S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

TSE EQUITIES – Feed Update

Reference n°: 18923 – 20140403

Effective as of: 14 April 2014

Action required from users: Mandatory Action

S&P
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McGRAW HILL FINANCIAL

S&P Capital IQ Real-Time Solutions (QuantHouse®) – QuantFEED®
QuantFEED® Developer's Notice
Reference 18923 – 20140403
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UPDATE OF THE TSE EQUITIES MARKET DATA STREAM

To reflect the changes caused by the dissemination of new values on the TSE EQUITIES 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	18923 – 20140403
Exchanges	TSE EQUITIES
Concerned MICs	XFKA, XNGO, XSAP, XTKS
Internal Source ID	235, 236, 237, 238
Effective Date	**2014-04-14**
Impact	• Update of the Quotation Tags • Update of the Quotation Context Tags
Action required	**MANDATORY ACTION**

2. Functional Description

Effective Monday, **April 14, 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 TSE EQUITIES market data stream, as described below:

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

2.1. Changes to the Quotation Data

S&P Capital IQ Real-Time Solutions **introduces** the quotation tags below to accommodate the information broadcast on the TSE EQUITIES market data stream:

Table 2 Quotation tags added on the TSE EQUITIES market data stream

Tag Name	Numeric ID	Type
ExchangeLastComputedPrice	9371	Float64
MARKET_TSE_BidMarketOrderVolume	15060	Float64
MARKET_TSE_AskMarketOrderVolume	15061	Float64
MARKET_TSE_BidSpecialQuotePrice	15062	Float64
MARKET_TSE_AskSpecialQuotePrice	15063	Float64

Caution

MANDATORY ACTION

Following the introduction of the MARKET_TSE_BidMarketOrderVolume and MARKET_TSE_AskMarketOrderVolume tags, the Market Order Prices (AT_BEST Prices) are no longer provided in the Level1 Market Data, as shown in the example below.

Moreover, only these two tags disseminate the information describing the volume of market orders. However, the MBL Level2 does not change, as the markets orders remain in the first position. Subsequently, the Level1 and the first limit of the MBL Level2 may differ.

Level1 Market Data before 2014-04-14

Bid Qty	Bid Price	Ask Price	Ask Qty
1000	*AT_BEST*	*AT_BEST*	**500**

Level2 Market Data before 2014-04-14

Bid Qty	Bid Price	Ask Price	Ask Qty
1000	*AT_BEST*	*AT_BEST*	500
200	**920**	**922**	**300**

Level1 Market Data after 2014-04-14

BidMarketOrderVolume	Bid Qty	Bid Price	Ask Price	Ask Qty	**AskMarketOrderVolume**
1000	**200**	**920**	**922**	**300**	**500**

Level2 Market Data after 2014-04-14

Bid Qty	Bid Price	Ask Price	Ask Qty
1000	*AT_BEST*	*AT_BEST*	500
200	920	922	300

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

```
InstrumentStatusL1
-- 147/1116
        BID: 255        124000
        ASK: 257        30000
        LastPrice                       float64{257}
        LastTradeQty                    float64{23000}
        DailyHighPrice                  float64{262}
        DailyLowPrice                   float64{253}
        DailyTotalVolumeTraded          float64{1173000}
        DailyTotalAssetTraded           float64{301571000}
        LastTradePrice                  float64{257}
        LastTradeTimestamp              Timestamp{2014-07-28 06:00:00}
        InternalDailyOpenTimestamp      Timestamp{2014-07-28 00:00:00:098}
        InternalDailyCloseTimestamp     Timestamp{2014-07-28 06:00:00:507}
        InternalDailyHighTimestamp      Timestamp{2014-07-28 00:03:35:973}
        InternalDailyLowTimestamp       Timestamp{2014-07-28 01:49:26:726}
        InternalPriceActivityTimestamp  Timestamp{2014-07-28 06:00:00:507}
        LowLimitPrice                   float64{177}
        HighLimitPrice                  float64{337}
        TradingStatus                   18=NotAvailableForTrading
        RegSHOAction                    1=NoPriceTest
        TradingSessionId                int8{2}
        SessionTotalOffBookAssetTraded  float64{0}
        SessionTotalOffBookVolumeTraded float64{0}
        PriorSessionsTotalAssetTraded   float64{197051000}
        PriorSessionsTotalVolumeTraded  float64{765000}
        PriorSessionsTotalOffBookAssetTraded float64{0}
        PriorSessionsTotalOffBookVolumeTraded  float64{0}
        SessionTotalVolumeTraded        float64{408000}
        SessionOpeningPrice             float64{254}
        PreviousSessionClosingPrice     float64{255}
        SessionHighPrice                float64{259}
        SessionLowPrice                 float64{253}
        SessionVWAPPrice                float64{256.1765}
        SessionTotalAssetTraded         float64{104520000}
        SessionClosingPrice             float64{257}
        DailyOpeningPrice               float64{260}
        DailyClosingPrice               float64{257}
        PreviousDailyTotalVolumeTraded  float64{821000}
        PreviousDailyTotalAssetTraded   float64{222141000}
        PreviousDailyClosingPrice       float64{268}
        PreviousBusinessDay             Timestamp{2014-07-25}
        CurrentBusinessDay              Timestamp{2014-07-28}
        PriceActivityMarketTimestamp    Timestamp{2014-07-28 06:00:00}
        ExchangeLastComputedPrice       Float64{265}
        MARKET_TSE_BidMarketOrderVolume Float64{407000}
        MARKET_TSE_AskMarketOrderVolume Float64{27300}
        MARKET_TSE_BidSpecialQuotePrice Float64{253}
        MARKET_TSE_AskSpecialQuotePrice Float64{259}
```

2.2. Changes to the Quotation Context Data

S&P Capital IQ Real-Time Solutions **introduces** the quotation context tags below to accommodate the information broadcast on the TSE EQUITIES market data stream:

Table 3 Quotation context tags added on the TSE EQUITIES market data stream

Tag Name	Numeric ID	Type
MARKET_TSE_BidQuoteCondition	16390	Char
MARKET_TSE_AskQuoteCondition	16391	Char
MARKET_TSE_TostnetPriceCode	16392	UInt8
MARKET_TSE_TostnetTransactionFlag	16393	Char

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

```
"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  03:30:00:080  309286170  *       *       *       *       *       *       O
VU  03:30:00:080  309286170  TradingSessionId=2      TradingStatus=17
TE  05:07:39:005  309286170  108.5   1000000 *       *       *       *       HL
VU  05:07:39:005  309286170  SessionOpeningPrice=108.5      DailyTotalAssetTraded=1085000
SessionVWAPPrice=108.5
TE  05:07:39:005  309286170  *       *       108.5   4000000 *       *
MARKET_TSE_BidQuoteCondition=char{1},MARKET_TSE_AskQuoteCondition=char{1}
VU  05:07:39:005  309286170  LastYield=0
SI  06:00:00:496  309286170  CLOSE   108.5
TE  06:00:00:496  309286170  108.5   *       *       *       *       *       C
TradeCondition=AJ=official_closing_price
VU  06:00:03:161  309286170  TradingStatus=18

***

SI  null         309289161  OPEN    *
TE  null         309289161  *       *       *       *       *       *       O
VU  null         309289161  TradingStatus=17
TE  00:05:00:000 309289161  5028    100     *       *       *       *       HL
VU  00:05:00:000 309289161  DailyOpeningPrice=5028
TE  00:06:00:000 309289161  5023.5  100     *       *       *       *       L
TE  00:07:00:000 309289161  5005    1200    *       *       *       *       L
TE  00:07:00:000 309289161  5005    100     *       *       *       *
TE  00:09:00:000 309289161  5031    200     *       *       *       *       H
TE  02:39:00:000 309289161  4991.64 14000   *       *       *       *       L
MARKET_TSE_TostnetTransactionFlag=char{2}
```

3. QuantFEED® Technical Implementation

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

- 3.1. ExchangeLastComputedPrice
- 3.2. MARKET_TSE_BidMarketOrderVolume

- 3.3. MARKET_TSE_AskMarketOrderVolume
- 3.4. MARKET_TSE_BidSpecialQuotePrice
- 3.5. MARKET_TSE_AskSpecialQuotePrice
- 3.6. MARKET_TSE_BidQuoteCondition
- 3.7. MARKET_TSE_AskQuoteCondition
- 3.8. MARKET_TSE_TostnetPriceCode
- 3.9. MARKET_TSE_TostnetTransactionFlag.

3.1. ExchangeLastComputedPrice

The values of the quotation tag **Exchange Last Computed Price** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the last computed price sent by the exchange:

- 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.

The `ExchangeLastComputedPrice` is available only for certain indices that are eligible for the High Speed Index (during the Continuous Trading phases of the TOPIX / TOPIX Core30 and TOPIX 500).

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

Table 4 ExchangeLastComputedPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`ExchangeLastComputedPrice`	QuantFEED® tag name.
Numeric ID	`9371`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Float64`	Float64 data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, indicating the last computed price sent by the exchange.

3.2. MARKET_TSE_BidMarketOrderVolume

The values of the quotation tag **MARKET TSE Bid Market Order Volume** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Other Values* to detail the market order volume on the bid 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.

During the auction phases, the TSE Standard Flex Feed does not provide any Theoretical Opening or Auction Price, especially when Market orders are available. Moreover, the Market orders are the first to be executed.

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

Table 5 MARKET_TSE_BidMarketOrderVolume – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TSE_BidMarketOrderVolume`	QuantFEED® tag name.
Numeric ID	`15060`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Float64`	Float64 data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the market order volume on the bid side.

3.3. MARKET_TSE_AskMarketOrderVolume

The values of the quotation tag **MARKET TSE Ask Market Order Volume** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Other Values* to detail the market order volume on the ask 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.

During the auction phases, the TSE Standard Flex Feed does not provide any Theoretical Opening or Auction Price, especially when Market orders are available. Moreover, the Market orders are the first to be executed.

Following the introduction of the `MARKET_TSE_BidMarketOrderVolume` and `MARKET_TSE_AskMarketOrderVolume` tags, the Market Order Prices (Magical Prices) are no longer provided in the L1. Moreover, only these tags disseminate the information describing the volume of market orders. However, the MBL L2 does not change, as the markets orders remain in the first position. Subsequently, the L1 and the first limit of the MBL L2 may differ.

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

Table 6 MARKET_TSE_AskMarketOrderVolume – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TSE_AskMarketOrderVolume`	QuantFEED® tag name.
Numeric ID	`15061`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Float64`	Float64 data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the market order volume on the ask side.

3.4. MARKET_TSE_BidSpecialQuotePrice

The values of the quotation tag **MARKET TSE Bid Special Quote Price** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Other Values* to detail the special quote price on the bid 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.

Note	A special quote is indicated whenever prices tend to exceed the special quote renewal price intervals. The purpose of a special quote is to prevent major short-term price fluctuations. Special quotes can be indicated at any time during the trading session, whether before the opening price has been set or during Zaraba trading, if there is any likelihood of inappropriate price fluctuations, for example as a result of a major order imbalance between bids and offers. Special offer quotes are indicated when the next price is anticipated to be at a price lower than the given appropriate special quote renewal price interval and special bid quotes are indicated when the next price is anticipated to be at a price higher than the special quote renewal price interval.

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

Table 7 MARKET_TSE_BidSpecialQuotePrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TSE_BidSpecialQuotePrice`	QuantFEED® tag name.
Numeric ID	`15062`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Float64`	Float64 data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, detailing the special quote price on the bid side.

3.5. MARKET_TSE_AskSpecialQuotePrice

The values of the quotation tag **MARKET TSE Ask Special Quote Price** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Other Values* to detail the special quote price on the ask 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.

Note	A special quote is indicated whenever prices tend to exceed the special quote renewal price intervals. The purpose of a special quote is to prevent major short-term price fluctuations. Special quotes can be indicated at any time during the trading session, whether before the opening price has been set or during Zaraba trading, if there is any likelihood of inappropriate price fluctuations, for example as a result of a major order imbalance between bids and offers. Special offer quotes are indicated when the next price is anticipated to be at a price lower than the given appropriate special quote renewal price interval and special bid quotes are indicated when the next price is anticipated to be at a price higher than the special quote renewal price interval.

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

Table 8 MARKET_TSE_AskSpecialQuotePrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TSE_AskSpecialQuotePrice`	QuantFEED® tag name.
Numeric ID	15063	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Float64`	Float64 data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the special quote price on the ask side.

3.6. MARKET_TSE_BidQuoteCondition

Each time an execution occurs, the values of the quotation context tag **MARKET TSE Bid Quote Condition** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Context* to detail the quote condition on the bid 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 `MARKET_TSE_BidQuoteCondition` is described in the table below:

Table 9 MARKET_TSE_BidQuoteCondition – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TSE_BidQuoteCondition`	QuantFEED® tag name.
Numeric ID	16390	QuantFEED® unique ID broadcast on S&P Capital IQ Real-Time Solutions data stream. It is the numeric equivalent of the tag name.
Type	`Char`	Char data type.
Format	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the quote condition on the bid side.
Possible Values	0	Quote before Opening
	1	General Quote
	3	Special Quote
	4	Continuous Execution Quote
	7	Special Quote before Trading Halt
	8	Continuous Execution Quote before Trading Halt

3.7. MARKET_TSE_AskQuoteCondition

Each time an execution occurs, the values of the quotation context tag **MARKET TSE Ask Quote Condition** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Context* to detail the quote condition on the ask 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 `MARKET_TSE_AskQuoteCondition` is described in the table below:

Table 10 MARKET_TSE_AskQuoteCondition – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TSE_AskQuoteCondition`	QuantFEED® tag name.
Numeric ID	16391	QuantFEED® unique ID broadcast on S&P Capital IQ Real-Time Solutions data stream. It is the numeric equivalent of the tag name.
Type	`Char`	Char data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the quote condition on the ask side.
Possible Values	0	Quote before Opening
	1	General Quote
	3	Special Quote
	4	Continuous Execution Quote
	7	Special Quote before Trading Halt
	8	Continuous Execution Quote before Trading Halt

3.8. MARKET_TSE_TostnetPriceCode

Each time an execution occurs, the values of the quotation context tag **MARKET TSE Tostnet Price Code** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Context* to detail the code of the Tostnet 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 `MARKET_TSE_TostnetPriceCode` is described in the table below:

Table 11 MARKET_TSE_TostnetPriceCode – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_TSE_TostnetPriceCode`	QuantFEED® tag name.
Numeric ID	16392	QuantFEED® unique ID broadcast on S&P Capital IQ Real-Time Solutions data stream. It is the numeric equivalent of the tag name.
Type	`UInt8`	UInt8 data type.
Format	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the code of the Tostnet Price.

Table 11 MARKET_TSE_TostnetPriceCode – technical implementation in QuantFEED® (Continued)

Component	Value	Description
Possible Values	<empty>	Default value, not sent.
	01	Previous-day closing price
	05	Previous-day VWAP
	11	Morning-session closing price
	15	Morning-session VWAP
	31	Today's closing price
	25	Afternoon-session VWAP
	35	All-day VWAP

3.9. MARKET_TSE_TostnetTransactionFlag

Each time an execution occurs, the values of the quotation context tag **MARKET TSE Tostnet Transaction Flag** conveyed on the TSE EQUITIES market data stream are disseminated via QuantFEED® data stream in *Context* to identify the flag of the Tostnet transaction:

- 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 `MARKET_TSE_TostnetTransactionFlag` is described in the table below:

Table 12 MARKET_TSE_TostnetTransactionFlag – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	MARKET_TSE_TostnetTransactionFlag	QuantFEED® tag name.
Numeric ID	16393	QuantFEED® unique ID broadcast on S&P Capital IQ Real-Time Solutions data stream. It is the numeric equivalent of the tag name.
Type	Char	Char data type.
Format	*[Exchange Specific Value]*	An ***exchange specific value***, identifying the flag of the Tostnet transaction.
Possible Values	<empty>	Ordinary transaction – default value, not sent.
	1	Day transaction
	2	Ordinary transaction (VWAP transaction)
	3	Day transaction (VWAP 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.