

# SAP Smart Forms - Form Printing in the Internet Age

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# SAP Smart Forms: Output to Printer or Browser

## State-of-the-art form printing

- Enjoyable graphical user interface
- No programming skills required
- Minimal implementation costs

## Internet applications using Interactive Webforms

- XSF: XML for Smart Forms
- Solutions and scenarios
  - ◆ IS-Healthcare: Insurance verification processing
  - ◆ Converge, Inc.: XML data exchange using XSF
  - ◆ Internet Marketing: Personalized e-mails

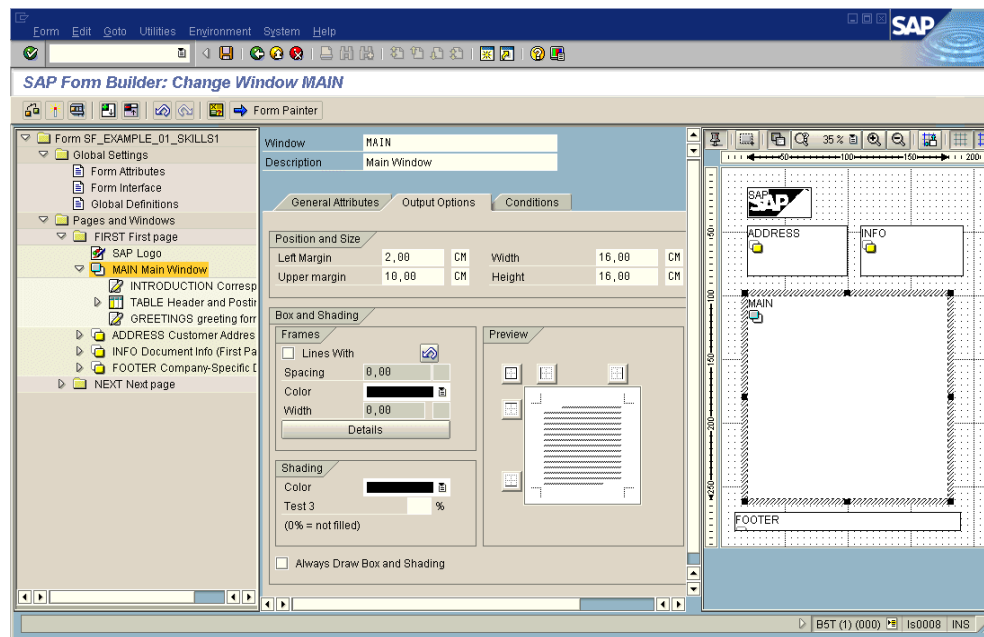


# SAP Smart Forms – SAP's Form Printing Solution

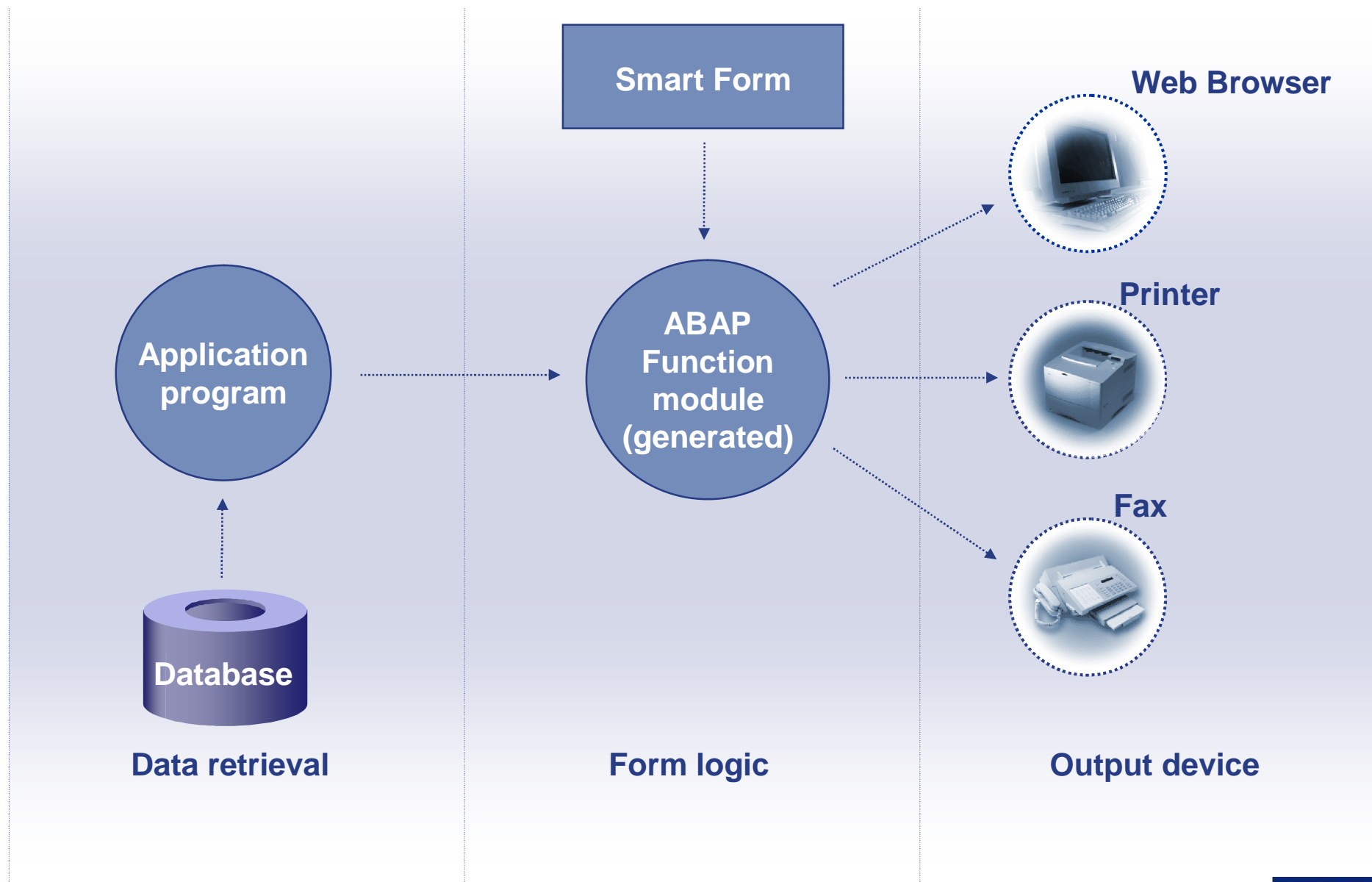
- Users can easily create/adjust forms:  
Minimal implementation costs
- Enjoyable graphical user interface:  
No programming skills required
- Interactive Webforms based on generated XML output  
(XSF, Basis Release 4.6C; HTML+XSF, SAP Web AS 6.10)

- Smart Forms are delivered for various central business processes  
(starting with CRM 2.0; BBP; SD, FI, HR 4.6C)

- Migration of SAPscript forms supported



# SAP Smart Forms - Architecture



# Form Builder

The screenshot shows the SAP Form Builder interface for editing a form window. The interface is divided into three main sections:

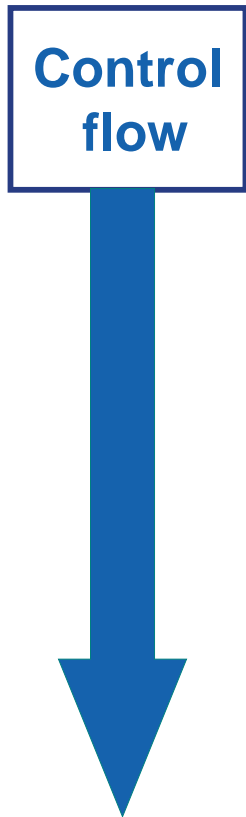
- Navigation tree:** Located on the left, it shows a hierarchical structure of the form. The selected node is "MAIN Main Window".
- Attributes (of selected node):** Located in the center, it displays the properties of the selected node. The "Position and Size" tab is active, showing the following values:

Property	Value	Unit
Left Margin	2,00	CM
Upper margin	10,00	CM
Width	16,00	CM
Height	16,00	CM
- Form Painter:** Located on the right, it shows a visual representation of the form layout. The form contains a SAP logo, an ADDRESS field, an INFO field, and a FOOTER field. A red dashed box highlights the selected node in the navigation tree and its corresponding area in the form painter.

Annotations in the image include:

- A yellow box labeled "Selected node" with an arrow pointing to the "MAIN Main Window" in the navigation tree.
- A white box labeled "Navigation tree" with a red border around the left sidebar.
- A white box labeled "Attributes (of selected node)" with a red border around the central property panel.
- A white box labeled "Form Painter" with a red border around the right-hand design area.

# Control Flow and Conditions



**Nodes with condition(s) are marked**

Field Name	Comparison Value
CUSTOMER-ID	< 50

**Condition must be met before node is processed**

And Additional Events

- Only on First Page
- Not on First Page
- Only After End of Main window
- Only Before End of Main Window
- Only on Page

# Window Types

Windows are output areas on your design page

Various window types

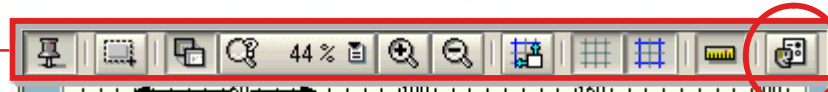
- **Main window:** For continuous output (e.g. table output)
- **Secondary window:** For output with a fixed length
- **Final window:** Special secondary window for output of information that is not available until the end of form processing (as of SAP Web AS 6.10, for older releases see SAPnet note 359009)
- **Copies window:** Special secondary window for marking pages as copy or original (as of SAP Web AS 6.10)

Additional output areas

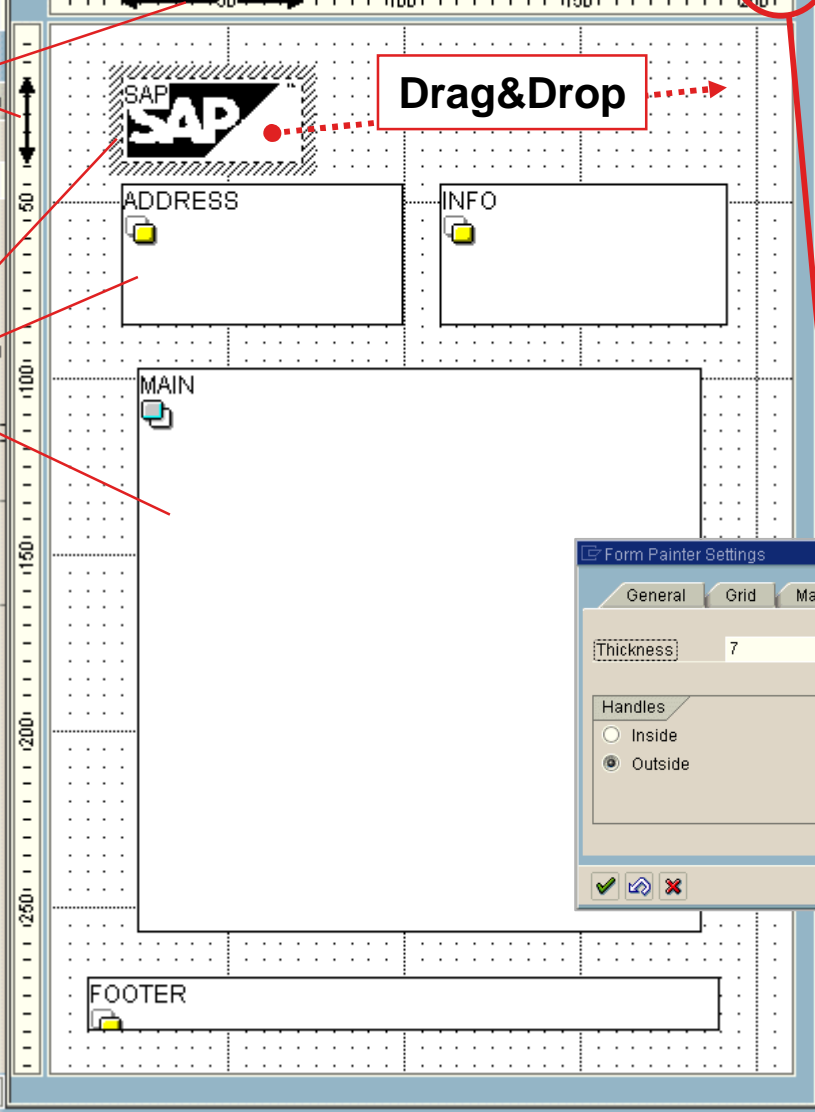
- **Graphic node**
- **Address node**

# Graphical Form Painter - Overview

Toolbar



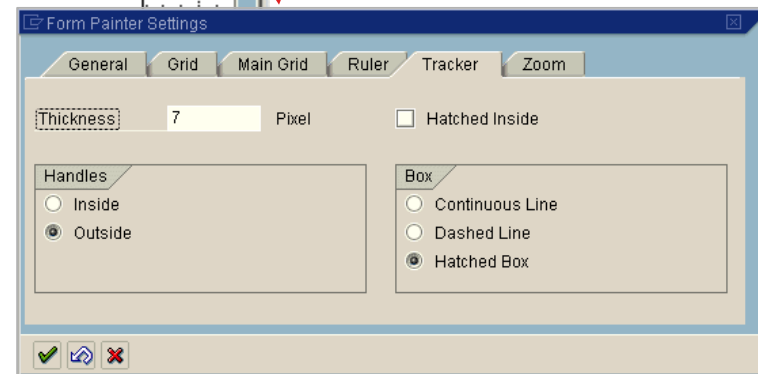
Ruler with size of selected window



Windows for text and graphics

Personal settings

- zooming
- grid
- ruler
- etc.





# Graphical Form Painter - Design Area

The screenshot shows the SAP Graphical Form Painter Design Area. The form is titled "8D Report" and is overlaid on a grid. The form includes the following sections:

- ADDRESS:** E.B Earlin, Jakoballe 25, D-12001 BERLIN
- INFO:** Name: Fischer, Abt., Telephone, Telex
- Deadline monitoring:** Table with columns: Date, Start, Analysis, Defect cause, Short term, Long term, Solution.
- 1. Reference:** Table with columns: REFERENCE, Notification date, Complaint date, Complaint obj.
- DESCRIPTION:** Description field
- CAUSE:** Cause field
- RESPONSIBLE:** Responsible field
- MAIN:** Main-term solution (activities) field
- 5. Long-term solution (basics):** Long-term solution field
- 6. Identification of delivered material:** Identification of delivered material field
- 7. Check statuses of corrective tasks:** Check statuses of corrective tasks field
- 8. Comment:** Comment field

## Design support

- Two-level grid
- Window position
- Cursor position with gridlines
- Autozooming
- Background display

## Changing windows

- Drag & drop
- Snap to grid
- Autoscrolling

## Context menu

# Texts and Fields - Concepts

For text output a *text node* is used

Three text types

- **Text elements (locally in form)**
- **Text modules (for reusing texts)**
- **Include texts (for including SAPscript texts)**

No commands in text nodes

- **Besides text only fields are allowed**
- **SAPscript commands in Include texts are ignored**

Fields are global variables of a form

- **Interface parameters: Data transferred from application program**
- **Global data: Additionally required variables (e.g. for work areas)**
- **System fields: For special purposes (e.g. date, page number)**

Fields can be used in text nodes and to set attributes dynamically

- **For example, to decide dynamically which graphic to include**

# Texts and Fields - Field list and Inline Editor

SAP Form Builder: Change Text INFO\_TEXT

Form Painter

Text: INFO\_TEXT  
Description: Clerk & Company

General Attributes | Web Properties | Output Options | Conditions

Text Type: Text Element | Start Time: New Paragraph

Paragraph Formats: AS | Character Formats: Invoice

Administrative clerk: Mr. Jones  
Telephone: +1/2 12/99 10 99  
Telefax: +1/2 12/99 12 99  
Signed: 39999 / 2000  
Customer number: &CUSTOMER-ID&  
Date: &SFSY-DATE&\*

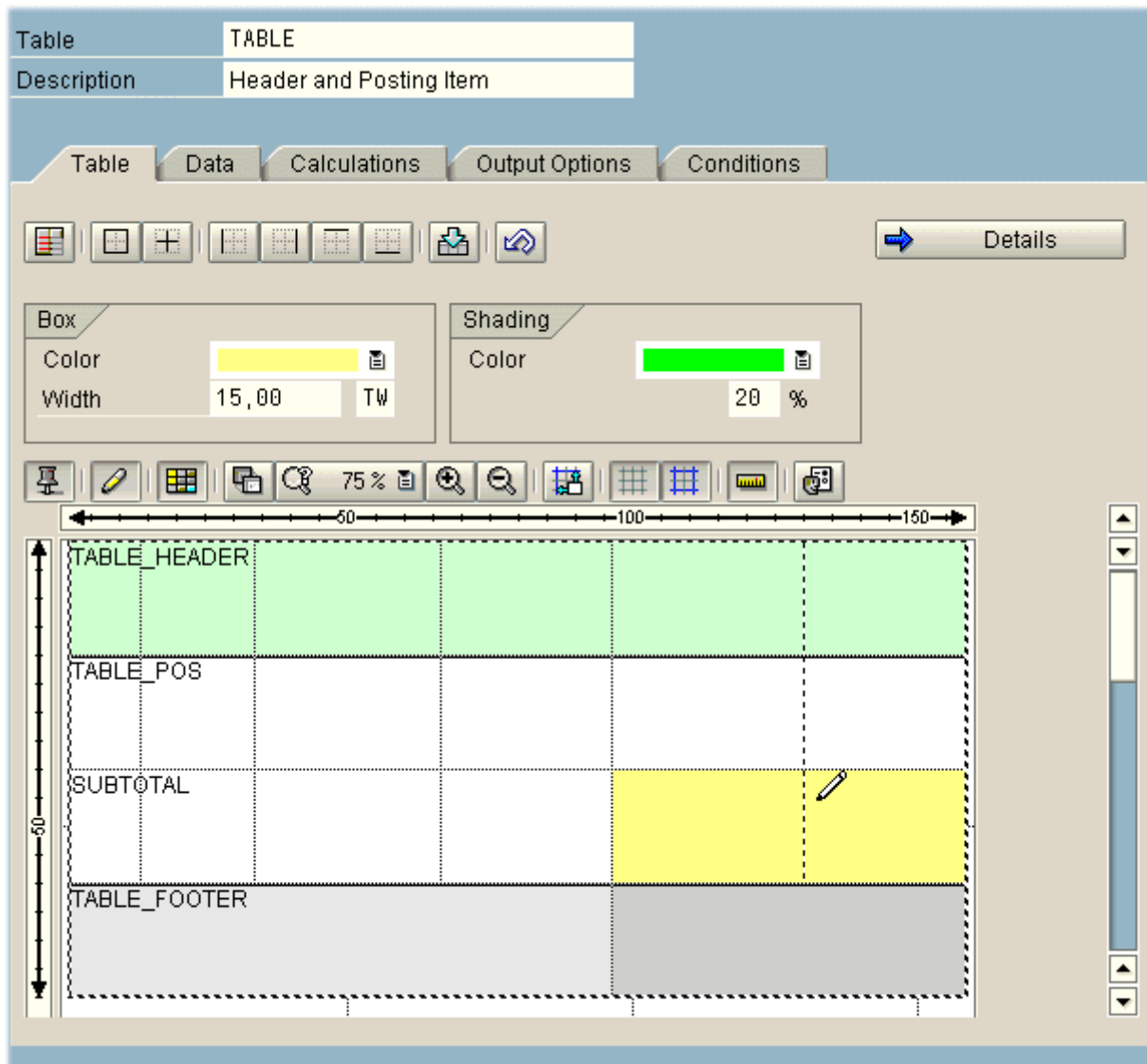
Field list

Drag&Drop

Paragraph and character formats

- **Belong to a Smart Style**
- **System displays only available formats of current style (corporate identity)**
- **Each Smart Form must have one global style**
- **Global style can be overwritten by local style**

# Table Output - Graphical Table Painter



For the design of tables and templates

Similar handling to Form Painter

- **Snap to grid**
- **Autozooming**
- **Context menu**
- **Ruler**
- **Personalization**

Boxes and shading (6.10) for line types

# Table Output - Content

The screenshot shows the SAP Form Builder interface for configuring a table. The main window is titled 'SAP Form Builder: Change Table TABLE'. The table is named 'TABLE' and has the description 'Header and Posting Item'. The configuration is set to 'Internal Table' with the name 'BOOKINGS' and 'INTO' table 'WA\_BOOKING'. The 'LOOP Loop' section is active, showing a 'WHERE Condition' and 'Sort Criteria' for the field 'CARRID'. A yellow callout box points to the 'LOOP Loop' section with the text: 'Loop through internal table = Loop through main area'. The left-hand tree view shows the form structure, including 'Global Settings', 'Pages and Windows', and 'TABLE Header and Posting Item' with sub-elements like 'Header' and 'Main Area'.

Convenient table processing

- Headers and footers
- Sorting
- Display output (e.g. subtotals) after sort levels

Automatic calculations (as of 6.10)

- Totals, average, number

# Local and Global Checks

The screenshot shows the SAP Form Builder interface. The main window displays a form field with the text 'ADDRESS' and description 'Customer Address'. The field's content is a concatenation of data objects: `&CUSTOMER-FORMN&`, `&CUSTOMER-NAME&`, and `&CUSTOMER-STREET&`. The field name 'ADDRESS' is circled in red. Below the form, an 'Error Messages' dialog box is open, listing three errors:

Type	Node	Error
Warning	FIRST	Enter a graphic name or a valid field
Error	ADDRESS	The data object "CUSTOMER" has no component called "FORMN", but there is a component called "FORM".
Warning	ADDRESS	Field CUSTOMER-FORMN has no defined value

List of error messages with navigation to corresponding node

Check if fields exist

Warnings for fields that might have no value

# Other Features

## Localization

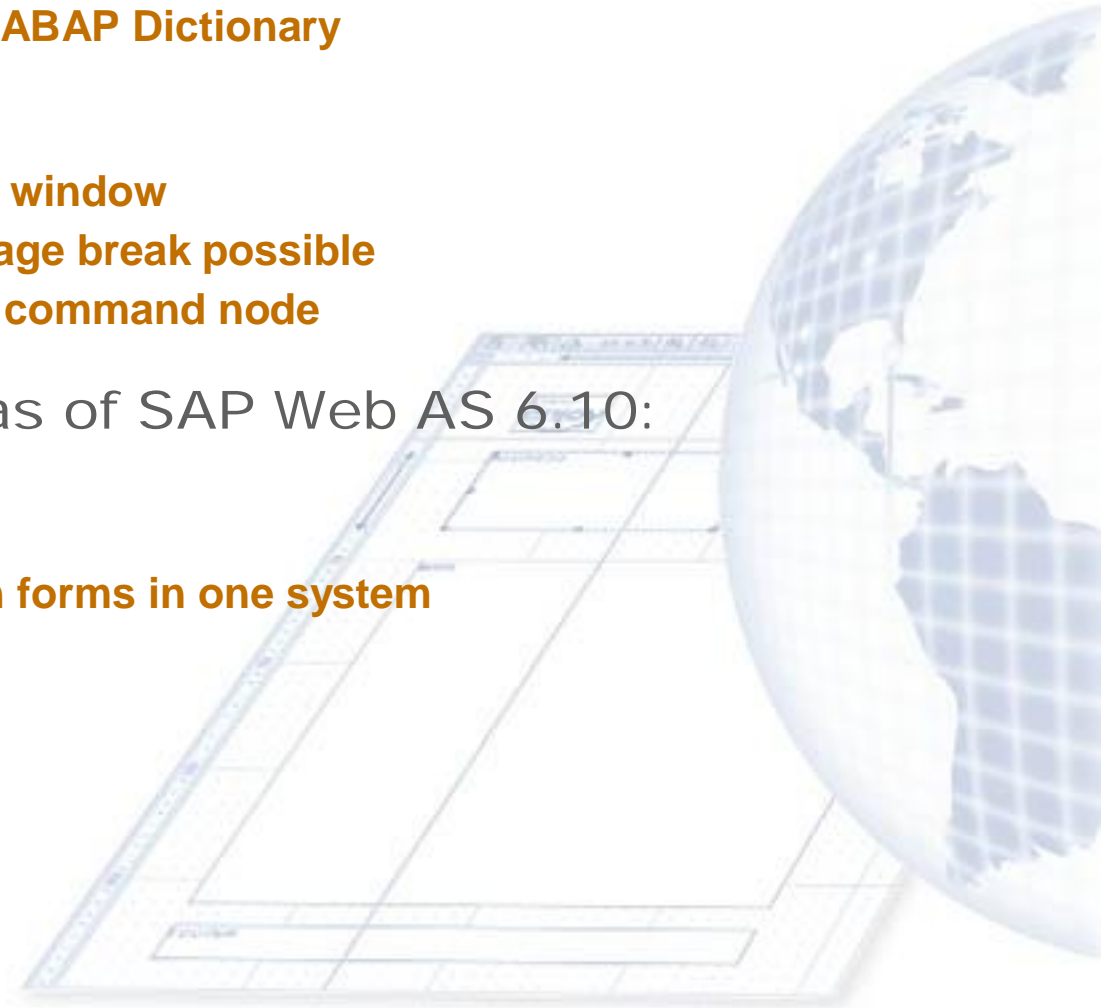
- **Address node (use of Business Address Services)**
- **Currency relations drawn from ABAP Dictionary**

## Page breaks

- **Automatic page breaks in main window**
- **Protection against automatic page break possible**
- **Dynamic page breaks by using command node**

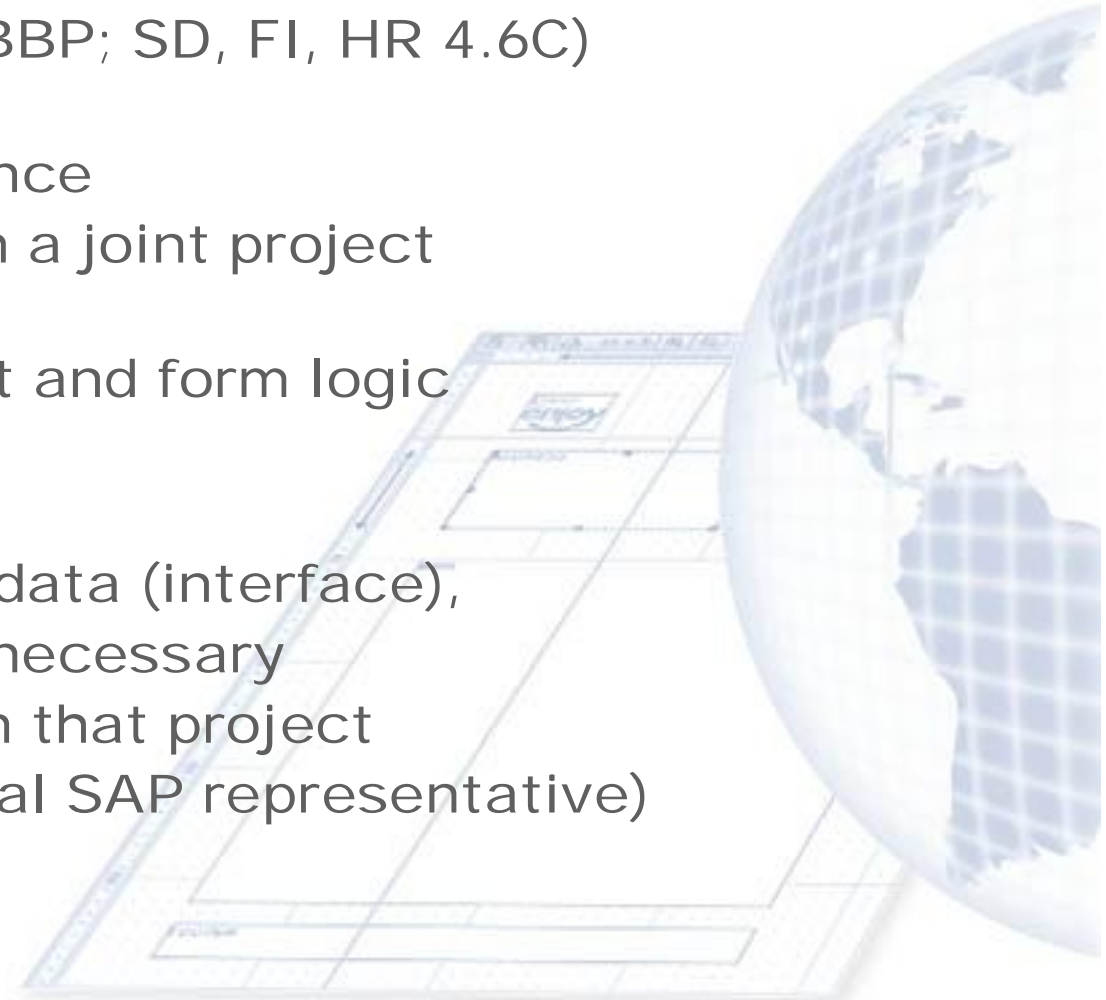
## Additional new features as of SAP Web AS 6.10:

- **Undo/Redo of actions**
- **Upload/Download using XML**
- **Copy of form subtrees between forms in one system**



# Form Printing using SAP Smart Forms

- Many customers use SAP Smart Forms for their productive form printing in central business processes (starting with CRM 2.0; BBP; SD, FI, HR 4.6C)
- You may ask for assistance (from SAP or partners) in a joint project
- Your favorite form layout and form logic is done by yourself
- If you specify your form data (interface), SAP can implement the necessary data retrieval program in that project (please contact your local SAP representative)





# Smart Forms: Interactive Webforms

## XSF: XML for Smart Forms

- **Data stream: XSF**
- **Interactive Webforms based on generated XML output (XSF, Basis Release 4.6C; HTML+XSF, SAP Web AS 6.10)**

## Solutions and scenarios

- **IS-Healthcare:**  
**Insurance verification processing**
- **Converge, Inc.:**  
**XML data exchange using XSF**
- **Internet Marketing:**  
**Personalized e-mails**

# Interactive Web Forms: History

- XSF (XML for Smart Forms)
  - Available as of Basis Release 4.6C
  - XML data stream (as of SAP Web AS 6.10 using iXML)
  - Same purpose as RDI (Raw Data Interface):  
Provide an interface for third party tools
  - Content, no layout
- Interactive Web Forms
  - Output device: Browser
  - Layout: HTML+CSS (as of SAP Web AS 6.10 XSF is transformed to HTML using XSLT on the server side)
  - Layout may be changed offline
  - Use output format PDF when a displayed document is to be identical to a printed version

# Interactive Webforms: Properties

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Germany

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Telefon 069/99-10-99  
Telefax 069/99-12-99  
Zeichen 39999 / 2000  
Kundennummer 00000006  
Datum 06.04.2001

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wir wären Ihnen sehr verbunden, wenn Sie die folgende Rechnung bald begleichen würden. Für das entgegengebrachte Vertrauen bedanken wir uns.

Ges	Linie	Flugdatum	Abflug	Preis	Cancellation
AA	0017	18.07.2001	13:30:00	923,00 DEM	<input type="checkbox"/>
AA	0064	08.12.2000	09:00:00	898.557 ITL	<input type="checkbox"/>
AA	0064	02.03.2001	09:00:00	0,00	<input type="checkbox"/>
AZ	0789	15.09.2001	11:45:00	0,00	<input type="checkbox"/>
DL	1699	09.10.2000	17:15:00	923,00 DEM	<input type="checkbox"/>
DL	1699	06.11.2000	17:15:00	2.695.671 ITL	<input type="checkbox"/>
DL	1984	26.03.2001	10:00:00	1.846,00 DEM	<input type="checkbox"/>
<b>Gesamtsumme</b>				3.692,00 DEM	
				3.594.228 ITL	
				0,00	

Mit freundlichen Grüßen  
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Accept without cancellations    Cancel selected entries    Reset selection

- Text and data fields may be used as entry fields
- Offline data entry using HTML input fields (text, hidden, submit, reset, checkbox, radio button, list box, text area)
- Webforms are embedded in Internet applications, e.g., in BSP applications
  - Data entered can be processed on next BSP page
- Several scenarios for offline changes

# Interactive Webforms: Use Fields as Input Fields

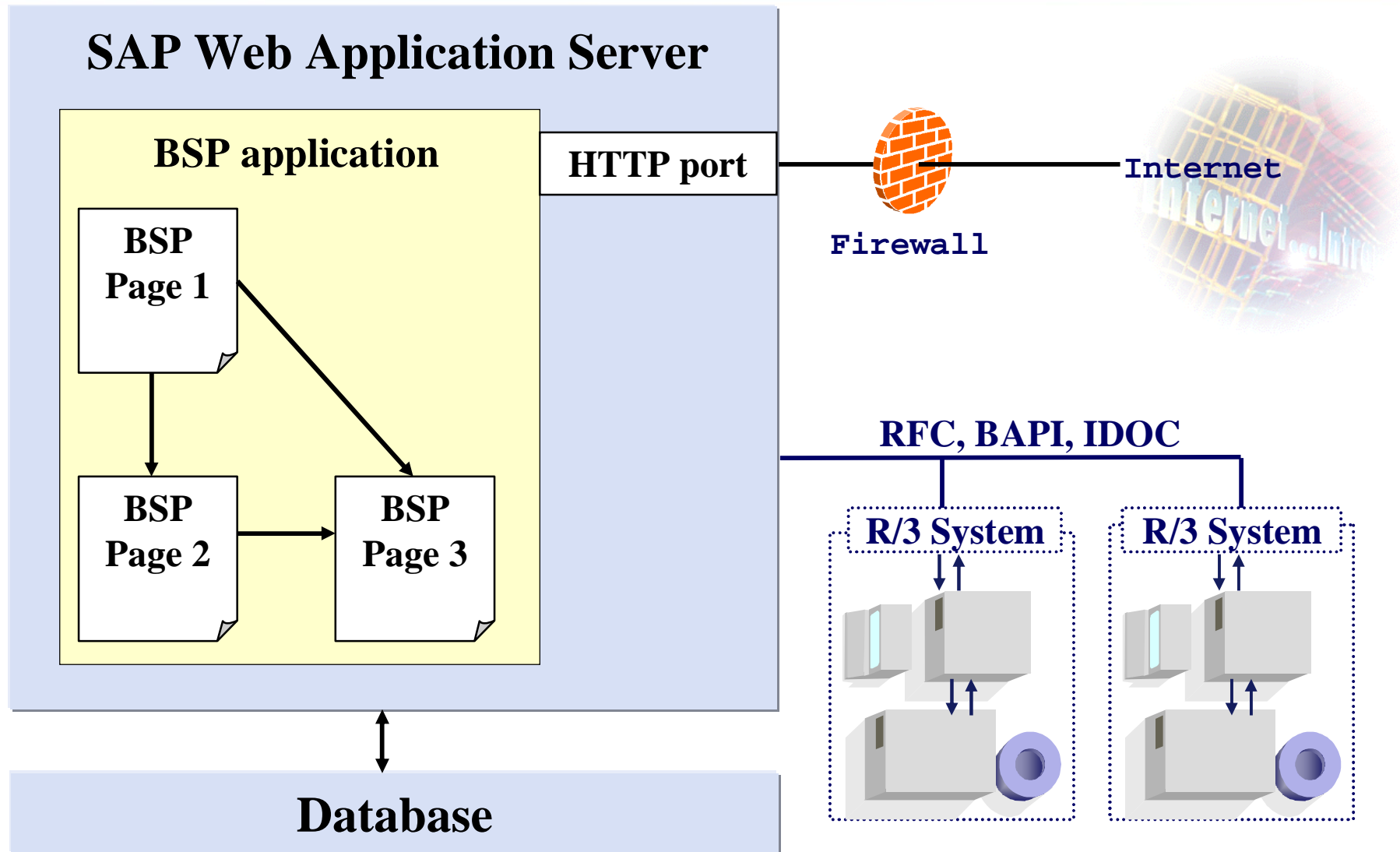
You can designate fields used in text nodes as input fields easily by assigning an input type and additional web properties

Text: WEBFIELDS  
Description: Output for Pushbuttons

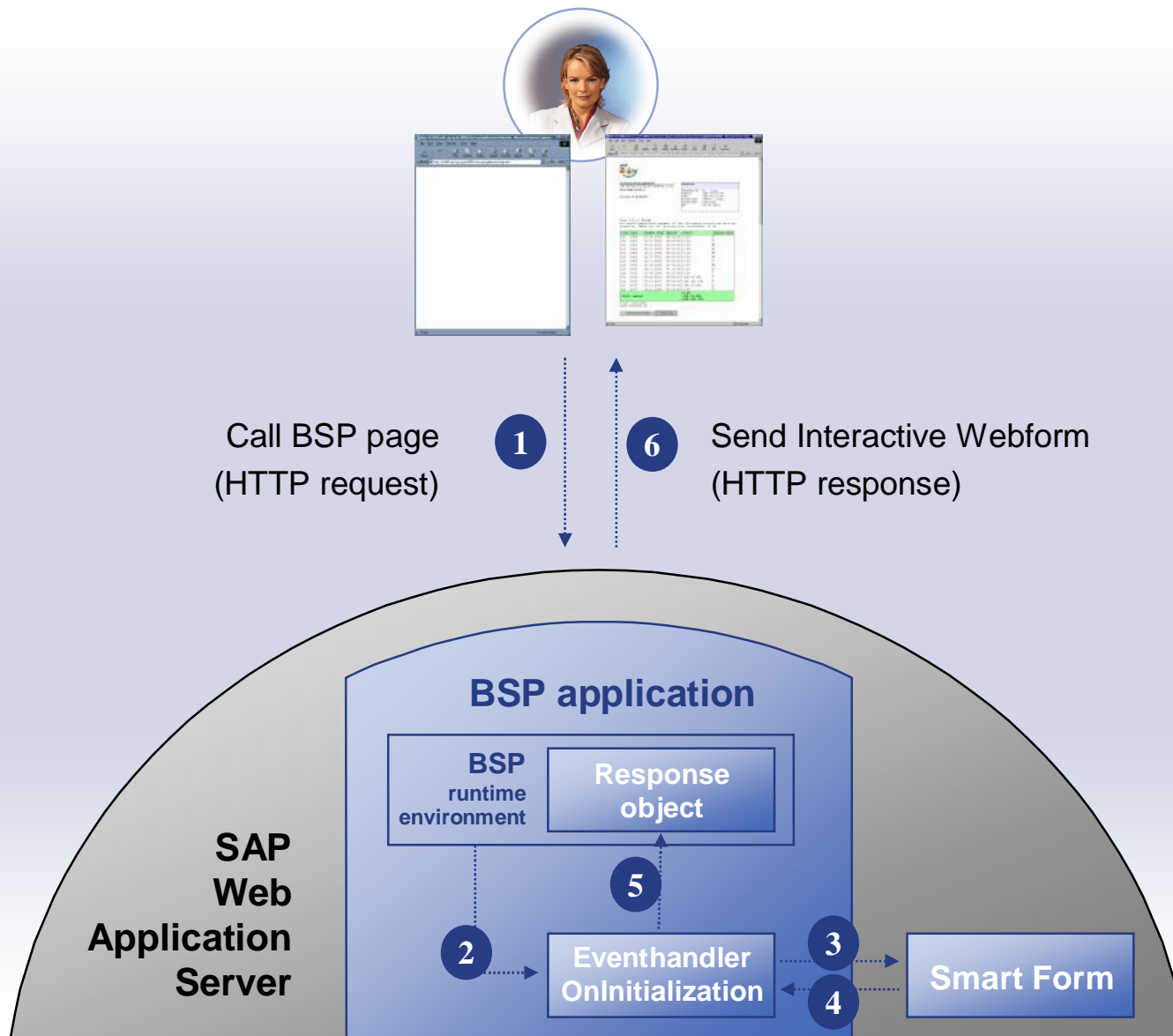
General Attributes | Web Properties | Output Options | Conditions

Field Name	Input Type	Field Length	Maximum Length	Display Only	Group Name	Standard Value
				<input type="checkbox"/>		<input type="checkbox"/>
	Text			<input type="checkbox"/>		<input type="checkbox"/>
	Checkbox			<input type="checkbox"/>		<input type="checkbox"/>
	Radio Button			<input type="checkbox"/>		<input type="checkbox"/>
	List Box			<input type="checkbox"/>		<input type="checkbox"/>
	Reset			<input type="checkbox"/>		<input type="checkbox"/>
	Hidden			<input type="checkbox"/>		<input type="checkbox"/>
	Submit			<input type="checkbox"/>		<input type="checkbox"/>
				<input type="checkbox"/>		<input type="checkbox"/>
				<input type="checkbox"/>		<input type="checkbox"/>
				<input type="checkbox"/>		<input type="checkbox"/>

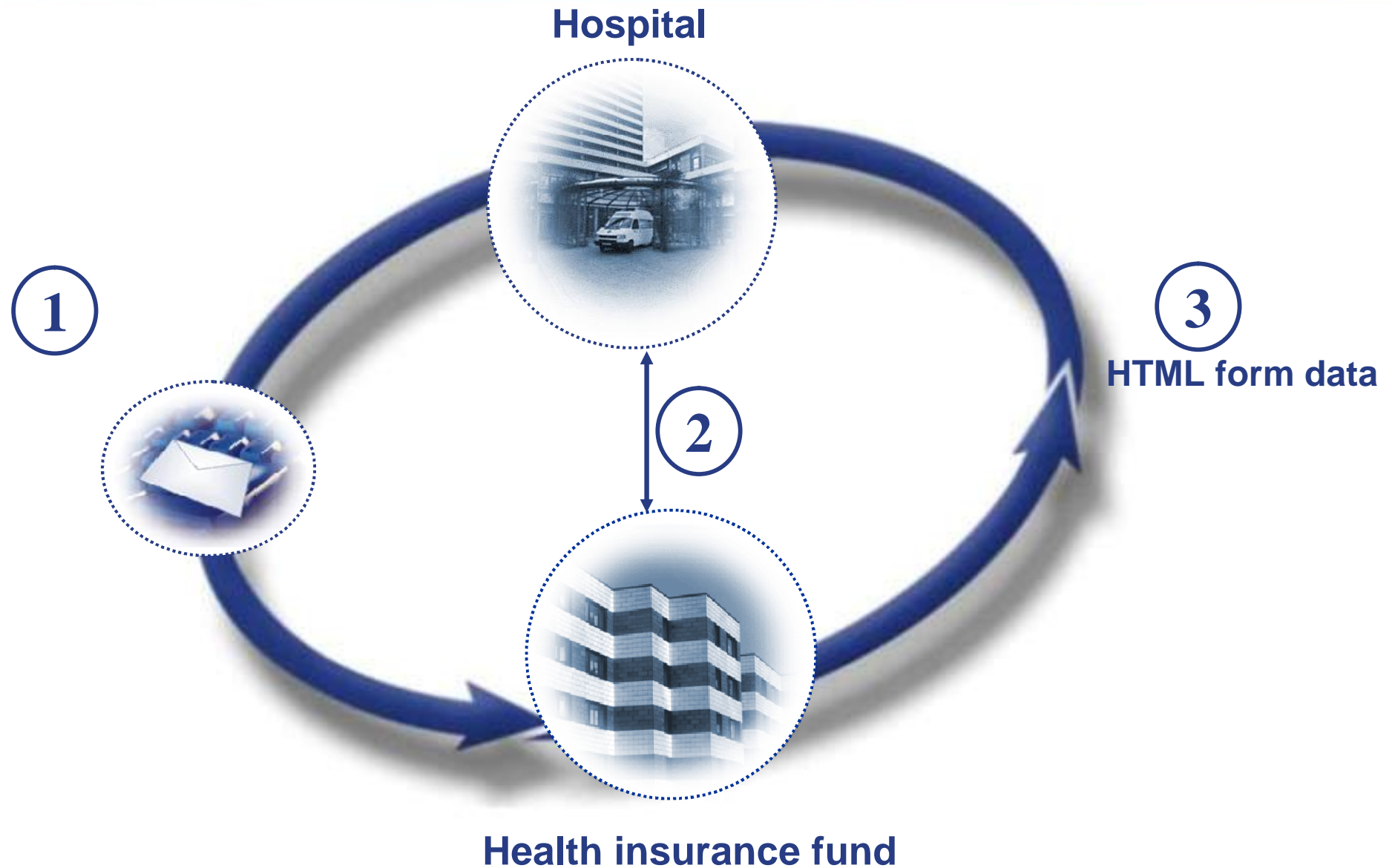
# mySAP Web Application Server



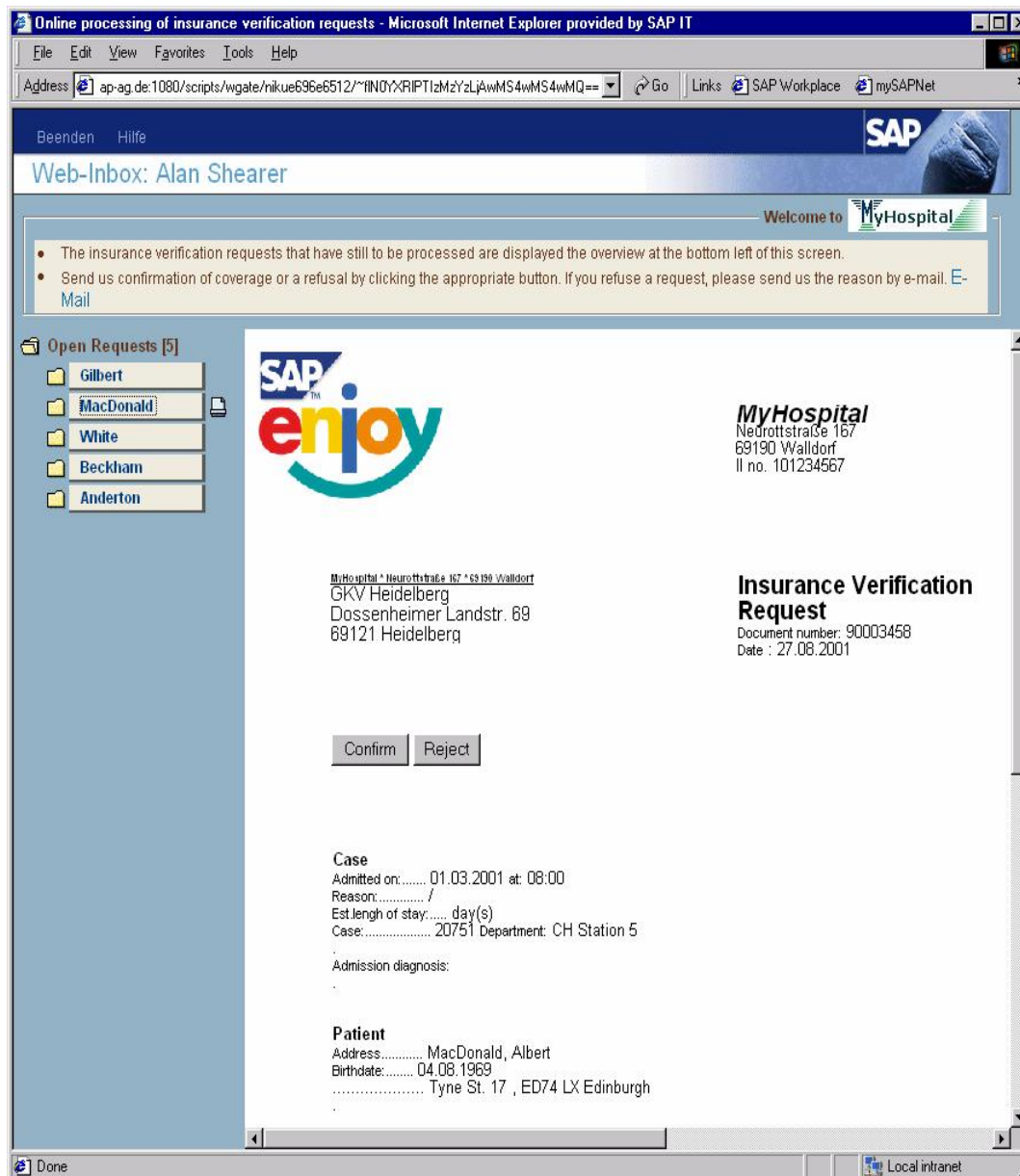
# Interactive Webforms: Call Webform Using a BSP Page



# IS-Healthcare: Insurance Verification Processing



# IS-Healthcare: Benefits for Partner



Benefits for hospital and health insurance fund

- Effort for approving an insurance verification request is minimal
- Data of XML forms can be stored in health insurance fund's computer system
- Low administration effort in comparison to automatic processing using EDI



## Converge: Solution Description

Send invoices created in SAP system to Chase Manhattan Bank in order to display these invoices for customers on the Web

Sales Invoices created once a month with 'Collective Invoicing'

- **An automatic creation of invoices for all auctions that are due to be invoiced**

Chase Manhattan developed Smart Form for displaying the web enabled Converge Invoice and Credit Memo

- **Option to print invoices or issuing of an XML formatted file using XSF**
- **Productive since Q3/2000**

Contact persons

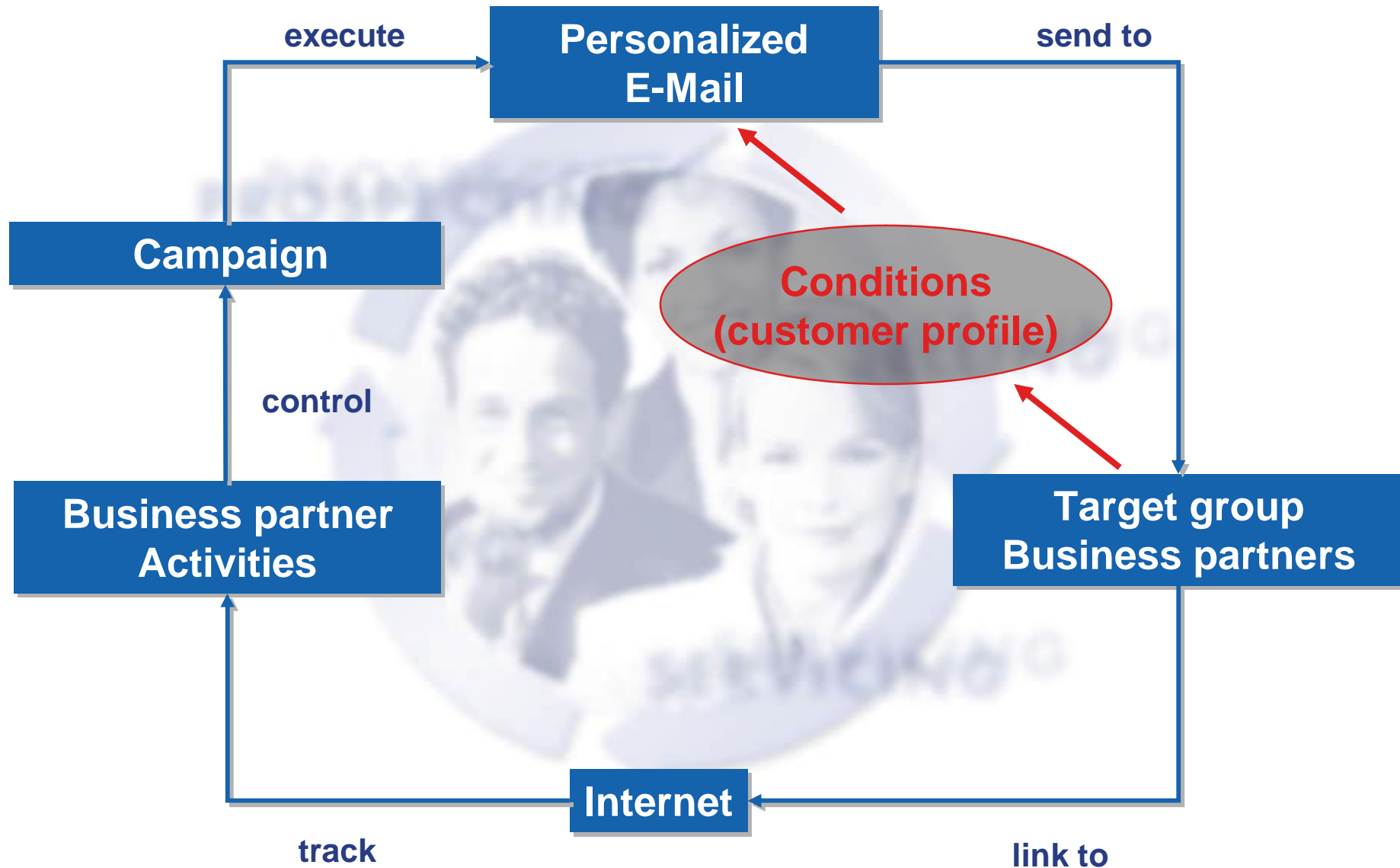
- **Converge: Kari Elias ([www.converge.com](http://www.converge.com), [kari.elias@converge.com](mailto:kari.elias@converge.com))**
- **SAP: Benjamin Espiritu ([benjamin.espiritu@sap.com](mailto:benjamin.espiritu@sap.com))**

## Benefits for Converge and Chase Manhattan



- Standard XML documents for data exchange and display in a web browser
- Allows companies to partner with banks who can offer this service with on-line payment options
- Ease of use
- Use same standard layout for Web publishing and printing
- Provides other creative uses, such as alerting customers with a mail message that a new invoice has arrived

# Internet Marketing: Personalized e-mails



## Further Sources of Information

### Demos

- **Reports / Forms: SF\_EXAMPLE\_01, SF\_EXAMPLE\_02, SF\_EXAMPLE\_03**
- **BSPs: SF\_WEBFORM\_01, SF\_WEBFORM\_02, SF\_WEBFORM\_03**

SAP Library in Help Portal (<http://help.sap.com/>)

- **Basis (SAP Web Application Server)**
  - > **Basis-Services / Communication Interfaces (BC-SRV)**
  - > **SAP Smart Forms (BC-SRV-SSF)**

Training: BC470

SAPnet notes: 168368, 412293

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