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Automating Electronic Bank Statement Process Using BAI2 Format in S4 HANA

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Abstract
Performing Cash and Bank Reconciliation on a timely basis is a crucial need for any organization to achieve benefits such as accuracy of financial records, detecting fraud, efficient cash management etc. Sourcing organization's transaction history from the banking institutions and utilizing this information effectively to perform reconciliation can be challenging due to various limitations such as lack of tools and technologies and the effort needed to review large amount of financial data. SAP offers Electronic Bank Statement Functionality which can be used to automate Cash and Bank Reconciliation process using various formats such as BAI, BAI2, MT940, ISO 20022 etc. This article explores what is Cash and Bank Reconciliation, its advantages and how the functionality can be configured and automated in SAP S4HANA.

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Keywords: Electronic Bank Statement (EBS – BAI, BAI2, MT940, ISO 20022), Cash and Bank Reconciliation, In-House Cash Management

Introduction

Bank reconciliation is more than just a financial routine. it's a strategic tool that empowers business with the information needed to make informed decisions. Here are five compelling reasons why bank reconciliation matters a lot for business:

- **Data Accuracy**: Bank reconciliation ensures that organization's financial records align accurately with their bank's records. This accuracy is essential for confident decision-making.
- **Real-Time Insights**: Bank reconciliation provides real-time visibility into company's bank balances, cash flow, and financial transactions. This information allows them to spot potential issues early and take corrective action promptly.
- **Cash Flow Management**: Accurate bank reconciliation helps organizations optimize their cash flow. They can identify trends in financial transactions, pinpoint areas where funds may be tied up, and make informed decisions to enhance liquidity and overall financial stability.
- **Prevents Financial Errors**: Mistakes such as double entries, missed transactions, or incorrect amounts can occur in both the company's records and the bank's records. Reconciliation helps identify these errors and ensures that they are corrected, preventing issues that could affect financial reporting or tax filings.
- **Enhances Financial Control:** The reconciliation process provides a strong internal control mechanism for monitoring and verifying financial transactions. It allows businesses to compare internal records with the actual bank statement, ensuring that all transactions are legitimate and properly recorded.

Bank Reconciliation in SAP S4HANA

SAP offers Electronic Bank Statement (EBS) Functionality to receive company's transaction history with Bank in an electronic format and process this data using automated ways to perform Cash and Bank Reconciliation. Banking Institutions depending on the region where they are located provide this data in various formats. EBS Process in SAP can handle most of the global standard formats such as BAI, BAI2, MT940, ISO 20022.

Advantages of Using EBS in SAP

- **Efficiency:** Automates the process of bank statement processing, reducing manual intervention and errors.
- **Reconciliation:** Helps achieve accurate and timely bank reconciliation.
- **Integration:** EBS integrates with other SAP modules, like Treasury and Cash Management, to provide real-time financial insights.
- **Real-time Information:** Provides up-to-date information about bank balances and transaction status, improving cash management.

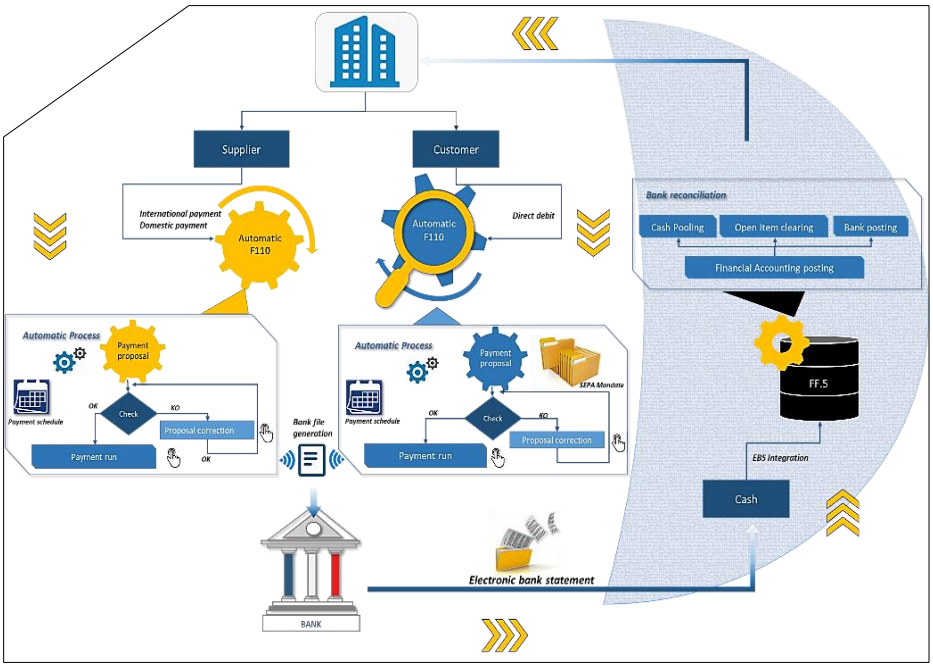

Fig 1: Reconciling Financial Activity with Suppliers & Customers through Electronic Bank Statement in SAP

Master Data Requirements for EBS Process in SAP:

- **Bank Key:** Bank Key in SAP represents Routing Number which refers to Banking Institution such as Bank of America, Citi, Wells etc. One Banking Institution may have several bank keys based on the geographies they are located in.
- **House Bank:** House Bank represents Bank Branch such as Downtown Branch for Bank of America.
- **Account ID:** Account ID represents Bank Account under a Branch.
- **General Ledger Accounts:** Accounts which receive financial postings while processing EBS.

How SAP translates content from BAI2 File into financial postings using EBS configuration:

Configuration of EBS Process depends on the EBS File Format which is dictated by Banking Institutions. Configuration for some formats such as BAI2, MAT940 is consistent even-though the way they are structured are completely different. Based on the format selected while processing, system reads the electronic file and use the configuration to perform bank reconciliation and post financial records.

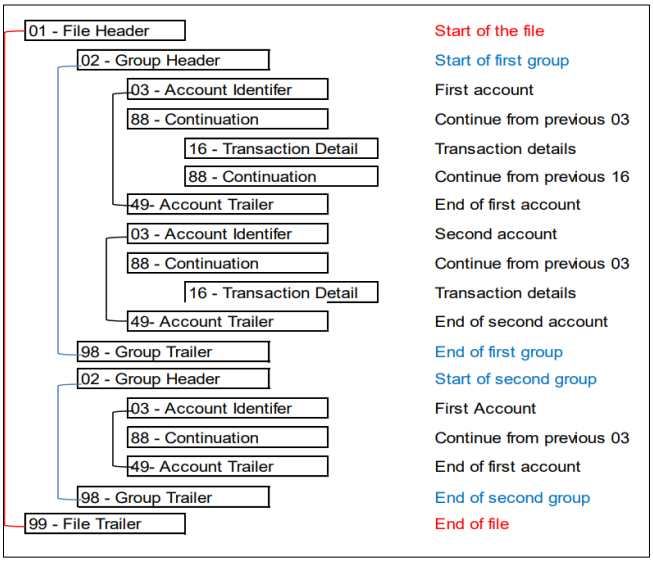

Fig 2: Structure of EBS File Format in BAI2

BAI2 is a standardized and machine readable format developed by Bank Administration Institution (BAI) for facilitating automation of Cash and Bank Reconciliation Process. Professionals implementing ERP Systems must go through BAI Specifications Guide provided by the respective banking institution to understand the structure of the BAI File Format. It is very difficult to read and understand the content in BAI File if they are not familiar with Cash and Bank Recon Process and have not gone through BAI Specifications document.

File Record	Remark 1	Remark 2	Remark 3
01,JSLTEST,JSLTEST,150828,1353,004,80,,2/	Bank Key	File Generation Date	
02,JSLTEST,JSLTEST,1,150827,1435,USD,2/	Statement Date		
03,9000000009124,USD,010,00000006850000,,/	Bank Account No.	Opening Balance	Amount 685000
88,015,00000008430000,,/	Closing Balance	Amount 88300	
88,100,00000004190000,,/	Total Credits	Amount 41900	
88,400,00000002610000,,/	Total Debits	Amount 22100	
16,354,004000000,,KB0075 IMG8650153019,,Int Inc	Interest Income	Amount 40000	
16,654,000100000,,KB0075 IMG8650153019,,Int exp	Interest Expense	Amount 1000	
16,116,100000,,KB0075 IMG8650153019,1800000040,Check(s) In,/	Checks In	Amount 1000	AR Document #
16,116,90000,,KB0075 IMG8650153019,1800000041,Check(s) In,/	Checks In	Amount 900 (Partial Payment)	AR Document #
16,698,0010000,,KB0075 IMG8650153019,,Bank Fee	Bank Fee	Amount 100	
16,475,1000000,,KB0075 IMG8650153019,100007,Check(s) Paid	Checks Out	Amount 10000	Check# 10007
16,475,1100000,,KB0075 IMG8650153019,100008,Check(s) Paid	Checks Out	Amount 11000	Check# 10008
16,469,4000000,,20150840796815,/	ACH Ou	Amount 40000	

Fig 3: Column Named "File Record" shows how the content In BAI File would look like whereas Columns named "Remark 1, Remark 2 and Remark 3" denotes what the color coded content in Column "File Record" refers to.

Assignment of Bank Accounts to Transaction Types:

Its not necessary to process all the bank statements in the same way. Using specific configurations in SAP, each bank account can be processed differently based on file formats and business needs. Routing Number and Bank Keys are assigned to Transaction Type which denote how the file is to be processed. Systems reads Routing and Bank Account Number from record 1 and 3 of BAI File and identify the Transaction Type assigned to them. This transaction type holds all the attributes that dictate how the transactions in the BAI File are to be processed.

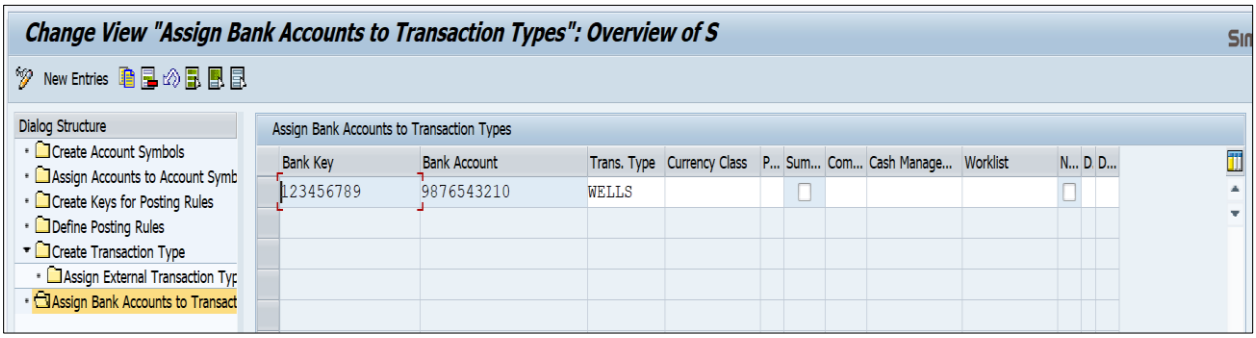

Fig 4: Assignment of Routing Key and Bank Account Number to Transaction Type

Assign External Transaction Codes to Transaction Types

BAI File contains various types of transactions such as payments made to suppliers, receipts from customers, bank charges, interest received, interest paid etc. Record No 16 in the BAI File refers to each transaction. It contains a three digit BAI Code such as 116 for checks deposited. It is recommended to configure all BAI Codes in the system to ensure there would not be any failures while processing BAI Files. All the BAI Codes are configured with Posting Rules and are assigned to Transaction Types.

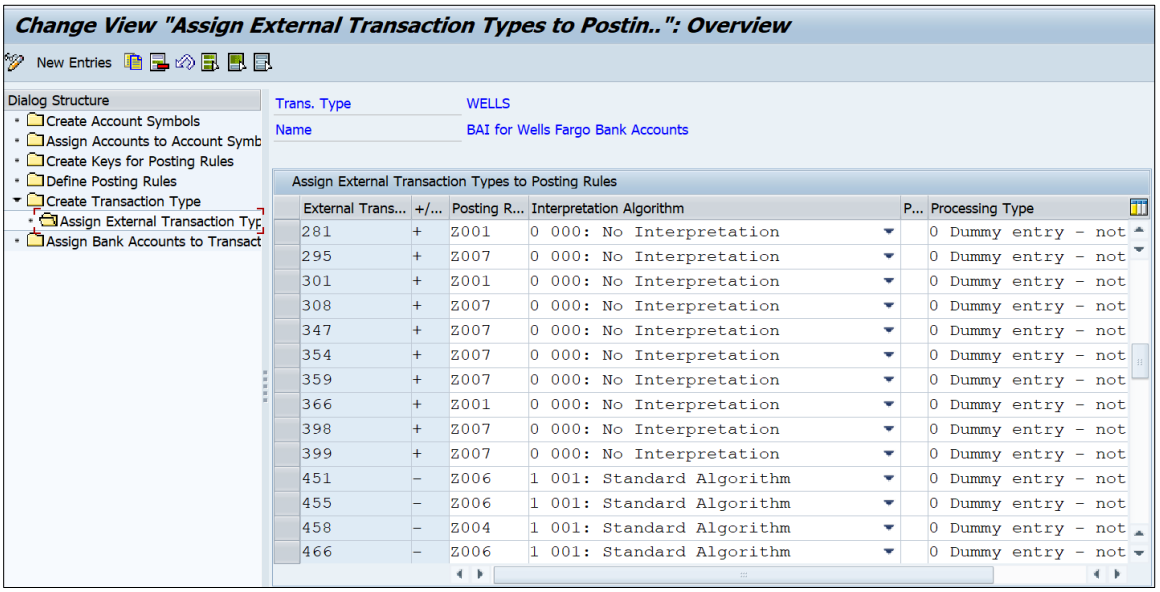

Fig 5: Mapping of BAI Codes to Posting Rules under Transaction Type

Interpretation Algorithm

Interpretation algorithm can be described as a search engine which can identify the open transactions and submits these details to Posting Rule which can reconcile the data and clear the open items.

Posting Rule

Posting rule plays a crucial role in processing the transactions. It controls key decisions such as whether the financial postings are to be generated for general ledger or subsidiary ledger or for both, General Ledger Accounts to be used for both debit and credit side of the financial postings, whether the transaction is subject to any clearing or not.

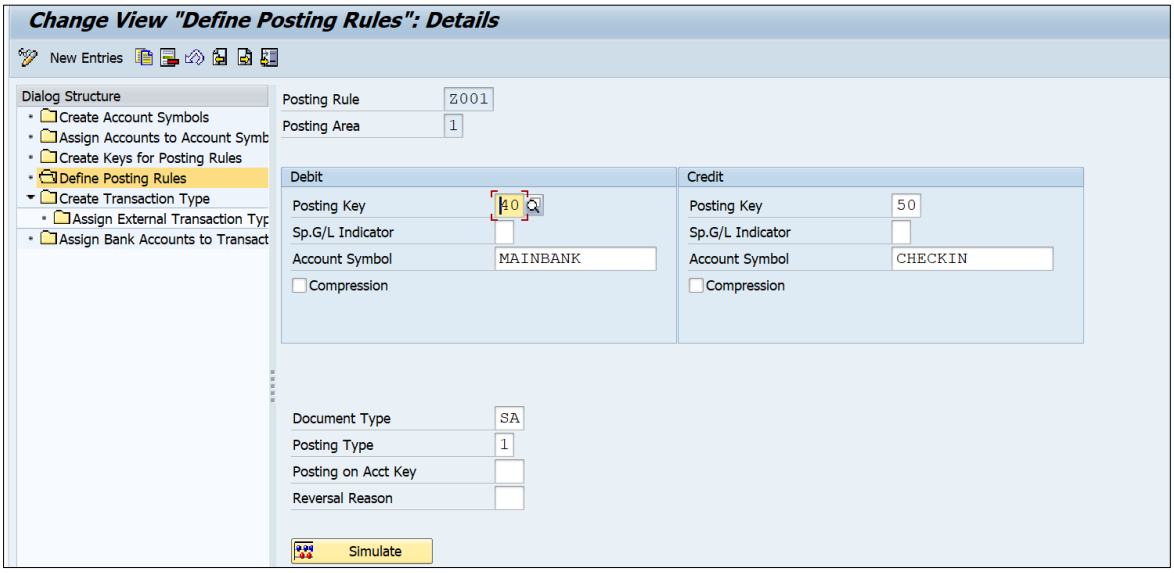

Fig 6: Definition of Posting Rule that dictates Posting Parameters while processing BAI File

Account Symbols:

Accounts Symbols associated with Posting Rules are assigned with GL Account Masking. Account Symbols helps the system in determining the GL Accounts to be used for Financial Postings. Assignment of Masked GL Accounts to Account Symbols eliminates the need for maintaining GL Account Determination for each bank account that is being onboarded for Cash and Bank Reconciliation.

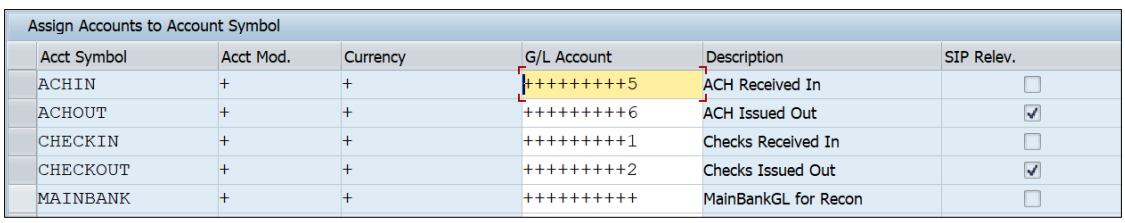

Fig 7: Assignment of Account Symbols to Marked GL Accounts

Leveraging Data Import Configuration and Newly Introduced Capabilities for Automating Bank Reconciliation Process

Many of the professionals implementing Bank Reconciliation Process often develop custom programs for processing Electronic Bank Statements since Fiori Apps or the equivalent Transaction Codes cannot access SAP Directory where files retrieved from bank server are placed. SAP has introduced Data Import Configuration which can be leveraged to configure the system to read files from SAP Directory and move them to Archive Folders once the files are processed successfully without creating any custom programs.

Data Import Configuration

Define Logical Paths

Logical Paths refer to Network folders where Electronic Bank Statement Files are managed. Logical Paths are to be defined for folders where files are placed for SAP to pickup and process, folders where the files are to be archived once the files are successfully processed and the folders to where the files are to be moved when they are failed to process successfully.

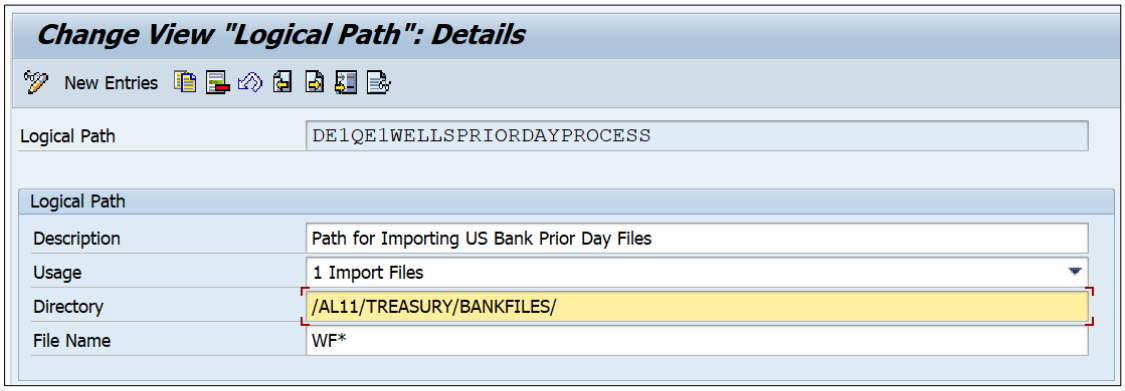

Fig 8: Definition of Logical Path mapped with SAP Directory

Define Import Parameters:

Once the Logical Paths are defined, they are to be grouped together and format of bank statement to be specified so that system would try to process and archive the file received from Bank Statement as per the rules defined in the processing engine for the chosen file format.

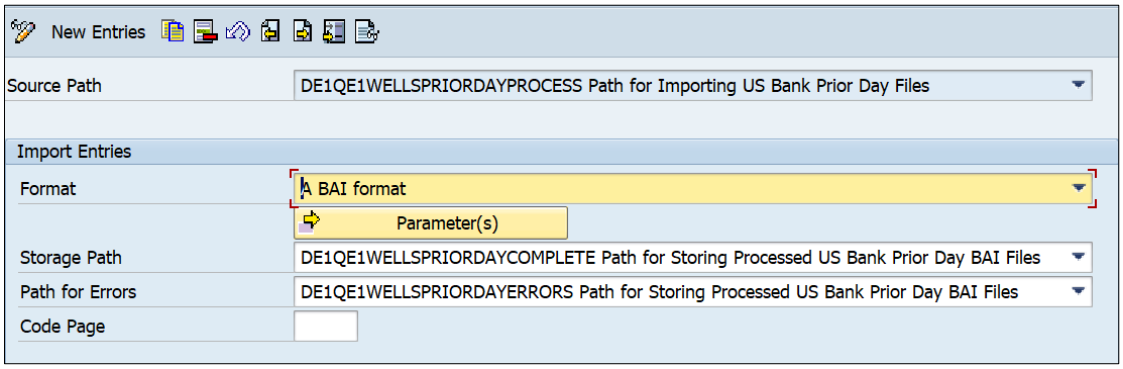

Fig 9: Specifying EBS File Format and defining logical paths for managing EBS File

Define Posting Parameters

Posting Parameters would help the system in determining how the file is to be processed such as just importing bank statement, import and post bank statements, import and creating batch input session for further processing. This configuration would also help the system in simplifying the search criteria such as identifying the open items for clearing using a specific number range instead of searching on infinite loop.

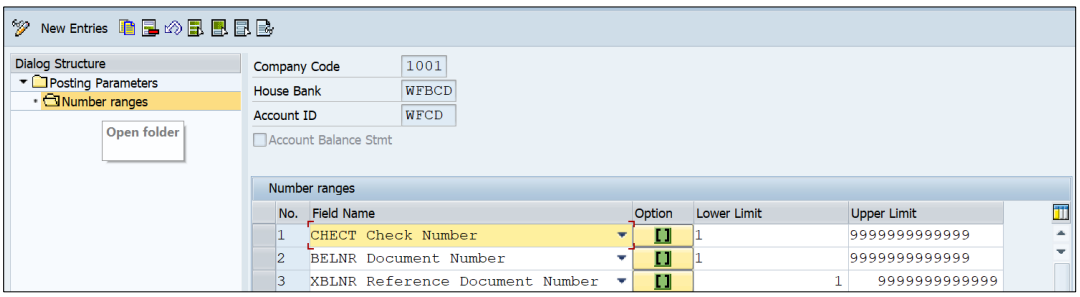

Fig 10: Number Range for Carrying out Search for identifying and Clearing Open Items

Conclusion

Automation of Electronic Bank Statement Process can be challenging as it demands good understanding of how EBS Files are Structured, availability of secured and encrypted EDI Channels and sophisticated ERP Systems for processing the files, but it's a one-time setup for an organization. Once its implemented, this would help the organization in many ways such as performing timely cash and bank reconciliation, efficient working capital management, helping top management in taking better finance decisions etc.

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