Session: UP108
Interactive Forms Based on Adobe Software – Overview and Customer Experiences
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Learning Objectives

As a result of this workshop, you will be able to:

- Understand the requirements in forms-based processes
- Explain the background of the SAP/Adobe partnership
- Identify business scenarios using Interactive Forms
- Know the technological foundation of Interactive Forms
- Comprehend customer rationale for using the solution
- Understand potential implementation issues
Introduction into Forms Requirements
Technology Basics
New Features in SAP NetWeaver 2004s
Interactive Forms in SAP Solutions
Customer Projects: Liebenau Foundation, Linde
Customer Case Study: Cincinnati Insurance Corp.
Summary
Introduction into Forms Requirements

Technology Basics
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Summary
Requirements in Forms-Based Processes

Need to extend business processes to more users
- Integrate internal and external users (managers, employees, prospects, customers, …) into business processes

Overcome limitations of paper-based forms processes
- Paper forms are error-prone and easily outdated.
- Processes require manual data re-entry.
- Process status is hard to track.
- Paper forms produce high costs (e.g. production, storage).

Improve electronic forms-based business processes
- Avoid redundancy of HTML, e-mail and fax documents
- Make creation of electronic forms easier and less time-consuming
- Flexibly adjust forms-based business processes
- Maintain familiar look and feel to enhance usability
SAP/Adobe Partnership Overview

SAP/Adobe Strategic Partnership
- Solution first available with SAP NetWeaver ‘04

Adobe provides
- Open technology, de-facto standard for forms
- Benefits of combination of PDF with XML

Benefits of SAP/Adobe collaboration
- Integration of Adobe’s PDF technology into SAP solutions
- Adobe Reader installed on virtually all desktops
- User-friendly forms design tool lowers cost of operations
- Reuse of existing PDF forms
- “Natural” look and feel of forms
- Close linking of processes and forms (real integration)
Streamline paper-based business processes enable new collaborative business scenarios reach new users

- Integrate interactive PDF documents into business processes driven by SAP applications
- Allow forms-based input combined with workflow to start automated follow-up steps
- Generate forms that contain data extracted from SAP systems
- Use dynamic or static forms
- Complete forms online or offline
- Submit data from the form back to SAP systems
- Allow users to print forms
Interactive PDF Form – The End User’s View

Paper-like layout
- Self-explanatory
- Natural look and feel

User Handling
- Save locally
- Distribute via email / Portal
- Apply digital signature
- Print locally

Background Services
- Structured data in XML
- Pre-filled application values
- Pre-filled list boxes, help values, ...
- Automatic data extraction and integration in application
Introduction into Forms Requirements

Technology Basics

New Features in SAP NetWeaver 2004s

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Summary
Forms Scenarios – Technical View

Online Interactive Form Scenario
- SAP system access needed
- Full integration into Web Dynpro for Java and ABAP frameworks
- Context-sensitive value help, online checks

Offline Interactive Form Scenario
- No SAP system access needed
- Static value help, static checking, simple arithmetic calculations
- Self-contained PDF (XML data+layout)

Form Printing Scenario
- ‘Classic’ form processing, not interactive
- Output documents are printed, e-mailed, archived or faxed
Full Integration into SAP NetWeaver

SAP NetWeaver™

**PEOPLE INTEGRATION**
- Multi-Channel Access
- Portal
- Collaboration

**INFORMATION INTEGRATION**
- Bus. Intelligence
- Knowledge Man.
- Master Data Management

**PROCESS INTEGRATION**
- Integration
- Broker
- Business
- Process Mgmt

**APPLICATION SERVER**
- Java
- ABAP
- DB and OS Abstraction

**APPLICATION SERVER**
- J2EE
- Adobe LiveCycle Designer
- Adobe LiveCycle Designer
- Adobe Document Services
- ABAP
- DB and OS Abstraction
Interactive Forms – Design Time and Runtime

NetWeaver Developer Studio

ABAP Workbench

SAP NetWeaver Application Server

Java PDF Object

ABAP PDF Object

Adobe Document Services

J2EE Engine
Interactive Forms – Run-Time Architecture

SAP NetWeaver Application Server

J2EE Stack
- Application Code (Java)
- PDF Object (Java)
- Web Services
  - SOAP
- Web Services
  - Document Service EJB
- Adobe Document Services

ABAP Stack
- Application Code (ABAP)
- PDF Object (ABAP)
- Web Services
  - SOAP

Application Server
- J2EE
- ABAP
  - Adobe LiveCycle Designer
  - Adobe Document Services
  - DB and OS Abstraction
Adobe LiveCycle Designer in Developer Studio

- Script Editor
- Designer Tools Palette
- Data Schema
- Web Dynpro Environment
- Tools Palette
Adobe LiveCycle Designer in ABAP Workbench

Design and Tool Palettes

Data Schema

Field Description
Adobe is an active supporter of SAP’s Enterprise Services Architecture

Interactive Forms is designed to be fully compliant with the Enterprise Service Architecture

Interactive PDF forms can act as a client to access SAP enterprise services

Adobe document services in SAP Web AS are accessed through SAP’s Web Services technology

* See SAP Press Release from May 18, 2005: “Technology Titans Align Around Enterprise Services Architecture from SAP to Provide “Enterprise Services-Ready” Solutions”
| Introduction into Forms Requirements |
| Technology Basics |
| **New Features in SAP NetWeaver 2004s** |
| Interactive Forms in SAP Solutions |
| Customer Projects: Liebenau Foundation, Linde |
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| Summary |
News in SAP NetWeaver 2004s – Security

Document certification and signing on the server
- Ensures that the form recipient can trust the identity of the form creator

Validation of certified documents on the server
- Ensures that the form template of incoming forms was not modified

Validation of digital signatures on the server
- Validates the identity of the person(s) who signed the form
- Allows to discover changes to the form data after signing

Document permissions (e.g. do not allow printing)
Wizard-based table design

Create tables (in particular for output) easily with the assistance of a user-friendly wizard.
Dynamic PDF forms

- Design and generate forms which can dynamically expand in Adobe Reader (to, for example, add a new order line item to an order form)
News in SAP NetWeaver 2004s – ABAP

- Enablement of solution for high-volume print scenarios
- Shipment of hundreds of print forms created in Interactive Forms with mySAP ERP 2005
- Integration into Web Dynpro for ABAP
  - Create Web applications using interactive PDF forms in the ABAP Workbench
- XML Forms Interface
  - Generate forms context from XML schema
Zero-install Adobe Reader/Web Dynpro integration

- Platform- and browser-independent Integration

Support for complex script languages

- Hebrew, Arabic, Thai, Vietnamese

Dynamic status change for groups of fields

- Set the status of several fields to visible/invisible, read-only/editable, mandatory/optional
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Summary
## Interactive Forms – SAP Integration Environments

<table>
<thead>
<tr>
<th>Environment</th>
<th>Availability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guided Procedures (for offline forms-based workflow processes)</td>
<td>SAP NetWeaver 2004s</td>
</tr>
<tr>
<td>Internet Service Request (for online forms-based workflow processes)</td>
<td>mySAP ERP 2004</td>
</tr>
<tr>
<td>Web Dynpro for Java (for application development with standard UI technology)</td>
<td>SAP NetWeaver 2004</td>
</tr>
<tr>
<td>Web Dynpro for ABAP (for interactive application development in ABAP)</td>
<td>SAP NetWeaver 2004s</td>
</tr>
<tr>
<td>ABAP Workbench (for high-volume printing, transaction SFP)</td>
<td>SAP NetWeaver 2004</td>
</tr>
<tr>
<td>Enterprise reporting (for printing dynamic BI tables)</td>
<td>SAP NetWeaver 2004s</td>
</tr>
</tbody>
</table>
Guided Procedures is the process layer of SAP’s Composite Application Framework (CAF) in SAP NetWeaver

- Offers flexible, highly functional workflow environment
- Enables users to easily set up and execute collaborative business processes
- Provides reusable templates for actions
- Leverages existing systems
- Uses Web Dynpro user interfaces
Guided Procedures: The Principle

Guided Procedures: Lead through the workflow and enable tracking of the process

Interactive Forms: Steps can be completed offline

1. Find form
   - Requestor

2. Add data
   - Specialist

3. Approve
   - Manager

4. Create Master Data
   - Enterprise Services Architecture

Notifications triggered by Guided Procedures
Example: Channel Marketing in mySAP CRM

Interactive Forms

Lead processing with Interactive Forms based on Adobe software provides partners with the option to follow-up on leads without the need to log on to a partner portal.

- Lead Management with Channel Partners – without Partner Portal
- Lead distribution simply via e-mail and attached PDF form
- Lead processing by partner directly within interactive form
- Reply from channel partner updates the lead in SAP CRM
Lead Processing with Interactive Forms

Brand Owner (mySAP CRM)

Lead 4711
Sales Partner:
ED Systems

Lead 4711.pdf

E-Mail:
„Lead 4711“

E-Mail Client + Adobe Reader

Internet

E-Mail:
„Lead 4711“
(updated)

From: Brand Owner
To: Channel Partner ED Systems
Cc:
Subject: Distributed Lead
Attachments: Lead4711.pdf

Dear Channel Partner,
The Interactive Form in Lead Processing

E-Mail Notification

Attached Form

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Web Dynpro for ABAP

- Model-based UI development
- Independent of client technology
- Central implementation of user interface standards

SAP NetWeaver Portal

Web Dynpro iView
Web Dynpro iView

ABAP Web Dynpro Runtime

Web Dynpro App

ABAP Workbench

ABAP Server

Business API (BAPI, Web Services)

Business Data
Example: Invoice Management System

Process for Exception Handling – mySAP ERP and mySAP SRM

Inv. Clerk

Invoice entered
Goods receipt not posted

Using Invoice Management System

Post goods receipt
Post invoice

Interactive Form via e-mail

IT Service

Interactive Form with goods receipt quantity

Using e-mail client

Invoice Management System

Interactive Form with goods receipt quantity

Using e-mail client

Complete Interactive Form
The Interactive Form in Invoice Management

The fields that led to the exception are highlighted in color or indicated with a symbol (\(\text{\textcircled{E}}\)).

Invoice 4289

Forward Invoice

Terms of Payment: Payment To: Blacktown, Manzana, 66300

Highlight fields

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Internet Service Request and Web Dynpro for Java

**Design Time**
- Customizing: ISR Framework in SAP R/3
- Form Design: Adobe LiveCycle Designer integrated in ABAP Workbench

**Run Time**
- Web Dynpro application running in SAP NetWeaver Portal
- Online scenario
Example: SAP Manager Self-Services

Roadmap

Contextual Assistance

Interactive Form Object

Navigation Buttons
The Interactive Form in SAP Manager Self-Services
ABAP Workbench: Form Builder

ABAP Workbench (SE80)

Transaction SFP
Example: mySAP ERP Print Forms

International forms (globalized and localized) in all ERP areas.
Enterprise Reporting: Printing a BEx Web Application

- Broadcast PDF file
- Broadcast to printer
- BEx Broadcaster
- BEx Web Application (containing e.g. Web Item Report and other Web Items)
- BEx Report Designer
- BEx Web Application Designer
- Printing
- PDF

Other Broadcasting options…
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Summary
Objective: Gather feedback on performance of occupational therapy participants from external workshop supervisor

Solution: Evaluation questionnaire using Interactive Forms

Workflow:

- Health organization creates PDF questionnaire pre-populated with individual patient data
- Health organization e-mails form to workshop supervisor for participant evaluation
- Workshop supervisor completes form and e-mails back to health organization
- System extracts data from PDF and updates SAP for Healthcare patient file
- Read-only filled-in PDF is stored in SAP Records Management
Offline Interactive Scenario by SAP Customer

Workshop supervisor

Evaluation form

Pre-fill with patient data

Send back by e-mail

Create passive PDF and file form in Records Management

RM File

IS-H / RM

Extract data

Update data

Z table

XML
Benefits for Customer Liebenau Foundation

- Integration of SAP Healthcare, SAP Records Management and Interactive Forms in SAP NetWeaver

- Enablement of offline processes for remote employees without direct system access

- Backend system data is accurate, complete and up to date
**Objective:** Improve quality of suppliers to reduce production costs

**Solution:** Supplier qualifications using Interactive Forms
Project Scope

New Application to evaluate and grade suppliers

- Definition of the data extraction interface for SAP NetWeaver BW
- Definition and realization of the data model
- Installation and configuration of the SAP NetWeaver Portal 6.0 and the SAP NetWeaver Web AS 6.40 (Java)
- Determine the calculation of supplier ratings and create the required BW reports
- Definition and development of a new web application consisting of:
  - Survey application with online and offline data capturing using Interactive Forms based on Adobe software
  - Business Warehouse web reporting
- Implementation of a common access using user mapping
Supplier Audit Workflow

1. Search supplier and request supplier evaluation
2. Open and edit audit form (Interactive PDF form) in Adobe Reader/Web Dynpro
3. Download form from portal
4. E-mail form to contact person at supplier
5. Complete survey form
6. E-mail back to Linde
7. Add supplier ratings to form
8. Upload form via SAP Portal into BW

Background Processing:
- Calculate ratings from survey
- Determine overall evaluation based on subjective (survey) and objective (ERP data & KPIs) factors
- Display overall evaluation via reports in SAP Portal
1. The evaluation data model is stored in BW tables.

2. ABAP function modules deliver the necessary data to the Java Web Dynpro application.

3. The data is merged into the appropriate form fields using Adobe Document Services.

4. The pre-filled form is received by the Web Dynpro application.

5. Display form in Reader embedded in Browser.

6. Download.

7. Upload.


9. Form data is submitted to SAP BW using ABAP function modules.

10. The data is loaded into BW tables.
The Value of SAP Custom Development

**REAL CHALLENGES**
- Have unique business processes and need unique software solution
- Run disparate systems needing intensive integration
- Require custom developments to fit with SAP release strategy
- Lacking internal talent for custom development initiatives
- Minimize long-term maintenance costs for custom applications

**PREMIER ORGANIZATION**
- 6 development centers worldwide
- 600+ employees
- 200+ projects in 2004
- 45% growth in 2005 headcount
- Leverages $1.5 billion in SAP R&D

**DELIVERED VALUE**
- Enables innovation while addressing unique business requirements
- Accelerates time to market
- Leverages 30+ years of development experience
- Mitigates business risk
- Increases return on SAP investment
- Protects investment with long-term maintenance options
Business Process and Requirements

Business Process Highlights

- The independent Agents register ~30,000 claims per year, resulting in about 60,000 handwritten checks per year.
- Copy of check and supporting documents are faxed to Financial Services Company where a group of claim processors verify submitted information, research incorrect or missing information and manually create a claim in SAP’s Claim Management System.

Challenges

- Comply with SOX Act and reduce exposure to fraud.
- Increase data accuracy and integrity.
- Easy to use for occasional users.
- Hide complexities of claim creation.
- Hardware/software requirements.
- User authorizations.
- Timely notification of financial institutions.
Solution Overview

Solution

SAP NetWeaver 04 based fraud-prevention check management solution that supports the regulatory Sarbanes Oxley act and consists of the following modules:

- Secure web based application through the company’s intranet using SAP Web Dynpro and Interactive Forms based on Adobe software for clients to capture, query and validate payment and claim data and produce a bank check
- Back end application for maintenance and reconciliation
- Interface to SAP Claims Management System for automatic claim creation
- Web service for authorizations
- Automatic notification for financial institutions („Positive Pay“)
Customer Case Study: Financial Services Company

- Solution in production since August 2005
- Adobe forms hosted in Web Dynpro screens
- Web Dynpro controls execution flow
- Enhanced security features
  - Encrypted forms
  - Edited forms can not be printed
  - Lock forms from being edited once completed
  - Delete temporary files from local drive
Customer Case Study: Financial Services Company
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Customer Case Study: Financial Services Company

AGENCY PAID CLAIM -- Fax Coversheet
One claim per fax - Include supporting documents

Check #:

Claim Number:

To: Cincinnati Insurance Companies
   Claims Main Desk

Fax: 1-877-242-3665
   (1-877-CIC-FNOL)

Date: 08/04/2005  Time: 9:55:13

From: John J. & Thomas R. Schiff & Company, Inc. (34302)

Agency Contact: Testing Account CMS

Re: Submission of supporting documents for agency-paid claim

Policy Number:  Date of Loss:

Pages: (inc. coversheet)

(Additional information on the image is not transcribed due to its nature as a graphic representation.)
Customer Case Study: Financial Services Company

```
Insured Name:

Reported to Agency*:
Loss Description*:

Cat #:
Incident/Claim Type:
Coverage/Benefit Type:
```

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## Customer Case Study: Financial Services Company

![CheckWritingApp - Microsoft Internet Explorer](image)

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<tr>
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<td>Agency*</td>
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</tr>
</tbody>
</table>

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Customer Case Study: Financial Services Company
Customer Case Study: Financial Services Company
Delivered Solution

Back end data management
- Data initially saved on WAS 6.40 ABAP stack
- Sweep program moves check data to R/3
- Update program in R/3 to update proper tables
- Cockpit for processors to act on incoming check data
- Transmission to Positive Pay
- Posting to SAP Claims Management via DI
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Summary
Interactive Forms based on Adobe software provide substantial benefits, because they …

- Automate and streamline forms-based business processes
- Are fully integrated into SAP NetWeaver
- Are available to any SAP solution
- Combine the benefits of the open technology standards XML and PDF
- Can be deployed in online and offline scenarios
- Cover high-volume print requirements
Further Information

Public Web
SAP Developer Network: www.sdn.sap.com
Web Application Server Quick Link Interactive Forms: Featured Content
Adobe: www.adobe.com/sap
SAP Customer Services Network: www.sap.com/services/

SAP Service Marketplace
http://service.sap.com/adobe

Related SAP Education Training Opportunities
http://www.sap.com/education/
BC480: PDF-Based Print Forms with the Interactive Forms Solution

Related Workshops/Lectures at SAP TechEd 2005
CD151, Creating PDF-Based Forms for Printing, Hands-on
CD154, Scenarios with Interactive Forms in Web Dynpro, Hands-on
CD258, Putting It All Together – Application Development in SAP NetWeaver
Q&A
Feedback

Please complete your session evaluation.

Be courteous – deposit your trash, and do not take the handouts for the following session.

Thank You!