

Derivatives Service Bureau

UAT Product Definitions

August 2017

Preface

Change History

| Date | Change | Version | Author | Revision Details |
|------------|----------|---------|-------------------|--|
| 31/03/2017 | Creation | 0.1 | Tony Birrell | Initial Version |
| 21/04/2017 | Update | 0.2 | Natalia Kozlovich | Added normalization rules for FX |
| 12/06/2017 | Change | 0.3 | Tony Birrell | Reference Rate for Commodities added to enumeration table, dates amended |
| 23/06/2017 | Change | 0.4 | Tony Birrell | Enumerations table updated |
| 13/07/2017 | Change | 0.5 | Tony Birrell | Added Other fields for Commodities |
| 31/07/2017 | Change | 0.6 | Tony Birrell | Added Data type to the enumerations table Added additional normalisation for FX Options & Commods Added array products |
| 08/08/2017 | Change | 0.7 | Tony Birrell | Amended normalisation rules for FX |
| 15/08/2017 | Change | 0.8 | Natalia Kozlovich | Amended normalisation rules for Commodities |
| 16/08/2017 | Change | 0.9 | Tony Birrell | Add Index enumeration explanation & Non-Standard clarification |

1 Introduction

- This document and the accompanying annexes are designed to act as a manual for users to interpret and utilize the provisional Product Definitions in the Derivatives Service Bureau (DSB) User Acceptance Testing (UAT) environment
- This document provides the user with a description of the provisional Product Definition content, product sequencing, attribute enumerations and validation, where applicable
- The accompanying asset class annexes will provide all the provisional Product Definitions within an asset class and the specific attributes that comprise each definition
- The appendix specifies the normalization approach the DSB is employing within the ISIN engine
- Any feedback or queries in relation to provisional Product Definition design or UAT functionality should be directed to secretariat@ANNA-DSB.com

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2 Organization of this report

The document is organized as follows:

- Section 3 outlines the product classification
- Section 4 outlines the structure and attributes contained within the provisional Product Definitions
- Section 5 outlines the enumerations and validations, where applicable, of each of the attributes contained within the provisional Product Definitions

3 Product Classification





The DSB has sequenced the work by asset class. This aligns with the Product Definition review efforts of the DSB Product Committee (PC) and will allow a more orderly and robust implementation for UAT testing. Accordingly, the order will be:

1. Rates
2. Credit
3. FX
4. Equities
5. Commodities

4 Provisional Product Definitions

A Product Definition is a unique representation of the population of attributes applicable to a specific OTC Derivative product within an asset class.

Each Product Definition has been grouped into three distinct sections:

- Product Definition Selection: Set of fields to identify the product specific schema. This schema defines the full set of attributes for that product 
- Product Definition Input Attributes: User input fields 
- Product Definition Defaulted Input: The set of attributes that contain defaulted values which are valid for ISIN creation however the user can engage and select a different value if required 
- Product Definition Derived Attributes: Attributes that will be inferred by the combination of Product Definition Selection & Product Definition Input Attributes and will be returned to the user as part of the full ISIN record 

The combination of the above 3 sections comprise the record of the ISIN that will be returned to the requester.

4.1 Product Definition Selection

The Product Definition Selection fields will identify the product specific schema. This schema defines the full set of attributes for that product.

Product Definition selection interface is comprised of the below fields:

- Asset Class: ISO 10962 CFI Letter #2

- Instrument Type: ISO 10962 CFI #1
- Product: Unique human readable label that defines the product (this is based on the ISDA 2.0 Taxonomy combination of Sub product and Transaction Type, where applicable)
- Level: Label assigned to the ISIN to describe its level in the hierarchy – the day 1 level will satisfy the technical requirements articulated by MiFID II / MiFIR RTS 23 Annex 1 while bearing in mind the requirements for future implementation of CPMI-IOSCO's UPI

4.2 Product Definition Input Attributes

Product Definition Input Attributes are the population of attributes that require user input when requesting an ISIN.

Attributes can be populated by either selecting a value from an enumerated list e.g FpML Floating Rate Index List or entering text in a specific format e.g. Expiry date YYYYMMDD. The full list of attributes and their enumerations can be found in section 5 below.

4.3 Product Definition Derived Attributes

Product Definition Derived Attributes are those which are inferred by the combination of Product Definition Selection & Product Definition Input Attributes. These will be auto populated by the DSB ISIN engine and returned to the user as part of the ISIN record.

4.4 Asset Class Product Definition Annexes

A revised Product Definition annex will be made available for each asset class containing the population of products implemented into UAT. These will be made available to users per the schedule below:

| Order | Asset Class Annex | Date of Annex publication |
|-------|-------------------|---------------------------|
| 1 | Rates | 31-07-2017 |
| 2 | Credit | 16-08-2017 |
| 3 | FX | 31-07-2017 |
| 4 | Equity | 31-07-2017 |
| 5 | Commodities | 31-07-2017 |

4.5 UAT Implementation

The new product definitions for all asset classes will be implemented into UAT environment on 28th August 2017.

4.6 Non-Standard Product Definitions

The Product Definition attributes have been the subject of multiple consultations by the Product Committee and various industry bodies and are no longer subject to change.

The DSB Product Committee is further developing Non-Standard Product Definitions to capture instruments not defined by the existing flow products. These will be implemented through the course of Q4 2017.

5 Attribute Data Dictionary

- Alongside each attribute in the table below, the Source has been assigned which specifies the exact reference (where applicable) of that attribute within the respective taxonomy¹.
- The Data type specific to that attribute is also provided and aligns with the ISO standard
- These attributes will be presented in UAT as enumerated lists where applicable.
- It should be noted that the JSON messaging schema the DSB is employing will contain all attributes listed below and their associated enumerations.

| Full Name | Source | Type (ISO 20022 Standard) |
|--------------------------------|---|---|
| Additional sub product | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FProduct%2FAgricultural%2FGrainOilSeed%2FAdditionalSubProduct | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Asset Class | CFI Code (ISO 10962: 2015) Text associated with Character #2 | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Base product | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FProduct%2FAgricultural%2FGrainOilSeed%2FBaseProduct | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Classification Type | CFI Code (ISO 10962: 2015) Full Code | CFIOct2015Identifier (based on string) pattern: [A-Z]{6,6} |
| Commodity Derivative Indicator | Boolean | TrueFalseIndicator (based on boolean) |
| Debt Seniority | http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.63 | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Delivery type | CFI Code (ISO 10962: 2015) Character #6 | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Expiry Date | Date YYYY-MM-DD (Expiry Date of the financial instrument) Syntactic validation: - Date format as above - Between 1970 & 2500 | ISODate (based on date) |
| Final price type | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstr | Max35Text (based on string) minLength: 1 maxLength: 35 |

¹ To access the relevant reference links below to the ISO20022 messages within swift/mystandards, users are required to create a free account by following the link below and clicking 'Login to MyStandards' in the top right of the homepage: <https://mystandards.swift.com/>
Once an account has been created and login is successful, the links below will direct users to the correct reference.

| | | |
|--|---|---|
| | umentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FFinalPriceType | |
| Full Name | Full name of the instrument defined by DSB | Max350Text (based on string) minLength: 1 maxLength: 350 |
| FX Type | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FForeignExchange%2FFXType | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Identification (ISIN) | ISO 6166: 2013 | Max12Text (based on string) Pattern: [A-Z]{2,2}[A-Z0-9]{9,9}[0-9]{1,1} |
| Instrument Type | CFI Code (ISO 10962: 2015) Character #1 | Max35Text (based on string) minLength: 1 maxLength: 35 |
| ISO Reference Rate | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FUnderlyingInstrument%2FSingle%2FIndex%2FName%2FReferenceRate | Max25Text (based on string) minLength: 1 maxLength: 25 |
| ISO Other Leg Reference Rate | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FUnderlyingInstrument%2FSingle%2FIndex%2FName%2FReferenceRate | Max25Text (based on string) minLength: 1 maxLength: 25 |
| ISO Underlying Instrument Index | https://www2.swift.com/mystandards/#/mp/mx/LHnxgEdKEeam3NbiLvWnrw/_ju17AYy7Eea01uQ-eS5IPQ#content%2FReferenceData%2FDerivativeInstrumentAttributes%2FUnderlyingInstrument%2FSingle%2FIndex%2FName%2FReferenceRate | Max25Text (based on string) minLength: 1 maxLength: 25 |
| Issuer or operator of the trading venue identifier | "NA" | Max2Text (based on string) minLength: 1 maxLength: 2 |
| Last Update DateTime | https://www.iso.org/iso-8601-date-and-time-format.html | Date YYYY-MM-DDTHH:MM:SS |
| Level | "InstRefDataReporting" (Label assigned to the ISIN to describe its level in the ISIN hierarchy) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Notional Currency | ISO 4217: 2015 | Pattern: [A-Z]{3,3} |
| Notional Schedule | CFI Code (ISO 10962: 2015) Character #4 (Swaps: Rates only) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Option exercise style | CFI Code (ISO 10962: 2015) Character #4 (Options – first part) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Option type | CFI Code (ISO 10962: 2015) Character #4 (Options – second part) | Max35Text (based on string) minLength: 1 maxLength: 35 |

| | | |
|-------------------------------------|---|--|
| Other Base product | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FProduct%2FAgricultural%2FGrainOilSeed%2FBaseProduct | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Other Sub product | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FProduct%2FAgricultural%2FGrainOilSeed%2FSubProduct | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Other Additional sub product | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FProduct%2FAgricultural%2FGrainOilSeed%2FAdditionalSubProduct | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Other Reference Rate | Commodities: Industry specified, annex will be published | Max350Text (based on string) minLength: 1 maxLength: 350 |
| Other Leg Reference Rate | Rates: http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.91 Rates CPI: http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.100 Credit: Industry specified, annex will be published Equities: Industry specified, annex will be published Commodities: Industry specified, annex will be published | Max350Text (based on string) minLength: 1 maxLength: 350 |
| Other Leg Reference Rate Term Unit | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FUnderlyingInstrument%2FSingle%2FIndex%2FName%2FTerm%2FUnit | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Other Leg Reference Rate Term Value | Integer – Positive or negative but not 0 | Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3 |
| Other Notional Currency | ISO 4217: 2015 | Pattern: [A-Z]{3,3} |
| Parent | ISO 6166: 2013 (where relevant, <null> otherwise) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Price Multiplier | Double (0 or positive) | NonNegativeDecimalNumber (based on decimal) - FractionDigits: 17 - TotalDigits: 18 |
| Product | Unique human readable instrument label, created by the DSB PC and based on ISDA 2.0 taxonomy | Max50Text (based on string) minLength: 1 maxLength: 50 |

| | | |
|---------------------------|---|--|
| Reference Rate | Rates: http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.91 Rates CPI: http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.100 Credit: Industry specified, annex will be published Equities: Industry specified, annex will be published Commodities: Industry specified, annex will be published | Max350Text (based on string) minLength: 1 maxLength: 350 |
| Reference Rate Term Unit | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FUnderlyingInstrument%2FSingle%2FIndex%2FName%2FTerm%2FUnit | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Reference Rate Term Value | Integer – Positive or negative but not 0 | Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3 |
| Return or payout Trigger | CFI Code (ISO 10962: 2015) Character #4 (Swaps); Character #5 (Forwards) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Short Name | ISO 18774: 2015 | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Settlement Currency | ISO 4217: 2015 | Pattern: [A-Z]{3,3} |
| Single or Multi currency | CFI Code (ISO 10962: 2015) Character #5 (Rates only) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Status | New, Updated, Deleted, Expired | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Status Reason | Text string | Max350Text (based on string) minLength: 1 maxLength: 350 |
| Strike Price | Decimal | NonNegativeDecimalNumber (based on decimal) - FractionDigits: 17 - TotalDigits: 18 |
| Sub product | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FProduct%2FAgricultural%2FGrainOilSeed%2FSubProduct | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Transaction type | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FAssetClassSpecificAttributes%2FCommodity%2FTransactionType | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Underlying Asset Type | CFI Code (ISO 10962: 2015) Character #3 | Max35Text (based on string) minLength: 1 |

| | | |
|--|---|---|
| | | maxLength: 35 |
| Underlying credit index series (RTS2 Annex IV Field 35) | Positive Integer – 1 to 999 | Max3Number fractionDigits: 0 totalDigits: 3 |
| Underlying credit index version (RTS2 Annex IV Field 36) | Positive Integer – 1 to 999 | Max3Number fractionDigits: 0 totalDigits: 3 |
| Underlying Instrument Index | Rates: http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.91 Rates CPI: http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.100 Credit: Industry specified, annex will be published Equities: Industry specified, annex will be published Commodities: Industry specified, annex will be published | Max350Text (based on string) minLength: 1 maxLength: 350 |
| Underlying Instrument Index Term Unit | https://www2.swift.com/mystandards/#/mx/DRAFT6auth.036.001.01#content%2FFinancialInstrument%2FNewRecord%2FDerivativeInstrumentAttributes%2FUnderlyingInstrument%2FSingle%2FIndex%2FName%2FTerm%2FUnit | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Underlying Instrument Index Term Value | Integer – Positive or negative but not 0 | Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3 |
| Underlying instrument ISIN | ISO 6166: 2013 Syntactic validation: <ul style="list-style-type: none"> - 1st 2 characters = e.g. “EZ” - Next 9 are characters alphanumeric (caps) - Check Sum | Max12Text (based on string) Pattern: [A-Z]{2,2}[A-Z0-9]{9,9}[0-9]{1,1} |
| Underlying instrument LEI | ISO 17442: 2012 Syntactic validation: <ul style="list-style-type: none"> - Alphanumeric - Check sum | Max20Text (based on string) minLength: 1 maxLength: 20 |
| Underlying Issuer Type | CFI Code (ISO 10962: 2015) Character #5 (Swaps: Credit) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Valuation Method or Trigger | ISO 10962: 2015. Character #5 (options) | Max35Text (based on string) minLength: 1 maxLength: 35 |
| Version | Positive Integer – 1 to 999 | Max3Number fractionDigits: 0 totalDigits: 3 |

6 Attribute Arrays

The following attributes allow for multiple values to be input when they are part of Product Definitions that require multiple underliers:

- Underlying Instrument ISIN
- Underlying Instrument Index
- Reference Rate

The following Product Definitions allow for an array to be input into the relevant attribute listed above:

| Asset Class | Instrument | Product Definitions |
|-------------|------------|---|
| Equity | Swap | Price_Return_Basic_Performance_Basket |
| Equity | Swap | Parameter_Return_Dividend_Basket |
| Equity | Swap | Parameter_Return_Variance_Basket |
| Equity | Swap | Parameter_Return_Volatility_Basket |
| Equity | Swap | Price_Return_Basic_Performance_Basket_CFD |
| Equity | Forward | Price_Return_Basic_Performance_Basket_CFD |
| Equity | Forward | Price_Return_Basic_Performance_Basket |
| Equity | Option | Basket |
| Commodities | Swap | Multi Exotic Swap |
| Commodities | Forward | Multi Exotic Forward |
| Commodities | Option | Multi Exotic Option |

7 Index Enumerations

Enumerated lists are provided for all asset classes with an Index underlying.

| Asset Class | RTS 23 Field | Owner | Source |
|-------------------|-----------------------------|-------|---|
| Rates | Reference Rate | FpML | http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.91 |
| Rates - CPI | Reference Rate | FpML | http://www.fpml.org/spec/coding-scheme/fpml-schemes.html#s5.99 |
| Commodities | Reference Rate | FpML | ISDA Taxonomy 2.0 |
| Credit | Underlying Instrument Index | DSB | Industry verified, list of global trademarked (where applicable) indices |
| Equities | Underlying Instrument Index | DSB | Industry verified, list of global trademarked (where applicable) indices |
| Commodities Index | Underlying Instrument Index | DSB | Industry verified, list of global trademarked (where applicable) indices |

The DSB Product Committee acknowledges that the existing enumeration lists for Credit, Equities and Commodities Index do not cover all proprietary indices that may be traded by DSB users. The interim solution is to provide a 'Custom Index' choice that will act as a catch all for any indices traded that are not specifically listed.

The strategic solution that the DSB Product Committee is developing is to provide a robust change workflow process through which authorized requesters can submit index names to the DSB for real time enrichment of the possible Index names that can be submitted as underlying. This is to be implemented during 2018.

8 Appendix 1

8.1 Common Normalization

This normalization is applicable all instruments.

For both legs:

1. If Reference Rate Term Unit = “DAYS” and Reference Rate Term Value is divisible by 7, record it in weeks:

| | | | |
|---------------------------|------|---|------|
| Reference Rate Term Value | 7 | → | 1 |
| Reference Rate Term Unit | DAYS | | WEEK |

2. If Reference Rate Term Unit = “MNTH” and Reference Rate Term Value is divisible by 12, record it in years:

| | | | |
|---------------------------|------|---|------|
| Reference Rate Term Value | 12 | → | 1 |
| Reference Rate Term Unit | MNTH | | YEAR |

8.2 Basis Swap/Cross Currency Swap normalization

The purpose of this appendix is to specify normalization for Basis Swap, Cross Currency Basis Swap and Cross Currency Fixed Fixed Swap products.

8.2.1 Basis Swap

For a Basis Swap the user provides the following input:

| Attribute | Sample Value |
|-------------------------------------|--------------------------------|
| Notional Currency | USD |
| Expiry date | 20211231 |
| Reference Rate | USD-LIBOR-BBA |
| Reference Rate Term Value | 3 |
| Reference Rate Term Unit | MNTH |
| Other Leg Reference Rate | USD-SIFMA Municipal Swap Index |
| Other Leg Reference Rate Term Value | 9 |
| Other Leg Reference Rate Term Unit | MNTH |
| Notional Schedule | C - Constant |

Regardless of the order in which the reference legs are supplied, the DSB assumes the same ISIN would be allocated to the instrument, i.e. the instrument in the example above is the same as if it were entered as follows:

| Attribute | Sample Value |
|---------------------------|--------------------------------|
| Notional Currency | USD |
| Expiry date | 20211231 |
| Reference Rate | USD-SIFMA Municipal Swap Index |
| Reference Rate Term Value | 9 |

| | |
|-------------------------------------|---------------|
| Reference Rate Term Unit | MNTH |
| Other Leg Reference Rate | USD-LIBOR-BBA |
| Other Leg Reference Rate Term Value | 3 |
| Other Leg Reference Rate Term Unit | MNTH |
| Notional Schedule | C - Constant |

The DSB will normalize data submitted by the user to ensure that the same ISIN is returned for a given set of attributes.

Normalization rules:

1. Order alphabetically "Reference Rate" and "Other Leg Reference Rate"
2. If "Reference Rate" is first alphabetically, record it as "Reference Rate"
3. If "Reference Rate" is not first alphabetically, then record the following fields as:

| | | |
|-------------------------------------|---|---------------------------|
| Other Leg Reference Rate | → | Reference Rate |
| Other Leg Reference Rate Term Value | | Reference Rate Term Value |
| Other Leg Reference Rate Term Unit | | Reference Rate Term Unit |

And record the following fields as:

| | | |
|---------------------------|---|-------------------------------------|
| Reference Rate | → | Other Leg Reference Rate |
| Reference Rate Term Value | | Other Leg Reference Rate Term Value |
| Reference Rate Term Unit | | Other Leg Reference Rate Term Unit |

8.2.2 Cross Currency Basis Swap

For a Cross Currency Basis Swap the user is required to provide the following input:

| Attribute | Sample Value |
|-------------------------------------|---------------|
| Notional Currency | GBP |
| Expiry date | 20180211 |
| Reference Rate | GBP-LIBOR-BBA |
| Reference Rate Term Value | 3 |
| Reference Rate Term Unit | MNTH |
| Other Notional Currency | USD |
| Other Leg Reference Rate | USD-LIBOR-BBA |
| Other Leg Reference Rate Term Value | 3 |
| Other Leg Reference Rate Term Unit | MNTH |
| Notional Schedule | C - Constant |

The Notional Currency is always associated with the Reference Rate and Other Currency with the Other Reference Rate.

Regardless of the order in which the notional currencies are supplied, the DSB assumes the same ISIN would be allocated to the instrument, i.e. the instrument in the example above is the same as if it was entered as follows:

| Attribute | Sample Value |
|-------------------------------------|---------------|
| Notional Currency | USD |
| Expiry date | 20180211 |
| Reference Rate | USD-LIBOR-BBA |
| Reference Rate Term Value | 3 |
| Reference Rate Term Unit | MNTH |
| Other Notional Currency | GBP |
| Other Leg Reference Rate | GBP-LIBOR-BBA |
| Other Leg Reference Rate Term Value | 3 |
| Other Leg Reference Rate Term Unit | MNTH |
| Notional Schedule | C - Constant |

The DSB will normalize data submitted by the user to ensure that the same ISIN is returned for a given set of attributes.

Normalization rules:

1. Order alphabetically “Notional Currency” and “Other Notional Currency”.
2. If “Notional Currency” is first alphabetically, record it as “Notional Currency”
3. If “Notional Currency” is not first alphabetically, then record the following fields as:

| | | |
|-------------------------------------|---|---------------------------|
| Other Notional Currency | → | Notional Currency |
| Other Leg Reference Rate | | Reference Rate |
| Other Leg Reference Rate Term Value | | Reference Rate Term Value |
| Other Leg Reference Rate Term Unit | | Reference Rate Term Unit |

And record the following fields as:

| | | |
|---------------------------|---|-------------------------------------|
| Notional Currency | → | Other Notional Currency |
| Reference Rate | | Other Leg Reference Rate |
| Reference Rate Term Value | | Other Leg Reference Rate Term Value |
| Reference Rate Term Unit | | Other Leg Reference Rate Term Unit |

8.2.3 Cross Currency Fixed Fixed Swap

For a Cross Currency Fixed Fixed Swap the user is required to provide the following input:

| Attribute | Sample Value |
|-------------------------|--------------|
| Notional Currency | EUR |
| Expiry date | 20211231 |
| Other Notional Currency | USD |
| Notional Schedule | C - Constant |

Regardless of the order in which the notional currencies are supplied, the DSB assumes the same ISIN would be allocated to the instrument, i.e. the instrument in the example above is the same as if it were entered as follows:

| Attribute | Sample Value |
|-------------------------|--------------|
| Notional Currency | USD |
| Expiry date | 20211231 |
| Other Notional Currency | EUR |
| Notional Schedule | C - Constant |

The DSB will normalize data submitted by the user to ensure that the same ISIN is returned for a given set of attributes.

Normalization rules:

1. Order alphabetically "Notional Currency" and "Other Notional Currency".
2. If "Notional Currency" is first alphabetically, record it as "Notional Currency"
3. If "Notional Currency" is not first alphabetically, record the following fields as:

| | | |
|-------------------------|----|-------------------------|
| Other Notional Currency | -> | Notional Currency |
| Notional Currency | | Other Notional Currency |

8.3 FX normalization

The purpose of this appendix is to specify normalization for FX Forward products, including:

- Contract for Difference
- Forward
- NDF
- Rolling Spot
- Spreadbet
- Vol Var
- FX Swap (definition not yet released)

Regardless of the order in which the reference legs are supplied, the DSB assumes the same ISIN would be allocated to the instrument, i.e. the following user entries will be considered the same instrument:

| | | |
|-------------------------|-------------------------|-------------------------|
| Asset Class | Foreign_Exchange | Foreign_Exchange |
| Instrument Type | Forward | Forward |
| Product | Contract_for_Difference | Contract_for_Difference |
| Notional Currency | GBP | USD |
| Other Notional Currency | USD | GBP |
| Expiry Date | 20170421 | 20170421 |

The DSB will normalize data submitted by the user to ensure that the same ISIN is returned for a given set of attributes.

Normalization rules:

The DSB has adopted an alphabetical normalization approach.

For example, for a EURUSD currency pair

- User submits Notional Currency = EUR, Other Notional Currency = USD.
Action – No change, user receives ISIN record of Notional Currency = EUR, Other Notional Currency = USD
- User submits Notional Currency = USD, Other Notional Currency = EUR.
Action – Reorder alphabetically, amend Notional Currency = EUR, Other Notional currency = USD, user receives ISIN record of Notional Currency = EUR, Other Notional Currency = USD

8.4 FX Option Normalization

For a Vanilla FX Option, the user is required to provide the following input:

| Attribute | Sample Value |
|-------------------------|--------------|
| Notional Currency | EUR |
| Expiry date | 20211231 |
| Option type | Put |
| Option exercise style | European |
| Other Notional Currency | USD |

To ensure only one ISIN can be generated for a put or call option on a common currency pair, the DSB has adopted an alphabetical normalization approach.

Additionally, the option type is always associated with the Notional currency.

For example, for a EURUSD currency pair

- User submits Notional Currency = EUR, Other Notional Currency = USD, Option Type = Put.
Action – No change, user receives ISIN record of EUR put
- User submits Notional Currency = USD, Other Notional Currency = EUR, Option Type = Call.
Action – Reorder alphabetically, amend Notional Currency = EUR AND flip Option Type from Call to Put. Other Notional currency = USD. User receives ISIN record of EUR put

The below two user inputs below are the same instrument and the same ISIN record is returned to the user:

| Attribute | User Input 1 | ISIN Record 1 | User Input 2 | ISIN Record 2 |
|-------------------------|--------------|---------------|--------------|---------------|
| Notional Currency | EUR | EUR | USD | EUR |
| Expiry date | 20211231 | 20211231 | 20211231 | 20211231 |
| Option type | Put | Put | Call | Put |
| Option exercise style | European | European | European | European |
| Other Notional Currency | USD | USD | EUR | USD |

8.5 Commodities Basis Normalization

For a Commodities Basis Swap, the user is required to provide the following input:

| Attribute | Sample Value |
|------------------------------|--|
| Notional Currency | GBP |
| Expiry date | 2017-06-30 |
| Return or Payout Trigger | C - Contract for Difference |
| Base Product | NRGY |
| Sub Product | NGAS |
| Additional Sub Product | GASP |
| Other Base Product | AGRI |
| Other Sub Product | GROS |
| Other Additional Sub Product | FWHT |
| Transaction Type | SWAP |
| Final Price type | OTHR |
| Reference Rate | NATURAL GAS-CHICAGO CITY-GATES-INSIDE FERC |
| Other Reference Rate | WHEAT FEED-NYSE Liffe |

Regardless of the order in which the reference legs are supplied, the DSB assumes the same ISIN would be allocated to the instrument, i.e. the following user entries will be considered the same instrument:

| | | |
|------------------------------|--|--|
| Base Product | NRGY | AGRI |
| Sub Product | NGAS | GROS |
| Additional Sub Product | GASP | FWHT |
| Other Base Product | AGRI | NRGY |
| Other Sub Product | GROS | NGAS |
| Other Additional Sub Product | FWHT | GASP |
| Reference Rate | NATURAL GAS-CHICAGO CITY-GATES-INSIDE FERC | WHEAT FEED-NYSE Liffe |
| Other Reference Rate | WHEAT FEED-NYSE Liffe | NATURAL GAS-CHICAGO CITY-GATES-INSIDE FERC |

The DSB will normalize data submitted by the user to ensure that the same ISIN is returned for a given set of attributes.

Normalization rules:

Order alphabetically the combination string of “Base Product + Sub Product + Additional Sub Product + Reference Rate” and “Other Base Product + Other Sub Product + Other Additional Sub Product + Other Reference Rate”:

- If “Base Product” and “Other Base Product” are different – alphabetically order them. The Base Product should be the first alphabetically and Other Base Product the second alphabetically. The associated attributes (Sub Product + Additional Sub Product + Reference Rate) are then moved as part of the normalization.
- Otherwise if Base Product and Other Base Product are the same, and if “Sub product” and “Other Sub product” are different – alphabetically order them. The Sub Product should be the first alphabetically and Other Sub Product the second alphabetically. The associated attributes (Additional Sub Product + Reference Rate) are then moved as part of the normalization.
- Otherwise if Base Product and Sub Product are the same as Other Base Product and Other Sub Product, and if “Additional Sub Product” and “Other Additional Sub product” are different – alphabetically order them. The Additional Sub Product should be the first alphabetically and Other Additional Sub Product the second alphabetically. The associated Reference Rate is then moved as part of the normalization.
- If “Base Product/ Sub Product/ Additional Sub Product” and “Other Base Product/ Other Sub Product/ Other Additional Sub Product” are the same, alphabetically order Reference Rate and Other Reference Rate.