Hi-MTF
Book & Depth Levels
Extension Related Impacts

LIST

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1 HISTORY OF CHANGES

VERSION 1.0 – 2018 May 18

First draft.

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2 INTRODUCTION

This document describes the modifications implemented in API and FIX in order to support the increment of the number of levels, up to 20, of the Book(s) and the Depth(s).

This document does not contain the analytic description of the data structures supporting such a feature. This information is available in the following documents:

- FastTrade API Application Protocol v 3.1.39d31 and later, for FTX native protocols;
- FT-FIX Messages Requirements v 1.34 and later, for FIX protocols.

3 ENHANCEMENTS AND MODIFICATIONS

3.1 MODIFICATION IN API

The API supports the publishing of books and depths sized up to 20 levels.

For all the Members, it is possible to configure the number of levels of the FT_C_BOOK and FT_C_DEPTH at granularity of Section, in order to publish books and depths having 5, 10, 15 or 20 levels.

For any security, the FT_C_BOOK and FT_C_DEPTH publishes pages of five levels each. The Position, i.e. an integer value ranging from 0 to 3 (included), is the index of the page, as shown in *table 1.*

For the current Member, if a certain security belongs to a Section configured for five levels, FT_C_BOOK and FT_C_DEPTH will contain at most one page for that security. Otherwise, if the Section is configured for 20 levels, FT_C_BOOK and FT_C_DEPTH will contain at most four pages.

Actually, the key of both FT_C_BOOK and FT_C_DEPTH is the pair <FTSecID, Position>. Therefore, on the current Member, when subscribing the FT_C_BOOK and the FT_C_DEPTH for a certain security, it is important to specify both FTSecID and Position as a key, especially if the Section to which that security belongs is configured for 10, 15 or 20 levels (2, 3 or 4 pages, respectively).

In the context of Hi-MTF, the number of levels of 20 is intended for the Section ORDERDRV.

Table 1 The levels grouped by 5 contained in the pages of FT_C_BOOK and FT_C_DEPTH.

Position	Levels
0	[1, 5]
1	[6, 10]
2	[11, 15]
3	[16, 20]

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3.2 FIX RELATED IMPACTS

FIX supports the publishing of Market Data having a variable number of levels, by means of the *Repeating Group Market Data*.

To support the publishing of books and depths sized up to 20 levels, the FIX tag 268 *NoMDEntries* is involved and indicates the actual number of levels contained in the FIX Snapshot/Full Refresh message.

The FIX tag 268 *NoMDEntries* indicates the number of Bid price levels + the number of Ask price levels, currently in the market.

The possible values are 10, 20, 30 and 40 (Bid + Ask), as shown in *table 2*.

Table 2 *The relation between the number of Levels (of a Section) and the FIX tag 268 NoMDEntries.*

Levels	NoMDEntries (Bid + Ask)
5	10 = 5 Bid + 5 Ask
10	20 = 10 Bid + 10 Ask
15	30 = 15 Bid + 15 Ask
20	40 = 20 Bid + 20 Ask

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