Derivatives Service Bureau

Credit : Swap : Total_Return_Swap

UPI Product Definition

Version 3

Date	Status	Version	Revision Details
09 Aug 2022	Draft	1	Initial Version
06 Feb 2023	Draft	2	• Update example values in the Request and Record templates layout • Insert Underlier Name attribute and Derivation rules
30 Aug 2023	Draft	3	• Remove “Classified as Confidential” in the Footer section. • Remove “RIC” as Alternate Underlier ID Source. • Update Associated Documentation to include Best Practice Guidelines and FAQs. • Update Best Practice Guidelines to include the link to Best Practice Guidelines and FAQs

TABLE OF CONTENTS

1 INTRODUCTION

This document is designed to act as a manual for users to interpret the Product Definitions in the DSB UPI Service.

This document provides the user with the detailed description of the UPI Product Definition content such as attribute enumerations, validation, normalization, and derivation where applicable.

1.1 Associated Documentation

Each UPI Product Definition template links to reference documents where values will be maintained for the sake of consistency and ease of access e.g., Enumerations, Data Dictionary, Validation and Normalizations, etc.

These documents are made available for references as follows:

- UPI Enumerations Document can be found in the Enumerations section on the DSB website.
- UPI Product Definition Data Dictionary can be found in the Other Documents section on the DSB website.
- UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the DSB website.
- UPI Underlier Input Method can be found in the Other Documents section on the DSB website.
- Best Practice Guidelines and FAQs can be found in the Other Documents section on the DSB website.
- Links to the relevant JSON templates can be found in the GitHub Environment Section on the DSB website.

2 PRODUCT TAXONOMY

2.1 CFI Taxonomy

Source: ISO 10962 (CFI Code) – Third edition 2015-07-15

Attr #	Title	Values	Name	Description
	Instrument (Category)	**S**	Swap	
	Asset Class (Group)	**C**	Credit	
Attr #1	**Underlying Assets**	**I**	Index	Family of standardized credit derivative indices, where the underlying reference entities are a defined basket of credit from a particular geographic region (for instance, Asia, North America, Europe, etc.), and/or credit rating level (for instance Emerging Markets, high yield, investment grade, etc.); credit default indices trade in standard maturities, and the reference entities are typically the most liquid; the reference portfolio is reassessed periodically to maintain this
		U	Single Name	The underlying risk is a single reference entity or reference obligation
Attr #2	**Return or payout trigger**	**T**	Total Return	Total Return
Attr #3	**Underlying Issuer Type**	**C**	Corporate	The underlying exposure is a corporate (a private sector entity)
Attr #4	**Delivery Type**	**C**	Cash	Cash
		P	Physical	Physical
		A	Auction	An independently administered synthetic auction process on a set of defined deliverable obligations that sets a reference final price that can be used to facilitate cash settlement of all covered transactions following a credit event

2.2 ISDA Taxonomy

The table below is based on the products identified as part of the ISDA 2.0 taxonomy.

Asset Class	Base Product	Sub-Product	Transaction Type	DSB Product Definition Name
Credit	Total Return Swap			Total Return Swap

3 REQUEST TEMPLATE

This section describes the input message received by UPI service.

Template name	Template details	Release
Request.Credit.Swap.Total_Return_Swap.UPI.json	Initial version	Initial

Section	Attribute	Format	Cat	Example Value	Validation
Header Section	Asset Class	Set	M	Credit	
	Instrument Type	Set	M	Swap	
	Product	Set	M	Total_Return_Swap	
	Level	Set	M	UPI	
Attribute Section	**Underlier Type (oneOf)**	Object	(M)	Fixed Income Security	
	Underlier ID Source	Enum	(M)	ISIN	[ISIN, FIGI, CUSIP, SEDOL]
	Underlier ID	String	(M)	US92857WBQ24	Syntactic Validation
	Debt Seniority	Enum	(M)	SNDB	[SNDB, MZZD, SBOD, JUND]
	Underlier Type (oneOf)	Object	(M)	Legal Entity	
	Underlier ID Source	Enum	(M)	LEI	[LEI]
	Underlier ID	String	(M)	INR2EJN1ERAN0W5ZP974	Syntactic Validation
	Debt Seniority	Enum	(M)	SNDB	[SNDB, MZZD, SBOD, JUND]
	Underlier Type (oneOf)	Object	(M)	Credit Index	
	Underlier ID Source	Enum	(M)	CRIDX	[CRIDX]
	Underlier ID	Enum	(M)	ITRAXX EUROPE	Enumerated List
	Underlying Instrument Index Term Value	Integer	(M)	12	See Validation Rules
	Underlying Instrument Index Term Unit	Enum	(M)	MNTH	[DAYS, WEEK, MNTH, YEAR]
	Underlying Credit Index Series	Integer	(M)	5	See Validation Rules
	Underlying Credit Index Version	Integer	(M)	10	See Validation Rules
	Underlier Type (oneOf)	Object	(M)	Proprietary Index	
	Underlier ID Source	Enum	(M)	PROP	[PROP]
	Underlier ID	String	(M)	11339-MLSREISU	DSB Proprietary Index Enumeration
	Underlying Instrument Index Term Value	Integer	(M)	0	See Validation Rules
	Underlying Instrument Index Term Unit	Enum	(M)	DAYS	See Validation Rules
	Underlying Credit Index Series	Integer	(M)	0	See Validation Rules
	Underlying Credit Index Version	Integer	(M)	0	See Validation Rules
	Delivery Type	Enum	M	CASH	[CASH, PHYS, OPTL]

3.1 Underlier Input Method

In order to support products that are based on more than one type of underlier, the Underlier Type selection allows users to choose the type of underlier for the product.

Title	Description
Select Underlier Type	User is able to select a single required Underlier Type from the available options. • Fixed Income Security • Legal Entity • Credit Index • Proprietary Index
Select Underlier ID Source	User is able to select a single required Underlier ID Source from the available options based on the selected Underlier Type. • Fixed Income Security [ISIN, FIGI, CUSIP, SEDOL] • Legal Entity [LEI] • Credit Index [CRIDX] • Proprietary Index [PROP]
Input Underlier ID	User enters a valid Underlier ID based on the selected Underlier ID Source.

3.2 Validation Rules

For non-specific product validation rules, please refer to UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the DSB website.

3.2.1 Underlying Instrument Index Term Value / Term Unit

If the Underlier ID selected is PROP, the following validation will apply:

- Underlying Instrument Index Term Value / Term Unit will be present in the REQUEST and RECORD messages.
- Underlying Instrument Index Term Value / Term Unit will have a constant value of "0 DAYS".

3.2.2 Underlying Credit Index Series / Index Version

If the Underlier ID selected is PROP, the following validation will apply:

- Underlying Credit Index Series / Index Version will be present in the REQUEST and RECORD messages.
- Underlying Credit Index Series / Index Version will have a constant value of "0".

4 RECORD TEMPLATE

This section describes the record returned by the UPI service.

Version	Template name	Template details	Release
V.1	**Credit.Swap.Total_Return_Swap.UPI.V1.json**	Initial version	Initial

Section	Attribute	Format	Cat	Example Value	Derivation
Header Section	Asset Class	Set	M	Credit	
	Instrument Type	Set	M	Swap	
	Product	Set	M	Total_Return_Swap	
	Level	Set	M	UPI	
	Template Version	Integer	D	1	
Attribute Section	Underlying Instrument ISIN	String	C	US92857WBQ24	See Validation Rules
	Underlying Instrument LEI	String	C	INR2EJN1ERAN0W5ZP974	See Validation Rules
	Underlying Instrument Index	Enum	C	ITRAXX EUROPE	Enumerated List
	Underlying Instrument Index Prop	String	C	11339-MLSREISU	See Validation Rules
	Underlying Instrument Index Term Value	Integer	C	1	See Validation Rules
	Underlying Instrument Index Term Unit	Enum	C	YEAR	[DAYS, WEEK, MNTH, YEAR]
	Underlying Credit Index Series	Integer	C	5	See Validation Rules
	Underlying Credit Index Version	Integer	C	10	See Validation Rules
	Debt Seniority	Enum	C	SNDB	[SNDB, MZZD, SBOD, JUND]
	Delivery Type	Enum	M	CASH	[CASH, PHYS, OPTL]
Identifier Section	UPI	String	D	QZXBMR5NL326	
	Status	String	D	New	[New; Updated; Deleted; Deprecated]
	Status Reason	String	D	<null>	
	Last Update Date Time	DtTm	D	2021-04-23T04:20:45	YYYY-MM-DDThh:mm:ss
Derived Section	Classification Type	String	D	SCITCC	See Derivation Rules
	Short Name	String	D	NA/CDS Corp Idx	See Derivation Rules
	Underlier Name	String	D	ITRAXX EUROPE	See Derivation Rules
	Underlying Asset type	String	D	Index	See Derivation Rules
	Return or Payout Trigger	String	D	Total Return	Fixed value
	Underlying Issuer Type	String	D	Corporate	Fixed value
	CFI Delivery Type	String	D	[Cash, Physical, Auction]	See Derivation Rules

4.1 Normalization Rules

For non-specific product normalization rules, please refer to UPI Product Definition Validations and Normalizations Document can be found in the Other Documents section on the DSB website.

4.2 Derivation Rules

This section describes the derivations of product attributes highlighted in the Record Template.

4.2.1 Classification Type

Attribute	Classification Type		
Structure	Instrument Type + Asset Class + Underlying Asset Type + Return or Payout Trigger + Underlying Issuer Type + Delivery Type		
Example	SCITCC		
Source	ISO 10962 (CFI) – Third edition 2015-07-15		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Instrument Type	Swap	Fixed Mapping	S
Asset Class	Credit	Fixed Mapping	C
Underlying Asset Type*	Index	Mapped to =>	I
	Single Name	Mapped to =>	U
Return or Payout Trigger	Total Return	Fixed Mapping	T
Underlying Issuer Type	Corporate	Fixed Mapping	C
Delivery Type	CASH	Mapped to =>	C
	PHYS	Mapped to =>	P
	OPTL	Mapped to =>	A

**Underlying Asset Type will be based on the Underlier ID Source selected:*

- *If Underlier ID Source selected is ISIN, FIGI, CUSIP, SEDOL or LEI, Underlying Asset Type = "Single Name"*
- *If Underlier ID Source selected is CRIDX or PROP, Underlying Asset Type = "Index"*

4.2.2 Short Name

Attribute	Short Name		
Structure	"NA" + "/" + Instrument Type + Underlying Issuer Type + Underlying Asset Type		
Example	NA/CDS Corp Idx		
Source	ISO 18774 (Financial Instrument Short Name) - First edition 2015-11		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Issuer Name	None	Fixed Value	NA/
Instrument Type	Swap	Fixed Abbreviation	CDS
Underlying Issuer Type	Corporate	Fixed Abbreviation	Corp
Underlying Asset Type	Index	Mapped to =>	Idx
	Single Name	Mapped to =>	SN

4.2.3 Underlier Name

Based on the Underlier Type selected, the following Underlier Name derivation rules will apply:

Attribute	Underlier Name			
Underlying Asset	**Underlier Name Source**	**Underlier Name Source Attribute**		**Underlier Name**
Underlying ID with Underlying ID Source [ISIN]	ISIN Reference Data	longName of Underlying Instrument ISIN	ISIN is found in ISIN Reference Data.	VODAFONE GROUP PLC
			ISIN is found in ISIN Reference Data, but its description is missing.	No name available
			ISIN is not found in ISIN Reference Data.	No name obtainable
Underlying ID with Underlying ID Source [LEI]	LEI Reference Data	The name of the legal entity	LEI is found in LEI Reference Data.	MICROSOFT CORPORATION
			LEI is found in LEI Reference Data, but its legal name is missing.	No name available
			LEI is not found in LEI Reference Data.	No name obtainable
Underlying ID with Underlying ID Source [CRIDX]	UPI record	Underlying Instrument Index		ITRAXX EUROPE
Underlying ID with Underlying ID Source [PROP]	UPI record	Underlying Instrument Index Prop		11339-MLSREISU

4.2.4 CFI Delivery Type

Attribute	CFI Delivery Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Delivery Type	CASH	Mapped to =>	Cash
	PHYS	Mapped to =>	Physical
	OPTL	Mapped to =>	Auction

5 Supplementary Information

5.1 Best Practice Guidelines

Please refer to Best Practice Guidelines and FAQs that can be found in the Other Documents section on the DSB website.

5.2 Additional Comments

- The Contract Specification attribute only applies to Credit.Swap.Corporate; Credit.Swap.Municipal; Credit.Swap.Sovereign and Credit.Swap.Non_Standard. It does not apply to Credit.Swap.Loan; Credit.Swap.ABS; Credit.Swap.Index; Credit.Swap.Index_Tranche and Credit.Swap.Total_Return_Swap.

- Underlying Instrument Index Term Value and Term Unit has a constant value of “0 DAYS” if Underlier ID Source selected is PROP.

- Underlying Credit Index Series and Index Version has a constant value of “0” if Underlier ID Source selected is PROP.

6 APPENDIX 1 – ISO 4914 EQUIVALENCE

This section describes the attributes as per the ISO 4914 Unique Product Identifier (UPI).

ISO 4914 Reference Data Elements		Request Attribute	Record Attribute
Asset Class	M	Asset Class	Asset Class
Instrument Type	M	Instrument Type	Instrument Type
Delivery Type	M	Delivery Type	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	Not Required	
Underlier ID	C	Underlier ID	Underlying Instrument ISIN
			Underlying Instrument LEI
			Underlying Instrument Index
			Underlying Instrument Index Prop
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	Underlying Credit Index Series	Underlying Credit Index Series
Underlying Credit Index Version***	C	Underlying Credit Index Version	Underlying Credit Index Version

*Seniority applies only if the underlying is a Legal Entity or a Fixed Income Security.

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

***Underlying Credit Index Series and Index Version applies only if the underlying is a Credit Index or a Proprietary Index.

7 APPENDIX 2 - OTC ISIN-UPI MAPPING

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

One Of	ISIN Input Attributes	Mapping Logic	UPI Input Attributes	Sample UPI Value	Comments
	Asset Class	Direct Map	Asset Class	Credit	
	Instrument Type	Direct Map	Instrument Type	Swap	
	Use Case	Direct Map	Product	Total_Return_Swap	
	Level	Set to "UPI"	Level	UPI	
	Notional Currency	No Mapping			
	Expiry Date	No Mapping			
A	Underlying Instrument ISIN	Set to "Fixed Income Security"	Underlier Type	Fixed Income Security	"One Of" Underlier Type
		Map to	Underlier ID	US92857WBQ24	
		Set to "ISIN, FIGI, CUSIP, SEDOL"	Underlier ID Source	ISIN	
	Debt Seniority	Direct Map	Debt Seniority	SNDB	
B	Underlying Instrument LEI	Set to "Legal Entity"	Underlier Type	Legal Entity	"One Of" Underlier Type
		Map to	Underlier ID	INR2EJN1ERAN0W5ZP974	
		Set to "LEI"	Underlier ID Source	LEI	
	Debt Seniority	Direct Map	Debt Seniority	SNDB	
C	Underlying Instrument Index	Set to "Credit Index"	Underlier Type	Credit Index	"One Of" Underlier Type
		Map to	Underlier ID	ITRAXX EUROPE	
		Set to "CRIDX"	Underlier ID Source	CRIDX	
	Underlying Instrument Index Term Value	Direct Map	Underlying Instrument Index Term Value	12	
	Underlying Instrument Index Term Unit	Direct Map	Underlying Instrument Index Term Unit	MNTH	
	Underlying Credit Index Series	Direct Map	Underlying Credit Index Series	5	
	Underlying Credit Index Version	Direct Map	Underlying Credit Index Version	10	
D	Underlying Instrument Index Prop	Set to "Proprietary Index"	Underlier Type	Proprietary Index	"One Of" Underlier Type
		Map to	Underlier ID	11339-MLSREISU	
		Set to "PROP"	Underlier ID Source	PROP	
	Underlying Instrument Index Term Value	Direct Map	Underlying Instrument Index Term Value	0	
	Underlying Instrument Index Term Unit	Direct Map	Underlying Instrument Index Term Unit	DAYS	
	Underlying Credit Index Series	Direct Map	Underlying Credit Index Series	0	
	Underlying Credit Index Version	Direct Map	Underlying Credit Index Version	0	
	Delivery Type	Direct Map	Delivery Type	CASH	
	Price Multiplier	No Mapping			