SWIFT Partner Management

Bank Directory Plus and IBAN Plus– Test Scenarios

Technical Qualification Guide

This document lists the scenario to test BIC and IBAN Validation in back-office or middleware applications using the BIC Directory , Bank Directory Plus and IBAN Plus as reference data.

Version 1

March 2016

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Preface

Purpose of this document

This document describes the test scenarios to validate BIC and IBAN using the BIC Directory, Bank Directory Plus and IBAN Plus.

The purpose of the reference data table look-up and validation is to improve the Straight through Processing of payment transactions.

Wherever applicable, test data is provided along with the test scenario. **The user must add the other relevant and mandatory fields for generating a valid SWIFT message**.

Intended readership

This document is intended to guide the application providers who integrate their back-office application with the BIC Directory, Bank Directory Plus and IBAN Plus.

Related documentation

Test scenarios are developed referring to the following document:

- bic_dir_tech_specs.pdf
- bk_dir_plus_tech_spec_fil_v_3.pdf
- iban_plus_tech_spec_fil_v_3.pdf

The above documents are downloadable from https://swiftref.swift.com/resource-category/products

Table of content

1 Introduction

This document consists of number of test scenarios, facilitating the testing of the BIC Directory, Bank Directory Plus and IBAN Plus reference data validation in the Payments and Trade applications.

NOTE: These test scenarios are for indicative purposes only and the vendor may devise their own test strategy for exhaustive testing of their application for the reference data validation.

1.1   Overview of the BIC Directory, Bank Directory Plus and IBAN Plus

The BIC Directory is a SWIFT Directory that lists the Business Identifier Codes that SWIFT has registered according to the ISO 9362 standard, and the names and addresses of the corresponding entities. It also contains additional information (for example, the market infrastructures in which the entities participate). The scope of the additional information varies according to the version of the directory.

Bank Directory Plus and IBAN Plus are SWIFTRef Directories that list institution identifiers recognized by the financial industry, for example, Business Identifier Codes, CHIPS UIDs, national clearing codes, and IBAN related information. They also provide the names and addresses of the corresponding entities.

The BIC Directory, Bank Directory Plus and IBAN Plus are used to identify correspondents and counterparties accurately, and to allocate the correct code when sending messages, thus improving Straight Through Processing (STP).

1.2   Integration of the BIC Directory

The BIC codes contained in the BIC Directory can be used in various fields of the SWIFT messages. The absence of BIC Codes in these fields is one of the major obstacles to STP and causes manual intervention on the recipient's side. SWIFT expects vendors to provide an integrated interface within their application to allow users to retrieve and input BIC's into the proper fields, correctly formatted.

The user should be able to enter a number of search criteria, such as Bank Name or Location, perform a search and be presented with a list of results. From this window he should be able to select the correspondent BIC and to copy it into the message (i.e. transaction).

If the search criteria return no results, the user must be alerted that no BIC is available. If the user manually enters a non-existing BIC, the application must send an alert notifying the user that this BIC is not valid.

1.3   Integration of Bank Directory Plus and IBAN Plus

Integration is similar to that of the BIC Directory except that codes retrieved from Bank Directory Plus and IBAN Plus must be inserted into the proper field and formatted correctly as per the usage rules in the SWIFT User Handbook.

The new Bank Directory Plus and IBAN Plus replaced the BICPlusIBAN, which has been decommissioned in December 2013.

IBAN Plus supplies the data needed to prepare and validate payment messages for all IBAN countries, including all SEPA countries. It delivers a table with IBAN structures in each country that has adopted IBAN and a separate table with BICs and national codes to enable IBAN validation and completion of the BIC.

Bank Directory Plus delivers world-wide bank reference data including:

— All BIC codes, sourced from the ISO registry (200 + countries)
— Complete national payment and identification codes from 140 + countries
— Bank hierarchy information
— CHIPS, TARGET and EBA data
— Payment systems routing data
— Country, currency and holiday data

2 Test Scenarios – BIC Directory Validation

2.1 Validating the BIC using the BIC Directory – Valid BIC

Purpose:

To create or validate a BIC in an International payment message.

Description of the Scenario:

The remitting customer has provided the beneficiary bank name and BIC for making an international payment. The application must refer to the BIC Directory to validate the BIC provided by the remitter is a valid BIC or not.

Test Scenario:

Remitting customer gives instruction to the payer bank to initiate a payment for EUR 1234,56 to a beneficiary customer and provides the name of the beneficiary bank and BIC. The Single Customer Credit Transfer message must be sent to your correspondent bank with instructions to make payment to the Beneficiary bank, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Receiver Bank	CORRFRPPXXX
Remitter Name	REMITTER
Remitter Account	987654321
Currency and Amount of Remittance	EUR 1234,56
Beneficiary customer Name	BENEFICIARY
Beneficiary Account Number	123456789
Beneficiary Bank Name	BENEFICIARY BANK
Beneficiary Bank BIC	BENEFRPPXXX

The payer bank must find out if the beneficiary bank BIC is a valid BIC or not.

For this purpose, the payer bank refers to the BIC Directory to locate for the BIC using the BIC provided by the remitter.

It finds the BIC present in the BIC Directory and the Single Customer Credit Transfer message – MT 103 is sent to the receiver bank using the beneficiary bank BIC.

Expected Result:

MT 103 generated using the above details and field 57A contains the BIC of the beneficiary bank.

Test Evidence:

- MT 103 with beneficiary bank BIC generated from the application in RJE format.
- Screenshot demonstrating the application table look-up with reference date – BIC Directory.

2.2 Validating the BIC using the BIC Directory – Invalid BIC

Purpose:

To create or validate a BIC in an International payment message.

Description of the Scenario:

The remitting customer has provided the beneficiary bank name and BIC for making an International payment. The application must refer to the BIC Directory to validate the BIC provided by the remitter is a valid BIC or not.

Test Scenario:

Remitting customer gives instruction to the payer bank to initiate a customer payment for USD 1234,56 to a beneficiary customer and provides the name of the beneficiary bank and BIC. The Single Customer Credit Transfer message is to be sent to your correspondent bank with instructions to make payment to the beneficiary bank, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Receiver Bank	CORRUS33XXX
Remitter Name	REMITTER
Remitter Account	987654321
Currency and Amount of Remittance	USD 1234,56
Beneficiary customer Name	BENEFICIARY
Beneficiary Account Number	123456789
Beneficiary Bank Name and City Name	BENO BANK, NEW ORLEANS
Beneficiary Bank BIC	BENOUSNN

The payer bank must find out if the beneficiary bank BIC is a valid BIC or not.

For this purpose, the payer bank refers to the BIC Directory to locate the BIC using the BIC provided by the remitter.

It does not find the BIC present in the BIC Directory and the Single Customer Credit Transfer message – MT 103 is sent to the receiver bank using beneficiary bank name.

Expected Result:

MT 103 generated using the above details and field 57D contains the name of the beneficiary bank.

Test Evidence:

- MT 103 generated from the system in RJE format using beneficiary bank name.
- Screenshot demonstrating the application table look-up with reference date – BIC Directory that did not retrieve the BIC.

3 Test Scenarios – Bank Directory Plus Validation

3.1   Lookup for Bank Details using Bank Directory Plus

Purpose:

To create or validate a BIC in an International payment message.

Description of the Scenario:

An Interbank remittance must be made to an underlying trade transaction. The beneficiary institution name is provided. In order to make the remittance, the application must refer to Bank Directory Plus to look up the bank details and derive the BIC.

Test Scenario:

The payer bank initiates an Interbank funds transfer for EUR 1234,56 to its correspondent bank at Paris and must furnish the Beneficiary BIC in the General Financial Institution Transfer message. The General Financial Institution Transfer message is to be sent to the correspondent bank, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Receiver Bank	CORRFRPP
Currency and Amount of Remittance	EUR 1234,56
Beneficiary Bank Name and City Name	BENE BANK, PARIS

The payer bank must locate the beneficiary bank BIC before sending the MT 202.

For this purpose, the payer bank refers to Bank Directory Plus to locate the BIC of the beneficiary bank, using the **INSTITUTION NAME** [Beneficiary Bank Name] and **CITY** [City Name].

It finds the **BIC8** [BENEFRPP] or **BIC** [BENEFRPPXXX] present in Bank Directory Plus and the General Financial Institution Transfer message – MT 202 is sent to the Correspondent bank using beneficiary bank BIC derived from Bank Directory Plus.

Expected Result:

MT 202 generated using the above details and the beneficiary bank BIC derived from Bank Directory Plus.

Test Evidence:

- MT 202 generated from the system in RJE format.
- Screenshot demonstrating the application table look-up with reference date – Bank Directory Plus that retrieved the BIC of the beneficiary bank.

3.2   Lookup for National Code

Purpose:

To look up the National code [National ID] of a bank and the clearing system used by the correspondent bank to reach the Beneficiary Customer.

Description of the Scenario:

The remitting customer has provided the beneficiary bank name for making an international payment. The beneficiary bank is not connected to SWIFT, but it is identified with a national code in the Austrian Payment Clearing system. The application must refer to Bank Directory Plus to look up the Bank Details and validate the National Clearing System code.

Test Scenario:

Remitting customer gives instruction to the payer bank to initiate a customer payment for EUR 1234,56 to a beneficiary customer in Vienna and provides the name of the beneficiary bank . The Single Customer Credit Transfer message is to be sent to your correspondent Bank with instructions to make payment to the beneficiary bank, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Receiver Bank	CORRATWW
Remitter Name	REMITTER
Remitter Account	987654321
Currency and Amount of Remittance	EUR 1234,56
Beneficiary customer name	BENEFICIARY
Beneficiary Account Number	123456789
Beneficiary Bank Name and City Name	BENE NO BIC BANK, VIENNA

The payer bank must locate the beneficiary bank National ID to send the MT 103.

For this purpose,

- the payer bank uses the **INSTITUTION NAME** [Beneficiary Bank Name] and **CITY** [City Name] provided by the customer in Bank Directory Plus
- Look for field **NATIONAL ID** of the beneficiary bank

It finds the National Code from Bank Directory Plus and the Single Customer Credit Transfer message – MT 103 is sent to the correspondent bank with the derived values in the first line of the field 57C.

Expected Result:

MT 103 generated using the above details.

Test Evidence:

- MT 103 generated from the system in RJE format.

Screenshot demonstrating the application table look-up with reference data – Bank Directory Plus that retrieved the National Clearing System code.

4 Test Scenarios – IBAN Plus and IBAN Structure Validation

4.1   Validate an IBAN

Purpose:

To validate an IBAN in international payments.

Description of the Scenario:

The remitting customer has provided the beneficiary customer IBAN for making an international payment. The application must refer to the IBANSTRUCTURE_FULL table to validate the IBAN of the beneficiary bank.

Test Scenario:

Remitting customer gives instruction to the payer bank to initiate a customer payment for EUR 1234,56 to a beneficiary customer in Vienna and provides the IBAN number of the beneficiary customer. Before making the Single Customer Credit Transfer message, IBAN must be verified to ensure that it is a valid IBAN of the beneficiary customer. This is performed by deriving the country code and national ID from the IBAN using IBANSTRUCTURE_FULL table and verifying these details in IBAN Plus, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Remitter Name	REMITTER
Remitter Account	987654321
Currency and Amount of Remittance	EUR 1234,56
Beneficiary customer name	BENEFICIARY
Beneficiary IBAN	AT571234500234573201
Beneficiary Bank Name and City Name	AUSTRIA BANK, VIENNA

The payer bank should validate the IBAN as below:

- – Check length of IBAN against IBANSTRUCTURE_FULL table
- – Extract country code from IBAN [AT] and compare to **IBAN COUNTRY CODE** in IBANSTRUCTURE_FULL table
- – Check / recalculate check sum
- – Extract IBAN national ID using position number from IBANSTRUCTURE_FULL table for that country
- – Check that national ID exists in **IBAN NATIONAL ID** field in IBANPLUS table and IBAN ISO COUNTRY CODE matches with country code extracted from IBAN

Expected Result:
Structure of the IBAN is valid and has valid National ID and Country code.

Test Evidence:
- Screenshot demonstrating the application table look-up and IBAN validation with reference data – IBAN Plus that retrieved the National ID and ISO country code.

4.2 Derive BIC from an IBAN for Cross-border Payments

Purpose:

To derive BIC from IBAN for sending message to a country that has a registered ISO IBAN structure.

Description of the Scenario:

The remitting customer has provided the beneficiary customer IBAN and does not provide the BIC of the beneficiary bank for making an international payment. The application must refer to the IBANSTRUCTURE_FULL table and IBANPLUS table to derive the BIC of the beneficiary bank. The remittance is to be made using MT 103+ to derive Straight Through Processing.

Test Scenario:

Remitting customer gives instruction to the payer bank to initiate a customer payment for EUR 1234,56 to a beneficiary customer at Frankfurt and provides the IBAN number of the beneficiary customer and name of the beneficiary bank. The Single Customer Credit Transfer message is to be sent directly to beneficiary bank, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Receiver Bank Name	GENO BANK, FRANKFURT
Remitter Name	REMITTER
Remitter Account	987654321
Currency and Amount of Remittance	EUR 1234,56
Beneficiary Customer Name	BENEFICIARY
Beneficiary IBAN	**DE**70**7509 0300** 4510 0023 21
Beneficiary Bank Name and City Name	GENO BANK, FRANKFURT

The payer bank must locate for the beneficiary bank BIC before sending the MT 103+. For this purpose, the payer bank refers to the IBAN Plus directory as below:

- IBANSTRUCTURE_FULL table to retrieve the **IBAN ISO COUNTRY CODE** and **IBAN NATIONAL ID** from the IBAN of the beneficiary customer.
- Look for Field **IBAN BIC** of the beneficiary bank as **GENODEFFXXX**

It finds the **IBAN BIC** [GENODEFFXXX] present in the IBANPLUS table and the Single Customer Credit Transfer message – MT 103+ is sent to the beneficiary bank using the BIC derived from **IBAN Plus**.

Expected Result:

MT 103+ generated using the BIC derived from IBAN Plus Directory.

Test Evidence:
- MT 103+ generated from the system in RJE format.
- Screenshot demonstrating the application table look-up with reference date – IBAN Plus Directory that retrieved the BIC of the beneficiary bank.

4.3 Validating check digit in IBAN

Purpose:

To validate the check digit in the beneficiary IBAN is a valid or not.

Description of the Scenario:

The remitting customer has provided the beneficiary customer IBAN and the BIC of the beneficiary bank for making an international payment. The application must recalculate the check digit from the IBAN and validate the check digit with the value available in the IBAN provided by the customer.

Test Scenario:

Remitting customer gives instruction to the payer bank to initiate a customer payment for EUR 1234,56 to a beneficiary customer in Vienna and provides the IBAN number of the Beneficiary Customer, name and BIC of the Beneficiary Bank. Before making the Single Customer Credit Transfer message, the beneficiary IBAN must be validated to verify if the check digit in the IBAN is a valid one or not. This is performed by recalculating the check digit from the information available in the IBAN, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Receiver Bank BIC	CORRATWW
Remitter Name	REMITTER
Remitter Account	987654321
Currency and Amount of Remittance	EUR 1234,56
Beneficiary customer name	BENEFICIARY
Beneficiary IBAN	AT901234500234573201
Beneficiary Bank Name and City Name	AT BANK, VIENNA
Beneficiary Bank BIC	ATBKATWW

The payer bank validates the IBAN using the scheme defined in ISO/IEC 7064 Modulo 97-10.

The check digit calculated by the above process does not match with the check digit available in the IBAN provided by the remitting customer.

Expected Result:

IBAN is not a Valid IBAN. The user is cautioned to follow-up with manual investigation.

Test Evidence:

- Screenshot displaying the error message that the IBAN contains an invalid check digit.

4.4   Validating country specific IBAN Structure

Purpose:

To validate the beneficiary IBAN with the country specific IBAN Structure format.

Description of the Scenario:

The remitting customer has provided the beneficiary customer IBAN and the BIC of the beneficiary bank for making an international payment. The application must verify if the beneficiary IBAN is a valid IBAN or not before making the remittance.

Test Scenario:

Remitting customer gives instruction to the payer bank to initiate a customer payment for EUR 1234,56 to a beneficiary customer in Vienna and provides the IBAN number of the beneficiary customer, name and BIC of the beneficiary bank. Before making the Single Customer Credit Transfer message, the IBAN must be validated to verify if the IBAN structure matches with the country specific structure.   This is performed by verifying the IBAN structure with the IBANSTRUCTUREFULL table in IBAN Plus, using the following test data.

Description	Test Data
Remitting Bank	PAYMINBBXXX
Receiver Bank BIC	CORRATWW
Remitter Name	REMITTER
Remitter Account	987654321
Currency and Amount of Remittance	EUR 1234,56
Beneficiary customer name	BENEFICIARY
Beneficiary IBAN	AT44123450023457320
Beneficiary Bank Name and City Name	AT BANK, VIENNA
Beneficiary Bank BIC	ATBKATWW

The payer bank performs the following validation to ascertain the accuracy of country specific IBAN structure:

- Extracts the country code from the beneficiary IBAN (first two characters).
- Using the **IBAN COUNTRY CODE**, extracts the **IBAN TOTAL LENGTH** from the IBANSTRUCTUREFULL table
- Compares the length of the IBAN provided by the customer.

The comparison process results in mismatch of IBAN provided by the customer with Austrian IBAN Structure.

Expected Result:

IBAN is not a Valid IBAN. The user is cautioned to follow-up with manual investigation.

Test Evidence:

- Screenshot displaying the error message that IBAN is not a valid IBAN.

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