S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

SGX CASH – Feed Updates

Reference n°: 20140116

Effective as of: 20 January 2014
10 February 2014
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
Reference 20140116
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UPDATES OF THE SGX CASH MARKET DATA STREAM

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

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		20140116
Exchanges		SGX
Concerned MICs		XSES
Internal Source ID		221
UPDATE 1	**Effective Date**	**2014-01-20**
	Impact	• Update of the Last Auction Imbalance-related Quotation Tags
UPDATE 2	**Effective Date**	**2014-02-10**
	Impact	• Introduction of the Official closing price for ETF instruments
UPDATE 3	**Effective Date**	**2014-02-24**
	Impact	• Update of the `MARKET_OMNET_OMX_TradingState` Quotation Tag
Action required		**Attention Required (Optional)**

2. Functional Description

Effective Monday, **January 20, 2014**, S&P Capital IQ Real-Time Solutions introduces two new quotations tags – `LastAuctionImbalanceSide` (**NumericID**: `9151`, **Type**: `Char`) and `LastAuctionImbalanceVolume` (**NumericID**: `9152`, **Type**: `Float64`) – to convey the details of the last auction on SGX CASH market data stream.

Effective Monday, **February 10, 2014**, S&P Capital IQ Real-Time Solutions introduces the Official Closing Price for ETF instruments to accommodate the information disseminated on SGX CASH market data stream.

Effective Monday, **February 24, 2014**, the quotation tag `MARKET_OMNET_OMX_TradingState` (**NumericID**: `14800`, **Type**: `String`) will disseminate two new values: **`CIRB`** – **FIXSecurityTradingStatus_ReadyToTrade** and **`CIRH`** – **FIXSecurityTradingStatus_PriceIndication**.

3. QuantFEED® Technical Implementation

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

- 3.1. Last Auction Imbalance Side
- 3.2. Last Auction Imbalance Volume
- 3.3. Trading State Name.

3.1. Last Auction Imbalance Side

The values of the quotation tag **Last Auction Imbalance Side** conveyed on the SGX CASH market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the imbalance side of a closing auction:

- 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 `LastAuctionImbalanceSide` is described in the table below:

Table 2 LastAuctionImbalanceSide – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`LastAuctionImbalanceSide`	QuantFEED® tag name.
Numeric ID	`9151`	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 imbalance side of a closing auction.
Possible Values	`B`	Buy-side imbalance
	`S`	Sell-side imbalance
	`N`	No imbalance (buy side equals sell side)
	`O`	Insufficient orders to calculate.

3.2. Last Auction Imbalance Volume

The values of the quotation tag **Last Auction Imbalance Volume** conveyed on the SGX CASH market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the imbalance volume of a closing auction:

- 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 `LastAuctionImbalanceVolume` is described in the table below:

Table 3 LastAuctionImbalanceVolume – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`LastAuctionImbalanceVolume`	QuantFEED® tag name.
Numeric ID	`9152`	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 imbalance volume of a closing auction.

3.3. Trading State Name

Each time a modification of the trading state occurs, the values of the quotation tag **Trading State Name** conveyed on the SGX CASH market data stream are disseminated via S&P Capital IQ Real-Time Solutions's data stream in *Other Values*:

- 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_OMNET_OMX_TradingStateName` is described in the table below (newly added values are in `blue`):

Table 4 MARKET_OMNET_OMX_TradingStateName – technical implementation in QuantFEED®

Component	Value	Description	
Tag Name	`MARKET_OMNET_OMX_TradingStateName`	QuantFEED® tag name.	
Numeric ID	`14800`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions's data stream. This is the numeric equivalent of the tag name.	
Type	`String`	String data type.	
Format	*`[Exchange Specific Value]`*	An ***exchange specific value***, detailing the current state of the trade.	
Possible Values	`PRE-OPEN`	FIXSecurityTradingStatus_PreOpen	Pre-Open
	`PRE-OPEN1`	FIXSecurityTradingStatus_PreOpen	Pre-Open
	`PRE-OPEN2`	FIXSecurityTradingStatus_PreOpen	Pre-Open

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

Component	Value	Description	
Possible Values	NON-CANCEL	FIXSecurityTradingStatus_TradeDisseminationTime	Non-cancellation
	OPEN	FIXSecurityTradingStatus_ReadyToTrade	Open
	PRE-CLOSE	FIXSecurityTradingStatus_PriceIndication	Pre-Closing
	CLOSE	FIXSecurityTradingStatus_NotAvailableForTrading	Close
	CLOSE_MKT	FIXSecurityTradingStatus_NotAvailableForTrading	Closing Market
	CLOSE_	FIXSecurityTradingStatus_NotAvailableForTrading	Close Signal Collect
	DL	FIXSecurityTradingStatus_NotAvailableForTrading	Delisted
	SUSP	FIXSecurityTradingStatus_TradingHalt	Suspended
	ADJUST	FIXSecurityTradingStatus_PriceIndication	Adjusting
	BI	FIXSecurityTradingStatus_NotAvailableForTrading	Trading restricted to Buying-In market only
	BI_OPEN	FIXSecurityTradingStatus_ReadyToTrade	Buying-In Opening
	CIRB	FIXSecurityTradingStatus_ReadyToTrade	Triggered by the trading engine whenever an order would trade outside of the upper and lower circuit breaker limits for stocks under Circuit Breaker monitoring.
	CIRH	FIXSecurityTradingStatus_PriceIndication	Halt due to Circuit Breaker Triggered
	H	FIXSecurityTradingStatus_PriceIndication	Trading Halt
	J	FIXSecurityTradingStatus_PriceIndication	Instrument Session State Adjust
	MCE	FIXSecurityTradingStatus_PriceIndication	Mandatory Call Event has occurred for Callable Bull/Bear Contracts (CBBC).
	PL	FIXSecurityTradingStatus_NotAvailableForTrading	Pending Listing
	_PRV_CLOSE	FIXSecurityTradingStatus_ReadyToTrade	Previous Close
	_PRV_OPEN	FIXSecurityTradingStatus_ReadyToTrade	Previous Open

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

```
InstrumentStatusL1
-- 226/1009211
        BID: 0.058      115000
        ASK: 0.059      11846000
        LastPrice                      float64{0.058}
        LastTradeQty                   float64{55000}
        DailyHighPrice                 float64{0.059}
        DailyLowPrice                  float64{0.057}
        DailyTotalVolumeTraded         float64{27180000}
        DailyTotalAssetTraded          float64{1588030}
        LastTradePrice                 float64{0.058}
        LastTradeTimestamp             Timestamp{2014-01-02 09:04:53:018}
        InternalDailyOpenTimestamp     Timestamp{2014-01-02 00:58:37:065}
        InternalDailyCloseTimestamp    Timestamp{2014-01-02 09:06:00:025}
        InternalDailyHighTimestamp     Timestamp{2014-01-02 00:58:37:065}
        InternalDailyLowTimestamp      Timestamp{2014-01-02 08:59:13:027}
        InternalPriceActivityTimestamp Timestamp{2014-01-02 09:06:00:025}
        TradingStatus                  18=NotAvailableForTrading
        LastOffBookTradePrice          float64{0}
        LastOffBookTradeQty            float64{1500000}
        LastOffBookTradeTimestamp      Timestamp{2013-11-07 08:44:08:345}
        DailyOpeningPrice              float64{0.059}
        DailyClosingPrice              float64{0.058}
        PreviousDailyTotalVolumeTraded float64{21495000}
        PreviousDailyTotalAssetTraded  float64{1248916}
        PreviousDailyClosingPrice      float64{0.058}
        PreviousBusinessDay            Timestamp{2013-12-31}
        CurrentBusinessDay             Timestamp{2014-01-02}
        LastAuctionPrice               float64{0.058}
        LastAuctionVolume              float64{1405000}
        DailyTotalOffBookVolumeTraded  float64{0}
        DailyTotalOffBookAssetTraded   float64{0}
        LastAuctionImbalanceSide       char{B}
        LastAuctionImbalanceVolume     float64{115000}
        InternalLastAuctionTimestamp   Timestamp{2014-01-02 09:04:07:396}
        PriceActivityMarketTimestamp   Timestamp{2014-01-02 09:06:00:003}
        MARKET_OMNET_OMX_TradingStateName       string{CLOSE_}
```

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.