Derivatives Service Bureau (UPI)

CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	M. Surop	22 April 2021	Initial Document
2	Draft	M. Surop	24 May 2021	Updated Validation
3	Draft	M. Surop	14 June 2021	Updated error message for ISIN validation.
4	Draft	M. Surop	19 July 2021	Removed active hyperlinks in Data Dictionary; Amended References section with standard text; Removed Short Name comment in the Comment section.
5	Draft	M. Surop	24 Sept 2021	Updated error message for ISIN validation.

Title	RATES OPTION Debt Option Template Definition		
Background	The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product: • **Rates : Option : Debt_Option**	**DSB-ID**	**UPI-0214**
		Type	New Template
		Owner	M. Surop
		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.

Request Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	Origin
Header Section	Asset Class	Set	M	Rates		CFI:2015 Char#2 (HR****)	ISIN
	Instrument Type	Set	M	Option		CFI:2015 Char#1 (HR****)	ISIN
	Product	Set	M	Debt_Option			ISIN
	Level	Set	M	UPI			NEW
Attribute Section	Underlier ID	String	M	FR0012938116	See CRF (Validations)		NEW
	Underlier ID Source	String	M	ISIN	[ISIN]	Internal	NEW
	Notional Currency	Enum	M	EUR	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	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; Digital (Binary); etc.]	CFI:2015 Char#5 (HR****)	ISIN
	Delivery Type	Enum	M	CASH	[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	Rates		CFI:2015 Char#2 (HR****)	ISIN
	Instrument Type	Set	M	Option		CFI:2015 Char#1 (HR****)	ISIN
	Product	Set	M	Debt_Option			ISIN
	Level	Set	M	UPI			NEW
	Template Version	Integer	D	1			ISIN
Attribute Section	Underlying Instrument ISIN	String	M	FR0012938116	See CRF (Validations)		ISIN
	Notional Currency	Enum	M	EUR	ISOCurrencyCode.json	ISO 4217 (3-Char CCY)	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; Digital (Binary); etc.]	CFI:2015 Char#5 (HR****)	ISIN
	Delivery Type	Enum	M	CASH	[CASH; PHYS; OPTL]	ISO 20022	ISIN
Identifier Section	UPI	String	D	QZ5M5NQDHVC3	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	2021-04-22T05:38:20	YYYY-MM-DDThh:mm:ss		ISIN
Derived Section	Classification Type	String	D	HRMDVC	See CRF (Derivations)	ISO 10962:2015	ISIN
	Short Name	String	D	NA/O P Epn Oth EUR	See CRF (Derivations)	ISO 18774	NEW
	Underlying Asset Type	String	D	Other	Fixed value	CFI:2015 Char#3 (HRM***)	ISIN
	CFI Option Style and Type	String	D	European-Put	See CRF (Derivations)	CFI:2015 Char#4 (HR****)	NEW
	CFI Delivery Type	String	D	Cash	See CRF (Derivations)	CFI:2015 Char#6 (HR****)	NEW

<table>
<tr><th colspan="4">Product Definition</th></tr>
<tr><td>Attributes</td><td colspan="3">See Template Layout (above).</td></tr>
<tr><td>Validation</td><td colspan="3">1. Underlier ID
The following validation will apply for Underlying Instrument ISIN:
• The input text by user must be in 12 characters (2 alpha, 9 alphanumeric, 1 numeric).
• The input text must not have a prefix of “QZ” or “EZ”.
• A syntactic validation is being performed to confirm an ISIN when hitting create.
• If the input ISIN is not aligned with the above pattern before hitting create, an error message will apply “Value must match the pattern ^(?!(EZ|QZ))[A-Z]{2}[A-Z0-9]{9}[0-9]$.”
• If the input ISIN is less or more than 12 characters after hitting create and is not aligned with the above pattern, an error message will apply "Error: /Attributes/UnderlierID: ECMA 262 regex "^(?!(EZ|QZ))[A-Z]{2}[A-Z0-9]{9}[0-9]$" does not match input string "[user input]".
• If the input ISIN is aligned with the pattern criteria but ISIN value does not conformed with syntactic validation, an error message will apply “Error: ISIN/s must be valid”.</td></tr>
<tr><td>Normalization</td><td colspan="3">Not Required</td></tr>
<tr><td rowspan="2">Attribute Data Dictionary</td><td colspan="3">This section provides the exact reference or source of the attribute.</td></tr>
<tr><td>Full Name</td><td>Source</td><td>Type</td></tr>
</table>

	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]*
	Notional Currency	ISO 4217 Currency Codes	Pattern: [A-Z]{3,3}
	Option Exercise Style	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[AMER; BERM; EURO]*
	Option Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[CALL; PUTO; OPTL]*
	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]*
	Underlying Instrument ISIN	Not Available	Max of 12 text (pattern) [A-Z] – firsts 2 characters [A-Z], [0-9] – Next 9 characters [0-9] – Last value is based on ISIN calculation

<table>
<tr><td rowspan="3">Derivation</td><td colspan="2">This section provides additional details to the derivation logic specified in the Template Layout sections (above).</td></tr>
<tr><td>Classification Type</td><td>Concatenation of the following attributes/values:
• Instrument Type: “H”
• Asset Class: “R”
• Underlying Asset Type: “M”
• Option Type/Style: from Request.OptionType and Request.OptionExercise Style…
- 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.Delivery Type…
- CASH → C
- PHYS → P
- OPTL → E
E.g.: “HRMDVC”</td></tr>
<tr><td>Short Name</td><td>Concatenation of the following attributes/values:
• Issuer: “NA/”
• Instrument Type: “O” (fixed value)
• Option Type: from Request.OptionType…
- PUTO “P”
- CALL “Call”
- OPTL “Opt”
• Option Exercise Style: from Request.OptionExerciseStyle…</td></tr>
</table>

		- AMER “Amr” - BERM “Brm” - EURO “Epn” • Underlying Asset Type: “Oth” (fixed value) • Notional Currency: e.g.: EUR – from ISO 4217 input value E.g.: “NA/O P Epn Oth EUR” *Note: The Short Name is based on the OTC ISIN that excludes the following field:* - *Expiry Date*
	CFI Option Style and Type	Derived from the Underlying 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.
UPI	Identification	Unique Product Identifier (ISO 4914).
CFI Option Style and Type	CFI Option Style and Type	The Option Style and Type as defined by CFI code: ISO 10962. • *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	• Currently the system does not hold reference data to support the validation of the LEI or ISIN. This means that it is not possible to validate the existence or classification of the Underlier ID. In addition, this means that human-readable alias is not currently supported for inclusion in the Short Name attribute. • The Shortname abbreviation for option type – Put is “P” for rates option while in equity option, shortname abbreviation for the option type – Put is “Put”. • The Option Type enumerated values of UPI will be based on current DSB OTC ISIN [CALL; PUTO; OPTL] rather than the ISO 20022 values [CALL; PUTO; OTHR].

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

	Delivery Type	M	Delivery Type	Delivery Type CFI Delivery Type
	Option style	M	Option Exercise Style	Option Exercise Style
	Option type	M	Option Type	Option Type
	Return, pricing method or payout trigger	M	Valuation Method or Trigger	Valuation Method or Trigger
	Underlier ID	C	Underlier ID	Underlying Instrument ISIN
	Underlier ID source	C	Underlier ID Source	Not Required
	Underlier type	M	Not Required	Underlying Asset Type
	Underlying rate index tenor period*	C	Not Required	
	Underlying rate index tenor period multiplier*	C	Not Required	
	Underlying contract tenor period**	C	Not Required	
	Underlying contract tenor period multiplier**	C	Not Required	

* Underlying Rate Index Tenor Period / Multiplier applies to OTC derivatives with an Underlying Reference Rate (Index).

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