Derivatives Service Bureau (UPI)
CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	J. Lim	27 May 2021	Initial Document
2	Draft	J. Lim	21 Jul 2021	Updated template layout, attribute section, attribute data dictionary, GUI details and reference
3	Draft	J. Lim	23 Aug 2021	Removed 1.c of the normalization, updated template layout
4	Draft	J. Lim	08 Sep 2021	Additional validation for reference rate term value
5	Draft	J. im	04 Oct 2021	Updated record template and derivation section

Title	RATES SWAP 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: • **Rates : Swap : Non_Standard**	**DSB-ID**	**UPI-0376**
		Type	New Template
		Owner	J.Lim
		Version	5
		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.
- The specification for UPI will not require user to identify individual constituent identifiers if the OTC derivative has more than one underlier ID. This is also in agreement with PC to align with ISO 4914 (UPI) specification and CPMI/IOSCO.

Request Template Layout

Section		Attribute	Format	Cat	Example Value	Validation / Derivation	Condition	Enum Source	ORIGIN
Header Section		Asset Class	Set	M	Rates			CFI:2015 Char#2	ISIN
		Instrument Type	Set	M	Swap			CFI 2015 Char#1	ISIN
		Product	Set	M	Non_Standard				ISIN
		Level	Set	M	UPI				NEW
Attribute Section		Underlying Structure (oneOf)	String	M	Single Underlier	See CRF (Validation)	Populated if not a basket		NEW
	A1	Underlier ID Source	String	M	FPML	[FPML]		internal	NEW
		Underlier ID	Enum	M	AUD-CPI	See CRF (Validation and Normalization)		Fpml Coding Scheme 5.98 & 5.108	NEW
		Reference Rate Term Value	Integer	M	3	-999 to 999 (excluding 0)			ISIN
		Reference Rate Term Unit	Enum	M	MNTH	[DAYS, WEEK, MNTH, YEAR]		ISO 20022	ISIN
	B1	Underlying Structure (oneOf)	String	M	Basket	See CRF (Validation)	Populated for a basket		NEW
		Underlier Characteristic	Enum	M	Basket	See CRF (Validation)		Internal	NEW
		Notional Currency	Enum	M	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
	A2	Other Leg Underlying Structure (oneOf)	String	C	Single Underlier	See CRF (Validation)	Populated if not a basket		NEW
		Other Leg Underlier ID Source	String	C	FPML	[FPML]		internal	NEW
		Other Leg Underlier ID	Enum	C	AUD-LIBOR-BBA	See CRF (Validation and Normalization)		Fpml Coding Scheme 5.98 & 5.108	NEW
		Other Leg Reference Rate Term Value	Integer	C	3	-999 to 999 (excluding 0)			ISIN
		Other Leg Reference Rate Term Unit	Enum	C	MNTH	[DAYS, WEEK, MNTH, YEAR]		ISO 20022	ISIN
	B2	Other Leg Underlying Structure (oneOf)	String	M	Basket	See CRF (Validation)	Populated for a basket		NEW
		Other Leg Underlier Characteristic	Enum	C	Basket	See CRF (Validation)		Internal	NEW
		Other Notional Currency	Enum	C	AUD	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
		Notional Schedule	Enum	M	Constant	[Constant, Accreting, Amortizing, Custom]		CFI:2015 Char#4 (SR****)	ISIN
		Delivery Type	Enum	M	PHYS	[CASH, PHYS]		ISO 20022	ISIN

Record Template Layout

Section		Attribute	Format	Cat	Example Value	Validation / Derivation	Condition	Enum Source	ORIGIN
Header Section		Asset Class	Set	M	Rates			CFI:2015 Char#2	ISIN
		Instrument Type	Set	M	Swap			CFI 2015 Char#1	ISIN
		Product	Set	M	Non_Standard				ISIN
		Level	Set	M	UPI				NEW
		Template Version	Integer	D	1				ISIN
Attribute Section	A1	Reference Rate	Enum	M	AUD-LIBOR-BBA	See CRF (Validation and Normalization)		Fpml Coding Scheme 5.98 & 5.108	ISIN
		Reference Rate Term Value	Integer	M	3	-999 to 999 (excluding 0)			ISIN
		Reference Rate Term Unit	Enum	M	MNTH	[DAYS, WEEK, MNTH, YEAR]		ISO 20022	ISIN
		Notional Currency	Enum	M	AUD	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
	A2	Other Leg Reference Rate	Enum	C	AUD-CPI	See CRF (Validation and Normalization)		Fpml Coding Scheme 5.98 and 5.108	ISIN
		Other Leg Reference Rate Term Value	Integer	C	3	-999 to 999 (excluding 0)			ISIN
		Other Leg Reference Rate Term Unit	Enum	C	MNTH	[DAYS, WEEK, MNTH, YEAR]		ISO 20022	ISIN
		Other Notional Currency	Enum	C	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
		Notional Schedule	Enum	M	Constant	[Constant, Accreting, Amortizing, Custom]		CFI:2015 Char#4 (SR****)	ISIN
		Delivery Type	Enum	M	PHYS	[CASH, PHYS]		ISO 20022	ISIN
Identifier Section		UPI	String	D	QZGL629H2T52	See UPI Document (UPI Code structure and Annex C)		ISO 4914	NEW
		Status	String	D	New				ISIN
		Status Reason	String	D	<null>	Not applicable to a New record			ISIN
		Last Update Date Time	DdTm	D	2021-02-23T00:00:13	YYYY-MM-DDThh:mm:ss			ISIN
Derived Section		Classification Type	String	D	SRMCCP	See CRF (Derivations)		ISO 10962:2015	ISIN
		Short Name	String	D	NA/Rts Swaps Oth AUD EUR	See CRF (Derivations)		ISO 18774: 2015	NEW
		Underlying Asset Type	String	D	Other	Fixed value		CFI:2015 Char#3 (SRM***)	ISIN
		Single or Multi Currency	String	D	Cross Currency	See CRF (Derivations)		CFI:2015 Char#5 (SR****)	ISIN
		Underlier Characteristic	String	D	Single	See CRF (Validation)	Derived from underlying structure selection	Internal	NEW
		Other Leg Underlier Characteristic	String	D	Single	See CRF (Validation)	Derived from underlying structure selection	Internal	NEW
		CFI Delivery Type	String	D	Physical	See CRF (Derivations)		CFI:2015 Char#6 (SR****)	NEW

Product Definition	
Attributes	See Template Layout (above). **a. Underlier Structure** The above Request template described in this document supports products that can be defined with either a single underlier or a custom basket of (multiple) underliers. For this product the user is asked to select one of the following: • Single Underlier • Basket The selection of "Single Underlier" allows the user to enter the identifier for that individual underlier whereas the selection of "Basket" is considered a sufficient level of granularity (see ISO 4914 (UPI)) and so the user is not required to input a set of identifiers.

	Please note that basis-style products are not considered to be custom baskets and so the Request template allows the user to specify the individual underliers for each leg for this product.

Validation	**1. Notional Currency and Other Notional Currency**
	• User can select Notional Currency only or both Notional/Other Notional Currency.
	• Notional Currency is a required field, whilst the Other Notional Currency is an optional field.
	• 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 only Notional Currency is selected, reference rate and other leg reference rate must not be the same, otherwise an error message shall apply "Error: Reference Rate and Other Leg Reference Rate cannot be identical"
	
	2. Underlier ID and Underlier Characteristic [oneOf structure]
	• User can only select either Underlier ID (Single value) or Underlier Characteristic (Multiple value) and is a required field.
	• If underlier ID is selected, the associated attributes must be present in the REQUEST message and only one value can be selected in the enumeration.
	   **Associated attributes: Underlier ID Source; Reference Rate Term Value; Reference Rate Term Unit
	• If Underlier Characteristic is selected, underlier ID and its associated attributes will not be present in Request and Record template.
	• Only "Basket" is allowed value in the REQUEST message if Underlier characteristic is selected.
	
	3. Other Leg Underlier ID and Other Leg Underlier Characteristic [oneOf structure]
	• Other Leg Underlier ID and Other Leg Underlier characteristic are optional fields.
	• User has the option not to select any Other Leg Underliers (Other Leg Underlier ID or Other Leg Underlier Characteristic).
	• Only one can be selected in the request message, either Other Leg Underlier ID (single value) or Other Leg Underlier characteristic (multiple value).
	• If Other Leg Underlier ID is selected, the associated attributes must be present in the REQUEST message and only one value can be selected in the enumeration.
	   **Associated attributes: Other Leg Underlier ID Source; Other Leg Reference Rate Term Value; Other Leg Reference Rate Term Unit
	• If Other Leg Underlier Characteristic is selected, Other Leg Underlier ID and its associated attributes will not be present in Request and Record Template.
	• Only "Basket" is allowed value in the REQUEST message if Other Leg Underlier characteristic is selected.
	
	4. Reference Rate Term Value/Unit
	• If single underlier is selected, the Reference and Other Leg Reference Rate term value must not be zero, otherwise and error message will apply "Error: Term Value must not be 0".

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 Leg Notional Currency	ISO 4217 Currency Codes	Pattern: [A-Z]{3,3}
Notional Schedule	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Constant; Accreting; Amortizing; Custom]*
Reference Rate	FpML Coding Schemes	Max350Text (based on string) minLength: 1 maxLength: 350
Other Leg Reference Rate		
Reference Rate Term Unit	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[DAYS, WEEK, MNTH, YEAR]*
Other Leg Reference Rate Term Unit		
Reference Rate Term Value		

Other Leg Reference Rate Term Value	Integer – Positive or negative but not 0	Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3
Delivery Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums [CASH; PHYS]
CFI Delivery Type	ISO 10962 Classification of financial instruments (CFI code)	Enums [Cash; Physical]

| Normalization | 1. **Notional Currency and Other Notional Currency/ Reference Rate and Other Leg Reference Rate/ Underlier Characteristic and Other Leg Underlier Characteristic.** |

- The data submitted by user needs to normalize to ensure that single UPI is returned for a given set of attributes.
- The normalization order of the attributes will depend on its combination string and the below order must be follow.

a. "Notional Currency" and "Other Notional Currency are different".

- Order the attributes alphabetically. The Notional Currency should be first alphabetically and Other Leg Notional Currency the second alphabetically. The associated attributes of the Notional Currency will move as part of Normalization.

Sample A

Request					Record		
	Notional Currency	EUR				Notional Currency	AUD
A.1	Reference Rate	AUD-LIBOR-BBA		A.1	Reference Rate	AED-EBOR-Reuters
	Reference Rate Term Value	3			Reference Rate Term Value	3
	Reference Rate Term Unit	DAYS	→		Reference Rate Term Unit	DAYS
	Other Notional Currency	AUD			Other Notional Currency	EUR
B.1	Other Leg Reference Rate	AED-EBOR-Reuters		B.1	Other Leg Reference Rate	AUD-LIBOR-BBA
	Other Leg Reference Rate Term Value	3			Other Leg Reference Rate Term Value	3
	Other Leg Reference Rate Term Unit	DAYS			Other Leg Reference Rate Term Unit	DAYS

Sample B

Request					Record		
	Notional Currency	EUR		A.2	Underlier Characteristic	Basket
A.1	Reference Rate	AUD-LIBOR-BBA			Other Notional Currency	EUR
	Reference Rate Term Value	3	→	B.1	Other Leg Reference Rate	AUD-LIBOR-BBA
	Reference Rate Term Unit	DAYS			Other Leg Reference Rate Term Value	3
	Other Notional Currency	AUD			Other Leg Reference Rate Term Unit	DAYS
B.2	Other Leg Underlier Characteristic	Basket				

b. If only "Notional Currency" is selected.

- If the input combination is "Reference Rate" and "Other Leg Reference rate". Arrange the Reference rate and Other Leg reference rate alphabetically. The Reference Rate should be first alphabetically and Other Leg Reference rate the second alphabetically. The associated attributes (Reference Rate Term Value + Reference Rate Term Unit) are then moved as part of the normalization.

Request					Record		
	Notional Currency	EUR			Notional Currency	EUR
A.1	Reference Rate	AUD-LIBOR-BBA		A.1	Reference Rate	AED-EBOR-Reuters
	Reference Rate Term Value	3			Reference Rate Term Value	3
	Reference Rate Term Unit	DAYS	→		Reference Rate Term Unit	DAYS
B.1	Other Leg Reference Rate	AED-EBOR-Reuters		B.1	Other Leg Reference Rate	AUD-LIBOR-BBA
	Other Leg Reference Rate Term Value	3			Other Leg Reference Rate Term Value	3
	Other Leg Reference Rate Term Unit	DAYS			Other Leg Reference Rate Term Unit	DAYS

- If the input combination is "Reference rate" and "Other Underlier Characteristic". Record the attributes as is.

Request					Record		
	Notional Currency	EUR			Notional Currency	EUR
A.1	Reference Rate	USD-LIBOR-LIBO		A.1	Reference Rate	USD-LIBOR-LIBO
	Reference Rate Term Value	3	→		Reference Rate Term Value	3
	Reference Rate Term Unit	DAYS			Reference Rate Term Unit	DAYS
B.2	Other Leg Underlier Characteristic	Basket		B.2	Other Leg Underlier Characteristic	Basket

- If the input combination is "Underlier Characteristic" and "Other Leg Reference Rate". Record the Other Leg Reference Rate as "Reference Rate" and Underlier Characteristic as "Other Leg Underlier Characteristic". The associated attributes (Other Leg Reference Rate Term Value + Other Leg Reference Rate Term Unit) are then moved as part of the normalization and will change to "Reference Rate Term Value" + "Reference Rate Term Unit".

Request					Record		
	Notional Currency	EUR			Notional Currency	EUR
A.2	Underlier Characteristic	Basket		B.1	Reference Rate	USD-LIBOR-LIBO
B.1	Other Leg Reference Rate	USD-LIBOR-LIBO	→		Reference Rate Term Value	3
	Other Leg Reference Rate Term Value	3			Reference Rate Term Unit	DAYS
	Other Leg Reference Rate Term Unit	DAYS		A.2	Other Leg Underlier Characteristic	Basket

- If the input combination is "Underlier Characteristic" and "Other Underlier Characteristic". Record the attributes as is.

Request			→	Record		
	Notional Currency	EUR			Notional Currency	EUR
A.2	Underlier Characteristic	Basket		A.2	Underlier Characteristic	Basket
B.2	Other Leg Underlier Characteristic	Basket		B.2	Other Leg Underlier Characteristic	Basket

2. **Reference Rate Term Value and Reference Rate Term Unit/ Other Reference Rate Term Value and Other Reference Rate Term Unit**
    - If Reference Rate Term Unit = "DAYS" and Reference Rate Term Value is divisible by 7, record it in weeks

Reference Rate Term Value/ Other Reference Rate Term Value	7	→	Reference Rate Term Value/ Other Reference Rate Term Value	1
Reference Rate Term Unit/ Other Reference Rate Term Unit	DAYS		Reference Rate Term Unit/ Other Reference Rate Term Unit	WEEK

    - If Reference Rate Term Unit = "MNTH" and Reference Rate Term Value is divisible by 12, record it in years

Reference Rate Term Value/ Other Reference Rate Term Value	12	→	Reference Rate Term Value/ Other Reference Rate Term Value	1
Reference Rate Term Unit/ Other Reference Rate Term Unit	MNTH		Reference Rate Term Unit/ Other Reference Rate Term Unit	YEAR

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

Single or Multiple Currency	Derived from the input Notional Currency and Other Notional Currency • Single Currency → If user selects Notional Currency only • Cross Currency → If user selects Notional currency and Other Notional Currency

Classification Type	Concatenation of the following attributes/values:
	• Instrument Type: "S"
	• Asset Class: "R"
	• Underlying Asset Type: "M"
	• Notional Schedule: from Request.Notional Schedule…
	  - *Constant →* C
	  - *Accreting →* I
	  - *Amortizing →* D
	  - *Custom →* Y
	• Single or Multi-Currency: from Derived Single or Multiple Currency
	  - *Single Currency →* S
	  - *Cross Currency →* C
	• Delivery Type: from Request.Delivery Type…
	  - *CASH →* C
	  - *PHYS →* P
	E.g.: "SRMCCC"

Short Name	Concatenation of the following attributes/values:
	  i. Issuer Name: "NA/"
	  ii. Asset Class: "Rts" (fixed value)
	  iii. Instrument Type: "Swaps" (fixed value)
	  iv. Underlying Asset Type: "Oth" (fixed value)
	  v. Notional Currency: e.g., AUD – from ISO 4217 (output value)
	  vi. Other Leg Notional Currency: e.g., EUR – from ISO 4217 (output value)
	
	E.g.: "NA/Rts Swaps Oth AUD EUR"
	Note: The Short Name is based on the OTC ISIN that excludes the following fields:
	  - *Expiry Date*

Underlier Characteristic	Based on the underlying structure/ Other leg underying structure selected in the input:
	  1. If the oneOf selected is "Single Underlier";
	    • then set the Underlier Characteristic to "Single".
	  2. If the oneOf selected is "Basket";
	    • then set the Underlier Characteristic to "Basket".

CFI Delivery Type	Derived from the input Delivery Type… • CASH → "Cash" • PHYS → "Physical"

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*)**
	Underlying Structure/ Other Underlying Structure	Underlying Structure/ Other Underlying Structure	Indicates whether the product is based on a single underlier or a basket of underliers.
	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.
	Underlier Characteristic	Underlier Characteristic	An attribute that is used to specify whether the product is based on a single or multiple underliers.
	Other Leg Underlier ID	Other Leg 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 Leg Underlier ID Source	Other Leg Underlier ID Source	The origin, or publisher, of the associated underlier ID.
	Other Leg Underlier Characteristic	Other Leg Underlier Characteristic	An attribute that is used to specify whether the product is based on a single or multiple underliers.
	UPI	Identification	Unique Product Identifier (ISO 4914).
	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	• Text values in the Short Name are taken from "ISO Abbrev w acronyms-Final_v0.5.5.FINAL." • Existing OTC ISIN product definition methodology of the Short Name abbreviation for instrument type are different per product template, and so UPI will align with the existing OTC ISIN abbreviation per product.

ISO 4914 Equivalence	**ISO 4914**		**Request Attribute**	**Record Attribute**
	Asset Class	M	Asset Class	Asset Class
	Instrument Type	M	Instrument Type	Instrument Type
	Currency associated with an underlying reference rate	M	Notional Currency	Notional Currency
		M	Other Notional Currency	Other Notional Currency
	Delivery Type	M	Delivery Type	Delivery Type
				CFI Delivery Type
	Notional Schedule	M	Notional Schedule	Notional Schedule
	Single or Multi Currency	M	Not Required	Single or Multi Currency
	Underlier ID	C	Underlier ID	Reference rate
			Other Leg Underlier ID	Other Leg Reference Rate
		C	Underlier ID source	

	Underlier ID source		Other Leg Underlier ID source	Not Required
	Underlier Type	M	Not Required	Underlying Asset Type
	Underlying rate index tenor period	C	Reference Rate Term Unit	Reference Rate Term Unit
			Other Leg Reference Term Unit	Other Leg Reference Term Unit
	Underlying rate index tenor period multiplier	C	Reference Rate Term Value	Reference Rate Term Value
			Other Leg Reference Rate Term Value	Other Leg Reference Rate Term Value