

DERIVATIVES SERVICE BUREAU (DSB) LTD

Equity : Option : Single_Index

UPI Product Definition

Version 3

Date	Status	Version	Revision Details
18 Aug 2022	Draft	1	Initial Version
01 Feb 2023	Draft	2	<ul style="list-style-type: none"> Update example values in the Request and Record templates layout Insert Underlier Name attribute and Derivation rules
04 Sep 2023	Draft	3	<ul style="list-style-type: none"> 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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I. 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.

I.1 Associated Documentation

The reference documents below contain values and information maintained by the DSB for consistency and ease of access.

These documents are made available on the ANNA DSB website (Product Definitions page):

Title	Description	Location
Enumerations Document	Lists all fixed values used for a product	Enumerations section
Product Definition Data Dictionary	Defines attributes in the Request and Record templates; and from which they are referenced on	Other Documents section
Product Definition Validations and Normalizations Document	Specifies details on validation and normalization rules	
UPI Underlier Input Method	Defines the structure for the input of the underlier following the rules that allow users to identify the Asset Class, Underlying Structure, Underlying Type, and Underlying ID Source.	
Best Practice Guidelines and FAQs	Lists answers to queries raised by users and provides guidance on the use of the templates	
GitHub Environment Section	ANNA DSB Github Environment where the JSON templates for each product is found	

2. Product Taxonomy

2.1 CFI Taxonomy

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

Attr #	Title	Values	Name	Description
	Instrument (Category)	H	Non-listed and complex listed options	
	Asset Class (Group)	E	Equity	
Attr #1	Underlying Assets	I	Index	An option on a contract which gives the holder the right to buy, respectively to sell, specified equity indices
Attr #2	Option style and type	A	European-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price only on the expiration date of the call
		B	American-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price at any time during the term of the call option, up to and including the expiration date of the call
		C	Bermudan-Call	An option on a contract which allows its holder (buyer) to exercise the right to buy specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the call
		D	European-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price only on the expiration date of the put
		E	American-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price at any time during the term of the put option, up to and including the expiration date of the put
		F	Bermudan-Put	An option on a contract which allows its holder (buyer) to exercise the right to sell specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the put
		G	European-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price, only on the contract's expiration date; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration

		H	American-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price at any time during the term of the contract, up to and including the expiration date of the call or put; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
		I	Bermudan-Chooser	An option on a contract which allows its holder (buyer) to exercise the right to buy (call) or sell (put) specified assets (interest rates product) at a fixed price on a number of specific dates within the exercise period of the contract; the buyer does not have to decide whether the contract will be a put or a call until an agreed future date, prior to expiration
Attr #3	Valuation method or trigger	V	Vanilla	An option for which all terms are standardized
		A	Asian	An option where either the strike price or the settlement price is the average level of an underlying instrument over a redetermined period; the averaging can be either a geometric or arithmetic average
		D	Digital (Binary)	An option that has a pre-determined pay-out if the option is in-the-money and the payoff condition is satisfied; also referred to as a “binary option” or an “all-or-nothing option”
		B	Barrier	An option whose final exercise depends upon the path taken by the price of an underlying instrument; for a “knock-out” barrier option, the option is cancelled if the underlying price crosses a predetermined barrier level; for a “knock-in” barrier option, the option becomes available-for-exercise if the underlying price crosses a predetermined barrier level
		G	Digital Barrier	A digital option embedded with a barrier option; there are different variations of this type of option; as an example, a down-and-out digital call option will pay a fixed payoff, or the underlying, at any time before maturity that the underlying price is equal to or greater than the barrier level; it will pay zero if the underlying price is less than the barrier level
		L	Lookback	An option that minimizes the uncertainties related to the timing of market entry; there are two types of lookback options: fixed and floating; the fixed option strike is determined at purchase, and the floating option strike is determined at maturity
		P	Other Path Dependent	An option on a contract whose payoff is directly related to the price pattern the underlying asset follows during the life of the contract
		M	Others	Miscellaneous

Attr #4	Delivery Type	C	Cash	Cash
		P	Physical	Physical
		E	Elect at Exercise	Elect at exercise

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	Option	Various*	Single Index	Single_Index

**There is no exact match in the ISDA Taxonomy 2.0 for this product template. The current taxonomy 2.0 only provides for Sub-Product values [Price Return Basic Performance, Parameter Return Dividend, Parameter Return Variance, Parameter Return Volatility]. This product template is a catch all for products that fall outside of these specified Sub-Products.*

3. Request Template

The Request Template describes the input message received by the UPI service.

Users can find the detailed description of this template in the Equity spreadsheet that contains the layout of all templates. This can be found in the Equity section of the Product Definitions page on the ANNA DSB website.

Change details of the template can be found on the appropriate Github page.

Template name	Template details	Release
Request.Equity.Option.Single_Index.UPI.json	Initial version	Initial

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. <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 [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.

4. Record Template

The Record Template describes the record returned by the UPI service.

Users can find the detailed description of this template in the Equity spreadsheet that contains the layout of all templates. This can be found in the Equity section of the Product Definitions page on the ANNA DSB website.

Change details of the template can be found on the appropriate Github page.

Version	Template name	Template details	Release
V.1	Equity.Option.Single_Index.UPI.V1.json	Initial version	Initial

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 + Option Type/Style + Valuation Method or Trigger + Delivery Type		
Example	HEIDVC		
Source	ISO 10962 (CFI) – Third edition 2015-07-15		
Source Attribute	Source Value	Derivation Method	Result
Instrument Type	Option	Fixed Mapping	H
Asset Class	Equity	Fixed Mapping	E
Underlying Asset Type	Index	Fixed Mapping	I
Option Type/Style	PUTO/AMER	Mapped to =>	E
	PUTO/BERM	Mapped to =>	F
	PUTO/EURO	Mapped to =>	D

	CALL/AMER	Mapped to =>	B
	CALL/BERM	Mapped to =>	C
	CALL/EURO	Mapped to =>	A
	OPTL/AMER	Mapped to =>	H
	OPTL/BERM	Mapped to =>	I
	OPTL/EURO	Mapped to =>	G
Valuation Method or Trigger	Vanilla	Mapped to =>	V
	Asian	Mapped to =>	A
	Digital (Binary)	Mapped to =>	D
	Barrier	Mapped to =>	B
	Digital Barrier	Mapped to =>	G
	Lookback	Mapped to =>	L
	Other Path Dependent	Mapped to =>	P
	Other	Mapped to =>	M
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 + Underlying Asset Type + Option Type + Option Exercise Style		
Example	NA/O Idx Put Epn		
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	Option	Fixed Abbreviation	O
Underlying Asset Type	Index	Fixed Abbreviation	Idx
Option Type	PUTO	Mapped to =>	Put
	CALL	Mapped to =>	Call
	OPTL	Mapped to =>	Opt
Option Exercise Style	AMER	Mapped to =>	Amr
	BERM	Mapped to =>	Brm
	EURO	Mapped to =>	Epn

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]	Index Name to Index ISIN Mapping File	Equivalent Underlying Equity Index Name that exists in the mapping file		FTSE 100 INDEX
		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 [EQIDX]	UPI record	Underlying Instrument Index		MSCI EM USD
Underlying ID with Underlying ID Source [PROP]	UPI record	Underlying Instrument Index Prop		34810-JPCFNAMR

4.2.4 CFI Option Style and Type

Attribute	CFI Option Style and Type		
Source Attribute	Source Value	Derivation Method	Result
Option Style and Type	PUTO/AMER	Mapped to =>	American-Put
	PUTO/BERM	Mapped to =>	Bermudan-Put
	PUTO/EURO	Mapped to =>	European-Put
	CALL/AMER	Mapped to =>	American-Call
	CALL/BERM	Mapped to =>	Bermudan-Call
	CALL/EURO	Mapped to =>	European-Call
	OPTL/AMER	Mapped to =>	American-Chooser
	OPTL/BERM	Mapped to =>	Bermudan-Chooser
	OPTL/EURO	Mapped to =>	European-Chooser

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 Exercise

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 Option Type [OPTL] within Foreign Exchange Asset Class is “O” whereas Rates and Equity Asset Classes use “Opt”.

6. Appendix I – 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
Option style	M	Option Exercise Style	Option Exercise Style
Option type	M	Option Type	Option Type
Return, pricing method or payout trigger	M	Valuation Method or Trigger	Valuation Method or 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	Not Required	Underlying Asset Type

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	Example UPI Value	Comments
	Asset Class	Direct Map	Asset Class	Equity	
	Instrument Type	Direct Map	Instrument Type	Option	
	Use Case	Direct Map	Product	Single_Index	
	Level	Set to "UPI"	Level	UPI	
	Notional Currency	No Mapping			
	Expiry Date	No Mapping			
A	Underlying Instrument ISIN	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	
B	Underlying Instrument 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	
C	Underlying Instrument Index Prop	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	
	Strike Price	No Mapping			
	Option Type	Direct Map	Option Type	PUTO	
	Option Exercise Style	Direct Map	Option Exercise Style	EURO	
	Valuation Method or Trigger	Direct Map	Valuation Method or Trigger	Vanilla	
	Price Multiplier	No Mapping			
	Delivery Type	Direct Map	Delivery Type	CASH	