Derivatives Service Bureau

Commodities : Swap : Swap

UPI Product Definition

Version 3

Date	Status	Version	Revision Details
20 May 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.

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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) – 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 aluminum, 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	-
		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	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	-

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	Determine 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	Node 5 and/or Node 8 Sub-Commodity
Commodity	Swap	Cash	Agricultural Products	Aluminum
	Option	Physical	Composite Commodity Indices	Azuki Beans
	Forward		Energy	Baltic Exchange – Dry Bulk Routes
	Loan/Lease		Freight	Baltic Exchange – Wet Bulk Routes
	Performance Swap		Metals	Barley
	Swaption		Paper	Benzene
			Plastic	Butter
			Composite Commodity Indices	Canola
			Other	Coal
				Cobalt
				Cocoa
				Coffee
				Containerboard
				Copper
				Corn
				Cotton
				Diesel Fuel
				Electricity
				Emissions
				Ethanol and Biofuels
				Fertiliser
				Fluff
				Fuel Oil
				Gas Oil
				Gasoline
				Gold
				Heating Oil
				Iridium
				Iron Ore
				Jet Fuel/Kerosene
				Lead

				Livestock
				Lumber
				Methanol
				Milk
				Molybdenum
				Naphtha
				NaturalGas
				NaturalGasLiquids
				Newsprint
				Nickel
				Oats
				Oil
				Orange Juice
				Other
				Pallladium
				Palm Oil
				Platinum
				Platts Clean Tankerwire
				Platts Dirty Tankerwire
				Pulp
				Rapeseed
				Recovered Paper
				Rhodium
				Rice
				Rubber
				Ruthenium
				Silver
				Sorghum
				Soybeans
				Steel
				Sugar
				Sunflower Seeds
				Tin
				Uranium
				Wheat
				Wool
				Zinc
				Plastics

3   REQUEST TEMPLATE

This section describes the input message received by the UPI service.

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

Section	Attribute	Format	Cat	Example Value	Validation / Derivation
Header Section	Asset Class	Set	M	Commodities	
	Instrument Type	Set	M	Swap	
	Product	Set	M	Swap	
	Level	Set	M	UPI	
Attribute Section	Underlier ID Source	String	M	COMM	[COMM]
	Underlier ID	Enum	M	SILVER-FIX	Enumerated List
	Base Product	Enum	M	METL	Enumerated List
	Sub Product	Enum	C	PRME	Enumerated List
	Additional Sub Product	Enum	C	SLVR	Enumerated List
	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 supports the entry of a single Commodity Ref Price as an underlier.

Title	Description
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. • Commodity Ref Price [COMM]
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.

4   RECORD TEMPLATE

This section describes the record returned by the UPI service.

Version	Template name	Template details	Release
V.1	**Commodities.Swap.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	Swap	
	Level	Set	M	UPI	
	Template Version	Integer	D	1	
Attribute Section	Reference Rate	Enum	M	SILVER-FIX	Enumerated List
	Base Product	Enum	M	METL	Enumerated List
	Sub Product	Enum	C	PRME	Enumerated List
	Additional Sub Product	Enum	C	SLVR	Enumerated List
	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	QZ3L32NL9MPH	
	Status	String	D	New	[New; Updated; Deleted; Deprecated]
	Status Reason	String	D	<null>	
	Last Update Date Time	DtTm	D	2021-05-06T03:55:40	YYYY-MM-DDThh:mm:ss
Derived Section	Classification Type	String	D	STKCXC	See Derivation Rules
	Short Name	String	D	NA/Swap METL SLVR	See Derivation Rules
	Underlier Name	String	D	SILVER-FIX	See Derivation Rules
	Underlying Asset type	String	D	Metals	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	STKCXC		
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	Energy	Mapped to =>	J
	Metals	Mapped to =>	K
	Agriculture	Mapped to =>	A
	Environmental	Mapped to =>	N
	Freight	Mapped to =>	G
	Polypropylene products	Mapped to =>	P
	Fertilizer	Mapped to =>	S
	Paper	Mapped to =>	T
	Multi-commodity	Mapped to =>	Q
	Others	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 Value	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 + Additional Sub Product		
Example	NA/Swap METL SLVR		
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
Additional Sub Product	FWHT	Mapped to =>	FWHT
	SOYB	Mapped to =>	SOYB
	RPSD	Mapped to =>	RPSD
	CORN	Mapped to =>	CORN
	RICE	Mapped to =>	RICE
	ROBU	Mapped to =>	ROBU
	CCOA	Mapped to =>	CCOA
	BRWN	Mapped to =>	BRWN
	WHSG	Mapped to =>	WHSG
	LAMP	Mapped to =>	LAMP
	MWHT	Mapped to =>	MWHT
	BSLD	Mapped to =>	BSLD
	FITR	Mapped to =>	FITR
	OFFP	Mapped to =>	OFFP
	GASP	Mapped to =>	GASP
	LNGG	Mapped to =>	LNGG
	NCGG	Mapped to =>	NCGG
	TTFG	Mapped to =>	TTFG
	NBPG	Mapped to =>	NBPG
	BAKK	Mapped to =>	BAKK
	BDSL	Mapped to =>	BDSL
	BRNT	Mapped to =>	BRNT
	BRNX	Mapped to =>	BRNX
	CNDA	Mapped to =>	CNDA
	COND	Mapped to =>	COND
	DSEL	Mapped to =>	DSEL

	DUBA	Mapped to =>	DUBA
	ESPO	Mapped to =>	ESPO
	ETHA	Mapped to =>	ETHA
	FUEL	Mapped to =>	FUEL
	FOIL	Mapped to =>	FOIL
	GOIL	Mapped to =>	GOIL
	GSLN	Mapped to =>	GSLN
	HEAT	Mapped to =>	HEAT
	JTFL	Mapped to =>	JTFL
	KERO	Mapped to =>	KERO
	LLSO	Mapped to =>	LLSO
	MARS	Mapped to =>	MARS
	NAPH	Mapped to =>	NAPH
	NGLO	Mapped to =>	NGLO
	TAPI	Mapped to =>	TAPI
	WTIO	Mapped to =>	WTIO
	URAL	Mapped to =>	URAL
	CERE	Mapped to =>	CERE
	ERUE	Mapped to =>	ERUE
	EUAE	Mapped to =>	EUAE
	EUAA	Mapped to =>	EUAA
	DBCR	Mapped to =>	DBCR
	TNKR	Mapped to =>	TNKR
	ALUM	Mapped to =>	ALUM
	ALUA	Mapped to =>	ALUA
	CBLT	Mapped to =>	CBLT
	COPR	Mapped to =>	COPR
	IRON	Mapped to =>	IRON
	MOLY	Mapped to =>	MOLY
	NASC	Mapped to =>	NASC
	NICK	Mapped to =>	NICK
	STEL	Mapped to =>	STEL
	TINN	Mapped to =>	TINN
	ZINC	Mapped to =>	ZINC
	LEAD	Mapped to =>	LEAD
	GOLD	Mapped to =>	GOLD
	PLDM	Mapped to =>	PLDM
	PTNM	Mapped to =>	PTNM
	SLVR	Mapped to =>	SLVR
	OTHR	Mapped to =>	OTHR

4.2.4   Underlier Name

Attribute	Underlier Name		
Underlying Asset	**Underlier Name Source**	**Underlier Name Source Attribute**	**Underlier Name**
Reference Rate	UPI Record	Reference Rate	SILVER-FIX

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 uses "Swap".

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	Underlier ID	Reference Rate
Underlier ID source	C	Underlier ID Source	Not Required
Underlier type	M	Base Product	Base Product
Underlier sub-type (first level)	M	Sub Product	Sub Product
Underlier sub-type (second level)	C	Additional Sub Product	Additional Sub 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 Values	Comments
Asset Class	Direct Map	Asset Class	Commodities	
Instrument Type	Direct Map	Instrument Type	Swap	
Use Case	Direct Map	Product	Swap	
Level	Set to "UPI"	Level	UPI	
Notional Currency	No Mapping			
Expiry Date	No Mapping			
Return or Payout Trigger	Direct Map	Return or Payout Trigger	Contract for Difference (CFD)	
Delivery Type	Direct Map	Delivery Type	CASH	
Base Product	Direct Map	Base Product	METL	
Sub Product	Direct Map	Sub Product	PRME	
Additional Sub Product	Direct Map	Additional Sub Product	SLVR	
Transaction Type	No Mapping			
Final Price Type	No Mapping			
Reference Rate	Map To	Underlier ID	SILVER-FIX	
	Set to "COMM"	Underlier ID Source	COMM	
Price Multiplier	No Mapping			