Derivatives Service Bureau

Other : Option : Non_Standard

UPI Product Definition

Version 7

Date	Status	Version	Revision Details
05 Sep 2022	Draft	1	Initial Version
21 Sep 2022	Draft	2	• Update Request and Record templates layout and validation rules • Update OTC ISIN-UPI Mapping for Underlying Asset Class.Commodities
15 Nov 2022	Draft	3	Update Request Template Layout for "anyOf" in Underlying Asset Class
19 Dec 2022	Draft	4	Update Request and Record templates layout and validation rules
16 Jan 2023	Draft	5	• Update example values in the Request and Record templates layout • Rename Underlier ID Source values • Insert Underlier Name attribute and Derivation rules
08 Sep 2023	Draft	6	• Remove "Classified as Confidential" in the Footer section. • Remove "RIC" as Alternate Underlier ID Source. • Update Associated Documentation to include Best Practice Guidelines and FAQs. • Update Best Practice Guidelines to include the link to Best Practice Guidelines and FAQs.
11 Dec 2023	Draft	7	• Update CFI Taxonomy. • Update Request and Record template for Option Type and Option Exercise Style as Optional. • Update Derivation rules for the following: a. Classification Type b. CFI Option Style and Type • Update Appendix 1 – ISO 4914 Equivalence.

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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)	**H**	Non-listed and complex listed options	
	Asset Class (Group)	**M**	Other assets (miscellaneous)	
Attr #1	**Underlying Assets**	**M**	Others	Others (miscellaneous)
Attr #2	**Option style and type**	**A**	European-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price only on the expiration date of the call
		B	American-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price at any time during the term of the call option, up to and including the expiration date of the call
		C	Bermudan-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the call
		D	European-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price only on the expiration date of the put
		E	American-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price at any time during the term of the put option, up to and including the expiration date of the put
		F	Bermudan-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the put
		G	European-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price, only on the contract’s expiration date; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
		H	American-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price at any time during the term of the contract, up to and including the expiration date of the call or put; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
		I	Bermudan-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the contract; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
		X	*Not applicable/undefined*	*Note: This is included in order to support Options products with no Option Type and Option Exercise Style. However, this is taken from ISO 10962: 2015 (CFI Code).*

Attr #3	**Valuation method or trigger**	**D**	Digital (Binary)	An option that has a pre-determined pay-out if the option is in-the-money and the payoff condition is satisfied; also referred to as a "binary option" or an "all-or-nothing option"
		G	Digital Barrier	A digital option embedded with a barrier option; there are different variations of this type of option; as an example, a down-and-out digital call option will pay a fixed payoff, or the underlying, at any time before maturity that the underlying price is equal to or greater than the barrier level; it will pay zero if the underlying price is less than the barrier level
		V	Vanilla	An option for which all terms are standardized
		A	Asian	An option where either the strike price or the settle-ment price is the average level of an underlying instrument over a predetermined period; the averaging can be either a geometric or arithmetic average
		B	Barrier	An option whose final exercise depends upon the path taken by the price of an underlying instrument; for a "knock-out" barrier option, the option is cancelled if the underlying price crosses a predetermined barrier level; for a "knock-in" barrier option, the option becomes available-for-exercise if the underlying price crosses a predetermined barrier level
		L	Lookback	An option that minimizes the uncertainties related to the timing of market entry; there are two types of look-back options: fixed and floating; the fixed option strike is determined at purchase, and the floating option strike is determined at maturity
		P	Other path dependent	An option on a contract whose payoff is directly related to the price pattern the underlying asset follows during the life of the contract
		M	Others	Others (miscellaneous)
Attr #4	**Delivery Type**	**C**	Cash	The discharge of an obligation by payment or receipt of a net cash amount instead of payment or delivery by both parties
		P	Physical	The meeting of a settlement obligation under a derivative contract through the receipt or delivery of the actual underlying instrument(s) instead of through cash settlement
		E	Elect at Exercise	The method of delivery of the underlying instrument when the option is exercised shall be determined at the time of exercise
		A	Auction	An independently administered synthetic auction process on a set of defined deliverable obligations that sets a reference final price that can be used to facilitate cash settlement of all covered transactions following a credit event
		N	Non-Deliverable	The Delivery Type as defined by CF code: ISO 10962 (2015)

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	Transaction Type	DSB Product Definition Name
All	Exotic			Non-Standard Option

3 REQUEST TEMPLATE

This section describes the input message received by UPI service.

Template name	Template details	Release
Request.Other.Option.Non_Standard.UPI.json	Initial version	Initial

Section		Attribute	Format	Cat	Example Value	Validation
Header Section		Asset Class	Set	M	Other	
		Instrument Type	Set	M	Option	
		Product	Set	M	Non_Standard	
		Level	Set	M	UPI	
Attribute Section		Underlying Asset Class.Rates (anyOf)	Object	C		
		Notional Currency	Enum	(M)	EUR	ISO 4217 Currency Code
	A1	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See Validation Rules
	A1	Underlier ID Source	Enum	(M)	FPML	[FPML]
	A1	Underlier ID	Enum	(M)	EUR-EXT-CPI	Floating Rate Index and Inflation Rate Index
	A1	Reference Rate Term Value	Integer	(M)	3	-999 to 999 (including 0)
	A1	Reference Rate Term Unit	Enum	(M)	MNTH	[DAYS; WEEK; MNTH; YEAR]
	B1	Underlying Structure (oneOf)	Object	(M)	Basket	See Validation Rules
		Other Notional Currency	Enum	(C)	GBP	ISO 4217 Currency Code
	A2	Other Leg Underlying Structure (oneOf)	Object	(C)	Single Underlier	See Validation Rules
	A2	Other Leg Underlier ID Source	Enum	(C)	FPML	[FPML]
	A2	Other Leg Underlier ID	Enum	(C)	GBP-LIBOR-BBA	Floating Rate Index and Inflation Rate Index
	A2	Other Leg Reference Rate Term Value	Integer	(C)	3	-999 to 999 (including 0)
	A2	Other Leg Reference Rate Term Unit	Enum	(C)	MNTH	[DAYS; WEEK; MNTH; YEAR]
	B2	Other Leg Underlying Structure (oneOf)	Object	(C)	Basket	See Validation Rules
		Underlying Asset Class.Equity (anyOf)	Object	C		
	A	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See Validation Rules
	A	Underlier Type (oneOf)	Object	(M)	Equity Identifier	
	A	Underlier ID Source	Enum	(M)	ISIN	[ISIN; FIGI; CUSIP; SEDOL]
	A	Underlier ID	String	(M)	GB0001383545	Syntactic Validation
	A	Underlier Type (oneOf)	Object	(M)	Equity Index Name	
	A	Underlier ID Source	Enum	(M)	EQIDX	[EQIDX]
	A	Underlier ID	Enum	(M)	FTSE 200 Index	ESMA TTC
	A	Underlier Type (oneOf)	Object	(M)	Proprietary Index	
	A	Underlier ID Source	Enum	(M)	PROP	[PROP]
	A	Underlier ID	String	(M)	34810-JPCFNAMR	DSB Proprietary Index Enumeration
	B	Underlying Structure (oneOf)	Object	(M)	Basket	See Validation Rules
		Underlying Asset Class.Credit (anyOf)	Object	C		
	A	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See Validation Rules
	A	Underlier Type (oneOf)	Object	(M)	Fixed Income Security	
	A	Underlier ID Source	Enum	(M)	ISIN	[ISIN; FIGI; CUSIP; SEDOL]
	A	Underlier ID	String	(M)	US92857WBQ24	Syntactic Validation
	A	Debt Seniority	Enum	(M)	SNDB	[SNDB; MZZD; SBOD; JUND]
	A	Underlier Type (oneOf)	Object	(M)	Legal Entity	
	A	Underlier ID Source	Enum	(M)	LEI	[LEI]
	A	Underlier ID	String	(M)	INR2EJN1ERAN0W5ZP974	Syntactic Validation
	A	Debt Seniority	Enum	(M)	SNDB	[SNDB; MZZD; SBOD; JUND]
	A	Underlier Type (oneOf)	Object	(M)	Credit Index	
	A	Underlier ID Source	Enum	(M)	CRIDX	[CRIDX]
	A	Underlier ID	Enum	(M)	ITRAXX EUROPE	Markit Indices
	A	Underlying Instrument Index Term Value	Integer	(M)	7	-999 to 999 (including 0)
	A	Underlying Instrument Index Term Unit	Enum	(M)	DAYS	[DAYS; WEEK; MNTH; YEAR]
	A	Underlying Credit Index Series	Integer	(M)	3	See Validation Rules
	A	Underlying Credit Index Version	Integer	(M)	5	See Validation Rules

Section	Attribute		Format	Cat	Example Value	Validation
		Underlier Type (oneOf)	Object	(M)	Proprietary Index	
		Underlier ID Source	Enum	(M)	PROP	[PROP]
		Underlier ID	String	(M)	11339-MLSREISU	DSB Proprietary Index Enumerations
		Underlying Instrument Index Term Value	Integer	(M)	7	-999 to 999 (including 0)
		Underlying Instrument Index Term Unit	Enum	(M)	DAYS	[DAYS; WEEK; MNTH; YEAR]
		Underlying Credit Index Series	Integer	(M)	3	See Validation Rules
		Underlying Credit Index Version	Integer	(M)	5	See Validation Rules
	B	Underlying Structure (oneOf)	Object	(M)	Basket	See Validation Rules
	Underlying Asset Class.Foreign_Exchange (anyOf)		Object	C		
	Underlier ID Source		Enum	(M)	CCY	[CCY]
	Underlier ID		Enum	(M)	EUR	ISO 4217 Currency Code
	Other Underlier ID Source		Enum	(M)	CCY	[CCY]
	Other Underlier ID		Enum	(M)	USD	ISO 4217 Currency Code
	Settlement Currency		Enum	(C)	EUR	ISO 4217 Currency Code
	Place of Settlement		Enum	(C)	Hong Kong	Country List
	Underlying Asset Class.Commodities (anyOf)		Object	C		
	Notional Currency		Enum	(M)	USD	ISO 4217 Currency Code
	A	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See Validation Rules
		Underlier Type (oneOf)	Object	(M)	Commodity Ref Price	
		Underlier ID Source	Enum	(M)	COMM	[COMM]
		Underlier ID	Enum	(M)	SILVER-FIX	Commodity Reference Rate
		Underlier Type (oneOf)	Object	(M)	Commodity Index	
		Underlier ID Source	Enum	(M)	COIDX	[COIDX]
		Underlier ID	Enum	(M)	OTHER	Commodity Index
		Underlier Type (oneOf)	Object	(M)	Proprietary Index	
		Underlier ID Source	Enum	(M)	PROP	[PROP]
		Underlier ID	String	(M)	11339-BABXSG01	DSB Proprietary Index Enumeration
	B	Underlying Structure (oneOf)	Object	(M)	Basket	See Validation Rules
	Base Product		Object	(M)		See Validation Rules
		Base Product	Enum	(M)	METL	[AGRI; NRGY; ENVR; etc.]
		Sub Product	Enum	(C)	PRME	[GROS; COAL; EMIS; etc.]
		Additional Sub Product	Enum	(C)	SLVR	[FWHT; EUAE; DBCR; etc.]
	Option Type		Enum	C	CALL	[PUTO; CALL; OPTL]
	Option Exercise Style		Enum	C	AMER	[AMER; BERM; EURO]
	Valuation Method or Trigger		Enum	C	Vanilla	[Vanilla; Asian; Barrier; etc.]
	Delivery Type		Enum	M	Physical	[Cash; Physical; Auction; etc.]

3.1 Underlier Input Method

This section describes the underlier input method to support products that are based on multiple asset classes.

Title	Description
Select Underlying Asset Class	User is allowed to identify and select the underlying asset class of a certain product. • Rates • Credit • Equity • Foreign Exchange • Commodities
Select Underlying Structure	User is able to select whether the underlying is a single underlier or basket based on its product. • Single Underlier • Basket

Select Underlier Type	User is able to select a single required underlier type from the available options based on the selected Underlying Asset Class.
	• Commodities
	  o Commodity Ref Price
	  o Commodity Index
	  o Proprietary Index
	• Credit
	  o Fixed Income Security
	  o Legal Entity
	  o Credit Index
	  o Proprietary Index
	• Equity
	  o Equity Identifier*
	  o Equity Index Name
	  o Proprietary Index
	**For Underlier Type "Equity Identifier", user is able to enter an ISIN of a Single Stock or an Equity Index.*

Select Underlier ID Source	User is able to select a single required Underlier ID Source from the available options based on the selected Underlier Type.
	• Commodities
	  o Commodity Ref Price [COMM]
	  o Commodity Index [COIDX]
	  o Proprietary Index [PROP]
	• Credit
	  o Fixed Income Security [ISIN; FIGI; CUSIP; SEDOL]
	  o Legal Entity [LEI]
	  o Credit Index [CRIDX]
	  o Proprietary Index [PROP]
	• Equity
	  o Equity Identifier [ISIN; FIGI; CUSIP; SEDOL]
	  o Equity Index Name [EQIDX]
	  o Proprietary Index [PROP]
	• Rates
	  o Floating Rate Index (FPML]
	  o Inflation Rate Index [FPML]
	• Foreign Exchange
	  o Currency Pair [CCY]

Input Underlier ID	User enters a valid Underlier ID based on the selected Underlier ID Source.

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 Underlying Asset Class.Rates

a. Underlying Structure [oneOf structure]
- User can only select either Single Underlier (Single value) or Basket (Multiple values) and is a required field.
- If "Single Underlier" is selected, the Underlier ID and its Source [FPML], Reference Rate Term Value/Unit will be present in the REQUEST template.
- If "Basket" is selected, the Underlier ID and its associated attributes will not be present in the REQUEST and RECORD templates.
- Only "Basket" is allowed value in REQUEST template for multiple underliers.

b. Other Leg Underlying Structure [oneOf Structure]
- Other Leg Underlying Structure is an optional field.
- Only one can be selected in the REQUEST template if attribute is selected, either Single Underlier (single value) or Basket (multiple value).
- If "Single Underlier" is selected, the Other Leg Underlier ID Source [FPML], Other Leg Reference Rate Term Value/Unit will be present in the REQUEST template.
- If "Basket" is selected, the Other Leg Underlier ID and its associated attributes will not be present in the REQUEST and RECORD templates.
- Only "Basket" is allowed value in REQUEST template for multiple underliers.

3.2.2 Underlying Asset Class.Credit

a. Underlying Structure [oneOf structure]
- User can only select either Single Underlier (Single value) or Basket (Multiple values) and is a required field.
- If "Single Underlier" is selected, the Underlier ID and its Source [ISIN; FIGI; CUSIP; SEDOL; LEI; CRIDX; PROP] will be present in the REQUEST template.
- If "Basket" is selected, the Underlier ID and its associated attributes will not be present in the REQUEST and RECORD templates.
- Only "Basket" is allowed value in REQUEST template for multiple underliers.

b. Underlying Instrument Index Term Value and Term Unit

i. If the Underlier ID Source selected is CRIDX or PROP, the following validations will apply:
- Underlying Instrument Index Term Value and Underlying Instrument Index Term Unit must be present in the REQUEST and RECORD messages.
- Underlying Instrument Index Term Unit: [DAYS; WEEK; MNTH; YEAR].
- Underlying Instrument Index Term Value: Input text must be an integer from -999 to 999 (including 0).
- If the input text is more than the value of 999, an error message will apply "Value must be at most 999."
- If the input text is more than the value of -999, an error message will apply "Value must be at least -999."
- If the input contains negative (-) after the integer, an error message will apply: "Value must be of type integer. Value must be at most 999. Value must be at least -999."

ii. If the Underlier ID Source selected is [ISIN; FIGI; CUSIP; SEDOL; LEI], Underlying Instrument Index Term Value and Term Unit attributes will not be present in the REQUEST and RECORD templates.

c. Underlying Credit Index Series and Version

i. If the Underlier ID Source selected is PROP, the following validations will apply:
- Underlying Credit Index Series and Underlying Credit Index Version attributes must be present in the REQUEST and RECORD messages.
- The input text by the user must be a positive integer from 0 to 999.

- If the input text has a prefix of negative (-), an error message will apply: “Value must be at least 0.”
- If the input contains negative (-) after the integer, an error message will apply “Value must be of type integer. Value must be at most 999. Value must be at least 0”.
- If the input text contains character, remove the character and retain the integer if exists.

3.2.3 Underlying Asset Class.Equity

a. Underlying Structure [oneOf structure]
   - User can only select either Single Underlier (Single value) or Basket (Multiple values) and is a required field.
   - If “Single Underlier” is selected, the Underlier ID and its Source [ISIN; FIGI; CUSIP; SEDOL; EQIDX; PROP], will be present in the REQUEST template.
   - If “Basket” is selected, the Underlier ID and Underlier ID Source will not be present in the REQUEST and RECORD templates.
   - Only “Basket” is allowed value in REQUEST template for multiple underliers.

3.2.4 Underlying Asset Class.Commodities

a. Underlying Structure [oneOf structure]
   - User can select either Single Underlier (Single value) or Basket (Multiple values) and is a required field.
   - If “Single Underlier” is selected, the Underlier ID and its Source [COMM; COIDX; PROP], Base Product, Sub Product and Additional Sub Product will be present in the REQUEST template.
   - If “Basket” is selected, the Underlier ID and its associated attributes will not be present in the REQUEST and RECORD templates. However, Base Product, Sub Product and Additional Sub Product must be present in the REQUEST template.
   - Only “Basket” is allowed value in REQUEST template for multiple underliers.

3.2.5 Underlying Asset Class = “Null”

- If user did not select any values in the Underlying Asset Class, an error message shall apply “Error: At least one Underlying Asset Class must be selected”.

4 Record Template

This section describes the record returned by the UPI service.

Version	Template name	Template details
V.1	**Other.Option.Non_Standard.UPI.V1.json**	Initial version
V.2	**Other.Option.Non_Standard.UPI.V2.json**	Update on Option Type and Exercise Style

Section	Attribute	Format	Cat	Example Value	Derivation
Header Section	Asset Class	Set	M	Other	
	Instrument Type	Set	M	Option	
	Product	Set	M	Non_Standard	
	Level	Set	M	UPI	
	Template Version	Integer	D	2	
Attribute Section	Underlying Asset Class.Rates	Object	C		
	Notional Currency	Enum	(M)	EUR	Enumerated List
	Underlier Characteristic	Enum	(M)	Single	[Single, Basket]
	Reference Rate	Enum	(C)	EUR-EXT-CPI	Enumerated List
	Reference Rate Term Value	Integer	(C)	3	-999 to 999 (including 0)
	Reference Rate Term Unit	Enum	(C)	MNTH	[DAYS, WEEK, MNTH, YEAR]
	Other Notional Currency	Enum	(C)	GBP	Enumerated List
	Other Leg Underlier Characteristic	Enum	(C)	Single	[Single, Basket]
	Other Leg Reference Rate	Enum	(C)	GBP-LIBOR-BBA	Enumerated List
	Other Leg Reference Rate Term Value	Integer	(C)	3	-999 to 999 (including 0)
	Other Leg Reference Rate Term Unit	Enum	(C)	MNTH	[DAYS, WEEK, MNTH, YEAR]
	Underlying Asset Class.Equity	Object	C		
	Underlier Characteristic	Enum	(M)	Single	[Single, Basket]
	Underlying Instrument ISIN	String	(C)	GB0001383545	Syntactic Validation
	Underlying Instrument Index	Enum	(C)	FTSE 200 Index	Enumerated List
	Underlying Instrument Index Prop	String	(C)	34810-JPCFNAMR	Enumerated List
	Underlying Asset Class.Credit	Object	C		
	Underlier Characteristic	Enum	(M)	Single	[Single, Basket]
	Underlying Instrument ISIN	String	(C)	US92857WBQ24	Syntactic Validation
	Underlying Instrument LEI	String	(C)	INR2EJN1ERAN0W5ZP974	Syntactic Validation
	Debt Seniority	Enum	(C)	SNDB	[SNDB, MZZD, SBOD, JUND]
	Underlying Instrument Index Prop	String	(C)	11339-MLSREISU	Enumerated List
	Underlying Instrument Index	Enum	(C)	ITRAXX EUROPE	Enumerated List
	Underlying Instrument Index Term Value	Integer	(C)	1	-999 to 999 (including 0)
	Underlying Instrument Index Term Unit	Enum	(C)	WEEK	[DAYS, WEEK, MNTH, YEAR]
	Underlying Credit Index Series	Integer	(C)	3	See Validation Rules
	Underlying Credit Index Version	Integer	(C)	5	See Validation Rules
	Underlying Asset Class.Foreign_Exchange	Object	C		
	Notional Currency	Enum	(M)	EUR	ISO 4217 Currency Code
	Other Notional Currency	Enum	(M)	USD	ISO 4217 Currency Code
	Settlement Currency	Enum	(C)	EUR	Enumerated List
	Place of Settlement	Enum	(C)	Hong Kong	Enumerated List
	Underlying Asset Class.Commodities	Object	C		
	Notional Currency	Enum	(M)	USD	Enumerated List
	Underlier Characteristic	Enum	(M)	Single	[Single; Basket]
	Reference Rate	Enum	(C)	SILVER-FIX	Enumerated List
	Underlying Instrument Index	Enum	(C)	OTHER	Enumerated List
	Underlying Instrument Index Prop	String	(C)	11339-BABXSG01	Enumerated List
	Base Product	Enum	(M)	METL	[AGRI, NRGY, ENVR, etc.]
	Sub Product	Enum	(C)	PRME	Enumerated List
	Additional Sub Product	Enum	(C)	SLVR	Enumerated List
	Option Type	Enum	C	CALL	[CALL, PUTO, OPTL]
	Option Exercise Style	Enum	C	AMER	[AMER, BERM, EURO]
	Valuation Method or Trigger	Enum	C	Vanilla	[Vanilla, Asian, Barrier, etc.]

Section	Attribute	Format	Cat	Example Value	Derivation
	Delivery Type	Enum	M	Physical	[Cash, Physical, Auction, etc.]
Identifier Section	UPI	String	D	QZ92PKL32D20	
	Status	String	D	New	[New; Updated; Deleted]
	Status Reason	String	D	<null>	
	Last Update Date Time	DtTm	D	2021-02-23T00:00:13	YYYY-MM-DDThh:mm:ss
Derived Section	Classification Type	String	D	HMMBVP	See Derivation Rules
	Short Name	String	D	NA/O Oth Nstd	See Derivation Rules
	Underlying Asset Class.Rates	Object	C		
	Underlier Name	String	D	EUR-EXT-CPI vs GBP-LIBOR-BBA	See Derivation Rules
	Underlying Asset Class.Credit	Object	C		
	Underlier Name	String	D	Vodafone Group PLC	See Derivation Rules
	Underlying Asset Class.Equity	Object	C		
	Underlier Name	String	D	FTSE 200 Index	See Derivation Rules
	Underlying Asset Class.Foreign_Exchange	Object	C		
	Underlier Name	String	D	EUR USD	See Derivation Rules
	Underlying Asset Class.Commodities	Object	C		
	Underlier Name	String	D	SILVER-FIX	See Derivation Rules
	Underlying Asset Type	String	D	Other	Fixed value
	CFI Option Style and Type	String	D	American-Call	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 + Option Style/Type + Valuation Method or Trigger + Delivery Type		
Example	HMMBVP		
Source	ISO 10962 (CFI) – Third edition 2015-07-15		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Instrument Type	Others (miscellaneous)	Fixed Mapping	H
Asset Class	Other assets	Fixed Mapping	M
Underlying Asset Type	Other	Fixed Mapping	M
Option Style/Type	PUTO/AMER	Mapped to =>	E
	PUTO/BERM	Mapped to =>	F
	PUTO/EURO	Mapped to =>	D
	CALL/AMER	Mapped to =>	B
	CALL/BERM	Mapped to =>	C
	CALL/EURO	Mapped to =>	A
	OPTL/AMER	Mapped to =>	H
	OPTL/BERM	Mapped to =>	I
	OPTL/EURO	Mapped to =>	G
	No input value	*Mapped to =>*	*X*
Valuation Method or Trigger	Vanilla	Mapped to =>	V
	Asian	Mapped to =>	A
	Digital (Binary)	Mapped to =>	D
	Barrier	Mapped to =>	B
	Digital Barrier	Mapped to =>	G
	Lookback	Mapped to =>	L
	Other Path Dependent	Mapped to =>	P
	Other	Mapped to =>	M
Delivery Type	Cash	Mapped to =>	C
	Physical	Mapped to =>	P
	Auction	Mapped to =>	A
	Elect at Exercise	Mapped to =>	E
	Non-Deliverable	Mapped to =>	N

4.2.2 Short Name

Attribute	Short Name		
Structure	“NA” + "/" + Instrument Type + Asset Class + Product Type		
Example	NA/O Oth Nstd		
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	Non-listed and complex listed options	Fixed Abbreviation	O
Asset Class	Other assets	Fixed Abbreviation	Oth
Product Type	Non-Standard	Fixed Abbreviation	Nstd

4.2.3 Underlier Name

Attribute	Underlier Name					
Underlying Asset Class	**Underlying Structure**	**Other Underlying Structure**	**Underlying Asset**	**Underlier Name Source**	**Underlier Name Source Attribute**	**Underlier Name**
Rates	Single Underlier	Single Underlier	Reference Rate / Other Leg Reference Rate	UPI record	Reference Rate vs Other Leg Reference Rate	EUR-EXT-CPI vs GBP-LIBOR-BBA
	Basket	Basket	N/A	Constant	N/A	Basket vs Basket
	Single Underlier	Basket	Reference Rate	UPI record vs Constant	Reference Rate	EUR-EXT-CPI vs Basket
	Basket	Single Underlier	Other Leg Reference Rate	Constant vs UPI record	Other Leg Reference Rate	GBP-LIBOR-BBA vs Basket
	Single Underlier	-	Reference Rate	UPI record	Reference Rate	EUR-EXT-CPI
	Basket	-	N/A	Constant	N/A	Basket
Credit	Single Underlier	-	Underlying ISIN	ISIN Reference Data	longName of Underlying Instrument ISIN	Vodafone Group PLC
	Single Underlier	-	Underlying LEI	LEI Reference Data	The name of the legal entity	MICROSOFT CORPORATION
	Single Underlier	-	Underlying Index	UPI record	Underlying Instrument Index	ITRAXX EUROPE
	Single Underlier	-	Underlying Index Prop	UPI record	Underlying Instrument Index Prop	11339-MLSREISU
	Basket	-	N/A	Constant	N/A	Basket
Equity	Single Underlier	-	Underlying ISIN	ISIN Reference Data	longName of Underlying Instrument ISIN	Vodafone Group PLC
	Single Underlier	-	Underlying Index	UPI record	Underlying Instrument Index	FTSE 200 Index
	Single Underlier	-	Underlying Index Prop	UPI record	Underlying Instrument Index Prop	34810-JPCFNAMR
	Basket	-	N/A	Constant	N/A	Basket
Foreign Exchange	-	-	Notional Currency / Other Notional Currency	UPI record	Notional Currency vs Other Notional Currency	EUR USD
Commodities	Single Underlier	-	Reference Rate	UPI record	Reference Rate	SILVER-FIX
	Single Underlier	-	Underlying Index	UPI record	Underlying Instrument Index	OTHER
	Single Underlier	-	Underlying Index Prop	UPI record	Underlying Instrument Index Prop	11339-BABXSG01
	Basket	-	N/A	Constant	N/A	Basket

4.2.4 CFI Option Style and Type

Attribute	CFI Option Style and Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Option Style and Type	PUTO/AMER	Mapped to =>	American-Put
	PUTO/BERM	Mapped to =>	Bermudan-Put
	PUTO/EURO	Mapped to =>	European-Put
	CALL/AMER	Mapped to =>	American-Call
	CALL/BERM	Mapped to =>	Bermudan-Call
	CALL/EURO	Mapped to =>	European-Call
	OPTL/AMER	Mapped to =>	American-Chooser
	OPTL/BERM	Mapped to =>	Bermudan-Chooser
	OPTL/EURO	Mapped to =>	European-Chooser
	No input value	*Mapped to =>*	*Not applicable/undefined*

5 SUPPLEMENTARY INFORMATION

5.1 Best Practice Guidelines

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

- Delivery type enumerated values [Cash; Physical; Auction; Elect at Exercise, Non-Deliverable] are the CFI 2015 values. Thus, CFI Delivery Type is no longer required as a derived value in the RECORD template.

- Delivery type enumerated value “Non-Deliverable” is included in the CFI 2015 specification but is not supported in the OTC ISIN for Other.Option.Non-Standard product template. In order to maintain UPI/OTC ISIN hierarchy, such enumerated value will be supported for this product.

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
Currency associated with an underlying reference rate	C	Notional Currency	Notional Currency
Delivery type	M	Delivery Type	Delivery Type
Option style	M	Option Exercise Style	Option Exercise Style *(CFI Option Style and Type)*
Option type	M	Option Type	Option Type *(CFI Option Style and Type)*
Return, pricing method or payout trigger	M	Valuation Method or Trigger	Valuation Method or Trigger
Seniority	C	Debt Seniority	Debt Seniority
Settlement currency	C	Settlement Currency	Settlement Currency
Standard contract specification*	C	Not Required	Not Required
Underlier ID	C	Underlier ID	Reference Rate
			Other Leg Reference Rate
			Other Reference Rate
			Underlying Instrument ISIN
			Underlying Instrument LEI
			Underlying Instrument Index
			Underlying Instrument Index Prop
			Notional Currency
			Other Notional Currency
Underlier ID source	C	Underlier ID Source	Not Required
Underlier type	M	Not Required	Underlying Asset Type
Underlier sub-type (first level)	C	Base Product	Base Product
		Other Base Product	Other Base Product
Underlier sub-type (second level)	C	Sub Product	Sub Product
		Other Sub Product	Other Sub Product
Underlying credit index series	C	Underlying Credit Index Series	Underlying Credit Index Series
Underlying credit index version	C	Underlying Credit Index Version	Underlying Credit Index Version
Underlying rate index tenor period	C	Reference Rate Term Unit	Reference Rate Term Unit
		Other Reference Rate Term Unit	Other Reference Rate Term Unit
		Underlying Instrument Index Term Unit	Underlying Instrument Index Term Unit
Underlying rate index tenor period multiplier	C	Reference Rate Term Value	Reference Rate Term Value
		Other Reference Rate Term Value	Other Reference Rate Term Value
		Underlying Instrument Index Term Value	Underlying Instrument Index Term Value

**Standard contract specification attribute is not included in the OTC ISIN and are Conditional attributes in ISO 4914 (UPI) specification.*

7 Appendix 2 - OTC ISIN-UPI Mapping

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

anyOf	ISIN Input Attributes	Condition	Mapping Logic	UPI Input Attributes	Example UPI Value	Comments
	Asset Class		Direct Map	Asset Class	Other	
	Instrument Type		Direct Map	Instrument Type	Option	
	Use Case		Direct Map	Product	Non_Standard	
	Level		Set to "UPI"	Level	UPI	
	Expiry Date		No Mapping			
	Price Multiplier		No Mapping			
	Option Type		Direct Map	Option Type	CALL	
	Option Exercise Style		Direct Map	Option Exercise Style	AMER	
	Valuation Method or Trigger		Direct Map	Valuation Method or Trigger	Vanilla	
	Delivery Type		Direct Map	Delivery Type	Physical	
Underlying Asset Class.Rates						
	By Tenor					
	Term of Contract Value		No Mapping			
	Term of Contract Unit		No Mapping			
	By Effective Date					
	Effective Date		No Mapping			
	Expiry Date Adjusted		No Mapping			
	Tenor Calculator Method		No Mapping			
	Notional Currency		Direct Map	Notional Currency	EUR	
	Reference Rate	If Reference Rate = 1	If Reference Rate = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Map to	Underlier ID	EUR-EXT-CPI	
			Set to "FPML"	Underlier ID Source	FPML	
		If Reference Rate > 1	If Reference Rate > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Reference Rate Term Value	If Reference Rate = 1	Direct Map	Reference Rate Term Value	3	
		If Reference Rate > 1	No Mapping			
	Reference Rate Term Unit	If Reference Rate = 1	Direct Map	Reference Rate Term Unit	MNTH	
		If Reference Rate > 1	No Mapping			
	Other Notional Currency		Direct Map	Other Notional Currency	GBP	
	Other Leg Reference Rate	If Reference Rate = 1	If Reference Rate = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Map to	Other Leg Underlier ID	GBP-LIBOR-BBA	
			Set to "FPML"	Other Leg Underlier ID Source	FPML	

anyOf	ISIN Input Attributes	Condition	Mapping Logic	UPI Input Attributes	Example UPI Value	Comments
		If Reference Rate > 1	If Reference Rate > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Other Leg Reference Rate Term Value	If Reference Rate = 1	Direct Map	Other Leg Reference Rate Term Value	3	
		If Reference Rate > 1	No Mapping			
	Other Leg Reference Rate Term Unit	If Reference Rate = 1	Direct Map	Other Leg Reference Rate Term Unit	MNTH	
		If Reference Rate > 1	No Mapping			
Underlying Asset Class.Foreign Exchange						
	Notional Currency		Map to	Underlier ID	EUR	
			Set to “CCY”	Underlier ID Source	CCY	
	Other Notional Currency		Map to	Underlier ID	USD	
			Set to “CCY”	Underlier ID Source	CCY	
	Settlement Currency		Direct Map	Settlement Currency	EUR	
	Place of Settlement		Direct Map	Place of Settlement	Hong Kong	
Underlying Asset Class.Credit						
	Underlying Instrument ISIN	If Underlying Instrument ISIN = 1	If Underlying Instrument ISIN = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Fixed Income Security"	Underlier Type	Fixed Income Security	"One Of" Underlier Type
			Map to	Underlier ID	US92857WBQ24	
			Set to "ISIN; FIGI; CUSIP; SEDOL"	Underlier ID Source	ISIN	
		If Underlying Instrument ISIN > 1	If Underlying Instrument ISIN > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Underlying Instrument LEI	If Underlying Instrument LEI = 1	If Underlying Instrument LEI = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Legal Entity"	Underlier Type	Legal Entity	"One Of" Underlier Type
			Map to	Underlier ID	INR2EJN1ERAN0W5ZP974	
			Set to "LEI"	Underlier ID Source	LEI	
		If Underlying Instrument LEI > 1	If Underlying Instrument LEI > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Underlying Instrument Index Prop	If Underlying Instrument Index Prop = 1	If Underlying Instrument Index Prop = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Proprietary Index"	Underlier Type	Proprietary Index	"One Of" Underlier Type
			Map to	Underlier ID	11339-MLSREISU	
			Set to "PROP"	Underlier ID Source	PROP	
		If Underlying Instrument Index Prop > 1	If Underlying Instrument PROP > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure

anyOf	ISIN Input Attributes	Condition	Mapping Logic	UPI Input Attributes	Example UPI Value	Comments
	Underlying Instrument Index	If Underlying Instrument Index = 1	If Underlying Instrument Index = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Credit Index"	Underlier Type	Credit Index	"One Of" Underlier Type
			Map to	Underlier ID	ITRAXX EUROPE	
			Set to "CRIDX"	Underlier ID Source	CRIDX	
		If Underlying Instrument Index > 1	If Underlying Instrument Index > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Underlying Instrument Index Term Value	If Underlying Instrument Index = 1	Direct Map	Underlying Instrument Index Term Value	7	
		If Underlying Instrument Index > 1	No Mapping			
	Underlying Instrument Index Term Unit	If Underlying Instrument Index = 1	Direct Map	Underlying Instrument Index Term Unit	DAYS	
		If Underlying Instrument Index > 1	No Mapping			
	Underlying Credit Index Series	If Underlying Instrument Index = 1	Direct Map	Underlying Credit Index Series	3	
		If Underlying Instrument Index > 1	No Mapping			
	Underlying Credit Index Version	If Underlying Instrument Index = 1	Direct Map	Underlying Credit Index Version	5	
		If Underlying Instrument Index > 1	No Mapping			
	Debt Seniority		Direct Map	Debt Seniority	SNDB	
Underlying Asset Class.Equity						
	Strike Price Type		No Mapping			
	Strike Price		No Mapping			
	Strike Price Currency		No Mapping			
	Underlying Instrument ISIN	If Underlying Instrument ISIN = 1	If Underlying Instrument ISIN = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Equity Identifier"	Underlier Type	Equity Identifier	"One Of" Underlier Type
			Map to	Underlier ID	GB0001383545	
			Set to "ISIN; FIGI; CUSIP; SEDOL"	Underlier ID Source	ISIN	
		If Underlying Instrument ISIN > 1	If Underlying Instrument ISIN > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Underlying Instrument Index	If Underlying Instrument Index = 1	If Underlying Instrument Index = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Equity Index Name"	Underlier Type	Equity Index Name	"One Of" Underlier Type
			Map to	Underlier ID	FTSE 200 Index	

anyOf	ISIN Input Attributes	Condition	Mapping Logic	UPI Input Attributes	Example UPI Value	Comments
			Set to "EQIDX"	Underlier ID Source	EQIDX	
		If Underlying Instrument Index > 1	If Underlying Instrument Index > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Underlying Instrument Index Prop	If Underlying Instrument Index Prop = 1	If Underlying Instrument Index Prop = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Proprietary Index"	Underlier Type	Proprietary Index	"One Of" Underlier Type
			Map to	Underlier ID	34810-JPCFNAMR	
			Set to "PROP"	Underlier ID Source	PROP	
		If Underlying Instrument Index Prop > 1	If Underlying Instrument PROP > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
Underlying Asset Class.Commodities						
	Notional Currency		Direct Map	Notional Currency	USD	
	Underlying Instrument Index	If Underlying Instrument Index = 1	If Underlying Instrument Index = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Commodity Index"	Underlier Type	Commodity Index	"One Of" Underlier Type
			Map to	Underlier ID	OTHER	
			Set to "COIDX"	Underlier ID Source	COIDX	
		If Underlying Instrument Index > 1	If Underlying Instrument Index > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Underlying Instrument Index Prop	If Underlying Instrument Index Prop = 1	If Underlying Instrument Index Prop = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Proprietary Index"	Underlier Type	Proprietary Index	"One Of" Underlier Type
			Map to	Underlier ID	11339-BABXSG01	
			Set to "PROP"	Underlier ID Source	PROP	
		If Underlying Instrument Index Prop > 1	If Underlying Instrument PROP > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Reference Rate	If Reference Rate = 1	If Reference Rate = 1 = "Single Underlier"	Underlying Structure	Single Underlier	"One Of" Underlying Structure
			Set to "Commodity Ref Price"	Underlier Type	Commodity Ref Price	"One Of" Underlier Type
			Map to	Underlier ID	SILVER-FIX	
			Set to "COMM"	Underlier ID Source	COMM	
		If Reference Rate > 1	If Reference Rate > 1 = "Basket"	Underlying Structure	Basket	"One Of" Underlying Structure
	Base Product		Direct Map	Base Product	METL	
	Sub Product		Direct Map	Sub Product	PRME	
	Additional Sub Product		Direct Map	Additional Sub Product	SLVR	

anyOf	ISIN Input Attributes	Condition	Mapping Logic	UPI Input Attributes	Example UPI Value	Comments
	Transaction Type		No Mapping			
	Final Price Type		No Mapping			