Derivatives Service Bureau (ISIN)

CHANGE REQUEST FORM

Version	State	Author	Date	Description
1	Draft	B. Oliver	07 Mar 2022	Initial Document
2	Draft	B. Oliver	15 Mar 2022	Structural changes to Rates & Equity template design
3	Draft	B. Oliver	17 Mar 2022	Changes to Rates validations. Correcting formatting issues with Title column misalignment. Comments section updated.
4	Draft	B. Oliver	21 Mar 2022	Updated templates, comments & short name derivation
5	Draft	B. Oliver	16 May 2022	Updated record template
6	Draft	B. Oliver	15 July 2022	Updates to request, record templates, short name & full name logic
7	Draft	B. Oliver	21 July 2022	Updates to request, record templates & ISO Underlying Instrument Index derivation logic
8	Draft	B. Oliver	02 Aug 2022	Added anyOf structure to record template for Eq/Cmd. Amended Error message for invalid ISIN Pattern under Underlying.AssetClass.Rates. Changed short name logic from 'Forward' to 'Fwd' to prevent short name going over 35 characters
9	Draft	B. Oliver	04 Aug 2022	Updated derivation logic for ISO Underlying Instrument Index
10	Draft	B. Oliver	16 Aug 2022	Updated full name notional & other notional currency comments
11	Draft	M. Surop	22 Feb 2023	Updated Request and Record templates layout for Underlying Asset Class – Rates
12	Draft	M. Surop	07 Mar 2023	Updated Full Name derivation for ISO Underlying Instrument Index
13	Draft	M. Surop	14 Mar 2023	Update Validation error messages
14	Draft	M. Surop	19 Apr 2023	Update Validation section for Underlying Asset Class - Rates

<table>
<tr><th>Title</th><th colspan="3">OTHER FORWARD Non Standard Template Definition</th></tr>
<tr><td rowspan="5">Background</td><td rowspan="5">The following CRF presents a specification for the generation and retrieval of a ISIN for the following product:

• Other : Forward : Non_Standard</td><td>DSB-ID</td><td>DSB-1615</td></tr>
<tr><td>Type</td><td>New Template</td></tr>
<tr><td>Owner</td><td>B. Oliver</td></tr>
<tr><td>Version</td><td>14</td></tr>
<tr><td>State</td><td>Final</td></tr>
<tr><td colspan="4">Terms of Reference</td></tr>
<tr><td>Scope</td><td colspan="3">• This CRF specifies the product definition required for the generation / retrieval of a ISIN 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.</td></tr>
<tr><td>Requirements</td><td colspan="3">• The product definition is to be based on the attributes, values and behaviour of the current OTC ISIN and equivalent UPI.
• The product definition will return an equivalent UPI based on the new requirements of the OTC ISIN.</td></tr>
<tr><td>Dependencies</td><td colspan="3">• 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 TAC Approval for the DSB approach to ISO 10962 (CFI:2019) migration.
• This specification is dependent on ISO 4914 (UPI) requirements, to be able to create an equivalent UPI parent for created OTC ISIN.</td></tr>
</table>

Assumptions	• This specification assumes that, unless stated, all values and behaviours are based on DSB's current OTC product definition. • The specification assumes that no defaulted or blank values in the input request to align the requirements with the ISO 4914 (UPI) requirement. • The specification will support the requirement of ISO 4914 (UPI) – including the attributes that are not currently supported in the current OTC ISIN. • This specification is based on the attributes and values defined in ISO 10962 (CFI:2015).

Request Template Layout

Section	Attribute	Format	Cat	Array	Example Value	Validation / Derivation	Condition	Enum Source	in UPI
Header Section	Asset Class	Set	M	N	Other				Y
	Instrument Type	Set	M	N	Forward				Y
	Product	Set	M	N	Non_Standard				Y
	Level	Set	M	N	InstRefDataReporting				Y
Attribute Section	Expiry Date	String	M	N	2021-08-27			RTS23/Field 24	N
	Price Multiplier	number	M	N	1			RTS23/Field 25	N
	Delivery Type	Enum	M	N	Physical	[Cash; Physical; Non-Deliverable]		CFI 2015 superset values	Y
	Underlying Asset Class.Rates	Object	C	Y					Y
	Term of Contract (oneOf)	Object	(C)	N	By Tenor				N
	Term of Contract Value	Integer	(M)	N	1	1 to 999 (excluding 0)		RTS23/ Field 41	N
	Term of Contract Unit	Enum	(M)	N	DAYS	[DAYS, WEEK, MNTH, YEAR]		RTS23/ Field 41	N
	Term of Contract (oneOf)	Object	(C)	N	By Effective Date				N
	Effective Date	String	(M)	N	2021-08-27				N
	Expiry Date Adjusted	Boolean	(C)	N	FALSE				N
	Tenor Calculation Method	String	(C)	N	ESMA				N
	Notional Currency	Enum	(M)	N	AUD	ISOCurrencyCode.json	required if asset is selected	ISO 4217 (3-Char CCY)	Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Spreadbets; Forward price of underlying instrument]		CFI:2015 Char#5 (JR****)	Y
	Underlying (anyOf)	String	(M)	N	Reference Rate				N
	Reference Rate								
	Reference Rate	Enum	(M)	Y	AUD-CPI	FpmlRatesReferenceAndInflationRate.json	required if asset is selected	Fpml Coding Scheme 5.98 & 5.108	Y
	Reference Rate Term Value	Integer	(M)	N	3	-999 to 999 (including 0)	required if asset is selected	ISO 20022	Y
	Reference Rate Term Unit	Enum	(M)	N	MNTH	[DAYS, WEEK, MNTH, YEAR]	required if asset is selected	ISO 20022	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument ISIN				N
	Underlying Instrument ISIN	String	(M)	Y	US87331AAB08	See CRF (Validation and Normalization)			Y
	Underlying Asset Class.Foreign_Exchange	Object	C	Y					Y
	Notional Currency	Enum	(M)	N	AUD	ISOCurrencyCode.json	both pairs are required	ISO 4217 (3-Char CCY)	Y
	Other Notional Currency	Enum	(M)	N	EUR	ISOCurrencyCode.json	both pairs are required	ISO 4217 (3-Char CCY)	Y
	Return or Payout Trigger	Enum	(M)	N	Spreadbets	[Spreadbets; Contract for Difference (CFD), Forward price of underlying instrument]		CFI:2015 Char#5 (JF****)	Y
	Settlement Currency	Enum	(C)	N	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	Y
	Place of Settlement	Enum	(C)	N	Hong Kong	Country List		ISO 3166	Y
	Underlying Asset Class.Credit	Object	C	Y					Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Spreadbets; Forward price of underlying instrument]		CFI:2015 Char#5 (JC****)	Y
	Underlying Instrument ISIN	String	(M)	Y	US87331AAB08	See CRF (Validation and Normalization)			Y
	Underlying Asset Class.Equity	Object	C	Y					Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Spreadbets; Forward price of underlying instrument, Contract for Difference (CFD)]		CFI:2015 Char#5 (JE****)	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument ISIN				Y
	Underlying Instrument ISIN	String	(M)	Y	GB0008706128	See CRF (Validation and Normalization)			Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index				Y
	Underlying Instrument Index	Enum	(M)	Y	MSCI EM USD	FpmlEquityIndex.json		ESMA TTC	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index Prop				Y
	Underlying Instrument Index Prop	String	(M)	Y	34810-JP16LMO	See CRF (Validation and Normalization)		DSB Proprietary Index Enumeration	Y
	Underlying Asset Class.Commodities	Object	C	Y					Y
	Notional Currency	Enum	(M)	N	AUD	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Contract for Difference (CFD); Forward price of underlying instrument]		CFI:2015 Char#5 (JT****)	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index				Y
	Underlying Instrument Index	Enum	(M)	Y	OTHER	CommoditiesIndex.json			Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index Prop				Y
	Underlying Instrument Index Prop	String	(M)	Y	11339-MLCIINKC	See CRF (Validation and Normalization)		DSB Proprietary Index Enumeration	Y
	Underlying (anyOf)	String	(M)	N	Reference Rate				Y
	Reference Rate	Enum	(M)	Y	LEAD-LME CASH	FpmlCommoditiesReferenceRate.json		ISDA Taxonomy 2.0	Y
	Base Product	Enum	(M)	N					Y
	Base Product	Enum	(M)	N	ENVR			RTS 23 (EU 2017/585) Table 2	Y
	Sub Product	Enum	(M)	N	EMIS			RTS 23 (EU 2017/585) Table 2	Y
	Additional Sub Product	Enum	(M)	N	EUAE			RTS 23 (EU 2017/585) Table 2	Y
	Transaction Type	Enum	(M)	N	FUTR				N
	Final Price Type	Enum	(M)	N	ARGM				N

Record Template Layout

Section	Attribute	Format	Cat	Array	Example Value	Validation / Derivation	Condition	Enum Source	in UPI
Header Section	Asset Class	Set	M	N	Other				
	Instrument Type	Set	M	N	Forward				
	Product	Set	M	N	Non_Standard				
	Level	Set	M	N	InstRefDataReporting				
Attribute Section	Expiry Date	String	M	N	2021-08-27			RTS23/Field24	N
	Price Multiplier	number	M	N	1			RTS23/ Field 25	N
	Delivery Type	Enum	M	N	Physical	[Cash; Physical; Non-Deliverable]		CFI 2015 superset values	Y
	Underlying Asset Class.Rates	Object	C	Y					Y
	Term of Contract Value	Integer	(C)	N	1	1 to 999 (excluding 0)		RTS23/ Field 41	N
	Term of Contract Unit	Enum	(C)	N	DAYS	[DAYS, WEEK, MNTH, YEAR]		RTS23/ Field 41	N
	Notional Currency	Enum	(M)	N	AUD	ISOCurrencyCode.json	required if asset is selected	ISO 4217 (3-Char CCY)	Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Spreadbets; Forward price of underlying instrument]		CFI:2015 Char#=5 (JR****)	Y
	Underlying (anyOf)	String	(M)	N	Reference Rate				Y
	Reference Rate								
	Reference Rate	Enum	(C)	Y	AUD-CPI	FpmlRatesReferenceAndInflationRate.json	required if asset is selected	Fpml Coding Scheme 5.98 & 5.108	Y
	Reference Rate Term Value	Integer	(C)	N	3	-999 to 999 (including 0)	required if asset is selected		Y
	Reference Rate Term Unit	Enum	(C)	N	MNTH	[DAYS, WEEK, MNTH, YEAR]	required if asset is selected	ISO 20022	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index				Y
	Underlying Instrument ISIN	String	(C)	Y	US87331AAB08	See CRF (Validation and Normalization)			Y
	Underlying Asset Class.Foreign_Exchange	Object	C	Y					Y
	Notional Currency	Enum	(M)	N	AUD	ISOCurrencyCode.json	both pairs are required	ISO 4217 (3-Char CCY)	Y
	Other Notional Currency	Enum	(M)	N	EUR	ISOCurrencyCode.json	both pairs are required	ISO 4217 (3-Char CCY)	Y
	Return or Payout Trigger	Enum	(M)	N	Spreadbets	[Spreadbets; Contract for Difference (CFD), Forward price of underlying instrument]		CFI:2015 Char#5 (JF****)	Y
	Settlement Currency	Enum	(C)	N	EUR	ISOCurrencyCode.json		ISO 4217 (3-Char CCY)	Y
	Place of Settlement	Enum	(C)	N	Hong Kong	ISOCurrencyCode.json		ISO 3166 (3-Char CCY)	Y
	Underlying Asset Class.Credit	Object	C	Y					Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Spreadbets; Forward price of underlying instrument]		CFI:2015 Char#4 (JC****)	Y
	Underlying Instrument ISIN	String	(C)	Y	US87331AAB08	See CRF (Validation and Normalization)			Y
	Underlying Asset Class.Equity	Object	C	Y					Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Spreadbets; Forward price of underlying instrument, Contract for Difference (CFD)]		CFI:2015 Char#5 (JE****)	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument ISIN				Y
	Underlying Instrument ISIN	String	(C)	Y	GB0008706128	See CRF (Validation and Normalization)			Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index				Y
	Underlying Instrument Index	Enum	(C)	Y	MSCI EM USD	FpmlEquityIndex.json		ESMA TTC	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index Prop				Y
	Underlying Instrument Index Prop	String	(C)	Y	34810-JP16LMO	See CRF (Validation and Normalization)		DSB Proprietary Index Enumeration	Y
	Underlying Asset Class.Commodities	Object	C	Y					Y
	Notional Currency	Enum	(M)	N	AUD	ISOCurrencyCode.json	both pairs are required	ISO 4217 (3-Char CCY)	Y
	Return or Payout Trigger	Enum	(M)	N	Forward price of underlying instrument	[Contract for Difference (CFD); Forward price of underlying instrument]		CFI:2015 Char#5 (JT****)	Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index				Y
	Underlying Instrument Index	Enum	(C)	Y	OTHER	CommoditiesIndex.json			Y
	Underlying (anyOf)	String	(M)	N	Underlying Instrument Index Prop				Y
	Underlying Instrument Index Prop	String	(C)	Y	11339-MLCIINKC	See CRF (Validation and Normalization)		DSB Proprietary Index Enumeration	Y
	Underlying (anyOf)	String	(M)	N	Reference Rate				Y
	Reference Rate	Enum	(C)	Y	LEAD-LME CASH	FpmlCommoditiesReferenceRate.json		ISDA Taxonomy 2.0	Y
	Base Product	Enum	(M)	N	ENVR			RTS 23 (EU 2017/585) Table 2	Y
	Sub Product	Enum	(M)	N	EMIS			RTS 23 (EU 2017/585) Table 2	Y
	Additional Sub Product	Enum	(M)	N	EUAE			RTS 23 (EU 2017/585) Table 2	Y
	Transaction Type	Enum	(M)	N	FUTR				N
	Final Price Type	Enum	(M)	N	ARGM				N
Identifier Section	Identification	String	D	N	EZH4NLN52983				Y
	Status	String	D	N	New				Y
	Status Reason	String	D	N	<null>	Not applicable to a New record			Y
	Last Update Date Time	String	D	N	2021-02-23T00:00:13	YYYY-MM-DDThh:mm:ss			Y
Derived Section	Full Name	String	D	N	Other Forward Non_Standard 1 DAYS Multiple ISINs Multiple Indices ENVR EUAE Multiple Currencies 20210827	See CRF (Derivations)			N
	Classification Type	String	D	N	MMSXXX	See CRF (Derivations)			Y
	Commodity Derivative Indicator	String	D	N	FALSE				N
	Issuer or Operator of the Trading Venue Identifier	String	D	N	NA				N
	Short Name	String	D	N	NA/Fwd Oth Nstd Mlt 20210827	See CRF (Derivations)			Y
	ISO Underlying Instrument Index	String	D	N	Multiple Indices	See CRF (Derivations)			N
	ISO Reference Rate	String	D	N	Multiple Indices	See CRF (Derivations)			N
	ISO Place of Settlement	String	D	N	HK	See CRF (Derivations)			N
	ISO Delivery Type	String	D	N	PHYS	[CASH; PHYS; OPTL]		ISO 20022	N

**(M) – Mandatory if underlying asset class is selected; (C) – Conditional if underlying asset class is selected.*

***See Appendix 1 & 2 for enum_titles and elaboration*

<table>
<tr><th colspan="2">Product Definition</th></tr>
<tr><td>Attributes</td><td>See Template Layout (above).

a. Underlying Asset Class
The Request template described in this document supports multi-asset products and so the Request template allows the user to select asset classes of the underliers.
For this product the user is asked to select one of the following:
Rates
Credit
Equities
Foreign Exchange
Commodities
Once an asset class is selected the user is then able to input the values for any attributes that are associated with underliers within that asset class.</td></tr>
<tr><td>Validation</td><td>The following validations will apply depending on the underlying asset class selected. The product supports multi-asset products and attributes associated to it will be available upon the selection of the underlying asset class.

1. Underlying Asset Class - Rates
User must select Reference Rate(s) and/or Underlying Instrument ISIN(s) as underlying and the following validation will apply depending on the selected underlying.</td></tr>
</table>

a. Term of Contract (oneOf)
User must select either "By Tenor" or "By Effective Date" if Reference Rate is selected.
  - If user selects "By Tenor", attributes "Term of Contract Value" and "Term of Contract Unit" must be present in the REQUEST template.
  - If user selects "By Effective Date", attributes "Effective Date", "Expiry Date Adjusted" and "Tenor Calculation Method" must be present in the REQUEST template.

- If Reference Rate is selected, Term of Contract associated attributes must be present in the REQUEST template. If Term of Contract is not selected, an error message will apply after hitting create: "Error: Term or Contract is required".
- If Underlying Instrument ISIN is selected, attributes "Term of Contract Value", "Term of Contract Unit", "Effective Date", "Expiry Date Adjusted" and "Tenor Calculation Method" must not be present in the REQUEST template. If Term of Contract is selected, an error message will apply after hitting create: "Error: Term of Contract is only supported if Underlying selected is Reference Rate".

b. Reference Rate
- Enumeration list is based on JSON codeset (FpmlRatesReferenceAndInflationRate.json).
- If Reference Rate is selected, the Reference Rate Term Value/Unit must be populated.
- The input text for Reference Rate Term Value must be an integer (positive or negative including 0).

c. Underlying Instrument 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]$."
- If the input ISIN is not aligned with the above pattern after hitting create, an error message will apply "/Attributes/UnderlyingAssetClass/Rates/Underlying/UnderlyingInstrumentISIN/0: ECMA 262 regex ^(?!(EZ|QZ))[A-Z]{2}[A-Z0-9]{9}[0-9]$" does not match input string "<invalid input string>"".
- If the input ISIN is aligned with the pattern criteria but ISIN value does not conformed with syntactic validation, an error message will apply "Error: ISIN/s must be valid".

2. Underlying Asset Class - Equity

a. Underlying Instrument ISIN/ Index/ Index PROP
User must select at least one of the following underlying instruments and below validation will apply depending on the selection.

i. Underlying Instrument 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]$."
  - If the input ISIN is not aligned with the above pattern after hitting create, an error message will apply "/Attributes/UnderlyingAssetClass/Equity/Underlying/UnderlyingInstrumentISIN/0: ECMA 262 regex ^(?!(EZ|QZ))[A-Z]{2}[A-Z0-9]{9}[0-9]$" does not match input string "<invalid input string>"".
  - If the input ISIN is aligned with the pattern criteria but ISIN value does not conformed with syntactic validation, an error message will apply "Error: ISIN/s must be valid".

ii. Underlying Instrument Index
  - Enumeration list is based on JSON codeset (FpmlEquityIndex.json)

iii. Underlying Instrument Index "PROP"
  - 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 selected in the request message. 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".

3. Underlying Asset Class - Credit

a. Underlying Instrument ISIN

User can select Underlying Instrument ISIN only:

- 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]$.”
- If the input ISIN is not aligned with the above pattern after hitting create, an error message will apply “/Attributes/UnderlyingAssetClass/Credit/Underlying/UnderlyingInstrumentISIN/<index>: ECMA 262 regex ^(?!(EZ|QZ))[A-Z]{2}[A-Z0-9]{9}[0-9]$" does not match input string "<invalid input string>"”.
- If the input ISIN is aligned with the pattern criteria but ISIN value does not conformed with syntactic validation, an error message will apply "Error: ISIN/s must be valid".

4. Underlying Asset Class - Foreign_Exchange

a. Notional and Other Notional Currency

- Currency for both legs cannot be identical.
- If the following attributes have the same currency, an error message will apply “Error: Notional Currency and Other Notional Currency cannot be identical”.

b. Settlement Currency

- If Place of Settlement is selected, Settlement Currency must be populated.
- If Place of Settlement is selected and Settlement currency is not selected in the list, an error message will apply before hitting create “Must have property SettlementCurrency”.
- If Place of settlement is selected and Settlement currency is not selected in the list, an error message will apply after hitting create ““/Attributes/UnderlyingAssetClass/Foreign_Exchange: property "PlaceofSettlement" of object has missing property dependencies (schema requires ["SettlementCurrency"]; missing: ["SettlementCurrency "])”.
- If Settlement Currency is selected, the delivery type must be “Cash”.
- If Settlement currency is selected and delivery type is not “Cash”, an error message shall apply “Error: Delivery Type must be Cash”.

c. Place of Settlement

- If the Notional and Other Notional Currency are both CNY and has no Place of Settlement attribute, an error message will apply “Error: Notional Currency and Other Notional Currency cannot be identical”.
- If the Notional and Other Notional Currency are both CNY and has Place of Settlement of “Hong Kong”, the combination string is acceptable.
- If the Notional and Other Notional Currency is both CNY and Place of Settlement is not “Hong Kong, an error message will apply “Error: Place of Settlement must be Hong Kong for CNY/CNY request”.

5. Underlying Asset Class - Commodities

User must select at least one of the following underlying instruments and below validation will apply depending on the selection.

a. Underlying Instrument Index/ Index PROP

i. Underlying Instrument Index

- Enumeration list is based on JSON codeset (CommoditiesIndex.json).

ii. Underlying Instrument Index Prop

- 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 selected in the request message. 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 Commodities or Multi-Asset Index”.

b. Reference Rate

- Enumeration list is based on JSON codeset (FpmlCommoditiesReferenceRate.json).

c. Base Product; Sub Product; Additional Sub Product

- The user inputs the Base Product, Sub Product and Additional Sub Product in such order. No default value set for Sub Product and Additional Sub Product.
- Sub Product and Additional Sub Product enumerated list is dependent on the input Base Product *(refer to Appendix 1 & 2 below).*
- If Sub Product or Additional Sub Product does not have a corresponding value, attribute(s) will not be present in the request message.

6. **Underlying Asset Class = "Null"**
- If user did not select any values in the Underlying Asset Class, an error message shall apply:
  - If user sends in a payload with Underlying Asset Class but with no value, an error message will apply: "/Attributes/UnderlyingAssetClass: object has too few properties (found 0 but schema requires at least 1)".
  - If user sends in a payload with no Underlying Asset Class, an error message will apply: "/Attributes:object has missing required properties ([\UnderlyingAssetClass\"])".

Normalization

1. **Underlying Asset Class - Rates**

a. Reference Rate Term Value and Reference Rate Term Unit

If Reference Rate Term Unit = "DAYS" and Reference Rate Term Value is divisible by 7, record it in weeks

Reference Rate Term Value	7	→	Reference Rate Term Value	1
Reference Rate Term Unit	DAYS		Reference Rate Term Unit	WEEK

If Reference Rate Term Unit = "MNTH" and Reference Rate Term Value is divisible by 12, record it in years

Reference Rate Term Value	12	→	Reference Rate Term Value	1
Reference Rate Term Unit	MNTH		Reference Rate Term Unit	YEAR

If Reference Rate Term Value is 0 and Reference Rate Term Unit is anything other than DAYS, it will be recorded as 0 DAYS:

Reference Rate Term Value	0	→	Reference Rate Term Value	0
Reference Rate Term Unit	WEEK		Reference Rate Term Unit	DAYS

Reference Rate Term Value	0	→	Reference Rate Term Value	0
Reference Rate Term Unit	MNTH		Reference Rate Term Unit	DAYS

Reference Rate Term Value	0	→	Reference Rate Term Value	0
Reference Rate Term Unit	YEAR		Reference Rate Term Unit	DAYS

2. **Underlying Asset Class - Equity**

a. 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.

3. **Underlying Asset Class - Credit**

Not Required.

4. **Underlying Asset Class – Foreign_Exchange**

a. Notional Currency and Other Notional Currency

The input Notional and Other Notional Currency submitted by users need to normalize to ensure that same ISIN is returned for a same set of attributes.

- Order the "Notional currency" and "Other Notional Currency" alphabetically.
- If the "Notional Currency" is first alphabetically, then record it as "Notional Currency".
- If the "Notional Currency" is not first alphabetically, then record it as "Other Notional Currency".

	<table><tr><td>Notional Currency</td><td>EUR</td><td rowspan="2">→</td><td>Notional Currency</td><td>AUD</td></tr><tr><td>Other Notional Currency</td><td>AUD</td><td>Other Notional Currency</td><td>EUR</td></tr></table> **5. Underlying Asset Class – Commodities** Not Required.

Additional Attribute Dictionary	This section provides the exact reference or source of the attribute that are not currently supported in the OTC ISIN.		
	Full Name	**Source**	**Type**
	Return or Payout Trigger	ISO 10962 Classification of financial instruments (CFI code)	Enums Rates *[Spreadbets*; *Forward price of underlying instrument]* Enums Foreign Exchange *[Spreadbets*; *Contract for Difference (CFD); Forward price of underlying instrument]* Enums Equity *[Spreadbets; Contract for Difference (CFD); Forward price of underlying instrument]* Enums Credit *[Spreadbets; Forward price of underlying instrument]* Enums Commodities *[Contract for Difference (CFD); Forward price of underlying instrument]*

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: "M" (fixed value) • Asset Class: "M" (fixed value) • Further Grouping "S" (fixed value) • Not applicable/undefined: "X" (fixed value) • Not applicable/undefined: "X" (fixed value) • Not applicable/undefined: "X" (fixed value) E.g.: "MMSXXX
	Short Name	Concatenation of the following attributes/values: • Issuer Name: "NA/" • Instrument Type: "Fwd" (fixed value) • Asset Class: "Oth" (fixed value) • Use Case: "Nstd" • Notional Currency - Single currency → from Record NotionalCurrency - Multiple currency → "Mlt" • Expiry Date: from Record ExpiryDate E.g.: "NA/Fwd Oth Nstd Mlt 20210827" Note: The multiple currencies short name abbreviation is based on ISO Abbrev w acronyms-Final_v0.5.5.FINAL.xlsm.

		• If the Notional Currency is either from Underlying Asset Class Rates or Foreign Exchange or Commodities, the Notional currency will be taken from the input value. • If the Notional Currency is both from Underlying Asset Class Rates and Foreign Exchange and Commodities, the Notional Currency will be "Mlt".

	Full Name	Concatenation of the following attributes/values:
		• Asset Class: "Other"
		• Instrument Type: "Forward"
		• Use Case: "Non_Standard"
		• Term of Contract Value: from Record TermofContractValue
		• Term of Contract Unit: from Record TermofContractUnit
		• Underlying Instrument ISIN: from Record UnderlyingInstrumentISIN (UnderlyingAssetClass.Credit, UnderlyingAssetClass.Equity & UnderlyingAssetClass.Rates)
		  - Single input → same as input value
		  - Multiple input → "Multiple ISINs"
		• ISO Underlying Instrument Index: from Record UnderlyingInstrumentIndex (UnderlyingAssetClass.Equity & from Record UnderlyingInstrumentIndexProp (UnderlyingAssetClass.Equity & UnderlyingAssetClass.Commodities)
		  - Single input → ISO equivalent of the UnderlyingInstrumentIndex input
		  - Multiple input → "Multiple Indices"
		• Base Product: from Record BaseProduct
		• Additional Sub Product: from Record AdditionalSubProduct
		• ISO Reference Rate from Record ReferenceRate
		  - Single input → ISO equivalent of the ReferenceRate input
		  - Multiple input → "Multiple Indices"
		• Notional Currency
		  - Single currency → from Record NotionalCurrency
		  - Multiple input → "Multiple Currencies"
		• Other Notional Currency: from Record OtherNotionalCurrency
		• Expiry Date from Record ExpiryDate
		
		E.g.: Other Forward Non_Standard 1 DAYS Multiple ISINs Multiple Indices ENVR EUAE Multiple Currencies 20210827
		
		Notes:
		• Notional Currency is either from Underlying Asset Class Equity, Foreign Exchange or Commodities, if from just one of these the Notional currency will be taken from the input value.
		• If the Notional Currency is both from Underlying Asset Class Equity, Foreign Exchange and Commodities, the Notional Currency will be "Multiple Currencies".
		• Other Notional Currency can only be taken from Foreign Exchange input value.

	ISO Delivery Type	Derived from the input Delivery Type… • Cash → "CASH" • Physical → "PHYS" • Non-Deliverable → "OPTL"
	ISO Underlying Instrument Index	Derived from the input Underlying Instrument Index & Underlying Instrument Index Prop… - Single input → ISO equivalent of the input UnderlyingInstrumentIndex - Multiple input → "Multiple Indices" Notes: • Underlying Instrument Index input value is from Underlying Asset Equity. • Underlying Instrument Index Prop input value is from Underlying Asset Class Equity & Commodities.
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	• Code set name for Commodities, Credit and Equity of OTC ISIN should be aligned with UPI code set name.	

	• Defaulted values will be removed in the input to align the requirements with the ISO 4914 (UPI) • Additional attributes in the OTC ISIN are added in accordance with ISO 4914 (UPI) requirement. • There is no existing reference data that will support the validation of underlying instrument index for Commodities. In addition, an existing ticket (DSB-8) has been raised to address the issue. • The current behaviour in the OTC ISIN for attributes “Reference Rate Term Value/Unit” wherein 0 is an acceptable integer value remain unchanged. This only applies to OTC ISIN Multi-Asset Non-Standard templates. • Return or Payout Trigger enumerated values are based on per asset class’s CFI values and is limited to forward instrument type only. This is to align with the UPI requirement where the attribute is a mandatory field. • For OTC ISIN Multi-Asset Non-Standard template, there is no requirement to provide a text version of the CFI character. Hence, the removal of the derived attribute “Underlying Asset Type”. • In order to maintain the hierarchy of OTC ISIN/UPI, the Delivery Type enumerated values [Cash; Physical; Non-Deliverable] are the CFI 2015 values that also applied in UPI. • The Delivery Type enumerated values [Cash; Physical; Non-Deliverable] are the enumerated values from CFI 2015. Thus, CFI Delivery Type is no longer required as a derived value in the RECORD message. It is not included as an attribute in the CFI code (MMSXXX) but it is being added on the basis of the CDIDE requirement • The Delivery type “Non-Deliverable” is included in the CFI 2015 but is not supported in OTC ISIN for Other.Option.Non-Standard template. However, both OTC ISIN and UPI will support this enumerated value for this product. • ISO Delivery Type derivation is being maintained for standardization to all OTC ISIN Multi-Asset Non-Standard templates.

Appendix 1

Below is the limited set of enumerations based on RTS 23 (EU 2017/585) Table 2 to support the following entries:

Base Product	Code	Sub Product	Code	Additional Sub Product	Code
Agricultural	AGRI	GrainOilSeed	GROS	FeedWheat	FWHT
				Soybeans	SOYB
				Rapeseed	RPSD
				Other	OTHR
				Maize	CORN
				Rice	RICE
		Dairy	DIRY		
		Forestry	FRST		
		Livestock	LSTK		
		Seafood	SEAF		
		Soft	SOFT	RobustaCoffee	ROBU
				Cocoa	CCOA
				RawSugar	BRWN
				WhiteSugar	WHSG
				Other	OTHR
		OliveOil	OOLI	Lampante	LAMP
		Potato	POTA		
		Grain	GRIN	MillingWheat	MWHT
Energy	NRGY	Coal	COAL		
		Distillates	DIST		
		InterEnergy	INRG		
		LightEnd	LGHT		
		RenewableEnergy	RNNG		
		Electricity	ELEC	Baseload	BSLD
				FinancialTransmissionRights	FITR
				PeakLoad	PKLD
				OffPeak	OFFP
				Other	OTHR
		NaturalGas	NGAS	GasPool	GASP
				LNG	LNGG
				NCG	NCGG
				TTF	TTFG
				NBP	NBPG
		Oil	OILP	Bakken	BAKK
				Biodiesel	BDSL
				Brent	BRNT
				BrentNX	BRNX
				Canadian	CNDA
				Condensate	COND
				Diesel	DSEL
				Dubai	DUBA
				ESPO	ESPO
				Ethanol	ETHA
				Fuel	FUEL
				FuelOil	FOIL
				Gasoil	GOIL
				Gasoline	GSLN
				HeatingOil	HEAT
				JetFuel	JTFL
				Kerosene	KERO
				LightLouisianaSweet	LLSO
				Mars	MARS
				Naphta	NAPH
				NGL	NGLO
				Tapis	TAPI
				WTI	WTIO
				Urals	URAL

Base Product	Code	Sub Product	Code	Additional Sub Product	Code
Environmental	ENVR	Emissions	EMIS	CER ERU EUA EUAA Other	CERE ERUE EUAE EUAA OTHR
		CarbonRelated	CRBR		
		Weather	WTHR		
Freight	FRGT	Dry	DRYF	DryBulkCarrier	DBCR
		Wet	WETF	Tanker	TNKR
		ContainerShip	CSHP		
Fertilizer	FRTL	Ammonia DiammoniumPhosphate Potash Sulphur Urea UreaAndAmmoniumNitrate	AMMO DAPH PTSH SLPH UREA UAAN		
IndustrialProduct	INDP	Construction Manufacturing	CSTR MFTG		
Inflation	INFL				
OfficialEconomicStatistics	OEST				
Metal	METL	NonPrecious	NPRM	Aluminum AluminumAlloy Cobalt Copper IronOre Molybdenum NASAAC Nickel Steel Tin Zinc Other Lead	ALUM ALUA CBLT COPR IRON MOLY NASC NICK STEL TINN ZINC OTHR LEAD
		Precious	PRME	Gold Other Palladium Platinum Silver	GOLD OTHR PLDM PTNM SLVR
MultiCommodityExotic	MCEX				
Paper	PAPR	Containerboard Newsprint Pulp RecoveredPaper	CBRD NSPT PULP RCVP		
Polypropylene	POLY	Plastic	PLST		
OtherC10	OTHC	Deliverable NonDeliverable	DLVR NDLV		
Other	OTHR				

Appendix 2

Listed below are the corresponding enum_titles for each product code based on RTS 23 (EU 2017/585) Table 2:

Base Product	
enum_titles	**enum**
Agricultural[AGRI]	AGRI
Energy[NRGY]	NRGY
Environmental[ENVR]	ENVR
Freight[FRGT]	FRGT
Fertilizer[FRTL]	FRTL
IndustrialProduct[INDP]	INDP
Inflation[INFL]	INFL
OfficialEconomicStatistics[OEST]	OEST
Metal[METL]	METL
MultiCommodityExotic[MCEX]	MCEX
Paper[PAPR]	PAPR
Polypropylene[POLY]	POLY
OtherC10[OTHC]	OTHC
Other[OTHR]	OTHR

Sub Product	
enum_titles	**enum**
GrainOilSeed[GROS]	GROS
Dairy[DIRY]	DIRY
Forestry[FRST]	FRST
Livestock[LSTK]	LSTK
Seafood[SEAF]	SEAF
Soft[SOFT]	SOFT
OliveOil[OOLI]	OOLI
Potato[POTA]	POTA
Grain[GRIN]	GRIN
Coal[COAL]	COAL
Distillates[DIST]	DIST
InterEnergy[INRG]	INRG
LightEnd[LGHT]	LGHT
RenewableEnergy[RNNG]	RNNG
Electricity[ELEC]	ELEC
NaturalGas[NGAS]	NGAS
Oil[OILP]	OILP
Emissions[EMIS]	EMIS
CarbonRelated[CRBR]	CRBR
Weather[WTHR]	WTHR
Dry[DRYF]	DRYF
Wet[WETF]	WETF
ContainerShip[CSHP]	CSHP
Ammonia[AMMO]	AMMO
DiammoniumPhosphate[DAPH]	DAPH
Potash[PTSH]	PTSH
Sulphur[SLPH]	SLPH
Urea[UREA]	UREA
UreaAndAmmoniumNitrate[UAAN]	UAAN
Construction[CSTR]	CSTR
Manufacturing[MFTG]	MFTG
NonPrecious[NPRM]	NPRM
Precious[PRME]	PRME
Containerboard[CBRD]	CBRD
Newsprint[NSPT]	NSPT
Pulp[PULP]	PULP
RecoveredPaper[RCVP]	RCVP
Plastic[PLST]	PLST
Deliverable[DLVR]	DLVR
NonDeliverable[NDLV]	NDLV

Additional Sub Product	
enum_titles	**enum**
FeedWheat[FWHT]	FWHT
Soybeans[SOYB]	SOYB
Rapeseed[RPSD]	RPSD
Other[OTHR]	OTHR
Maize[CORN]	CORN
Rice[RICE]	RICE
RobustaCoffee[ROBU]	ROBU
Cocoa[CCOA]	CCOA
RawSugar[BRWN]	BRWN
WhiteSugar[WHSG]	WHSG
Other[OTHR]	OTHR
Lampante[LAMP]	LAMP
MillingWheat[MWHT]	MWHT
BaseLoad[BSLD]	BSLD
FinancialTransmissionRights[FITR]	FITR
PeakLoad[PKLD]	PKLD
OffPeak[OFFP]	OFFP
Other[OTHR]	OTHR
GasPool[GASP]	GASP
LNG[LNGG]	LNGG
NCG[NCGG]	NCGG
TTF[TTFG]	TTFG
NBP[NBPG]	NBPG
Bakken[BAKK]	BAKK
Biodiesel[BDSL]	BDSL
Brent[BRNT]	BRNT
BrentNX[BRNX]	BRNX
Canadian[CNDA]	CNDA
Condensate[COND]	COND
Diesel[DSEL]	DSEL
Dubai[DUBA]	DUBA
ESPO[ESPO]	ESPO
Ethanol[ETHA]	ETHA
Fuel[FUEL]	FUEL
FuelOil[FOIL]	FOIL
Gasoil[GOIL]	GOIL
Gasoline[GSLN]	GSLN
HeatingOil[HEAT]	HEAT
JetFuel[JTFL]	JTFL
Kerosene[KERO]	KERO

Additional Sub Product	
enum_titles	**enum**
LightLouisianaSweet[LLSO]	LLSO
Mars[MARS]	MARS
Naphta[NAPH]	NAPH
NGL[NGLO]	NGLO
Tapis[TAPI]	TAPI
WTI[WTIO]	WTIO
Urals[URAL]	URAL
CER[CERE]	CERE
ERU[ERUE]	ERUE
EUA[EUAE]	EUAE
EUAA[EUAA]	EUAA
Other[OTHR]	OTHR
DryBulkCarrier[DBCR]	DBCR
Tanker[TNKR]	TNKR
Aluminium[ALUM]	ALUM
AluminiumAlloy[ALUA]	ALUA
Cobalt[CBLT]	CBLT
Copper[COPR]	COPR
IronOre[IRON]	IRON
Molybdenum[MOLY]	MOLY
NASAAC[NASC]	NASC
Nickel[NICK]	NICK
Steel[STEL]	STEL
Tin[TINN]	TINN
Zinc[ZINC]	ZINC
Other[OTHR]	OTHR
Lead[LEAD]	LEAD
Gold[GOLD]	GOLD
Other[OTHR]	OTHR
Palladium[PLDM]	PLDM
Platinum[PTNM]	PTNM
Silver[SLVR]	SLVR

Appendix 3

Naming convention differences between RTS 23 (EU 2017/585) Table 2 and the DSB OTC ISIN.

Base Product	ISO 20022		RTS23	DSB OTC ISIN
	Sub Product			
Agricultural	GrainOilSeed	GrainOilSeeds	Grains and Oil Seeds	GrainOilSeed
	Soft	Softs	Softs	Soft
Energy	LightEnd	LightEnds	Light Ends	LightEnd
	Carbon	Carbon	-	-
Environmental	Emissions	Emission	Emissions	Emissions
Fertilizer	UreaAndAmmoniumNitrate	UreaAndAmmoniumNitrite	Urea and Ammonium Nitrate	UreaAndAmmoniumNitrate
Freight	ContainerShip	ContainerShip	Container Ships	ContainerShip
OtherC10	Deliverable	Deliverable	-	Deliverable
	NonDeliverable	NonDeliverable	-	NonDeliverable

Sub Product	ISO 20022		RTS23	DSB OTC ISIN
	Additonal Sub Product			
Dry	DryBulkCarrier	DryBulkCarrier	Dry bulk carriers	DryBulkCarrier