S&P Capital IQ Real-Time Solutions

FeedOS™ Developer's Notice

CTA – Quotation Data Update

Reference n°: 20150624 – 23649 – 26508 – 27574

Effective as of: 03 August 2015*

Action required from users: Attention Required

S&P CAPITAL IQ
McGRAW HILL FINANCIAL

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

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Reference 20150624 – 23649 – 26508 – 27574
June 30, 2015

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UPDATE OF THE QUOTATION DATA ON THE CTA MARKET DATA STREAM

To improve the quality of market data disseminated on the CTA 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	20150624 – 23649 – 26508 – 27574
Exchanges	CTA
Concerned MICs	ARCX, BATS, BATY, CBSX, EDGA, EDGX, XADF, XASE, XBOS, XCHI, XCIS, Xcta, XISX, XNAS, XNYS, XPHL
Internal Source ID	119, 121, 122
Effective Date	**2015-08-03**[*]
Impact	• Update of the Quotation Context Tags • Update of the Level1 Market Data Kinematics
Action required	**Attention Required**

2. FeedOS Technical Implementation

Effective Monday, **August 03[*] 2015,** S&P Capital IQ Real-Time Solutions updates the quotation context data and the Level1 Market Data Kinematics to accommodate the information disseminated on the CTA market data stream, as described below:

- 2.1. Changes to the Quotation Context Data
- 2.2. Microsecond Timestamp Precision on the Level1 Market Data.

2.1. Changes to the Quotation Context Data

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

Table 2 Quotation context tags disseminating updated values on the CTA market data stream

Tag Name	Numeric ID	Type
`MARKET_CTA_SaleCondition`	15700	String

2.1.1. MARKET_CTA_SaleCondition

Each time a trade occurs, the values of the quotation tag **MARKET_CTA_SaleCondition** conveyed on the CTA market data stream are disseminated via FeedOS data stream in *Context* to identify a particular condition applicable to the trade:

- 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_CTA_SaleCondition` is described in the table below (updated values are in `blue`):

Table 3 MARKET_CTA_SaleCondition – technical implementation in FeedOS

<table>
<tr><th>Component</th><th>Value</th><th colspan="7">Description</th></tr>
<tr><td>Tag Name</td><td><code>MARKET_CTA_SaleCondition</code></td><td colspan="7">FeedOS tag name.</td></tr>
<tr><td>Numeric ID</td><td><code>15700</code></td><td colspan="7">FeedOS unique ID broadcast on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.</td></tr>
<tr><td>Type</td><td><code>String</code></td><td colspan="7">String data type.</td></tr>
<tr><td>Format</td><td><code>[Exchange Specific Value]</code></td><td colspan="7">An exchange specific value, detailing the particular condition applicable to the trade.</td></tr>
<tr><td colspan="2" rowspan="2">Impacts on...</td><td colspan="2">Consolidated</td><td colspan="3">Participant</td><td rowspan="2">Sale Cond. Update Volume</td><td rowspan="2">Description</td></tr>
<tr><td>Last</td><td>High/ Low</td><td>Open</td><td>Last</td><td>High/ Low</td></tr>
<tr><td>Possible Values</td><td>4</td><td>#2[i]</td><td>Yes</td><td>#4</td><td>#2</td><td>Yes</td><td>Yes</td><td>Derivatively Priced</td></tr>
</table>

[*] This is the proposed day for the update of the standard version of the feed handler. For dedicated feed handlers, the date and Source IDs may differ. For the actual day when the changes to your custom feed handler will take effect, please contact your FeedOS™ project manager.

Table 3 MARKET_CTA_SaleCondition – technical implementation in FeedOS (Continued)

Component	Value	Description						
Possible Values	5	Yes	Yes	#4	Yes	Yes	Yes	Market Center Reopening Trade
	6	Yes	Yes	#4	Yes	Yes	Yes	Market Center Closing Trade
	7	No	No	No	No	No	Yes	Qualified Contingent Trade
	8	No	No	No	No	No	TBD	Reserved
	9	Yes	Yes	No	No	No	No	Corrected Consolidated Close (per listing market)
	@	Yes	Yes	#4	Yes	Yes	Yes	Regular Trade (indicates a trade with no associated conditions)
	BLANK	N/A						No Sale Condition required within the category it appears (Long Trade format only)
	B	No	No	No	No	No	Yes	Average Price Trade
	C	No	No	No	No	No	Yes	Cash Trade (Same Day Clearing)
	E	Yes	Yes	#4	Yes	Yes	Yes	Automatic Execution
	F	Yes	Yes	#4	Yes	Yes	Yes	Intermarket Sweep Order
	H	No	No	No	No	No	Yes	Price Variation Trade
	I	No	No	No	No	No	Yes	Odd Lot Trade
	K	Yes	Yes	#4	Yes	Yes	Yes	Rule 127 (NYSE only) or Rule 155 (NYSE AMEX only)
	L	#3	Yes	#4	Yes	Yes	Yes	Sold Last (Late Reporting)
	M	No	No	No	Yes	Yes	No	Market Center Official Close
	N	No	No	No	No	No	Yes	Next Day Trade (Next Day Clearing)
	O	#1	Yes	Yes	#2	Yes	Yes	Market Center Opening Trade
	P	#2	Yes	#4	#2	Yes	Yes	Prior Reference Price
	Q	No	No	Yes	No	Yes	No	Market Center Official Open
	R	No	No	No	No	No	Yes	Seller
	T	No	No	No	No	No	Yes	Extended Hours Trade

Table 3 MARKET_CTA_SaleCondition – technical implementation in FeedOS (Continued)

Component	Value	Description						
Possible Values	U	No	No	No	No	No	Yes	Extended Hours Sold (Out of Sequence)
	V	No	No	No	No	No	Yes	Contingent Trade
	X	Yes	Yes	#4	Yes	Yes	Yes	Cross Trade
	Z	#2	Yes	#4	#2	Yes	Yes	Sold (Out of Sequence)

i. Deviations from a trade's qualification for the Open, Last, High and Low calculations both on a Consolidated and individual Participant basis are denoted with a number – #1, #2, #3 and #4 – and described below:

- ***#1** – Yes, if it is the only qualifying last OR if it is that Participant's first qualifying last; OTHERWISE No.*
- ***#2** – Yes, if it is the only qualifying last; OTHERWISE No.*
- ***#3** – Yes, if it is the only qualifying last OR if it is from the same participant as the last OR if it is from the PRIMARY MARKET for that Security; OTHERWISE No.*
- ***#4** – Yes, if it is the first qualifying or only qualifying trade of the day; OTHERWISE No (In instances of multiple Market Center Opening Trades, the latest trade takes precedence.).*

Moreover, the table below shows the possible 4-byte combinations in MARKET_CTA_SaleCondition:

Table 4 MARKET_CTA_SaleCondition possible 4-byte combinations

Byte 1 – Settlement Type	Byte 2 – Reason for Trade-Through Exemption/Other Reason	Byte 3 – Extended Hours/ Sequence Type	Byte 4 – SRO Required Detail
The '@' code in the first byte followed by 'Blanks' in the 2nd, 3rd, and 4th bytes indicates a trade without conditions.			
Blank (Regular Settlement)	Blank (No Trade Through Exempt Reason)	Blank (Not Extended Hours or Sold Out of Sequence)	Blank (No Unusual Trade Detail)
C Cash Trade (Same Day Clearing)	F Inter-market Sweep Order	L Sold Last (Late Reporting)	B Average Price Trade
N Next Day Trade (Next Day Clearing)	O Market Center Opening Trade	T Extended Hours Trade	E Automatic Execution
R Seller	4 Derivatively Priced	U Extended Hours Sold (Out of Sequence)	H Price Variation Trade
	5 Market Center Reopening Trade	Z Sold (Out of Sequence)	I Odd Lot Trade
	6 Market Center Closing Trade		K Rule 127 (NYSE only) or Rule 155 (NYSE MKT only)
	7 Qualified Contingent Trade		M Market Center Official Close
	8 Reserved		P Prior Reference Price
	9 Corrected Consolidated Close Price as per Listing Market		Q Market Center Official Open
			V Contingent Trade
			X Cross Trade

Quotation Context Data Sample

The example below shows the current implementation of the updated (in `blue`) quotation 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   18:09:22:962.322    73402754   75.32   75000   *    *    *    *
MARKET_CTA_SaleCondition=---V
```

2.2. Microsecond Timestamp Precision on the Level1 Market Data

Effective **2015-08-03**, the server timestamps will display microsecond units on the Level1 Market Data, as shown in the example below (highlighted in `green`):

```
“TE (TradeEvent) : MARKET_TIME INSTRUMENT LAST_PRICE TRADE_QTY BID_PRICE BID_QTY ASK_PRICE
ASK_QTY *CONTENT_MASK* *FLAGS*"

TE   18:12:22:962.842    73402754   75.32   75000   *    *    *    *
```

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: https://support.quanthouse.com.