Derivatives Service Bureau (UPI)

CHANGE REQUEST FORM

| Version | State | Author | Date | Description |
|---------|-------|---------------|-------------|--|
| 1 | Draft | M.A. Gariplan | 26 May 2021 | Initial Document |
| 2 | Draft | M.A. Gariplan | 30 Jun 2021 | Amended JSON codeset for ESMA validation |
| 3 | Draft | M.A. Gariplan | 14 Jul 2021 | Revised Template Layouts and GUI details (Underlier Input Method); Removed active hyperlinks in Data Dictionary; Amended References section with standard text; Removed Short Name comment in the Comment section |
| 4 | Draft | M.A. Gariplan | 29 Jul 2021 | Amended template layout and derivation (Underlier Characteristic – Derived) |
| 5 | Draft | M.A. Gariplan | 9 Aug 2021 | Removed Underlying Structure in Attributes section |
| 6 | Draft | M.A. Gariplan | 10 Sep 2021 | Updated background; Removed underlying structure in GUI details |
| 7 | Draft | M. Surop | 13 Sep 2021 | Updated Validation error message for Underlier ID [ISIN] |

| Title | EQUITY SWAP Non-Standard Template Definition | | | | | | | |
|------------------|--|--------------------------------------|---------------|--|--|--|--|--|
| Background | The following CRF presents a specification for the generation and retrieval of a | DSB-ID | UPI-377 | | | | | |
| | Unique Product Identifier for the following product: | Туре | New Template | | | | | |
| | Equity : Swap : Non_Standard | Owner | M.A. Gariplan | | | | | |
| | | Version | 7 | | | | | |
| | | State | Draft | | | | | |
| Terms of Referen | ce | · | | | | | | |
| Scope | This CRF specifies the product definition required for the generation / retrieval of a UPI only. This CRF covers both the input (Request) and output (Record) templates. Support for local jurisdiction / alternate underlier identifier input is currently out of scope. Support for CFI 2019 values is currently out of scope. | | | | | | | |
| Requirements | The product definition will conform to ISO 4914 (UPI). Where possible, the product definition is to be based on the attributes, values and behaviour of the equivalent OTC ISIN. The product definition will return a product short name (FISN). All UPI records stored on the DSB RDL will include the ISO 10962 (CFI) code associated with the UPI along with an equivalent text value for all attributes that are included in the definition of the CFI. | | | | | | | |
| Dependencies | This specification is dependent on final sign-off of the ISO 4914 (UPI) specification. This specification is dependent on PC approval for the use of the OTC ISIN definitions as a basis for the UPI. This specification is dependent on PC approval for the inclusion of ISO 4914 (UPI) conditional attributes. This specification is dependent on TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration. This specification is dependent on the provision of a human-readable alias for the primary underlier for inclusion in the Short Name (FISN) and a human-readable alias for the Contract Specification. The format of the Short Name is dependent upon the outcome of the ISO 18774 (FISN) systematic review. | | | | | | | |
| Assumptions | This specification assumes that, unless stated, all values and behaviours are ballsIN product definition. This specification assumes that no input values are to be defaulted by the syst This specification is based on the current ISO 4914 (UPI) specification (CD) – in currently supported by the equivalent OTC ISIN. This specification is based on the DSB's current equivalent OTC ISIN product do This specification is based on the attributes and values defined in ISO 10962 (Company) | em. cluding attribu efinition. | | | | | | |

- In order to provide an example Short Name, this specification defines a format for this attribute that may not conform to the eventually agreed FISN format for the UPI. This specification assumes that the Short Name is defined using the same attributes (where available) as the OTC ISIN Short Name.
- Where possible, this specification derives GUI details from the ISO 4914 (UPI) specification for attributes that are not included in the current OTC ISIN product definition.
- The display information in the GUI for the existing attributes (and values) are taken from the OTC ISIN. If such information contains an "ISIN" in the description, replace the value into "UPI".
- The specification for UPI does not include expiry date as part of the attributes, hence "expired" status does not apply.
- The specification of individual underlying identifiers and their sources is not required as part of the definition of a product based on a custom basket as defined in the ISO 4914 (UPI) specification.
- The specification for UPI will not require user to identify individual constituent identifiers if the OTC derivative has more than one underlier ID. This is also in agreement with PC to align with ISO 4914 (UPI) specification and CPMI/IOSCO.

Request Template Layout

| Section | Attrib | oute | Format | Cat | Example Value | Validation / Derivation | Enum Source | Origin |
|-------------------|--------------------------------|----------------------------|--------|-----|-------------------------------|--|-------------------------------------|--------|
| | Asset | Asset Class | | М | Equity | | CFI:2015 Char#2 (SE****) | ISIN |
| Header Section | Instru | Instrument Type | | М | Swap | | CFI:2015 Char#1 (SE****) | ISIN |
| neader Section | Produ | ıct | Set | М | Non_Standard | | | ISIN |
| | Level | | Set | М | UPI | | | NEW |
| | Unde | rlying Asset Type (One Of) | Enum | М | Single Stock | See CRF (Validations) | CFI:2015 Char#3 (SE****) | NEW |
| | Ur | nderlier ID Source | String | (C) | ISIN | [ISIN] | Internal | NEW |
| | Ur | nderlier ID | Enum | (C) | GB0008706128 | See CRF (Validations) | | NEW |
| | Unde | rlying Asset Type (One Of) | Enum | М | Other | See CRF (Validations) | CFI:2015 Char#3 (SE****) | NEW |
| | Ur | nderlier ID Source | String | (C) | ISIN | [ISIN] | Internal | NEW |
| | Underlier ID | | Enum | (C) | GB0008706128 | See CRF (Validations) | | NEW |
| | Underlying Asset Type (One Of) | | Enum | М | Index | See CRF (Validations) | CFI:2015 Char#3 (SE****) | NEW |
| | Underlier Type (One Of) | | Enum | (C) | Equity Index | [Equity Index] | Internal | NEW |
| Attribute Section | | Underlier ID Source | | (C) | ESMA | [ESMA] | Internal | NEW |
| | | Underlier ID | Enum | (C) | NIKKEI 225 INDEX | See CRF (Validations) | ESMA TTC and Annex 7 Market Indices | NEW |
| | Ur | derlier Type (One Of) | Enum | (C) | Proprietary Index | [Proprietary Index] | Internal | NEW |
| | | Underlier ID Source | String | (C) | PROP | [PROP] | Internal | NEW |
| | | Underlier ID | Enum | (C) | 34810-XRJPD642 | See CRF (Validations) | DSB Proprietary Index Enumeration | NEW |
| | Underlying Asset Type (One Of) | | Enum | М | Basket | See CRF (Validations) | CFI:2015 Char#3 (SE****) | NEW |
| | Ur | Underlier Characteristic | | D | Basket | See CRF (Validations) | Internal | NEW |
| | Retur | n or Payout Trigger | Enum | М | Contract for Difference (CFD) | [Price, Dividend, Total Return, Other, etc.] | CFI:2015 Char#4 (SE****) | ISIN |
| | Deliv | ery Type | Enum | М | CASH | [CASH; PHYS; OPTL] | ISO 20022 | ISIN |

Record Template Layout

| Section | Attribute | Format | Cat | Example Value | Validation / Derivation | Condition | Enum Source | Origin |
|--------------------|----------------------------------|---------|-----|-------------------------------|--|--|-------------------------------------|--------|
| | Asset Class | Set | М | Equity | | | CFI:2015 Char#2 (SE****) | ISIN |
| | Instrument Type | Set | М | Swap | | | CFI:2015 Char#1 (SE****) | ISIN |
| Header Section | Product | Set | М | Non_Standard | | | | ISIN |
| | Level | Set | М | UPI | | | | NEW |
| | Template Version | Integer | D | 1 | | | | ISIN |
| | Underlying Asset Type | Enum | М | Single Stock | [Single Stock; Index; Basket; Other] | | CFI:2015 Char#3 (SE****) | ISIN |
| | Underlying Instrument ISIN | String | С | GB0008706128 | See CRF (Validations) | | | ISIN |
| Attribute Section | Underlying Instrument Index | String | С | NIKKEI 225 INDEX | See CRF (Normalization and Validations) | Displayed if Underlier Structure is Single Underlier | ESMA TTC and Annex 7 Market Indices | ISIN |
| Attribute section | Underlying Instrument Index Prop | String | С | 12345-ABCDE | See CRF (Validations) | | DSB Proprietary Index Enumeration | ISIN |
| | Return or Payout Trigger | Enum | М | Contract for Difference (CFD) | [Price, Dividend, Total Return, Other, etc.] | | CFI:2015 Char#4 (SE****) | ISIN |
| | Delivery Type | Enum | М | CASH | [CASH; PHYS; OPTL] | | ISO 20022 | ISIN |
| | UPI | String | D | QZSWNN09V7TD | UPI | | ISO 4914 | NEW |
| Identifier Section | Status | String | D | New | | | | ISIN |
| identifier section | Status Reason | String | D | <null></null> | Not applicable to a New record | | | ISIN |
| | Last Update Date Time | DtTm | D | 2021-05-26T07:31:34 | YYYY-MM-DDThh:mm:ss | | | ISIN |
| | Classification Type | String | D | SESCXC | See CRF (Derivations) | | ISO 10962: 2015 | ISIN |
| Derived Section | Short Name | String | D | NA/Swaps Nstd Sgle Stk | See CRF (Derivations) | | ISO 18774: 2015 | NEW |
| Derived Section | Underlier Characteristic | String | D | Basket | See CRF (Derivations) | Derived from underlier attributes | Internal | NEW |
| | CFI Delivery Type | String | D | Cash | See CRF (Derivations) | | CFI:2015 Char#6 (SE****) | NEW |

| Product Definition | | | | | | | |
|--------------------|------------------------------|--|--|--|--|--|--|
| Attributes | See Template Layout (above). | | | | | | |

In order to support the different ways in which underliers need to be supported in the definition of this product, the above Request template layout allows the user to specify the following:

a) Underlier Type

The Request template described in this document supports products that can be defined on the basis of more than one type of underlier. For this product, the user is asked to select one of the following:

- Equity Index
- Proprietary Index

Once the Underlier Type is chosen, the user will be asked to select one of the Underlier ID Sources associated with that Underlier Type and enter the Underlier ID that matches the ID Source.

* Please see Underlier Input Method Document (link provided in the Reference Section below) for further details.

Validation

1. Underlying Asset Type

The following validations will apply based on the Underlying Asset Type selected. For each given underlying asset type, the attributes will vary.

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, 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] indicated below.

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] and only one Underlier ID is allowed.
- Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN] indicated below.

c. "Basket"

- If Underlying Asset Type is a "Basket", the attributes Underlier ID and Underlier ID Source are not required and will not be present on the REQUEST message.
- If Underlier ID exceeds to more than one underlying instrument, it will be categorized as a "Basket".

2. Underlier ID

The following validation will be applied to Underlier ID based on the value selected on Underlier ID Source [ISIN, ESMA, PROP].

a. ISIN

- The input text by user must be in 12 characters (2 alpha, 9 alphanumeric, 1 numeric).
- The input text must not have a prefix of "QZ" or "EZ".
- A syntactic validation is being performed to confirm an ISIN when hitting create.
- If the input ISIN is less or more than 12 characters and/or is not aligned with the above pattern before hitting
 create, an error message will apply "Value must match the pattern ^(?!(EZ|QZ))[A-Z]{2}[A-Z0-9]{9}[0-9]\$."
- If the input ISIN is not aligned with the above pattern and conformed with syntactic validation after hitting create, an error message will apply "Error: /Attributes/UnderlyingAssetType: instance failed to match exactly one schema (matched 0 out of 4)".

b. ESMA

• Enumeration list is based on JSON codeset (EsmaEquityIndex.json).

c. PROF

- This attribute is to be validated against a list of Equity Proprietary Indices that must have been pre-submitted to the DSB.
- The input text by user must exist in the DSB Proprietary Index Enumeration.
- The Proprietary index is made on a per asset class and only relevant to the particular asset class based on DSB data. The only exception is asset class "Other" which is applicable to all asset classes.
- If the input Prop Index does not exist in the DSB Proprietary Index Enumeration, value will be rejected with an error message "Error: Given Index/ices must be an existing and valid Equity or Multi-Asset Index".

Normalization

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 | \rightarrow | 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 | \rightarrow | Underlying Instrument Index |
| MSCI EM USD | 1 | MSCI EM USD |

List of Indices and associated ISINs can be found <u>here</u>.

Attribute Data Dictionary

This section provides the exact reference or source of the attribute.

| Full Name | Source | Туре |
|-------------------------------------|--|---|
| Underlying Asset Type | ISO 10962 Classification of financial instruments (CFI code) | Enums [Single Stock; Index; Basket; Other] |
| Underlying Instrument ISIN | Not Available | Max of 12 text (pattern) [A-Z] – firsts 2 characters [A-Z], [0-9] – Next 9 characters [0-9] – Last value is based on ISIN calculation |
| Underlying Instrument Index | ESMA TTC | Max of 350Text (based on string) minLength: 1 maxLength: 350 |
| Underlying Instrument Index Prop | DSB Proprietary Index Enumerations | (Based on string) |
| Return or Payout Trigger | ISO 10962 Classification of financial instruments (CFI code) | Enums [Price, Dividend, Variance, Volatility, Total Return, Contract for Difference (CFD), Other] |
| Delivery Type | ISO 20022 FinancialInstrumentReportingReferenceDataReportV01 | Enums [CASH; PHYS; OPTL] |
| CFI Delivery Type | ISO 10962 Classification of financial instruments (CFI code) | Enums [Cash; Physical; Elect at Settlement] |

Derivation

This section provides additional details to the derivation logic specified in the Template Layout sections (above).

Classification Type

Concatenation of the following attributes/values:

| • | Instrument Type: | "\$" |
|---|------------------|------|
| • | Asset Class: | "E" |

Underlying Asset Type: from Request.UnderlyingAssetType...

 $\begin{array}{lll} \text{-} & \text{Single Stock} \rightarrow & \text{S} \\ \text{-} & \text{Index} \rightarrow & \text{I} \\ \text{-} & \text{Basket} \rightarrow & \text{B} \\ \text{-} & \text{Other} \rightarrow & \text{M} \end{array}$

• Return or Payout Trigger: from Request.ReturnorPayoutTrigger...

• Delivery Type: from Request.Delivery Type...

| | | - PI | ASH → HYS → PTL → | | C P E | | | | | |
|------------------|---|---|---|---|--|--------------------------|--|--|--|--|
| | Short Name | Concatenation of the following attributes/values: • Issuer: "NA/" • Instrument Type: "Swaps" (fixed value) • Product: "Nstd" (fixed value) • Underlying Asset Type: from Request.UnderlyingAssetType - Single Stock → Sgle Stk - Index → Idx - Basket → Bskt - Other → Oth E.g.: "NA/Swaps Nstd Sgle Stk" Note: The Short Name is based on the OTC ISIN that excludes the following fields: - Notional Currency - Expiry Date | | | | | | | | |
| | Underlier Characteristic | 1. If in the | then set the Underlier Characteristic to "Single". If in the oneOf a Basket is selected: | | | | | | | |
| | CFI Delivery Derived from the input Delivery Type Type • CASH → "Cash" • PHYS → "Physical" • OPTL → "Elect at Settlement" | | | | | | | | | |
| GUI Details | The following section provides display information for any attributes (and values) that are not included in the related OTC ISIN definition. | | | | | | | | | |
| | Attribute | Display Name | Tool Tip (and • value elaboration) | | | | | | | |
| | Underlier ID | Underlier ID | An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index | | | | | | | |
| | Underlier ID Source | Underlier ID Source | The origin, or publisher, of the associated underlier ID. | | | | | | | |
| | Underlier Type | Underlier Type Indicates the type of underlying asset or entity on which the product is based. | | | | | | | | |
| | Underlier Characteristic | Underlier Characteristic | An attribute th underliers. | An attribute that is used to specify whether the product is based on a single or multiple underliers. | | | | | | |
| | UPI | Identification | Unique Produ | ct Identifier | (ISO 4914). | | | | | |
| | CFI Delivery Type | CFI Delivery Type | | | | | | | | |
| Additional Infor | mation | | | | | | | | | |
| Reference | References to ex external-reference | | can be found c | on the DSB | website at this address [https | ://www.anna-dsb.com/upi- | | | | |
| Comments | differen | | Rates and Com | modities h | f the Short Name abbreviation ave " NA/Swap ", Foreign_Excl | | | | | |
| ISO 4914 | ISO 4914 | | | | Request Attribute | Record Attribute | | | | |
| Equivalence | Asset Class | | | М | Asset Class | Asset Class | | | | |

| Instrument type | М | Instrument Type | Instrument Type |
|--|---|--------------------------|-------------------------------------|
| D. II. | | | Delivery Type |
| Delivery type | М | Delivery Type | CFI Delivery Type |
| Return, pricing method or payout trigger | М | Return or Payout Trigger | Return or Payout Trigger |
| | С | - Underlier ID | Underlying Instrument ISIN |
| Underlier ID* | | | Underlying Instrument Index |
| | | | Underlying Instrument Index Prop |
| Underlier ID source* | С | Underlier ID Source | Not Required |
| Underlier type | М | Underlying Asset Type | Underlying Asset Type |

^{*}Underlier ID/Source is only supported by single underlying instrument (ISIN, INDEX, PROP). If the underlying is a custom basket, attribute is not required as defined in the ISO 4914 (UPI) specification.