S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

BATS EUROPE – Feed Update

Reference n°: 20140321

Effective as of: 28 March 2014

Action required from users: MANDATORY ACTION



S&P Capital IQ Real-Time Solutions (QuantHouse*) – QuantFEED* QuantFEED* Developer's Notice Reference 20140321 March 21, 2014

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UPDATE OF THE BATS EUROPE MARKET DATA STREAM

To reflect the changes caused by the dissemination of new values on the BATS EUROPE 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
- 2. Functional Description
- 3. QuantFEED® Technical Implementation
- 4. Finding the Latest Information.

1. Update Summary

Table 1 Current update summary

Notice Reference	20140321
Exchanges	BATS EUROPE
Concerned MICs	BATE
Internal Source ID	20
Effective Date	2014-03-28
Impact	 Update of the Quotation Tags Update of the Quotation Context Tags
Action required	MANDATORY ACTION

2. Functional Description

Effective Friday, March 28, 2014, S&P Capital IQ Real-Time Solutions enhances the content of the quotation and quotation context data to accommodate the new information disseminated on the BATS EUROPE market data stream, as described below:

- 2.1. Changes to Quotation Data
- 2.2. Changes to Quotation Context Data.

2.1. Changes to Quotation Data

S&P Capital IQ Real-Time Solutions **introduces** the quotation tag below to accommodate the information broadcast on the BATS EUROPE market data stream:

Table 2 Quotation tags added on the BATS EUROPE market data stream

Tag Name	Numeric ID	Туре
InternalDailyClosingPriceType	9155	Char

Below is an example of the new quotation tags implementation (in green):

```
InstrumentStatusL1
-- 448/750005
       BID: 1.999
                        4146
                                @1
       ASK: 2.107
                        6399
                                @1
        LastPrice
                                        float64{2.053}
        LastTradeQty
                                        float64{1033}
                                        float64{0}
       DailyTotalVolumeTraded
       DailyTotalAssetTraded
                                        float64{0}
       LastTradePrice
                                        float64{2.053}
       LastTradeTimestamp
                                        Timestamp{2014-04-07 15:45:17:254}
        InternalDailyOpenTimestamp
                                        Timestamp{2014-04-11 08:00:00:005}
        InternalDailyCloseTimestamp
                                        Timestamp{2014-04-10 16:30:00:001}
       InternalDailyHighTimestamp
                                        Timestamp{2014-04-07 11:18:36:233}
       InternalDailyLowTimestamp
                                        Timestamp{2014-04-07 15:45:17:255}
       InternalPriceActivityTimestamp
                                        Timestamp{2014-04-11 14:43:10:134}
       TradingStatus
                                        17=ReadyToTrade
        LastOffBookTradePrice
                                        float64{1.9835}
        LastOffBookTradeQty
                                        float64{295}
                                        Timestamp{2014-03-03 15:59:57:639}
        LastOffBookTradeTimestamp
        PreviousDailyTotalVolumeTraded
                                        float64{0}
        PreviousDailyTotalAssetTraded
                                        float64{0}
        PreviousDailyClosingPrice
                                        float64{2.053}
        PreviousBusinessDay
                                        Timestamp{2014-04-10}
        CurrentBusinessDay
                                        Timestamp{2014-04-11}
        InternalDailyClosingPriceType
                                        char{a}
        DailyTotalOffBookVolumeTraded
                                        float64{0}
        DailyTotalOffBookAssetTraded
                                        float64{0}
```

2.2. Changes to Quotation Context Data

S&P Capital IQ Real-Time Solutions no longer disseminates the quotation context tag below on Off Order Book Trades, but only on On Order Book Trades to accommodate the information broadcast on the BATS EUROPE market data stream:

Table 3 Quotation context tags removed from the BATS EUROPE market data stream – Off Book Trades

Tag Name	Numeric ID	Туре
MARKET_BATS_ExecutionType	16150	String

Below is an example showing the removed quotation context tags (in crossed out red):

```
"TE (TradeEvent) : MARKET_TIME INSTRUMENT LAST_PRICE TRADE_QTY BID_PRICE BID_QTY ASK_PRICE
ASK_QTY *CONTENT_MASK* *FLAGS*"
"VU (ValuesUpdate) : SERVER_TIME INSTRUMENT VALUES..."
"SI (TradeEvent) *SIGNAL* : SERVER_TIME INSTRUMENT SIGNAL LAST_PRICE"
TE 08:00:07:613.131 940274480 1372.865
TradeID=26272069743051, MARKET_BATS_ExecutionType=9
                                 * 6.265
TE 08:00:07:616.085 940275573 *
                                                    100@1
TE 08:00:07:618.582 940274825 *
                                            480.2
                                                    244@1
TE 08:00:07:621.218 940274825 *
                                            480.3 257@1
                                            215.6 248@1 *
TE 08:00:07:625.399 940276806 *
TE 08:00:07:627.032 940274446 *
                                                            96.95 31@1
```

3. QuantFEED® Technical Implementation

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

- 3.1. InternalDailyClosingPriceType
- 3.2. MARKET_BATS_ExecutionType.

3.1. Internal Daily Closing Price Type

The values of the quotation tag **Internal Daily Closing Price Type** conveyed on the BATS EUROPE 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 Levell event quotNotifTradeEventExt, for Java.

QuantFEED* implementation of the values currently available for the tag InternalDailyClosingPriceType is described in the table below (currently disseminated values are in green):

Table 4 Internal Daily Closing Price Type – technical implementation in Quant FEED®

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.
Туре	Char	Char data type.
Format	[Internal Specific Value]	An <i>internal specific value</i> , detailing the type of daily closing price.

Table 4 InternalDailyClosingPriceType – technical implementation in QuantFEED® (Continued)

Component	Value	Description
Possible Values	0	Undefined
	a	Official Close – Explicit closing price value calculated and distributed by an exchange for the main trading session of a given trading day.
	b	Official Indicative – Exchange has provided an indicative price and marked it as indicative, however no trading activity is observed.
	С	Official Carry Over – Explicit Closing price value from a previous trading day carried forward by the exchange to the given trading day.
	d	Last Price – Final price disseminated by the exchange for the main trading session or dissemination period of a given trading day (for indices).
	е	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.
	z	Manual – Price disseminated manually (in case of production correction).

3.2. MARKET_BATS_ExecutionType

Each time an execution occurs, the values of the quotation tag **MARKET BATS Execution Type** conveyed on the BATS EUROPE market data stream are disseminated via QuantFEED* data stream in *Context*, for On Book Trades only:

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

QuantFEED* implementation of the values currently available for the tag MARKET_BATS_ExecutionType is described in the table below:

Table 5 MARKET_BATS_ExecutionType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	MARKET_BATS_ExecutionType	QuantFEED® tag name.
Numeric ID	16150	QuantFEED® unique ID broadcast on S&P Capital IQ Real-Time Solutions data stream. It is the numeric equivalent of the tag name.
Туре	String	String data type.
Format	[Exchange Specific Value]	An exchange specific value , as described below, specifying the characteristics of the execution type.
Possible Values	0 (Default value not sent)	BATS Integrated Book
	D	D BATS Dark Pool
	С	BATS Closing Cross or Trading at Last
	R	Negotiated Transaction

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.