



Derivatives Service Bureau

Foreign Exchange : Swap : Non_Deliverable_FX_Swap

UPI Product Definition

Version 4

| Date | Status | Version | Revision Details |
|-------------|--------|---------|--|
| 8 Aug 2022 | Draft | 1 | Initial Version |
| 24 Jan 2023 | Draft | 2 | <ul style="list-style-type: none">Update example values in the Request and Record templates layoutInsert Underlier Name attribute and Derivation rules |
| 28 Mar 2023 | Draft | 3 | <ul style="list-style-type: none">Update Settlement Currency as a conditional attributeAdd Place of Settlement as a conditional attributeUpdate Supplementary Information for Best Practice Guidelines and Additional Comments |
| 06 Sep 2023 | Draft | 4 | <ul style="list-style-type: none">Update Associated Documentation to include Best Practice Guidelines and FAQs.Update Best Practice Guidelines to include the link to Best Practice Guidelines and FAQs. |

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1 INTRODUCTION

This document is designed to act as a manual for users to interpret the Product Definitions in the DSB UPI Service.

This document provides the user with the detailed description of the UPI Product Definition content such as attribute enumerations, validation, normalization, and derivation where applicable.

1.1 Associated Documentation

Each UPI Product Definition template links to reference documents where values will be maintained for the sake of consistency and ease of access e.g., Enumerations, Data Dictionary, Validation and Normalizations, etc.

These documents are made available for references as follows:

- UPI Enumerations Document can be found in the Enumerations section on the [DSB website](#).
- UPI Product Definition Data Dictionary can be found in the Other Documents section on the [DSB website](#).
- UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the [DSB website](#).
- UPI Underlier Input Method can be found in the Other Documents section on the [DSB website](#).
- Best Practice Guidelines and FAQs can be found in the Other Documents section on the [DSB website](#).
- Links to the relevant JSON templates can be found in the GitHub Environment Section on the [DSB website](#).

2 PRODUCT TAXONOMY

2.1 CFI Taxonomy

Source: [ISO 10962](#) (CFI Code) – Third edition 2015-07-15

| Attr # | Title | Values | Name | Description |
|----------------|-----------------------------------|----------|----------------------------|---|
| | Instrument (Category) | S | Swap | |
| | Asset Class (Group) | F | Foreign Exchange | |
| Attr #1 | Underlying Assets | C | Forward-Forward swap | A transaction that involves both an exchange of two currencies on a specified future date at a fixed rate that is agreed upon at the inception of the contract covering the exchange; and a reverse exchange of the same two currencies at a further future date, at a fixed rate that is agreed upon at the inception of the contract covering the exchange, e.g. a swap between the 3 month forward and 6 month forward dates |
| Attr #2 | Not Applicable / undefined | X | Not applicable / undefined | Not applicable/undefined |
| Attr #3 | Not Applicable / Undefined | X | Not applicable / undefined | Not applicable/undefined |
| Attr #4 | Delivery Type | P | Physical | Delivery of traded currencies on settlement date |
| | | N | Non-deliverable | On settlement date of the trade, if the settlement amount is positive, then the currency buyer will pay that amount in the settlement currency to the currency seller; if that amount is negative, the seller will make that payment to the buyer |

2.2 ISDA Taxonomy

The table below is based on the products identified as part of the [ISDA 2.0 taxonomy](#).

| Asset Class | Base Product | Sub-Product | DSB Product Definition Name |
|------------------|--------------|-------------|-----------------------------|
| Foreign Exchange | Swap | | Non_Deliverable_FX_Swap |

3 REQUEST TEMPLATE

This section describes the input message received by UPI service.

| Template name | Template details | Release |
|--|------------------|---------|
| Request.Foreign_Exchange.Swap.Non_Deliverable_FX_Swap.UPI.json | Initial version | Initial |

| Section | Attribute | Format | Cat | Example Value | Validation / Derivation |
|-------------------|---------------------------|--------|-----|-------------------------|-------------------------|
| Header Section | Asset Class | Set | M | Foreign_Exchange | |
| | Instrument Type | Set | M | Swap | |
| | Product | Set | M | Non_Deliverable_FX_Swap | |
| | Level | Set | M | UPI | |
| Attribute Section | Underlier ID | Enum | M | USD | Enumerated List |
| | Underlier ID Source | String | M | CCY | [CCY] |
| | Other Underlier ID | Enum | M | CNY | Enumerated List |
| | Other Underlier ID Source | String | M | CCY | [CCY] |
| | Settlement Currency | Enum | C | CNY | Enumerated List |
| | Place of Settlement | Enum | C | Hong Kong | Enumerated List |
| | Delivery Type | Enum | M | OPTL | [PHYS; OPTL] |

3.1 Underlier Input Method

For products that have a Single Underlier, users have an option to select a Primary or Alternate Underlier, if available.

| Title | Description | |
|----------------------------|---|---|
| Select Underlier ID Source | User is able to select a single required Underlier Source <ul style="list-style-type: none"> Currency Pair [CCY] | |
| Input Underlier ID | CCY | This is validated against ISO Currency Code List. |

3.2 Validation Rules

For non-specific product validation rules, please refer to UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the [DSB website](#).

3.2.1 Notional Currency and Other Notional Currency

- The currency for both legs cannot be identical.
- If the following attributes have the same currency, an error message will apply "Error: Notional Currency and Other Notional Currency cannot be identical".
- If the Notional and Other Notional Currency are both CNY and has no Place of Settlement attribute, an error message will apply "Error: Notional Currency and Other Notional Currency cannot be identical".
- If the Notional and Other Notional Currency are both CNY and has Place of Settlement of "Hong Kong", the combination string is acceptable.
- If the Notional and Other Notional Currency is both CNY and Place of Settlement is not "Hong Kong, an error message will apply "Error: Place of Settlement must be Hong Kong for CNY/CNY request".

4 RECORD TEMPLATE

This section describes the record returned by the UPI service.

| Version | Template name | Template details | Release |
|---------|---|------------------|---------|
| V.1 | Foreign_Exchange.Swap.Non_Deliverable_FX_Swap.UPI.V1.json | Initial version | Initial |

| Section | Attribute | Format | Cat | Example Value | Derivation |
|--------------------|-------------------------|---------|-----|-----------------------------|-------------------------------------|
| Header Section | Asset Class | Set | M | Foreign_Exchange | |
| | Instrument Type | Set | M | Swap | |
| | Product | Set | M | Non_Deliverable_FX_Swap | |
| | Level | Set | M | UPI | |
| | Template Version | Integer | D | 1 | |
| Attribute Section | Notional Currency | Enum | M | CNY | Enumerated List |
| | Other Notional Currency | Enum | M | USD | Enumerated List |
| | Settlement Currency | Enum | C | CNY | Enumerated List |
| | Place of Settlement | Enum | C | Hong Kong | Enumerated List |
| | Delivery Type | Enum | M | OPTL | [PHYS; OPTL] |
| Identifier Section | UPI | String | D | QZK2H09JZL04 | |
| | Status | String | D | New | [New; Updated; Deleted; Deprecated] |
| | Status Reason | String | D | <null> | |
| | Last Update Date Time | DtTm | D | 2020-11-30T00:00:13 | YYYY-MM-DDThh:mm:ss |
| Derived Section | Classification Type | String | D | SFCXXN | See Derivation Rules |
| | Short Name | String | D | NA/Swaps NDS CNY USD | See Derivation Rules |
| | Underlier Name | String | D | CNY USD | See Derivation Rules |
| | Underlying Asset Type | String | D | Forward-Forward Swap | Fixed Value |
| | CFI Delivery Type | String | D | [Physical; Non-Deliverable] | See Derivation Rules |

4.1 Normalization Rules

For non-specific product normalization rules, please refer to UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the [DSB website](#).

4.2 Derivation Rules

This section describes the derivations of product attributes highlighted in the Record Template.

4.2.1 Classification Type

| Attribute | | Classification Type | |
|----------------------------|---|---------------------|--------|
| Structure | Instrument Type + Asset Class + Underlying Asset Type + NA + NA + Delivery Type | | |
| Example | SFCXXN | | |
| Source | ISO 10962 (CFI) – Third edition 2015-07-15 | | |
| Source Attribute | Source Value | Derivation Method | Result |
| Instrument Type | Swap | Fixed Mapping | S |
| Asset Class | Foreign Exchange | Fixed Mapping | F |
| Underlying Asset Type | Forward-Forward swap | Fixed Mapping | C |
| Not Applicable / Undefined | Not Applicable / Undefined | Fixed Mapping | X |
| Not Applicable / Undefined | Not Applicable / Undefined | Fixed Mapping | X |
| Delivery Type | Physical | Mapped to => | P |
| | Non-deliverable | Mapped to => | N |

4.2.2 Short Name

| Attribute | Short Name | | |
|-------------------------|--|--------------------|---------------------|
| Structure | “NA” + “/” + Instrument Type + Product + Notional Currency + Other Notional Currency | | |
| Example | NA/Swaps NDS CNY USD | | |
| Source | ISO 18774 (Financial Instrument Short Name) - First edition 2015-11 | | |
| Source Attribute | Source Value | Derivation Method | Result |
| Issuer Name | None | Fixed Value | NA/ |
| Instrument Type | Swap | Fixed Abbreviation | Swaps |
| Product | Non-Deliverable | Fixed Abbreviation | NDS |
| Notional Currency | Notional Currency | Mapped Enumeration | e.g., USD, EUR, GBP |
| Other Notional Currency | Other Notional Currency | Mapped Enumeration | e.g., USD, EUR, GBP |

4.2.3 Underlier Name

| Attribute | | Underlier Name | |
|------------------|-----------------------|---|----------------|
| Underlying Asset | Underlier Name Source | Underlier Name Source Attribute | Underlier Name |
| Currency Pair | UPI record | Notional Currency / Other Notional Currency | CNY USD |

4.2.4 CFI Delivery Type

| Attribute | | CFI Delivery Type | |
|------------------|--------------|-------------------|-----------------|
| Source Attribute | Source Value | Derivation Method | Result |
| Delivery Type | PHYS | Mapped to => | Physical |
| | OPTL | Mapped to => | Non-Deliverable |

5 SUPPLEMENTARY INFORMATION

5.1 Best Practice Guidelines

The DSB has adopted the ISO Currency Code list (ISO 4217) for all currency attributes. To accommodate offshore currencies, the DSB has introduced 'Place of Settlement' (ISO 3166) as an additional attribute in the FX Non-Standard Product Definitions. This allows an offshore location to be input against an onshore currency for example to recognise CNH, the user should input CNY into 'Settlement Currency' and Hong Kong into 'Place of Settlement'.

Non-Deliverable Swap UPIs for Offshore variations of non-deliverable currencies (such as the Chinese Yuan/Renminbi) can be generated using underlying currency pair which should include the ISO 4217 currency code (eg: CNY) and an appropriate ISO 3166 Place of Settlement (eg: "Hong Kong").

Please refer to Best Practice Guidelines and FAQs that can be found in the Other Documents section on the [DSB website](#).

5.2 Additional Comments

The approach to Short Name abbreviation follows the OTC ISIN methodology.

6 APPENDIX 1 – ISO 4914 EQUIVALENCE

This section describes the attributes as per the ISO 4914 Unique Product Identifier (UPI).

| ISO 4914 Reference Data Elements | | Request Attribute | Record Attribute |
|----------------------------------|---|---------------------------|-------------------------|
| Asset Class | M | Asset Class | Asset Class |
| Instrument Type | M | Instrument Type | Instrument Type |
| Delivery Type | M | Delivery Type | Delivery Type |
| | | | CFI Delivery Type |
| Settlement Currency | C | Settlement Currency | Settlement Currency |
| Underlier ID | C | Underlier ID | Notional Currency |
| | C | Other Underlier ID | Other Notional Currency |
| Underlier ID source | C | Underlier ID Source | Not Required |
| | C | Other Underlier ID Source | Not Required |
| Underlier Type | M | Not Required | Underlying Asset Type |

7 APPENDIX 2 - OTC ISIN-UPI MAPPING

This section describes the mapping between the ISIN and UPI input attributes.

| ISIN Input Attributes | Mapping Logic | UPI Input Attributes | Sample UPI Values | Comments |
|--------------------------|-------------------|---------------------------|-------------------------|--|
| Asset Class | Direct Map | Asset Class | Foreign_Exchange | |
| Instrument Type | Direct Map | Instrument Type | Swap | |
| Use Case | Direct Map | Product | Non_Deliverable_FX_Swap | |
| Level | Set to "UPI" | Level | UPI | |
| Instrument ISIN Near Leg | Derived from ISIN | Underlier ID | USD | Underlier ID is derived from the underlying Near Leg NDF (OTC ISIN Record). |
| | Set to "CCY" | Underlier ID Source | CCY | |
| Instrument ISIN Far Leg | Derived from ISIN | Other Underlier ID | CNY | Other Underlier ID is derived from the underlying Far Leg NDF (OTC ISIN Record). |
| | Set to "CCY" | Other Underlier ID Source | CCY | |
| Delivery Type | Direct Map | Delivery Type | OPTL | |
| Price Multiplier | No Mapping | | | |
| | Derived from ISIN | Settlement Currency | CNY | Settlement Currency is derived from the underlying Near Leg NDF (OTC ISIN Record). |
| | No Mapping | Place of Settlement | Hong Kong | New attribute to accommodate offshore currencies |