S&P Capital IQ Real-Time Solutions

FeedOS™ Developer's Notice

JSE MIT – Feed Update

Reference n°: 20141028 – 22439 – 22440

Effective as of: 17 November 2014*

Action required from users: MANDATORY ACTION

* For the actual day when the changes to your custom feed handler take effect, please contact your QuantFEED® project manager.

S&P Capital IQ Real-Time Solutions
FeedOS™ Developer's Notice: JSE MIT – Feed Update
Reference 20141028 – 22439 – 22440
October 30, 2014

France Offices
52 Rue de la Victoire
75009 Paris
France
Tel: +33 (0) 1 73 02 32 11

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

UK Office
20 Canada Square
Canary Wharf
London E14 5LH
United Kingdom
Tel: +44 (0) 203 107 1676

Singapore Office
12 Marina Boulevard
#23-01 Marina Bay
Financial Centre Tower 3
Singapore 018982
Tel: +65 6530 6546

www.capitaliq.com

UPDATE OF THE JSE MIT MARKET DATA STREAM

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

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. FeedOS Technical Implementation
- 3. Finding the Latest Information.

1. Update Summary

Table 1 Current update summary

Notice Reference	20141028 – 22439 – 22440
Exchanges	JSE MIT
Concerned MICs	XJSE
Internal Source ID	31
Effective Date	**2014-11-17***
Impact	• Update of the Quotation Tags • Trade Cancellation/Correction in Market News • CLOSE Kinematics Update on Level1 Market Data
Action required	**MANDATORY ACTION** – see section 2.4. Changes to the Level1 Market Data Kinematics – CLOSE.

2. FeedOS Technical Implementation

Effective Monday, **November 17* 2014,** S&P Capital IQ Real-Time Solutions enhances the quotation data, changes the Market News and the Level1 Market Data Kinematics to accommodate the new information disseminated on the JSE MIT market data stream, as described below:

* This is the proposed day for the update of the standard version of the feed handler. For dedicated feed handlers, this date may differ. For the actual day when the changes to your custom feed handler take effect, please contact your QuantFEED® project manager.

- 2.1. Changes to the Quotation Data
- 2.3. Changes to the Market News – Trade Cancellation/Correction
- 2.4. Changes to the Level1 Market Data Kinematics – CLOSE.

2.1. Changes to the Quotation Data

S&P Capital IQ Real-Time Solutions **introduces** the quotation tags below to accommodate the information disseminated on the JSE MIT market data stream:

Table 2 Quotation tags added on the JSE MIT market data stream

Tag Name	Numeric ID	Type
`InternalDailyClosingPriceType`	9155	Char

2.1.1. InternalDailyClosingPriceType

The values of the quotation tag **InternalDailyClosingPriceType** conveyed on the JSE MIT market data stream are disseminated via FeedOS 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.

FeedOS implementation of the tag `InternalDailyClosingPriceType` is described in the table below (the values disseminated as of 2014-11-17 are highlighted in `green`):

Table 3 InternalDailyClosingPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`InternalDailyClosingPriceType`	FeedOS tag name.
Numeric ID	`9155`	FeedOS 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, as described below.
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.

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

Component	Value	Description
Possible Values	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).

Quotation Data Sample

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

```
InstrumentStatusL1
-- 232/4580
        BID: 1120       3649    @1
        ASK: 1150       9454    @2
        LastPrice                       float64{1120}
        LastTradeQty                    float64{692}
        DailyHighPrice                  float64{1170}
        DailyLowPrice                   float64{1120}
        DailyTotalVolumeTraded          float64{1634}
        DailyTotalAssetTraded           float64{1859820}
        LastTradePrice                  float64{1120}
        LastTradeTimestamp              Timestamp{2014-12-29 09:12:02:131}
        InternalDailyOpenTimestamp      Timestamp{2014-12-29 07:00:14:096}
        InternalDailyCloseTimestamp     Timestamp{2014-12-26 15:01:01:089}
        InternalDailyHighTimestamp      Timestamp{2014-12-29 07:35:33:618}
        InternalDailyLowTimestamp       Timestamp{2014-12-29 09:12:02:233}
        InternalPriceActivityTimestamp  Timestamp{2014-12-29 09:12:02:233}
        TradingStatus                   5=PriceIndication
        LastOffBookTradePrice           float64{1150}
        LastOffBookTradeQty             float64{68790}
        LastOffBookTradeTimestamp       Timestamp{2014-12-22 09:03:51:006}
        DailyOpeningPrice               float64{1170}
        PreviousDailyTotalVolumeTraded  float64{29462}
        PreviousDailyTotalAssetTraded   float64{33799844}
        PreviousDailyClosingPrice       float64{1102}
        PreviousBusinessDay             Timestamp{2014-12-26}
        CurrentBusinessDay              Timestamp{2014-12-29}
        LastAuctionPrice                float64{0}
        LastAuctionVolume               float64{0}
        DailyTotalOffBookVolumeTraded   float64{0}
        DailyTotalOffBookAssetTraded    float64{0}
        InternalLastAuctionTimestamp    Timestamp{2014-12-29 10:00:00:246}
        InternalDailyClosingPriceType   char{b}
        MARKET_LSE_SuspendedIndicator   char{N}
        MARKET_JSE_MIT_TradingStatusDetails     char{u}
```

2.2. Changes to the Quotation Context Data

S&P Capital IQ Real-Time Solutions **updates** the values of the quotation context tags below:

Table 4 Quotation context tags disseminating updated values on the JSE MIT market data stream

Tag Name	Numeric ID	Type
MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator	15950	String

2.2.1. MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator

The values of the quotation tag **MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator** conveyed on the JSE MIT market data stream are disseminated via FeedOS data stream in *Context* to detail the off book trade type:

- 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.

FeedOS implementation of the tag `MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator` is described in the table below (existing values are in `black`, removed values are in ~~`crossed out red`~~):

Table 5 MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator – technical implementation in FeedOS

Component	Value	Description
Tag Name	`MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator`	FeedOS tag name.
Numeric ID	15950	FeedOS unique ID broadcast on the S&P Capital IQ Real-Time Solutions 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 off book trade type, as detailed below.
Possible Values	~~17~~	LC – Cancellation of previous day's published Off Book Trade **Note:** Trade Cancellation is now notified via Market News – see section 2.3. Changes to the Market News – Trade Cancellation/Correction.
	~~24~~	PC – Cancellation of previous day's On Book Trade **Note:** Trade Cancellation is now notified via Market News – see section 2.3. Changes to the Market News – Trade Cancellation/Correction.
	2001	BT – Block Trade
	2002	CF – Corporate Finance Trade
	2003	LT – Late Trade
	2004	NX – Namibia Trade
	2005	OD – Delta Trade
	2006	OP – Off Order Book Principal Trade
	2007	OX – Option
	2008	TX – Traded Option Exercised
	2009	PF – Portfolio Trade

Table 5 MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator – technical implementation in FeedOS

Component	Value	Description
Possible Values	2011	WX – Warrant
	2013	GU – Give Up
	3001	BK – Book Build
	3015	NC – Cancellation of previous day's non-published Off Book Trade. **Note:** This trade type will never be published via the market data, it is only valid via the Post Trade Gateway when cancelling a non-published trade.

2.3. Changes to the Market News – Trade Cancellation/ Correction

Effective 2014-11-17, each time a trade cancellation or trade correction of an on book or off book trade occurs, the event is notified via FeedOS data stream in *Market News*:

- in the callback carrying the Level1 event `notif_MarketNews()`, for C++
- in the event handler `MarketNewsEventHandler`, for C#
- in the callback carrying the Level1 event `quotNotifMarketNewsEvent`, for Java.

This Market News notification replaces some of the values previously disseminated via the quotation context tag `MARKET_LSE_MIT_OffBookReportingTradeTypeIndicator`. Fore more details about the removed values, see section 2.2. Changes to the Quotation Context Data.

Below is an example showing the trade cancellation/correction notification disseminated in the market news:

```
MN    null    null    XJSE    Normal    Trade Cancellation    Trade id: 1084396111134737
Trade date: 20141020 | Trade time: 08:59:25    related_instruments: 232/750529
```

2.4. Changes to the Level1 Market Data Kinematics – CLOSE

In the Level1 Market Data Kinematics before 2014-11-17, when the tag `MARKET_JSE_MIT_TradingStatusDetails` disseminates the value `z=Closing Price Publication`, the Trading Status is set to `18=Not Available for Trading`.

Later on, the exchange simultaneously sends the CLOSE signal and the value `b=PostClose` of the tag `MARKET_JSE_MIT_TradingStatusDetails`, as shown below:

```
"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   15:00:19:020.493   486540958   *       *        19801   48@1    *       *
TE   15:00:19:020.515   486540958   *       *        *       *       19938   420@1
TE   15:00:19:020.515   486540958   *       *        19801   17@1    *       *
VU   15:00:19:022.447   486540958   MARKET_JSE_MIT_TradingStatusDetails=z TradingStatus=18
TE   15:00:19:029.679   486540958   19801         815      *       *       *       *
TradeConditionsDictionaryKey=uint32{65011844}, MARKET_JSE_MIT_AuctionTypeIndicator=char{C}
TE   15:00:19:576.268   486540958   *       *        19800   600@1   *       *
SI   15:01:19:001.188   486540958   CLOSE         19801
TE   15:01:19:001.188   486540958   19801   *        *       *       *       *       C
VU   15:01:19:001.188   486540958   MARKET_JSE_MIT_TradingStatusDetails=b
```

In the Level1 Market Data Kinematics after 2014-11-17, the exchange simultaneously sends the CLOSE signal, the value `z=Closing Price Publication` of the tag `MARKET_JSE_MIT_TradingStatusDetails` and the Trading Status `18=Not Available for Trading`.

Later on, the exchange sends the value `b=PostClose` of the tag `MARKET_JSE_MIT_TradingStatusDetails`, as shown below:

```
"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   15:00:19:020.467   486540958   *       *       19801   48@1    *       *
TE   15:00:19:020.467   486540958   *       *       *       *       19938   420@1
TE   15:00:19:020.478   486540958   *       *       19801   17@1    *       *
SI   15:00:19:022.222   486540958   CLOSE   19801
TE   15:00:19:022.222   486540958   19801   *       *       *       *       *       C
VU   15:00:19:022.222   486540958   MARKET_JSE_MIT_TradingStatusDetails=z
InternalDailyClosingPriceType=d  TradingStatus=18
TE   15:00:19:022.584   486540958   19801   815     *       *       *       *       OHL
TradeConditionsDictionaryKey=uint32{23068773}, MARKET_JSE_MIT_AuctionTypeIndicator=char{C}
VU   15:00:19:022.584   486540958   DailyClosingPrice=19801 InternalDailyClosingPriceType=b
TE   15:00:19:576.268   486540958   *       *       19800   600@1   *       *
TE   15:01:19:001.188   486540958   19801   *       *       *       *       *       C
VU   15:01:19:001.188   486540958   MARKET_JSE_MIT_TradingStatusDetails=b
InternalDailyClosingPriceType=a
```

3. 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.