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|  | **QA 4** | |  |
|  |  | |  |
|  | **technical specification For Extracting outbound transaction details V 2.0** | |  |
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Document Revision, Review, & Approval History

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Ver | date | author | reviewer/approver | remarks |
| 1.0 | April 8th 2011 | Avinash Ravipati |  | Initial version |
| 2.0 | May 3rd, 2012 | Avinash Ravipati |  | Selection criteria and process log updates |

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# program summary

## Program Control Delivery Sheet

|  |  |  |
| --- | --- | --- |
| Project Identification | | |
| Project Name | Customer Name | Project Type (Business Consulting, Implementation, Upgrade, Internal, other) |
| Pollenware SAP Integration | Pollenware | SAP Netweaver integration |
| Customer Engagement Manager | SAP Program Manager | SAP Project Manager |
|  |  |  |
| SAP Technical Project Manager | Pollenware Technical Project Manager | SAP Quality Manager |
|  |  |  |
| SAP Practice Lead | SAP Country Delivery Stakeholder Manager | SAP Regional Delivery Head |
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| Object Overview | | | | | |
| Object ID |  | Business Process | | Extracting Invoice data | |
| Object Link | SAP\_FICO\_INTF\_01 | | | | |
| Object Description | Extracting outbound transaction details | | | | |
| SAP Release | ECC 6.0 | | SAP Module | | FICO |
| Cycle of Testing |  | | Required Development Completion Date | |  |
| Complexity of Object | Medium | | Priority | | High |
| Object Type | Interface | | Program run | | Real time |
| TS Control | | | | | |
| TS Author and Phone Number | Avinash Ravipati | | Pollenware Process Owner and Phone Number | | Pete Thomas |
| TS Approved By |  | | TS Approval date | |  |
| Other Contact and Phone Number |  | | Other Contact and Phone Number | |  |

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| Program Attributes |
| |  |  | | --- | --- | | Program title | Pollenware – Interface for extracting vendor outbound details | | Program Name | ZVENDOR\_OUTBOUND\_EXTRACT | | Program Type | Executable program | | Package | ZPOLLENWARE | | Authorization Group | ZVENDOR\_OUTBOUND |  |  |  | | --- | --- | | Transaction Code | ZVENDOR\_OUTBOUND | | Include Programs | ZVENDOR\_OUTBOUND\_ EXTRACT\_TOP | | Function Modules | SAP\_CONVERT\_TO\_TEX\_FORMAT, GENERAL\_GET\_APP\_SERVER\_NAME, FKK\_FM\_GET\_FISCAL\_YEAR, FI\_F4\_ZTERM, | | Message Class | ZPOLLENWARE |  |  |  | | --- | --- | | SAP Tables Read | LFA1, ADRC, ADR6, ADRP, KNVK, BSIK, LFB1, BSEG | | Custom Tables | None | | Custom Indexes | None | |

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| Selection Screen |
| Selection Screen Block Name / Description -   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Parameter / Select Options | Type / Field Name | Mandatory | Default Value | Param  ID | Search Help | Selection Screen Text | | Select Option | BSIK-BUKRS | No | 1000 | BUK | C\_T001 | Company code | | Select Option | BSIK-BELNR | No | None | BLN | None | Document Number | | Select Option | LFA1-LIFNR | No | None | LIF | KRED\_C | Vendor Number Range | | Select Option | BSIK-BUDAT | No | None | None | None | Posting Date Range | | Select Option | BSIK-XREF1 | No | None | None | None | Batch | | Select Option | BSIK-ZTERM | No | None | None | None | Payment Terms | | Select Option | BKPF-PPNAM | No | None | None | None | Parked By | | Select Option | LFB1-ZWELS | No | None | None | None | Payment Method | | Parameter | STRING | No | None | None | None | Path | |

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| Validation of Selection Criteria |
| Vendor Number:   * Check the vendor number input by the user against the vendor master table LFA1and field LIFNR. If the input is invalid issue an error message notifying the user and stop further execution of the program. |

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| Authorization Requirements |
| The program has to be executed by the user who will be posting the extracted file to Pollenware Quickpay interface. The user profile will be updated with the custom authorization object, providing him access to the extract interface program. Definition The Authorization is based on the Transaction code of the interface program. Logic needs to be written to identify whether the user executing the interface program has been assigned with the necessary custom authorization object and role. If the user has the role assigned, accordingly the extract program execution access is activated. Defined Fields Two fields for activity type and transaction code shall be assigned to the custom authorization object. This authorization object is then added to a custom authorization role and updated to the user profile. Procedure When a person tries to execute this program, the user name and his authorization profile is validated programmatically. If the user has the required authorization profile, he should be able to execute the program and save the flat file. Else, an error message is triggered and exits the program execution cycle. |

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| Technical Flow Diagram |
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| Processing Logic |
| 1. User Authorization check:  * Validate the user authorizations profile against the custom authorization object created for the extraction process. If the user profile is assigned with the role, continue the extraction process. Else, issue an error message to the user and exit program execution.  1. User Input Validation :  * Validate the user input vendor number range against the vendor master table LFA1 and field LIFNR. If the input is valid, continue with the program execution. Else, issue an error message and exit program execution.  1. Debit position vendors:  * Using the function module FKK\_FM\_GET\_FISCAL\_YEAR, get the current fiscal year. For the user provided vendor number range and fiscal year, fetch balance carried forward (UMSAV), total debit postings (UM01S to UM16S) and total credit postings (UM01H to UM16H) from LFC1. * Add the balance carried forward and total credit postings and subtract total credit postings. If the result is a negative balance, check that the vendor does not have a payment block (LFB1-ZAHLS). Add the vendor to range table GR\_VENDOR.  1. Extract Vendor Payment details:  * Fetch open invoice documents from table BSIK by applying selection criteria of company code (BSIK-BUKRS), vendor (BSIK-LIFNR), document number (BSIK-BELNR), posting date (BSIK-BUDAT), Payment terms (BSIK-ZTERM), clearing document (BSIK-AUGBL), payment block (BSIK-ZLSPR), credit/debit indicator (BSIK-SHKZG) and parked by (BKPF-PPNAM). * If no records are found for the selection criteria, issue an information message to the user and exit program execution. * If records are found, populate the records fetched into the internal table GT\_VENDOR\_PAYMENTS.  1. Extract Vendor master details:  * For the user input vendor number fetch the vendor master details from table LFA1 by querying the field LIFNR. * Based on the address number ADRNR retrieved from LFA1, query the table ADRC and field ADDRNUMBER for extracting vendor address details. * Based on the same address number, query the table ADR6 and field ADDRNUMBER to extract email ID. * Populate the extracted records to the internal table GT\_VENDOR\_DETAILS.  1. Extract Vendor contact person details:  * For the user input vendor number fetch the vendor contact details from table KNVK by querying the field LIFNR. * Based on the address number ADRNR retrieved from KNVK, query the table ADRC and field ADDRNUMBER for extracting address details. * Based on the person number PRSNR retrieved from KNVK, query the table ADRP and field PERSNUMBER for extracting contact person details. * Based on the person number PRSNR retrieved from KNVK, query the table ADR6 and field PERSNUMBER for extracting email ID. * Populate the extracted records to the internal table GT\_VENDOR\_CONTACTS.  1. Formatting the data:  * Identify the character type fields from the internal tables containing the vendor extract data. For such fields, add a text qualifier of double quotation marks and modify the value. * Within the loop of the internal table, transfer the data to the final internal tables GT\_VENDOR\_OUTBOUND, GT\_PAYMENTS\_OUTBOUND and GT\_CONTACTS\_OUTBOUND along with the field names as column headers.  1. Saving the formatted data to flat file:  * Call the function module SAP\_CONVERT\_TO\_TEX\_FORMAT and pass the internal tables GT\_VENDOR\_OUTBOUND, GT\_PAYMENTS\_OUTBOUND and GT\_CONTACTS\_OUTBOUND to the function module interface. The resulting CSV formatted data is to be captured in internal tables GT\_VENDOR\_CSV, GT\_PAYMENT\_CSV and GT\_CONTACTS\_CSV. * Call the method FILE\_SAVE\_DIALOG from the class CL\_GUI\_FRONTEND\_SERVICES to give the user an option to select a file path to which the CSV files will be saved. * Create names for the files based on the data that they carry and the time stamp for which the data was extracted from SAP. * Once the user selects a file path, call the function module GUI\_DOWNLOAD and pass the file path and CSV data internal tables to the function module interface.  1. Creating extraction Log:   Before exiting the extract program, collect all the messages triggered as part of the execution into the internal table GT\_EXTRACT\_LOG. Each step of the execution is captured in the table along with the username and time stamp. The contents of this internal table will be saved to a flat file in the same folder as that of the vendor payment CSV files. |

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| Reusable Code |
| Not Applicable |

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| Internal Tables |
| |  |  | | --- | --- | | Name | Description | | GT\_VENDOR\_PAYMENTS | Internal table for storing payment detail records extracted from BSIK. | | GT\_VENDOR\_DETAILS | Internal table for storing vendor master and address details extracted from LFA1, ADRC and ADR6. | | GT\_VENDOR\_CONTACTS | Internal table for storing vendor contact person details extracted from KNVK, ADRC and ADR6. | | GT\_EXTRACT\_LOG | Internal table for storing messages generated during extract interface execution. | | GT\_VENDOR\_OUTBOUND | Internal table for storing formatted vendor master details. | | GT\_PAYMENTS\_OUTBOUND | Internal table for storing formatted payments data. | | GT\_CONTACTS\_OUTBOUND | Internal table for storing formatted vendor contacts data. | | GT\_VENDOR\_CSV | Internal table for storing CSV formatted vendor master data. | | GT\_PAYMENTS\_CSV | Internal table for storing CSV formatted payments data. | | GT\_CONTACTS\_CSV | Internal table for storing CSV formatted vendor contacts data. | |

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| Messages |
| |  |  |  | | --- | --- | --- | | Message Class | Message ID | Message Text | | ZPOLLENWARE | 000 | You are not authorized to execute the program. | | ZPOLLENWARE | 001 | Input vendor number is invalid. | | ZPOLLENWARE | 002 | No transactions found for the posting date range specified. | | ZPOLLENWARE | 003 | Vendor Payment records extracted successfully. | | ZPOLLENWARE | 004 | Vendor master details extracted successfully. | | ZPOLLENWARE | 005 | Vendor contact details extracted successfully. | | ZPOLLENWARE | 006 | Interface execution completed without errors. | | ZPOLLENWARE | 007 | Vendor Outbound transaction data has been extracted successfully | | ZPOLLENWARE | 008 | Vendor outbound extract failed. | | ZPOLLENWARE | 024 | User not authorized to create files on application server. | | ZPOLLENWARE | 030 | User not authorized to access the files on application server. | | ZPOLLENWARE | 022 | Caution! Long selection times possible! | | ZPOLLENWARE | 032 | No debit vendors found. | |

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| Selection text |
| |  |  | | --- | --- | | Name | Description | | S\_VENDOR | Vendor number range | | S\_DATE | Posting date range | | P\_ASPATH | Path | | P\_DPATH | Outbound Path | | S\_BATCH | Batch | | S\_CCODE | Company Code | | S\_DNUM | Document Number | | S\_PARK | Parked By | | S\_PMETD | Payment Method | | S\_PTERM | Payment Terms | |

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| Text Elements |
| |  |  | | --- | --- | | Name | Description | | ADF | Vendor extract files saved to desktop &1 , application server &2 and FTP &3. | | AMT | Amount | | ATH | Application server path for extract files | | CES | Vendor contacts data records extracted successfully. | | CF1 | custom\_field\_1 | | CF2 | custom\_field\_2 | | CF3 | custom\_field\_3 | | CF4 | custom\_field\_4 | | CF5 | custom\_field\_5 | | CFS | Vendor contact details saved to file &1 successfully. | | CIT | City | | CKY | Currency | | DDT | transaction\_date | | DEP | Department | | DNM | voucher\_id | | DST | District | | DTT | Description | | DTY | transaction\_type | | DUE | Due | | EID | email\_address | | ELF | Vendor\_Extract\_LogFile\_ | | EXF | Extract Failed. | | EXS | Extract Successful | | FAF | Vendor extract files save to application server &1 and FTP &2 failed. | | FAL | Vendor extract files save to desktop &1 , application server &2 and FTP &3 failed. | | FAX | Fax | | FDA | Vendor extract files save to desktop &1 and application server &2 failed. | | FDF | Vendor extract files save to desktop &1 and FTP &2 failed. | | FEX | fax\_extension | | FFA | Filed save application server &1 failed. | | FFD | Files save to desktop &1 failed. | | FFF | Files save to FTP &1 failed. | | FNM | first\_name | | FPD | No Data Found, Extract Terminated. | | FUA | User Authorization Failed, Extract Terminated. | | FUN | Function | | FVN | Invalid Vendor Numbers, Extract Terminated. | | GID | group\_id | | HBK | house\_bank\_code | | HNO | house\_number | | IRN | supplier\_transaction\_id | | L01 | \*---------------------------------------------------------------------\* | | L02 | \* POLLENWARE - VENDOR OUTBOUND EXTRACT LOG \* | | L03 | \* LOG DETAILS \* | | L04 | \* \* | | L05 | \* Date of Extraction : | | L06 | \* Time of Extraction : | | L07 | \* Extracted by : | | L08 | \* System Name : | | L09 | \* Client Number : | | L10 | \* EXTRACT FILE DETAILS \* | | L11 | \* Vendor Master File Name : | | L12 | \* Vendor Contacts File Name : | | L13 | \* Invoice Data File Name : | | L14 | \* Total Number of Unique Vendors : | | L15 | \* Total Number of Contacts : | | L16 | \* Record count : | | L17 | \* Total Invoice Dollars : | | L18 | \* PROCESS DETAILS \* | | L19 | \* Overall Status : | | L20 | \*------------------------END OF PROCESS LOG---------------------------\* | | L21 | \* POLLENWARE - VENDOR OUTBOUND EXTRACT SYSTEM LOG \* | | L22 | \* Date of Execution : | | L23 | \* Time of Execution : | | L24 | \* Executed by : | | LD3 | \\ftwwdsapd301.rails.rwy.bnsf.com\datastaging\de3\FI\OUT\LOG | | LD4 | \\ftwwdsapd401.rails.rwy.bnsf.com\datastaging\de4\FI\OUT\LOG | | LD7 | \\ftwwdsapd701.rails.rwy.bnsf.com\datastaging\de7\FI\OUT\LOG | | LNM | last\_name | | LP1 | \\sap-p-ecc-01.rails.rwy.bnsf.com\Datastaging\PE1\FI\OUT\LOG | | LQ1 | \\sap-q-ecc-01.rails.rwy.bnsf.com\Datastaging\QE1\FI\OUT\LOG | | LQ5 | \\topwdsapr201.rails.rwy.bnsf.com\Datastaging\QE5\FI\OUT\LOG | | MDT | is\_active | | MES | Vendor master data records extracted successfully. | | MFS | Vendor Master details saved to file &1 successfully. | | NAF | Vendor extract files saved to application server &1 and FTP &2. | | NDA | Vendor extract files saved to desktop &1 and application server &2. | | NDF | Vendor extract files saved to desktop &1 and FTP &2. | | NNA | Vendor extract files saved to application server | | NND | Vendor extract files saved to desktop | | NNF | Vendor extract files saved to ftp | | NTD | Not Due | | NTF | No payment details found for the user input selection criteria. | | OD3 | \\ftwwdsapd301.rails.rwy.bnsf.com\datastaging\de3\FI\OUT\WORK | | OD4 | \\ftwwdsapd401.rails.rwy.bnsf.com\datastaging\de4\FI\OUT\WORK | | OD7 | \\ftwwdsapd701.rails.rwy.bnsf.com\datastaging\de7\FI\OUT\WORK | | OEA | Vendor outbound extraction aborted | | OES | Vendor outbound extract executed successfully. | | OIN | matching\_id | | OP1 | \\sap-p-ecc-01.rails.rwy.bnsf.com\Datastaging\PE1\FI\OUT\WORK | | OQ1 | \\sap-q-ecc-01.rails.rwy.bnsf.com\Datastaging\QE1\FI\OUT\WORK | | OQ5 | \\topwdsapr201.rails.rwy.bnsf.com\Datastaging\QE5\FI\OUT\WORK | | OVD | Over Due | | PCN | spend\_category | | PDD | payment\_due\_date | | PES | Payment details found for the user input selection criteria. | | PFS | Payment details saved to file &1 successfully. | | PMD | Only payment methods C,D,Y and W are allowed. | | POB | po\_box | | POS | postal\_code | | PTH | Path selection | | PYM | payment\_method | | PYT | payment\_terms | | RAM | reserve\_amount | | REG | State | | RPE | reserve\_percent | | SER | search\_term | | ST2 | address\_2 | | STR | address\_1 | | TEL | phone\_number | | TEX | phone\_extension | | TIL | Selection criteria | | TLE | Title | | TST | transaction\_status | | UAA | User not authorized to access the files on application server. | | UAF | User &1 not authorized to execute the transaction. | | UAS | User &1 authorized to execute the transaction. | | UNA | User not authorized to create files on application server. | | VCC | Country | | VCF | INT958B\_&1\_&2\_POLLENWARE\_VMC\_ | | VEN | supplier\_id | | VGP | group\_id | | VID | vendor\_id | | VMF | INT958B\_&1\_&2\_POLLENWARE\_VNR\_ | | VN1 | supplier\_name | | VN2 | name\_2 | | VN3 | name\_3 | | VN4 | name\_4 | | VNI | No valid vendor numbers found in the user input selection criteria. | | VNS | Valid vendor numbers found in the user input selection criteria. | | VPF | INT958B\_&1\_&2\_POLLENWARE\_PMT\_ | |

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| Subroutines |
| |  |  | | --- | --- | | Name | Description | | VALIDATE\_USER\_AUTHORIZATION | Subroutine for validating user authorization to execute outbound extract. | | VALIDATE\_VENDOR\_NUMBER | Subroutine for validating user input vendor number. | | FETCH\_VENDOR\_PAYMENTS | Subroutine for extracting vendor payment details. | | FETCH\_VENDOR\_MASTER | Subroutine for extracting vendor master details. | | FETCH\_VENDOR\_CONTACTS | Subroutine for extracting vendor contact details. | | FORMAT\_OUTBOUND\_DATA | Subroutine for formatting vendor outbound data | | CONVERT\_OUTBOUND\_TO\_CSV | Subroutine for converting internal table data to CSV format | | CREATE\_CSV\_FLAT\_FILE | Subroutine for creating CSV flat files on PC | | ZTERM\_HELP\_LOW | Subroutine for providing payment term input help | | ZTERM\_HELP\_HIGH | Subroutine for providing payment term input help | | FILL\_VENDORS\_BY\_BALANCE | Subroutine for identifying debit position vendors | | FILL\_PROCESS\_DETAILS | Subroutine for populating extract process log | | CREATE\_APPSERVER\_LOG | Subroutine for creating log file on application server | | FILL\_PTERMS\_DETAILS | Subroutine for fetching payment term texts | | FILL\_DOCTYPE\_DESC | Subroutine for fetching document type description | | FILL\_EMAIL\_DETAILS | Subroutine for fetching email ID of business partner | | FILL\_REGION\_DETAILS | Subroutine for fetching description for region code | | FILL\_VENDOR\_GROUP\_DETAILS | Subroutine for fetching vendor group | | FETCH\_VENDOR\_CONTACTS | Subroutine for fetching contact persons of a vendor | | FILL\_CONTACT\_NAMES | Subroutine for fetching names of contact persons | |

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| Interface Output |
| |  | | --- | | Output Method | | Vendor payment details, Vendor master data and Vendor contact details are extracted and formatted to individual CSV flat files. |  |  | | --- | | SORTING | | If the data is extracted for multiple vendors, the records are sorted based on the vendor number and posting date range. |  |  | | --- | | ERROR HANDLING | | * If the user is not assigned the authorization to execute the extract interface, an error message is issued to notify the user and stop the execution process. * If the user input vendor number is invalid, an error message is issued to notify the user and stop further execution of the extract program. | |

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| Assumptions in Technical Design |
| None |

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| Open Issues in Technical Design |
| None |

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| Unit Test Plan |
| |  |  |  | | --- | --- | --- | | Scenario # | Input Selection Criteria | Expected Result | |  |  |  | |  |  |  | |  |  |  | |

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| Related Documentation (attach OSS notes, emails, download of existing program code, etc) |
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# Appendix