Derivatives Service Bureau (UPI)

CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	M.A. Gariplan	18 Jun 2021	Initial Document
2	Draft	M.A. Gariplan	19 Jul 2021	Removed active hyperlinks in Data Dictionary; Amended References section with standard text; Removed Short Name comment in the Comment section
3	Draft	M.A. Gariplan	17 Aug 2021	Amended Normalization

Title	FOREIGN_EXCHANGE OPTION Non-Standard Template Definition		
Background	The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product: • **Foreign_Exchange : Option : Non_Standard**	**DSB-ID**	**UPI-492**
		Type	New Template
		Owner	M.A. Gariplan
		Version	3
		State	Draft
Terms of Reference			
Scope	• This CRF specifies the product definition required for the generation / retrieval of a UPI only. • This CRF covers both the input (Request) and output (Record) templates. • Support for local jurisdiction / alternate underlier identifier input is currently out of scope. • Support for CFI 2019 values is currently out of scope.		
Requirements	• The product definition will conform to ISO 4914 (UPI). • Where possible, the product definition is to be based on the attributes, values and behaviour of the equivalent OTC ISIN. • The product definition will return a product short name (FISN). • All UPI records stored on the DSB RDL will include the ISO 10962 (CFI) code associated with the UPI along with an equivalent text value for all attributes that are included in the definition of the CFI.		
Dependencies	• This specification is dependent on final sign-off of the ISO 4914 (UPI) specification. • This specification is dependent on PC approval for the use of the OTC ISIN definitions as a basis for the UPI. • This specification is dependent on PC approval for the inclusion of ISO 4914 (UPI) conditional attributes. • This specification is dependent on TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration. • This specification is dependent on the provision of a human-readable alias for the primary underlier for inclusion in the Short Name (FISN) and a human-readable alias for the Contract Specification. • The format of the Short Name is dependent upon the outcome of the ISO 18774 (FISN) systematic review.		
Assumptions	• This specification assumes that, unless stated, all values and behaviours are based on those of the equivalent OTC ISIN product definition. • This specification assumes that no input values are to be defaulted by the system. • This specification is based on the current ISO 4914 (UPI) specification (CD) – including attributes that are not currently supported by the equivalent OTC ISIN. • This specification is based on the DSB's current equivalent OTC ISIN product definition. • This specification is based on the attributes and values defined in ISO 10962 (CFI:2015). • In order to provide an example Short Name, this specification defines a format for this attribute that may not conform to the eventually agreed FISN format for the UPI. This specification assumes that the Short Name is defined using the same attributes (where available) as the OTC ISIN Short Name. • Where possible, this specification derives GUI details from the ISO 4914 (UPI) specification for attributes that are not included in the current OTC ISIN product definition. • The display information in the GUI for the existing attributes (and values) are taken from the OTC ISIN. If such information contains an "ISIN" in the description, replace the value into "UPI". • The specification for UPI does not include expiry date as part of the attributes, hence "expired" status does not apply.		

Request Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	Origin
Header Section	Asset Class	Set	M	Foreign_Exchange		CFI:2015 Char#2 (HF****)	ISIN
	Instrument Type	Set	M	Option		CFI:2015 Char#1 (HF****)	ISIN
	Product	Set	M	Non_Standard			ISIN
	Level	Set	M	UPI			NEW
Attribute Section	Underlier ID	Enum	M	CNY	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	NEW
	Underlier ID Source	String	M	CCY	[CCY]	internal	NEW
	Other Underlier ID	Enum	M	HKD	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	NEW
	Other Underlier ID Source	String	M	CCY	[CCY]	internal	NEW
	Settlement Currency	Enum	M	HKD	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	ISIN
	Place of Settlement	Enum	C	Hong Kong	ISO3166CountryNameCodeSet.json	ISO 3166	ISIN
	Underlying Asset Type	Enum	M	Spot	[Forwards; Futures; Spot; Volatility; Other]	CFI:2015 Char#3 (HF****)	ISIN
	Option Type	Enum	M	PUTO	[CALL, PUTO, OPTL]	ISO 20022	ISIN
	Option Exercise Style	Enum	M	EURO	[AMER, BERM, EURO]	ISO 20022	ISIN
	Valuation Method or Trigger	Enum	M	Vanilla	[Vanilla; Asian; Barrier; etc.]	CFI:2015 Char#5 (HF****)	ISIN
	Delivery Type	Enum	M	PHYS	[CASH; PHYS; OPTL]	ISO 20022	ISIN

Record Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	Origin
Header Section	Asset Class	Set	M	Foreign_Exchange		CFI:2015 Char#2 (HF****)	ISIN
	Instrument Type	Set	M	Option		CFI:2015 Char#1 (HF****)	ISIN
	Product	Set	M	Non_Standard			ISIN
	Level	Set	M	UPI			NEW
	Template Version	Integer	D	1			ISIN
Attribute Section	Notional Currency	Enum	M	CNY	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	ISIN
	Other Notional Currency	Enum	M	HKD	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	ISIN
	Settlement Currency	Enum	M	HKD	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	ISIN
	Place of Settlement	Enum	C	Hong Kong	ISO3166CountryNameCodeSet.json	ISO 3166	ISIN
	Underlying Asset Type	Enum	M	Spot	[Forwards; Futures; Spot; Volatility; Other]	CFI:2015 Char#3 (HF****)	ISIN
	Option Type	Enum	M	PUTO	[CALL, PUTO, OPTL]	ISO 20022	ISIN
	Option Exercise Style	Enum	M	EURO	[AMER, BERM, EURO]	ISO 20022	ISIN
	Valuation Method or Trigger	Enum	M	Vanilla	[Vanilla; Asian; Barrier; etc.]	CFI:2015 Char#5 (HF****)	ISIN
	Delivery Type	Enum	M	PHYS	[CASH; PHYS; OPTL]	ISO 20022	ISIN
Identifier Section	UPI	String	D	QZTFDXYJY73D	UPI	ISO 4914	NEW
	Status	String	D	New			ISIN
	Status Reason	String	D	<null>	Not applicable to a New record		ISIN
	Last Update Date Time	DtTm	D	2021-06-18T08:13:11	YYYY-MM-DDThh:mm:ss		ISIN
Derived Section	Classification Type	String	D	HFTDVP	See CRF (Derivations)	ISO 10962: 2015	ISIN
	Short Name	String	D	NA/FX O Nstd CNY HKD	See CRF (Derivations)	ISO 18774: 2015	NEW
	CFI Option Style and Type	String	D	European-Put	See CRF (Derivations)	CFI:2015 Char#4 (HF****)	NEW
	CFI Delivery Type	String	D	Physical	See CRF (Derivations)	CFI:2015 Char#6 (HF****)	NEW

Product Definition	
Attributes	See Template Layout (above).
Validation	**1. Notional and Other Notional Currency** • 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”.
Normalization	**1. Notional Currency and Other Notional Currency** For an FX Option, the option type is always associated with the Notional Currency. To ensure that only one UPI is generated for a put or call option on a currency pair, below normalization shall apply: a. Order the “Notional Currency” and “Other Notional Currency” alphabetically.

b. If the "Notional Currency" is first alphabetically, then record the currency pair and option type value as is in the record:

Notional Currency	EUR	→	Notional Currency	EUR
Other Notional Currency	USD		Other Notional Currency	USD
Option Type	CALL		Option Type	CALL
Option Exercise Style	EURO		Option Exercise Style	EURO

c. If the "Notional Currency" is not first alphabetically, then record it as "Other Notional Currency" and change the option type value. If option type value is "PUTO", change it to "CALL" and vice versa.

Notional Currency	USD	→	Notional Currency	EUR
Other Notional Currency	EUR		Other Notional Currency	USD
Option Type	CALL		Option Type	PUTO
Option Exercise Style	EURO		Option Exercise Style	EURO

d. If the option type value is "Chooser", alphabetical normalization approach in the currency pair shall apply and keep option value type as "Chooser".

Attribute Data Dictionary

This section provides the exact reference or source of the attribute.

Full Name	Source	Type
Notional Currency	ISO 4217 Currency Codes	Pattern: [A-Z]{3,3}
Other Notional Currency	ISO 4217 Currency Codes	Pattern: [A-Z]{3,3}
Settlement Currency	ISO 4217 Currency Codes	Pattern: [A-Z]{3,3}
Place of Settlement	ISO 3166 Country Codes	Max100Text (based on string) minLength: 0 maxLength: 100
Underlying Asset Type	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Forwards; Futures; Spot; Volatility; Other]*
Option Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[CALL; PUTO; OPTL]*
Option Exercise Style	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[AMER; BERM; EURO]*
Valuation Method or Trigger	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Vanilla; Asian; Digital (Binary); Barrier; Digital Barrier; Lookback; Other Path Dependent; Other]*
Delivery Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[CASH, PHYS, OPTL]*
CFI Delivery Type	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Cash; Physical; Elect at Exercise]*

Derivation

This section provides additional details to the derivation logic specified in the Template Layout sections (above).

Classification Type

Concatenation of the following attributes/values:

- Instrument Type: "H"
- Asset Class: "F"
- Underlying Asset Type: from Request.UnderlyingAssetType…
  - Forwards → R
  - Futures → F
  - Spot → T
  - Volatility → V

		- Other → M • Option Type/Style: from Request.OptionType and Request.OptionExerciseStyle… - PUTO/AMER → E - PUTO/BERM → F - PUTO/EURO → D - CALL/AMER → B - CALL/BERM → C - CALL/EURO → A - OPTL/AMER → H - OPTL/BERM → I - OPTL/EURO → G • Valuation Method or Trigger: from Request.ValuationMethodorTrigger… - Vanilla → V - Asian → A - Digital (Binary) → D - Barrier → B - Digital Barrier → G - Lookback → L - Other Path Dependent→ P - Other → M • Delivery Type: from Request.DeliveryType… - CASH → C - PHYS → P - OPTL → E E.g.: "HFTDVP"
	Short Name	Concatenation of the following attributes/values: • Issuer: "NA/" • Asset Class: "FX" (fixed value) • Instrument Type: "O" (fixed value) • Product: "Nstd" (fixed value) • Notional Currency: e.g.: CNY – from ISO 4217 output value • Other Notional Currency: e.g.: HKD – from ISO 4217 output value E.g.: "NA/FX O Nstd CNY HKD" *Note: The Short Name is based on the OTC ISIN that excludes the following fields:* - *Expiry Date*
	CFI Option Style and Type	Derived from the input Request.OptionType and Request.OptionExerciseStyle… • PUTO/AMER → "American-Put" • PUTO/BERM → "Bermudan-Put" • PUTO/EURO → "European-Put" • CALL/AMER → "American-Call" • CALL/BERM → "Bermudan-Call" • CALL/EURO → "European-Call" • OPTL/AMER → "American-Chooser" • OPTL/BERM → "Bermudan-Chooser" • OPTL/EURO → "European-Chooser"
	CFI Delivery Type	Derived from the input Delivery Type… • CASH → "Cash" • PHYS → "Physical" • OPTL → "Elect at Exercise"
GUI Details	The following section provides display information for any attributes (and values) that are not included in the related OTC ISIN definition.	

Attribute	Display Name	Tool Tip (and • *value elaboration*)
Underlier ID	Underlier ID	An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index

	Underlier ID Source	Underlier ID Source	The origin, or publisher, of the associated underlier ID.
	Other Underlier ID	Other Underlier ID	An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index
	Other Underlier ID Source	Other Underlier ID Source	The origin, or publisher, of the associated underlier ID.
	UPI	Identification	Unique Product Identifier (ISO 4914).
	CFI Option Style and Type	CFI Option Style and Type	The Delivery Type as defined by CFI code: ISO 10962. For all values: *As defined by CFI Code: ISO 10962*
	CFI Delivery Type	CFI Delivery Type	The Delivery Type as defined by CFI code: ISO 10962 • *As defined by CFI Code: ISO 10962*

Additional Information

Reference	References to external documents can be found on the DSB website at this address [https://www.anna-dsb.com/upi-external-reference-documents/].
Comments	• The Settlement Currency for the UPI will follow the behaviour / definition of the equivalent OTC ISIN templates – including the attribute where the OTC ISIN has one and excluding it where OTC ISIN excludes it. • The attribute Place of Settlement is applicable to NDS and Non-Standard products. • The Option Type enumerated values of UPI will be based on current DSB OTC ISIN values [CALL; PUTO; OPTL] rather than the ISO 20022 values [CALL; PUTO; OTHR]. • Short Name abbreviation for Option Type across Asset Classes: Equity has [CALL; PUTO; OPTL]; Commodities have [Call; Put; OPTL]; Rates have [Call; P; Opt]; Foreign_Exchange has [Call; Put; O]. For Credit, option type is not part of the short name.

ISO 4914 Equivalence

<table>
<tr><th colspan="2">ISO 4914</th><th>Request Attribute</th><th>Record Attribute</th></tr>
<tr><td>Asset Class</td><td>M</td><td colspan="2">Asset Class</td></tr>
<tr><td>Instrument type</td><td>M</td><td colspan="2">Instrument Type</td></tr>
<tr><td rowspan="2">Delivery type</td><td rowspan="2">M</td><td rowspan="2">Delivery Type</td><td>Delivery Type</td></tr>
<tr><td>CFI Delivery Type</td></tr>
<tr><td>Option Style</td><td>M</td><td colspan="2">Option Exercise Style</td></tr>
<tr><td>Option Type</td><td>C</td><td colspan="2">Option Type</td></tr>
<tr><td>Return, pricing method or payout trigger</td><td>M</td><td colspan="2">Valuation Method or Trigger</td></tr>
<tr><td>Settlement Currency</td><td>M</td><td>Settlement Currency</td><td>Settlement Currency</td></tr>
<tr><td rowspan="2">Underlier ID</td><td rowspan="2">C</td><td>Underlier ID</td><td>Notional Currency</td></tr>
<tr><td>Other Underlier ID</td><td>Other Notional Currency</td></tr>
<tr><td>Underlier ID source</td><td>C</td><td>Underlier ID Source</td><td>Not Required</td></tr>
<tr><td>Underlier type</td><td>M</td><td colspan="2">Underlying Asset Type</td></tr>
<tr><td>Underlying Contract Tenor Period*</td><td>C</td><td colspan="2">Not Required</td></tr>
<tr><td>Underlying Contract Tenor Period Multiplier*</td><td>C</td><td colspan="2">Not Required</td></tr>
</table>

* Underlying Contract Tenor Period / Multiplier applies only to a derivative contract underlying another derivative. For this product, the underlying is a currency pair and so these attributes are not required.