

Derivatives Service Bureau (UPI)
CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	J. Lim	14 Apr 2021	Initial Document
2	Draft	J. Lim	25 May 2021	Update Validation for LEI and ISIN
3	Draft	J. Lim	31 May 2021	Update error message for LEI and ISIN validation
4	Draft	J. Lim	14 Jun 2021	Update error message for ISIN validation
5	Draft	J. Lim	21 Jul 2021	Updated template layout, attribute section, attribute data dictionary, GUI details and reference

Title	Credit SWAP Municipal 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 : Swap : Municipal 	DSB-ID	UPI-0169
		Type	New Template
		Owner	J.Lim
		Version	5
		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. 		

	<ul style="list-style-type: none"> 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 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.
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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	Swap		CFI 2015 Char#1	ISIN
	Product	Set	M	Municipal			ISIN
	Level	Set	M	UPI			NEW
Attribute Section	Underlier Type (oneOf)	String	M	Fixed Income Security	[Fixed Income Security]		NEW
	Underlier ID Source	Enum	M	ISIN	[ISIN]	Internal	NEW
	Underlier ID	String	M	US677520XZ65	See CRF (Validation)		NEW
	Underlier Type (oneOf)	String	M	Legal Entity	[Legal Entity]		NEW
	Underlier ID Source	Enum	M	LEI	[LEI]	Internal	NEW
	Underlier ID	String	M	39120071DMHXS09CI766	See CRF (Validation)		NEW
	Debt Seniority	Enum	M	SNDB	[SNDB, MZZD, SBOD, JUND]		ISIN
	Contract Specification	Enum	M	USMunicipalGeneralFund	FpML Matrix Term Scheme (5.130)	FpML 1.118	NEW
	Delivery Type	Enum	M	OPTL	[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	Swap		CFI 2015 Char#1	ISIN
	Product	Set	M	Municipal			ISIN
	Level	Set	M	UPI			NEW
	Template Version	Integer	D	1			ISIN
Attribute Section	Instrument LEI	String	C	39120071DMHXS09CI766	See CRF (Validations)		ISIN
	Instrument ISIN	Enum	C	US677520XZ65	See CRF (Validations)		ISIN
	Debt Seniority	Enum	M	SNDB	[SNDB, MZZD, SBOD, JUND]	ISO 20022	ISIN
	Contract Specification	Enum	C	USMunicipalGeneralFund	FpML Matrix Term Scheme (5.130)	FpML 1.118	NEW
	Delivery Type	Enum	M	OPTL	[CASH, PHYS, OPTL]	ISO 20022	ISIN
Identifier Section	Identifier	String	D	QZ209384GK91	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	DtTm	D	2020-11-30T00:00:13	YYYY-MM-DDThh:mm:ss		ISIN
Derived Section	Classification Type	String	D	SCUCLA	See CRF (Derivations)	ISO 10962:2015	ISIN
	Short Name	String	D	NA/CDS Mun SN Sr	See CRF (Derivations)	ISO 18874	NEW
	Underlying Asset type	String	D	Single Name	Fixed value	CFI:2015 Char#3 (SCU***)	ISIN
	Return or Payout Trigger	String	D	Credit Default	Fixed value	CFI:2015 Char#4 (SC*C**)	ISIN
	Underlying Issuer Type	String	D	Local	Fixed value	CFI:2015 Char#5 (SC*L*)	ISIN
	CFI Delivery Type	String	D	Auction	See CRF (Derivations)	CFI:2015 Char#6 (SC****)	NEW

Product Definition	
Attributes	<p>See Template Layout (above).</p> <p>a) 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:</p> <ul style="list-style-type: none"> Fixed Income Security Legal Entity <p>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.</p> <p><i>* Please see Underlier Input Method Document (see Reference Section below) for further details.</i></p>
Validation	<p>See Request Template Layout (above).</p> <p>1. Underlier ID The following validation will be applied to Underlier ID based on the value selected on Underlier ID Source [LEI, ISIN].</p> <p>a. LEI</p> <ul style="list-style-type: none"> The input text by user must be in 20 characters (18 alphanumeric, 2 numeric). A syntactic validation is being performed to confirm LEI.

	<ul style="list-style-type: none"> 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 <code>^[A-Z0-9]{18}[0-9]{2}\$</code>". 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)". <p>b. ISIN</p> <ul style="list-style-type: none"> 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 <code>^(?!EZ QZ)[A-Z]{2}[A-Z0-9]{9}[0-9]\$</code>". If the input ISIN is not aligned with the above pattern after hitting create an error message will apply "If 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". 																					
<p>Attribute Data Dictionary</p>	<p>This section provides the exact reference or source of the attribute.</p> <table border="1" data-bbox="341 757 1485 1547"> <thead> <tr> <th>Full Name</th> <th>Source</th> <th>Type</th> </tr> </thead> <tbody> <tr> <td>Delivery Type</td> <td>ISO 20022 FinancialInstrumentReportingReferenceDataReportV01</td> <td>Enums [CASH; PHYS; OPTL]</td> </tr> <tr> <td>CFI Delivery Type</td> <td>ISO 10962 Classification of financial instruments (CFI code)</td> <td>Enums [Cash; Physical; Auction]</td> </tr> <tr> <td>Debt Seniority</td> <td>ISO 20022 FinancialInstrumentReportingReferenceDataReportV01</td> <td>Enums [SNDB, MZZD, SBOD, JUND]</td> </tr> <tr> <td>Contract Specification</td> <td>FpML Coding Schemes 19 February 2021 *Only the Municipal entries on this list will apply.</td> <td>Enums [Please see Appendix below.]</td> </tr> <tr> <td>Instrument LEI</td> <td>ISO 17442 LEI Codes</td> <td>Max of 20 text (pattern) Char 1-4: LOU Identifier Char 5-18: Entity Identifier Char 19-20: Verification ID</td> </tr> <tr> <td>Instrument ISIN</td> <td>Not Available</td> <td>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</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; Auction]	Debt Seniority	ISO 20022 FinancialInstrumentReportingReferenceDataReportV01	Enums [SNDB, MZZD, SBOD, JUND]	Contract Specification	FpML Coding Schemes 19 February 2021 *Only the Municipal entries on this list will apply.	Enums [Please see Appendix below.]	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	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
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<p>Short Name</p>	<p>Concatenation of the following attributes/values:</p> <ul style="list-style-type: none"> • Issuer Name: "NA/" • Instrument Type: "CDS" (fixed value) • Underlying Issuer Type: "Mun" (fixed value) • Underlying Asset Type: "SN" (fixed value) • Debt Seniority: from Request.DebtSeniority... <ul style="list-style-type: none"> - SNDB → Sr - MZZD → Mz - SBOD → Sub - JUND → Jr <p>E.g.: "NA/CDS Mun SN Sr"</p> <p>Note: The Short Name is based on the OTC ISIN that excludes the following fields:</p> <ul style="list-style-type: none"> • Notional Currency • Expiry Date 																				
<p>CFI Delivery Type</p>	<p>Derived from the input Delivery Type...</p> <ul style="list-style-type: none"> • CASH → "Cash" • PHYS → "Physical" • OPTL → "Auction" 																				
<p>GUI Details</p>	<p>The following section provides display information for any attributes (and values) that are not included in the related OTC ISIN definition.</p> <table border="1" data-bbox="343 837 1495 1272"> <thead> <tr> <th>Attribute</th> <th>Display Name</th> <th>Tool Tip (and • value elaboration)</th> </tr> </thead> <tbody> <tr> <td>Underlier Type</td> <td>Underlier Type</td> <td>Indicates the type of underlying asset or entity on which the product is based.</td> </tr> <tr> <td>Underlier ID</td> <td>Underlier ID</td> <td>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</td> </tr> <tr> <td>Underlier ID Source</td> <td>Underlier ID Source</td> <td>The origin, or publisher, of the associated underlier ID.</td> </tr> <tr> <td>UPI</td> <td>Identification</td> <td>Unique Product Identifier (ISO 4914).</td> </tr> <tr> <td>CFI Delivery Type</td> <td>CFI Delivery Type</td> <td>The Delivery Type as defined by CFI code: ISO 10962 <ul style="list-style-type: none"> • As defined by CFI Code: ISO 10962 </td> </tr> </tbody> </table>			Attribute	Display Name	Tool Tip (and • value elaboration)	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.	UPI	Identification	Unique Product Identifier (ISO 4914).	CFI Delivery Type	CFI Delivery Type	The Delivery Type as defined by CFI code: ISO 10962 <ul style="list-style-type: none"> • As defined by CFI Code: ISO 10962
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<p>Additional Information</p>																					
<p>Reference</p>	<p>References to external documents can be found on the DSB website at this address [https://www.anna-dsb.com/upi-external-reference-documents/].</p>																				
<p>Comments</p>	<ul style="list-style-type: none"> • Text values in the Short Name are taken from "ISO Abbrev w acronyms-Final_v0.5.5.FINAL." • Currently the system does not hold reference data to support the validation of the LEI or ISIN. This means that it is not possible to validate the existence or classification of the Underlier ID. In addition, this means that human-readable alias is not currently supported for inclusion in the Short Name attribute. • The 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 																				
<p>ISO 4914 Equivalence</p>	<p>ISO 4914</p>	<p>Request Attribute</p>	<p>Record Attribute</p>																		
	<p>Asset Class</p>	<p>M</p>	<p>Asset Class</p>																		
	<p>Instrument Type</p>	<p>M</p>	<p>Instrument Type</p>																		
			<p>Delivery Type</p>																		

Delivery Type	M	Delivery Type	CFI Delivery Type
Return, pricing method or payout trigger	M	Not Required	Return or Payout Trigger
Seniority	M	Debt Seniority	Debt Seniority
Standard Contract Specification	C	Contract Specification	Contract Specification
Underlier ID	C	Underlier ID	Instrument LEI
			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 Debt Issuance Tenor Period**	C	Not Required	
Underlying Debt Issuance Tenor Period Multiplier**	C	Not Required	

*Underlying Credit Index Series/Version applies only to an underlying Credit Index. For this product, the underlying is either a Legal Entity or Debt Instrument 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

Below is the limited set of enumerations based on FpML Matrix Term Scheme (5.130) that is filtered only to support the Municipal entries on this list:

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.