S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

CBOE FUTURES – Feed Update

Reference n°: 20140828 – 21187 – 22373

Effective as of: 22 September 2014*

Action required from users: Attention Required

S&P CAPITAL IQ
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* 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.

S&P Capital IQ Real-Time Solutions (QuantHouse®) – QuantFEED®
QuantFEED® Developer's Notice
Reference 20140828 – 21187 – 22373
August 29, 2014

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UPDATE OF THE CBOE FUTURES MARKET DATA STREAM

To reflect the changes caused by the dissemination of new values on the CBOE FUTURES 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. QuantFEED® Technical Implementation
- 3. Finding the Latest Information.

1. Update Summary

Table 1 Current update summary

Notice Reference	20140828 – 21187 – 22373
Exchanges	CBOE FUTURES
Concerned MICs	XCBF
Internal Source ID	228, 229
Effective Date	**2014-09-22***
Impact	• Update of the Referential Tags • Update of the Quotation Tags • Addition of the MBL Data
Action required	**Attention Required**

2. QuantFEED® Technical Implementation

Effective Monday, **September 22*, 2014**, S&P Capital IQ Real-Time Solutions enhances the referential and quotation data, and introduces MBL Data to accommodate the new information disseminated on the CBOE FUTURES market data stream, as described below:

- 2.1. Changes to the Referential Data

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- 2.2. Changes to the Quotation Data
- 2.3. Addition of the MBL Data.

2.1. Changes to the Referential Data

S&P Capital IQ Real-Time Solutions **introduces** the referential tags below to accommodate the information disseminated on the CBOE FUTURES market data stream:

Table 2 Referential tags added on the CBOE FUTURES market data stream

Tag Name	Numeric ID	Type
`PriceCurrency`	15	String

2.1.1. PriceCurrency

The values of the referential tag **PriceCurrency** conveyed on the CBOE FUTURES market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the currency of the price.

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

Table 3 PriceCurrency – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PriceCurrency`	QuantFEED® tag name.
Numeric ID	`15`	QuantFEED® unique ID disseminated 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***, specifying the currency of the price.
Possible Values	`USD`	United States Dollar

Referential Data Sample

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

```
instr # 303/1055 = 635438111
    PriceCurrency              string{USD}
    Symbol                     string{VX_M4_CF}
    Description                string{S&P 500 Volatility Index (VIX) Futures}
    SecurityType               string{FUT}
    StdMaturity                string{201406}
    FOSMarketId                XCBF
    ContractMultiplier         float64{1000}
    PriceType                  uint8{3}
    CFICode                    string{FFIXXX}
    InternalCreationDate       Timestamp{2014-10-14 14:21:41:870}
    InternalModificationDate   Timestamp{2014-10-14 14:21:41:870}
    InternalSourceId           uint16{228}
    LocalCodeStr               string{1568963813}
    PriceIncrement_static      float64{0.05}
    UnderlyingLocalCodeStr     string{VIX}
    MaturityYear               uint16{2014}
    MaturityMonth              uint8{6}
    MaturityDay                uint8{18}
    OperatingMIC               string{XCBO}
    SegmentMIC                 string{XCBF}
```

2.2. Changes to the Quotation Data

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

Table 4 Quotation tags added on the CBOE FUTURES market data stream

Tag Name	Numeric ID	Type
`SettlementPriceDate`	9380	Timestamp
`SettlementPriceType`	9383	Char

2.2.1. SettlementPriceDate

The values of the quotation tag **SettlementPriceDate** conveyed on the CBOE FUTURES market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the date of the settlement 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 tag `SettlementPriceDate` is described in the table below:

Table 5 SettlementPriceDate – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SettlementPriceDate`	QuantFEED® tag name.
Numeric ID	`9380`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Timestamp`	Timestamp data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, indicating the date of the settlement price.

2.2.2. SettlementPriceType

The values of the quotation tag **SettlementPriceType** conveyed on the CBOE FUTURES market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the type of settlement 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 tag `SettlementPriceType` is described in the following table (currently disseminated values are in `green`):

Table 6 SettlementPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SettlementPriceType`	QuantFEED® tag name.
Numeric ID	`9383`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Char`	Timestamp data type.
Format	*`[Exchange Specific Value]`*	An ***exchange specific value***, indicating the type of settlement price.
Possible Values	a	**Official** – Explicit Official Daily Settlement Price, as distributed by the exchange.
	b	**Preliminary** – Settlement Price subject to change until the Official Daily Settlement Price is published.
	z	**Manual** – Settlement Price disseminated manually (in case of a correction).
	0	**Undefined**

Quotation Data Sample

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

```
InstrumentStatusL1
-- 303/1055
        BID: 14.85      189
        ASK: 14.9       189
        LastPrice                       float64{14.9}
        LastTradeQty                    float64{1}
        DailyHighPrice                  float64{15.25}
        DailyLowPrice                   float64{14.65}
        DailyTotalVolumeTraded          float64{88024}
        DailyTotalAssetTraded           float64{15244.5}
        LastTradePrice                  float64{14.9}
        LastTradeTimestamp              Timestamp{2014-10-14 09:18:59:596}
        InternalDailyOpenTimestamp      Timestamp{2014-10-13 20:30:34:010}
        InternalDailyCloseTimestamp     Timestamp{2014-10-13 20:15:00:032}
        InternalDailyHighTimestamp      Timestamp{2014-10-13 20:32:14:299}
        InternalDailyLowTimestamp       Timestamp{2014-10-13 20:30:42:233}
        InternalPriceActivityTimestamp  Timestamp{2014-10-14 09:23:24:762}
        TradingStatus                   17=ReadyToTrade
        DailyOpeningPrice               float64{14.72}
        DailySettlementPrice            float64{14.9}
        PreviousDailyTotalVolumeTraded  float64{141081}
        PreviousDailyTotalAssetTraded   float64{1409483.02}
        PreviousDailyClosingPrice       float64{14.9}
        PreviousBusinessDay             Timestamp{2014-10-13}
        CurrentBusinessDay              Timestamp{2014-10-14}
        PreviousDailySettlementPrice    float64{14.75}
        LastAuctionPrice                float64{14.85}
        LastAuctionVolume               float64{24}
        OpenInterest                    float64{152055}
        InternalLastAuctionTimestamp    Timestamp{2014-10-14 07:00:10:288}
        PriceActivityMarketTimestamp    Timestamp{2014-10-14 09:23:24:762}
        SettlementPriceDate             Timestamp{2014-10-14}
        SettlementPriceType             char{a}
```

2.3. Addition of the MBL Data*

Effective 2014-09-22, S&P Capital IQ Real-Time Solutions adds MBL data on the CBOE FUTURES market data stream. The MBL Book has a 5-level depth.

3. Finding the Latest Information

For the latest documentation and product updates, additional support and training, please contact our support services:

* The MBL and MBO data may not be included by default in your Level1 data subscription, but sold separately. Depending on your contract, additional terms, conditions and fees may apply. For more details about the subscription options, please contact S&P Capital IQ Real-Time Solutions.

- E-mail: rts-support@spcapitaliq.com
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