Technical Specification Document

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# 1. Document Information

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Document Title | Project Name | SAP System/Release Version | Client Name | Prepared By (Author, Department) | Document Version & Date |
| ZSF\_INVOICE\_PRINT SmartForm Technical Specification | Not Specified | Not Specified | Not Specified | PWC AI Asset | Not Specified |

# 2. Introduction

This document provides the technical specification for the SAP SmartForm 'ZSF\_INVOICE\_PRINT', designed for customer invoice printing. The scope includes the SmartForm layout, ABAP integration, and field mapping for invoice data such as company header, item details, totals, and footer notes. The intended audience includes SAP ABAP developers, functional consultants, and project stakeholders involved in billing transactions (VF01, VF02, VF03).

# 3. Transport Management

|  |  |  |  |
| --- | --- | --- | --- |
| Development Package | Transport Request Number | Sequence/Dependency | Description |
| [To Be Filled] | DEVK123456 | [To Be Filled] | SmartForm for Invoice Print |

# 4. Requirement Overview

The business requires an automated and standardized solution for printing customer invoices within SAP billing transactions. The objective is to generate invoices that include company headers, customer and item details, totals, and relevant footer notes, ensuring accuracy and consistency in customer communications.

# 5. Solution Approach

1. The solution utilizes a SAP SmartForm ('ZSF\_INVOICE\_PRINT') to structure the invoice layout, incorporating a company header, customer details, item loop, tax summary, and totals.

2. The SmartForm is architected with a hierarchical page ('FIRST') and window ('MAIN') structure to organize content and support dynamic data rendering.

3. ABAP integration is achieved through logic that selects and loops over invoice data, mapping database fields to SmartForm fields, and applying conditions as needed for accurate invoice presentation.

# 6. SAP Object Details

|  |  |  |  |
| --- | --- | --- | --- |
| Object Type | Object Name | Description | Related Main Program/Module |
| SmartForm | ZSF\_INVOICE\_PRINT | SmartForm for customer invoice printing | ZSF\_INVOICE\_PRINT |
| Include | ZSF\_INVOICE\_PRINT\_TOP | Top include for SmartForm logic | ZSF\_INVOICE\_PRINT |
| Page | FIRST | Main page of the SmartForm | ZSF\_INVOICE\_PRINT |
| Window | MAIN | Main window for invoice content | ZSF\_INVOICE\_PRINT |

# 7. Data Declarations & SAP Tables Used

|  |  |  |  |
| --- | --- | --- | --- |
| Declaration Name | Data Type/Object | Description | Usage Context |
| LT\_VBAK | TABLE VBAK | Internal table for Sales Document Header Data | Stores selected billing document header records |
| LS\_VBAK | WORKAREA VBAK | Work area for VBAK | Holds a single sales document header during loop |
| VBAK | SAP Table | Sales Document: Header Data | Read to fetch billing document header information |

# 8. SmartForm Layout Details

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Page | Window | Element | Type | Description |
| FIRST | MAIN | MAIN | Window | SmartForm layout logic includes company header, customer details, item loop, tax summary, and totals. |

# 9. Field Mapping Details

[ERROR: Section content missing]

# 10. User Interface Details

|  |  |  |  |
| --- | --- | --- | --- |
| Field Name | Source (Table/Structure) | Default Value | Description |
| S\_VBELN | VBAK-VBELN |  | Billing Document Number |

# 11. Processing Logic & Control Flow

- The SmartForm ZSF\_INVOICE\_PRINT is triggered for invoice printing in billing transactions (VF01, VF02, VF03).

- The form execution begins on the FIRST page, within the MAIN window.

- The MAIN window contains layout logic to display the company header and customer details.

- The form processes a selection of sales documents (VBELN) by selecting relevant fields (vbeln, kunnr, netwr, waerk) from the VBAK table into an internal table lt\_vbak.

- A loop iterates over each entry in lt\_vbak, outputting the sales document number, customer number, net value, and currency for each invoice.

- After item details, the layout includes a tax summary and totals section.

- The form concludes with footer notes.

# 12. Detailed Logic Block Descriptions

1. Select the fields vbeln, kunnr, netwr, and waerk from the VBAK table into the internal table lt\_vbak, where vbeln matches the selection criteria s\_vbeln.

2. Loop through each entry in the internal table lt\_vbak into the work area ls\_vbak.

3. For each entry, output the values of ls\_vbak-vbeln, ls\_vbak-kunnr, ls\_vbak-netwr, and ls\_vbak-waerk.

# 13. Output Details

|  |  |  |  |
| --- | --- | --- | --- |
| Output Type | Format/Layout | Output Destination | Description |
| SmartForm Output | Pages: FIRST; Windows: MAIN; Layout: company header, customer details, item loop, tax summary, totals, footer notes | Not specified | SmartForm for customer invoice printing with structured layout as described in the payload. |

# 14. Enhancements & Modifications

| Type | Name | Impacted Object | Location | Description |

# 15. Flow Diagram

[Flow diagram not available]

# 16. Error Handling & Logging

1. No explicit error handling, exception processing, message display, or logging mechanisms are present in the provided explanation or code.

# 17. Performance Considerations

1. Data selection from VBAK is filtered using a range on the billing document number (WHERE vbeln IN s\_vbeln), which restricts the data volume processed to only relevant records.

# 18. Security & Authorizations

|  |  |  |  |
| --- | --- | --- | --- |
| Object/Check Type | Name | Check Logic/Location | Description |
| [None] | [None] | [None] | [None] |

# 19. Test Scenario

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Test Case | Objective | Input Data | Expected Output | Actual Result/Status | Sign-off/Comments |
| Valid Billing Document Range | Verify correct population of fields for valid billing document numbers | S\_VBELN = ['90000001', '90000002'] | Output displays VBELN, KUNNR, NETWR, WAERK for each document in range |  |  |
| No Billing Document Entered | Check system behavior when no billing document is entered | S\_VBELN = [] | No output generated; program handles empty selection gracefully |  |  |
| Invalid Billing Document Number | Test handling of non-existent billing document numbers | S\_VBELN = ['99999999'] | No output generated; program handles invalid input without error |  |  |
| Mixed Valid and Invalid Billing Document Numbers | Ensure only valid documents are processed | S\_VBELN = ['90000001', '99999999'] | Output displays data only for '90000001'; '99999999' ignored |  |  |
| Field Mapping Verification | Confirm correct mapping of form fields to ABAP fields | S\_VBELN = ['90000001'] | Output fields VBELN, KUNNR, NETWR, WAERK match values in VBAK for '90000001' |  |  |
| Loop Processing | Validate loop processes all selected documents | S\_VBELN = ['90000001', '90000002', '90000003'] | Output displays all three documents with correct details |  |  |
| Output Format | Check output format for alignment and completeness | S\_VBELN = ['90000001'] | Output fields are aligned and complete as per SmartForm layout logic |  |  |
| Page Flow | Verify correct page and window assignment | S\_VBELN = ['90000001'] | Output appears in MAIN window on FIRST page as specified |  |  |
| Large Input Range | Test performance and correctness with large input range | S\_VBELN = ['90000001' to '90000100'] | Output displays all 100 documents correctly, no performance degradation |  |  |
| Special Characters in Input | Test handling of special characters in input | S\_VBELN = ['9000@001'] | No output generated; program handles invalid characters gracefully |  |  |
| Negative Test: Missing Mapping | Simulate missing mapping for a form field | S\_VBELN = ['90000001'] (mapping for NETWR removed in code) | NETWR field not populated in output; error or warning logged |  |  |
| Negative Test: Data Type Mismatch | Simulate data type mismatch in mapping | S\_VBELN = ['90000001'] (KUNNR mapped to a numeric-only field in form) | Output error or incorrect value for KUNNR; error handling mechanism triggered |  |  |

# 20. Sign-Off

|  |  |  |  |
| --- | --- | --- | --- |
| Role | Name | Signature | Date |
| Prepared By |  |  |  |
| Approved By |  |  |  |
| Client Sign-Off |  |  |  |

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