# Derivatives Service Bureau (UPI)
# CHANGE REQUEST FORM

| Version | State | Author | Date | Description |
|---|---|---|---|---|
| 1 | Draft | M.A. Gariplan | 08 Jun 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) |

| Title | EQUITY FORWARD Non_Standard Template Definition | | |
|---|---|---|---|
| **Background** | The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product:<br><br>• **Equity : Forward : Non_Standard** | **DSB-ID** | **UPI-463** |
| | | **Type** | New Template |
| | | **Owner** | M.A. Gariplan |
| | | **Version** | 4 |
| | | **State** | Draft |

| Terms of Reference | |
|---|---|
| **Scope** | • This CRF specifies the product definition required for the generation / retrieval of a UPI only.<br>• This CRF covers both the input (Request) and output (Record) templates.<br>• Support for local jurisdiction / alternate underlier identifier input is currently out of scope.<br>• Support for CFI 2019 values is currently out of scope. |
| **Requirements** | • The product definition will conform to ISO 4914 (UPI).<br>• Where possible, the product definition is to be based on the attributes, values and behaviour of the equivalent OTC ISIN.<br>• The product definition will return a product short name (FISN).<br>• 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.<br>• This specification is dependent on PC approval for the use of the OTC ISIN definitions as a basis for the UPI.<br>• This specification is dependent on PC approval for the inclusion of ISO 4914 (UPI) conditional attributes.<br>• This specification is dependent on TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration.<br>• 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.<br>• 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 based on those of the equivalent OTC ISIN product definition.<br>• This specification assumes that no input values are to be defaulted by the system.<br>• This specification is based on the current ISO 4914 (UPI) specification (CD) – including attributes that are not currently supported by the equivalent OTC ISIN.<br>• This specification is based on the DSB's current equivalent OTC ISIN product definition.<br>• This specification is based on the attributes and values defined in ISO 10962 (CFI:2015).<br>• 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.<br>• 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 | Attribute | Format | Cat | Example Value | Validation / Derivation | Condition | Enum Source | Origin |
|---|---|---|---|---|---|---|---|---|
| Header Section | Asset Class | Set | M | Equity |  |  | CFI:2015 Char#2 (JE****) | ISIN |
|  | Instrument Type | Set | M | Forward |  |  | CFI:2015 Char#1 (JE****) | ISIN |
|  | Product | Set | M | Non_Standard |  |  |  | ISIN |
|  | Level | Set | M | UPI |  |  |  | NEW |
| Attribute Section | Underlying Asset Type (One Of) | Enum | M | Single Stock | See CRF (Validations) |  | CFI:2015 Char#3 (JE****) | NEW |
|  | Underlier ID Source | String | C | ISIN | [ISIN] |  | Internal | NEW |
|  | Underlier ID | Enum | C | US8765685024 | See CRF (Validations) |  |  | NEW |
|  | Underlying Asset Type (One Of) | Enum | M | Index | See CRF (Validations) |  | CFI:2015 Char#3 (JE****) | NEW |
|  | Underlier Type (One Of) | Enum | C | Equity Index | [Equity Index] |  | Internal | NEW |
|  | Underlier ID Source | String | C | ESMA | [ESMA] |  | Internal | NEW |
|  | Underlier ID | Enum | C | NIKKEI 225 INDEX | See CRF (Validations) |  | ESMA TTC and Annex 7 Market Indices | NEW |
|  | Underlier 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 | M | Options | See CRF (Validations) |  | CFI:2015 Char#3 (JE****) | NEW |
|  | Underlying Structure (One Of) | Enum | (C) | Single Underlier | See CRF (Validations) |  | Internal | NEW |
|  | Underlier ID Source | String | C | ISIN | [ISIN] |  | Internal | NEW |
|  | Underlier ID | Enum | C | US8765685024 | See CRF (Validations) |  |  | NEW |
|  | Underlying Structure (One Of) | Enum | (C) | Basket | See CRF (Validations) |  | Internal | NEW |
|  | Underlier Characteristic | Enum | D | Basket | See CRF (Validations) | Displayed if Underlier Structure is Basket | Internal | NEW |
|  | Underlying Asset Type (One Of) | Enum | M | Futures | See CRF (Validations) |  | CFI:2015 Char#3 (JE****) | NEW |
|  | Underlying Structure (One Of) | Enum | (C) | Single Underlier | See CRF (Validations) |  | Internal | NEW |
|  | Underlier ID Source | String | C | ISIN | [ISIN] |  | Internal | NEW |
|  | Underlier ID | Enum | C | US8765685024 | See CRF (Validations) |  |  | NEW |
|  | Underlying Structure (One Of) | Enum | (C) | Basket | See CRF (Validations) |  | Internal | NEW |
|  | Underlier Characteristic | Enum | D | Basket | See CRF (Validations) | Displayed if Underlier Structure is Basket | Internal | NEW |
|  | Underlying Asset Type (One Of) | Enum | M | Basket | See CRF (Validations) |  | CFI:2015 Char#3 (JE****) | NEW |
|  | Underlier Characteristic | Enum | D | Basket | See CRF (Validations) | Displayed if Underlier Structure is Basket | Internal | NEW |
|  | Return or Payout Trigger | Enum | M | Forward price of underlying instrument | [Spreadbets; Forward price of underlying instrument] |  | CFI:2015 Char#5 (JE****) | ISIN |
|  | Delivery Type | Enum | M | PHYS | [CASH; PHYS] |  | ISO 20022 | ISIN |

## Record Template Layout

| Section | Attribute | Format | Cat | Example Value | Validation / Derivation | Condition | Enum Source | Origin |
|---|---|---|---|---|---|---|---|---|
| Header Section | Asset Class | Set | M | Equity |  |  | CFI:2015 Char#2 (JE****) | ISIN |
|  | Instrument Type | Set | M | Forward |  |  | CFI:2015 Char#1 (JE****) | ISIN |
|  | Product | Set | M | Non_Standard |  |  |  | ISIN |
|  | Level | Set | M | UPI |  |  |  | NEW |
|  | Template Version | Integer | D | 1 |  |  |  | ISIN |
| Attribute Section | Underlying Asset Type | Enum | M | Single Stock | [Single Stock; Index; Basket; Options; Futures] |  | CFI:2015 Char#3 (JE****) | ISIN |
|  | Underlying Instrument ISIN | String | C | US8765685024 | See CRF (Validations) | Displayed if Underlier Structure is Single Underlier | ISIN |
|  | Underlying Instrument Index | String | C | EU0009658145 | See CRF (Normalization and Validations) |  | ESMA TTC and Annex 7 Market Indices | ISIN |
|  | Underlying Instrument Index Prop | String | C | 12345-ABCDE | See CRF (Validations) |  | DSB Proprietary Index Enumeration | ISIN |
|  | Return or Payout Trigger | Enum | M | Forward price of underlying instrument | [Spreadbets; Forward price of underlying instrument] |  | CFI:2015 Char#5 (JE****) | ISIN |
|  | Delivery Type | Enum | M | PHYS | [CASH; PHYS] |  | ISO 20022 | ISIN |
| Identifier Section | UPI | String | D | QZBT41DIN7C1 | UPI |  | ISO 4914 | NEW |
|  | Status | String | D | New |  |  |  | ISIN |
|  | Status Reason | String | D | <null> | Not applicable to a New record |  |  | ISIN |
|  | Last Update Date Time | DtTm | D | 2021-06-08T06:45:29 | YYYY-MM-DDThh:mm:ss |  |  | ISIN |
| Derived Section | Classification Type | String | D | JESXFP | See CRF (Derivations) |  | ISO 10962: 2015 | ISIN |
|  | Short Name | String | D | NA/Fwd Nstd Sgle Stk | See CRF (Derivations) |  | ISO 18774: 2015 | NEW |
|  | Underlier Characteristic | String | D | Basket | See CRF (Derivations) | Derived from underlier attributes | Internal | NEW |
|  | CFI Delivery Type | String | D | Physical | See CRF (Derivations) |  | CFI:2015 Char#6 (JE****) | NEW |

| Product Definition | |
|---|---|
| **Attributes** | See Template Layout (above).<br><br>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:<br><br>a) **Underlying Structure**<br>The above Request template described in this document supports products that can be defined with either a single underlier or a custom basket of (multiple) underliers. For this product, the user is asked to select one of the following:<br>• Single Underlier<br>• Basket |

|  | The selection of "Single Underlier" allows the user to enter the identifier for that individual underlier whereas the selection of "Basket" is considered a sufficient level of granularity (see ISO 4914 (UPI)) and so the user is not required to input a set of identifiers.<br><br>**b)  Underlier Type**<br>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:<br>• Single Stock<br>• Equity Index<br>• Proprietary Index<br>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.<br><br>*\* Please see Underlier Input Method Document (link provided in the Reference Section below) for further details.* |
|---|---|
| **Validation** | **1.  Underlying Asset Type**<br>The following validations will apply based on the Underlying Asset Type selected.<br>a.  "**Index**"<br>• Underlier ID is present, and Underlier ID Source must be [ISIN, ESMA or PROP].<br>• Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN, ESMA or PROP] indicated below.<br><br>b.  "**Single Stock**"<br>• Underlier ID is present, and Underlier ID Source must be [ISIN].<br>• Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN] indicated below.<br><br>c.  **"Options"** or **"Futures"**<br>• User can select Underlier ID (single Underlier) or Underlier Characteristic (multiple Underliers).<br>• If Underlier ID is present, Underlier ID Source must be [ISIN].<br>• Validation of the Underlier ID will apply based on the Underlier ID Source [ISIN] indicated below.<br>• If the Underlier Characteristic is selected, Underlier ID, Underlier ID Source and Underlying Instrument attributes will not be present on the REQUEST message and RECORD template.<br><br>d.  "**Basket**"<br>• The attribute Underlier Characteristic [Equity] is present, and "Basket" will appear as field value.<br>• If the Underlier Characteristic is selected, Underlier ID, Underlier ID Source and Underlying Instrument attributes will not be present on the REQUEST message and RECORD template.<br><br>**2.  Underlier ID and Underlier Characteristic [one of structure]**<br>• If Underlier ID is selected, attributes Underlier ID and Underlier ID Source [ISIN, ESMA or PROP] must be present in the REQUEST message and only one value can be selected in the enumeration.<br>• If Underlier Characteristic is selected, attributes Underlier ID and Underlier ID Source will not be present in REQUEST and RECORD templates.<br>• Only "Basket" is the allowed value in the REQUEST message if Underlier Characteristic is selected.<br><br>**3.  Underlier ID Source**<br>The following validation will be applied to Underlier ID based on the value selected on Underlier ID Source [ISIN, ESMA, PROP].<br><br>a.  ISIN<br>• The input text by user must be in 12 characters (2 alpha, 9 alphanumeric, 1 numeric).<br>• The input text must not have a prefix of "QZ" or "EZ".<br>• A syntactic validation is being performed to confirm an ISIN when hitting create.<br>• 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]$."<br>• If the input ISIN is not aligned with the above pattern after hitting create, an error message will apply "If Error: /Attributes/Underlying: instance failed to match exactly one schema (matched 0 out of 2)".<br>• If the input ISIN is aligned with the pattern criteria but ISIN value does not conform with syntactic validation, an error message will apply "Error: ISIN/s must be valid".<br><br>b.  ESMA<br>• Enumeration list is based on JSON codeset (EsmaEquityIndex.json). |

|  | c. PROP |
|---|---|
|  | • 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 | → | 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.

| **Attribute Data Dictionary** | This section provides the exact reference or source of the attribute. | | |
|---|---|---|---|

| **Full Name** | **Source** | **Type** |
|---|---|---|
| Underlying Asset Type | ISO 10962 Classification of financial instruments (CFI code) | Enums *[Single Stock; Index; Basket; Options; Futures]* |
| 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 *[Spreadbets; Forward price of underlying instrument]* |
| Delivery Type | ISO 20022 FinancialInstrumentReportingReferenceDataReportV01 | Enums *[CASH; PHYS]* |
| CFI Delivery Type | ISO 10962 Classification of financial instruments (CFI code) | Enums *[Cash; Physical]* |

| **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: "J" |
|  | • Asset Class: "E" |
|  | • Underlying Asset Type: from Request.UnderlyingAssetType… |
|  | - Single Stock → S |
|  | - Index → I |
|  | - Basket → B |
|  | - Options → O |
|  | - Futures → F |

| | | |
|---|---|---|
| | | • Not applicable/undefined:  "X"<br>• Return or Payout Trigger:  from Request.ReturnorPayoutTrigger…<br> - Spreadbets →  S<br> - Forward price of<br>  underlying instrument →  F<br>• Delivery Type:  from Request.DeliveryType…<br> - CASH →  C<br> - PHYS →  P<br><br>E.g.: "JESXFP" |
| | **Short Name** | Concatenation of the following attributes/values:<br>• Issuer:  "NA/"<br>• Instrument Type:  "Fwd" (fixed value)<br>• Product:  "Nstd" (fixed value)<br>• Underlying Asset Type:  from Request.UnderlyingAssetType…<br> - *Single Stock →*  *Sgle Stk*<br> - *Index →*  *Idx*<br> - *Basket →*  *Bskt*<br> - *Options →*  *Options*<br> - *Futures →*  *Futures*<br><br>E.g.: "NA/Fwd Nstd Sgle Stk"<br>*Note: The Short Name is based on the OTC ISIN that excludes the following fields:*<br> - *Notional Currency*<br> - *Expiry Date* |
| | **Underlier Characteristic** | Based on the attribute selected, the following derivations will apply:<br>1. If in the oneOf a single [ISIN, ESMA or PROP] is selected:<br> • then set the Underlier Characteristic to "Single".<br>2. If in the oneOf a Basket is selected:<br> • then set the Underlier Characteristic to "Basket". |
| | **CFI Delivery Type** | Derived from the input Delivery Type…<br>• CASH →  "Cash"<br>• PHYS →  "Physical" |
| **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. |
| Underlying Structure | Underlying Structure | Indicates whether the product is based on a single underlier or a basket of underliers. |
| Underlier Type | Underlier Type | Indicates the type of underlying asset or entity on which the product is based. |
| Underlier Characteristic | Underlier Characteristic | An attribute that is used to specify whether the product is based on a single or multiple underliers. |
| UPI | Identification | Unique Product Identifier (ISO 4914). |
| CFI Delivery Type | CFI Delivery Type | The Delivery Type as defined by CFI code: ISO 10962<br>• *As defined by CFI Code: ISO 10962* |

| **Additional Information** | |
|---|---|
| **Reference** | References to external documents can be found on the DSB website at this address [https://www.anna-dsb.com/upi-external-reference-documents/]. |

| Comments | • Currently, the system does not hold reference data to support the validation of the LEI or ISIN. This means that it is not possible to validate the existence or classification of the Underlier ID. In addition, this means that human-readable alias is not currently supported for inclusion in the Short Name attribute. | | | |
|---|---|---|---|---|

| ISO 4914 Equivalence | ISO 4914 | | Request Attribute | Record Attribute |
|---|---|---|---|---|
| | Asset Class | M | Asset Class | |
| | Instrument type | M | Instrument Type | |
| | Delivery type | M | Delivery Type | Delivery Type |
| | | | | CFI Delivery Type |
| | Return, pricing method or payout trigger | M | 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 Contract Tenor Period** | C | Not Required | |
| | Underlying Contract Tenor Period Multiplier** | C | Not Required | |

*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.

** Underlying Contract Tenor Period / Multiplier applies only to a derivative contract underlying another derivative. For this product, the underlying is (ISIN, INDEX, PROP) and so these attributes are not required.