S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

ICE - Feed Upgrade

Reference n°: 20140217 - Update 01

Effective as of: 10 March 2014

Action required from users: Mandatory Action



S&P Capital IQ Real-Time Solutions (QuantHouse*) – QuantFEED* QuantFEED* Developer's Notice Reference 20140217 February 17, 2014

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UPGRADE OF THE ICE MARKET DATA STREAM

To improve the quality of the ICE 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. Upgrade Summary
- 2. Functional Description
- 3. QuantFEED® Technical Implementation
- 4. Minimum Required Version of the QuantFEED* API
- 5. Finding the Latest Information.

1. Upgrade Summary

Table 1 Current upgrade summary

Notice Reference	20140217 – Update 01			
Exchanges	ICE			
Concerned MICs	ICEU, IFCA, ICUS			
Internal Source ID	66, 88, 188			
Effective Date	2014-03-10			
Impact	Update of the Referential Tags, including LocalCodeStr Update of the Quotation Tags New L1 Kinematics System Priced Leg Trades Management Microsecond Timestamp Precision on L1			
Action required	Mandatory Action			

^{*} The red bars highlight content that has been added or changed since the previous release of this document.

2. Functional Description

Effective Monday, March 10, 2014, S&P Capital IQ Real-Time Solutions updates the values of the referential tags SecurityType (NumericID: 167, Type: String), CFICode (NumericID: 461, Type: String) and LocalCodeStr (NumericID: 9500, Type: String) to accommodate the information disseminated on the ICE market data stream.

S&P Capital IQ Real-Time Solutions also introduces implied order management in MBO and MBL data. Implied orders are now aggregated in the order book.

The new ICE feed handler allows the management of Options and User-Defined Strategies (UDS) on ICE. However, Options and UDSs are not included by default in the ICE market data stream. For more details about your subscription options, please contact S&P Capital IQ Real-Time Solutions.

Furthermore, S&P Capital IQ Real-Time Solutions improves the L1 kinematics by adding Daily Opening/Closing Signals and Settlement Prices, based on the MarketStateChange message from the market. Also, all system priced leg trades are now considered "off-book" trades.

Moreover, the Serverutctime also displays microsecond units on Level 1 data.

3. QuantFEED® Technical Implementation

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

- 3.1. Security Type
- 3.2. CFI Code
- 3.3. Local Code String
- 3.4. ICE L1 Kinematics Update
- 3.5. System Priced Leg Trades Management
- 3.6. Microsecond Timestamp Precision on L1.

3.1. Security Type

The values of the referential tag **Security Type** conveyed on the ICE market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the type of security.

QuantFEED* implementation of the values currently available for the tag SecurityType is described in the table below (newly added values are in green):

Table 2 SecurityType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	SecurityType	QuantFEED® tag name.
Numeric ID	167	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	String	String data type.
Format	[Exchange Specific Value]	An exchange specific value , detailing the type of security.
	NONE	Unknown Security Type
	FUT	Future
Possible Values	FORWARD	Forward
Possible values	INDEX	Index
	MLEG	Multileg
	OPT	Option

3.2. CFI Code

The values of the referential tag **CFI Code** conveyed on the ICE market data stream are disseminated via QuantFEED* data stream in *Referential* to specify the standardized identification code of an instrument.

QuantFEED* implementation of the values currently available for the tag CFICode is described in the table below (newly added values are in green):

Table 3 CFICode – technical implementation in QuantFEED®

Component	Value	Description				
Tag Name	CFICode	QuantFEED® tag name.				
Numeric ID 461		QuantFEED® unique ID disseminated on S&P Capital I Real-Time Solutions data stream. This is the numeric equivalent of the tag name.				
Туре	String	String data type.				
Format	[Exchange Specific Value]	An exchange specific value , detailing the standardized identification code of an instrument.				
	FCXXXX	Futures - Commodities Futures				
	FFWXXX	Futures - Financial Futures - Swaps				
	MMFXXX	Other Assets - Forwards				
Possible Values	MRIXXX	Other - Referential Instruments - Indices				
	MRXXXX	Other - Referential Instruments				
	MXXXXX	Other				
	oxxxxx	Options				

The following table summarizes the instrument types available on ICE market data stream:

Table 4 Instruments available on ICE market data stream

Instrument Type	CFI Code	Security Type
Future	FCXXXX	FUT
OTC Swap - Flow	FFWXXX	FUT
OTC Swap - Lots	FFWXXX	FUT
OTC Physical Forwards	MMFXXX	FORWARD
Spreads	MRXXXX	MLEG
Spreads/Combo	MRXXXX	MLEG
Option	OXXXXX	OPT
Index	MRIXXX	INDEX
Minute Marker Block	MXXXXX	FUT
Trade at Auction	MXXXXX	FUT
Host	MXXXXX	FUT
Trade at Settlement		
Note: These instruments may have negative prices.	MXXXXX	FUT
Trade at Index Close	MXXXXX	FUT

3.3. Local Code String

The values of the referential tag **Local Code String** conveyed on the ICE market data stream are disseminated via QuantFEED* data stream in *Referential* to specify the security local code. The current format

QuantFEED* implementation of the values currently available for the tag LocalCodeStr is described in the table below:

Table 5 LocalCodeStr – technical implementation in QuantFEED®

Component	Value	Description		
Tag Name	LocalCodeStr	QuantFEED® tag name.		
Numeric ID	9500	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.		
Туре	String	String data type.		
Format / Possible Values	[Exchange Specific Value]	An exchange specific value , detailing the security local code, based on the MarketID of the messages from the ICE market data stream.		

Below is an example of the current implementation of the updated referential tags (in blue):

```
instr \# 432/831242 = 906800906
   Description
                                 string{+01BRN
                                                  20150112C00103000 +01BRN
                                                                              20150112P00103000}
    SecurityType
                                 string{MLEG}
    StdMaturity
                                 string{20151}
    FOSMarketId
                                 ICEU
    CFICode
                                 string{MRXXXX}
   Internal Creation Date
                                 string{+01BRN 20150112C00103000 +01BRN
                                                                              20150112P00103000}
                                 Timestamp{2014-04-02 18:38:06:006}
    InternalModificationDate Timestamp{2014-04-09 01:04:36:484}
    InternalSourceId
                                 uint16{66}
    LocalCodeStr
                                 string{91457424}
   PriceIncrement_static
UnderlyingFOSMarketId
UnderlyingLocalCodeStr
                                 float64{0.01}
                                 ICEU
                                 string{220264}
    UnderlyingFOSInstrumentCode uint32{906721343}
    MaturityYear
                                 uint16{2015}
    MaturityMonth
                                 uint8{1}
    MaturityDay
                                 uint8{12}
    LegFOSInstrumentCode
LegFOSInstrumentCode_1
                                 uint32{906747168}
                                 uint32{906747169}
    LegRatioQty
                                 float64{1}
                                  float64{1}
    LegRatioQty_1
                                  '1'=Buy
    LegFIXSide
                                  '1'=Buy
    LegFIXSide_1
    MARKET_ICE_ContractSymbol
                                  string{}
```

3.4. ICE L1 Kinematics Update

The following sections describe the kinematics of ICE market data stream before and after 2014-03-10:

- 3.4.1. ICE L1 Kinematics before 2014-03-10
- 3.4.2. ICE L1 Kinematics after 2014-03-10.

3.4.1. ICE L1 Kinematics before 2014-03-10

In the L1 kinematics before 2014-03-10, the daily open signals are sent when the ICE exchange declares its official opening price. S&P Capital IQ Real-Time Solutions simulates and sends the Daily Closing Signals of all instruments at 19:00 Eastern Time, as shown in the example below:

Sample ICE L1 kinematics before 2014-03-10

VU	13:45:00:060	1064024089	Tradings	Status=2	1					
TE	13:46:00:001	1064024089	21.3	*	*	*	*	*		
VU	13:46:00:001	1064024089	LastAuct	ionPric	e=21.3					
VU	14:00:00:069	1064024089	Tradings	Status=1	7					
TE	14:00:00:076	null 10640240)89	*	*	21.2	7	*	*	
VU	14:19:26:594	1064024089	OpenInte	erest=48	.18					
TI	15:45:11:959	1064024089	OPEN	21.2						
VU	18:00:00:057	1064024089	Tradings	Status=2						
• • • •				_						
VU	18:06:14:000	1064024089	DailySet	tlement	Price=21	. 38				
SI	00:00:00:623	null 10640240)89	CLOSE	21.54					
TE	00:00:00:623	null 10640240	89	21.54	*	!	0	!	0	C

3.4.2. ICE L1 Kinematics after 2014-03-10

In the L1 kinematics after 2014-03-10, S&P Capital IQ Real-Time Solutions sends the Daily Opening/Closing Signals of all instruments based on the MarketStateChange messages the market sends, which makes the signals more accurate, as shown in the example below:

Sample ICE L1 kinematics after 2014-03-10

VU	13:45:00:060 1064019764	TradingStatus=21	
TE	13:46:00:001 1064019764	21.3 * * * * *	
VU	13:46:00:001 1064019764	LastAuctionPrice=21.3	
SI	14:00:00:069 1064019764	OPEN *	
TE	14:00:00:069 1064019764	* * * * * * * 0	
VU	14:00:00:069 1064019764	TradingStatus=17	
TE	15:11:54:895 1064019764	* * 21.2 7@1 * *	
VU	14:19:26:594 1064019764	OpenInterest=4818	
VU	15:45:11:960 1064019764	DailyOpeningPrice=21.2	
SI	18:00:00:057 1064019764	CLOSE 21.54	
TE	18:00:00:057 1064019764	21.54 * * * * * C	
VU	18:00:00:057 1064019764	TradingStatus=18	
VU	18:06:14:000 1064019764	DailySettlementPrice=21.38	
VU	18:06:14:751 1064019764	DailyOpeningPrice=21.2	
VU	18:06:14:751 1064019764	DailyOpeningPrice=21.2	

3.5. System Priced Leg Trades Management

In the enhanced version of the ICE market data stream, all system priced leg trades are now considered "off-book" trades, to differentiate them from normal trades. Subsequently, DailyonBookTotalVolumeTraded and DailyOffBookTotalVolumeTraded are always synchronized with the exchange after every trade.

3.6. Microsecond Timestamp Precision on L1

After **March 10, 2014**, the server timestamp will display microsecond units on L1, as shown in the example below (highlighted in green):

TE	11:00:22:091.520	906753116	*	*	*	*	-12.42	1@1
TE	11:00:22:091.612	906724891	*	*	11.75	26@5	*	*
TE	11:00:22:091.612	906725112	*	*	*	*	6	942@39
TE	11:00:22:091.868	906724923	*	*	13.25	23@4	*	*

4. Minimum Required Version of the QuantFEED® API

To properly consume the ICE market data stream after **March 10, 2014**, make sure you have the minimum required version of the QuantFEED* API, as described in the table below:

Table 6 Minimum required API version to properly consume the ICE Data Feed after the upgrade

Language	QuantFEED® API – minimum required version				
C++	3.6.0.0				
C#	2.4.0.0				
Java	3.8.6.0				

5. 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.