Derivatives Service Bureau (UPI)

CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	M. Surop	26 May 2021	Initial Document
2	Draft	M. Surop	09 June 2021	Update Templates Layout, Validation and Derivation
3	Draft	M. Surop	14 July 2021	Updated template layout with Underlier input method, Attributes section, GUI Details, Reference & Comment sections. Removed hyperlinks in Attribute Data Dictionary & Reference Section.
4	Draft	M. Surop	19 Aug 2021	Updated Request template layout for Underlying Issuer Type and Validation section.
5	Draft	M. Surop	24 Aug 2021	Updated Request Template Layout

Title	CREDIT SWAP Non Standard Template Definition		
Background	The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product: • **Credit : Swap : Non_Standard**	**DSB-ID**	**UPI-0355**
		Type	New Template
		Owner	M. Surop
		Version	5
		State	Draft
Terms of Reference			
Scope	• This CRF specifies the product definition required for the generation / retrieval of a UPI only. • This CRF covers both the input (Request) and output (Record) templates. • Support for local jurisdiction / alternate underlier identifier input is currently out of scope. • Support for CFI 2019 values is currently out of scope.		
Requirements	• The product definition will conform to ISO 4914 (UPI). • Where possible, the product definition is to be based on the attributes, values and behaviour of the equivalent OTC ISIN. • The product definition will return a product short name (FISN). • All UPI records stored on the DSB RDL will include the ISO 10962 (CFI) code associated with the UPI along with an equivalent text value for all attributes that are included in the definition of the CFI.		
Dependencies	• This specification is dependent on final sign-off of the ISO 4914 (UPI) specification. • This specification is dependent on PC approval for the use of the OTC ISIN definitions as a basis for the UPI. • This specification is dependent on PC approval for the inclusion of ISO 4914 (UPI) conditional attributes. • This specification is dependent on TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration. • This specification is dependent on the provision of a human-readable alias for the primary underlier for inclusion in the Short Name (FISN) and a human-readable alias for the Contract Specification. • The format of the Short Name is dependent upon the outcome of the ISO 18774 (FISN) systematic review.		
Assumptions	• This specification assumes that, unless stated, all values and behaviours are based on those of the equivalent OTC ISIN product definition. • This specification assumes that no input values are to be defaulted by the system. • This specification is based on the current ISO 4914 (UPI) specification (CD) – including attributes that are not currently supported by the equivalent OTC ISIN. • This specification is based on the DSB's current equivalent OTC ISIN product definition. • This specification is based on the attributes and values defined in ISO 10962 (CFI:2015). • In order to provide an example Short Name, this specification defines a format for this attribute that may not conform to the eventually agreed FISN format for the UPI. This specification assumes that the Short Name is defined using the same attributes (where available) as the OTC ISIN Short Name. • Where possible, this specification derives GUI details from the ISO 4914 (UPI) specification for attributes that are not included in the current OTC ISIN product definition.		

- The display information in the GUI for the existing attributes (and values) are taken from the OTC ISIN. If such information contains an "ISIN" in the description, replace the value into "UPI".
- The specification for UPI does not include expiry date as part of the attributes, hence "expired" status does not apply.
- The specification assumes that underlying instrument index term unit/value is to be included as part of the definition of the underlier.
- The specification for underlying debt issuance tenor period/underlying debt issuance tenor period multiplier is subject for review and approval by CDIDE as part of ISO 4914 standard.
- 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	Credit			CFI:2015 Char#2 (SC****)	ISIN
	Instrument Type	Set	M	Swap			CFI:2015 Char#1 (SC****)	ISIN
	Product	Set	M	Non_Standard				ISIN
	Level	Set	M	UPI				NEW
Attribute Section	Underlying Asset Type (oneOf)	Enum	M	Single Name	See CRF (Validations)		CFI:2015 Char#3 (SC****)	NEW
	Underlier Type (oneOf)	Enum	M	Fixed Income Security	[Fixed Income Security]			NEW
	Underlier ID Source	String	(M)	ISIN	[ISIN]		Internal	NEW
	Underlier ID	Enum	(M)	XS1681806326	See CRF (Validations)			NEW
	Debt Seniority	Enum	(M)	SNDB	[SNDB; MZZD; SBOD; JUND]	If Underlier Type = Fixed Income Security, Legal Entity	ISO 20022	ISIN
	Underlier Type (oneOf)	Enum	M	Legal Entity	[Legal Entity]			NEW
	Underlier ID Source	String	(M)	LEI	[LEI]		Internal	NEW
	Underlier ID	Enum	(M)	2138002DRBYIA8QXHO36	See CRF (Validations)		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
	Underlying Asset Type (oneOf)	Enum	M	Index	See CRF (Validations)		CFI:2015 Char#3 (SC****)	NEW
	Underlier Type (oneOf)	Enum	M	Proprietary Index	[Proprietary Index]			NEW
	Underlier ID Source	String	(M)	PROP	[PROP]		Internal	NEW
	Underlier ID	Enum	(M)	11339-MLSRUHT1	See CRF (Validations)		DSB Proprietary Index Enumerations	NEW
	Underlier Type (oneOf)	Enum	M	Credit Index	[Credit Index]			NEW
	Underlier ID Source	String	(M)	MRKT	[MRKT]		Internal	NEW
	Underlier ID	Enum	(M)	ABX.HE.A	MrktCreditIndex.json [See CRF (Validations)]		Markit Indices	NEW
	Underlying Instrument Index Term Value	Integer	(M)	7	See CRF (Validations)			ISIN
	Underlying Instrument Index Term Unit	Enum	(M)	DAYS	See CRF (Validations)		ISO 20022	ISIN
	Underlying Credit Index Series	Integer	(M)	3	See CRF (Validations)			ISIN
	Underlying Credit Index Version	Integer	(M)	5	See CRF (Validations)			ISIN
	Underlying Asset Type (oneOf)	Enum	M	Index Tranche	See CRF (Validations)		CFI:2015 Char#3 (SC****)	NEW
	Underlier Type (oneOf)	Enum	M	Proprietary Index	[Proprietary Index]			NEW
	Underlier ID Source	String	(M)	PROP	[PROP]		Internal	NEW
	Underlier ID	Enum	(M)	11339-MLSRUHT1	See CRF (Validations)		DSB Proprietary Index Enumerations	NEW
	Underlier Type (oneOf)	Enum	M	Credit Index	[Credit Index]			NEW
	Underlier ID Source	String	(M)	MRKT	[MRKT]		Internal	NEW
	Underlier ID	Enum	(M)	ABX.HE.A	MrktCreditIndex.json [See CRF (Validations)]		Markit Indices	NEW
	Underlying Instrument Index Term Value	Integer	(M)	7	See CRF (Validations)			ISIN
	Underlying Instrument Index Term Unit	Enum	(M)	DAYS	See CRF (Validations)		ISO 20022	ISIN
	Underlying Credit Index Series	Integer	(M)	3	See CRF (Validations)			ISIN
	Underlying Credit Index Version	Integer	(M)	5	See CRF (Validations)			ISIN
	Underlying Asset Type (oneOf)	Enum	M	Other	See CRF (Validations)		CFI:2015 Char#3 (SC****)	NEW
	Underlying Structure (oneOf)	Enum	C	Single Underlier	See CRF (Validations)	Populated if not a basket	Internal	NEW
	Underlier Type (oneOf)	Enum	M	Fixed Income Security	[Fixed Income Security]			NEW
	Underlier ID Source	String	(M)	ISIN	[ISIN]		Internal	NEW
	Underlier ID	Enum	(M)	XS1681806326	See CRF (Validations)			NEW
	Debt Seniority	Enum	(M)	SNDB	[SNDB; MZZD; SBOD; JUND]	If Underlier Type = Fixed Income Security, Legal Entity	ISO 20022	ISIN
	Underlier Type (oneOf)	Enum	M	Legal Entity	[Legal Entity]			NEW
	Underlier ID Source	String	(M)	LEI	[LEI]		Internal	NEW
	Underlier ID	Enum	(M)	2138002DRBYIA8QXHO36	See CRF (Validations)		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
	Underlier Type (oneOf)	Enum	M	Proprietary Index	[Proprietary Index]			NEW
	Underlier ID Source	String	(M)	PROP	[PROP]		Internal	NEW
	Underlier ID	Enum	(M)	11339-MLSRUHT1	See CRF (Validations)		DSB Proprietary Index Enumerations	NEW
	Underlier Type (oneOf)	Enum	M	Credit Index	[Credit Index]			NEW
	Underlier ID Source	String	(M)	MRKT	[MRKT]		Internal	NEW
	Underlier ID	Enum	(M)	ABX.HE.A	MrktCreditIndex.json [See CRF (Validations)]		Markit Indices	NEW
	Underlying Instrument Index Term Value	Integer	(M)	7	See CRF (Validations)			ISIN
	Underlying Instrument Index Term Unit	Enum	(M)	DAYS	See CRF (Validations)		ISO 20022	ISIN
	Underlying Credit Index Series	Integer	(M)	3	See CRF (Validations)			ISIN
	Underlying Credit Index Version	Integer	(M)	5	See CRF (Validations)			ISIN
	Underlying Structure (oneOf)	Enum	C	Basket	See CRF (Validations)	Populated for a basket	Internal	NEW
	Underlier Characteristic	Enum	(M)	Basket	See CRF (Validations)			NEW
	Underlying Asset Type (oneOf)	Enum	M	Basket	See CRF (Validations)		CFI:2015 Char#3 (SC****)	NEW
	Underlier Characteristic	Enum	D	Basket	See CRF (Validations)			NEW
	Underlying Issuer Type (oneOf)	Enum	M	Corporate	See CRF (Validations)		CFI:2015 Char#5 (SC****)	NEW
	Contract Specification	Enum	(M)	StandardEuropeanCorporate	FpML Matrix Term Scheme (5.130)	Only Corporate Entries on the list is allowed	FpML 1.12	NEW
	Underlying Issuer Type (oneOf)	Enum	M	Sovereign	See CRF (Validations)		CFI:2015 Char#5 (SC****)	NEW
	Contract Specification	Enum	(M)	StandardWesternEuropeanSovereign	FpML Matrix Term Scheme (5.130)	Only Sovereign Entries on the list is allowed	FpML 1.12	NEW
	Underlying Issuer Type (oneOf)	Enum	M	Local	See CRF (Validations)		CFI:2015 Char#5 (SC****)	NEW
	Contract Specification	Enum	(M)	StandardUSMunicipalRevenue	FpML Matrix Term Scheme (5.130)	Only Municipal Entries on the list is allowed	FpML 1.12	NEW
	Return or Payout Trigger	Enum	M	Total Return	[Credit Default; Total Return; Other]		CFI:2015 Char#4 (SC****)	ISIN
	Delivery Type	Enum	M	CASH	[CASH; PHYS; OPTL]		ISO 20022	ISIN

Record Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Condition	Enum Source	Origin
Header Section	Asset Class	Set	M	Credit			CFI:2015 Char#2 (SC****)	ISIN
	Instrument Type	Set	M	Swap			CFI:2015 Char#1 (SC****)	ISIN
	Product	Set	M	Non_Standard				ISIN
	Level	Set	M	UPI				NEW
	Template Version	Integer	D	1				ISIN
Attribute Section	Underlying Asset Type	Enum	M	Index	See CRF (Validations)		CFI:2015 Char#3 (SC****)	ISIN
	Underlying Instrument ISIN	String	C	XS1681806326	See CRF (Validations)			ISIN
	Underlying Instrument LEI	String	C	2138002DRBYIA8QXHO36	See CRF (Validations)		ISO 17442 LEI Codes	ISIN
	Underlying Instrument Index	Enum	C	ABX.HE.A	MrktCreditIndex.json [See CRF (Validations)]		Markit Indices	ISIN
	Underlying Instrument Index Prop	Enum	C	11339-MLSRUHT1	See CRF (Validations)		DSB Proprietary Index Enumeration	ISIN
	Underlying Instrument Index Term Value	Integer	C	1	See CRF (Validations & Normalization)	If Underlier ID Source = MRKT		ISIN
	Underlying Instrument Index Term Unit	Enum	C	WEEK	See CRF (Validations & Normalization)	If Underlier ID Source = MRKT	ISO 20022	ISIN
	Underlying Credit Index Series	Integer	C	3	See CRF (Validations)	If Underlier ID Source = MRKT		ISIN
	Underlying Credit Index Version	Integer	C	5	See CRF (Validations)	If Underlier ID Source = MRKT		ISIN
	Return or Payout Trigger	Enum	M	Total Return	[Credit Default; Total Return; Other]		CFI:2015 Char#4 (SC****)	ISIN
	Underlying Issuer Type	Enum	M	Corporate	See CRF (Validations)		CFI:2015 Char#5 (SC****)	ISIN
	Contract Specification	Enum	C	StandardEuropeanCorporate	FpML Matrix Term Scheme (5.130)		FpML 1.12	NEW
	Debt Seniority	Enum	C	SNDB	[SNDB; MZZD; SBOD; JUND]	If Underlier ID Source = ISIN; LEI	ISO 20022	ISIN
	Delivery Type	Enum	M	CASH	[CASH; PHYS; OPTL]		ISO 20022	ISIN
Identifier Section	UPI	String	D	QZ5M3PBSVLT1	UPI		ISO 4914	NEW
	Status	String	D	New				ISIN
	Status Reason	String	D	<null>	Not applicable to a New record			ISIN
	Last Update Date Time	DtTm	D	2021-05-26T03:55:13	YYYY-MM-DDThh:mm:ss			ISIN
Derived Section	Classification Type	String	D	SCITCC	See CRF (Derivations)		ISO 10962: 2015	ISIN
	Short Name	String	D	NA/CDS Corp Idx	See CRF (Derivations)		ISO 18774: 2015	NEW
	Underlier Characteristic	String	D	Single	See CRF (Derivations)	Derived from Underlier attributes	Internal	NEW
	CFI Delivery Type	String	D	Cash	See CRF (Derivations)		CFI:2015 Char#6 (SC****)	NEW

Product Definition	
Attributes	See Template Layout (above). In order to support the different ways in which underliers need to be supported in the definition of this product, the above Request template layout allows the user to specify the following: **a) Underlying 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. **b) 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: • Legal Entity • Fixed Income Security • Proprietary Index • Credit Index Once the Underlier Type is chosen, the user will be asked to select one of the Underlier ID Sources associated with that Underlier Type and enter the Underlier ID that matches the ID Source. ** Please see Underlier Input Method Document (link provided in the Reference Section below) for further details.*
Validation	**1. Underlying Asset Type** The following validations will apply based on the Underlying Asset Type selected. For each given Underlying Asset Type, the attributes will vary accordingly: **a. "Single Name"** • If Underlying Asset Type selected is a "Single Name", Underlier ID and Underlier ID Source attributes will be required in the REQUEST message. • Underlier ID Source must be [ISIN or LEI] and only single value is allowed. • Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN or LEI] as indicated below. **b. "Index"**

- If Underlying Asset Type selected is an "Index", Underlier ID and Underlier ID Source attributes will be required in the REQUEST message.
- Underlier ID Source must be [MRKT or PROP] and only single value is allowed.
- Validation of the Underlier ID will apply based on the Underlier ID Source [MRKT or PROP] as indicated below.

c. **"Index Tranche"**
- If Underlying Asset Type selected is an "Index Tranche", Underlier ID and Underlier ID Source attributes will be required in the REQUEST message.
- Underlier ID Source must be [MRKT or PROP] and only single value is allowed.
- Validation of the Underlier ID will apply based on the Underlier ID Source [MRKT or PROP] as indicated below.

d. **"Other"**
- User can select Underlier ID (single underlier) or Underlier Characteristic (multiple underliers).
- If Underlier ID is present, Underlier ID Source must be [ISIN; LEI; MRKT or PROP] and only single value is allowed.
- Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN; LEI; MRKT or PROP] as indicated below.
- If Underlier Characteristic is selected, Underlier ID, Underlier ID Source, and Underlying Instrument attributes will not be required in the REQUEST and RECORD messages.

e. **"Basket"**
- Only Underlier Characteristic attribute is required in the REQUEST message.
- Underlier ID, Underlier ID Source and Underlying Instrument attributes will not be present in the REQUEST and RECORD messages.

2. Underlier ID and Underlier Characteristic [oneOf structure]
- If Underlier ID is selected, attributes Underlier ID and Underlier ID Source [ISIN; LEI; MRKT or PROP] will be required in the REQUEST message and only one value can be selected in the enumeration.
- If Underlier Characteristic is selected, attributes Underlier ID and Underlier ID Source will not be required in the REQUEST and RECORD messages.
- Only "Basket" is the allowed value in the REQUEST message if Underlier Characteristic is selected.

3. Underlier ID Source

The following validations will be applied to Underlier ID based on the value selected on Underlier ID Source: [ISIN; LEI; MRKT; PROP]:

a. **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 conform with syntactic validation, an error message will apply "Error: ISIN/s must be valid".

b. **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)".

c. **MRKT**
- Enumeration list is based on JSON codeset (MrktCreditIndex.json).

d. **PROP**

- This attribute is to be validated against a list of Credit Proprietary Indices that must have been pre-submitted to the DSB.
- 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 based on DSB data. The only exception is asset class "Other" which is applicable to all asset class.
- If the input Prop Index does not exist in the DSB Proprietary Index Enumeration, value will be rejected with an error message "Error: Given Proprietary Indices must be valid for Asset Class Credit or Other".

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

a. If Underlier ID Source selected is MRKT, the following validations will apply:
- Underlying Instrument Index Term Unit: *[DAYS; WEEK; MNTH; YEAR].*
- Underlying Instrument Index Term Value: Input text must be an integer (positive or negative but not 0).

b. If Underlier ID Source selected is either [ISIN, LEI or PROP], Underlying Instrument Index Term Value/Unit attributes will not be required in the REQUEST message.

5. Underlying Credit Index Series / Underlying Credit Index Version

a. If Underlier ID Source selected is MRKT, the following validations will apply:
- 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 (-) 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 1."
- If the input text contains character, remove the character and retain the integer if exists.

b. If Underlier ID Source selected is either [ISIN, LEI, or PROP], Underlying Credit Index Series/Version attributes will not be required in the REQUEST message.

6. **Underlying Issuer Type (oneOf)**

The following validations will apply based on the Underlying Issuer Type selected [Corporate, Sovereign, Local].

a. "Corporate"
- If Underlying Issuer Type selected is a "Corporate", Contract Specification attribute must be present in the REQUEST message.
- Contract Specification enumerated values must be filtered to support entries for Corporate type (see Appendix 1.1) and only single value is allowed.

b. "Sovereign"
- If Underlying Issuer Type selected is a "Sovereign", Contract Specification attribute must be present in the REQUEST message.
- Contract Specification enumerated values must be filtered to support entries for Sovereign type (see Appendix 1.2) and only single value is allowed.

c. "Local"
- If Underlying Issuer Type selected is a "Local", Contract Specification attribute must be present in the REQUEST message.
- Contract Specification enumerated values must be filtered to support entries for Local/Municipal type (see Appendix 1.3) and only single value is allowed.

7. Debt Seniority

a. If Underlier ID Source selected is either [ISIN or LEI], list the enumerated values for Debt Seniority *[SNDB; MZZD; SBOD; JUND].*

b. If Underlier ID Source selected is either [MRKT or PROP], Debt Seniority attribute will not be required in the REQUEST message.

Normalization

1. 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

Attribute Data Dictionary

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

Full Name	Source	Type
Delivery Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums *[CASH; PHYS; OPTL]*
CFI Delivery Type	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Cash; Physical; Auction]*
Return or Payout Trigger	ISO 10962 Classification of financial instruments (CFI code)	Enums *[Credit Default; Total Return; Other]*
Debt Seniority	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01 *Note: Only applies if Underlier ID Source is [ISIN or LEI].*	Enums *[SNDB, MZZD, SBOD, JUND]*
Contract Specification	FpML Coding Scheme *Note: Entries on this list will apply depending on the Underlying Issuer Type selected [Corporate; Sovereign; Local].*	Enums *[Please see Appendix below.]*
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	Max350Text (based on string) minLength: 1 maxLength: 350
Underlying Instrument Index Prop	DSB Proprietary Index Enumerations	(Based on string)
Underlying Asset Type	ISO 10962 Classification of financial instruments (CFI code)	Max35Text (based on string) minLength: 1 maxLength: 35
Underlying Credit Index Series	Positive Integer (1 to 999) *Note: Only applies if Underlier ID Source is MRKT.*	Max3Number fractionDigits: 0 totalDigits: 3
Underlying Credit Index Version	Positive Integer (1 to 999) *Note: Only applies if Underlier ID Source is MRKT.*	Max3Number fractionDigits: 0 totalDigits: 3
Underlying Instrument Index Term Value	Integer – Positive or negative but not 0 *Note: Only applies if Underlier ID Source is MRKT.*	Max3Number (based on decimal) fractionDigits: 0 totalDigits: 3

<table>
<tr><td></td><td colspan="2">Underlying Instrument Index Term Unit</td><td>ISO 20022 FinancialInstrumentReportingReferenceDataReportV01

Note: Only applies if Underlier ID Source is MRKT.</td><td>Enums [DAYS; WEEK; MNTH; YEAR]</td></tr>
<tr><td rowspan="5">Derivation</td><td colspan="4">This section provides additional details to the derivation logic specified in the Template Layout sections (above).</td></tr>
<tr><td>Classification Type</td><td colspan="3">Concatenation of the following attributes/values:
• Instrument Type: “S”
• Asset Class: “C”
• Underlying Asset Type: from Request.UnderlyingAssetType…
- Single Name → U
- Index Tranche → V
- Index → I
- Basket → B
- Other → M
• Return or Payout Trigger: from Request.ReturnorPayoutTrigger…
- Credit Default → C
- Total Return → T
- Other → M
• Underlying Issuer Type: from Request.UnderlyingIssuerType…
- Corporate → C
- Sovereign → S
- Local → L
• Delivery Type: from Request.DeliveryType…
- CASH → C
- PHYS → P
- OPTL → A
E.g.: “SCITCC”</td></tr>
<tr><td>Short Name</td><td colspan="3">Concatenation of the following attributes/values:
• Issuer: “NA/”
• Instrument Type: “CDS” (fixed value)
• Underlying Issuer Type: from Request.UnderlyingIssuerType…
- Corporate → “Corp”
- Sovereign → “Sov”
- Local → “Mun”
• Underlying Asset Type: from Request.UnderlyingAssetType…
- Single Name → “SN”
- Index Tranche → “Idx Tra”
- Index → “Idx”
- Basket → “Basket”
- Other → “Oth”
• Debt Seniority: from Request.DebtSeniority…
- SNDB → “Sr”
- MZZD → “Mz”
- SBOD → “Sub”
- JUND → “Jr”
Note: Debt Seniority only applies if Underlier ID Source is [ISIN; LEI].

E.g.: “NA/CDS Corp Idx”
Note: The Short Name is based on the OTC ISIN that excludes the following fields:
- Notional Currency
- Expiry Date</td></tr>
<tr><td>Underlier Characteristic</td><td colspan="3">Based on the attribute selected, the following derivations will apply:
1. If in the oneOf a single underlier [ISIN; LEI; MRKT or PROP] is selected;
• then set the Underlier Characteristic to “Single”.
2. If in the oneOf a Basket is selected;
• then set the Underlier Characteristic to “Basket”.</td></tr>
<tr><td>CFI Delivery Type</td><td colspan="3">Derived from the input Delivery Type…
• CASH → “Cash”</td></tr>
</table>

		• PHYS → "Physical" • OPTL → "Auction"
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	Underlying Structure	Indicates whether the product is based on a single underlier or a basket of underliers.
Underlier Type	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.
Contract Specification	Contract Specification	The name of an existing document or reference that provides standard terms and conditions to be applied to the contract having the underlying asset or benchmark identified by the Underlier ID and Underlier ID source for which the UPI is assigned.
Underlier Characteristic	Underlier Characteristic	An attribute that is used to specify whether the product is based on a single or multiple underliers.
UPI	Identification	Unique Product Identifier (ISO 4914).
CFI Delivery Type	CFI Delivery Type	The Delivery Type as defined by CFI code: ISO 10962 • *As defined by CFI Code: ISO 10962*

Additional Information

Reference	References to external documents can be found on the DSB website at this address [https://www.anna-dsb.com/upi-external-reference-documents/].

Comments

- 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.
- Existing OTC ISIN product definition methodology of the Short Name abbreviation for instrument type are different per asset class – Rates and Commodities have "NA/Swap", Foreign_Exchange and Equity have "NA/Swaps" whereas Credit has "NA/CDS".
- Codeset name for Credit Indices must be amended from FpMLCreditIndex.json to MrktCreditIndex.json.
- The Contract Specification only applies to Credit.Swap.Corporate; Credit.Swap.Municipal; Credit.Swap.Sovereign & Credit.Swap.Non_Standard and does not apply to Credit.Swap.Loan; Credit.Swap.ABS; Credit.Swap.Index; Credit.Swap.Index_Tranche; & Credit.Swap.Total_Return_Swap.
- In terms of the input template, Contract Specification will be marked as Mandatory so all new UPI will be created with the said value. So, both new OTC ISIN and UPI will have the Contract Specification. In addition, this specification will allow the system to support a UPI with no Contract Specification. Thus, making this field in the record template as Optional. In this way, an existing OTC ISIN with no Contract Specification will automatically create the legacy UPI with no Contract Specification.
- 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 not be present in the REQUEST template 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 not be present in the REQUEST template instead of default to 0.
- Debt Seniority is a required field in DSB OTC ISIN having a default of N/A if underlying instrument selected is Markit Index or Index PROP. In the case of UPI, if MRKT or PROP is selected as underlier ID source, Debt Seniority will not be present in the REQUEST template instead of having a default "n/a" value.
- The enumerations made available for Underlier ID are dependent upon the choice of Underlier ID Source. At present, the proposed template layout is under review and to be verified by the Technical Team.
- Current DSB OTC ISIN methodology accepts "Other" as underlying asset type if single or combination of multiple underliers is selected. However for UPI, the underlying asset type – "Other" will only apply if Underlier ID Source is either [ISIN or LEI].

<table>
<tr><td rowspan="22">ISO 4914 Equivalence</td><th colspan="2">ISO 4914</th><th>Request Attribute</th><th>Record Attribute</th></tr>
<tr><td>Asset Class</td><td>M</td><td colspan="2">Asset Class</td></tr>
<tr><td>Instrument type</td><td>M</td><td colspan="2">Instrument Type</td></tr>
<tr><td rowspan="2">Delivery type</td><td rowspan="2">M</td><td rowspan="2">Delivery Type</td><td>Delivery Type</td></tr>
<tr><td>CFI Delivery Type</td></tr>
<tr><td>Return, pricing method or payout trigger</td><td>M</td><td colspan="2">Return or Payout Trigger</td></tr>
<tr><td>Seniority*</td><td>M</td><td colspan="2">Debt Seniority</td></tr>
<tr><td>Standard Contract Specification</td><td>C</td><td colspan="2">Contract Specification</td></tr>
<tr><td rowspan="4">Underlier ID</td><td rowspan="4">C</td><td rowspan="4">Underlier ID</td><td>Underlying Instrument ISIN</td></tr>
<tr><td>Underlying Instrument LEI</td></tr>
<tr><td>Underlying Instrument Index</td></tr>
<tr><td>Underlying Instrument Index Prop</td></tr>
<tr><td>Underlier ID source</td><td>C</td><td>Underlier ID Source</td><td>Not Required</td></tr>
<tr><td>Underlier type</td><td>M</td><td colspan="2">Underlying Asset Type</td></tr>
<tr><td>Underlier sub-type (first level)</td><td>M</td><td colspan="2">Underlying Issuer Type</td></tr>
<tr><td>Underlying credit index series**</td><td>C</td><td colspan="2">Underlying Credit Index Series</td></tr>
<tr><td>Underlying credit index version**</td><td>C</td><td colspan="2">Underlying Credit Index Version</td></tr>
<tr><td>Underlying debt issuance tenor period***</td><td>C</td><td colspan="2">Not Required</td></tr>
<tr><td>Underlying debt issuance tenor period multiplier***</td><td>C</td><td colspan="2">Not Required</td></tr>
</table>

*Seniority applies only if underlying is a Legal Entity or Debt Instrument, refer to comments section above.
**Underlying Credit Index Series/Version applies only if underlying is MRKT Indices, refer to comments section above.
***Subject for review and approval by CDIDE as part of ISO 4914 standard.

Appendix 1

Below is the limited set of enumerations based on FpML Matrix Term Scheme (5.130) that is filtered only to support the following entries [Corporate; Sovereign; Local] on this list:

Appendix 1.1 : CORPORATE Contract Specification Entries		
Attribute	**Enumerated List**	**Value elaboration**
Contract Specification	AsiaCorporate	Matrix Transaction Type of ASIA CORPORATE.
	AsiaFinancialCorporate	Matrix Transaction Type of ASIA FINANCIAL CORPORATE.
	AustraliaCorporate	Matrix Transaction Type of AUSTRALIA CORPORATE.
	AustraliaFinancialCorporate	Matrix Transaction Type of AUSTRALIA FINANCIAL CORPORATE.
	EmergingEuropeanCorporate	Matrix Transaction Type of EMERGING EUROPEAN CORPORATE.
	EmergingEuropeanCorporateLPN	Matrix Transaction Type of EMERGING EUROPEAN CORPORATE LPN.
	EmergingEuropeanFinancialCorporate	Matrix Transaction Type of EMERGING EUROPEAN FINANCIAL CORPORATE.
	EmergingEuropeanFinancialCorporateLPN	Matrix Transaction Type of EMERGING EUROPEAN FINANCIAL CORPORATE LPN.
	EuropeanCoCoFinancialCorporate	Matrix Transaction Type of EUROPEAN COCO FINANCIAL CORPORATE.
	EuropeanCorporate	Matrix Transaction Type of EUROPEAN CORPORATE.
	EuropeanFinancialCorporate	Matrix Transaction Type of EUROPEAN FINANCIAL CORPORATE.
	EuropeanSeniorNonPreferredFinancialCorporate	Matrix Transaction Type of EUROPEAN SENIOR NON PREFERRED FINANCIAL CORPORATE.
	JapanCorporate	Matrix Transaction Type of JAPAN CORPORATE.
	JapanFinancialCorporate	Matrix Transaction Type of JAPAN FINANCIAL CORPORATE.
	LatinAmericaCorporate	Matrix Transaction Type of LATIN AMERICA CORPORATE.
	LatinAmericaCorporateBond	Matrix Transaction Type of LATIN AMERICA CORPORATE B.
	LatinAmericaCorporateBondOrLoan	Matrix Transaction Type of LATIN AMERICA CORPORATE BL.
	LatinAmericaFinancialCorporateBond	Matrix Transaction Type of LATIN AMERICA FINANCIAL CORPORATE B.
	LatinAmericaFinancialCorporateBondOrLoan	Matrix Transaction Type of LATIN AMERICA FINANCIAL CORPORATE BL.
	NewZealandCorporate	Matrix Transaction Type of NEW ZEALAND CORPORATE.
	NewZealandFinancialCorporate	Matrix Transaction Type of NEW ZEALAND FINANCIAL CORPORATE.
	NorthAmericanCorporate	Matrix Transaction Type of NORTH AMERICAN CORPORATE.
	NorthAmericanFinancialCorporate	Matrix Transaction Type of NORTH AMERICAN FINANCIAL CORPORATE.

	SingaporeCorporate	Matrix Transaction Type of SINGAPORE CORPORATE.
	SingaporeFinancialCorporate	Matrix Transaction Type of SINGAPORE FINANCIAL CORPORATE.
	StandardAsiaCorporate	Matrix Transaction Type of STANDARD ASIA CORPORATE.
	StandardAsiaFinancialCorporate	Matrix Transaction Type of STANDARD ASIA FINANCIAL CORPORATE.
	StandardAustraliaCorporate	Matrix Transaction Type of STANDARD AUSTRALIA CORPORATE.
	StandardAustraliaFinancialCorporate	Matrix Transaction Type of STANDARD AUSTRALIA FINANCIAL CORPORATE.
	StandardEmergingEuropeanCorporate	Matrix Transaction Type of STANDARD EMERGING EUROPEAN CORPORATE.
	StandardEmergingEuropeanCorporateLPN	Matrix Transaction Type of STANDARD EMERGING EUROPEAN CORPORATE LPN.
	StandardEmergingEuropeanFinancialCorporate	Matrix Transaction Type of STANDARD EMERGING EUROPEAN FINANCIAL CORPORATE.
	StandardEmergingEuropeanFinancialCorporateLPN	Matrix Transaction Type of STANDARD EMERGING EUROPEAN FINANCIAL CORPORATE LPN.
	StandardEuropeanCoCoFinancialCorporate	Matrix Transaction Type of STANDARD EUROPEAN COCO FINANCIAL CORPORATE.
	StandardEuropeanCorporate	Matrix Transaction Type of STANDARD EUROPEAN CORPORATE.
	StandardEuropeanFinancialCorporate	Matrix Transaction Type of STANDARD EUROPEAN FINANCIAL CORPORATE.
	StandardEuropeanSeniorNonPreferredFinancialCorporate	Matrix Transaction Type of STANDARD EUROPEAN SENIOR NON PREFERRED FINANCIAL CORPORATE.
	StandardJapanCorporate	Matrix Transaction Type of STANDARD JAPAN CORPORATE.
	StandardJapanFinancialCorporate	Matrix Transaction Type of STANDARD JAPAN FINANCIAL CORPORATE.
	StandardLatinAmericaCorporateBond	Matrix Transaction Type of STANDARD LATIN AMERICA CORPORATE B.
	StandardLatinAmericaCorporateBondOrLoan	Matrix Transaction Type of STANDARD LATIN AMERICA CORPORATE BL.
	StandardLatinAmericaFinancialCorporateBond	Matrix Transaction Type of STANDARD LATIN AMERICA FINANCIAL CORPORATE B.
	StandardLatinAmericaFinancialCorporateBondOrLoan	Matrix Transaction Type of STANDARD LATIN AMERICA FINANCIAL CORPORATE BL.
	StandardNewZealandCorporate	Matrix Transaction Type of STANDARD NEW ZEALAND CORPORATE.
	StandardNewZealandFinancialCorporate	Matrix Transaction Type of STANDARD NEW ZEALAND FINANCIAL CORPORATE.
	StandardNorthAmericanCorporate	Matrix Transaction Type of STANDARD NORTH AMERICAN CORPORATE.

	StandardNorthAmericanFinancialCorporate	Matrix Transaction Type of STANDARD NORTH AMERICAN FINANCIAL CORPORATE.
	StandardSingaporeCorporate	Matrix Transaction Type of STANDARD SINGAPORE CORPORATE.
	StandardSingaporeFinancialCorporate	Matrix Transaction Type of STANDARD SINGAPORE FINANCIAL CORPORATE.
	StandardSubordinatedEuropeanInsuranceCorporate	Transaction Type of STANDARD SUBORDINATED EUROPEAN INSURANCE CORPORATE.
	StandardSukukFinancialCorporate	Matrix Transaction Type of STANDARD SUKUK FINANCIAL CORPORATE.
	SubordinatedEuropeanInsuranceCorporate	Matrix Transaction Type of SUBORDINATED EUROPEAN INSURANCE CORPORATE.
	SukukCorporate	Matrix Transaction Type of SUKUK CORPORATE.
	SukukFinancialCorporate	Matrix Transaction Type of SUKUK FINANCIAL CORPORATE.

Appendix 1.2 : SOVEREIGN Contract Specification Entries		
Attribute	**Enumerated List**	**Value elaboration**
Contract Specification	AsiaSovereign	Matrix Transaction Type of ASIA SOVEREIGN.
	AustraliaSovereign	Matrix Transaction Type of AUSTRALIA SOVEREIGN.
	EmergingEuropeanAndMiddleEasternSovereign	Matrix Transaction Type of EMERGING EUROPEAN AND MIDDLE EASTERN SOVEREIGN.
	JapanSovereign	Matrix Transaction Type of JAPAN SOVEREIGN.
	LatinAmericaSovereign	Matrix Transaction Type of LATIN AMERICA SOVEREIGN.
	NewZealandSovereign	Matrix Transaction Type of NEW ZEALAND SOVEREIGN.
	SingaporeSovereign	Matrix Transaction Type of SINGAPORE SOVEREIGN.
	StandardAsiaSovereign	Matrix Transaction Type of STANDARD ASIA SOVEREIGN.
	StandardAustraliaSovereign	Matrix Transaction Type of STANDARD AUSTRALIA SOVEREIGN.
	StandardEmergingEuropeanAndMiddleEasternSovereign	Matrix Transaction Type of STANDARD EMERGING EUROPEAN AND MIDDLE EASTERN SOVEREIGN.
	StandardJapanSovereign	Matrix Transaction Type of STANDARD JAPAN SOVEREIGN.
	StandardLatinAmericaSovereign	Matrix Transaction Type of STANDARD LATIN AMERICA SOVEREIGN.
	StandardNewZealandSovereign	Matrix Transaction Type of STANDARD NEW ZEALAND SOVEREIGN.
	StandardSingaporeSovereign	Matrix Transaction Type of STANDARD SINGAPORE SOVEREIGN.
	StandardWesternEuropeanSovereign	Matrix Transaction Type of STANDARD WESTERN EUROPEAN SOVEREIGN.
	SukukSovereign	Matrix Transaction Type of SUKUK SOVEREIGN.
	WesternEuropeanSovereign	Matrix Transaction Type of WESTERN EUROPEAN SOVEREIGN.

Appendix 1.3 : LOCAL / MUNICIPAL Contract Specification Entries		
Attribute	**Enumerated List**	**Value elaboration**
Contract Specification	StandardUSMunicipalFullFaithAndCredit	Matrix Transaction Type of STANDARD U.S. MUNICIPAL FULL FAITH AND CREDIT.
	StandardUSMunicipalGeneralFund	Matrix Transaction Type of STANDARD U.S. MUNICIPAL GENERAL FUND.
	StandardUSMunicipalRevenue	Matrix Transaction Type of STANDARD U.S. MUNICIPAL REVENUE.
	USMunicipalFullFaithAndCredit	Matrix Transaction Type of U.S. MUNICIPAL FULL FAITH AND CREDIT.
	USMunicipalGeneralFund	Matrix Transaction Type of U.S. MUNICIPAL GENERAL FUND.
	USMunicipalRevenue	Matrix Transaction Type of U.S. MUNICIPAL REVENUE.