Hi-Cert – FT/API Protocol

Notes for FT/API developers

Version 1.1

Confidential

list

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HISTORY OF CHANGES

Date	Version	Author	Description
7/10/2020	1.0	List SPA	First Release
11/4/2020	1.1	List SPA	Iceberg orders are not allowed

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1 STATEMENT OF NON-DISCLOSURE

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2 SCOPE

Hi-Cert is the Hi-Mtf Market Segment dedicated to Certificates and Covered Warrants characterized by a Market Model appropriately defined for achieving more competitive spreads and high standards in terms of ordered trading.

The ISVs can choose between the standard FIX protocol (4.4 or 5.0 versions) and the platform FTX's native APIs.

This document is intended as an addendum to the document *FT/API Programmer's Guide* version 3.1.46 or later

The documents above must be used as the main guides to connect to the Hi-Cert market, while the present document describes usage notes for the API fields which are typical of the Hi-Cert market section.

3 HI – CERT MARKET MODEL

The main characteristics of the Hi-Cert market model are:

- "Ibrid" CLOB model with an "Order Driven" (All to All) base with only one mandatory **Liquidity Provider (LP)**.
- Continuous negotiation with no recurring auctions.
- Matching allowed only within the bid-offer quotes of the LP.
- Continuous negotiation only if the LP is present.
- Automatic suspension if the LP is absent.
- LP can activate a validation mechanism for the quotes on the market book called **Request For Execution** (RFE, briefly described in the next section of this document).
- Orders within LP quotes match without triggering the RFE mechanism.
- The **RFE is generated in case of imminent matching** between an order and a quote with RFE modality set.
- LP is notified via a specific message when the RFE starts and ends.
- LP quotes are **non-anonymous**. The market book shows the identity code of the LP owner of the quote and whether the quote is subject to the RFE.

The LP must send Bid-Offer quotes as well as Bid-Only quotes, according to their liquidity obligations.

The orders from the price taker accepted by the market have the following characteristics:
- The order types admitted are: Limit orders and Market to Limit orders.
- Orders with a duration exceeding the ongoing trading day are not allowed.
- Iceberg orders are NOT allowed.
- All Or Nothing orders are allowed as well as partially executable orders.
- Price Taker can send orders for their own account as well as on behalf of their clients.

4 THE RFE MECHANISM

This section briefly describes the functioning of the Request For Execution (henceforth RFE) in order to understand the protocol messages to cope with RFE. For a complete description, please refer to the official Market Rule Book.

The RFE mechanism aims to reduce quotation errors and enables the LP to expose prices with narrower spreads, thus having a benefic effect on liquidity and on final customers. It is generated in case of imminent matching between an order and a quote with RFE modality set.

For any enabled financial instrument the LP can send "Firm" (executable) quotes or "Subject" quotes. The LP can set or update such indication with **a specific flag in the quotation message**. It indicates whether the quote can trigger a Request for Execution (RFE) or not, as well as its execution modality during an RFE:

- If set to "Subject", an RFE is triggered when the quote is hit by a matching price. If set to "Firm", this quote cannot trigger an RFE and the matching price is automatically accepted.
- During an RFE, "Firm" is used to confirm the matching price (aka quote validation) and "Subject" is rejected (not a valid value during an RFE).

Anytime an RFE starts or ends, the **market sends a specific message to the LP** owner of that financial instrument.

During the RFE phase:

- The matching is suspended until the end of the RFE.
- The price takers can continue to create, modify or cancel their orders. They are accepted but not visible in the market book.
- The LP can only send a quote validation (with a "Firm" quote) or let the RFE to expire.
- "Subject" quotes are rejected by the market, as considered unintended, and the RFE phase continues.
- When quote validation is received, matching is restored.

The LP must reply to the RFE with a Quote validation as fast as possible, within a maximum time period indicated in the market Rule Book, in order to execute the trade. If no answer from the LP arrives within this period, or the Quote is cancelled or not validated, the Quote is removed from the order book and the security suspended until the LP re-activate the quotation.

The RFE phase can early-terminate once the order(s) in imminent matching is cancelled, or once the Quote is cancelled or validated.

5 FT/API CLASSES FOR LPS ONLY

This section lists the API Class References which are meant to be used only by LPs. Here are highlighted those classes, fields and values that must be used by the LPs for the management of the RFE mechanism described in the chapter 4.

The complete list of all the classes and fields available is detailed in the document *FT/API Programmer's Guide* version 3.1.46 or later

The API Classes intended for the LPs are the following:

- FT_C_QUOTE: this class must be used in order to send new quotes, as well as to edit or cancel existing quotes. The same class can be subscribed by the LP in order to receive quote update notifications.

- FT_C_SECURITY_STATE: this class contains the enum field Status (type FT_C_TRADING_STATUS). Such class can be used both by LPs and Price Takers in order to know the negotiation status of the security, but only the LPs can use it in order to know when an RFE starts or ends.

5.1 RFE RELATED CLASS REFERENCES (FOR LPS ONLY)

RFEIndicator field of FT_C_QUOTE class

Anytime during the negotiation, the LP can set the following **RFEIndicator** flag of FT_C_QUOTE class in order to make the quote "Subject" (RFE required) or "Firm" (RFE not required, immediately executable). As described in chapter 4, during an RFE, "Firm" value is also used to confirm the matching price (quote validation), whereas the "Subject" value is rejected (not a valid value during an RFE).

Name	Value	Description
FT_C_RFE_INDICATOR_Undef	0	Undefined
FT_C_RFE_INDICATOR_Subject	1	Subject, the quote triggers RFE
FT_C_RFE_INDICATOR_Firm	2	Firm, the quote does not trigger RFE

Status field of FT_C_SECURITY_STATE class

The LP has also the possibility to receive a notification from the market any time a RFE starts or ends. This is possible subscribing the class FT_C_SECURITY_STATE.

After that any time the status of the security changes, including when a RFE starts or ends, the market will send to the LP a FT_C_SECURITY_STATE entity message.

The enum field Status gives information about the status of the security changes, including when an RFE is ongoing. The possible values of the enum are described in the table below:

Name	Value	Description
FT_C_TRADING_STATUS_Active	0	Active
FT_C_TRADING_STATUS_Suspended	1	Suspended
FT_C_TRADING_STATUS_Frozen	2	Frozen
FT_C_TRADING_STATUS_Reserved	3	Reserved
FT_C_TRADING_STATUS_RFE	**4**	**RFE**

An RFE starts whenever Status field passes from Active to RFE, whereas an RFE ends whenever the Status field passes from RFE to Active.

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6 FT/API CLASSES FOR PRICE TAKERS ONLY

This section lists the FT/API classes which are meant to be used only by the Price Takers.

The complete list of the classes, fields and values available is detailed in the document *FT/API Programmer's Guide* version 3.1.46 or later

The only FT/API class intended for the Price Takers is the FT_C_ORDER class. It must be used in order to send new orders, as well as to edit or cancel existing orders. The same class can be subscribed by the Price Taker in order to receive order update notifications.

The orders from the price taker accepted by the market have the following characteristics:

- The order types admitted are: **Limit orders** and **Market to Limit orders** (see the OrderType field)
- Orders with a duration exceeding the ongoing trading day are not allowed.
- **Iceberg** orders are NOT allowed
- **All Or Nothing** orders are allowed as well as partially executable orders (see QtyParameter field).
- Price Taker can send orders for their own account as well as on behalf of their clients (see Client.Origin field).

From the trading level point of view the RFEs are transparent to Price Takers, hence they don't need to cope with specific trading messages or fields related to the RFE mechanism.

As we will describe in the next section, the only class related to RFE, which is of interest to the PTs, is the FT_C_BOOK class. That's because of the non-anonymous book where it is reported the identity code of the LP owner of the quote and whether the quote is subject to the RFE

7 FT/API Classes for both LPs and Price Takers

This section lists the API Class References which are meant to be used by both the two categories of market participants: Liquidity Providers and Price Takers.

The complete list the API Class references is detailed in the document *FT/API Programmer's Guide* version 3.1.46 or later.

The FT/API classes intended for both the LPs and the Price Takers are the followings:

- FT_C_FILL: it is used to notify trades to its counterparties. It also contains the RFEFill flag which indicates whether the fill has been made during RFE negotiation or not.
- FT_C_SECURITY: contains the RFEEligible flag showing whether the RFE mechanism can be enabled for that specific financial instrument
- FT_C_SECURITY_STATE: this class contains the enum field Status (type FT_C_TRADING_STATUS). Such class can be used both by LPs and Price Takers in order to know the negotiation status of the security, but **only the LPs** can use it in order to know when an RFE starts or ends.
- FT_C_BOOK: contains the information about the LP owner of the quote and the isTradable flag showing to all the market participants whether the quote is Subject or Firm

FT_C_SECURITY

The FT_C_SECURITY class lists all the tradable securities. The RFEEligible field in this class specifies whether the LP can can use the RFE mechanism or not for that specific financial instrument.

The values admitted for the RFEEligible flag are described in the table below.

Name	Value	Description
FT_C_FLAG_No	0	No, the security cannot be quoted in RFE modality
FT_C_FLAG_Yes	1	Yes, the security can be quoted in RFE modality

FT_C_BOOK

This class provides the view of the market book. In Hi-Cert market the identity code of the LP owner of the quote is given in MemberID field, whereas the field isTradable shows whether the quote in the market book is subject to the RFE (i.e. "Subject") or not (i.e. "Firm").

The values admitted for the enum FT_C_TRADABLE_FLAG are described in the table below.

Name	Value	Description
FT_C_TRADABLE_FLAG_None	0	No, the quote is not tradable
FT_C_TRADABLE_FLAG_All	1	Yes, the quote is tradable
FT_C_TRADABLE_FLAG_Manual	2	Manual (the quote is subject and RFE approval is required)

FT_C_TRADABLE_FLAG_AutoAccept	3	Automatic (the quote is firm and RFE approval is not required)
FT_C_TRADABLE_FLAG_RFQ	4	RFQs only are admitted

FT_C_FILL

The FT_C_FILL class contains the trades made by the market participant. The RFEFill flag shows whether the fill has been made during RFE negotiation or not.

The values admitted for the FT_C_FLAG RFEFill flag are described in the table below.

Name	Value	Description
FT_C_FLAG_No	0	No, the trade was not generated during RFE negotiation
FT_C_FLAG_Yes	1	Yes, the trade was generated during RFE negotiation

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