Derivatives Service Bureau (UPI)

CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	J. Lim	08 Jun 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	Updated record template layout
4	Draft	J. Lim	02 Sep 2021	Updated validation section and format of template layout
5	Draft	J. Lim	04 Oct 2021	Updated record template and derivation section

Title	OTHER OTHER 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: • **Other : Other : Non_Standard** **DSB-ID**: **UPI-0455** **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	Other			CFI:2015 Char#2 (MM****)	ISIN
	Instrument Type	Set	M	Other			CFI 2015 Char#1 (MM****)	ISIN
	Product	Set	M	Non_Standard				ISIN
	Level	Set	M	UPI				NEW
	Underlying Asset Class.Rates	Object	C					NEW
	Notional Currency	Enum	M	AUD	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
	Other Notional Currency	Enum	C	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
	Return or Payout Trigger	Enum	C	Spreadbets	[Spreadbets; Forward price of underlying instrument]	optional fields	CFI:2015 Char#5 (JR****)	NEW
	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See CRF (Validation)	Populated if not a basket		NEW
	Underlier ID Source	Enum	(M)	FPML	[FPML]		Internal	NEW
	A1 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
	Underlying Structure (oneOf)	Object	(M)	Basket	See CRF (Validation)	Populated for a basket		NEW
	B1 Underlier Characteristic	Enum	(M)	Basket	See CRF (Validation)			NEW
	Other Leg Underlying Structure (oneOf)	Object	(C)	Single Underlier	See CRF (Validation)			NEW
	Other Leg Underlier ID Source	Enum	(C)	FPML	[FPML]		Internal	NEW
	A2 Other Leg Underlier ID	Enum	(C)	USD-LIBOR-LIBO	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
	Other Leg Underlying Structure (oneOf)	Object	(C)	Basket	See CRF (Validation)	Populated for a basket		NEW
	B2 Other Leg Underlier Characteristic	Enum	(C)	Basket	See CRF (Validation)		Internal	NEW
	Underlying Asset Class.Equity	Object	C					NEW
	Return or Payout Trigger	Enum	C	Price	[Price; Dividend; Variance etc]	optional fields	CFI:2015 Char#4 (SE****) Char#5 (JE****)	NEW
	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See CRF (Validation)	Populated if not a basket		NEW
	Underlier Type (oneOf)	Object	(M)	Single Stock	[Single Stock]			NEW
	Underlier ID Source	Enum	(M)	ISIN	[ISIN]		Internal	NEW
	Underlier ID	String	(M)	GB0008706128	See CRF (Validation)			NEW
	Underlier Type (oneOf)	Object	(M)	Equity Index	[Equity Index]			NEW
	A Underlier ID Source	Enum	(M)	ESMA	[ESMA]		Internal	NEW
	Underlier ID	Enum	(M)	MSCI EM USD	See CRF (Validation)		ESMA TTC	NEW
	Underlier Type (oneOf)	Object	(M)	Proprietary Index	[Proprietary Index]			NEW
	Underlier ID Source	Enum	(M)	PROP	[PROP]		Internal	NEW
	Underlier ID	String	(M)	34810-JP16LMO	See CRF (Validation)		DSB Proprietary Index Enumeration	NEW
	Underlying Structure (oneOf)	Object	(M)	Basket	See CRF (Validation)	Populated for a basket		NEW
	B Underlier Characteristic	Enum	(M)	Basket	See CRF (Validation)		Internal	NEW
	Underlying Asset Class.Credit	Object	C					NEW
	Return or Payout Trigger	Enum	C	Credit Default	[Credit Default; Total Return; Other]	optional fields	CFI:2015 Char#4 (SC****)	NEW
	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See CRF (Validation)	Populated if not a basket		NEW
	Underlier Type (oneOf)	Object	(M)	Fixed Income Security	[Fixed Income Security]			NEW
	Underlier ID Source	Enum	(M)	ISIN	[ISIN]		Internal	NEW
	Underlier ID	String	(M)	US87331AAB08	See CRF (Validation)			NEW
	Debt Seniority	Enum	(M)	SNDB	[SNDB, MZZD, SBOD, JUND]	If Underlier Type = Fixed Income Security, Legal Entity	ISO 20022	ISIN
	Underlier Type (oneOf)	Object	(M)	Legal Entity	[Legal Entity]			NEW
	Underlier ID Source	Enum	(M)	LEI	[LEI]		Internal	NEW
	Underlier ID	String	(M)	5493005BBCF84ICNQ55(	See CRF (Validation)		ISO 17442 LEI Codes	NEW
	Debt Seniority	Enum	(M)	SNDB	[SNDB, MZZD, SBOD, JUND]	If Underlier Type = Fixed Income Security, Legal Entity	ISO 20022	ISIN
	A **Underlier Type (oneOf)**	Object	(M)	Proprietary Index	[Proprietary Index]			NEW
	Underlier ID Source	Enum	(M)	PROP	[PROP]		internal	NEW
Attribute Section	Underlier ID	String	(M)	11423-BCRICSTI	See CRF (Validation)		DSB Proprietary Index Enumerations	NEW
	Underlier Type (oneOf)	Object	(M)	Credit Index	[Credit Index]			NEW
	Underlier ID Source	Enum	(M)	MRKT	[MRKT]		Internal	NEW
	Underlier ID	Enum	(M)	ABX.HE.A	See CRF (Validation)		Markit Indices	NEW
	Underlying Instrument Index Term Value	Integer	(M)	7	See CRF (Validation)			ISIN
	Underlying Instrument Index Term Unit	Enum	(M)	DAYS	See CRF (Validation)		ISO 20022	ISIN
	Underlying Credit Index Series	Integer	(M)	3	See CRF (Validation)			ISIN
	Underlying Credit Index Version	Integer	(M)	5	See CRF (Validation)			ISIN
	Underlying Structure (oneOf)	Object	(M)	Basket	See CRF (Validation)	Populated for a basket		NEW
	B Underlier Characteristic	Enum	(M)	Basket	See CRF (Validation)		Internal	NEW
	Underlying Asset Class.Foreign_Exchange	Object	C					NEW
	Underlier ID Source	Enum	M	CCY	[CCY]		Internal	NEW
	Underlier ID	Enum	M	USD	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	NEW
	Other Underlier ID Source	Enum	M	CCY	[CCY]		Internal	NEW
	Other Underlier ID	Enum	M	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	NEW
	Return or Payout Trigger	Enum	C	Spreadbets	[Spreadbets; Contract for Difference (CFD) etc]	optional fields	CFI:2015 Char#5 (JF****)	NEW
	Settlement Currency	Enum	C	EUR	ISOCurrencyCode.json	required if place of settlement is selected	ISO 4217 (3-Char CCY)	ISIN
	Place of Settlement	Enum	C	Hong Kong	Country List			ISIN
	Underlying Asset Class.Commodities	Object	C					NEW
	Return or Payout Trigger	Enum	C	Total Return	[Contract for Difference (CFD); Total Return etc]	optional fields	CFI:2015 Char#4 (ST****) Char#5 (JT****)	NEW
	Underlying Structure (oneOf)	Object	(M)	Single Underlier	See CRF (Validation)	Populated if not a basket		NEW
	Underlier Type (oneOf)	Object	(M)	Commodity Ref Price	[Commodity Ref Price]			NEW
	Underlier ID Source	Enum	(M)	ISDA	[ISDA]		Internal	NEW
	Underlier ID	Enum	(M)	LEAD-LME CASH	FpmlCommoditiesReferenceRate.json		ISDA Taxonomy 2.0	NEW
	Underlier Type (oneOf)	Object	(M)	Commodity Index	[Commodity Index]			NEW
	Underlier ID Source	Enum	(M)	INDX	[INDX]		Internal	NEW
	Underlier ID	Enum	(M)	OTHER	CommoditiesIndex.json			NEW
	A1 **Underlier Type (oneOf)**	Object	(M)	Proprietary Index	[Proprietary Index]			NEW
	Underlier ID Source	Enum	(M)	PROP	[PROP]		Internal	NEW
	Underlier ID	String	(M)	11339-MLCIINKC			DSB Proprietary Index Enumeration	NEW
	Base Product	Enum	(M)	ENVR	[AGRI; NRGY; ENVR; FRGT; FRTL; etc.]		RTS 23 (EU 2017/585) Table 2	ISIN
	Sub Product	Enum	(M)	EMIS	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
	Additional Sub Product	Enum	(M)	EUAE	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
	Underlying Structure (oneOf)	Object	(M)	Basket	See CRF (Validation)	Populated for a basket		NEW
	B1 Underlier Characteristic	Enum	(M)	Basket	See CRF (Validation)		Internal	NEW
	Other Underlying Structure (oneOf)	Object	(C)	Single Underlier	[Single Underlier, Basket]			NEW
	Other Underlier ID Source	Enum	(C)	ISDA	[ISDA]		Internal	NEW
	Other Underlier ID	Enum	(C)	LEAD-LME CASH	FpmlCommoditiesReferenceRate.json		ISDA Taxonomy 2.0	NEW
	A2 Other Base Product	Enum	(C)	METL	[AGRI; NRGY; ENVR; FRGT; FRTL; etc.]		RTS 23 (EU 2017/585) Table 2	ISIN
	Other Sub Product	Enum	(C)	NPRM	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
	Other Additional Sub Product	Enum	(C)	ZINC	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
	Other Underlying Structure (oneOf)	Object	(C)	Basket	See CRF (Validation)	Populated for a basket		NEW
	B2 Other Underlier Characteristic	Enum	(C)	Basket	See CRF (Validation)		Internal	NEW
	Option Type	Enum	C	CALL	[PUTO; CALL; OPTL]			ISIN
	Option Exercise Style	Enum	C	AMER	[AMER; BERM; EURO]	Required if Option Type <> ""		ISIN
	Valuation Method or Trigger	Enum	C	Vanilla	[Vanilla; Asian; Barrier; Lookback etc.]	Required if Option Type <> ""	CFI:2015	ISIN
	Delivery Type	Enum	M	Physical	[Cash; Physical; Auction; Elect At Exercise etc]		CFI:2015 Superset of values	ISIN

Record Template Layout

Section		Attribute	Format	Cat	Example Value	Validation / Derivation	Condition	Enum Source	ORIGIN
Header Section		Asset Class	Set	M	Other			CFI:2015 Char#2 (MM****)	ISIN
		Instrument Type	Set	M	Other			CFI 2015 Char#1 (MM****)	ISIN
		Product	Set	M	Non_Standard				ISIN
		Level	Set	M	UPI				NEW
Attribute Section		**Underlying Asset Class.Rates**	Object	C					NEW
		Notional Currency	Enum	M	AUD	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
		Other Notional Currency	Enum	C	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	ISIN
		Return or Payout Trigger	Enum	C	Spreadbets	[Spreadbets; Forward price of underlying instrument]	optional fields	CFI:2015 Char#5 (JR****)	NEW
	A1	Reference Rate	Enum	(M)	AUD-CPI	See CRF (Validation and Normalization)		Fpml Coding Scheme 5.98 & 5.108	NEW
	A1	Reference Rate Term Value	Integer	(M)	3	-999 to 999 (excluding 0)			ISIN
	A1	Reference Rate Term Unit	Enum	(M)	MNTH	[DAYS, WEEK, MNTH, YEAR]		ISO 20022	ISIN
	A2	Other Leg Reference Rate	Enum	(C)	USD-LIBOR-LIBO	See CRF (Validation and Normalization)		Fpml Coding Scheme 5.98 & 5.108	NEW
	A2	Other Leg Reference Rate Term Value	Integer	(C)	3	-999 to 999 (excluding 0)			ISIN
	A2	Other Leg Reference Rate Term Unit	Enum	(C)	MNTH	[DAYS, WEEK, MNTH, YEAR]		ISO 20022	ISIN
		Underlying Asset Class.Equity	Object	C					NEW
		Return or Payout Trigger	Enum	C	Price	[Price; Dividend; Variance etc]	optional fields	CFI:2015 Char#4 (SE****) Char#5 (JE****)	NEW
	A	Underlying Instrument ISIN	String	(M)	GB0008706128	See CRF (Validation)			NEW
	A	Underlying Instrument Index	Enum	(M)	MSCI EM USD	See CRF (Validation)		ESMA TTC	NEW
	A	Underlying Instrument Index Prop	String	(M)	34810-JP16LMO	See CRF (Validation)		DSB Proprietary Index Enumeration	NEW
		Underlying Asset Class.Credit	Object	C					NEW
		Return or Payout Trigger	Enum	C	Credit Default	[Credit Default; Total Return; Other]	optional fields	CFI:2015 Char#4 (SC****)	NEW
	A	Underlying Instrument ISIN	String	(M)	US87331AAB08	See CRF (Validation)			NEW
	A	Underlying Instrument LEI	String	(M)	5493005BBCF84ICNQ550	See CRF (Validation)		ISO 17442 LEI Codes	NEW
	A	Debt Seniority	Enum	(M)	SNDB	[SNDB, MZZD, SBOD, JUND]	If Underlier Type = Fixed Income Security, Legal Entity	ISO 20022	ISIN
	A	Underlying Instrument Index Prop	String	(M)	11423-BCRICSTI	See CRF (Validation)		DSB Proprietary Index Enumerations	NEW
	A	Underlying Instrument Index	Enum	(M)	ABX.HE.A	See CRF (Validation)		Markit Indices	NEW
	A	Underlying Instrument Index Term Value	Integer	(M)	7	See CRF (Validation)			ISIN
	A	Underlying Instrument Index Term Unit	Enum	(M)	DAYS	See CRF (Validation)		ISO 20022	ISIN
	A	Underlying Credit Index Series	Integer	(M)	3	See CRF (Validation)			ISIN
	A	Underlying Credit Index Version	Integer	(M)	5	See CRF (Validation)			ISIN
		Underlying Asset Class.Foreign_Exchange	Object	C					NEW
		Notional Currency	Enum	M	USD	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	NEW
		Other Notional Currency	Enum	M	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	NEW
		Return or Payout Trigger	Enum	C	Spreadbets	[Spreadbets; Contract for Difference (CFD) etc]	optional fields	CFI:2015 Char#5 (JF****)	NEW
		Settlement Currency	Enum	C	EUR	ISOCurrencyCode.json	required if place of settlement is selected	ISO 4217 (3-Char CCY)	ISIN
		Place of Settlement	Enum	C	Hong Kong	Country List			ISIN
		Underlying Asset Class.Commodities	Object	C					NEW
		Return or Payout Trigger	Enum	C	Total Return	[Contract for Difference (CFD); Total Return etc]	optional fields	CFI:2015 Char#4 (ST****) Char#5 (JT****)	NEW
	A1	Reference Rate	Enum	(M)	LEAD-LME CASH	FpmlCommoditiesReferenceRate.json		ISDA Taxonomy 2.0	NEW
	A1	Underlying Instrument Index	Enum	(M)	OTHER	CommoditiesIndex.json			NEW
	A1	Underlying Instrument Index PROP	String	(M)	11339-MLCIINKC			DSB Proprietary Index Enumeration	NEW
	A1	Base Product	Enum	(M)	ENVR	[AGRI; NRGY; ENVR; FRGT; FRTL; etc.]		RTS 23 (EU 2017/585) Table 2	ISIN
	A1	Sub Product	Enum	(M)	EMIS	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
	A1	Additional Sub Product	Enum	(M)	EUAE	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
	A2	Other Reference Rate	Enum	(C)	LEAD-LME CASH	FpmlCommoditiesReferenceRate.json		ISDA Taxonomy 2.0	NEW
	A2	Other Base Product	Enum	(C)	METL	[AGRI; NRGY; ENVR; FRGT; FRTL; etc.]		RTS 23 (EU 2017/585) Table 2	ISIN
	A2	Other Sub Product	Enum	(C)	NPRM	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
	A2	Other Additional Sub Product	Enum	(C)	ZINC	See CRF (Validation)		RTS 23 (EU 2017/585) Table 2	ISIN
		Option Type	Enum	C	CALL	[PUTO; CALL; OPTL]			ISIN
		Option Exercise Style	Enum	C	AMER	[AMER; BERM; EURO]	Required if Option Type <> ""		ISIN
		Valuation Method or Trigger	Enum	C	Vanilla	[Vanilla; Asian; Barrier; Lookback etc.]	Required if Option Type <> ""	CFI:2015	ISIN
		Delivery Type	Enum	M	Physical	[Cash; Physical; Auction; Elect At Exercise etc]		CFI:2015 Superset of values	ISIN
Identifier Section		UPI	String	D	QZHDP6732T52	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	MMSXXX	See CRF (Derivations)		ISO 10962:2015	ISIN
		Short Name	String	D	NA/Oth Oth Nstd	See CRF (Derivations)		ISO 18774: 2015	NEW
		Further Grouping	String	D	Other OTC derivative products	Fixed value		CFI 2015 Char#3(MMS***)	ISIN
		Underlying Asset Class.Rates	Object	C					NEW
		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
		Underlying Asset Class.Equity	Object	C					NEW
		Underlier Characteristic	String	D	Single	See CRF (Validation)	Derived from underlying structure selection	Internal	NEW
		Underlying Asset Class.Credit	Object	C					NEW
		Underlier Characteristic	String	D	Single	See CRF (Validation)	Derived from underlying structure selection	Internal	NEW
		Underlying Asset Class.Foreign_Exchange	Object	C					NEW
		Underlier Characteristic	String	D	Single	Fixed value		Internal	NEW
		Underlying Asset Class.Commodities	Object	C					NEW
		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

**(M) – Mandatory of underlying asset class is selected; (C) – Conditional if underlying asset class is selected.*
***See Appendix 1 & 2 for enum_titles and elaboration*

Product Definition	
Attributes	See Template Layout (above). **a. Underlier Asset Class** The Request template described in this document supports multi-asset products and so the Request template allows the user to select asset classes of the underliers. For this product the user is asked to select one of the following: • Rates • Credit • Equities • Foreign Exchange • Commodities Once an asset class is selected the user is then able to input the values for any attributes that are associated with underliers within that asset class. **b. 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.* **c. Underlier Type** The Request template described in this document supports products that can be defined on the basis of more than one type of underlier. For this product, the user is asked to select one of the following dependent on the asset class selected: i. Equity • Single Stock • Equity Index • Proprietary Index ii. Credit • Fixed Income Security • Legal Entity • Proprietary Index • Credit Index iii. Commodities • Commodity Ref Price • Commodity Index • Proprietary Index Once the Underlier Type is selected, the user will select one of the Underlier ID Sources associated with that Underlier Type and enter a Underlier ID that matches the ID Source. ** Please see Underlier Input Method Document (see Reference Section below) for further details.*
Validation	**The following validation will apply depending on the selected underlying asset class and user can select single or multiple values in a request.** **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 message. • If “Basket” is selected, the underlier ID and its associated attributes will not be present in the REQUEST and RECORD template. • Only “Basket” is allowed value in REQUEST message for underlier characteristic and/or Other Leg Underlier Characteristic. b. Other Leg Underlying Structure [oneOf Structure] • Other Leg Underlying Structure is an optional field. • Only one can be selected in the request message 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 message. • If “Basket” is selected, the Other Leg Underlier ID and its associated attributes will not be present in the REQUEST and RECORD template. • Only “Basket” is allowed value in REQUEST message for underlier characteristic and/or Other Leg Underlier Characteristic. c. Notional 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". d. Reference Rate and Other Leg Reference Rate • If the Reference Rate and its term value/unit are the same with Other Leg reference rate and its term value/unit, an error message will apply "Error: Reference Rate and Other Leg Reference Rate with Term Value and Unit cannot be identical". **2. Underlying Asset Class - Equity** a. Underlying Structure [oneOf structure] • If "Single Underlier" is selected, the Underlier ID and its Source [ISIN; ESMA; PROP] will be present in the request message. • If "Basket" is selected, the underlier ID and Underlier ID Source will not be present in the REQUEST and RECORD template. • Only "Basket" is allowed value in REQUEST message for underlier characteristic. b. Underlier ID Source [ISIN; ESMA; PROP] [oneOf structure] i. 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 less or more than 12 characters and/or 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]$." • If the input ISIN is not aligned with the above pattern after hitting create, an error message will apply "Error: /Attributes/Underlying: instance failed to match exactly one schema (matched 0 out of 2)". • If the input ISIN is aligned with the pattern criteria but ISIN value does not conformed with syntactic validation, an error message will apply "Error: ISIN/s must be valid". ii. ESMA • Enumeration list is based on JSON codeset (EsmaEquityIndex.json). iii. PROP • The input text by user must exist in the DSB Proprietary Index Enumeration. • The Proprietary index is made on a per asset class and only relevant to the particular asset class selected in the request message. The only exception is asset class "Other" which is applicable to all asset classes. • If the input Prop Ind9ex does not exist in the DSB Proprietary Index Enumeration, value will be rejected with an error message "Error: Given Index/ices must be an existing and valid Equity or Multi-Asset Index". **3. Underlying Asset Class - Credit** a. Underlying Structure [oneOf structure] • If "Single Underlier" is selected, the Underlier ID and its source [ISIN; LEI; MRKT; PROP] will be present in the request message. • If "Basket" is selected, the underlier ID and and its associated attributes will not be present in the REQUEST and RECORD template. • Only "Basket" is allowed value in REQUEST message if underlier characteristic is selected. b. Underlier ID Source [ISIN; LEI; MRKT; PROP] [oneOf structure] i. ISIN • The input text by user must be in 12 characters (2 alpha, 9 alphanumeric, 1 numeric). • The input text must not have a prefix of "QZ" or "EZ". • A syntactic validation is being performed to confirm an ISIN when hitting create. • If the input ISIN is less or more than 12 characters and/or is not aligned with the above pattern before hitting create, an error message will apply "Value must match the pattern ^(?!(EZ\|QZ))[A-Z]{2}[A-Z0-9]{9}[0-9]$." • If the input ISIN is not aligned with the above pattern after hitting create, an error message will apply "Error: /Attributes/Underlying: instance failed to match exactly one schema (matched 0 out of 2)".

	• 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". ii. LEI • The input text by user must be in 20 characters (18 alphanumeric, 2 numeric). • A syntactic validation is being performed to confirm LEI. • If the input LEI is less or more than 20 characters and/or is not aligned with the above pattern before hitting create, an error message will apply “Value must match the pattern ^[A-Z0-9]{18}[0-9]{2}$. • If the input LEI is not aligned with the pattern and conformed with the syntactic validation after hitting create, an error message will apply “Error: /Attributes/Underlying: instance failed to match exactly one schema (matched 0 out of 2)”. iii. MRKT • Enumeration list is based on JSON codeset (MrktCreditIndex.json). iv. PROP • The input text by user must exist in the DSB Proprietary Index Enumeration. • The Proprietary index is made on a per asset class and only relevant to the particular asset class selected in the request message. The only exception is asset class “Other” which is applicable to all asset classes. • If the input Prop Index does not exist in the DSB Proprietary Index Enumeration, value will be rejected with an error message “Error: Given Index/ices must be an existing and valid Credit or Multi-Asset Index”. c. Underlying Instrument Index Term Value/ Underlying Instrument Index Term Unit i. If the underlier ID Source is “MRKT” • Underlying Instrument Index Term Unit/Value will be present in the request message. • The input text for Underlying Instrument Term value must be an integer (positive or negative but not 0). ii. If the Underlier ID Source is not “MRKT”, the attributes will not be present in the request message. d. Underlying Credit Index Series / Underlying Credit Index Version i. If the underlier ID Source is “MRKT” • The input text by the user must be a positive integer from 1 to 999. • If the input text has a prefix of negative (-), an error message will apply: “Value must be at least 1.” • If the input contains negative (-) or has value of zero “0”, an error message will apply “Value must be of type integer. Value must be at most 999. Value must be at least 1.” • If the input text contains character, remove the character, and retain the integer if exist. • If the Underlier ID Source is not “MRKT”, the attributes will not be present in the request message. ii. If the Underlier ID Source is not “MRKT”, the attributes will not be present in the request message. e. Debt Seniority i. If the Underlier ID Source is “LEI” or “ISIN”, the attribute will be present in the request message. ii. If the Underlier ID Source is “MRKT” or “PROP”, the attribute will not be present in the request message. **4. Underlying Asset Class - Foreign_Exchange** a. 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”. b. Settlement Currency • If Place of Settlement is selected, Settlement Currency is a required field. • If Place of settlement is selected and Settlement currency is not selected in the list, an error message will apply before hitting create “Must have property SettlementCurrency”. • If Place of settlement is selected and Settlement currency is not selected in the list, an error message will apply after hitting create “Error: /Attributes: instance failed to match exactly one schema (matched 0 out of 3)”. • If Settlement Currency is selected, the delivery type must be “Cash”. • If Settlement currency is selected and delivery type is not “Cash”, an error message shall apply “Error: Delivery Type must be Cash”. c. Place of Settlement

	• 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". **5. Underlying Asset Class - Commodities** 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 [ISDA; INDX; PROP], base product, sub product and additional sub product will be present in the request message. • If "Basket" is selected, the underlier ID and its associated attributes will not be present in the REQUEST and RECORD template. • Only "Basket" is allowed value in REQUEST message for underlier characteristic and/or Other Underlier Characteristic. b. Other Underlying Structure [oneOf Structure] • Other Underlying structure is an optional field. • If "Single underlier" is selected, the Other Underlier ID and its Source [ISDA], base product, sub product and additional sub product will be present in the request message. • If "Basket" is selected, the Other underlier ID and its associated attributes will not be present in the REQUEST and RECORD template. • Only "Basket" is allowed value in REQUEST message for underlier characteristic and/or Other Underlier Characteristic. c. Underlier ID Source [ISDA; INDX; PROP] [oneOf structure] i. ISDA • Enumeration list is based on JSON codeset (ISDACommoditiesReferenceRate.json). ii. INDX • Enumeration list is based on JSON codeset (CommoditiesIndex.json). iii. PROP • The input text by user must exist in the DSB Proprietary Index Enumeration. • The Proprietary index is made on a per asset class and only relevant to the particular asset class selected in the request message. The only exception is asset class "Other" which is applicable to all asset classes. • If the input Prop Index does not exist in the DSB Proprietary Index Enumeration, value will be rejected with an error message "Error: Given Index/ices must be an existing and valid Commodities or Multi-Asset Index". d. Base Product; Sub Product; Additional Sub Product/Other Base Product; Other Sub Product; Other Additional Sub Product • The user inputs the Base Product, Sub Product and Additional Sub Product in such order. No default value set for Sub Product and Additional Sub Product. • Sub Product and Additional Sub Product enumerated list is dependent on the input Base Product *(refer to Appendix 1 & 2 below).* • If Sub Product or Additional Sub Product does not have a corresponding value, attribute(s) will not be present in the request message. **6. Return or Payout Trigger/ Valuation Method Trigger/Option Type/Option Exercise Style** • User can select one or both Return or Payout Trigger or Valuation Method Trigger in request. • If Option type is selected, Option Exercise Style and Valuation Method Trigger must be populated. • If one of the attributes [Return or Payout Trigger or Valuation Method or Trigger] is not selected, an error message will apply: "[missing attribute/s] must be populated". **7. 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".

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		
Settlement Currency		
Reference Rate	FpML Coding Schemes – RATES ISDA Taxonomy 2.0 - COMMODITIES	Max25Text (based on string) minLength: 1 maxLength: 25
Other Reference Rate/ Other Leg Reference Rate		
Reference Rate Term Value	Integer – Positive or negative but not 0	Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3
Other Leg Reference Rate Term Value		
Reference Rate Term Unit	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Max35Text (based on string) minLength: 1 maxLength: 35
Other Leg Reference Rate Term Unit		
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
Underlying Instrument LEI	ISO 17442 LEI Codes	Max of 20 text (pattern) Char 1-4: LOU Identifier Char 5-18: Entity Identifier Char 19-20: Verification ID
Underlying instrument Index	Markit Indices - CREDIT ESMA TTC – EQUITY	Max of 350Text (based on string) minLength: 1 maxLength: 350
Underlying Instrument Index Prop	DSB Proprietary Index Enumerations	(Based on string)
Underlying Credit Index Series	Positive integer (1 – 999)	Max3Number fractionDigits: 0 totalDigits: 3
Underlying Credit Index Version	Positive integer (1 – 999)	Max3Number fractionDigits: 0 totalDigits: 3
Underlying Instrument Index Term Value	Integer – Positive or negative but not 0	Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3
Underlying Instrument Index Term Unit	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Max35Text (based on string) minLength: 1 maxLength: 35
Base Product/Other Base Product	RTS23 (EU 2017/585) Table 2 Note: Please see Appendix 2 & 3 below for the complete list of values and their corresponding product codes.	Max35Text (based on string) minLength: 1 maxLength: 35
Sub Product/Other Sub Product		
Additional Sub Product/ Other Additional Sub Product		

Debt Seniority	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01 Note: Only applies if Underlier ID Source is [ISIN or LEI].	Enums *[SNDB; MZZD; SBOD; JUND]*
Place of Settlement	ISO 3166 Country Codes	Max100Text (based on string) minLength: 0 maxLength: 100
Delivery Type	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Cash; Physical; Auction; Elect at Exercise; Elect at Settlement; Non-Deliverable]*
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]*
Return or Payout Trigger	ISO 10962 Classification of financial instruments (CFI code)	Enums Rates *[Spreadbets; Forward price of underlying instrument]* Enums Equity *[Price; Dividend; Variance; Volatility; Total Return; Contract for Difference (CFD); Other; Spreadbets; Forward price of underlying instrument]* Enums Credit *[Credit Default; Total Return; Other]* Enums FX *[Spreadbets; Contract for Difference (CFD); Forward price of underlying instrument]* Enums Commodities *[Contract for Difference (CFD); Total Return; Forward price of underlying instrument]*

Normalization

1. **Underlying Asset Class - Rates**

a. Reference Rate Term Value and 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	7	→	Reference Rate Term Value	1
Reference Rate Term Unit	DAYS		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	12	→	Reference Rate Term Value	1
Reference Rate Term Unit	MNTH		Reference Rate Term Unit	YEAR

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

c. 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

d. If only Notional Currency is selected, and Reference/ Other Leg Reference Rate are identical

If the Reference Rate and Other Leg Reference Rate submitted by users are identical, a normalization process in the term value/unit is needed to ensure that same UPI s returned for same set of attributes.

- If the Term unit is the same, then order the Term Value numerically from lowest to highest.
- If the Term unit is different, then convert the term unit as per order term multiplier below:

  DAYS = 1

  WEEK = 7

  MNTH = 30

  YEAR = 365
- Multiply the number of Term value and order term multiplier for both reference rate legs. Then order the equivalent value numerically from lowest to highest as per below:

Reference Rate	AUD-LIBOR-BBA		Reference Rate	AUD-LIBOR-BBA
Reference Rate Term Value	15		Reference Rate Term Value	1
Reference Rate Term Unit	DAYS	→	Reference Rate Term Unit	WEEK
Other Leg Reference Rate	AUD-LIBOR-BBA		Other Leg Reference Rate	AUD-LIBOR-BBA
Other Leg Reference Rate Term Value	1		Other Leg Reference Rate Term Value	15
Other Leg Reference Rate Term Unit	WEEK		Other Leg Reference Rate Term Unit	DAYS

- If the Reference Rate Term Value/Unit and Other Reference Rate Term Value/Unit has same equivalent value based on the order term multiplier, the details for the said attributes will be as is in the record template.

2. Underlying Asset Class - Equity

a. Underlier ID Source [ESMA]

- For any given Equity Index submission, a validation will apply against the existence of an ISIN and return the Index ISIN as part of the record in place of the Index Name.

Request Template		**Record Template**
Underlying Instrument Index	→	Underlying Instrument ISIN
KOSPI 200		KRD020020016

- If Index name has no associated Index ISIN, the index name input by the user will return in the record.

Request Template		**Record Template**
Underlying Instrument Index	→	Underlying Instrument Index
MSCI EM USD		MSCI EM USD

List of Indices and associated ISINs can be found here.

3. Underlying Asset Class - Credit

a. Underlying Instrument Index Term Value / Underlying Instrument Index Term Unit

- If Underlying Instrument Index Term Unit = "DAYS" and Underlying Instrument Index Term Value is divisible by 7, record it in weeks:

Underlying Instrument Index Term Value	7	→	Underlying Instrument Index Term Value	1
Underlying Instrument Index Term Unit	DAYS		Underlying Instrument Index Term Unit	WEEK

- If Underlying Instrument Index Term Unit = "MNTH" and Underlying Instrument Index Term Value is divisible by 12, record it in years:

Underlying Instrument Index Term Value	12	→	Underlying Instrument Index Term Value	1
Underlying Instrument Index Term Unit	MNTH		Underlying Instrument Index Term Unit	YEAR

4. Underlying Asset Class – Foreign_Exchange

a. Notional Currency and Other Notional Currency

The input Notional and Other Notional Currency submitted by users need to normalize to ensure that same UPI is returned for a same set of attributes.

- Order the "Notional currency" and "Other Notional Currency" alphabetically.
- If the "Notional Currency" is first alphabetically, then record it as "Notional Currency".
- If the "Notional Currency" is not first alphabetically, then record it as "Other Notional Currency".

Notional Currency	EUR	→	Notional Currency	AUD
Other Notional Currency	AUD		Other Notional Currency	EUR

5. Underlying Asset Class – Commodities

a. Base Product / Sub Product / Additional Sub Product / Reference Rate / Other Base Product / Other Sub Product / Other Additional Sub Product / Other Reference Rate

- Regardless of the order in which the reference legs are supplied, the DSB assumes the same UPI would be allocated to the instrument, i.e., the following user entries will be considered the same instrument:

Base Product	NRGY	AGRI
Sub Product	NGAS	GROS
Additional Sub Product	GASP	FWHT
Other Base Product	AGRI	NRGY
Other Sub Product	GROS	NGAS
Other Additional Sub Product	FWHT	GASP
Reference Rate	NATURAL GAS-CHICAGO CITY-GATES-INSIDE FERC	WHEAT FEED-NYSE Liffe
Other Reference Rate	WHEAT FEED-NYSE Liffe	NATURAL GAS-CHICAGO CITY-GATES-INSIDE FERC

- Order alphabetically the combination string of "Base Product + Sub Product + Additional Sub Product + Reference Rate" and "Other Base Product + Other Sub Product + Other Additional Sub Product + Other Reference Rate".
- If "Base Product" and "Other Base Product" are different – alphabetically order them. The Base Product should be the first alphabetically and Other Base Product the second alphabetically. The associated

attributes (Sub Product + Additional Sub Product + Reference Rate) are then moved as part of the normalization.

- If Base Product and Other Base Product are the same, and if “Sub product” and “Other Sub product” are different – alphabetically order them. The Sub Product should be the first alphabetically and Other Sub Product the second alphabetically. The associated attributes (Additional Sub Product + Reference Rate) are then moved as part of the normalization.
- If Base Product and Sub Product are the same as Other Base Product and Other Sub Product, and if “Additional Sub Product” and “Other Additional Sub product” are different – alphabetically order them. The Additional Sub Product should be the first alphabetically and Other Additional Sub Product the second alphabetically. The associated Reference Rate is then moved as part of the normalization.
- If “Base Product/ Sub Product/ Additional Sub Product” and “Other Base Product/ Other Sub Product/ Other Additional Sub Product” are the same, alphabetically order Reference Rate and Other Reference Rate.

b. Underlying Structure and Other Underlying Structure

- If the Underlying Structure is “Single underlier” and Other Underlying structure is a “Basket”, record the attribute as is.

Request		
A.1	Underlier ID Source	ISDA
	Underlier ID	LEAD-LME CASH
	Base Product	ENVR
	Sub Product	EMIS
	Additional Sub Product	EUAE
B.2	Other Underlier Characteristic	Basket

Record		
A.1	Reference Rate	LEAD-LME CASH
	Base Product	ENVR
	Sub Product	EMIS
	Additional Sub Product	EUAE
B.2	Other Underlier Characteristic	Basket

- If the Underlying structure is a “Basket” and Other Underlying structure is “Single underlier”, record the Single underlier first as Reference rate and the Basket as Other Underlier characteristic.

Request		
B1	Underlier Characteristic	Basket
A2	Other Underlier ID Source	ISDA
	Other Underlier ID	LEAD-LME CASH
	Other Base Product	ENVR
	Other Sub Product	EMIS
	Other Additional Sub Product	EUAE

Record		
A.1	Reference Rate	LEAD-LME CASH
	Base Product	ENVR
	Sub Product	EMIS
	Additional Sub Product	EUAE
B.2	Other Underlier Characteristic	Basket

- If the Underlying Structure combination is “Underlier Characteristic” and “Other Underlier Characteristic”. Record the attributes as is.

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: “M”
- Asset Class: “M”
- Further Grouping: “S”
- Not applicable/undefined: “X”
- Not applicable/undefined: “X”
- Not applicable/undefined: “X”

E.g.: “MMSXXX”

Short Name

Concatenation of the following attributes/values:

- Issuer Name: “NA/”
- Instrument Type: “Oth” (fixed value)
- Asset Class: “Oth” (fixed value)
- Product: “Nstd”

E.g.: “NA/Oth Oth Nstd”

Note: The Short Name is based on the OTC ISIN that excludes the following fields:

- *Notional Currency*
- *Other Notional Currency*
- *Expiry Date*

Underlier Characteristic

Based on the underlying structure selected, the following derivations will apply per Underlying Asset Class 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”.

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 Type/ Other Underlier Type / Underlier Type/ Other Underlier Type / Indicates the type of underlying asset or entity on which the product is based. 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/ Other Underlier Characteristic / Underlier Characteristic/ Other 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).

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 Type/ Other Underlier Type	Underlier Type/ Other Underlier Type	Indicates the type of underlying asset or entity on which the product is based.
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/ Other Underlier Characteristic	Underlier Characteristic/ Other 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).

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.”
- 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].
- There is a difference in the naming convention of Sub Product and Additional Sub Product between ISO 20022 and the DSB OTC ISIN (refer to Appendix 3 below), therefore the UPI will align with DSB OTC ISIN for these attributes.
- 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.
- Codeset name for Credit Indices must be amended from FpmlCreditIndex.json to MrktCreditIndex.json.
- Underlying Instrument Index Term Unit/value are required fields in the DSB OTC ISIN having a default value of 0 if Underlying Instrument Index PROP is selected. In the case of UPI, if PROP is selected as underlier ID source, these attributes will be removed instead of default to 0.
- Underlying Credit Index Series/Version are required fields in the DSB OTC ISIN having a default value of 0 if Underlying Instrument Index PROP is selected. In the case of UPI, if PROP is selected as underlier ID source, these attributes will be removed instead of default to 0.
- Debt Seniority does not apply for Index and Index Tranche. In DSB OTC ISIN, debt seniority has no value and is included in the template, however in UPI the attribute is removed instead of having no value in the template.
- Codeset name for Commodities Reference Rate must be amended from FpmlCommoditiesReferenceRate.json to ISDACommoditiesReferenceRate.json.
- There is no existing reference data that will support the validation of underlying instrument index for Commodities. In addition, an existing ticket (DSB-8) has been raised to address the issue.
- Normalization of Notional and Other Notional Currency in OTC ISIN for Other.Other has invalid error message relating to an existing ticket (DSB-646).

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	C	Notional Currency	Notional Currency
Delivery Type	M	Delivery Type	Delivery Type

Notional Schedule	C	Not Required	
Option Style	C	Option Exercise Style	Option Exercise Style
Option Type	C	Option Type	Option Type
Return, pricing method or payout trigger	M	Return or Payout Trigger	Return or Payout Trigger
		Valuation Method or Trigger	Valuation Method or Trigger
Seniority	C	Debt Seniority	Debt Seniority
Settlement Currency	C	Settlement Currency	Settlement Currency
Single or Multiple Currency*	C	Not Required	
Single or Interpolated Reference Rate Tenor**	C	Not Required	
Standard Contract Specification*	C	Not Required	
Underlier ID	C	Underlier ID	Reference Rate
			Other Leg Reference Rate
			Other Reference Rate
			Underlying Instrument ISIN
			Underlying Instrument Index
			Underlying Instrument Index Prop
			Underlying Instrument LEI
			Notional Currency
			Other Notional Currency
Underlier ID source	C	Underlier ID source	Not Required
Underlier Type	M	Not Required	Further Grouping
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
	Underlying contract tenor period ***	C	Not Required	
	Underlying contract tenor period multiplier ***	C	Not Required	
	Underlying Debt Issuance Tenor Period****	C	Not Required	
	Underlying Debt Issuance Tenor Period Multiplier****	C	Not Required	

* Single or Multiple Currency and Standard Contract Specification are not included as attributes in OTC ISIN and is a conditional attribute in ISO 4914 (UPI).
** Single or Interpolated Reference Rate Tenor is subject for review and approval by CDIDE as part of ISO 4914 standard.
***Underlying Contract Tenor Period / Multiplier applies only to a derivative contract underlying another derivative. For this product, the underlying is Reference Rates and so these attributes are not required.
****Dependent on ISO review and approval for the inclusion of Underlying Debt Issuance Tenor Period/Multiplier as ISO 4914 (UPI) Conditional attributes.

Appendix 1

Below is the limited set of enumerations based on RTS 23 (EU 2017/585) Table 2 to support the following entries:

Base Product	Code	Sub Product	Code	Additional Sub Product	Code
Agricultural	AGRI	GrainOilSeed	GROS	FeedWheat Soybeans Rapeseed Other Maize Rice	FWHT SOYB RPSD OTHR CORN RICE
		Dairy Forestry Livestock Seafood	DIRY FRST LSTK SEAF		
		Soft	SOFT	RobustaCoffee Cocoa RawSugar WhiteSugar Other	ROBU CCOA BRWN WHSG OTHR
		OliveOil	OOLI	Lampante	LAMP
		Potato	POTA		
		Grain	GRIN	MillingWheat	MWHT
Energy	NRGY	Coal Distillates InterEnergy LightEnd RenewableEnergy	COAL DIST INRG LGHT RNNG		
		Electricity	ELEC	Baseload FinancialTransmissionRights PeakLoad OffPeak Other	BSLD FITR PKLD OFFP OTHR
		NaturalGas	NGAS	GasPool LNG NCG TTF NBP	GASP LNGG NCGG TTFG NBPG
		Oil	OILP	Bakken Biodiesel Brent BrentNX Canadian Condensate Diesel Dubai ESPO Ethanol Fuel FuelOil Gasoil Gasoline HeatingOil JetFuel Kerosene LightLouisianaSweet Mars Naphta NGL Tapis WTI Urals	BAKK BDSL BRNT BRNX CNDA COND DSEL DUBA ESPO ETHA FUEL FOIL GOIL GSLN HEAT JTFL KERO LLSO MARS NAPH NGLO TAPI WTIO URAL

Base Product	Code	Sub Product	Code	Additional Sub Product	Code
Environmental	ENVR	Emissions	EMIS	CER ERU EUA EUAA Other	CERE ERUE EUAE EUAA OTHR
		CarbonRelated	CRBR		
		Weather	WTHR		
Freight	FRGT	Dry	DRYF	DryBulkCarrier	DBCR
		Wet	WETF	Tanker	TNKR
		ContainerShip	CSHP		
Fertilizer	FRTL	Ammonia DiammoniumPhosphate Potash Sulphur Urea UreaAndAmmoniumNitrate	AMMO DAPH PTSH SLPH UREA UAAN		
IndustrialProduct	INDP	Construction Manufacturing	CSTR MFTG		
Inflation	INFL				
OfficialEconomicStatistics	OEST				
Metal	METL	NonPrecious	NPRM	Aluminum AluminumAlloy Cobalt Copper IronOre Molybdenum NASAAC Nickel Steel Tin Zinc Other Lead	ALUM ALUA CBLT COPR IRON MOLY NASC NICK STEL TINN ZINC OTHR LEAD
		Precious	PRME	Gold Other Palladium Platinum Silver	GOLD OTHR PLDM PTNM SLVR
MultiCommodityExotic	MCEX				
Paper	PAPR	Containerboard Newsprint Pulp RecoveredPaper	CBRD NSPT PULP RCVP		
Polypropylene	POLY	Plastic	PLST		
OtherC10	OTHC	Deliverable NonDeliverable	DLVR NDLV		
Other	OTHR				

Appendix 2

Listed below are the corresponding enum_titles for each product code based on RTS 23 (EU 2017/585) Table 2:

Base Product	
enum_titles	**enum**
Agricultural[AGRI]	AGRI
Energy[NRGY]	NRGY
Environmental[ENVR]	ENVR
Freight[FRGT]	FRGT
Fertilizer[FRTL]	FRTL
IndustrialProduct[INDP]	INDP
Inflation[INFL]	INFL
OfficialEconomicStatistics[OEST]	OEST
Metal[METL]	METL
MultiCommodityExotic[MCEX]	MCEX
Paper[PAPR]	PAPR
Polypropylene[POLY]	POLY
OtherC10[OTHC]	OTHC
Other[OTHR]	OTHR

Sub Product	
enum_titles	**enum**
GrainOilSeed[GROS]	GROS
Dairy[DIRY]	DIRY
Forestry[FRST]	FRST
Livestock[LSTK]	LSTK
Seafood[SEAF]	SEAF
Soft[SOFT]	SOFT
OliveOil[OOLI]	OOLI
Potato[POTA]	POTA
Grain[GRIN]	GRIN
Coal[COAL]	COAL
Distillates[DIST]	DIST
InterEnergy[INRG]	INRG
LightEnd[LGHT]	LGHT
RenewableEnergy[RNNG]	RNNG
Electricity[ELEC]	ELEC
NaturalGas[NGAS]	NGAS
Oil[OILP]	OILP
Emissions[EMIS]	EMIS
CarbonRelated[CRBR]	CRBR
Weather[WTHR]	WTHR
Dry[DRYF]	DRYF
Wet[WETF]	WETF
ContainerShip[CSHP]	CSHP
Ammonia[AMMO]	AMMO
DiammoniumPhosphate[DAPH]	DAPH
Potash[PTSH]	PTSH
Sulphur[SLPH]	SLPH
Urea[UREA]	UREA
UreaAndAmmoniumNitrate[UAAN]	UAAN
Construction[CSTR]	CSTR
Manufacturing[MFTG]	MFTG
NonPrecious[NPRM]	NPRM
Precious[PRME]	PRME
Containerboard[CBRD]	CBRD
Newsprint[NSPT]	NSPT
Pulp[PULP]	PULP
RecoveredPaper[RCVP]	RCVP
Plastic[PLST]	PLST
Deliverable[DLVR]	DLVR
NonDeliverable[NDLV]	NDLV

Additional Sub Product	
enum_titles	**enum**
FeedWheat[FWHT]	FWHT
Soybeans[SOYB]	SOYB
Rapeseed[RPSD]	RPSD
Other[OTHR]	OTHR
Maize[CORN]	CORN
Rice[RICE]	RICE
RobustaCoffee[ROBU]	ROBU
Cocoa[CCOA]	CCOA
RawSugar[BRWN]	BRWN
WhiteSugar[WHSG]	WHSG
Other[OTHR]	OTHR
Lampante[LAMP]	LAMP
MillingWheat[MWHT]	MWHT
BaseLoad[BSLD]	BSLD
FinancialTransmissionRights[FITR	FITR
PeakLoad[PKLD]	PKLD
OffPeak[OFFP]	OFFP
Other[OTHR]	OTHR
GasPool[GASP]	GASP
LNG[LNGG]	LNGG
NCG[NCGG]	NCGG
TTF[TTFG]	TTFG
NBP[NBPG]	NBPG
Bakken[BAKK]	BAKK
Biodiesel[BDSL]	BDSL
Brent[BRNT]	BRNT
BrentNX[BRNX]	BRNX
Canadian[CNDA]	CNDA
Condensate[COND]	COND
Diesel[DSEL]	DSEL
Dubai[DUBA]	DUBA
ESPO[ESPO]	ESPO
Ethanol[ETHA]	ETHA
Fuel[FUEL]	FUEL
FuelOil[FOIL]	FOIL
Gasoil[GOIL]	GOIL
Gasoline[GSLN]	GSLN
HeatingOil[HEAT]	HEAT
JetFuel[JTFL]	JTFL
Kerosene[KERO]	KERO

Additional Sub Product	
enum_titles	**enum**
LightLouisianaSweet[LLSO]	LLSO
Mars[MARS]	MARS
Naphta[NAPH]	NAPH
NGL[NGLO]	NGLO
Tapis[TAPI]	TAPI
WTI[WTIO]	WTIO
Urals[URAL]	URAL
CER[CERE]	CERE
ERU[ERUE]	ERUE
EUA[EUAE]	EUAE
EUAA[EUAA]	EUAA
Other[OTHR]	OTHR
DryBulkCarrier[DBCR]	DBCR
Tanker[TNKR]	TNKR
Aluminium[ALUM]	ALUM
AluminiumAlloy[ALUA]	ALUA
Cobalt[CBLT]	CBLT
Copper[COPR]	COPR
IronOre[IRON]	IRON
Molybdenum[MOLY]	MOLY
NASAAC[NASC]	NASC
Nickel[NICK]	NICK
Steel[STEL]	STEL
Tin[TINN]	TINN
Zinc[ZINC]	ZINC
Other[OTHR]	OTHR
Lead[LEAD]	LEAD
Gold[GOLD]	GOLD
Other[OTHR]	OTHR
Palladium[PLDM]	PLDM
Platinum[PTNM]	PTNM
Silver[SLVR]	SLVR

Appendix 3

Naming convention differences between RTS 23 (EU 2017/585) Table 2 and the DSB OTC ISIN.

Base Product	ISO 20022		RTS23	DSB OTC ISIN
	Sub Product			
Agricultural	GrainOilSeed	GrainOilSeeds	Grains and Oil Seeds	GrainOilSeed
	Soft	Softs	Softs	Soft
Energy	LightEnd	LightEnds	Light Ends	LightEnd
	Carbon	Carbon	-	-
Environmental	Emissions	Emission	Emissions	Emissions
Fertilizer	UreaAndAmmoniumNitrate	UreaAndAmmoniumNitrite	Urea and Ammonium Nitrate	UreaAndAmmoniumNitrate
Freight	ContainerShip	ContainerShip	Container Ships	ContainerShip
OtherC10	Deliverable	Deliverable	-	Deliverable
	NonDeliverable	NonDeliverable	-	NonDeliverable

Sub Product	ISO 20022		RTS23	DSB OTC ISIN
	Additonal Sub Product			
Dry	DryBulkCarrier	DryBulkCarrier	Dry bulk carriers	DryBulkCarrier