

Derivatives Service Bureau (UPI)
CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	J. Lim	27 Apr 2021	Initial Document
2	Draft	J. Lim	23 Jun 2021	Remove Underlying Contract Tenor Value/Unit, updated derivation section of Underlier Issuer Type
3	Draft	J. Lim	30 Jun 2021	Updated Validation message
4	Draft	J. Lim	21 Jul 2021	Updated attribute data dictionary and reference

Title	CREDIT OPTION Index Swaption Template Definition		
Background	<p>The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product:</p> <ul style="list-style-type: none"> Credit : Option : Index_Swaption <p>*This product is based on an underlying UPI Swap and will derive data elements from the provided UPI.</p>	DSB-ID	UPI-0226
		Type	New Template
		Owner	J.Lim
		Version	4
		State	Draft
Terms of Reference			
Scope	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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". 		

	<ul style="list-style-type: none"> The specification for UPI does not include expiry date as part of the attributes, hence "expired" status does not apply. 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 assumes that UPI Swaptions will be based on an underlying UPI Swap – and will NOT be extended to support an ISIN underlier.
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Request Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	ORIGIN
Header Section	Asset Class	Set	M	Credit		CFI:2015 Char#2	ISIN
	Instrument Type	Set	M	Option		CFI 2015 Char#1	ISIN
	Product	Set	M	Index_Swap			ISIN
	Level	Set	M	UPI			NEW
Attribute Section	Underlier ID	Enum	M	QZ2093KD9L25	See CRF (Validation)	UPI RDL	NEW
	Underlier ID Source	String	M	UPI	[UPI]	internal	NEW
	Option Type	Enum	M	CALL	[CALL; PUTO; OPTL]	ISO 20022	ISIN
	Option Exercise Style	Enum	M	EURO	[AMER; BERM; EURO]	ISO 20022	ISIN
	Valuation Method or Trigger	Enum	M	Vanilla	[Vanilla; Asian; Barrier; Lookback etc.]	CFI:2015 Char#5 (HC****)	ISIN
	Delivery Type	Enum	M	PHYS	[CASH; PHYS; OPTL]	ISO 20022	ISIN

Record Template Layout

Section	Attribute	Format	Cat	Example Value	Validation / Derivation	Enum Source	ORIGIN
Header Section	Asset Class	Set	M	Credit		CFI:2015 Char#2	ISIN
	Instrument Type	Set	M	Option		CFI 2015 Char#1	ISIN
	Product	Set	M	Index_Swap			ISIN
	Level	Set	M	UPI			NEW
	Template Version	Integer	D	1			ISIN
Attribute Section	Underlying Instrument UPI	Enum	M	QZ2093KD9L25	See CRF (Validation)	UPI RDL	NEW
	Option Type	Enum	M	CALL	[CALL; PUTO; OPTL]	ISO 20022	ISIN
	Option Exercise Style	Enum	M	EURO	[AMER; BERM; EURO]	ISO 20022	ISIN
	Valuation Method or Trigger	Enum	M	Vanilla	[Vanilla; Asian; Barrier; Lookback etc.]	CFI:2015 Char#5 (HC****)	ISIN
	Delivery Type	Enum	M	PHYS	[CASH; PHYS; OPTL]	ISO 20022	ISIN
Identifier Section	UPI	String	D	QZGL4L9WT556	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	DdTh	D	2021-02-23T00:00:13	YYYY-MM-DDThh:mm:ss		ISIN
Derived Section	Classification Type	String	D	HCIAMP	See CRF (Derivations)	ISO 10962:2015	ISIN
	Short Name	String	D	NA/CDS Idx Swt	See CRF (Derivations)	ISO 18774: 2015	NEW
	Underlying Asset Type	String	D	CDS on Index	See CRF (Derivations)	CFI:2015 Char#3 (HC****)	ISIN
	Underlying Issuer Type	String	D	Corporate	See CRF (Derivations)	UPI RDL	NEW
	CFI Option Style and Type	String	D	European-Call	See CRF (Derivations)	CFI:2015 Char#4 (HC****)	NEW
	CFI Delivery Type	String	D	Physical	See CRF (Derivations)	CFI:2015 Char#6 (HC****)	NEW

Product Definition	
Attributes	See Template Layout (above).
Validation	<ol style="list-style-type: none"> Underlier ID [UPI] <ol style="list-style-type: none"> The following validation will be applied to Underlier ID and must be a valid UPI RDL record: <ul style="list-style-type: none"> UPI 12 characters (prefix "QZ", 9 alphanumeric, 1 alphanumeric check character) UPI Code structure based on UPI 4914 (UPI) specification If input UPI has more than 12 characters or does not have prefix of "QZ", an error message will apply before it proceeds to create "Value must match the pattern ^QZ{[0-9BCDFGHJ-NPQ-TVWXZ]}{10}\$". Underlying Instrument UPI in the record <ol style="list-style-type: none"> User inputs underlier ID and must be a valid UPI RDL record If input underlier ID does not exist in UPI RDL, an error message will apply: "Error: Underlier ID [UPI] not found". Underlying Instrument UPI data attributes <ol style="list-style-type: none"> The following validation will be applied to Underlying Instrument UPI record returned from the UPI RDL. <ul style="list-style-type: none"> Asset Class "Credit" Instrument Type "Swap"

	<ul style="list-style-type: none"> Product "Index" or "Index_Tranche" or "Non-Standard" or "Total_Return_Swap" Underlying Asset Type: "Index" or "Index Tranche" Status not = "Deleted" If the above validation rules are not satisfied, an error message will apply: "Error: Underlier ID [UPI] must be a valid and existing Credit Swap". 																					
Normalization	Not Required.																					
Attribute Data Dictionary	<p>This section provides the exact reference or source of the attribute.</p> <table border="1" data-bbox="343 481 1492 1265"> <thead> <tr> <th data-bbox="343 481 726 533">Full Name</th> <th data-bbox="726 481 1109 533">Source</th> <th data-bbox="1109 481 1492 533">Type</th> </tr> </thead> <tbody> <tr> <td data-bbox="343 533 726 645">Delivery Type</td> <td data-bbox="726 533 1109 645">ISO 20022 FinancialInstrumentReportingReferenceDataReportV01</td> <td data-bbox="1109 533 1492 645">Enums [CASH; PHYS; OPTL]</td> </tr> <tr> <td data-bbox="343 645 726 728">CFI Delivery Type</td> <td data-bbox="726 645 1109 728">ISO 10962 Classification of financial instruments (CFI code)</td> <td data-bbox="1109 645 1492 728">Enums [Cash; Physical; Elect at Exercise]</td> </tr> <tr> <td data-bbox="343 728 726 840">Option Exercise Style</td> <td data-bbox="726 728 1109 840">ISO 20022 FinancialInstrumentReportingReferenceDataReportV01</td> <td data-bbox="1109 728 1492 840">Enums [AMER; BERM; EURO]</td> </tr> <tr> <td data-bbox="343 840 726 952">Option Type</td> <td data-bbox="726 840 1109 952">ISO 20022 FinancialInstrumentReportingReferenceDataReportV01</td> <td data-bbox="1109 840 1492 952">Enums [CALL; PUTO; OPTL]</td> </tr> <tr> <td data-bbox="343 952 726 1093">Valuation Method or Trigger</td> <td data-bbox="726 952 1109 1093">ISO 10962 Classification of financial instruments (CFI code)</td> <td data-bbox="1109 952 1492 1093">Enums [Vanilla; Asian; Digital (Binary); Barrier; Digital Barrier; Lookback; Other Path Dependent; Other]</td> </tr> <tr> <td data-bbox="343 1093 726 1265">Underlying Instrument UPI</td> <td data-bbox="726 1093 1109 1265">UPI RDL</td> <td data-bbox="1109 1093 1492 1265">Max of 12 text (pattern) [QZ] – firsts 2 characters [A-Z], [0-9] – Next 9 characters [A-Z], [0-9] – Last value based on UPI check calculation</td> </tr> </tbody> </table>	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; Elect at Exercise]	Option Exercise Style	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums [AMER; BERM; EURO]	Option Type	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums [CALL; PUTO; OPTL]	Valuation Method or Trigger	ISO 10962 Classification of financial instruments (CFI code)	Enums [Vanilla; Asian; Digital (Binary); Barrier; Digital Barrier; Lookback; Other Path Dependent; Other]	Underlying Instrument UPI	UPI RDL	Max of 12 text (pattern) [QZ] – firsts 2 characters [A-Z], [0-9] – Next 9 characters [A-Z], [0-9] – Last value based on UPI check calculation
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Derivation	<p>This section provides additional details to the derivation logic specified in the Template Layout sections (above).</p> <table border="1" data-bbox="343 1321 1492 2042"> <thead> <tr> <th data-bbox="343 1321 534 1377">Classification Type</th> <th data-bbox="534 1321 1492 2042">Concatenation of the following attributes/values:</th> </tr> </thead> <tbody> <tr> <td data-bbox="343 1377 534 2042"></td> <td data-bbox="534 1377 1492 2042"> <ul style="list-style-type: none"> Instrument Type: "H" Asset Class: "C" Underlying Asset Type: from Underlying ID (UPI Record) <ul style="list-style-type: none"> - Index → "I" - Index Tranche → "V" Option Type/Style from Request.OptionType and Request.OptionExerciseStyle <ul style="list-style-type: none"> - PUTO/AMER → "E" - PUTO/BERM → "F" - PUTO/EURO → "D" - CALL/AMER → "B" - CALL/BERM → "C" - CALL/EURO → "A" - OPTL/AMER → "H" - OPTL/BERM → "I" - OPTL/EURO → "G" Valuation Method or Trigger: from Request.ValuationMethodorTrigger <ul style="list-style-type: none"> - Vanilla → "V" - Asian → "A" - Digital (Binary) → "D" - Barrier → "B" - Digital Barrier → "G" - Lookback → "L" - Other Path Dependent → "P" </td> </tr> </tbody> </table>	Classification Type	Concatenation of the following attributes/values:		<ul style="list-style-type: none"> Instrument Type: "H" Asset Class: "C" Underlying Asset Type: from Underlying ID (UPI Record) <ul style="list-style-type: none"> - Index → "I" - Index Tranche → "V" Option Type/Style from Request.OptionType and Request.OptionExerciseStyle <ul style="list-style-type: none"> - PUTO/AMER → "E" - PUTO/BERM → "F" - PUTO/EURO → "D" - CALL/AMER → "B" - CALL/BERM → "C" - CALL/EURO → "A" - OPTL/AMER → "H" - OPTL/BERM → "I" - OPTL/EURO → "G" Valuation Method or Trigger: from Request.ValuationMethodorTrigger <ul style="list-style-type: none"> - Vanilla → "V" - Asian → "A" - Digital (Binary) → "D" - Barrier → "B" - Digital Barrier → "G" - Lookback → "L" - Other Path Dependent → "P" 																	
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	<ul style="list-style-type: none"> - Other → "M" • Delivery Type: from Request.DeliveryType - CASH → "C" - PHYS → "P" - OPTL → "E" <p>E.g.: "HCIAVP"</p>		
Short Name	<p>Concatenation of the following attributes/values:</p> <ul style="list-style-type: none"> • Issuer Name: "NA/" • Underlying product: "CDS" (fixed value) • Product: "Idx Swt" (fixed value) <p>E.g.: "NA/CDS Idx Swt"</p> <p><i>Note: The Short Name is based on the OTC ISIN that excludes the following fields:</i></p> <ul style="list-style-type: none"> • Notional Currency • Expiry Date 		
Underlying Asset Type	<p>Derived from the Underlying Asset Type of the Underlying ID (UPI Record).</p> <ul style="list-style-type: none"> • Index → "CDS on Index" • Index Tranche → "CDS on Index Tranche" 		
Underlying Issuer Type	<p>Based on the Underlying Instrument UPI selected, the following derivations will apply:</p> <p>a. If the Underlying Instrument UPI selected is [Index, Index_Tranche or Non_Standard],</p> <ul style="list-style-type: none"> • Then derive the Underlying Issuer Type from Attributes.UnderlyingIssuerType (of the Underlying Instrument UPI): <ul style="list-style-type: none"> ○ Corporate → "Corporate" ○ Sovereign → "Sovereign" ○ Local → "Local" <p>b. If the Underlying Instrument UPI selected is [Total_Return_Swap],</p> <ul style="list-style-type: none"> • Then set the Underlying Issuer Type to "Corporate". 		
CFI Option Style and Type	<p>Derived from the Underlying Request.OptionType and Request.OptionExerciseStyle</p> <ul style="list-style-type: none"> • PUTO/AMER → "American-Put" • PUTO/BERM → "Bermudan-Put" • PUTO/EURO → "European-Put" • CALL/AMER → "American-Call" • CALL/BERM → "Bermudan-Call" • CALL/EURO → "European-Call" • OPTL/AMER → "American-Chooser" • OPTL/BERM → "Bermudan-Chooser" • OPTL/EURO → "European-Chooser" 		
CFI Delivery Type	<p>Derived from the input Delivery Type...</p> <ul style="list-style-type: none"> • CASH → "Cash" • PHYS → "Physical" • OPTL → "Elect at Exercise" 		
GUI Details	<p>The following section provides display information for any attributes (and values) that are not included in the related OTC ISIN definition.</p>		
	Attribute	Display Name	
	Tool Tip (and • value elaboration)		
	Underlier ID	Underlier ID	An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index
	Underlier ID Source	Underlier ID Source	The origin, or publisher, of the associated underlier ID.
	UPI	Identification	Unique Product Identifier (ISO 4914).
CFI Option Style and Type	CFI Option Style and Type	The Option Style and Type as defined by CFI code: ISO 10962 <ul style="list-style-type: none"> • As defined by CFI Code: ISO 10962 	

	CFI Delivery Type	CFI Delivery Type	The Delivery Type as defined by CFI code: ISO 10962 • As defined by CFI Code: ISO 10962	
Additional Information				
Reference	References to external documents can be found on the DSB website at this address [https://www.anna-dsb.com/upi-external-reference-documents/].			
Comments	<ul style="list-style-type: none"> Text values in the Short Name are taken from "ISO Abbrev w acronyms-Final_v0.5.5.FINAL." 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. Underlying contract tenor term value/unit are not included in the current DSB OTC ISIN. In UPI, as part of ISO 4914 standard, the attributes are part of the requirement if the underlying is derivative contract underlying another derivative. 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]. 			
ISO 4914 Equivalence	ISO 4914		Request Attribute	Record Attribute
	Asset Class	M	Asset Class	Asset Class
	Instrument Type	M	Instrument Type	Instrument Type
	Delivery Type	M	Delivery Type	Delivery Type
				CFI Delivery Type
	Option Style	M	Option Exercise Style	Option Exercise Style
	Option Type	M	Option Type	Option Type
	Return, pricing method or payout trigger	M	Valuation Method or Trigger	Valuation Method or Trigger
	Seniority*	M	Not Required	
	Standard Contract Specification**	C	Not Required	
	Underlier ID	C	Underlier ID	Underlying Instrument ISIN
	Underlier ID Source	C	Underlier ID Source	Not Required
	Underlier Type	M	Not Required	Underlying Asset Type
	Underlier sub-type (first level)	M	Not Required	Underlying Issuer Type
	Underlying Credit Index Series***	C	Not Required	
	Underlying Credit Index Version***	C	Not Required	
	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	

* Seniority applies only if the underlying is either a Legal Entity or Debt Instrument. For this product, the underlying is another derivative contract in the UPI record and so this attribute is not required.

**Standard Contract Specification does not apply for this product, refer to comments section above.

*** Underlying Credit Index Series/Version applies only to an underlying Credit Index. For this product, the underlying is another derivative contract in the UPI record and so these attributes are not required.

****The PC agreed that Underlying contract tenor period/multiplier are not required for swaption underlying another derivative contract.

*****Dependent on ISO review and approval for the inclusion of Underlying Debt Issuance Tenor Period/Multiplier as ISO 4914 (UPI) Conditional attributes.