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Financial services — Unique product identifier (UPI)

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 68, *Financial services,* Subcommittee SC 8, *Reference data for financial services*.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

The G20 leaders agreed in 2009 that over-the-counter (OTC) derivatives contracts should be reported to trade repositories as part of their commitment to reform OTC derivatives markets in order to improve transparency, mitigate systemic risk and protect against market abuse. Aggregation of the data reported across trade repositories can enable authorities to obtain a comprehensive view of OTC derivatives markets and activity.

Standardization and harmonization of identifiers and data elements is crucial for global data aggregation. The motivation behind the unique product identifier (UPI) is to uniquely identify OTC derivative products, as defined by a specific set of reference data elements, for the purpose of regulatory reporting to trade repositories.

While the primary driver of the UPI is regulatory reporting, the UPI can also serve other purposes, such as pre- and post-trade processes performed by market participants and financial market infrastructures.

As a result of implementing this document, a unique UPI code will be assigned to each distinct OTC derivative product that is reportable to trade repositories and maps to a set of reference data elements having specific values that together describe the product. The collection of UPI reference data elements and their values for each product will be stored in the UPI reference data library.

Financial services — Unique product identifier (UPI)

1 Scope

This document specifies the elements of an unambiguous scheme to identify over-the-counter (OTC) derivative products that are reportable to trade repositories, in particular:

— the structure and format of the unique product identifier (UPI) code;

— the minimum data elements of the UPI reference data library, together with their allowable values.

At a minimum, the UPI code is applicable to OTC derivative instruments falling under the following categories of the classification of financial instruments (see ISO 10962):

— swaps (S);

— forwards (J);

— non-listed and complex listed options (H);

— others (miscellaneous) (M).

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO/IEC 7064:2003, *Information technology — Security techniques — Check character systems*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

3.1
OTC derivative instrument
financial instrument that is, or would be, identified by an ISIN with the prefix "EZ" or "ZZ"

Note 1 to entry: Details regarding how the prefix of an ISIN is determined can be found in ISO 6166:2021, Annex A.

3.2
OTC derivative product
group of *OTC derivative instruments* (3.1) that share common values for a set of data elements specified within the *UPI reference data library* (3.3), as determined and published by the *UPI service provider* (3.4)

3.3
UPI reference data library
set of data comprising reference data elements with specific values that together describe the product

3.4
UPI service provider
organization designated by an external body of financial regulators to assign UPIs and operate the *UPI reference data library* (3.3)

Note 1 to entry: At the time of publication this external body is the Regulatory Oversight Committee, confirmed by the Financial Stability Board as the International Governance Body for the globally harmonized identifiers used to track OTC derivatives transactions.

4 UPI code structure

The UPI code consists of 12 alphanumeric characters decomposed as follows:

— the two-character prefix “QZ”;

— nine alphanumeric characters [upper-case A to Z and 0 to 9 only, excluding the vowel characters (A, E, I, O, U) and the character Y] without separators or special characters;

— one alphanumeric check character [upper-case A to Z and 0 to 9 only, excluding the vowel characters (A, E, I, O, U) and the character Y], shall be calculated using the method specified in Annex C.

5 UPI reference data library

The reference data library is a set of reference data elements, together with their values, which is properly organized and maintained by the UPI service provider. The library shall associate UPI codes with the values of the reference data elements that as a minimum enable the characterization of the products.

Further information concerning the UPI reference data elements and their definitions can be found in Annex A.

Further information concerning the association of the UPI reference data elements to different asset classes and instrument types can be found in Annex B.

Annex A
(informative)

Definitions of the minimum set of UPI reference data elements

Data element name	Data element description
Asset class	Indicates whether the asset, benchmark or another derivatives contract underlying a derivatives contract is, or references, an equity, rate, credit, commodity or foreign exchange asset.
Instrument type	Indicates whether the instrument is a swap, option, forward or "other" type of derivative instrument.
Currency associated with a reference rate	The currency to which the market reference rate or index relates.
Delivery type	Indicates whether a derivatives contract will deliver a physical asset or a cash equivalent at settlement.
Notional schedule	Indicates whether a notional schedule is constant, amortizing, accreting or custom.
Option style	Specifies when an option can be exercised. The value "European" specifies that an option can only be exercised on the expiration date; "American" specifies that an option can be exercised any time up to and including the expiration date; and "Bermudan" specifies that an option can be exercised only at specified times during the life of the contract. Bermudan-style options include variations such as Canary- and Verde-style options.
Option type	Specifies whether an option gives the buyer the right to buy the underlying, i.e. "Call", the right to sell the underlying, i.e. "Sell", or the right to choose whether to buy or sell the underlying at the time of exercise, i.e. "Chooser".
Return, pricing method or payout trigger	Return values indicate how a contract's payout is determined; pricing method values indicate how a contract is valued; payout trigger values indicate an event that would result in a contract paying out.
Seniority	Indicates the seniority of the debt security, or debt basket or index underlying a derivative.
Settlement currency	For a cash-settled contract, the currency to be delivered at the time of settlement.
Single or multiple currency	Indicates whether a single currency or multiple currencies underlie a derivative.
Standard contract specification	The name of an existing document or reference that provides standard terms and conditions to be applied to the contract having the underlying asset or benchmark identified by the underlier ID and underlier ID source for which the UPI is assigned.
Underlier ID	An identifier that can be used to determine the asset(s), index (indices) or benchmark underlying a contract or, in the case of a foreign exchange derivative, identification of the currency pair or index.
Underlier ID source	The origin, or publisher, of the associated underlier ID.
Underlier type	A high-level description of the characteristics of an asset, index, commodity base product or contract underlying a derivative.
Underlier sub-type (first level)	A lower-level description of the characteristics of an asset, index, commodity sub-product or contract underlying a derivative.
Underlier sub-type (second level)	A further lower-level description of the characteristics of an asset, index, commodity sub-product or contract underlying a derivative.

Data element name	Data element description
Underlying credit index series	A number reflecting the constituents of an index for a given period of time.
Underlying credit index version	A number reflecting any changes to the constituents of an index during the lifetime of the series.
Underlying rate index tenor period	The unit of time for the tenor of an index (e.g. day, week, month).
Underlying rate index tenor period multiplier	The number of time units for the tenor of an index.

Annex B
(informative)

Minimum UPI reference data elements by asset class and instrument type

Data element name	Credit			Rates			Commodities			Equities			FX			Multi-asset			Other class and/or type
	S	O	F	S	O	F	S	O	F	S	O	F	S	O	F	S	O	F	
Asset class[a]	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
Instrument type	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
Currency associated with an underlying reference rate[b]				M	M	M										C	C	C	
Delivery type	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
Notional schedule				M												C			
Option style		M			M			M			M			M			M		
Option type		M			M			M			M			C			M		
Return, pricing method or payout trigger	M	M	M		M	M	M	M	M	M	M	M		M	M	M	M	M	
Seniority	M	M	M													C	C	C	
Settlement currency													C	C	C	C	C	C	
Single or multiple currency				M												C			
Standard contract specification	C	C	C													C	C	C	d
Underlier ID[c]	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
Underlier ID source	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	C	
Underlier type	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	M	
Underlier sub-type (first level)	M	M	M				M	M	M							C	C	C	
Underlier sub-type (second level)							C	C	C							C	C	C	
Underlying credit index series	C	C	C													C	C	C	
Underlying credit index version	C	C	C													C	C	C	
Underlying rate index tenor period				C	C	C										C	C	C	
Underlying rate index tenor period multiplier				C	C	C										C	C	C	

Key

F forward

O option

S swap

C conditional (to be delivered if applicable)

M mandatory

Blank not applicable

[a] Two or more instances required for multi-asset products.

[b] Can be repeated, e.g. for cross currency swaps.

[c] Underlying identifiers and their sources are not required for custom baskets of assets.

[d] To be determined by the UPI service provider as it makes operational decisions in its implementation of the standard.

Annex C
(normative)

Check character calculation

A MOD 31,30 check character shall be calculated in accordance with ISO/IEC 7064:2003, Clauses 9 and 10, using the same character set as the base code [alphanumeric, but excluding vowels (A, E, I, O, U) and the letter Y] and with the following values assigned to the characters, replacing Table 4 in ISO/IEC 7064:2003 with Table C.1.

Table C.1 — Values assigned to characters

Character	Value in systems for alphanumeric strings	Character	Value in systems for alphanumeric strings	Character	Value in systems for alphanumeric strings
0	0	B	10	N	20
1	1	C	11	P	21
2	2	D	12	Q	22
3	3	F	13	R	23
4	4	G	14	S	24
5	5	H	15	T	25
6	6	J	16	V	26
7	7	K	17	W	27
8	8	L	18	X	28
9	9	M	19	Z	29

In the following example, the starting value for the computation is defined as 30, one of two moduli whose value equals the number of characters in the character set. The operations involving the two moduli, 30 and 31, are defined as follows:

$||_{30}$ is the remainder after dividing by 30; if this is zero then the value 30 shall be substituted.

$|_{31}$ is the remainder after dividing by 31; the remainder is never zero after this operation.

EXAMPLE If the base code (prefix + nine alphanumeric characters) is QZNX2JD91QC, it would be converted to values from Table C.1 as follows:

Q	Z	N	X	2	J	D	9	1	Q	C
22	**29**	**20**	**28**	**2**	**16**	**12**	**9**	**1**	**22**	**11**

The operations are then performed on these values as follows:

30 + **22** = 52 $||_{30}$ = 22 × 2 = 44 $|_{31}$ = 13

13 + **29** = 42 $||_{30}$ = 12 × 2 = 24 $|_{31}$ = 24

24 + **20** = 44 $||_{30}$ = 14 × 2 = 28 $|_{31}$ = 28

28 + **28** = 56 $||_{30}$ = 26 × 2 = 52 $|_{31}$ = 21

21 + **2** = 23 $||_{30}$ = 23 × 2 = 46 $|_{31}$ = 15