



Derivatives Service Bureau

Equity : Swap : Non_Standard

UPI Product Definition

Version 1

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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.

External Reference Documents can be found [here](#).

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
Credit	Other*			Non_Standard_Swap

**The Other Base Product includes structured and exotic.*

3 REQUEST TEMPLATE

This section describes the input message received by UPI service.

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

Section	Attribute	Format	Cat	Example Value	Validation	Link
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)	Enum	M	Single Stock	See Validation Rules	
	Underlier ID Source	String	(M)	ISIN	[ISIN]	
	Underlier ID	Enum	(M)	GB0008706128	Syntactic Validation	VALD
	Underlying Asset Type (oneOf)	Enum	M	Other	See Validation Rules	
	Underlier ID Source	String	(M)	ISIN	[ISIN]	
	Underlier ID	Enum	(M)	GB0008706128	Syntactic Validation	VALD
	Underlying Asset Type (oneOf)	Enum	M	Index	See Validation Rules	
	Underlier Type (oneOf)	Enum	M	Equity Index Identifier		
	Underlier ID Source	String	(M)	ISIN	[ISIN]	
	Underlier ID	Enum	(M)	US6311011026	Syntactic Validation	VALD
	Underlier Type (oneOf)	Enum	M	Equity Index Name		
	Underlier ID Source	String	(M)	ESMA	ESMA TTC	
	Underlier ID	Enum	(M)	NIKKEI 225 INDEX	Enumerated List	ENUM
	Underlier Type (oneOf)	Enum	M	Proprietary Index		
	Underlier ID Source	String	(M)	PROP	DSB Proprietary Index Enumeration	
	Underlier ID	Enum	(M)	34810-XRJP642	Enumerated List	ENUM
	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]		

UPI Attribute Validation document can be accessed [here](#).

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. <ul style="list-style-type: none"> • Single Underlier • Basket
Select Underlier Type	User is able to select a single required Underlier Type from the available options. <ul style="list-style-type: none"> • 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. <ul style="list-style-type: none"> • Equity Index Identifier [ISIN] • Equity Index Name [ESMA] • Proprietary Index [PROP]
Input Underlier ID	User enters a valid Underlier ID based on the selected Underlier ID Source.

3.2 Validation Rules

This section describes the applicable validation rules for the product.

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, ESMA 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:

- “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, ESMA or PROP] and only one Underlier ID is allowed.
 - Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN, ESMA or PROP].
- “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] and only one Underlier ID is allowed.
 - Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN].
- “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	Github
V.1	Equity.Swap.Non_Standard.UPI.V1.json	Initial version	Link	Link

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	GB0008706128	Syntactic Validation
	Underlying Instrument Index	String	C	NIKKEI 225 INDEX	Enumerated List
	Underlying Instrument Index Prop	String	C	12345-ABCDE	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	Identifier	String	D	QZSWNN09V7TD	
	Status	String	D	New	[New; Updated; Deleted]
	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
	CFI Delivery Type	String	D	[Cash, Physical, Elect at settlement]	See Derivation Rules

4.1 Normalization Rules

This section describes the applicable normalization rules for the product.

4.1.1 Underlying Instrument Index

- For any given Equity Index submission, a validation will apply against the existence of an ISIN and return the Index ISIN as part of the record in place of the Index Name:

Request Template		Record Template
Underlying Instrument Index	→	Underlying Instrument ISIN
KOSPI 200		KRD020020016

- If Index Name has no associated Index ISIN, the Index Name input by the user will return in the record:

Request Template		Record Template
Underlying Instrument Index	→	Underlying Instrument Index
MSCI EM USD		MSCI EM USD

List of Indices and associated ISINs can be found [here](#).

4.1.2 Underlying Structure [oneOf structure]

- If Underlying Structure selected in the REQUEST message is a “Single Underlier”, record the attribute as “Underlier Characteristic” with value “Single” in the RECORD message.

Request		→	Record	
Underlying Structure	Single Underlier		Underlier Characteristic	Single

- If Underlying Structure selected in the REQUEST message is a “Basket”, record the attribute as “Underlier Characteristic” with value “Basket” in the RECORD message.

Request		→	Record	
Underlying Structure	Basket		Underlier Characteristic	Basket

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 CFI Delivery Type

Attribute	CFI Delivery Type		
Source Attribute	Source Value	Derivation Method	Result
CFI Delivery Type	CASH	Mapped to =>	Cash
	PHYS	Mapped to =>	Physical
	OPTL	Mapped to =>	Elect at Settlement

5 SUPPLEMENTARY INFORMATION

5.1 Best Practice Guidelines

No Best Practice Guideline is provided for this product.

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, INDEX, 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	Sample 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" or "Options" or "Forwards" or "Futures" If Underlying Instrument = 1	Set to "Single Stock"	Underlier Type	Single Stock	"One Of" Underlier Type
			Map to	Underlier ID	QQ0097753768	
			Set to "ISIN"	Underlier ID Source	ISIN	
		If Underlying Asset Type = "Index"	Set to "Index Identifier"	Underlier Type	Equity Index Identifier	"One Of" Underlier Type
			Map to	Underlier ID	US6311011026	
			Set to "ISIN"	Underlier ID Source	ISIN	
	If Underlying Asset Type = "Basket" or "Options" or "Forwards" or "Futures" or "Other" 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	OTHER	
			Set to "ESMA"	Underlier ID Source	ESMA	
			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-XRJPD642	
			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	Total Return	
	Delivery Type		Direct Map	Delivery Type	CASH	