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|  | **QA 4** | |  |
|  |  | |  |
|  | **technical specification For Posting AWARD FILE TO SAP V 2.0** | |  |
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Document Revision, Review, & Approval History

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| --- | --- | --- | --- | --- |
| Ver | date | author | reviewer/approver | remarks |
| 1.0 | April 11th 2011 | Avinash Ravipati |  | Initial version |
| 2.0 | May 16th 2011 | Avinash Ravipati |  | Determining bank g/l account based on house bank identifier from the award file.  Posting payments based on the document number by default; if not available, processing the payments based on reference number. |
| 3.0 | April 6th 2011 | Avinash Ravipati |  | File path based on SAP instance ID. Updates to C2FO configurator to select FB02 or F-53 postings. Calculate cumulative discount percentage and amounts. Update invoice document with award file contents from FB02. |

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# program summary

## Program Control Delivery Sheet

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| 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 |
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| SAP Technical Project Manager | Pollenware Technical Project Manager | SAP Quality Manager |
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| SAP Practice Lead | SAP Country Delivery Stakeholder Manager | SAP Regional Delivery Head |
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| Object Overview | | | | | |
| Object ID |  | Business Process | | Vendor Payment Process | |
| Object Link | SAP\_FICO\_INTF\_02 | | | | |
| Object Description | posting inbound 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 updating invoice document details | | Program Name | ZVENDOR\_INBOUND\_PAYMENT | | Program Type | Executable program | | Package | ZPOLLENWARE | | Authorization Group | ZVENDOR\_INBOUND |  |  |  | | --- | --- | | Transaction Code | ZVENDOR\_INBOUND | | Include Programs | ZVENDOR\_INBOUND\_PAYMENT\_TOP | | Function Modules | GENERAL\_GET\_APP\_SERVER\_NAME, RZL\_READ\_DIR\_LOCAL, MRM\_PAYMENT\_TERMS\_GET, CHANGE\_DOCUMENT, SAP\_CONVERT\_TO\_TEX\_FORMAT, OCS\_GET\_FILE\_INFO, DX\_FILE\_EXISTENCE\_CHECK, BAPI\_TRANSACTION\_COMMIT, BDC\_OPEN\_GROUP, BDC\_INSERT, BDC\_CLOSE\_GROUP | | Message Class | ZPOLLENWARE |  |  |  | | --- | --- | | SAP Tables Read | LFB1, BSEG, BSET, BKPF | | Custom Tables | None | | Custom Indexes | None | |

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| Selection Screen |
| Selection Screen Block Name / Description – Inbound file selection   |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | Parameter / Select Options | Type / Field Name | Mandatory | Default Value | Param  ID | Search Help | Selection Screen Text | | Parameter | STRING | Yes | Path based on SAP Instance ID | NA | NA | Inbound file path | | Parameter | STRING | Yes | Path based on SAP Instance ID | NA | NA | Path to save error record file | | Parameter | STRING | Yes | Path based on SAP Instance ID | NA | NA | Path to save the log file | | Parameter | STRING | No | Path based on SAP Instance ID | NA | NA | Inbound file name | |

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| Validation of Selection Criteria |
| File Path Validation:   * Check whether the award file exists by passing the user input file path to method FILE\_EXIST of class CL\_GUI\_FRONTEND\_SERVICES. * Check whether the input file path for error log file is valid by passing the path to function module OCS\_GET\_FILE\_INFO. * Check whether the input file path for process log file is valid by passing the path to function module OCS\_GET\_FILE\_INFO. |

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| Authorization Requirements |
| The program has to be executed by the user who will be posting the award file from Pollenware Quickpay interface. The user profile will be updated with the custom authorization role, providing him access to the extract interface program. Definition The Authorization is based on the Transaction code for posting journal entries and clearing them. Logic needs to be written to identify whether the user executing the interface program has been assigned with the necessary authorization object and role. If the user has the role assigned, access to posting process transaction shall be activated. Defined Fields Not Applicable 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, post and clear the payments. 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 authorization object for the payment posting process. If the user profile is assigned the role, continue the posting process. Else, issue an error message to the user and exit program execution.  1. File path determination:  * Based on the C2FO configurator setting, determine the path for error file, process log file and award files on the application server.  1. File path validations:  * Check whether the award file exists by passing the user input file path to method FILE\_EXIST of class CL\_GUI\_FRONTEND\_SERVICES. * Check whether the input file path for error log file is valid by passing the path to function module OCS\_GET\_FILE\_INFO. * Check whether the input file path for process log file is valid by passing the path to function module OCS\_GET\_FILE\_INFO.   FB02 based postings:   1. Read award file contents:  * Concatenate the award file name provided by the user with the application server path determined based on SAP system id. Open the award file for reading the contents. If there is an issue accessing the file, trigger an error message and exit processing. If the file is found, read the contents of the file to a work area. Split the contents of the work area to structure fields to be updated. Append valid field values to internal table GT\_PAYMENT\_DATA.  1. Format award file contents:  * Starting from line 3, read internal table GT\_PAYMENT\_DATA. Convert vendor number into internal format using function module CONVERSION\_EXIT\_ALPHA\_INPUT. Fetch company code to which the vendor is assigned, from table LFB1. * Convert document number to SAP internal format using function module CONVERSION\_EXIT\_ALPHA\_INPUT. * A cumulative discount is applied to the invoice document combining static discount with awarded discount. Fetch document date (BKPF-BLDAT), posting date (BKPF-BUDAT), payment terms (BSEG-ZTERM), cash discount percentage 1 (BSEG-ZBD1P), cash discount percentage 2 (BSEG-ZBD2P) and baseline date for due date calculation (BSEG-ZFBDT). Pass the selected fields as inputs to function module MRM\_PAYMENT\_TERMS\_GET. Import the values for cash discount days 1 and 2 from the function module. * Based on the payment due date, calculate cumulative discount by adding cash discount percentage (static discount) and awarded discount. Update the cumulative discount percent to field ZBD1P and awarded discount percent to ZBD2P.  1. Modify Invoice Document:  * Append the formatted data to BDC data internal table GT\_BDC\_DATA. Call transaction code FB02 and pass the BDC table. Accrue the messages resulting from BDC processing to table GT\_BDC\_DATA. Default the payment terms to ‘0001’ and update Instruction key 1 (DTWS1) with ‘77’ using the function module CHANGE\_DOCUMENT.  1. Error records file:  * Create a CSV file with the same formatting as that of the award file and populate the records with unsuccessful updates. Convert the file format to CSV using the function module SAP\_CONVERT\_TO\_TEX\_FORMAT. Write the file to error file path as selected by the user.   F-53 based postings:   1. Format award file contents:  * Within the loop of the internal table GT\_FILE\_DATA, split the records in text format to respective screen fields. * Append the records split into fields to the internal table GT\_PAYMENT\_DATA.  1. Populate BDC tables:  * Within a loop on GT\_PAYMENT\_DATA, update the internal table for BDC data GT\_BDC\_DATA with the screen fields and their values.  1. Check Document type:  * Check the Voucher ID field for the document number. If the document is found, process the payment based on document number. * If no document number is found, read the reference document number from Invoice ID and process the payment.  1. Posting Payment Details:  * Once the BDC data is updated, call transaction F-53 and pass the BDC table to the transaction. * The messages resulting from the payment posting process are collected and passed to the table GT\_BDC\_MESSAGES. * Call the function module MESSAGE\_TEXT\_BUILD and pass the records in table GT\_BDC\_MESSAGES to format them and append to table GT\_TRANSACTION\_MESSAGES. * If the payments do not get posted, identify the reason for failure and display a log of errors on the screen output.  1. Error records file:  * Create a CSV file with the same formatting as that of the award file and populate the records with unsuccessful updates. Convert the file format to CSV using the function module SAP\_CONVERT\_TO\_TEX\_FORMAT. Write the file to error file path as selected by the user. |

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| Reusable Code |
| Not Applicable |

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| Internal Tables |
| |  |  | | --- | --- | | Name | Description | | GT\_FILE\_DATA | Internal table for storing inbound award file records | | GT\_PAYMENT\_DATA | Internal table for storing award file records split into screen fields | | GT\_BDC\_DATA | Internal table for storing BDC data to be posted | | GT\_BDC\_MESSAGES | Internal table for storing BDC messages returned by payment posting process | | GT\_TRANSACTION\_MESSAGES | Internal table for storing formatted BDC messages | | GT\_VENDOR | Internal table for storing vendor numbers | | GT\_PMT\_METHODS | Internal table for storing payment methods | | GT\_PROCESS\_DETAILS | Internal table for storing process log steps | | GT\_INVOICE | Internal table for storing invoice document numbers | | GT\_COMPANY\_CODES | Internal table for storing company codes | | GT\_ERECORDS\_CSV | Internal table for storing CSV formatted error award file records | | GT\_ERROR\_DATA | Internal table for storing error award file records | | GT\_PAYMENT\_BDCDATA | Internal table for storing formatted inbound records BDC data | |
| Messages |
| |  |  |  | | --- | --- | --- | | Message Class | Message ID | Message Text | | ZPOLLENWARE | 000 | You are not authorized to execute the program | | ZPOLLENWARE | 011 | Award file &1 found in &2. | | ZPOLLENWARE | 012 | Award file &1 not found in &2. | | ZPOLLENWARE | 027 | Award file not found at Application server path &1 | | ZPOLLENWARE | 021 | Application server path &1 is not valid. | | ZPOLLENWARE | 030 | User not authorized to access the files on application server. | | ZPOLLENWARE | 029 | Award file formatting incorrect, file read failed. | | ZPOLLENWARE | 014 | &1 records found in the award file &2 | | ZPOLLENWARE | 025 | No company codes found for the entries in Award file. | | ZPOLLENWARE | 035 | Errors occured; Failed records updated to log file | | ZPOLLENWARE | 034 | Award file processing complete. | | ZPOLLENWARE | 016 | Given &1 directory is not found in application server. | | ZPOLLENWARE | 020 | Input file path &1 is not valid. | |

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| Selection text |
| |  |  | | --- | --- | | Name | Description | | P\_ASPATH | Inbound file path | | P\_DFILE | Inbound File | | P\_EFPATH | Path to save error record file | | P\_FNAME | Inbound File Name | | P\_LFPATH | Path to save the log file | |

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| Text Elements |
| |  |  | | --- | --- | | Name | Description | | AFI | Award file formatting incorrect, file read failed. | | ALF | VendorInbound\_AppServer\_Log.rtf | | ANF | Award file not found at FTP &1 | | ANS | Award file not found at Application server path &1 | | API | Application server path &1 is not valid. | | APV | Application server path &1 is valid. | | ATH | Application server path for inbound file and error file | | DE3 | \\ftwwdsapd301.rails.rwy.bnsf.com\datastaging\de3\FI\IN\LOG | | ED3 | \\ftwwdsapd301.rails.rwy.bnsf.com\datastaging\de3\FI\OUT\ERROR | | ED4 | \\ftwwdsapd401.rails.rwy.bnsf.com\datastaging\de4\FI\OUT\ERROR | | ED7 | \\ftwwdsapd701.rails.rwy.bnsf.com\datastaging\de7\FI\OUT\ERROR | | EFP | D:\usr\sap\EP4\DVEBMGS00\work | | EOP | Errors occured while posting payments. | | EP1 | \\sap-p-ecc-01.rails.rwy.bnsf.com\Datastaging\PE1\FI\OUT\ERROR | | EQ1 | \\sap-q-ecc-01.rails.rwy.bnsf.com\Datastaging\QE1\FI\OUT\ERROR | | EQ5 | \\topwdsapr201.rails.rwy.bnsf.com\Datastaging\QE5\FI\OUT\ERROR | | ERF | VendorInbound\_Fail\_Records\_ | | FAL | Fail | | FFN | Please provide the folder path along with the award file name to read the file. | | FUA | User Authorization Failed, Inbound payment process Terminated. | | IBF | Inbound file selection | | ID3 | \\ftwwdsapd301.rails.rwy.bnsf.com\datastaging\de3\FI\IN\WORK | | ID4 | \\ftwwdsapd401.rails.rwy.bnsf.com\datastaging\de4\FI\IN\WORK | | ID7 | \\ftwwdsapd701.rails.rwy.bnsf.com\datastaging\de7\FI\IN\WORK | | IFN | Input file path &1 is not valid. | | IFP | Input file path &1 is valid. | | ILF | Inbound\_LogFile\_ | | IP1 | \\sap-p-ecc-01.rails.rwy.bnsf.com\Datastaging\PE1\FI\IN\WORK | | IQ1 | \\sap-q-ecc-01.rails.rwy.bnsf.com\Datastaging\QE1\FI\IN\WORK | | IQ5 | \\topwdsapr201.rails.rwy.bnsf.com\Datastaging\QE5\FI\IN\WORK | | L01 | \*---------------------------------------------------------------------\* | | L03 | \* LOG DETAILS \* | | L04 | \* \* | | L09 | \* Client Number : | | L11 | \* Total Discount Dollars Promised : | | L12 | \* Total Invoice Dollars : | | L13 | \* Total Number of Unique Vendors : | | L14 | \* Records with Errors : | | L15 | \* Records Processed Correct : | | L16 | \* Record count : | | L18 | \* PROCESS DETAILS : \* | | L19 | \* Overall Status : | | L20 | \*------------------------END OF PROCESS LOG---------------------------\* | | L21 | \* POLLENWARE - VENDOR INBOUND SYSTEM LOG \* | | L22 | \* Date of Execution : | | L23 | \* Time of Execution : | | L24 | \* Executed by : | | NCF | No company codes found for the entries in Award file. | | NPD | No payment methods found for the entries in Award file. | | NRF | &1 records found in the award file &2 | | PCC | Payment method for cheque/check not found. | | PCP | Payment method &1 considered for posting payment for vendor &2. | | PE1 | \\sap-p-ecc-01.rails.rwy.bnsf.com\Datastaging\PE1\FI\IN\LOG | | QE1 | \\sap-q-ecc-01.rails.rwy.bnsf.com\Datastaging\QE1\FI\IN\LOG | | SCF | FTP connection to &1 sucessful. | | SGN | Session &1 has been created for failed transactions. | | STF | Award file transferred sucessfully to &1 | | SUC | Sucess | | UAA | User not authorized to access the files on application server. | | UAF | User not authorized to execute the transaction | | UAS | User authorized to execute the transaction | | UCF | Connection to FTP &1 failed. | | UFF | Award file &1 not found in &2. | | UNA | User not authorized to create files on application server. | | VOR | over flow of total invoice dollars. | |

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| Subroutines |
| |  |  | | --- | --- | | Name | Description | | VALIDATE\_USER\_AUTHORIZATION | User authorization validation for executing inbound program | | FILL\_PROCESS\_DETAILS | Fill process details log data | | CREATE\_APPSERVER\_LOG | Create process log file | | FETCH\_ERROR\_FILE\_PATH | To fetch application server error file path | | CHECK\_PATH\_APPSERVER | Validate error records file application server path | | FETCH\_DATA\_FROM\_SERVER | Fetch award file from application server | | FORMAT\_DATA | Format award file data | | REMOVE\_DOUBLE\_QUOTATIONS | Remove double quotations from field values | | DATE\_FORMAT\_USERSPEC | Date format change as per user settings | | FILL\_BKPF | Retrieve invoice details from table BKPF | | FILL\_BSEG | Retrieve invoice details from table BSEG | | FILL\_BSET | Retrieve invoice details from table BSET | | SAVE\_ERECORDS\_APPSERVER | Save error records file to application server | | CREATE\_INBOUND\_LOG | Create inbound process log file | |

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| Interface Output |
| |  | | --- | | Output Method | | Not Applicable |  |  | | --- | | SORTING | | Not Applicable |  |  | | --- | | ERROR HANDLING | | * If the input award file is not found, an error message is issued and the user is redirected to the selection screen to provide a valid file path. * If the file path for error records and process log files are invalid, an error message is issued and the user is redirected to the selection screen of inbound 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) |
|  |

# Appendix