

**Derivatives Service Bureau (UPI)**  
**CHANGE REQUEST FORM**

| Version | State | Author | Date        | Description                                     |
|---------|-------|--------|-------------|---|
| 1       | Draft | J. Lim | 04 May 2021 | Initial Document                                |
| 2       | Draft | J. Lim | 21 Jul 2021 | Updated attribute data dictionary and reference |

| Title                     | FOREIGN EXCHANGE OPTION Target Option Template Definition   |  |                |                 |
|---------------------------|---|--|----------------|-----------------|
| <b>Background</b>         | The following CRF presents a specification for the generation and retrieval of a Unique Product Identifier for the following product:   |  | <b>DSB-ID</b>  | <b>UPI-0265</b> |
|                           | <ul style="list-style-type: none"> <li><b>Foreign_Exchange : Option : Target_Option</b></li> </ul>  |  | <b>Type</b>    | New Template    |
|                           |   |  | <b>Owner</b>   | J.Lim           |
|                           |   |  | <b>Version</b> | 2               |
|                           |   |  | <b>State</b>   | Draft           |
| <b>Terms of Reference</b> |   |  |                |                 |
| <b>Scope</b>              | <ul style="list-style-type: none"> <li>This CRF specifies the product definition required for the generation / retrieval of a UPI only.</li> <li>This CRF covers both the input (Request) and output (Record) templates.</li> <li>Support for local jurisdiction / alternate underlier identifier input is currently out of scope.</li> <li>Support for CFI 2019 values is currently out of scope.</li> </ul>   |  |                |                 |
| <b>Requirements</b>       | <ul style="list-style-type: none"> <li>The product definition will conform to ISO 4914 (UPI).</li> <li>Where possible, the product definition is to be based on the attributes, values and behaviour of the equivalent OTC ISIN.</li> <li>The product definition will return a product short name (FISN).</li> <li>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.</li> </ul>  |  |                |                 |
| <b>Dependencies</b>       | <ul style="list-style-type: none"> <li>This specification is dependent on final sign-off of the ISO 4914 (UPI) specification.</li> <li>This specification is dependent on PC approval for the use of the OTC ISIN definitions as a basis for the UPI.</li> <li>This specification is dependent on PC approval for the inclusion of ISO 4914 (UPI) conditional attributes.</li> <li>This specification is dependent on TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration.</li> <li>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.</li> <li>The format of the Short Name is dependent upon the outcome of the ISO 18774 (FISN) systematic review.</li> </ul>  |  |                |                 |
| <b>Assumptions</b>        | <ul style="list-style-type: none"> <li>This specification assumes that, unless stated, all values and behaviours are based on those of the equivalent OTC ISIN product definition.</li> <li>This specification assumes that no input values are to be defaulted by the system.</li> <li>This specification is based on the current ISO 4914 (UPI) specification (CD) – including attributes that are not currently supported by the equivalent OTC ISIN.</li> <li>This specification is based on the DSB's current equivalent OTC ISIN product definition.</li> <li>This specification is based on the attributes and values defined in ISO 10962 (CFI:2015).</li> <li>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.</li> <li>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.</li> <li>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".</li> <li>The specification for UPI does not include expiry date as part of the attributes, hence "expired" status does not apply.</li> <li>The specification for Settlement Currency as a mandatory attribute for all FX OTC Derivatives is subject for review and approval by CDIDE as part of ISO 4914 standard.</li> </ul> |  |                |                 |

**Request Template Layout**

| Section           | Attribute                 | Format | Cat | Example Value    | Validation / Derivation | Enum Source           | ORIGIN |
|-------------------|---------------------------|--------|-----|------------------|-------------------------|-----------------------|--------|
| Header Section    | Asset Class               | Set    | M   | Foreign_Exchange |                         | CFI:2015 Char#2       | ISIN   |
|                   | Instrument Type           | Set    | M   | Option           |                         | CFI 2015 Char#1       | ISIN   |
|                   | Product                   | Set    | M   | Target_Option    |                         |                       | ISIN   |
|                   | Level                     | Set    | M   | UPI              |                         |                       | NEW    |
| Attribute Section | Underlier ID              | Enum   | M   | AUD              | ISOCurrencyCode.json    | ISO 4217 (3-Char CCY) | NEW    |
|                   | Underlier ID Source       | String | M   | CCY              | [CCY]                   | internal              | NEW    |
|                   | Other Underlier ID        | Enum   | M   | USD              | ISOCurrencyCode.json    | ISO 4217 (3-Char CCY) | NEW    |
|                   | Other Underlier ID Source | String | M   | CCY              | [CCY]                   | internal              | NEW    |
|                   | Option Type               | Enum   | M   | CALL             | [CALL; PUTO; OPTL]      | ISO 20022             | ISIN   |
|                   | Option Exercise Style     | Enum   | M   | EURO             | [AMER; BERM; EURO]      | ISO 20022             | ISIN   |
|                   | Delivery Type             | Enum   | M   | PHYS             | [CASH; PHYS; OPTL]      | ISO 20022             | ISIN   |

**Record Template Layout**

| Section            | Attribute                   | Format  | Cat      | Example Value          | Validation / Derivation                           | Enum Source              | ORIGIN |
|--------------------|-----------------------------|---------|----------|------------------------|---|--------------------------|--------|
| Header Section     | Asset Class                 | Set     | M        | Foreign_Exchange       |   | CFI:2015 Char#2 (HF****) | ISIN   |
|                    | Instrument Type             | Set     | M        | Option                 |   | CFI 2015 Char#1 (HF****) | ISIN   |
|                    | Product                     | Set     | M        | Target_Option          |   |                          | ISIN   |
|                    | Level                       | Set     | M        | UPI                    |   |                          | NEW    |
|                    | Template Version            | Integer | D        | 1                      |   |                          | ISIN   |
| Attribute Section  | Notional Currency           | Enum    | M        | AUD                    | See CRF (Normalization)                           | ISO 4217 (3-Char CCY)    | ISIN   |
|                    | Other Notional Currency     | Enum    | M        | USD                    | See CRF (Normalization)                           | ISO 4217 (3-Char CCY)    | ISIN   |
|                    | Option Type                 | Enum    | M        | CALL                   | See CRF (Normalization)                           | ISO 20022                | ISIN   |
|                    | Option Exercise Style       | Enum    | M        | EURO                   | [AMER; BERM; EURO]                                | ISO 20022                | ISIN   |
|                    | Delivery Type               | Enum    | M        | PHYS                   | [CASH; PHYS; OPTL]                                | ISO 20022                | ISIN   |
| Identifier Section | UPI                         | String  | D        | QZGKN16K50S2           | See UPI Document (UPI Code structure and Annex C) | ISO 4914                 | NEW    |
|                    | Status                      | String  | D        | New                    |   |                          | ISIN   |
|                    | Status Reason               | String  | D        | <null>                 | Not applicable to a New record                    |                          | ISIN   |
|                    | Last Update Date Time       | DdTm    | D        | 2021-02-23T00:00:13    | YYYY-MM-DDThh:mm:ss                               |                          | ISIN   |
| Derived Section    | Classification Type         | String  | D        | HFMAMP                 | See CRF (Derivations)                             | ISO 10962:2015           | ISIN   |
|                    | Short Name                  | String  | D        | NA/O Targ Call AUD USD | See CRF (Derivations)                             | ISO 18774: 2015          | NEW    |
|                    | Underlying Asset Type       | String  | D        | Other                  | Fixed value                                       | CFI:2015 Char#3 (HF****) | ISIN   |
|                    | Valuation Method or Trigger | String  | D        | Other                  | Fixed value                                       | CFI:2015 Char#5 (HF****) | ISIN   |
|                    | CFI Option Style and Type   | String  | D        | European-Call          | See CRF (Derivations)                             | CFI:2015 Char#4 (HF****) | NEW    |
| CFI Delivery Type  | String                      | D       | Physical | See CRF (Derivations)  | CFI:2015 Char#6 (HF****)                          | NEW                      |        |

| Product Definition      |  |                   |                         |      |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
|-------------------------|--|-------------------|-------------------------|------|-------------------|-----|-------------------------|-----|-------------------------|-----|-------------|------|-------------|------|-----------------------|------|-----------------------|------|-------------------|-----|---|-------------------|-----|-------------------------|-----|-------------------------|-----|-------------|------|-------------|------|-----------------------|------|-----------------------|------|
| <b>Attributes</b>       | See Template Layout (above).   |                   |                         |      |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| <b>Validation</b>       | <p><b>1. Notional Currency and Other Notional Currency</b></p> <ul style="list-style-type: none"> <li>Currency for both legs cannot be identical.</li> <li>If the following attributes have the same currency, an error message will apply "Error: Notional Currency and Other Notional Currency cannot be identical".</li> </ul>  |                   |                         |      |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| <b>Normalization</b>    | <p><b>1. Notional Currency and Other Notional Currency</b></p> <p>For an FX Option, the option type is always associated with the Notional Currency. To ensure that only one UPI is generated for a put or call option on a currency pair, below normalization shall apply:</p> <p>a) Order "Notional Currency" and "Other Notional Currency" alphabetically.</p> <p>b) If "Notional Currency" is first alphabetically, then record the currency pair and option type value as is in the record.</p> <table border="1" style="margin-left: 40px;"> <tr> <td>Notional Currency</td> <td>EUR</td> <td rowspan="4" style="text-align: center; vertical-align: middle;">→</td> <td>Notional Currency</td> <td>EUR</td> </tr> <tr> <td>Other Notional Currency</td> <td>USD</td> <td>Other Notional Currency</td> <td>USD</td> </tr> <tr> <td>Option Type</td> <td>CALL</td> <td>Option Type</td> <td>CALL</td> </tr> <tr> <td>Option Exercise Style</td> <td>EURO</td> <td>Option Exercise Style</td> <td>EURO</td> </tr> </table> <p>c) If "Notional Currency" is not first alphabetically, then record it as "Other Notional Currency" and change the option type value. If option type value is "PUTO" change it to "CALL" and vice versa.</p> <table border="1" style="margin-left: 40px;"> <tr> <td>Notional Currency</td> <td>USD</td> <td rowspan="4" style="text-align: center; vertical-align: middle;">→</td> <td>Notional Currency</td> <td>EUR</td> </tr> <tr> <td>Other Notional Currency</td> <td>EUR</td> <td>Other Notional Currency</td> <td>USD</td> </tr> <tr> <td>Option Type</td> <td>CALL</td> <td>Option Type</td> <td>PUTO</td> </tr> <tr> <td>Option Exercise Style</td> <td>EURO</td> <td>Option Exercise Style</td> <td>EURO</td> </tr> </table> <p>d) If option type value is "Chooser", alphabetical normalization approach in the currency pair shall apply and keep option value type as "Chooser".</p> | Notional Currency | EUR                     | →    | Notional Currency | EUR | Other Notional Currency | USD | Other Notional Currency | USD | Option Type | CALL | Option Type | CALL | Option Exercise Style | EURO | Option Exercise Style | EURO | Notional Currency | USD | → | Notional Currency | EUR | Other Notional Currency | EUR | Other Notional Currency | USD | Option Type | CALL | Option Type | PUTO | Option Exercise Style | EURO | Option Exercise Style | EURO |
| Notional Currency       | EUR  | →                 | Notional Currency       |      | EUR               |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| Other Notional Currency | USD  |                   | Other Notional Currency |      | USD               |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| Option Type             | CALL   |                   | Option Type             |      | CALL              |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| Option Exercise Style   | EURO   |                   | Option Exercise Style   | EURO |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| Notional Currency       | USD  | →                 | Notional Currency       | EUR  |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| Other Notional Currency | EUR  |                   | Other Notional Currency | USD  |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| Option Type             | CALL   |                   | Option Type             | PUTO |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
| Option Exercise Style   | EURO   |                   | Option Exercise Style   | EURO |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |
|                         | This section provides the exact reference or source of the attribute.  |                   |                         |      |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |                   |     |   |                   |     |                         |     |                         |     |             |      |             |      |                       |      |                       |      |

| Attribute Data Dictionary   | Full Name   | Source  | Type                                      |
|---|---|---|---|
|   | Delivery Type   | ISO 20022<br>FinancialInstrumentReportingReferenceDataReportV01   | Enums [CASH; PHYS; OPTL]                  |
|   | CFI Delivery Type   | ISO 10962 Classification of financial instruments (CFI code)  | Enums [Cash; Physical; Elect at Exercise] |
|   | Option Exercise Style   | ISO 20022<br>FinancialInstrumentReportingReferenceDataReportV01   | Enums [AMER; BERM; EURO]                  |
|   | Option Type   | ISO 20022<br>FinancialInstrumentReportingReferenceDataReportV01   | Enums [CALL; PUTO; OPTL]                  |
|   | Notional Currency   | ISO 4217 Currency Codes   | Pattern: [A-Z]{3,3}                       |
|   | Other Notional Currency   |   |   |
| <p>*The Delivery Type for Foreign Exchange Option is based on the current DSB OTC ISIN and only supports CASH (Cash), PHYS (Physical) and OPTL (Elect at Exercise). Therefore, Non-Deliverable value is not supported even if it is included in the ISO 10962 (CFI 2015).</p> |   |   |   |
| <b>Derivation</b>   | This section provides additional details to the derivation logic specified in the Template Layout sections (above). |   |   |
|   | <b>Classification Type</b>  | Concatenation of the following attributes/values: <ul style="list-style-type: none"> <li>• Instrument Type: "H"</li> <li>• Asset Class: "F"</li> <li>• Underlying Asset Type: "M"</li> <li>• Option Type/Style: Request.OptionExerciseStyle and Option.Type (output value)                             <ul style="list-style-type: none"> <li>- PUTO/AMER → "E"</li> <li>- PUTO/BERM → "F"</li> <li>- PUTO/EURO → "D"</li> <li>- CALL/AMER → "B"</li> <li>- CALL/BERM → "C"</li> <li>- CALL/EURO → "A"</li> <li>- OPTL/AMER → "H"</li> <li>- OPTL/BERM → "I"</li> <li>- OPTL/EURO → "G"</li> </ul> </li> <li>• Valuation Method or Trigger: "M"</li> <li>• Delivery Type: from Request.DeliveryType                             <ul style="list-style-type: none"> <li>- CASH → "C"</li> <li>- PHYS → "P"</li> <li>- OPTL → "E"</li> </ul> </li> </ul> E.g.: "HFMAMP" |   |
|   | <b>Short Name</b>   | Concatenation of the following attributes/values: <ul style="list-style-type: none"> <li>• Issuer Name: "NA/"</li> <li>• Instrument Type: "O" (fixed value)</li> <li>• Product: "Targ" (fixed value)</li> <li>• Option Type: from Option.Type (output value)                             <ul style="list-style-type: none"> <li>- PUTO "Put"</li> <li>- CALL "Call"</li> <li>- OPTL "O"</li> </ul> </li> <li>• Notional Currency: "EUR" (from ISO 4217 output value)</li> <li>• Other Notional Currency: "USD" (from ISO 4217 output value)</li> </ul> E.g.: "NA/O Targ Call EUR USD"<br>Note: The Short Name is based on the OTC ISIN that excludes the following fields: <ul style="list-style-type: none"> <li>• Expiry Date</li> </ul>  |   |

|                               |                                  |  |                           |   |
|-------------------------------|----------------------------------|--|---------------------------|---|
|                               | <b>CFI Option Style and Type</b> | Derived from the Request.OptionExerciseStyle and Option.Type (output value)  |                           |   |
|                               | <b>CFI Delivery Type</b>         | Derived from the input Delivery Type...  |                           |   |
|                               |                                  | <ul style="list-style-type: none"> <li>• PUTO/AMER → "American-Put"</li> <li>• PUTO/BERM → "Bermudan-Put"</li> <li>• PUTO/EURO → "European-Put"</li> <li>• CALL/AMER → "American-Call"</li> <li>• CALL/BERM → "Bermudan-Call"</li> <li>• CALL/EURO → "European-Call"</li> <li>• OPTL/AMER → "American-Chooser"</li> <li>• OPTL/BERM → "Bermudan-Chooser"</li> <li>• OPTL/EURO → "European-Chooser"</li> </ul>  |                           |   |
|                               |                                  | <ul style="list-style-type: none"> <li>• CASH → "Cash"</li> <li>• PHYS → "Physical"</li> <li>• OPTL → "Elect at Exercise"</li> </ul>   |                           |   |
| <b>GUI Details</b>            |                                  | The following section provides display information for any attributes (and values) that are not included in the related OTC ISIN definition.   |                           |   |
|                               |                                  | <b>Attribute</b>   | <b>Display Name</b>       | <b>Tool Tip (and • value elaboration)</b>   |
|                               |                                  | 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.   |
|                               |                                  | Other Underlier ID   | Other 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 |
|                               |                                  | Other Underlier ID Source  | Other Underlier ID Source | The origin, or publisher, of the associated underlier ID.   |
|                               |                                  | UPI  | Identification            | Unique Product Identifier (ISO 4914).   |
|                               |                                  | CFI Option Style and Type  | CFI Option Style and Type | The Option Style and Type as defined by CFI code: ISO 10962<br>• As defined by CFI Code: ISO 10962  |
|                               |                                  | CFI Delivery Type  | CFI Delivery Type         | The Delivery Type as defined by CFI code: ISO 10962<br>• As defined by CFI Code: ISO 10962  |
| <b>Additional Information</b> |                                  |  |                           |   |
| <b>Reference</b>              |                                  | References to external documents can be found on the DSB website at this address [ <a href="https://www.anna-dsb.com/upi-external-reference-documents/">https://www.anna-dsb.com/upi-external-reference-documents/</a> ].  |                           |   |
| <b>Comments</b>               |                                  | <ul style="list-style-type: none"> <li>• Text values in the Short Name are taken from "ISO Abbrev w acronyms-Final_v0.5.5.FINAL."</li> <li>• The shortname abbreviation for option type – Put is "P" for rates option while in equity and Foreign_Exchange, shortname abbreviation for the option type – Put is "Put". Same as for Option Type – OPTL whereas in FX it is "O" and "Opt" for Rates and Equity.</li> <li>• The Option Type enumerated values of UPI will be based on current DSB OTC ISIN values [CALL; PUTO; OPTL] rather than the ISO 20022 values [CALL; PUTO; OTHR].</li> <li>• The Settlement Currency for the UPI will follow the behaviour / definition of the equivalent OTC ISIN templates – including the attribute where the OTC ISIN has one and excluding it where OTC ISIN excludes it.</li> </ul> |                           |   |
| <b>ISO 4914 Equivalence</b>   |                                  | <b>ISO 4914</b>  | <b>Request Attribute</b>  | <b>Record Attribute</b>   |
|                               |                                  | Asset Class  | M                         | Asset Class   |
|                               |                                  | Instrument Type  | M                         | Instrument Type   |
|                               |                                  | Delivery Type  | M                         | Delivery Type   |
|                               |                                  |  |                           | CFI Delivery Type   |

|   |  |              |                           |                             |
|---|--|--------------|---------------------------|-----------------------------|
|   | Option Style                             | M            | Option Exercise Style     | Option Exercise Style       |
|   | Option Type                              | C            | Option Type               | Option Type                 |
|   | Return, pricing method or payout trigger | M            | Not Required              | Valuation Method or Trigger |
|   | Settlement Currency*                     | M            | Not Required              |                             |
|   | Underlier ID                             | C            | Underlier ID              | Notional Currency           |
|   |  |              | Other Underlier ID        | Other Notional Currency     |
|   | Underlier ID Source                      | C            | Underlier ID Source       | Not Required                |
|   |  |              | Other Underlier ID Source | Not Required                |
|   | Underlier Type                           | M            | Not Required              | Underlying Asset Type       |
| Underlying Contract Tenor Period**            | C  | Not Required |                           |                             |
| Underlying Contract Tenor Period Multiplier** | C  | Not Required |                           |                             |

\*Settlement Currency does not apply for this product, refer on comment section above.

\*\*Underlying Contract Tenor Period / Multiplier applies only to a derivative contract underlying another derivative. For this product, the underlying is a currency pair and so these attributes are not required.