

POSIT MTF

FIX and Connectivity Guidance

Last update: October 2022



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OVERVIEW

About this document

This guide provides all the necessary information needed to interface with POSIT MTF using the FIX protocol. Participants should use FIX version 4.2, however several tags contained within this document have been retrofitted to FIX 4.2 from later versions or based on recommendations from the FIX Trading Community, to support MiFID II required participant information. To download and view the standard FIX specifications, visit www.fixtrading.org. Note: This document is not intended to replace the FIX protocol manuals, but to provide essential information specific to clients accessing the POSIT MTF. The scope of this document applies to the following POSIT segments:

- Dark Segment
- Periodic Auction Segment

CONNECTIVITY

Participants may establish direct network connectivity to POSIT MTF via a variety of network providers including but not limited to:

- BT Radianz TNS
- Atrium IPC
- Fixnetix
- Encrypted Internet

Participants may also choose to cross-connect if they have presence in InterXion Hanbury Street, London or Equinix LD4, London

Connectivity is also supported by various OMS & EMS providers and FIX vendor networks including but not limited to:

- Bloomberg
- Fidessa
- Flextrade
- Portware
- Charles River Network
- Simcorp
- Autex
- Ullink/NyFIX
- IRESS

Each participant is allocated a FIX tcp/ip port per FIX session. Multiple FIX sessions can be assigned to each participant. Minimum recommended bandwidth per FIX session is 256KB.



In the UAT test environment, connectivity may be established via internet if desired.

POSIT MTF

Participants may interact in any one of the following POSIT MTF market segments

- Dark Segment
- Periodic Auction Segment ("POSIT Auction")

Equities Dark Segment

The Equities Dark segment offers the following matching systems, each accessed via separate routing destinations:

POSIT Now System

Orders may enter the system availing of the pre-trade transparency Reference Price Waiver ("RPW") subject to these orders being entered with a Midpoint Peg, and as such, may only match at the midpoint of the prevailing primary market best bid offer ("PBBO").

Orders availing of the pre-trade transparency Large in Scale Waiver ("LIS") may be entered to the system at any price. These orders may only match within the prevailing PBBO. LIS orders may also enter the system with pegged price instructions which may only match at the specified peg or better.

Both RPW and LIS orders are matched one-to-one with the following priority:

Order Type	Matching Priority
RPW	Size / Time
LIS	Price / Size / Time

In instances where LIS orders match and trade but do not complete, the remainder of the order will continue avail of the LIS waiver (even if the remaining quantity is below LIS) until cancelled or the end of the trading day.

There must be a tradable bid and offer on the primary listing market for any trading to take place. Where a financial instrument is halted or suspended on the primary listing market, then no trading will take place. Trading will resume once the MTF detects that the halt or suspension has been removed and the financial instrument has tradable bid/offer quotes on its primary listing market.

POSIT Close System

Orders are matched on a pro rata size basis at the closing price of the financial instrument on its primary listing market.

The following orders types are supported: Market or Limit. See section "Order types" for more details.

- Participants may additionally choose to include each of the following trading constraints: Minimum Quantity and Self Match.



- The following order time in force instructions are supported: DAY or Immediate or Cancel (“IOC”). An expiry time may also be specified.

Periodic Auction Segment

A periodic auction segment (“POSIT Auction”) running auctions at frequent intervals with randomised timing and subject to certain conditions being met, such auctions being triggered on receipt and acceptance of a buy or sell order into the system segment;

POSIT Auction contains two separate trading sessions: (1) Intraday and (2) After hours. Orders must state which trading session the respective order is to be submitted to.

Orders types supported: Market or Limit must be specified. A Peg Bid, Mid or Ask instruction can be specified for the intraday session, where the peg is pegged to the primary market listing of the relevant financial instrument. A Peg Closing price can be added for the after-hours session, where the peg is pegged to the closing price of the primary market listing for the relevant financial instrument. See section “Order types” for more details.

Participants may additionally choose to include each of the following trading constraints:

Minimum Quantity

Minimum Quantity can be specified as either Minimum Acceptable Quantity (“MAQ”) or Minimum Execution Size (“MES”). Participants must instruct Virtu ITG Europe (“VIEL”) Limited their preference for Minimum Quantity to be treated as MAQ or MES as a participant level setting.

The following order time in force instructions are supported: DAY or Good for One Auction. An expiry time may also be specified.

For more details on the functionality of the above segments please refer to the Participant Manual and Guidance document, available at virtu.com.

CERTIFICATION

Participants must complete a formal certification process as per the POSIT MTF Rulebook and Participant Manual. A certification test script is provided to prospective participants

WORKING WITH FIX

FIX Session Reset Timing

POSIT MTF is available during the market hours as referenced in the Participant Manual and Guidance documents available at virtu.com. Participants are expected to ensure they maintain connectivity during these hours. Session sequence numbers are reset daily outside market hours.

Recovery

During initialization or during a FIX session, message gaps may occur. It is the responsibility of the receiving application to monitor incoming sequence numbers to detect gaps. This information may then be used to respond with Resend Request messages.

POSIT MTF will maintain a list of sent messages, each with a unique sequence number. POSIT MTF’s FIX engine automatically stores all outbound messages for all connections



onto disk. This disk file remains in place even if the FIX engine is stopped and restarted.

Certain administrative messages (which do not increment the sequence number) will not be sent in the retransmission of messages in response to a Resend Request from a client.

Cancel On Disconnect

Cancel on disconnect may be implemented at FIX session level upon request.

Timestamps

POSIT timestamps (delivered in FIX tags 52 and 60) will be delivered at millisecond precision.

Trading Venue Transaction Identification Code (TVTIC)

POSIT will provide the TVTIC value – a unique identifier assigned to all executions which are part of the same match – and provide this to participants in FIX tag 8016 on their execution reports.

Pre-Trade Transparency Waiver Flags (POSIT Equities Dark Segment Only)

Participants are required to indicate the appropriate pre-trade transparency waiver under which they are submitting their orders to the dark segment – either RPW (Reference Price Waiver) or LIS (Large in scale). This information should be included in FIX tag 9203 on new orders and cancel/replace requests.

Upon written request this information can be defaulted based on the size of your order.

Party Identification

Identifying the Parties of the Order

Participants accessing the POSIT MTF are required to send additional FIX order message tags to identify the parties to the order using the PartyID repeating group tags detailed above.

The table below outlines what party data is required:

Data Element	When is the Identifier Required?
Client identifier ¹	Required when order capacity is AOTC or MTCH
Investment decision maker ²	Required when order capacity is DEAL
Execution decision maker ²	Required on all orders

¹ Client Identifier may be a LEI (for a firm) or a National ID (for an individual)

² Investment Decision and Execution Decision Maker may be a National ID (for an individual) or Algo ID (for an algorithm)

POSIT MTF requires the sending of this information as integer short codes. The purpose of the short code is to reduce the amount of sensitive data handled by the trading system and to minimise any latency impact with smaller message sizes. These short codes will each represent an identifier such as an LEI, Algo ID or natural person. Clients will need to provide POSIT MTF with short to long code mappings prior to or no later than end of each trading day to facilitate the venue's order record keeping requirements. POSIT MTF will support submission of the short/long code mappings via secure ftp file upload.



The additional short code information should be sent using the NoPartyIDs repeating group.

Tag	Field Name	Comments	Required
Sorry	NoPartyIDs	Indicates the number of instances of the repeating group NewOrderPtyRptGrp to follow	Y
448	PartyID	The code representing the client or decision maker represented by this block	Y Reserved values 0=None (for Client ID) 1=AGGR (for Client ID) 2=PNAL (for Client ID) 3=CLIENT / NORE (for Execution Decision Maker)
447	PartyIDSource	P=Short Code	Y
452	PartyRole	3=Client ID 122=Investment Decision Maker 12=Execution Decision Maker	Y
2376	PartyRole Qualifier	Required if using long codes 22=Algorithm 23=Firm or Legal Entity 24=Natural Person	Y 23 only valid for 452=3 (Client ID)

Note: See appendix A for further information on the Identifier Mapping upload site.

Examples of Repeating Group Values

DEAL Capacity Order

Includes Investment Decision Maker (person), Execution Decision Maker (algorithm):

453=2

448=2399, 447=P, 452=122, 2376=24

448=30984, 447=P, 452=12, 2376=22

AOTC capacity order

Includes Client ID, Execution Decision Maker (person):

453=2

448=9043874, 447=P, 452=3, 2376=23

448=12984, 447=P, 452=12, 2376=24

AOTC Capacity Order

Includes Client ID, Execution Decision Maker (algorithm):

453=2

448=9043874, 447=P, 452=3, 2376=23

448=12984, 447=P, 452=12, 2376=24

Where a tag such as Client ID or Investment Decision Maker is not required, it may be omitted, or sent with a value of '0'.



DEA Activity

Participants should indicate whether any DEA activity is involved in their order. POSIT MTF can default this flag for participants if required/applicable.

Algorithmic Trade Indicator

Participants should indicate if their order was generated by an algo. This can be defaulted from the Investment and/or Execution Decision Maker information provided.

Order Capacity

Participants should indicate the trading capacity in which the venue participant or participant submits an order. Valid values are -

P (DEAL)

Dealing on own account

R (MTCH)

Matched principal

A (AOTC)

Any other capacity

Note: POSIT MTF executions will always be marked as AOTC indicated by FIX tag 29=1.

Supported POSIT Destinations

POSIT MTF supports trading to multiple trading destinations via a single FIX session. The following FIX tags can be used to route to POSIT.

Tag 100 (ExDestination) or Tag 57 (TargetSubID) or Tag 6005

Below is a list of supported POSIT MTF destinations, relevant segment MIC codes and the corresponding default values we would expect in ExDestination or TargetSubID:

Tag Value	Destination	Explanation	MIC Code
POSN	POSIT NOW	Dark segment, continuous matching from 8:00 – market close	XPOS
POSC	POSIT CLOSE	Dark segment, after primary market close	XPOS
POSA	POSIT AUCTION	Periodic auction segment	XPAC
POSX	POSIT AUCTION CLOSE	POSIT Auction Close – not pegged	XPAC

Symbology

POSIT MTF required clients to send FIX tags 55, 48 and 22 to indicate the symbol on an order. The value in tag 55 is not validated but this is required as a mandatory FIX tag on all orders. Tag 65 can be optionally sent but will be ignored. It is suggested that the client either sends the exchange ticker for the instrument or copies the value they send in tag 48 into tag 55. The following tag 22 values are supported:



Symbol Types

Tag 22	Order Type	Explanation
2	Sedol	
4	ISIN	If sending ISIN, MIC code must be sent in tag 100 or 207 to uniquely identify the appropriate listing
5	RIC code	
A	Bloomberg symbol	Bloomberg two-part key (without yellow key)

FIX MESSAGES

Messages Supported

POSIT MTF (equities dark and periodic auction segments) support the following FIX message types:

Tag 35	Order Type
0	Heartbeat
1	Test Request
2	Resend Request
3	Reject
4	Sequence Reset
5	Logout
8	Execution Report
9	Order Cancel Reject
A	Logon
C	Email
D	Order Single
F	Order Cancel Request
G	Cancel/Replace Request
H	Order Status Request
Q	Don't Know Trade (DK)

Admin Messages

POSIT MTF fully supports all FIX Administrative messages as defined by the FIX 4.2 protocol.



Email

Below is an example of the FIX tags that POSIT MTF will normally send out in an email message. Email messages are optional and can be turned off if the client wishes to do so. Email messages sent by the client are saved into our log files.

Tag	Destination	Explanation	Required
	Standard Header	MsgType = C	Y
164	EmailThreadID	Client Name	Y
94	EmailType	0 = New	Y
147	Subject	Specifies the subject text	Y
33	LinesOfText	Number of lines in text	Y
58	Text	Displayable text. This may be sent after the completion of a POSIT match or by the system administrator	Y
	Standard Trailer		Y

Supported Order Types

Tag 40	Order Type
1	Market
4	Limit
P	Pegged

Sending Pegged Orders

POSIT supports mid, passive and aggressive pegging. Send 40=P and tag 18 with one of the following values:

Tag	Pegged Order Type
M	Mid
P	Aggressive
R	Passive



Supported Time In Force (Order Time)

Tag 59	Time in Force	
0	Day (default)	
3	Immediate or cancel (IOC)	POSN Only

Supported Order Sides

Tag 54	Order Side
1	Buy
2	Sell

Supported Order Capacity

Tag 528	Rule 80A
A	AOTC
P	DEAL
R	MTCH

Supported ExecTransTypes

Tag 20	Explanation
0	New (for acknowledgements, fills, confirmation of cancel, confirmation of cancel/replace, nothing done)
1	Cancel (cancel an execution)
2	Correct (change in price or quantity)



Supported Order Status

Tag 39	Explanation
0	Acks on order
1	Partial fill
2	Fill
3	Done for day
4	Canceled
5	Replaced
6	Pending cancel
8	Rejections on orders
E	Pending replace

Supported Order Reject Reasons

Tag 103	Explanation
0	Invalid orders due to invalid specifications
1	Unknown symbol
2	Unavailable exchange (temporary problems or closed for the day)

Application Messages

New Order Single

Below is the list of the FIX tags that POSIT MTF would accept in a FIX 4.2 Single Order:

Tag	Field Name	Explanation	Required
	Standard Header	MsgType = D	Y
11	ClOrdID	Day unique id selected by client, 25 characters or less	Y
1	Account	Optional, returned on execution reports	N
21	HandlInst	Can be defaulted to 1 (Automated Execution, No Broker Intervention)	Y
18	ExecInst	Refer to 'Sending Pegged Orders'	N
110	MinQty	Minimum Fill Quantity	N



Tag	Field Name	Explanation	Required
100	ExDestination	Refer to 'Supported Destinations'	N
55	Symbol	Refer to 'Symbology'	Y
65	SymbolSfx	Refer to 'Symbology'	N
48	SecurityID	Refer to 'Symbology'	Y
22	IDSource	Refer to 'Symbology'	Y
54	Side	Refer to 'Supported Order Sides'	Y
60	TransactTime	Time this order request was initiated/released. Supported to microsecond granularity	Y
38	OrderQty	The number of shares for the order	Y
54	Side	1=Buy 2=Sell	Y
59	TimeInForce	0=Day (Default) 3=ImmediateOrCancel (POSN only)	N
126	ExpireTime	Expiration time of order. UTC Timestamp YYYYMMDD-HH:MM:SS	N
9204	OrderDuration	Specified duration of order (in milliseconds) upon order arrival	N
1724	Order Origination	Optional – can be defaulted 5=Order received from a direct access or sponsored access participant	N
528	TradingCapacity	Required – unless all orders can be defaulted to same value Used to indicate whether DEA activity (as defined under MiFID II) is involved in the order Replaces tag 47 A (AOTC) = any other capacity R (MTCH) = matched principal P (DEAL) = trading on own account	N
453	NoPartyIDs (repeating group)	Indicates the number of instances of the repeating group NewOrderPtyRptGrp to follow Refer to 'Party Identification'	Y
448	PartyID	The code representing the client or decision maker represented by this block Refer to 'Party Identification'	Y
447	PartyIDSource	P=Short Code Refer to 'Party Identification'	Y



Tag	Field Name	Explanation	Required
452	PartyRole	3=Client ID 122=Investment Decision Maker 12=Execution Decision Maker Refer to 'Party Identification'	Y
2376	PartyRoleQualifier	If using long codes: 22=Algorithm 23=Firm or Legal Entity 24=Natural Person Refer to 'Party Identification' 23 only valid for 452=3 (Client ID)	Y
9200	AtPrice	1 = Trade "At price" instruction for POSIT Auction order	N
9201	GoodForOneAuction	1 = Good for one auction only	N
9205	GoodIfAuction	1 = Good If Auction only	N
9202	ParticipantSubID	Identifier of the participant sub- group the order is submitted under	N
9203	PriceWaiver	Indicates which pre trade transparency waiver the order is placed under Valid values: 0 = RPW 1 = LIS If instructed by the client, POSIT MTF can default the appropriate value on orders submitted to POSIT MTF	N
	Standard Trailer		Y

Note: Any FIX tags that are normally allowed in the FIX 4.2 protocol but do not appear on the table above, will be ignored by POSIT MTF .

Order Cancel/Replace Request

Below is the list of the FIX tags that POSIT MTF will accept in a FIX 4.2 Cancel/Replace:

Tag	Field Name	Explanation	Required
	Standard Header	MsgType = G	Y
41	OrigClOrdID	Unique identifier of original order as assigned by client	Y
11	ClOrdID	Unique identifier of replacement order as assigned by client	Y
1	Account	Ignored in Correction	N
18	ExecInst	Refer to 'Sending Pegged Orders'	N
110	MinQty	Minimum fill Quantity	N
100	ExDestination	Must match original order	N
55	Symbol	Must match original order	Y
65	SymbolSfx	Must match original order	N
48	SecurityID	Must match original order	N
22	IDSource	Must match original order	N
54	Side	Refer to Supported order side	Y
38	OrderQty	New Order Quantity	Y
40	OrdType	Refer to Supported order types	Y
44	Price	Required for limit order types	N
59	TimeInForce	Must match original order	N
47	Rule80A	Must match original order	N
	Standard Trailer		Y

Note: Any FIX tags that the FIX 4.2 standard allow sending in a Cancel/Replace but do not appear in the above table are ignored.

Order Cancel Request

Tag	Field Name	Explanation	Required
	Standard Header	MsgType = F	Y
41	OrigClOrdID	Unique ID of original order as assigned by client	Y
11	ClOrdID	Unique ID of cancel request as assigned by the client	Y
60	TransactTime	Time this order request was initiated/released by the trader or trading system	Y
55	Symbol	Up to 8 characters in Symbol.SymbolSfx	Y
65	SymbolSfx	Up to 8 characters in Symbol.SymbolSfx	N
48	SecurityID	Ignored	N
22	IDSource	Ignored	N
54	Side	Refer to 'Supported Order Side'	Y
38	OrderQty	Original OrderQty for CxlType=F	Y
58	Text	Ignored	N
	Standard Trailer		Y

Trade (DK)

Tag	Field Name	Explanation	Required
	Standard Header	MsgType = Q	Y
37	OrderID	Unique identifier for Order as assigned by broker. Uniqueness must be guaranteed within a single trading day	Y
17	ExecID	Unique identifier of execution message as assigned by broker. Uniqueness must be guaranteed within a single trading day	Y

Tag	Field Name	Explanation	Required
127	DKReason	Reason for execution rejection. Valid values: A = Unknown symbol, B = Wrong side, C = Quantity exceeds order, D = No matching order, E = Price exceeds limit, Z = Other	Y
55	Symbol	Up to 8 characters	Y
54	Side	Order Side	Y
38	OrderQty	Number of shares ordered	Y
32	LastShares	Quantity of shares bought/sold on this (last) fill	N
31	LastPx	Price of this (last) fill	N
58	Text	Description of reason for the DK	N
	Standard Trailer		Y

Order Status Request

Tag	Field Name	Explanation	Required
	Standard Header	MsgType = H	Y
37	OrderID	Ignored	N
11	CIOrdID	Original ID of the order sent by client	Y
55	Symbol	Up to 8 characters in Symbol.SymbolSfx	Y
65	SymbolSfx	Up to 8 characters in Symbol.SymbolSfx	N
54	Side	Order Side for original order sent with CIOrdID	Y
	Standard Trailer		Y

Execution Report

Below is the list of FIX tags that POSIT MTF will send in a FIX 4.2 Execution Report:

Tag	Field Name	Explanation	Required
	Standard Header	MsgType = 8	Y
37	OrderID	This is an POSIT MTF -assigned value	Y
11	ClOrdID	As sent by the client	N
41	OrigClOrdID	Sent when responding to a Cancel or Cancel/Replace request, containing ClOrdID of the previous order	N
17	ExecID	Unique Execution Report ID	Y
20	ExecTransType	0=New 1=Amendment 2=Cancel	Y
19	ExecRefID	Reference Identifier used when ExecTransType = 1 and 2	N
39	OrdStatus	Refer to 'Supported Order Status'	Y
103	OrdRejReason	Refer to 'Supported Order Reject Reason'	N
1	Account	Contains the account in the original order	N
55	Symbol	Refer to Symbology	Y
65	SymbolSfx	Refer to Symbology	N
48	SecurityID	If sent by the client in the original order, the same value will be returned in Execution Reports	N
22	IDSource	If sent by the client in the original order, the same value will be returned in Execution Reports	N
54	Side	Refer to 'Supported Order Sides'	Y
38	OrderQty	Number of shares ordered	Y

Tag	Field Name	Explanation	Required
40	OrdType	Refer to 'Supported Order Types'	N
44	Price	Buy or Sell limit price	N
59	TimeInForce	Refer to 'Supported Time in Force'	N
126	ExpireTime	Returned if set by the client in the New Order	N
18	ExecInst	Returned if supported and set by the client's New Order	N
528	OrderCapacity	Can be optionally returned on executions	N
32	LastShares	Quantity of shares bought/sold on this (last) fill	Y
31	LastPx	Price of this (last) fill	Y
30	LastMkt	TBD = POSIT Dark TBD= POSIT AUCTION	Y
851	LastLiquidityInd		Y
14	CumQty	Total number of shares executed so far	Y
6	AvgPx	Available average price after multiple executions on a particular order	Y
60	TransactTime	Sent in Reports Time of execution (GMT)	N
150	ExecType	Displays the specific Execution Report	Y
151	LeavesQty	Open shares	Y
58	Text	Free format text string. Used mainly to indicate rejection reason when OrdStatus = 8 (rejected)	N

Tag	Field Name	Explanation	Required
378	ExecRestatementReason	Set for unsolicited cancels or unsolicited order size modifications	N
110	MinQty	Minimum fill quantity	N
8013	WaiverFlag	Sent on POSIT Equities dark segment fills where applicable 3=RFPT 9=Large in scale	N
8016	TradingVenueRegulatoryTradeID	Sent on all fills	Y
2524	TradeReportIndicator	1=Trade will be reported by trading venue as an on book trade	N
20073	TransactionReportingVenue	XOFF – execution will be transaction reported	N
20001	BrokerLEI	Not sent by default 213800EEC95PRUCEUP63	N

Cancel Reject

Tag	Field Name	Explanation	Required
	Standard Header	MsgType = 9	Y
37	OrderID	POSIT MTF assigned number for order with ClOrdID or 0 if the order was never received	Y
11	ClOrdID	Unique order ID assigned by client to the cancel request or to the replacement order	Y
41	OrigClOrdID	ClOrdID of the previous order as assigned by the client, used to identify the previous order in cancel and cancel/replace requests	Y
39	OrdStatus	The current status of the order	Y

Tag	Field Name	Explanation	Required
102	CxlRejReason	Code to identify reason for cancel rejection Valid values: 0 = Too late to cancel, 1 = Unknown order, 2 = Broker Option, 3 = Order already in Pending Cancel or Pending Replace status	N
434	CxlRejResponseTo	Identifies the type of request that a Cancel Reject is in response to Valid values: 1 = Order Cancel Request, 2 = Order Cancel/Replace Request	Y
58	Text	Not used	N
	Standard Trailer		Y

1. APPENDIX A

Upload process for short to long code mappings for POSIT MTF participants

Order Record Keeping requirements under RTS 24 require venues to collect additional information related to orders such as Legal Entity Identifiers (LEI) and Investment/Execution Decision Maker IDs which may represent individuals or algorithm IDs.

In line with other MiFID II/EEA venues, POSIT MTF will support participants sending this information as integer short codes on their FIX order messages.

A secure ftp upload service to allow participants to provide their identifier mappings can be accessed via <sftp://sftp.idmgmt.virtu.com>.

Any personal information will be held in strict confidence and not disclosed to third parties, other than to our regulator upon request. By providing your identifier mappings via the secure ftp upload service you confirm that you have complied with your obligations under applicable data protection legislation in processing this information, including obtaining valid consent from data subjects, where appropriate.

To obtain a SFTP login, please email itge-clientonboarding@virtu.com.

Via FTP, participants can:

- Register and delete mappings
- Bulk csv file upload via Secure FTP (SFTP)
- Obtain success/failure feedback on uploads
 - CSV file to indicate whether records were successfully uploaded or not. A feedback file will be provided to the participant. The additional success field per record will indicate if the upload was successful. If not, the reason will be provided as to why the upload failed.
- Download a full list of registered short codes
 - Download CSV containing the registered short codes. Long codes cannot be downloaded.
- Download a list of short codes with missing long codes
- Download CSV with list of the short codes mapping missing for the day Note that short codes must be unique within an identifier code

Note: short codes must be unique within an identifier code type

IDENTIFIER REGISTRATION

File Name and Location

Identifier file name should follow the following format:

/upload/XXXX_identifiers_YYYYMMDD_NNNN.csv

Note: Where XXXX is the client identifier and NNNN is the file sequence number for the day in case of amendments. Entries in the file are processed separately.

File Format

CSV file should contain a header and follow these fields in order:

Field	Type	Description
Short code	Int (4 – 4,294,967,295)	Virtu Short code
Long code	50 chars string	Algorithm Id/ LEI / etc.
Type	String	See 3.1.2.1
Start date	ISO Date (YYYY- MM-DD)	Initial date the entry is valid from
End Date	ISO Date	Empty if entry still active, end data if no longer valid

Identification Code Types

Code	Value
Client-Person	National Id
Client-Entity	LEI
InvestorDecisionMaker-Person	National Id
InvestorDecisionMaker-Algo	Algo Id
ExecutionDecisionMaker-Person	National Id
ExecutionDecisionMaker-Algo	Algo Id

Sample Registration File

shortCode,longCode,codeType,fromDate,toDate

```
1234,AABCCDD99,Client-Person,2017-01-01,
4678,LEI9LER9LEI,Client-Entity,2017-01-01,2017-09-08
9101,3216549327891,InvestorDecisionMaker-Algo,2017-05-01
```

Feedback File

After upload, a feedback csv file with the registrant results will be available to download at:

/download/XXXX_feedback_YYYYMMDD_NNNN.csv

Sample Feedback File

shortCode,longCode,codeType,fromDate,toDate,Success

```
1234,*****,Client-Person,2017-01-01,Y
4678,*****,Client-Entity,2017-01-01,2017-19-08,N- Invalid Date 9101,
*****,InvestorDecisionMaker-Algo,2017-05-01,Y
7419,*****,InvestorDecisionMaker,2017-05-01,N – Unknown code type
```

IDENTIFIER LISTING

File name and Location

Download a list of all registered short codes. Long codes will be hashed.

File name and format will be:

/download/XXXX_identifiersList_YYYYMMDD_NNNN.csv

Sample File

shortCode,longCode,codeType,fromDate,toDate

```
1234,*****,Client-Person,2017-01-01,
4678,*****,Client-Entity,2017-01-01,2017-09-08
9101,*****,InvestorDecisionMaker-Algo,2017-05-01
```


MISSING IDENTIFIERS

File Name and Location

Download a list of short code used which were missing long code mapping.
File name and format will be:

[/download/XXXX_missingIdentifiers_YYYYMMDD_NNNN.csv](#)

Sample File

shortCode,codeType

7878,Client-Person

3647Client-Entity

CONTACT

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