



Cboe Europe Firm Order Record Keeping File Specification

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1 Overview

This document describes the availability and file format of Firm Order Record Keeping files.

Firm Order Record Keeping files provide order activity data on orders placed on Cboe environments and are provided to all firms to aid them in meeting record keeping obligations under MiFID II RTS 6 [1]

1.1 Availability

Order record files for day T will be made available for download via the secure web API [2] after 8am on day $T + 1$ and will be held for 30 calendar days. Order data for a given day will be split across multiple files.

1.2 Location

Files are available for programmatic access through the secure web API and there is no GUI for the download of these files. Further details for the secure web API can be found in [2]. Any automated processes will need to utilise HTTP Basic Authentication. There are different URLs for the production and certification (UAT) environments.

Whilst the URLs provided are correct at the time of writing, Cboe reserves the right to change the URLs at any time, although we will endeavour to ensure backwards compatibility. Participants should ensure that any automated processes are configured to follow redirections.

Finally for security reasons the files have been compressed using the zip format and password protected.

1.3 API end points

The API end points for access to the files are of the form given in the table below:

Production	<code>https://api.batstrading.co.uk/account/rts6/<Filename>.zip</code>
Certification	<code>https://api.certification.batstrading.co.uk/account/rts6/<Filename>.zip</code>

To facilitate access to these files, the following API end points have been provided. Note that, in the below YYYY-MM-DD is an isoformat date.

- `account/rts6/YYYY-MM-DD/password.json`: Returns a password for a given day in the following format:

```
{
  "date": "YYYY-MM-DD",
  "password": "xxxxxxx",
}
```

- `account/rts6/YYYY-MM-DD/index.json`: Returns a list of the download url for files currently available to download for a given date in the following format:

```
{
  "files": [ '<Download URL 1>', '<Download URL 2>', ... ]
}
```

Note that both end points will only provide results for a 30 day window, ending on the current date.

1.4 File Download

The data in the Firm Order Record Keeping files will be spread across multiple files per day. The `index.json` end point will give a list of all files that are currently available for download for the given day. The naming convention for the files is as follows: `rts6_<Firm Id>_<Platform>_<File Identifier>_<Date>.zip` where:

- <Firm Id>: The four character identifier for the firm;
- <Platform>: The identifier of the platform: bxe or cxe;
- <File Identifier>: Either a four digit identifier corresponding to a group of symbols, or the string `order_rejects` for order reject information; and,
- <Date>: File date in the form YYYYMMDD.

Note that the list of files provided in `index.json` will be a list of the full URL to the files, suitable for direct substitution into the example command for file access given below.

Example command for file access:

```
wget --tries=1 --http-user=<username> --password=<web password> --auth-no-challenge -O <output file name>.zip
  "https://www.api.batstrading.co.uk/account/rts6/rts6_<firm>_<platform>_<file_identifier>_<YYYYMMDD>.zip"
```

1.5 Access Over Private Connections

Cboe customers who prefer to access production reference data over their private connections may do so by using a different host address. Only production reference data is available - certification trade data is not accessible over private connectivity. The available URLs follow the pattern below:

URL	<code>https://api.int.batstrading.co.uk/account/rts6/rts6_<firm>_<platform>_<file_identifier>_<YYYYMMDD>.zip</code>
-----	---

2 Firm Order Record Keeping File

The Firm Order Record Keeping files are in csv format and consists of a *header* row followed by *order activity* rows. Note that there are two separate formats, one corresponding to order information (Table 1) and one corresponding to order rejects (Table 3).

2.1 Heading and Data - Order data

The file format has been designed to, as close as possible, align with the format set out in MiFID II, RTS 6, Annex II, Table 3. In the table below *N.* values reference the field numbers in that Table 3. All prices are displayed in the traded currency.

Table 1: Order information

Column	Description
BuySellIndicator	See N.1
TradingCapacity	See N.2
LiquidityProvision	See N.3
ExecutionDecision	Colon separated firm, short code and qualifier (one of <code>exe_per</code> or <code>exe_alg</code>) relevant to N.4.
ClientOrderId	See N.5
OrderId	See N.6
OrderReceiverIdentificationCode	See N.7, Cboe Segment MIC
OrderType	See N.8,
LimitPrice	See N.9 expressed as monetary value
PriceCurrency	See N.10
PriceNotation	See N.11
AdditionalLimitPrice	See N.12, expressed as monetary value
StopPrice	See N.13, expressed as monetary value
PeggedLimitPrice	See N.14, expressed as monetary value
RemainingQuantityIncludingHidden	See N.15, expressed as number of units
DisplayedQuantity	See N.16, expressed as number of units
TradedQuantity	See N.17, expressed as number of units
MinimumAcceptableQuantity	See N.18, expressed as number of units
MinimumExecutableSize	See N.19, expressed as number of units
MESFirstExecutionOnly	See N.20
PassiveOnlyIndicator	See N.21
SelfExecutionPrevention	See N.22
DateAndTimeOfSubmissionOfOrder	See N.23 (blank)
DateAndTimeOfReceiptOfOrder	See N.24
SequenceNumber	See N.25
EventType	See N.26
ShortSellingIndicator	See N.27
WaiverIndicator	See N.28
RoutingStrategy	See N.29, one of 'Lit Sweep', 'Dark Sweep', 'Dark Lit Sweep', '(Chi-X Broker) Parallel D', '(Chi-X Broker) Parallel 2D', '(Chi-X Broker) Bats Plus Primary Listing Exchange', '(Chi-X Broker) Bats Plus DRT Only', '(Chi-X Broker) Default'
TradingVenueTransactionIdentificationCode	See N.30
ValidityPeriod	See N.31
OrderRestriction	See N.32
ValidityPeriodDateAndTime	See N.33
AggregatedOrder	See N.34

AdditionalInformation	See N.35
ISIN	The Instrument ISIN (additional field)

2.1.1 Sample

Example header and order detail record for a pegged order (line broken for readability):

```
BuySellIndicator, TradingCapacity, LiquidityProvision, ExecutionDecision,
  ClientOrderId, OrderId, OrderReceiverIdentificationCode, OrderType,
  LimitPrice, PriceCurrency, PriceNotation, AdditionalLimitPrice,
  StopPrice, PeggedLimitPrice, RemainingQuantityIncludingHidden,
  DisplayedQuantity, TradedQuantity, MinimumAcceptableQuantity,
  MinimumExecutableSize, MESFirstExecutionOnly, PassiveOnlyIndicator,
  SelfExecutionPrevention, DateAndTimeOfSubmissionOfOrder, DateAndTimeOfReceiptOfOrder,
  SequenceNumber, EventType, ShortSellingIndicator, WaiverIndicator, RoutingStrategy,
  TradingVenueTransactionIdentificationCode, ValidityPeriod, OrderRestriction,
  ValidityPeriodDateAndTime, AggregatedOrder, AdditionalInformation, ISIN
SELL, DEAL, false, BATS:42:exe_per, 1xoC8In9ABC, 123KS801ORZ5, CHIX, LIMIT, 34.935, EUR, MONE,
, , 34.935, 5002, 5002, 8, , , false, true, , 2017-08-23 10:00:03.643576+00:00, 134479, PARF,
false, , , 927400001, DAVY, VFCR, 2017-08-23T23:59:59.999999Z, false, FR0000000000
```

2.2 Heading and Data - Rejected orders

For the purpose of reporting information on rejected orders, we have defined additional order event types (see Table 2).

Table 2: Order event types for rejected orders

<i>Event type</i>	<i>Description</i>
RJCN	Rejected new order
RJCM	Rejected order modification
RJCC	Rejected cancel

For each record in the order rejects file, we will supply (where applicable to the rejection type) the values in Table 3. Note that the values supplied will be the raw values received by Cboe, with any invalid bytes removed. For further discussion of the meanings of the values in the file see the Cboe FIX [3] and BOE [4] specifications.

Table 3: Order rejects information

Column	BOE field	FIX field
ClientOrderId	ClOrdId	11
OrderMessageType		BOE or FIX
AdditionalInformation		Reason for rejection
EventType		Rejection event type
DateAndTimeReceiptOfOrder		Date and time order was received
BuySellIndicator	Side	54
TradingCapacity	Capacity	47
LiquidityProvision	LiquidityProvision	8015
ExecutorID	ExecutorID	PartyID (448) when PartyRole (452) = 12
ExecutorQualifiedRole	ExecutorQualifiedRole	PartyRoleQualifier (2376) when PartyRole (452) = 12
RoutingStrategy	RoutingInst	9303
Price	Price	44
MaxFloor	MaxFloor	111
MinQuantity	MinQty	110
OrderType	OrdType	40
OrderQuantity	OrderQty	38
Symbol	Symbol	55
TimeInForce	TimeInForce	59
PegDifference	PegDifference	211

2.2.1 Sample

Example header and order rejection detail record for a rejected new order are given below (line broken for readability):

```
ClientOrderId,OrderMessageType,AdditionalInformation,EventType,DateAndTimeReceiptOfOrder,
BuySellIndicator,TradingCapacity,LiquidityProvision,ExecutorID,ExecutorQualifiedRole,
RoutingStrategy,Price,MaxFloor,MinQuantity,OrderType,OrderQuantity,Symbol,
TimeInForce,PegDifference
4ZUAL6ECWgE,BOE,Price exceeds cross range,RJCN,1510134666959228000,1,
R,N,,B,1.98,0,0,2,100,CVALm,0,0.00
```

3 Support

Please email questions or comments regarding this specification to tradedeskeurope@cboe.com.

References

- [1] European Commission, *Markets in Financial Instruments (MiFID2) RTS6- Regulation (EU) No 65/2014* available from http://ec.europa.eu/finance/securities/docs/isd/mifid/rts/160719-rts-6_en.pdf
- [2] Cboe Europe Limited, *Cboe Europe Secure Web API* available from http://cdn.batstrading.com/resources/participant_resources/BATSEuro_Secure_Web_API.pdf
- [3] Cboe Europe Limited, *Cboe Europe FIX Specification* available from [/http://cdn.batstrading.com/resources/participant_resources/BATS_Europe_FIX_Specification.pdf](http://cdn.batstrading.com/resources/participant_resources/BATS_Europe_FIX_Specification.pdf)
- [4] Cboe Europe Limited, *Cboe Europe Binary Order Entry Specification* available from http://cdn.batstrading.com/resources/participant_resources/BATS_Europe_BOE2_Specification.pdf

4 Revision History

04 July 2017	Version 0.1 Initial version.
18 September 2017	Version 0.2 Add DateAndTimeOfSubmissionOfOrder field.
20 September 2017	Version 0.3 Added ISIN field. Update to ExecutionDecision field.
22 September 2017	Version 0.4 Updated filenames.
29 September 2017	Version 0.5 Description of changed file locations, password protection and API end points.
24 November 2017	Version 0.6 Addition of description of order reject file format