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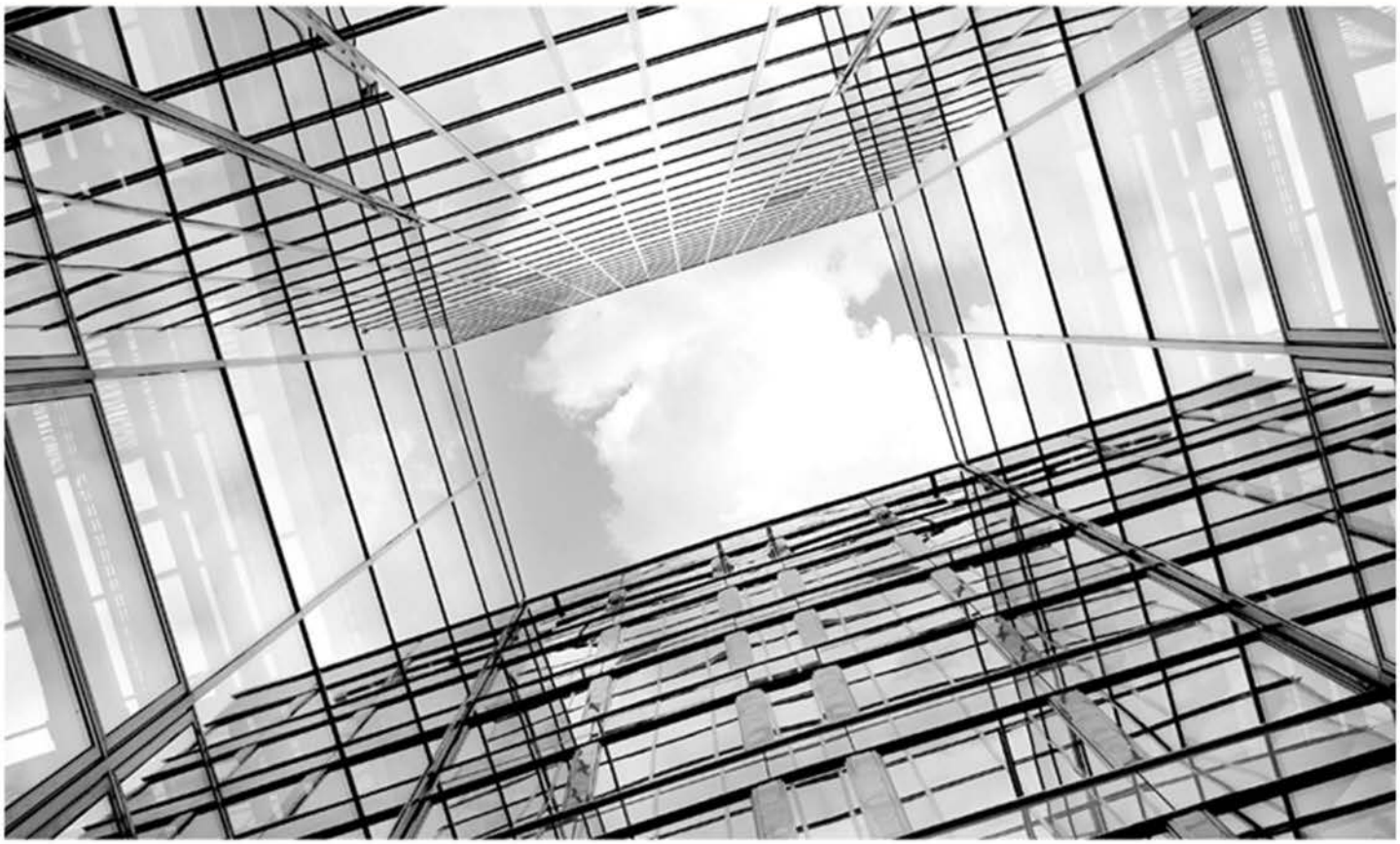

Global PAYplus Version 4.6.3

IBAN Validation

Service-Oriented Architecture Guide

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Version Control

Version	Date	Summary of Changes
1.0		Document created
2.0	Aug 2015	Updated template
3.0	Dec 2015	Updated for rebranding

Table of Contents

1 Introduction

Note: This SOA Guide has not yet been certified for GPP V4.6; therefore, there may be inaccuracies in this document that may require amendments in the future. For more information, please contact your FundtechProject Manager.

1.1 Overview

GPP is a robust payment engine whose workflow emulates the business flow of the bank or other financial institution. Configurable reference data profiles control the sequence of workflow steps and the actions performed in each step.

IBAN (International Bank Account Number) validation is both a standalone service that can be activated by a third party application and a front end application. It is an account identifier used by GPP to process in the Dr and Cr party identification when an IBAN is provided. For more information about IBAN, refer to the **IBAN** term in Appendix A: Glossary.

The ValidateAndDeriveCustomerFromIBANService checks whether the received ID is a valid IBAN, invalid IBAN or non- IBAN.

If the IBAN is valid, the service returns these IBAN elements:

- Country code
- Bank ID
- Branch ID
- Account number

The service also attempts to identify the customer and load the required customer information (BIC, ABA, Name, Address, etc.)

1.2 Target Audience

This guide describes service-oriented architecture (SOA) services that enable 3rd party applications to interface with GPP in the process of IBAN Validation.

2 IBAN Validation Description

2.1 Prerequisite

IBAN structure specified in currency info profile.

Note: This information is also provided by BICplusIBAN and Accuity Upload tasks.

2.2 Service Functions (N/A)

2.3 Input

The input is a subset of the Fndt Standard message. This subset should include at the minimum the parameters as described in this Guide.

This table describes the Service Input:

Parameter	Tag Name	L	Format	Comment
Header	Header	0		Request header
Fundtech Header	+FndtHeader	1		Fundtech Header
Credentials	++Credentials	2		Credentials
User ID	+++UserID	3		Credentials check: The user exists, and active (status = AC) and not logged in (LOGGED_IN <> 2)
User Entitlement code	+++Role	3		Credentials check: The entitlement exists and assigned to the login user. Also where applicable the relevant access permission is granted.
Body	Body	0		Fundtech Body
Header	**+Header**	**1**		**Header**
Office	P_OFFICE		TEXT [0..1]	An office which the service uses as a baseline attribute when searching for static data attributes. If Office is not provided, it is possible to derive the office from the initiating customer
Initiating party customer code	P_ORG_INITG_PTY_CUST_CD		TEXT [0..1]	Used to derived the owning office
IBAN	X_CDTR_ACCT_IBAN		TEXT	IBAN for validation

2.4 Processing

2.4.1 Input Parameters Validation

Here are some processing guidelines:

- The IBAN must have 5 to 34 characters and cannot include spaces.
- If Office or Cdtr account IBAN are empty, then Exit with an error message.
- The IBAN must pass a modulus 97 check.

2.4.2 Perform Modulus 97 Check

For more informantion about the Modulus 97 (mod check), refer to the European Committee for Banking Standards (ECBS) guide entitled **IBAN:International Bank Account Number**. Click the link below to view this guide in PDF format:

http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/cs/platebni_styk/iban/download/EBS204.pdf

2.4.3 Deconstruct the IBAN

1. Load the relevant country info profile from the IBAN country code (in conjunction with the provided office country input).

2. Ensure that the country supports IBAN structure.

3. Deconstruct the IBAN based on IBAN length and positions attributes from country info profile.

2.4.4 Find a Customer from a Valid IBAN

1. Retrieve the NCC clearing system code (i.e. the NCC prefix): This is being done by assessing the COUNTRY_NCC system table (i.e. there is no user profile) and assessing CLRSYS_CODE for the relevant COUNTRY_CODE.

2. Retrieve the correct NCC length to later be used in NCC Profile.

   The IBAN MATCH & NCC_LENGTH fields in COUNTRY_NCC specify the length of the NCC code in the NCC profile. Possible values are:

   - Value 1 – IBAN_BRANCH_LEN will be used
   - Value 2 – IBAN_BANK_ID_LEN will be used
   - Value 3 – IBAN_BRANCH_LEN + IBAN_BANK_ID_LEN) will be used

3. Using this information select the NCC customer code (CUST_CODE) for the retrieved CLRSYS_CODE in NCC.NCC_TYPE_ICO and the defined NCC_CODE from the derived length and match from the IBAN

4. Load party details for the relevant unique CUST_CODE that was found in the NCC profile.

2.4.5 Not an IBAN or Invalid IBAN

These conditions produce Not an IBAN or an Invalid IBAN:

- IBAN did not pass the prerequisite step.
- The country code - the first 2 characters which consider being country code – does not exist in Country profile.

Note: If the IBAN length (COUNTRY_CFG.IBAN_LEN), specified in Country profile as the required IBAN length, is different from the length of the potential IBAN string.

2.5 Output

Parameter	Tag Name	Format	Comment
IBAN sts	D_IBAN_STS		IBAN Status. Possible values: • Non-IBAN • Valid

Parameter	Tag Name	Format	Comment
			• Invalid
Return Code			Error code
Country Code			Returned if IBAN Status = Valid
Bank ID	D_BANK_ID		Returned if IBAN Status = Valid
Branch ID	D_BRANCH_ID		Returned if IBAN Status = Valid
Cdt acct nb	P_CDT_ACCT_NB		Account Number. Returned if IBAN Status = Valid
Beneficiary Bank Details			
Cdt pty BIC	F_CDT_CUST_SWIFT_ID		BIC
Cdt pty ABA	F_CDT_CUST_ABA		ABA
Cdt pty alias	F_CDT_CUST_ALIAS		CHIPS ID
Cdt pty cust nm	F_CDT_CUST_CUST_NAME		Customer Name
Cdt pty ctry cd	F_CDT_CUST_COUNTRYCODE		Country Code
Cdt pty state	F_CDT_CUST_STATE		State
Cdt pty city	F_CDT_CUST_CITY		City
Cdt pty adrline 1 Cdt pty adrline 2 Cdt pty adrline 3 Cdt pty adrline 4	F_CDT_CUST_ADDRESS1 F_CDT_CUST_ADDRESS2 F_CDT_CUST_ADDRESS3 F_CDT_CUST_ADDRESS4		Address lines 1 – 4
Cdt pty zip	F_CDT_CUST_ZIP		Zip Code

2.6 Fine Grain Services (N/A)

2.7 Examples

2.7.1 Validation of a Valid IBAN

2.7.1.1 Request

```
<soapenv:Envelope xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:q0="http://Fundtech.com/SCL/CommonTypes" xmlns:xsd="http://www.w3.org/2001/XMLSchema"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance">
<soapenv:Body>
<FndtMsg xmlns="http://Fundtech.com/SCL/CommonTypes">
<Msg>
<Pmnt>
<urn:Document xmlns:urn="urn:iso:std:iso:20022:tech:xsd:pain.001.001.03">
<urn:pain.001.001.03>
<urn:PmtInf>
<urn:CdtTrfTxInf>
<urn:CdtrAcct>
<urn:Id>
  <urn:IBAN>JP78IDNT200202</urn:IBAN>
  </urn:Id>
  </urn:CdtrAcct>
  </urn:CdtTrfTxInf>
  </urn:PmtInf>
```

```
  </urn:pain.001.001.03>
  </urn:Document>
  </Pmnt>
<Extn>
<ProcessingPersistentInfo>
  <P_OFFICE>JP1</P_OFFICE>
  </ProcessingPersistentInfo>
  </Extn>
  </Msg>
  </FndtMsg>
  </soapenv:Body>
  </soapenv:Envelope>
```

2.7.1.2 Response

```
<soap:Envelope xmlns:soap="http://schemas.xmlsoap.org/soap/envelope/"
xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:xsi="http://www.w3.org/2001/XMLSchema-
instance">
<soap:Body xmlns:ns1="http://Fundtech.com/SCL/CommonTypes">
<FndtMsg xmlns="http://Fundtech.com/SCL/CommonTypes">
<header>
</header>
<Msg>
<Pmnt xmlns:q0="http://Fundtech.com/SCL/CommonTypes"
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
<urn:Document xmlns:urn="urn:iso:std:iso:20022:tech:xsd:pain.001.001.03">
<urn:pain.001.001.03>
<urn:PmtInf>
<urn:CdtTrfTxInf>
<urn:CdtrAcct>
<urn:Id>
  <urn:IBAN>JP78IDNT200202</urn:IBAN>
  </urn:Id>
  </urn:CdtrAcct>
  </urn:CdtTrfTxInf>
  </urn:PmtInf>
  </urn:pain.001.001.03>
  </urn:Document>
  </Pmnt>
<Extn>
  <AuditTrail />
<ReferenceData>
<M_CDT_CUST_PROFILE>
  <F_CDT_CUST_ADDRESS1>1 CANAL ST.</F_CDT_CUST_ADDRESS1>
  <F_CDT_CUST_ADDRESS2>App. 2</F_CDT_CUST_ADDRESS2>
  <F_CDT_CUST_ADDRESS3>NY</F_CDT_CUST_ADDRESS3>
  <F_CDT_CUST_ADDRESS4>USA</F_CDT_CUST_ADDRESS4>
  <F_CDT_CUST_ALIAS>CACTUS</F_CDT_CUST_ALIAS>
  <F_CDT_CUST_CITY>New York</F_CDT_CUST_CITY>
  <F_CDT_CUST_COUNTRYCODE>JP</F_CDT_CUST_COUNTRYCODE>
  <F_CDT_CUST_CUST_NAME>REG4</F_CDT_CUST_CUST_NAME>
  <F_CDT_CUST_STATE>NY</F_CDT_CUST_STATE>
  <F_CDT_CUST_SWIFT_ID>JPSAREGRSN4</F_CDT_CUST_SWIFT_ID>
  <F_CDT_CUST_ZIP>62646</F_CDT_CUST_ZIP>
  </M_CDT_CUST_PROFILE>
  </ReferenceData>
  <MsgRates />
  <MsgErrors />
  <MsgFees />
  <MsgNotes />
  <Memopost />
<ProcessingPersistentInfo>
<CreditSide>
  <P_CDT_ACCT_NB>200202</P_CDT_ACCT_NB>
  <P_CDT_CUST_CD>JP1SAREGRSN4</P_CDT_CUST_CD>
  </CreditSide>
  <P_OFFICE>JP1</P_OFFICE>
  </ProcessingPersistentInfo>
<ProcessingTransientInfo>
```

```
  <D_BANK_ID>IDNT</D_BANK_ID>
  <D_BRANCH_ID />
  <D_CDTR_IBAN_CUST_CD>JP1SAREGRSN4</D_CDTR_IBAN_CUST_CD>
  <D_IBAN_STS>Valid</D_IBAN_STS>
  </ProcessingTransientInfo>
<Monitors>
</Monitors>
<QaInfo>
  <D_ELAPSED_TIME_MS>301.01456</D_ELAPSED_TIME_MS>
  <QATest2 />
  <QATest3 />
  </QaInfo>
  </Extn>
  </Msg>
<OrigMsg>
<Pmnt xmlns:q0="http://Fundtech.com/SCL/CommonTypes"
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
<urn:Document xmlns:urn="urn:iso:std:iso:20022:tech:xsd:pain.001.001.03">
<urn:pain.001.001.03>
<urn:PmtInf>
<urn:CdtTrfTxInf>
<urn:CdtrAcct>
<urn:Id>
  <urn:IBAN>JP78IDNT200202</urn:IBAN>
  </urn:Id>
  </urn:CdtrAcct>
  </urn:CdtTrfTxInf>
  </urn:PmtInf>
  </urn:pain.001.001.03>
  </urn:Document>
  </Pmnt>
<Extn xmlns:q0="http://Fundtech.com/SCL/CommonTypes"
xmlns:soapenv="http://schemas.xmlsoap.org/soap/envelope/">
<ProcessingPersistentInfo>
  <P_OFFICE>JP1</P_OFFICE>
  </ProcessingPersistentInfo>
  </Extn>
  </OrigMsg>
<ResponseDetails>
  <returnCode>0</returnCode>
  <description />
  </ResponseDetails>
  </FndtMsg>
  </soap:Body>
  </soap:Envelope>
```

2.7.2 Validation of an Invalid IBAN

2.7.3 Validation of not an IBAN

3 Errors

The following table provides a descrpiton for each error code that may display.

Code	Description
40036	Party cannot be found. Invalid IBAN: [Invalid INBAN].
40072	Invalid IBAN: [Failure reason]
40082	Invalid Creditor Agent BIC [Old value of Creditor Agent BIC] was changed to [New value of Creditor Agent BIC] by deriving it from the Creditor IBAN [Creditor IBAN]
40071	[Office] is not a valid office
40176	IBAN validation service failed - missing input: [Missing data, (office, IBAN or both)]
40177	Valid IBAN but failed to derive customer details
40178	Non IBAN - Length should be between 5 to 34 characters
40179	Non IBAN - Should include only capital letters and digits
40180	Non IBAN - 2 first characters must be capital letters for a valid ISO country code
40181	Non IBAN - Characters 3 and 4 must be digits
40182	Non IBAN - 2 first characters must stand for a valid ISO country code
40183	Non IBAN - IBAN length isn't defined for this country code
40184	Non IBAN - IBAN length is different than required length of this country code
40185	Invalid IBAN - Check digit has failed

Appendix A: Glossary

This table is a glossary of terms used in this document.

Term	Description
IBAN	The International Bank Account Number (IBAN) is an international standard for numbering bank accounts. IBAN is expanded version of the Basic Bank Account Number (BBAN) used internationally to uniquely identify the account of a customer at a financial institution. It was originally adopted by the European Committee for Bank Standardization, and was later adopted as ISO 13616:1997. The IBAN consists of a two letter ISO 3166-1 country code, followed by two check digits, and up to thirty alphanumeric characters for the domestic bank account number, called the BBAN (Basic Bank Account Number). It is up to each country's national banking community to decide on the length of the BBAN for accounts in that country, but its length must be fixed for any given country. A unique identifying code for the bank, of a fixed length and at a fixed position, is required to be contained in the BBAN. However, it is left up to the national banking communities to determine its length and position within the BBAN, so long as it is constant for each country. For more informantion about IBAN, refer to the European Committee for Banking Standards (ECBS) guide entitled **IBAN:International Bank Account Number**. Click the link below to view this guide in PDF format: http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/cs/platebni_styk/iban/download/EBS204.pdf
BBAN	The Basic Bank Account Number (BBAN) is the identifier used by financial institutions which identifies uniquely in an individual country the account of a customer at a financial institution.