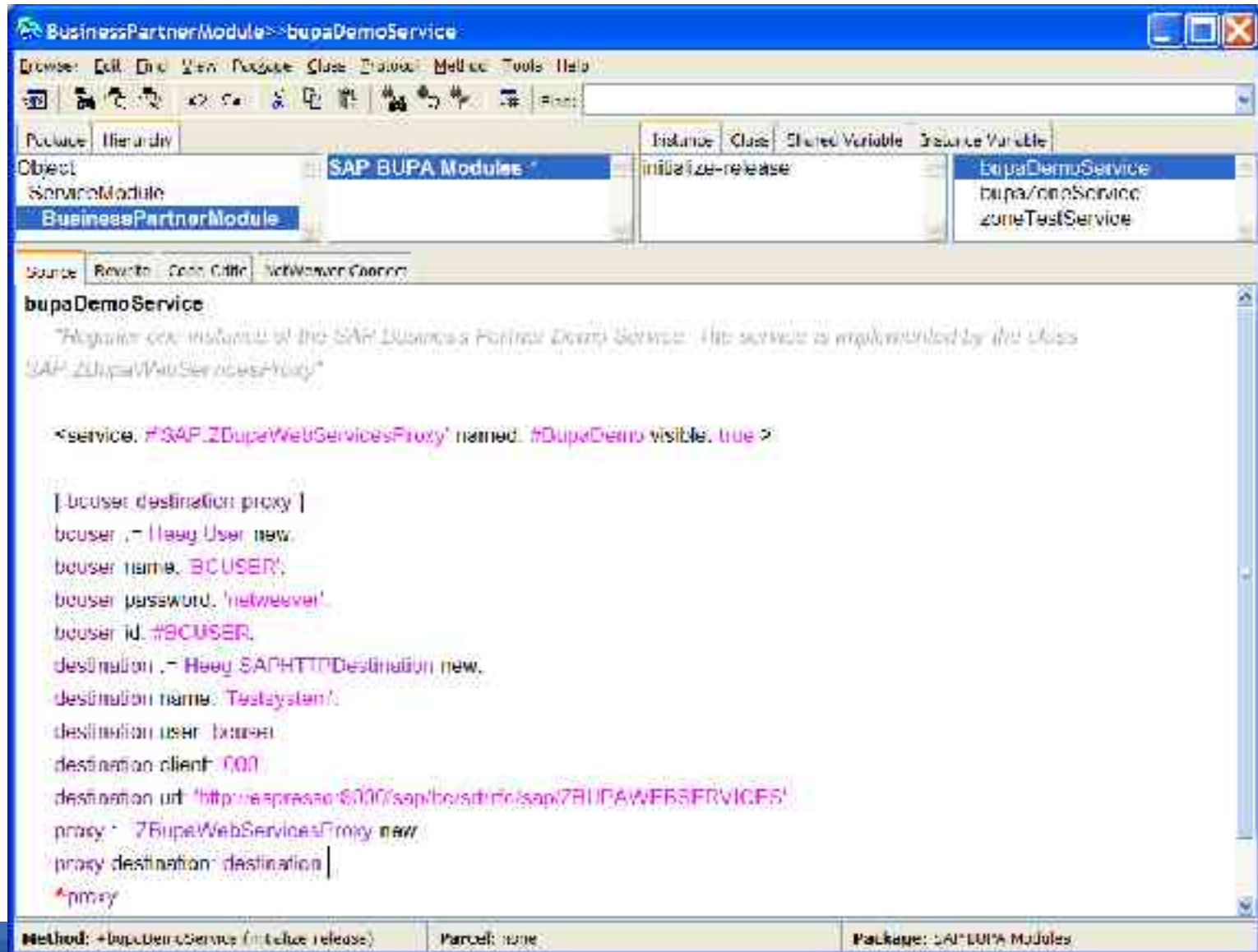
Service Import Finished

The screenshot shows the Visual Studio IDE with the following components:

- Title Bar:** WSDDefaultPackage - ZBupaWebServices >> zBupaAddressAdd:
- Menu Bar:** Browser, Edit, Find, View, Class, Method, Tools, Help
- Toolbox:** Contains icons for various development actions.
- Class Explorer (Left):** A tree view showing the project structure:
 - Bapiet2
 - ZBupaAddressAdd
 - ZBupaAddressAddResponse
 - ZBupaGetDetails
 - ZBupaGetDetailsResponse
 - ZBupaSearch
 - ZBupaSearchResponse
 - ZBupaWebServices** (Selected)
- Class View (Middle):** Shows the class hierarchy for **zBupaAddressAdd:** with a sub-view for **zBupaAddressAdd:** containing:
 - zBupaGetDetails:
 - zBupaSearch:
- Code Editor (Bottom):** Displays the generated service contract for **zBupaAddressAdd: zBupaAddressAdd**. The code is:

```
"operationName: #zBupaAddressAdd "  
"addParameter: '!'ZBupaAddressAdd type' '!'ZBupaAddressAdd "  
"result: #ZBupaAddressAddResponse "
```
- Bottom Status Bar:** Shows **Methods: zBupaAddressAdd: (public >)**, **Package: none**, and **Package: WSDDefaultPackage**.

Service Module



The screenshot shows the SAP IDE interface for the Business Partner Demo Service. The main window displays the configuration for the service module, including the package name, the service name, and the proxy configuration.

BusinessPartnerModule>>bupaDemoService

Browser: Edit, Find, View, Package, Class, Method, Tools, Help

Package	Hierarchy	Instance	Class	Shared Variable	Service Variable
Object	SAP BUPA Modules	initialize-release			bupaDemoService
ServiceModule					bupaDemoService
BusinessPartnerModule					zoneTestService

Source | Rewrite | Code Editor | NetWeaver Connection

bupaDemoService

"Register an instance of the SAP Business Partner Demo Service. The service is implemented by the class SAP_ZBupaWebServicesProxy"

<service: #SAP_ZBupaWebServicesProxy named: #BupaDemo visible: true >

[buser destination proxy]

buser := Heag User new.
buser name: BCUSER.
buser password: 'netweaver'.
buser id: #BCUSER.
destination := Heag SAPHTTPDestination new.
destination name: Testsystem.
destination user: buser.
destination client: 000.
destination url: 'http://epraso000/sap/hc/sd/trn/sap7BUPAWEBSERVICES'.
proxy := ZBupaWebServicesProxy new.
proxy destination: destination |

*proxy

Method: +bupaDemoService (initialize-release) | Parcel: none | Package: SAPBUPA Modules



Agenda

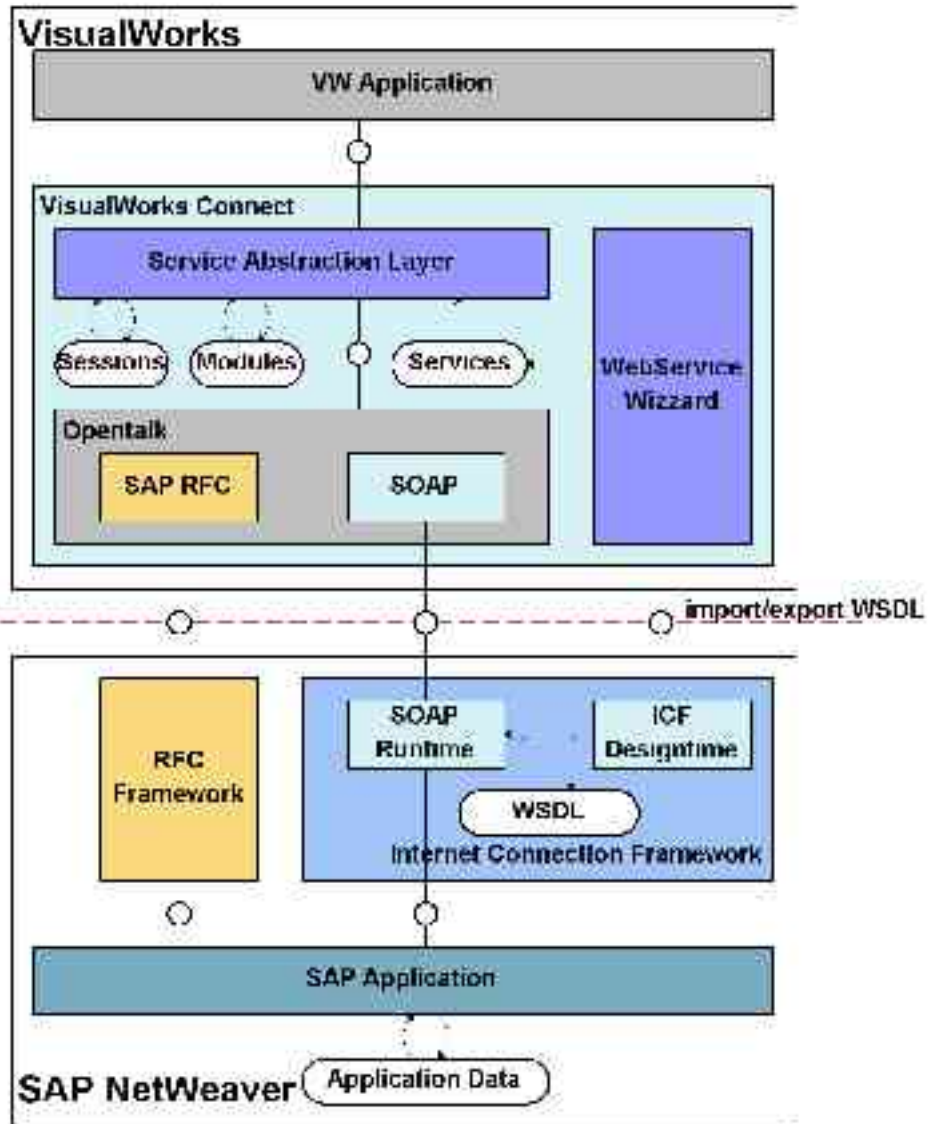
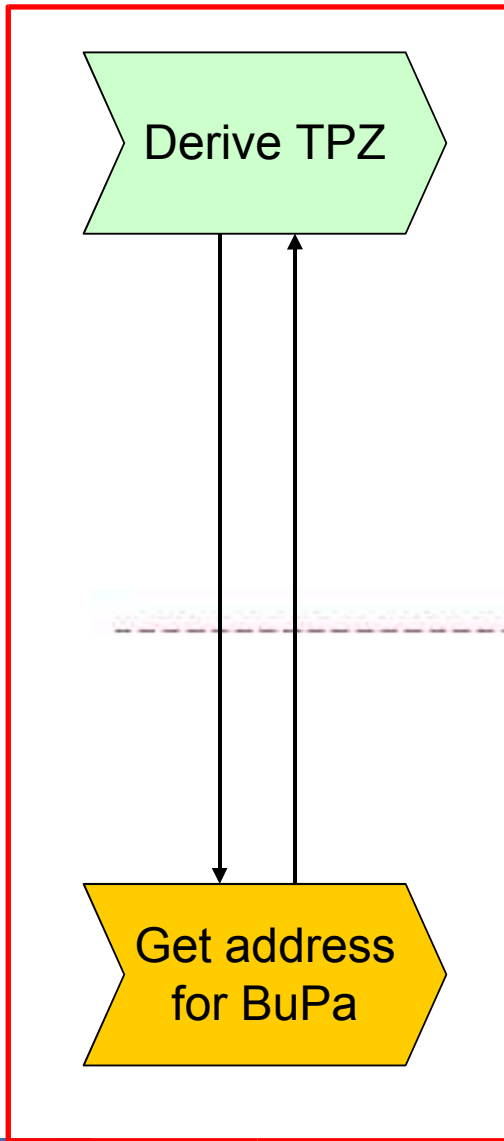
Introduction

Demonstration

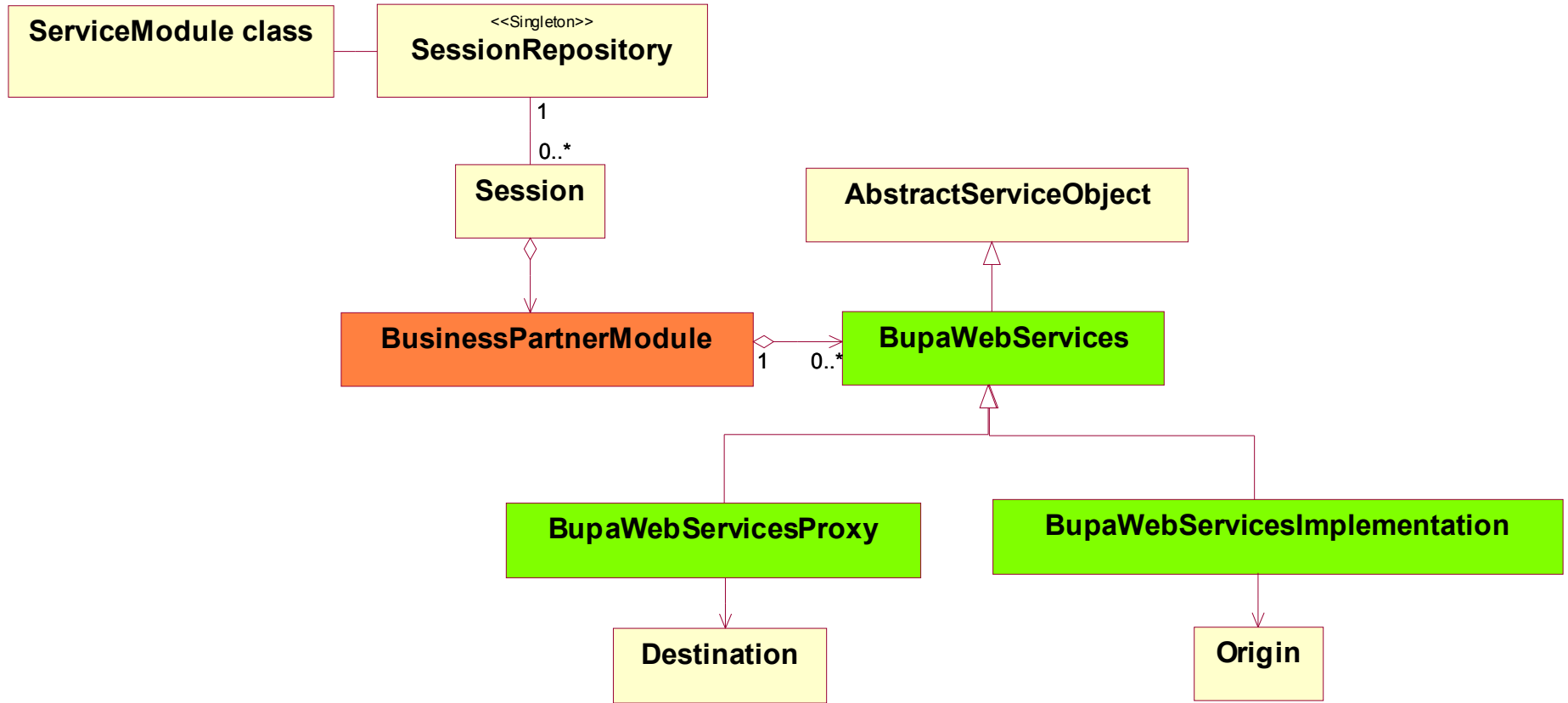
Technical Details

Outlook & Conclusions

System Architecture



Implementation Details



Implementation Details

- Show details about generated service classes
- Analogous to DLL/C external interface classes
- Start implementing application with the ServiceModule class
- Using a code tool to configure the ServiceModule
- ServiceModule is analogous to ApplicationModel

Workspace

1. ServiceEnvironment current createWebServiceBrokerAt: 4711.
ServiceEnvironment current webServiceBroker start.
3. BusinessPartnerModule startUp.
4. bupaService := Session current serviceName: #BupaDemo.
6. details := ZBupaGetDetails new.
details ivPartner: '0000000101'.
8. result := bupaService zBupaGetDetails: details

Service Module Details

- Container for named service objects
- Declaration and configuration of services
- Implementation point of higher level services
- Maintained in sessions

Details

1. **Service** classes generated from imported Service Descriptions (WSDL)
2. Service **Modules** to configure service and to maintain their state
3. Service Modules are **Session** relative

Destination Details

The term *Destination* is used in ABAP and defines a target system where one or more services can be found. Main points of interest are:

- The address of the host
- Name of service module
- Optionally authentication information
- SAP Client ID

Technical Summary

- Symmetric Approach of Services
- Session-based
- Tool support
- Easy usage



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Availability

- VisualWorks 7.5
- Beta program available

Future Development

Deeper Functional Integration

- Access to SAP BAPI repository
- Automatic access to RFC function definitions
- Access to Enterprise Service Repository

Process Integration

- XI Adapter – Business Process Management

Conclusions

- SAP NetWeaver Connect closes a white space on the NetWeaver Connectivity Map (Eco-System)
- Smalltalk's strengths such as modelling and rapid prototyping are now easily accessible at SAP
- More than 34.000 SAP Customers can choose to do their functional enhancements now with VisualWorks, too
- More than 500 SAP Partners can close white spaces in SAP's Business Application Map with certifiable applications created with VisualWorks
- In this sense SAP NetWeaver Connect makes VisualWorks a "first class citizen" in the SAP NetWeaver World



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