S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

BATS BXTR – Feed Update

Reference n°: 20140326

Effective as of: 28 March 2014

Action required from users: Attention Required (Optional)

S&P CAPITAL IQ
McGRAW HILL FINANCIAL

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QuantFEED® Developer's Notice
Reference 20140326
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UPDATE OF THE BATS BXTR MARKET DATA STREAM

To reflect the changes caused by the dissemination of new values on the BATS BXTR 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	20140326
Exchanges	BATS BXTR
Concerned MICs	BOTC
Internal Source ID	40
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 referential, quotation data and the CLOSE Kinematics to accommodate the new information disseminated on the BATS BXTR market data stream, as described below:

- 2.1. Changes to the L1 Quotation Data
- 2.2. Changes to the L1 Quotation Context Data
- 2.3. Changes to the MBO Quotation Context Data.

2.1. Changes to the L1 Quotation Data

S&P Capital IQ Real-Time Solutions **introduces** the quotation tag below to accommodate the information broadcast on the L1 of the BATS BXTR market data stream:

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

Tag Name	Numeric ID	Type
`InternalDailyClosingPriceType`	9155	Char

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

```
InstrumentStatusL1
-- 199/756235
        BID: 0  0       *NO ORDER*
        ASK: 0  0       *NO ORDER*
        LastPrice                       float64{36.68}
        LastTradeQty                    float64{113}
        DailyHighPrice                  float64{37.65}
        DailyLowPrice                   float64{36.68}
        DailyTotalVolumeTraded          float64{31244}
        DailyTotalAssetTraded           float64{1176043.06}
        LastTradePrice                  float64{36.68}
        LastTradeTimestamp              Timestamp{2014-04-10 14:34:48:283}
        InternalDailyOpenTimestamp      Timestamp{2014-04-10 07:15:00:603}
        InternalDailyCloseTimestamp     Timestamp{2014-04-07 17:15:00:521}
        InternalDailyHighTimestamp      Timestamp{2014-04-10 11:42:13:538}
        InternalDailyLowTimestamp       Timestamp{2014-04-10 14:34:48:284}
        InternalPriceActivityTimestamp  Timestamp{2014-04-10 14:34:48:284}
        TradingStatus                   17=ReadyToTrade
        DailyOpeningPrice               float64{37.62}
        PreviousDailyTotalVolumeTraded  float64{21399}
        PreviousDailyTotalAssetTraded   float64{812569.699134}
        PreviousDailyClosingPrice       float64{37.5191}
        PreviousBusinessDay             Timestamp{2014-04-07}
        CurrentBusinessDay              Timestamp{2014-04-10}
        InternalDailyClosingPriceType   char{a}
        PriceActivityMarketTimestamp    Timestamp{2014-04-10 14:34:48:283}
```

2.2. Changes to the L1 Quotation Context Data

S&P Capital IQ Real-Time Solutions **removes** the following quotation tags from the L1 of the BATS BXTR market data stream:

Table 3 Quotation tags removed from the BATS BXTR market data stream

Tag Name	Numeric ID	Type
`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  16:19:18:502.948  418088493  *       *       *       *       225.7   28@1
TE  16:19:18:502.948  418088493  *       *       *       *       220.6   1@1
TE  16:19:27:980.438  418088493  224.8432       31      *       *       *       *
TradeID=14360716825728,MARKET_BATS_ExecutionType=9
TE  16:19:38:859.459  418088493  *       *       *       *       225.7   28@1
TE  16:20:03:306.724  418088493  *       *       *       *       225.1   1@1
TE  16:20:23:466.334  418088493  *       *       *       *       225.7   28@1
TE  16:20:23:466.334  418088493  *       *       *       *       218.8   1@1
TE  16:20:43:834.632  418088493  *       *       *       *       225.7   28@1
TE  16:21:28:124.766  418088493  224.9986       66      *       *       *       *
TradeID=14360716825829
TE  16:21:28:144.694  418088493  224.9986       46      *       *       *       *
TradeID=14360716825830
TE  16:21:46:226.763  418088493  *       *       *       *       225.7   28@1
TE  16:21:46:226.763  418088493  *       *       *       *       221.7   1@1
```

2.3. Changes to the MBO Quotation Context Data

Moreover, S&P Capital IQ Real-Time Solutions **introduces** the quotation context tags below to accommodate the information broadcast on the MBO of the BATS BXTR market data stream regarding the participant ID:

Table 4 Quotation context tags added on the BATS BXTR market data stream

Tag Name	Numeric ID	Type
Buyer	288	String
Seller	289	String

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

```
=== UTC_timestamps(srv=2014-03-31 10:41:49:866,mkt=2014-03-31 10:41:49:865.545)

*** BID
0     236 x      1 (453556444179328771  )       context: Buyer=UBSW

*** ASK
0     246.2 x      1 (453556444179328772  )      context: Seller=UBSW
```

3. QuantFEED® Technical Implementation

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

- 3.1. InternalDailyClosingPriceType
- 3.2. Buyer

- 3.3. Seller.

3.1. InternalDailyClosingPriceType

The values of the quotation tag **Internal Daily Closing Price Type** conveyed on the BATS BXTR 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 (currently disseminated values are in `green`):

Table 5 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	*`[Internal Specific Value]`*	An ***internal specific value***, detailing the type of daily closing price.
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.
	c	**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).
	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.
	z	**Manual** – Price disseminated manually (in case of production correction).

3.2. Buyer

Each time a trade occurs, the values of the quotation context tag **Buyer** conveyed on the BATS BXTR market data stream are disseminated via QuantFEED® data stream in *Context* to identify the buyer side:

- 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 `Buyer` is described in the table below:

Table 6 Buyer – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`Buyer`	QuantFEED® tag name.
Numeric ID	`288`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`String`	String data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, detailing the value on the buyer side.

3.3. Seller

Each time a trade occurs, the values of the quotation context tag **Seller** conveyed on the BATS BXTR market data stream are disseminated via QuantFEED® data stream in *Context* to identify the seller side:

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

Table 7 Seller – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`Seller`	QuantFEED® tag name.
Numeric ID	`289`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`String`	String data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, detailing the value on the seller side.

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.