Derivatives Service Bureau

Equity : Swap : Non_Standard

UPI Product Definition

Version 3

Date	Status	Version	Revision Details
07 Sep 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
05 Sep 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.

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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 Code) – Third edition 2015-07-15

Attr #	Title	Values	Name	Description
	Instrument (Category)	**S**	Swaps	
	Asset Class (Group)	**E**	Equity	
Attr #1	**Underlying Assets**	**S**	Single stock	Single name security
		I	Index	An equity index swap in which cash flows are exchanged based on the percentage change in one or more stock indices for a specific period with previously agreed re-set dates; the swap is cash settled and based on notional principal amounts
		B	Basket	A bespoke, synthetic portfolio of underlying assets whose components have been agreed for a specific over-the-counter (OTC) derivative by the parties to the transaction
		M	Others	Others (miscellaneous)
Attr #2	**Return or payout trigger**	**P**	Price	Price return equity swap, similar to a total return swap, except that dividends are not passed through to the buyer
		D	Dividend	A fixed-term contract between two parties where one party will make an interest rate payment for each interval and the other party will pay the total dividends received as pay-out by a selected underlying asset
		V	Variance	A forward swap that uses the variance (being the volatility squared) of an underlying's price movement over a period as the basis for the payoff calculation
		L	Volatility	The variability of movements in a security or underlying instrument's price; it is a measure of the amount by which an asset's price is expected to fluctuate over a given period of time; it is normally measured by the annual standard deviation of daily price changes
		T	Total Return	Total return
		C	Contract For Difference	Contract for difference
		M	Others	Others (miscellaneous)
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 2.0 taxonomy.

Asset Class	Base Product	Sub-Product	Transaction Type	DSB Product Definition Name
Equity	Exotic	Various entries	Various entries	Non_Standard_Swap

3 REQUEST TEMPLATE

This section describes the input message received by UPI service.

Template name	Template details	Release
Request.Equity.Swap.Non_Standard.UPI.json	Initial version	Initial

Section	Attribute	Format	Cat	Example Value	Validation
Header Section	Asset Class	Set	M	Equity	
	Instrument Type	Set	M	Swap	
	Product	Set	M	Non_Standard	
	Level	Set	M	UPI	
Attribute Section	**Underlying Structure (oneOf)**	Object	M	Single Underlier	See Validation Rules
	Underlying Asset Type (oneOf)	Object	M	Single Stock	See Validation Rules
	Underlier ID Source	String	(M)	ISIN	[ISIN, FIGI, CUSIP, SEDOL]
	Underlier ID	String	(M)	GB00BH4HKS39	Syntactic Validation
	Underlying Asset Type (oneOf)	Object	M	Other	See Validation Rules
	Underlier ID Source	String	(M)	ISIN	[ISIN, FIGI, CUSIP, SEDOL]
	Underlier ID	String	(M)	GB00BH4HKS39	Syntactic Validation
	Underlying Asset Type (oneOf)	Object	M	Index	See Validation Rules
	Underlier Type (oneOf)	Object	M	Equity Index Identifier	
	Underlier ID Source	String	(M)	ISIN	[ISIN]
	Underlier ID	String	(M)	GB0001383545	Syntactic Validation
	Underlier Type (oneOf)	Object	M	Equity Index Name	
	Underlier ID Source	String	(M)	EQIDX	[EQIDX]
	Underlier ID	Enum	(M)	MSCI EM USD	Enumerated List
	Underlier Type (oneOf)	Object	M	Proprietary Index	
	Underlier ID Source	String	(M)	PROP	DSB Proprietary Index Enumeration
	Underlier ID	String	(M)	34810-JPCFNAMR	Enumerated List
	Underlying Structure (oneOf)	Enum	M	Basket	See Validation Rules
	Underlying Asset Type	Enum	(M)	Basket	See Validation Rules
	Return or Payout Trigger	Enum	M	Contract for Difference (CFD)	[Price, Dividend, Total Return, Other, etc.]
	Delivery Type	Enum	M	CASH	[CASH, PHYS, OPTL]

3.1 Underlier Input Method

For products that has an option for a Single or Multiple Underliers, users must select an underlying structure applicable [Single Underlier, Basket]. If a Basket is selected, underlier entry is not required.

Title	Description
Select Underlying Structure	User is able to select whether the underlying is a single underlier or basket based on its product. • Single Underlier • Basket
Select Underlier Type	User is able to select a single required Underlier Type from the available options. • Single Stock • Equity Index Identifier • Equity Index Name • 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. • Single Stock [ISIN, FIGI, CUSIP, SEDOL] • Equity Index Identifier [ISIN] • Equity Index Name [EQIDX] • 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 Structure [oneOf structure]

- If Underlying Structure selected is a "Single Underlier", Underlying Asset Type attribute will be present in the REQUEST and RECORD templates with enumerated values [Single Stock, Index, Other].
- If Underlying Structure selected is a "Single Underlier", attributes Underlier ID and Underlier ID Source [ISIN, FIGI, CUSIP, SEDOL, EQIDX or PROP] will be required in the REQUEST template and only one value can be selected in the enumeration.
- If Underlying Structure selected is a "Basket", Underlying Asset Type attribute will be present in the REQUEST and RECORD templates with enumerated value [Basket].
- If Underlying Structure selected is a "Basket", attributes Underlier ID and Underlier ID Source will not be present in the REQUEST and RECORD templates.

3.2.2 Underlying Asset Type

The following validations will apply based on the Underlying Asset Type selected:

a. "Index"

- If Underlying Asset Type is an "Index", the attributes Underlier ID and Underlier ID Source will be present in the REQUEST message.
- Underlier ID Source must be [ISIN, EQIDX or PROP] and only one Underlier ID is allowed.
- Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN, EQIDX or PROP].

b. "Single Stock" or **"Other"**

- If Underlying Asset Type is a "Single Stock" or "Other", the attributes Underlier ID and Underlier ID Source will be present in the REQUEST message.
- Underlier ID Source must be [ISIN, FIGI, CUSIP, SEDOL] and only one Underlier ID is allowed.
- Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN, FIGI, CUSIP, SEDOL].

c. "Basket"

- User can select a Basket [multiple underliers].
- If a Basket [multiple underliers] is selected, Underlier ID and Underlier ID Source must not be present in the REQUEST template.

4 RECORD TEMPLATE

This section describes the record returned by the UPI service.

Version	Template name	Template details	Release
V.1	**Equity.Swap.Non_Standard.UPI.V1.json**	Initial version	Initial

Section	Attribute	Format	Cat	Example Value	Derivation
Header Section	Asset Class	Set	M	Equity	
	Instrument Type	Set	M	Swap	
	Product	Set	M	Non_Standard	
	Level	Set	M	UPI	
	Template Version	Integer	D	1	
Attribute Section	Underlier Characteristic	Enum	M	Single	[Single, Basket]
	Underlying Asset Type	Enum	M	Single Stock	[Single Stock, Index, Other, etc.]
	Underlying Instrument ISIN	String	C	GB00BH4HKS39	Syntactic Validation
	Underlying Instrument Index	String	C	MSCI EM USD	Enumerated List
	Underlying Instrument Index Prop	String	C	34810-JPCFNAMR	Enumerated List
	Return or Payout Trigger	Enum	M	Contract for Difference (CFD)	[Price, Dividend, Total Return, Other, etc.]
	Delivery Type	Enum	M	CASH	[CASH, PHYS, OPTL]
Identifier Section	UPI	String	D	QZSWNN09V7TD	
	Status	String	D	New	[New; Updated; Deleted; Deprecated]
	Status Reason	String	D	<null>	
	Last Update Date Time	DtTm	D	2021-05-26T07:31:34	YYYY-MM-DDThh:mm:ss
Derived Section	Classification Type	String	D	SESCXC	See Derivation Rules
	Short Name	String	D	NA/Swaps Nstd Sgle Stk	See Derivation Rules
	Underlier Name	String	D	VODAFONE GROUP PLC	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 Classification Type

Attribute	**Classification Type**		
Structure	Instrument Type + Asset Class + Underlying Asset Type + Return or Payout Trigger + N/A + Delivery Type		
Example	SESCXC		
Source	ISO 10962 (CFI) – Third edition 2015-07-15		
Source Attribute	**Source Value**	**Derivation Method**	**Result**
Instrument Type	Swap	Fixed Mapping	S
Asset Class	Equity	Fixed Mapping	E
Underlying Asset Type	Single Stock	Mapped to =>	S
	Index	Mapped to =>	I
	Basket	Mapped to =>	B
	Other	Mapped to =>	M
Return or Payout trigger	Price	Mapped to =>	P
	Dividend	Mapped to =>	D
	Variance	Mapped to =>	V
	Volatility	Mapped to =>	L
	Total Return	Mapped to =>	T
	Contract for Difference (CFD)	Mapped to =>	C
	Other	Mapped to =>	M
Not applicable/undefined	Not applicable/undefined	Fixed Mapping	X
Delivery Type	CASH	Mapped to =>	C
	PHYS	Mapped to =>	P
	OPTL	Mapped to =>	E

4.2.2 Short Name

Attribute	Short Name		
Structure	"NA" + "/" + Instrument Type + Product Type + Underlying Asset Type		
Example	NA/Swaps Nstd Sgle Stk		
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	Swaps
Product Type	Non-Standard	Fixed Abbreviation	Nstd
Underlying Asset Type	Single Stock	Mapped to =>	Sgle Stk
	Index	Mapped to =>	Idx
	Basket	Mapped to =>	Bskt
	Other	Mapped to =>	Oth

4.2.3 Underlier Name

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

<table>
<tr><th>Attribute</th><th colspan="4">Underlier Name</th></tr>
<tr><th>Underlying Asset</th><th>Underlier Name Source</th><th colspan="2">Underlier Name Source Attribute</th><th>Underlier Name</th></tr>
<tr><td rowspan="4">Underlying ID with Underlying ID Source [ISIN]</td><td>Index Name to Index ISIN Mapping File</td><td colspan="2">Equivalent Underlying Equity Index Name that exists in the mapping file</td><td>FTSE 100 INDEX</td></tr>
<tr><td rowspan="3">ISIN Reference Data</td><td rowspan="3">longName of Underlying Instrument ISIN</td><td>ISIN is found in ISIN Reference Data.</td><td>VODAFONE GROUP PLC</td></tr>
<tr><td>ISIN is found in ISIN Reference Data, but its description is missing.</td><td>No name available</td></tr>
<tr><td>ISIN is not found in ISIN Reference Data.</td><td>No name obtainable</td></tr>
<tr><td>Underlying ID with Underlying ID Source [EQIDX]</td><td>UPI record</td><td colspan="2">Underlying Instrument Index</td><td>MSCI EM USD</td></tr>
<tr><td>Underlying ID with Underlying ID Source [PROP]</td><td>UPI record</td><td colspan="2">Underlying Instrument Index Prop</td><td>34810-JPCFNAMR</td></tr>
<tr><td>Basket</td><td>Constant</td><td colspan="2">N/A</td><td>Basket</td></tr>
</table>

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 =>	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 Asset Class uses “Swap”.
- The short name abbreviation for Underlying Asset Type [Single Stock] within the Equity Asset Class is “Sgle Stk” whereas Equity Swap Portfolio Swap Single Name uses “SStk”.
- Underlier sub-type (first level) will be represented by the Underlier Characteristic which varies depending on the underlying structure of the product, i.e., a single underlier or a multiple underliers (Basket).

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	Underlying Instrument ISIN
			Underlying Instrument Index
			Underlying Instrument Index Prop
Underlier ID source*	C	Underlier ID Source	Not Required
Underlier type	M	Underlying Asset Type	Underlying Asset Type

**Underlier ID/Source is only supported by a single underlying instrument [ISIN, FIGI, CUSIP, SEDOL, EQIDX, PROP]. If the underlying is a custom basket, these attributes are not required as defined in the ISO 4914 (UPI) specification.*

7 APPENDIX 2 – OTC ISIN-UPI MAPPING

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

One Of	ISIN Input Attributes	Condition	Mapping Logic	UPI Input Attributes	Example UPI Value	Comments
	Asset Class		Direct Map	Asset Class	Equity	
	Instrument Type		Direct Map	Instrument Type	Swap	
	Use Case		Direct Map	Product	Non_Standard	
	Level		Set to "UPI"	Level	UPI	
	Notional Currency		No Mapping			
	Expiry Date		No Mapping			
	Price Multiplier		No Mapping			
A	Underlying Instrument ISIN	If Underlying Asset Type = "Single Stock" or "Other" AND If Underlying Instrument = 1	Set to "Single Stock"	Underlier Type	Single Stock	"One Of" Underlier Type
			Map to	Underlier ID	GB00BH4HKS39	
			Set to "ISIN, FIGI, CUSIP, SEDOL"	Underlier ID Source	ISIN	
		If Underlying Asset Type = "Index"	Set to "Equity Index Identifier"	Underlier Type	Equity Index Identifier	"One Of" Underlier Type
			Map to	Underlier ID	GB0001383545	
			Set to "ISIN"	Underlier ID Source	ISIN	
		If Underlying Asset Type = "Basket" AND If Underlying Instrument > 1	Map to	Underlying Structure	Basket	
B	Underlying Instrument Index	If Underlying Asset Type = "Index"	Set to "Equity Index Name"	Underlier Type	Equity Index Name	"One Of" Underlier Type
			Map to	Underlier ID	MSCI EM USD	
			Set to "EQIDX"	Underlier ID Source	EQIDX	
		If Underlying Asset Type = "Basket" AND If Underlying Instrument > 1	Map to	Underlying Structure	Basket	
C	Underlying Instrument Index Prop	If Underlying Asset Type = "Index"	Set to "Proprietary Index"	Underlier Type	Proprietary Index	"One Of" Underlier Type
			Map to	Underlier ID	34810-JPCFNAMR	
			Set to "PROP"	Underlier ID Source	PROP	
		If Underlying Asset Type = "Basket" AND If Underlying Instrument > 1	Map to	Underlying Structure	Basket	
	Underlying Asset Type		Direct Map	Underlying Asset Type	Other	
	Return or Payout Trigger		Direct Map	Return or Payout Trigger	Contract for Difference (CFD)	
	Delivery Type		Direct Map	Delivery Type	CASH	