

DERIVATIVES SERVICE BUREAU (DSB) LTD

UPI & OTC ISIN Product Normalization

Version I

Change History

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I. Introduction

This document provides the user with the normalization rules based on the product definition of UPI & OTC ISIN Services where applicable.

This document covers the normalization of attribute values within the UPI & OTC ISIN Services.

I.1 Associated Documentation

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

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

Title	Description	Location
Product Definition Documents	Provides the user with the detailed description of the UPI and OTC ISIN Product Definition content such as attribute enumerations, validation, normalization, and derivation where applicable	Rates, Credit, Equity, Foreign Exchange, Commodities, Non-Standard sections
Enumerations Document	Lists all fixed values used for a product	Enumerations section
Product Definition Validations and Normalizations Document	Specifies details on validation and normalization rules	Other Documents section
UPI Underlier Input Method	Defines the structure for the input of the underlier following the rules that allow users to identify the Asset Class, Underlying Structure, Underlying Type, and Underlying ID Source.	
Best Practice Guidelines and FAQs	Lists answers to queries raised by users and provides guidance on the use of the templates	
GitHub Environment Section	ANNA DSB Github Environment where the JSON templates for each product is found	

Product Normalization			
OTC ISIN	UPI	Asset Class(es)	Description
Commodity Classification		CO	Order Normalization
Notional Currency / Other Notional Currency		RT, FX	Order Normalization
Reference Rate Term Value / Unit		RT	Date Normalization
Underlying Instrument Index Term Value / Unit		RT, CR, EQ, CO	Date Normalization
Underlying Instrument Index		EQ	ID Normalization
N/A	Underlying Structure / Underlier Characteristic	RT, CR, EQ, CO	Classification Normalization

2. General Normalization

2.1 Introduction

The DSB will normalize data submitted by the user to ensure that the same UPI & OTC ISIN record is returned for a given set of attributes.

2.2 Cross-Currency Swap Normalization

This section specifies the normalization that applies to the following Cross-Currency Swap products.

Asset Class	Instrument Type	Product
Rates	Swap	Cross.Currency.Fixed_Fixed
Rates	Swap	Cross.Currency.Fixed_Float
Rates	Swap	Cross.Currency.Fixed_Float_NDS
Rates	Swap	Cross.Currency.Zero_Coupon
Rates	Swap	Cross.Currency.Inflation_Swap

REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">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 the field as “Other Notional Currency”.	Example 1 (Normalization not applied)	
Notional Currency	EUR		Notional Currency	EUR
Other Notional Currency	USD		Other Notional Currency	USD
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Notional Currency	USD		Notional Currency	EUR
Other Notional Currency	EUR		Other Notional Currency	USD

2.3 Cross-Currency Swap Normalization

This section specifies the normalization that applies to the following products:

Asset Class	Instrument Type	Product
Rates	Swap	Cross_Currency_Basis

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example 1 (Normalization not required)</i>		<ul style="list-style-type: none"> 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”. <p>The associated attributes of the Notional Currency will move as part of normalization.</p>	<i>Example 1 (Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlier ID/Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Notional Currency	USD		Other Notional Currency	USD
Other Leg Underlier ID/Other Leg Underlier ID Source	USD-LIBOR-BBA [FPML]		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
<i>Example 2 (Order Normalization required)</i>			<i>Example 2 (Order Normalization applied)</i>	
Notional Currency	USD		Notional Currency	GBP
Underlier ID/Underlier ID Source	USD-LIBOR-BBA [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	6 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Notional Currency	GBP		Other Notional Currency	USD
Other Leg Underlier ID/Other Leg Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	3 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">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”. <p>The associated attributes of the Notional Currency will move as part of normalization.</p>	Example 1 (Normalization not applied)	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	GBP-SONIA-COMPOUND		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Notional Currency	USD		Other Notional Currency	USD
Other Leg Reference Rate	USD-LIBOR-BBA		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Notional Currency	USD	Notional Currency	GBP	
Reference Rate	USD-LIBOR-BBA [FPML]	Reference Rate	GBP-SONIA-COMPOUND	
Reference Rate Term Value/Unit	6 MNTH	Reference Rate Term Value/Unit	3 MNTH	
Other Notional Currency	GBP	Other Notional Currency	USD	
Other Leg Reference Rate	GBP-SONIA-COMPOUND [FPML]	Other Leg Reference Rate	USD-LIBOR-BBA	
Other Leg Ref. Rate Term Value/Unit	3 MNTH	Other Leg Ref. Rate Term Value/Unit	6 MNTH	

Asset Class	Instrument Type	Product
Rates	Swap	Non_Standard_Swap
Rates	Option	Non_Standard_Option
Other	Other	Non_Standard (Miscellaneous)
Other	Option	Non_Standard_Option
Other	Swap	Non_Standard_Swap

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<p>If Notional Currency and Other Notional Currency are different:</p> <ul style="list-style-type: none">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”. <p>The associated attributes of the Notional Currency and Other Notional Currency will move as part of normalization.</p>	Example 1 (Normalization not applied)	
Underlying Structure	Single Underlier		Underlier Characteristic	Single
Notional Currency	GBP		Notional Currency	GBP
Underlier ID/Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Leg Underlying Structure	Single Underlier		Other Leg Underlier Characteristic	Single
Other Notional Currency	USD		Other Notional Currency	USD
Other Leg Underlier ID/Other Leg Underlier ID Source	USD-LIBOR-BBA [FPML]		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Underlying Structure	Single Underlier	Underlier Characteristic	Basket	
Notional Currency	USD	Notional Currency	GBP	
Underlier ID/Underlier ID Source	USD-LIBOR-BBA [FPML]	Other Leg Underlier Characteristic	Single	
Reference Rate Term Value/Unit	6 MNTH	Other Notional Currency	USD	
Other Leg Underlying Structure	Basket	Other Leg Reference Rate	USD-LIBOR-BBA	
Other Notional Currency	GBP	Other Leg Ref. Rate Term Value/Unit	6 MNTH	

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<p>If Notional Currency and Other Notional Currency are different:</p> <ul style="list-style-type: none">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”. <p>The associated attributes of the Notional Currency and Other Notional Currency will move as part of normalization.</p>	Example 1 (Normalization not applied)	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	GBP-SONIA-COMPOUND		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Notional Currency	USD		Other Notional Currency	USD
Other Leg Reference Rate	USD-LIBOR-BBA		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Notional Currency	USD		Notional Currency	GBP
Reference Rate	USD-LIBOR-BBA		Reference Rate [1]	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	6 MNTH		Reference Rate [2]	GBP-LIBOR-ISDA
Other Notional Currency	GBP		Reference Rate Term Value/Unit	3 MNTH
Other Leg Reference Rate [1]	GBP-SONIA-COMPOUND		Other Notional Currency	USD
Other Leg Reference Rate [2]	GBP-LIBOR-ISDA		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	3 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example 1 (Order Normalization required)</i>		<p>If only Notional Currency is selected:</p> <ul style="list-style-type: none"> If the input “Reference Rate” and “Other Leg Reference Rate”. Arrange the Reference Rate and Other Leg Reference Rate alphabetically. The Reference Rate should be first alphabetically and Other Leg Reference Rate the second alphabetically. The associated attributes (Reference Rate Term Value + Reference Rate Term Unit) are then moved as part of the normalization. 	<i>Example 1 (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlying Structure	Single Underlier		Underlier Characteristic	Single
Underlier ID/Underlier ID Source	USD-LIBOR-BBA [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	6 MNTH
Other Leg Underlying Structure	Single Underlier		Other Leg Underlier Characteristic	Single
Other Leg Underlier ID/Other Leg Underlier ID Source	GBP-SONIA-COMPOUND		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	3 MNTH
<i>Example 2 (Normalization not required)</i>		<p>If the input combination of Underlying Structure is “Single Underlier” and Other Leg Underlying Structure is “Basket”, record the attributes as is.</p>	<i>Example 2 (Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlying Structure	Single Underlier		Underlier Characteristic	Single
Underlier ID/Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Leg Underlying Structure	Basket		Other Leg Underlier Characteristic	Basket

Example 3 (Normalization required)		If the input combination of Underlying Structure is “Basket” and Other Leg Underlying Structure is “Single Underlier”, record the Other Leg as “Reference Rate” and Underlying Structure (Basket) as “Other Leg Underlier Characteristic”. The associated attributes (Other Leg Reference Rate Term Value + Other Leg Reference Rate Term Unit) are then moved as part of the normalization and will change to “Reference Rate Term Value” + “Reference Rate Term Unit”.	Example 3 (Normalization applied)	
Notional Currency	GBP		Notional Currency	GBP
Underlying Structure	Basket		Underlier Characteristic	Single
Other Leg Underlying Structure	Single Underlier		Reference Rate	GBP-SONIA-COMPOUND
Other Leg Underlier ID/Other Leg Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Reference Rate Term Value/Unit	3 MNTH
Other Leg Ref. Rate Term Value/Unit	3 MNTH		Other Leg Underlier Characteristic	Basket
Example (Normalization not required)		If the input combination of Underlying Structure and Other Leg Underlying Structure is “Basket”, record the attributes as is.	Example (Normalization not applied)	
Notional Currency	GBP		Notional Currency	GBP
Underlying Structure	Basket		Underlier Characteristic	Basket
Other Leg Underlying Structure	Basket		Other Leg Underlier Characteristic	Basket

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		If only Notional Currency is selected: <ul style="list-style-type: none"> If the input “Reference Rate” and “Other Leg Reference Rate”. Arrange the Reference Rate and Other Leg Reference Rate alphabetically. The Reference Rate should be first alphabetically and Other Leg Reference Rate the second alphabetically. The associated attributes (Reference Rate Term Value + Reference Rate Term Unit) are then moved as part of the normalization. 	<i>Example (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	USD-LIBOR-BBA		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	6 MNTH
Other Leg Reference Rate	GBP-SONIA-COMPOUND		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	3 MNTH
<i>Example (Normalization not required)</i>		If the input “Reference Rate” and multiple “Other Leg Reference Rates”, record Reference Rate and Other Leg Reference Rates alphabetically. The associated attributes (Reference Rate Term Value + Reference Rate Term Unit) are then moved as part of the normalization.	<i>Example (Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	GBP-SONIA-COMPOUND		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Leg Reference Rate [1]	USD-LIBOR-BBA		Other Leg Reference Rate [1]	USD-LIBOR-BBA
Other Leg Reference Rate [2]	USD-LIBO-ISDA		Other Leg Reference Rate [2]	USD-LIBO-ISDA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH

<i>Example (Normalization required)</i>		If the input combination is multiple Reference Rates and Other Leg is a single Reference Rate, record the Reference Rate and Other Leg Reference Rate alphabetically. The associated attributes (Other Leg Reference Rate Term Value + Other Leg Reference Rate Term Unit) are then moved as part of the normalization and will change to “Reference Rate Term Value” + “Reference Rate Term Unit”.	<i>Example (Normalization applied)</i>	
Notional Currency	USD		Notional Currency	USD
Reference Rate [1]	USD-LIBOR-BBA		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate [2]	USD-LIBO-ISDA		Reference Rate Term Value/Unit	3 MNTH
Reference Rate Term Value/Unit	6 MNTH		Other Leg Reference Rate [1]	USD-LIBOR-BBA
Other Leg Reference Rate	GBP-SONIA-COMPOUND		Other Leg Reference Rate [2]	USD-LIBO-ISDA
Other Leg Ref. Rate Term Value/Unit	3 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
<i>Example (Normalization required)</i>		If the input combination is multiple Reference Rates for both legs, record the Reference Rate and Other Leg Reference Rate alphabetically. The associated attributes (Reference Rate Term Value + Reference Rate Term Unit) are then moved as part of the normalization.	<i>Example (Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate [1]	GBP-SONIA-COMPOUND		Reference Rate [1]	EUR-EURIBOR
Reference Rate [2]	GBP-UK Base Rate		Reference Rate [2]	EUR-EuroSTR-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	6 MNTH
Other Leg Reference Rate [1]	EUR-EuroSTR-COMPOUND		Other Leg Reference Rate [1]	GBP-SONIA-COMPOUND
Other Leg Reference Rate [2]	EUR-EURIBOR		Other Leg Reference Rate [2]	GBP-UK Base Rate
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	3 MNTH

2.4 Basis Swap Normalization

This section specifies the normalization that applies to Basis Swap products:

Asset Class	Instrument Type	Product
Rates	Swap	Basis
Rates	Swap	Basis_OIS
Rates	Swap	Inflation_Basis
Rates	Swap	Inflation_Basis_Zero_Coupon
Rates	Swap	Inflation_Basis_YoY

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example 1 (Normalization not required)</i>		<ul style="list-style-type: none"> Order the “Reference Rate” and “Other Reference Rate” alphabetically. If the “Reference Rate” is first alphabetically, then record it as “Reference Rate”. If the “Reference Rate” is not first alphabetically, then record the field as “Other Reference Rate”. <p>If only “Notional Currency” is selected and if the Reference Rate and Other Leg Reference Rate are identical, the term value and unit will normalize to ensure that a single UPI is returned for the same set of attributes.</p>	<i>Example 1 (Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlier ID/Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Leg Underlier ID/Other Leg Underlier ID Source	USD-LIBOR-BBA [FPML]		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
<i>Example 2 (Order Normalization required)</i>		<ul style="list-style-type: none"> If the Term Unit is the same, order the Term Value numerically from lowest to highest. If the Term Unit is different, convert the Term Unit as per order term multiplier below: <ul style="list-style-type: none"> DAYS = 1 WEEK = 7 MNTH = 30 YEAR = 365 <p>Multiply the number of Term Value and order term multiplier for both reference rate legs. Then order the equivalent value</p>	<i>Example 2 (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlier ID/Underlier ID Source	USD-LIBOR-BBA [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	6 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Leg Underlier ID/Other Leg Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	3 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
<i>Example 3 (Date Normalization required)</i>			<i>Example 3 (Date Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP

Underlier ID/Underlier ID Source	GBP-SONIA-COMPOUND [FPML]	numerically from lowest to highest as per example provided.	Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	15 DAYS		Reference Rate Term Value/Unit	1 WEEK
Other Leg Underlier ID/Other Leg Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Other Leg Reference Rate	GBP-SONIA-COMPOUND
Other Leg Ref. Rate Term Value/Unit	1 WEEK		Other Leg Ref. Rate Term Value/Unit	15 DAYS
<i>Example 4 (Normalization not required)</i>		If the Reference Rate Term Value/Unit and Other Leg Reference Rate Term Value/Unit has the same equivalent value based on the order term multiplier, the details for the said attributes will be as is in the RECORD template.	<i>Example 4 (Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlier ID/Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	1 MONTH		Reference Rate Term Value/Unit	1 MONTH
Other Leg Underlier ID/Other Leg Underlier ID Source	GBP-SONIA-COMPOUND [FPML]		Other Leg Reference Rate	GBP-SONIA-COMPOUND
Other Leg Ref. Rate Term Value/Unit	30 DAYS		Other Leg Ref. Rate Term Value/Unit	30 DAYS

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example 1 (Normalization not required)</i>		<ul style="list-style-type: none"> Order the “Reference Rate” and “Other Reference Rate” alphabetically. If the “Reference Rate” is first alphabetically, then record it as “Reference Rate”. If the “Reference Rate” is not first alphabetically, then record the field as “Other Reference Rate”. <p>If only “Notional Currency” is selected and if the Reference Rate and Other Leg Reference Rate are identical, the term value and unit will normalize to ensure that a single UPI is returned for the same set of attributes.</p>	<i>Example 1 (Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	GBP-SONIA-COMPOUND		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	3 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Leg Reference Rate	USD-LIBOR-BBA		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	6 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
<i>Example 2 (Order Normalization required)</i>		<ul style="list-style-type: none"> If the Term Unit is the same, order the Term Value numerically from lowest to highest. If the Term Unit is different, convert the Term Unit as per order term multiplier below: <ul style="list-style-type: none"> DAYS = 1 WEEK = 7 MNTH = 30 YEAR = 365 <p>Multiply the number of Term Value and order term multiplier for both reference rate legs. Then order the equivalent value numerically from lowest to highest as per example provided.</p>	<i>Example 2 (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	USD-LIBOR-BBA		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	6 MNTH		Reference Rate Term Value/Unit	3 MNTH
Other Leg Reference Rate	GBP-SONIA-COMPOUND		Other Leg Reference Rate	USD-LIBOR-BBA
Other Leg Ref. Rate Term Value/Unit	3 MNTH		Other Leg Ref. Rate Term Value/Unit	6 MNTH
<i>Example 3 (Date Normalization required)</i>			<i>Example 3 (Date Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	GBP-SONIA-COMPOUND		Reference Rate	GBP-SONIA-COMPOUND

Reference Rate Term Value/Unit	15 DAYS		Reference Rate Term Value/Unit	1 WEEK
Other Leg Reference Rate	GBP-SONIA-COMPOUND		Other Leg Reference Rate	GBP-SONIA-COMPOUND
Other Leg Ref. Rate Term Value/Unit	1 WEEK		Other Leg Ref. Rate Term Value/Unit	15 DAYS
<i>Example 4 (Normalization not required)</i>		If the Reference Rate Term Value/Unit and Other Leg Reference Rate Term Value/Unit has the same equivalent value based on the order term multiplier, the details for the said attributes will be as is in the RECORD template.	<i>Example 4 (Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	GBP-SONIA-COMPOUND [FPML]		Reference Rate	GBP-SONIA-COMPOUND
Reference Rate Term Value/Unit	1 MONTH		Reference Rate Term Value/Unit	1 MONTH
Other Leg Reference Rate	GBP-SONIA-COMPOUND [FPML]		Other Leg Reference Rate	GBP-SONIA-COMPOUND
Other Leg Ref. Rate Term Value/Unit	30 DAYS		Other Leg Ref. Rate Term Value/Unit	30 DAYS

2.5 Commodities Basis Normalization

This section specifies the normalization that applies to Commodities Basis Style products:

Asset Class	Instrument Type	Product
Commodities	Swap	Basis_Swap
Commodities	Swap	Non_Standard_Swap
Other	Other	Non_Standard (Miscellaneous)
Other	Swap	Non_Standard_Swap

- If the selected Underlying Structure and Other Underlying Structure is “Single Underlier”, record the attributes as follows:

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		<ul style="list-style-type: none"> • Order alphabetically the combination string of “Base Product + Sub Product + Additional Sub Product + Reference Rate” and “Other Base Product + Other Sub Product + Other Additional Sub Product + Other Reference Rate”. • If “Base Product” and “Other Base Product” are different – alphabetically order them. The Base Product should be the first alphabetically and Other Base Product the second alphabetically. The associated attributes (Sub Product + Additional Sub Product + Reference Rate) are then moved as part of the normalization. • If Base Product and Other Base Product are the same, and if “Sub product” and “Other Sub product” are different – alphabetically order them. The Sub Product should be the first alphabetically and Other Sub Product the second alphabetically. The associated attributes (Additional Sub Product + Reference Rate) are then moved as part of the normalization. • If Base Product and Sub Product are the same as Other Base Product and Other Sub Product, and if “Additional Sub Product” and “Other Additional Sub product” are different – alphabetically order them. The Additional Sub Product should be the first alphabetically and Other Additional Sub Product the second alphabetically. The associated Reference Rate is then moved as part of the normalization. 	<i>Example (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlying Structure	Single Underlier		Underlier Characteristic	Single
Underlier ID/ID Source	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE[COMM]		Reference Rate	WHEAT FEED-NYSE Liffe
Base Product	NRGY		Base Product	AGRI
Sub Product	NGAS		Sub Product	GROS
Additional Sub Product	GASP		Additional Sub Product	FWHT
Other Underlying Structure	Single Underlier		Other Underlier Characteristic	Single
Other Underlier ID/ID Source	WHEAT FEED-NYSE Liffe [COMM]		Other Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE
Other Base Product	AGRI		Other Base Product	NRGY
Other Sub Product	GROS		Other Sub Product	NGAS
Other Additional Sub Product	FWHT		Other Additional Sub Product	GASP

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		<ul style="list-style-type: none"> Order alphabetically the combination string of “Base Product + Sub Product + Additional Sub Product + Reference Rate” and “Other Base Product + Other Sub Product + Other Additional Sub Product + Other Reference Rate”. If “Base Product” and “Other Base Product” are different – alphabetically order them. The Base Product should be the first alphabetically and Other Base Product the second alphabetically. The associated attributes (Sub Product + Additional Sub Product + Reference Rate) are then moved as part of the normalization. If Base Product and Other Base Product are the same, and if “Sub product” and “Other Sub product” are different – alphabetically order them. The Sub Product should be the first alphabetically and Other Sub Product the second alphabetically. The associated attributes (Additional Sub Product + Reference Rate) are then moved as part of the normalization. If Base Product and Sub Product are the same as Other Base Product and Other Sub Product, and if “Additional Sub Product” and “Other Additional Sub product” are different – alphabetically order them. The Additional Sub Product should be the first alphabetically and Other Additional Sub Product the second alphabetically. The associated Reference Rate is then moved as part of the normalization. 	<i>Example (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE		Reference Rate	WHEAT FEED-NYSE Liffe
Base Product	NRGY		Base Product	AGRI
Sub Product	NGAS		Sub Product	GROS
Additional Sub Product	GASP		Additional Sub Product	FWHT
Other Reference Rate	WHEAT FEED-NYSE Liffe		Other Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE
Other Base Product	AGRI		Other Base Product	NRGY
Other Sub Product	GROS		Other Sub Product	NGAS
Other Additional Sub Product	FWHT		Other Additional Sub Product	GASP

- If the selected Underlying Structure is “Single Underlier” and Other Underlying Structure selected is “Basket” and the input Base Product/ Sub Product/ Additional Sub Product and Other Base Product/ Other Sub Product/ Other Additional Sub Product are different, record the attributes as follows:

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		<ul style="list-style-type: none"> • Order alphabetically the combination string of “Base Product + Sub Product + Additional Sub Product + Reference Rate” and “Other Base Product + Other Sub Product + Other Additional Sub Product + Basket”. • If “Base Product” and “Other Base Product” are different – alphabetically order them. The Base Product should be the first alphabetically and Other Base Product the second alphabetically. The associated attributes (Sub Product + Additional Sub Product + Reference Rate) are then moved as part of the normalization. • If Base Product and Other Base Product are the same, and if “Sub product” and “Other Sub product” are different – alphabetically order them. The Sub Product should be the first alphabetically and Other Sub Product the second alphabetically. The associated attributes (Additional Sub Product + Reference Rate) are then moved as part of the normalization. • If Base Product and Sub Product are the same as Other Base Product and Other Sub Product, and if “Additional Sub Product” and “Other Additional Sub product” are different – alphabetically order them. The Additional Sub Product should be the first alphabetically and Other Additional Sub Product the second alphabetically. The associated Reference Rate is then moved as part of the normalization. 	<i>Example (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlying Structure	Single Underlier		Underlier Characteristic	Basket
Underlier ID/ID Source	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE [COMM]		Base Product	AGRI
Base Product	NRGY		Sub Product	GROS
Sub Product	NGAS		Additional Sub Product	FWHT
Additional Sub Product	GASP		Other Underlier Characteristic	Single
Other Underlying Structure	Basket		Other Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE
Other Base Product	AGRI		Other Base Product	NRGY
Other Sub Product	GROS		Other Sub Product	NGAS
Other Additional Sub Product	FWHT		Other Additional Sub Product	GASP

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		<ul style="list-style-type: none"> Order alphabetically the combination string of “Base Product + Sub Product + Additional Sub Product + Reference Rate” and “Other Base Product + Other Sub Product + Other Additional Sub Product + Basket”. If “Base Product” and “Other Base Product” are different – alphabetically order them. The Base Product should be the first alphabetically and Other Base Product the second alphabetically. The associated attributes (Sub Product + Additional Sub Product + Reference Rate) are then moved as part of the normalization. If Base Product and Other Base Product are the same, and if “Sub product” and “Other Sub product” are different – alphabetically order them. The Sub Product should be the first alphabetically and Other Sub Product the second alphabetically. The associated attributes (Additional Sub Product + Reference Rate) are then moved as part of the normalization. If Base Product and Sub Product are the same as Other Base Product and Other Sub Product, and if “Additional Sub Product” and “Other Additional Sub product” are different – alphabetically order them. The Additional Sub Product should be the first alphabetically and Other Additional Sub Product the second alphabetically. The associated Reference Rate is then moved as part of the normalization. 	<i>Example (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE		Reference Rate [1]	WHEAT FEED-NYSE Liffe
			Reference Rate [2]	AGRI-CANOLA-ICE
Base Product	NRGY		Base Product	AGRI
Sub Product	NGAS		Sub Product	GROS
Additional Sub Product	GASP		Additional Sub Product	FWHT
Other Reference Rate [1]	WHEAT FEED-NYSE Liffe		Other Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE
Other Reference Rate [2]	AGRI-CANOLA-ICE		Other Base Product	NRGY
Other Base Product	AGRI		Other Sub Product	NGAS
Other Sub Product	GROS		Other Additional Sub Product	GASP
Other Additional Sub Product	FWHT			

- If the selected Underlying Structure is a “Single Underlier” and Other Underlying Structure is “Basket” and the input Base Product/Sub Product/Additional Sub Product and Other Base Product/Other Sub Product/Other Additional Sub Product are the same, record the attributes as follows:

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example 1 (Order Normalization not required)</i>		If “Base Product/ Sub Product/ Additional Sub Product” and “Other Base Product/ Other Sub Product/ Other Additional Sub Product” are the same, order Reference Rate as the first leg and Basket as the other leg.	<i>Example 2 (Order Normalization not applied)</i>	
Notional Currency	GBP		Notional Currency	GBP
Underlying Structure	Single Underlier		Underlier Characteristic	Single
Underlier ID/Underlier ID Source	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE [COMM]		Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD- ICE
Base Product	NRGY		Base Product	NRGY
Sub Product	NGAS		Sub Product	NGAS
Additional Sub Product	GASP		Additional Sub Product	GASP
Other Underlying Structure	Basket		Other Underlier Characteristic	Basket
Other Base Product	NRGY		Other Base Product	NRGY
Other Sub Product	NGAS		Other Sub Product	NGAS
Other Additional Sub Product	GASP		Other Additional Sub Product	GASP

Example 2 (Order Normalization required)		Example 2 (Order Normalization applied)	
Notional Currency	GBP	Notional Currency	GBP
Underlying Structure	Basket	Underlier Characteristic	Single
Base Product	NRGY	Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD-ICE
Sub Product	NGAS	Base Product	NRGY
Additional Sub Product	GASP	Sub Product	NGAS
Other Underlying Structure	Single Underlier	Additional Sub Product	GASP
Underlier ID/Underlier ID Source	NATURAL GAS-CHICAGO CITYGATES-Day AHEAD-ICE [COMM]	Other Underlier Characteristic	Basket
Other Base Product	NRGY	Other Base Product	NRGY
Other Sub Product	NGAS	Other Sub Product	NGAS
Other Additional Sub Product	GASP	Other Additional Sub Product	GASP

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Order Normalization not required)		If “Base Product/ Sub Product/ Additional Sub Product” and “Other Base Product/ Other Sub Product/ Other Additional Sub Product” are the same, order Reference Rate and Other Reference Rates alphabetically.	Example 2 (Order Normalization not applied)	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate	AGRI-CANOLA-ICE		Reference Rate	AGRI-CANOLA-ICE
Base Product	AGRI		Base Product	AGRI
Sub Product	GROS		Sub Product	GROS
Additional Sub Product	FWHT		Additional Sub Product	FWHT
Other Reference Rate [1]	BARLEY-ICE		Other Reference Rate [1]	BARLEY-ICE
Other Reference Rate [2]	COCOA-ICE		Other Reference Rate [2]	COCOA-ICE
Other Base Product	AGRI		Other Base Product	AGRI
Other Sub Product	GROS		Other Sub Product	GROS
Other Additional Sub Product	FWHT		Other Additional Sub Product	FWHT
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Notional Currency	GBP		Notional Currency	GBP
Reference Rate [1]	BARLEY-ICE		Reference Rate	AGRI-CANOLA-ICE
Reference Rate [2]	COCOA-ICE			
Base Product	AGRI		Base Product	AGRI
Sub Product	GROS		Sub Product	GROS

Additional Sub Product	FWHT		Additional Sub Product	FWHT
Reference Rate	AGRI-CANOLA-ICE		Reference Rate [1]	BARLEY-ICE
			Reference Rate [2]	COCOA-ICE
Other Base Product	AGRI		Other Base Product	AGRI
Other Sub Product	GROS		Other Sub Product	GROS
Other Additional Sub Product	FWHT		Other Additional Sub Product	FWHT

- If the selected Underlying Structure and Other Underlying Structure is a “Single Underlier” and Other Notional Currency is selected, record the attributes as follows:

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		Order the attributes alphabetically. The Notional Currency should be first alphabetically and Other Notional Currency the second alphabetically. The associated attributes of the Notional Currency will move as part of normalization.	<i>Example (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	EUR
Underlying Structure	Single Underlier		Underlier Characteristic	Single
Underlier ID/Underlier ID Source	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD ICE [COMM]		Reference Rate	WHEAT FEED-NYSE Liffe
Base Product	NRGY		Base Product	AGRI
Sub Product	NGAS		Sub Product	GROS
Additional Sub Product	GASP		Additional Sub Product	FWHT
Other Notional Currency	EUR		Other Notional Currency	GBP
Other Underlying Structure	Single Underlier		Other Underlier Characteristic	Single
Other Underlier ID/Other Underlier ID Source	WHEAT FEED-NYSE Liffe [COMM]		Other Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD ICE

Other Base Product	AGRI		Other Base Product	NRGY
Other Sub Product	GROS		Other Sub Product	NGAS
Other Additional Sub Product	FWHT		Other Additional Sub Product	GASP

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		Order the attributes alphabetically. The Notional Currency should be first alphabetically and Other Notional Currency the second alphabetically. The associated attributes of the Notional Currency will move as part of normalization.	<i>Example (Order Normalization applied)</i>	
Notional Currency	GBP		Notional Currency	EUR
Reference Rate	NATURAL GAS-CHICAGO CITYGATES-DAY AHEAD ICE [COMM]		Reference Rate	WHEAT FEED-NYSE Liffe
Base Product	NRGY		Base Product	AGRI
Sub Product	NGAS		Sub Product	GROS
Additional Sub Product	GASP		Additional Sub Product	FWHT
Other Notional Currency	EUR		Other Notional Currency	GBP
Other Reference Rate	WHEAT FEED-NYSE Liffe [COMM]		Other Reference Rate	NATURAL GAS-CHICAGO CITIGATES-DAY AHEAD-ICE
Other Base Product	AGRI		Other Base Product	NRGY
Other Sub Product	GROS		Other Sub Product	NGAS
Other Additional Sub Product	FWHT		Other Additional Sub Product	GASP

- If the selected Underlying Structure combination is “Basket” and Other Notional Currency is selected, record the attributes as follows:

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		Order the attributes alphabetically. The Notional Currency should be first alphabetically and Other Notional Currency the second alphabetically. The associated attributes of the Notional Currency will move as part of normalization.	<i>Example (Order Normalization applied)</i>	
Notional Currency	EUR		Notional Currency	AUD
Underlying Structure	Basket		Underlier Characteristic	Basket
Base Product	NRGY		Base Product	AGRI
Sub Product	NGAS		Sub Product	GROS
Additional Sub Product	GASP		Additional Sub Product	FWHT
Other Notional Currency	AUD		Other Notional Currency	EUR
Other Underlying Structure	Basket		Other Underlier Characteristic	Basket
Other Base Product	AGRI		Other Base Product	NRGY
Other Sub Product	GROS		Other Sub Product	NGAS
Other Additional Sub Product	FWHT		Other Additional Sub Product	GASP

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
<i>Example (Order Normalization required)</i>		Order the attributes alphabetically. The Notional Currency should be first alphabetically and Other Notional Currency the second alphabetically. The associated attributes of the Notional Currency will move as part of normalization.	<i>Example (Order Normalization applied)</i>	
Notional Currency	EUR		Notional Currency	AUD
Reference Rate [1]	BARLEY-ICE		Reference Rate [1]	ELECTRICITY – POWER INDEX – HOURLY – GME,
Reference Rate [2]	COCOA-ICE		Reference Rate [2]	ELECTRICITY-NP-15 PEAK-ICE
Base Product	AGRI		Base Product	NRGY
Sub Product	GROS		Sub Product	NGAS
Additional Sub Product	FWHT		Additional Sub Product	GASP
Other Notional Currency	AUD		Other Notional Currency	EUR
Other Reference Rate [1]	ELECTRICITY – POWER INDEX – HOURLY – GME,		Other Reference Rate [1]	BARLEY-ICE
Other Reference Rate [2]	ELECTRICITY-NP-15 PEAK-ICE		Other Reference Rate [2]	COCOA-ICE
Other Base Product	NRGY		Other Base Product	AGRI
Other Sub Product	NGAS		Other Sub Product	GROS
Other Additional Sub Product	GASP		Other Additional Sub Product	FWHT

2.6 FX Normalization

This section specifies the normalization that applies to the following FX Forward products:

Asset Class	Instrument Type	Product
Foreign_Exchange	Forward	NDF
Foreign_Exchange	Forward	Forward
Foreign_Exchange	Forward	Vol_Var
Foreign_Exchange	Forward	Rolling_Spot
Foreign_Exchange	Forward	Contract_For_Difference
Foreign_Exchange	Forward	Spreadbet
Foreign_Exchange	Forward	Non_Standard Forward

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">Order the “Underlier ID” and “Other Underlier ID” alphabetically.If the input “Underlier ID” is first alphabetically, then record it as “Notional Currency”.If the input “Underlier ID” is not first alphabetically, then record it as “Other Notional Currency”.	Example 1 (Normalization not applied)	
Underlier ID/Underlier ID Source	EUR [CCY]		Notional Currency	EUR
Other Underlier ID/Other Underlier ID Source	GBP [CCY]		Other Notional Currency	GBP
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Underlier ID/Underlier ID Source	GBP [CCY]		Notional Currency	EUR
Other Underlier ID/Other Underlier ID Source	EUR [CCY]		Other Notional Currency	GBP

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">Order the “Underlier ID” and “Other Underlier ID” alphabetically.If the input “Underlier ID” is first alphabetically, then record it as “Notional Currency”.If the input “Underlier ID” is not first alphabetically, then record it as “Other Notional Currency”.	Example 1 (Normalization not applied)	
Notional Currency	EUR		Notional Currency	EUR
Other Notional Currency	GBP		Other Notional Currency	GBP
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Notional Currency	GBP		Notional Currency	EUR
Other Notional Currency	EUR		Other Notional Currency	GBP

2.7 FX Option Normalization

This section specifies the normalization that applies to the following FX Option products:

Asset Class	Instrument Type	Product
Foreign_Exchange	Option	NDO
Foreign_Exchange	Option	Vanilla_Option
Foreign_Exchange	Option	Barrier_Option
Foreign_Exchange	Option	Digital_Option
Foreign_Exchange	Option	Target_Option
Foreign_Exchange	Option	Forward_Vol_Agreement
Foreign_Exchange	Option	FX_Non_Standard_Option

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">Order the “Notional Currency” and “Other Notional Currency” alphabetically.If the “Notional Currency” is first alphabetically, then record the currency pair and option type value as is in the record.If the “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.If the option type value is “OPTL”, alphabetical normalization approach in the currency pair shall apply and keep option value type as “OPTL”.	Example 1 (Normalization not applied)	
Underlier ID/Underlier ID Source	EUR [CCY]		Notional Currency	EUR
Other Underlier ID/Other Underlier ID Source	GBP [CCY]		Other Notional Currency	GBP
Option Type	PUTO		Option Type	PUTO
Option Exercise Style	EURO		Option Exercise Style	EURO
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Underlier ID/Underlier ID Source	GBP [CCY]		Notional Currency	EUR
Other Underlier ID/Other Underlier ID Source	EUR [CCY]		Other Notional Currency	GBP
Option Type	PUTO		Option Type	CALL
Option Exercise Style	EURO		Option Exercise Style	EURO

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">Order the “Notional Currency” and “Other Notional Currency” alphabetically.If the “Notional Currency” is first alphabetically, then record the currency pair and option type value as is in the record.If the “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.If the option type value is “OPTL”, alphabetical normalization approach in the currency pair shall apply and keep option value type as “OPTL”.	Example 1 (Normalization not applied)	
Notional Currency	EUR		Notional Currency	EUR
Other Notional Currency	GBP		Other Notional Currency	GBP
Option Type	PUTO		Option Type	PUTO
Option Exercise Style	EURO		Option Exercise Style	EURO
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Notional Currency	GBP		Notional Currency	EUR
Other Notional Currency	EUR		Other Notional Currency	GBP
Option Type	PUTO		Option Type	CALL
Option Exercise Style	EURO		Option Exercise Style	EURO

2.8 Term Value and Unit Normalization

This section specifies the normalization of Term Value and Term Unit where applicable.

2.8.1 Reference Rate Term Value and Unit

Asset Class	Instrument Type	Product
Rates	Swap	Fixed_Float
Rates	Swap	Fixed_Float_Zero_Coupon
Rates	Swap	Fixed_Float_OIS
Rates	Swap	Inflation_Fixed_Float_Zero_Coupon
Rates	Swap	Inflation_Swap
Rates	Swap	Inflation_Fixed_Float_YoY
Rates	Swap	Cross_Currency_Zero_Coupon
Rates	Swap	Cross_Currency_Inflation_Swap
Rates	Swap	Cross_Currency_Fixed_Float
Rates	Swap	Cross_Currency_Fixed_Float_NDS
Rates	Swap	Basis
Rates	Swap	Basis_OIS
Rates	Swap	Inflation_Basis

Rates	Swap	Inflation_Basis_YoY
Rates	Swap	Inflation_Basis_Zero_Coupon
Rates	Swap	Cross_Currency_Basis
Rates	Swap	Non_Standard_Swap
Rates	Forward	FRA_Index
Other	Forward	Non_Standard_Forward
Other	Option	Non_Standard_Option
Other	Swap	Non_Standard_Swap
Other	Other	Non_Standard (Miscellaneous)

REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">• If Reference Rate Term Unit = “DAYS” and Reference Rate Term Value is divisible by 7, record it in weeks.• If Reference Rate Term Unit = “MNTH” and Reference Rate Term Value is divisible by 12, record it in years.• If Reference Rate Term Value is 0 and Reference Rate Term Unit is anything other than DAYS, it will be recorded as 0 DAYS. <p>Note: This normalization is applicable all instruments for both legs.</p>	Example 1 (Normalization not applied)	
Reference Rate Term Value/Unit	3 DAYS		Reference Rate Term Value/Unit	3 DAYS
Example 2 (Date Normalization required)			Example 2 (Date Normalization applied)	
Reference Rate Term Value/Unit	7 DAYS		Reference Rate Term Value/Unit	1 WEEK
Example 3 (Date Normalization required)			Example 3 (Date Normalization applied)	
Reference Rate Term Value	12 MNTH		Reference Rate Term Value/Unit	1 YEAR
Example 4 (Date Normalization required)			Example 4 (Date Normalization applied)	
Reference Rate Term Value/Unit	0 WEEK		Reference Rate Term Value	0 DAYS

2.8.2 Underlying Instrument Term Value and Unit

Asset Class	Instrument Type	Product
Rates	Option	CapFloor
Rates	Option	Inflation_CapFloor
Credit	Swap	Index
Credit	Swap	Index_Tranche
Credit	Swap	Total_Return_Swap
Credit	Swap	Non_Standard_Swap
Credit	Option	Non_Standard_Option
Other	Option	Non_Standard_Option
Other	Swap	Non_Standard_Swap
Other	Other	Non_Standard (Miscellaneous)

REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">• If Underlying Instrument Index Term Unit = “DAYS” and Underlying Instrument Index Term Value is divisible by 7, record it in weeks.• If Underlying Instrument Index Term Unit = “MNTH” and Underlying Instrument Index Term Value is divisible by 12, record it in years.• If Underlying Instrument Index Term Value is 0 and Underlying Instrument Index Term Unit is anything other than DAYS, it will be recorded as 0 DAYS.	Example 1 (Normalization not applied)	
Underlying Instrument Index Term Value/Unit	3 DAYS		Underlying Instrument Index Term Value/Unit	3 DAYS
Example 2 (Date Normalization required)			Example 2 (Date Normalization applied)	
Underlying Instrument Index Term Value/Unit	7 DAYS		Underlying Instrument Index Term Value/Unit	1 WEEK
Example 3 (Date Normalization required)			Example 3 (Date Normalization applied)	
Underlying Instrument Index Term Value/Unit	12 MNTH		Underlying Instrument Index Term Value/Unit	1 YEAR
Example 4 (Date Normalization required)			Example 4 (Date Normalization applied)	
Underlying Instrument Index Term Value/Unit	0 WEEK		Underlying Instrument Index Term Value/Unit	0 DAYS

2.9 Underlying Instrument Index Normalization

This section specifies the normalization of Underlying Instrument Index for the following products:

Asset Class	Instrument Type	Product
Equity	Swap	Price_Return_Basic_Performance_Single_Index
Equity	Swap	Parameter_Return_Dividend_Single_Index
Equity	Swap	Parameter_Return_Variance_Single_Index
Equity	Swap	Price_Return_Basic_Performance_Single_Index_CFD
Equity	Swap	Parameter_Return_Volatility_Single_Index
Equity	Swap	Portfolio_Swap_Single_Index
Equity	Swap	Non_Standard_Swap
Equity	Forward	Price_Return_Basic_Performance_Single_Index_CFD
Equity	Forward	Price_Return_Basic_Performance_Single_Index
Equity	Forward	Non_Standard_Forward
Equity	Option	Single_Index
Equity	Option	Non_Standard_Option
Other	Forward	Non_Standard_Forward
Other	Option	Non_Standard_Option

Other	Swap	Non_Standard_Swap
Other	Other	Non_Standard (Miscellaneous)

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (ID Normalization required)		<ul style="list-style-type: none">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.If Equity Index Name has no associated Equity Index ISIN, the Equity Index Name input by the user will return in the record. <p>List of Equity Indices and associated ISINs can be found here.</p>	Example 1 (ID Normalization applied)	
Underlier ID/Underlier ID Source	KOSPI 200 [EQIDX]		Underlying Instrument ISIN	KRD020020016
Example 2 (Normalization not required)			Example 2 (Normalization not applied)	
Underlier ID/Underlier ID Source	NIKKEI 225 INDEX [EQIDX]		Underlying Instrument Index	NIKKEI 225 INDEX

OTC ISIN		Normalization	OTC ISIN	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (ID Normalization required)		<ul style="list-style-type: none">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.If Equity Index Name has no associated Equity Index ISIN, the Equity Index Name input by the user will return in the record. <p>List of Equity Indices and associated ISINs can be found here.</p>	Example 1 (ID Normalization applied)	
Underlying Instrument Index	KOSPI 200		Underlying Instrument ISIN	KRD020020016
Example 2 (Normalization not required)			Example 2 (Normalization not applied)	
Underlying Instrument Index	NIKKEI 225 INDEX		Underlying Instrument Index	NIKKEI 225 INDEX

3. UPI Product Specific Normalization

3.1 Introduction

The DSB will normalize data submitted by the user to ensure that the same UPI record is returned for a given set of attributes.

3.2 FX Normalization

This section specifies the normalization that applies to the following FX Swap products:

Asset Class	Instrument Type	Product
Foreign_Exchange	Swap	FX_Swap
Foreign_Exchange	Swap	Non_Deliverable_FX_Swap

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Normalization not required)		<ul style="list-style-type: none">Order the “Underlier ID” and “Other Underlier ID” alphabetically.If the input “Underlier ID” is first alphabetically, then record it as “Notional Currency”.If the input “Underlier ID” is not first alphabetically, then record it as “Other Notional Currency”.	Example 1 (Normalization not applied)	
Underlier ID/Underlier ID Source	EUR [CCY]		Notional Currency	EUR
Other Underlier ID/Other Underlier ID Source	GBP [CCY]		Other Notional Currency	GBP
Example 2 (Order Normalization required)			Example 2 (Order Normalization applied)	
Underlier ID/Underlier ID Source	GBP [CCY]		Notional Currency	EUR
Other Underlier ID/Other Underlier ID Source	EUR [CCY]		Other Notional Currency	GBP

3.3 Underlying Structure / Underlier Characteristic Normalization

This section specifies the normalization based on underlying structure selected for the following UPI products:

Asset Class	Instrument Type	Product
Rates	Swap	Non_Standard_Swap
Rates	Option	Non_Standard_Option
Rates	Forward	Debt
Credit	Forward	Non_Standard_Forward
Credit	Swap	Non_Standard_Swap
Credit	Option	Non-Standard_Option
Commodities	Forward	Non_Standard_Forward
Commodities	Option	Non_Standard_Option
Commodities	Swap	Non_Standard_Swap
Equity	Swap	Non_Standard_Swap
Equity	Option	Non_Standard_Option
Equity	Forward	Non_Standard_Forward
Other	Forward	Non_Standard_Forward
Other	Option	Non_Standard_Option

Other	Swap	Non_Standard_Swap
Other	Other	Non_Standard (Miscellaneous)

UPI		Normalization	UPI	
REQUEST (Input)	Example Value		RECORD (Output)	Example Value
Example 1 (Classification Normalization required)		<ul style="list-style-type: none">• If Underlying Structure selected is a “Single Underlier”, then record the attribute as “Underlier Characteristic” with value “Single” in the RECORD template.• If Underlying Structure selected is “Basket”, then record the attribute as “Underlier Characteristic” with value “Basket” in the RECORD template. <p>Note: This normalization is applicable all instruments for both legs.</p>	Example 1 (Classification Normalization applied)	
Underlying Structure	Single Underlier		Underlier Characteristic	Single
Example 2 (Classification Normalization required)			Example 2 (Classification Normalization applied)	
Underlying Structure	Basket		Underlier Characteristic	Basket

4. OTC ISIN Product Specific Normalization

4.1 Introduction

The DSB will normalize data submitted by the user to ensure that the same OTC ISIN record is returned for a given set of attributes.

4.2 FX Normalization

This section specifies the normalization for the following FX Swap products:

Asset Class	Instrument Type	Product
Foreign_Exchange	Swap	FX_Swap
Foreign_Exchange	Swap	Non_Deliverable_FX_Swap

4.2.1 FX Swap Normalization

The underlying inputs for an FX Swap have been defined to be two FX Forward Trades that are over the same currency pair. The DSB will reject any FX Swap requests for which this is not true.

Normalization rules:

- Analyze the two FX Forward ISINs within the DSB to determine the respective expiry dates and if they are different then order the closest date into the 'Underlying Instrument Near Leg' attribute and the furthest date into the 'Underlying Instrument Far Leg' attribute.
- Analyze the two FX Forward ISINs within the DSB to determine the respective expiry dates and if they are the same then order the underlying ISINs numerically into 'Underlying Instrument Near Leg' attribute and 'Underlying Instrument Far Leg' attribute respectively.

4.2.2 FX Non-Deliverable Swap Normalization

The underlying inputs for a Non-Deliverable FX Swap have been defined to be two NDFs or FX NonStandard Forward Products that are over the same currency pair. The DSB will reject any NonDeliverable FX Swap requests for which this is not true.

Normalization rules:

- Analyze the two NDF or FX Non-Standard Forward ISINs within the DSB to determine the respective expiry dates and if they are different then order the closest date into the 'Underlying Instrument Near Leg' attribute and the furthest date into the 'Underlying Instrument Far Leg' attribute.
- Analyze the two NDF or FX Non-Standard Forward ISINs within the DSB to determine the respective expiry dates and if they are the same then order the underlying ISINs numerically into 'Underlying Instrument Near Leg' attribute and 'Underlying Instrument Far Leg' attribute respectively.