Derivatives Service Bureau

Commodities : Swap : Multi_Exotic_Swap

UPI Product Definition

Version 3

Date	Status	Version	Revision Details
22 Aug 2022	Draft	1	Initial Version
01 Feb 2023	Draft	2	• Update example values in the Request and Record templates layout • Insert Underlier Name attribute and Derivation rules
07 Sep 2023	Draft	3	• Remove "Classified as Confidential" in the Footer section. • 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)	**T**	Commodities	
Attr #1	**Underlying Assets**	**J**	Energy	A swap that references an energy-related product, or a derivative of an energy-related product, including electricity, renewable energy, or any power/energy delivered through a utility network of provider; diesel fuel, fuel oil, gas oil, gasoline, heating oil, jet fuel, kerosene, natural gas, oil (Brent, Tapis, Dubai, WTI)
		K	Metals	A swap that references a precious or industrial metal, such as aluminium, copper, gold, lead, nickel, platinum, silver, tin, zinc
		A	Agriculture	Commodities which include forestry, fishing, livestock, grain, dairy, corn, cocoa, soybeans, sugar, coffee
		N	Environmental	Includes carbon-related, emission reduction, weather
		G	Freight	A swap in respect of which the specified commodity is a freight index route
		P	Polypropylene products	Polypropylene products
		S	Fertilizer	Ammonia, DAP (diammonium phosphate), potash, sulfur, urea, UAN (urea and ammonium nitrate)
		T	Paper	Containerboard, newsprint, pulp, recovered paper
		Q	Multi-commodity	A swap that references multiple commodity underlying types
		M	Others	Others (miscellaneous)
Attr #2	**Return or payout trigger**	**C**	Contract for Difference (CFD)	A cash settled total return swap or forward where the parties agree to exchange on the maturity of the contract the difference between the opening price and closing price of the underlying
		T	Total Return	The total economic return of an underlying asset is transferred from one party (total return buyer) to another (total return seller); total return seller takes on the risk of negative changes in market value of the reference asset, and pays any positive cash flow to the buyer such as coupon, capital gains or dividends of the reference asset
Attr #3	**Not applicable/undefined**	**X**	Not applicable/ undefined	Not applicable/undefined
Attr #4	**Delivery Type**	**C**	Cash	The discharge of an obligation by payment or receipt of a net cash amount instead of payment or delivery by both parties
		P	Physical	The meeting of a settlement obligation under a derivative contract through the receipt or delivery of the actual underlying instrument(s) instead of through cash settlement
		E	Elect at Settlement	Determined at the time of settlement

2.2   ISDA Taxonomy

The table below is based on the products identified as part of the ISDA Commodities Taxonomy v2.0.

Node 1 Asset Class	Node 2 Transaction Type	Node 3 Settlement Type*	Node 4 and/or Node 7 Commodity*
Commodity	Swap	Cash	Agricultural Products
		Physical	Composite Commodity Indices
			Energy
			Freight
			Metals
			Paper
			Plastic
			Composite Commodity Indices
			Other

There is no exact match in the ISDA Taxonomy 2.0 for this product template. The current taxonomy 2.0 only provides for Settlement values [Cash, Physical] and Node 4 and/or Node 7 Commodity values [Agricultural Products, Composite Commodity Indices, Energy, Freight, Metals, Paper, Plastic, Other]. This product template is a catch all for products that fall outside of these specified transaction types.

3 REQUEST TEMPLATE

This section describes the input message received by UPI service.

Template name	Template details	Release
Request.Commodities.Swap.Multi_Exotic_Swap.UPI.json	Initial version	Initial

Section	Attribute	Format	Cat	Example Value	Validation
Header Section	Asset Class	Set	M	Commodities	
	Instrument Type	Set	M	Swap	
	Product	Set	M	Multi_Exotic_Swap	
	Level	Set	M	UPI	
Attribute Section	Base Product	Enum	M	MCEX	[AGRI, NRGY, ENVR, FRGT, FRTL, etc.]
	Return or Payout Trigger	Enum	M	Contract for Difference (CFD)	[Contract for Difference (CFD), Total Return
	Delivery Type	Enum	M	CASH	[CASH, PHYS, OPTL]

3.1 Underlier Input Method

This product is assumed to be a "Basket" in all cases, hence in accordance with ISO 4914 (UPI), there is no need to define individual constituents within this template *(see Appendix 1 - ISO 4914 Equivalence)* and so Underlier Input Method does not apply for this product.

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.

4   RECORD TEMPLATE

This section describes the record returned by the UPI service.

Version	Template name	Template details	Release
V.1	**Commodities.Swap.Multi_Exotic_Swap.UPI.V1.json**	Initial version	Initial

Section	Attribute	Format	Cat	Example Value	Derivation
Header Section	Asset Class	Set	M	Commodities	
	Instrument Type	Set	M	Swap	
	Product	Set	M	Multi_Exotic_Swap	
	Level	Set	M	UPI	
	Template Version	Integer	D	1	
Attribute Section	Base Product	Enum	M	MCEX	[AGRI, NRGY, ENVR, FRGT, FRTL, etc.]
	Return or Payout Trigger	Enum	M	Contract for Difference (CFD)	[Contract for Difference (CFD), Total Return]
	Delivery Type	Enum	M	CASH	[CASH, PHYS, OPTL]
Identifier Section	UPI	String	D	QZJM6TLSR520	
	Status	String	D	New	[New; Updated; Deleted; Deprecated]
	Status Reason	String	D	<null>	
	Last Update Date Time	DtTm	D	2021-05-17T03:52:23	YYYY-MM-DDThh:mm:ss
Derived Section	Classification Type	String	D	STQCXC	See Derivation Rules
	Short Name	String	D	NA/Swap MCEX	See Derivation Rules
	Underlier Name	String	D	Basket	See Derivation Rules
	Underlier Characteristic	String	D	Basket	Fixed value
	Underlying Asset type	String	D	Multi Commodity	See Derivation Rules
	CFI Delivery Type	String	D	[Cash, Physical, Elect at Settlement]	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   Underlying Asset Type

At present, the Underlying Asset Type is taken from ISO 20022 values of the Base Product and are being derived as the CFI values where it is used in the generation of the CFI code.

Attribute	Underlying Asset Type		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Underlying Asset Type	AGRI	Mapped to =>	Agriculture
	NRGY	Mapped to =>	Energy
	ENVR	Mapped to =>	Environmental
	FRGT	Mapped to =>	Freight
	FRTL	Mapped to =>	Fertilizer
	INDP	Mapped to =>	Other
	INFL	Mapped to =>	Other
	OEST	Mapped to =>	Other
	METL	Mapped to =>	Metals
	MCEX	Mapped to =>	Multi Commodity
	PAPR	Mapped to =>	Paper
	POLY	Mapped to =>	Polypropylene Products
	OTHC	Mapped to =>	Other
	OTHR	Mapped to =>	Other

4.2.2   Classification Type

Attribute	Classification Type		
Structure	Instrument Type + Asset Class + Underlying Asset Type + Return or Payout Trigger + NA + Delivery Type		
Example	STQCXC		
Source	ISO 10962 (CFI) – Third edition 2015-07-15		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Instrument Type	Swap	Fixed Mapping	S
Asset Class	Commodities	Fixed Mapping	T
Underlying Asset Type	Agriculture	Mapped to =>	A
	Energy	Mapped to =>	J
	Environmental	Mapped to =>	N
	Freight	Mapped to =>	G
	Fertilizer	Mapped to =>	S
	Metals	Mapped to =>	K
	Multi Commodity	Mapped to =>	Q
	Paper	Mapped to =>	T
	Polypropylene products	Mapped to =>	P
	Other	Mapped to =>	M
Return or Payout Trigger	Contract for Difference (CFD)	Mapped to =>	C
	Total Return	Mapped to =>	T
Not applicable/undefined	Not applicable/undefined	Fixed Mapping	X
Delivery Type	CASH	Mapped to =>	C
	PHYS	Mapped to =>	P
	OPTL	Mapped to =>	E

4.2.3   Short Name

Attribute	Short Name		
Structure	"NA" + "/" + Instrument Type + Base Product		
Example	NA/Swap MCEX		
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	Swap
Base Product	AGRI	Mapped to =>	AGRI
	NRGY	Mapped to =>	NRGY
	ENVR	Mapped to =>	ENVR
	FRGT	Mapped to =>	FRGT
	FRTL	Mapped to =>	FRTL
	INDP	Mapped to =>	INDP
	INFL	Mapped to =>	INFL
	OEST	Mapped to =>	OEST
	METL	Mapped to =>	METL
	MCEX	Mapped to =>	MCEX
	PAPR	Mapped to =>	PAPR
	POLY	Mapped to =>	POLY
	OTHC	Mapped to =>	OTHC
	OTHR	Mapped to =>	OTHR

4.2.4   Underlier Name

Attribute	Underlier Name		
Underlying Asset	**Underlier Name Source**	**Underlier Name Source Attribute**	**Underlier Name**
Basket	Constant	N/A	Basket

4.2.5   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 =>	Elect at Settlement

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 short name abbreviation for Instrument Type within the Equity Asset Class is "Swaps" whereas Rates and Commodities Asset Classes use "Swap".

- Only multiple underliers i.e., Basket is permitted.

- The product template will keep the derived attribute Underlier Characteristic to maintain the consistency across multi-exotic products.

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	Return or Payout Trigger	Return or Payout Trigger
Underlier ID*	C	Not Required	
Underlier ID source*	C	Not Required	
Underlier type	M	Base Product	Base Product
Underlier sub-type (first level)**	M	Not Required	Underlying Asset Type
Underlier sub-type (second level)***	C	Not Required	

Underlier ID/source are not required for a custom basket defined in the ISO 4914 (UPI) specification.
**Underlier Asset Type will be used as the Underlier sub-type (first level) for this product.
***Underlier sub-type (second level) is not required for this product.

7   APPENDIX 2 - OTC ISIN-UPI MAPPING

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

ISIN Input Attributes	Mapping Logic	UPI Input Attributes	Sample UPI Value	Comments
Asset Class	Direct Map	Asset Class	Commodities	
Instrument Type	Direct Map	Instrument Type	Swap	
Use Case	Direct Map	Product	Multi_Exotic_Swap	
Level	Set to "UPI"	Level	UPI	
Notional Currency	No Mapping			
Expiry Date	No Mapping			
Base Product	Direct Map	Base Product	MCEX	
Underlying Instrument Index	No Mapping			
Underlying Instrument Index Prop	No Mapping			
Reference Rate	No Mapping			
Return or Payout Trigger	Direct Map	Return or Payout Trigger	Contract for Difference (CFD)	
Delivery Type	Direct Map	Delivery Type	CASH	
Transaction Type	No Mapping			
Final Price Type	No Mapping			
Price Multiplier	No Mapping			