S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

TMX – Quotation and Quotation Context Tags Update

Reference n°: 20140219

Effective as of: 24 February 2014

Action required from users: Attention Required (Optional)

S&P CAPITAL IQ
McGRAW HILL FINANCIAL

S&P Capital IQ Real-Time Solutions (QuantHouse®) – QuantFEED®
QuantFEED® Developer's Notice
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Corporate Headquarters
S&P Capital IQ Real-Time Solutions (QuantHouse®)
52 Rue de la Victoire
75009 Paris
France
Tel: +33 (0) 1 73 02 32 11
Fax: +33 (0) 1 73 02 32 12

UK Office
10 Foster Lane
London EC2V 6HR
United Kingdom
Tel: +44 (0) 203 107 1676

US Offices
55 Water Street, 44th floor
New York, NY 10041
United States of America
Tel: +1-(212)-438-4346

130 East Randolph
One Prudential Plaza, Suite 2900
Chicago, IL 60601
United States of America
Tel: +1-(312)-233-7129

www.quanthouse.com

UPDATE OF THE QUOTATION AND QUOTATION CONTEXT TAGS ON THE TMX MARKET DATA STREAM

To reflect the changes caused by the dissemination of new values on the TMX market data stream, S&P Capital IQ Real-Time Solutions has decided to enhance the content of QuantFEED®.

This developer's notice contains late-breaking information about the implementation of this modification in your applications, which may not be included otherwise in the published documentation. The topics this notice covers include:

1. Update Summary

Table 1 Current update summary

Notice Reference	20140219
Exchanges	TMX
Concerned MICs	XTSE, XTSX
Internal Source ID	207
Effective Date	**2014-02-24**
Impact	• Update of the Quotation Tags • Update of the Quotation Context Tags
Action required	**Attention Required (Optional)**

2. Functional Description

Effective Monday, **February 24, 2014**, S&P Capital IQ Real-Time Solutions introduces one new quotation tag – `InternalDailyClosingPriceType` (**NumericID**: `9155`, **Type**: `Char`) –, and two new quotation context tags – `TargetMBLLayerId` (**NumericID**: `9363`, **Type**: `UInt32`) and `MARKET_TMX_SettlementTerms` (**NumericID**: `16172`, **Type**: `Char`) – to accommodate the information disseminated on the TMX market data stream.

3. QuantFEED® Technical Implementation

The following sections describe the technical implementation of the new or updated tags:

- 3.1. Internal Daily Closing Price Type
- 3.2. Settlement Terms
- 3.3. Target MBL Layer ID in MBO.

3.1. Internal Daily Closing Price Type

The values of the quotation tag **Internal Daily Closing Price Type** conveyed on the TMX market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the type of the internal daily closing price:

- in the callback carrying the Level1 event `notif_TradeEventExt()`, for C++
- in the event handler `TradeEventExtEventHandler`, for C#
- in the callback carrying the Level1 event `quotNotifTradeEventExt`, for Java.

QuantFEED® implementation of the values currently available for the tag `InternalDailyClosingPriceType` is described in the table below:

Table 2 InternalDailyClosingPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`InternalDailyClosingPriceType`	QuantFEED® tag name.
Numeric ID	`9155`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Char`	Char data type.
Format	*`[Exchange Specific Value]`*	An ***exchange specific value***, detailing the type of the internal daily closing price.
Possible Values	`a`	**Official Close** – Explicit closing price value calculated and distributed by an exchange for the main trading session of a given trading day.
	`e`	**Last Eligible Price** – Execution price of the final trade (subject to trade qualifiers) accepted by the exchange for the main trading session of a given trading day.

Below is an example of the current implementation of the newly added quotation tags (in green):

```
InstrumentStatusL1
-- 48/3817
        BID: 98.91 300 @1
        ASK: 98.96 100 @1
        LastPrice float64{98.91}
        LastTradeQty float64{2000}
        DailyHighPrice float64{99.46}
        DailyLowPrice float64{98.83}
        DailyTotalVolumeTraded float64{1925780}
        DailyTotalAssetTraded float64{190791301.93}
        LastTradePrice float64{98.91}
        LastTradeTimestamp Timestamp{2014-01-21 21:37:59:560}
        InternalDailyOpenTimestamp Timestamp{2014-02-14 10:28:57:655}
        InternalDailyCloseTimestamp Timestamp{2014-02-14 10:55:03:201}
        InternalDailyHighTimestamp Timestamp{2014-02-14 10:30:45:402}
        InternalDailyLowTimestamp Timestamp{2014-02-14 10:29:25:494}
        InternalPriceActivityTimestamp Timestamp{2014-02-14 10:57:21:455}
        TradingStatus 18=NotAvailableForTrading
        DailyOpeningPrice float64{99}
        DailyClosingPrice float64{98.91}
        PreviousDailyTotalVolumeTraded float64{787030}
        PreviousDailyTotalAssetTraded float64{77526815.47}
        PreviousDailyClosingPrice float64{98.76}
        PreviousBusinessDay Timestamp{2014-02-13}
        CurrentBusinessDay Timestamp{2014-02-14}
        InternalDailyClosingPriceType char{e}
        InternalLastAuctionTimestamp Timestamp{2014-02-14 10:28:57:060}
        PriceActivityMarketTimestamp Timestamp{2014-01-21 21:37:59:560}
        MARKET_QUANTUM_GroupStatus char{F}
```

3.2. Settlement Terms

Each time a trade occurs, the values of the quotation context tag **Settlement Terms** conveyed on the TMX market data stream are disseminated via QuantFEED® data stream in *Context* to indicate the terms of the settlement:

- in the callback carrying the Level1 event `notif_TradeEventExt()`, for C++
- in the event handler `TradeEventExtEventHandler`, for C#
- in the callback carrying the Level1 event `quotNotifTradeEventExt`, for Java.

QuantFEED® implementation of the tag `MARKET_TMX_SettlementTerms` is described in the table below:

Table 3 MARKET_TMX_SettlementTerms – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TMX_SettlementTerms`	QuantFEED® tag name.
Numeric ID	`16172`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Char`	Char data type.
Format	*`[Exchange Specific Value]`*	An ***exchange specific value***, indicating the terms of the settlement.

Table 3 MARKET_TMX_SettlementTerms – technical implementation in QuantFEED® (Continued)

Component	Value	Description
Possible Values	N	Non Net
	T	Cash Today
	M	Derivatives-related
	D	Delayed Delivery
	C	Cash Trade

The table below summarizes the Settlement Terms and Cross Type that make a price to be eligible to the last sale:

Table 4 Last Sale Eligibility Conditions

MARKET_TMX_SettlementTerms	MARKET_TMX_CrossType	Description	Last Sale Eligible
Not sent	Not sent	Regular	Yes
Not sent	B	Basis	No
Not sent	C	Contingent	Yes
Not sent	I	Internal Cross	No
Not sent	S	Special Trading Session	Yes
Not sent	V	VWAP – Volume Weighted Average	No
N	Not sent	Non Net	No
T	Not sent	Cash Today	No
M	Not sent	Derivatives-related	No
D	Not sent	Delayed Delivery	No
C	Not sent	Cash Trade	No

> Note: As S&P Capital IQ Real-Time Solutions derives the closing price from the last trade price upon close and from the extended hours, the `InternalDailyClosingPriceType` needs to be set to e – "Last Eligible" – see 3.1. Internal Daily Closing Price Type.

Below is an example of the current implementation of the quotation context tag `MARKET_TMX_SettlementTerms` (in `green`):

```
TE 15:33:21:580 100668443       28.73    50000    *        *        *        *
Buyer=89,Seller=89,TradeID=551,MARKET_TMX_SettlementTerms=char{N}
```

3.3. Target MBL Layer ID in MBO

Each time a special order occurs in the MBO, the values of the quotation context tag **Target MBL Layer ID** conveyed on the TMX market data stream are disseminated via QuantFEED® data stream in *Context* to indicate the type of special order:

- for C++, in the callback carrying the MBO events:
  - `notif_NewOrder ()`
  - `notif_ModifyOrder ()`

    - `notif_RemoveOneOrder ()`
    - `notif_RemoveAllPreviousOrders ()`
    - `notif_RemoveAllOrders ()`.
- for C#, in the event handlers:
    - `NewOrderHandler`
    - `ModifyOrderHandler`
    - `RemoveOneOrderHandler`
    - `RemoveAllPreviousOrdersHandler`
    - `RemoveAllOrdersHandler`.
- for Java, in the callback carrying the MBO events:
    - `quotSubscribeOneInstrumentMarketSheetNewOrderNotif`
    - `quotSubscribeOneInstrumentMarketSheetModifyOrderNotif`
    - `quotSubscribeOneInstrumentMarketSheetRemoveOneOrderNotif`
    - `quotSubscribeOneInstrumentMarketSheetRemoveAllPreviousOrdersNotif`
    - `quotSubscribeOneInstrumentMarketSheetRemoveAllOrdersNotif`.

QuantFEED® implementation of the tag `TargetMBLLayerId` is described in the table below:

Table 5 TargetMBLLayerId – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`TargetMBLLayerId`	QuantFEED® tag name.
Numeric ID	`9363`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`UInt32`	UInt32 data type.
Format	*`[Exchange Specific Value]`*	An ***exchange specific value***, indicating the type of special order.
Possible Values	0	Regular Orders **Note:** The Best bid and offers are coming from the layer '0' and are free of any special orders.
	3	Odd Lot Orders
	4	Settlement Term Orders

Below is an example of the current implementation of the quotation context tag `TargetMBLLayerId` (in green):

```
*** BID
0     13 x    200 context: Buyer=2,TargetMBLLayerId=uint32{0}
1     13 x    700 context: Buyer=7,TargetMBLLayerId=uint32{0}
2     13 x   1000 context: Buyer=7,TargetMBLLayerId=uint32{0}
3     13 x    200 context: Buyer=7,TargetMBLLayerId=uint32{0}
4     13 x    100 context: Buyer=7,TargetMBLLayerId=uint32{0}
5     13 x    200 context: Buyer=7,TargetMBLLayerId=uint32{0}
6     13 x    300 context: Buyer=9,TargetMBLLayerId=uint32{0}
7     13 x    400 context: Buyer=9,TargetMBLLayerId=uint32{0}
8     13 x    100 context: Buyer=9,TargetMBLLayerId=uint32{0}
9     13 x    300 context: Buyer=19,TargetMBLLayerId=uint32{0}
10    13 x   1000 context: Buyer=1,TargetMBLLayerId=uint32{0}
11    13 x    400 context: Buyer=79,TargetMBLLayerId=uint32{0}
12    13 x   1000 context: Buyer=80,TargetMBLLayerId=uint32{0}
13    13 x    200 context: Buyer=85,TargetMBLLayerId=uint32{0}
14    12 x    500 context: Buyer=7,TargetMBLLayerId=uint32{0}
15    12 x    200 context: Buyer=7,TargetMBLLayerId=uint32{0}
16    12 x    300 context: Buyer=9,TargetMBLLayerId=uint32{0}
17    11 x    100 context: Buyer=85,TargetMBLLayerId=uint32{0}
18    10 x    100 context: Buyer=7,TargetMBLLayerId=uint32{0}
19    9 x     400 context: Buyer=9,TargetMBLLayerId=uint32{0}
```

4. Finding the Latest Information

For the latest documentation and product updates, additional support and training, please contact our support services:

- E-mail: rts-support@spcapitaliq.com
- Web: http://support.quanthouse.com.