FeedOS™ Developer's Notice

BME – Feed Update

Reference n°: 20150410 – 24895 – 26207 (UPDATE 01 TO 20150223 – 24895 – 25472)

Effective as of: 27 April 2015[*]

Action required from users: Attention Required

S&P CAPITAL IQ

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[*]   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: BME – Feed Update
Reference 20150410 – 24895 – 26207
April 10, 2015

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UPDATE OF THE BME MARKET DATA STREAM

To improve the quality of the market data disseminated on the BME 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	20150410 – 24895 – 26207[i] (UPDATE 01 TO 20150223 – 24895 – 25472)
Exchanges	BME
Concerned MICs	XMCE, XMEF
Internal Source ID	89, 222
Effective Date	**2015-04-27**[*]
Impact	• Update of the Referential Tags • Update of the Quotation Tags
Action required	**Attention Required**

i. *The red bars in the left margin highlight content that has been added or changed since the previous release of this document.*

2. FeedOS Technical Implementation

Effective Monday, **April 27**[*] **2015,** S&P Capital IQ Real-Time Solutions enhances the referential and quotation data to accommodate the new information disseminated on the BME market data stream, as described below:

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2.1. Changes to the Referential Data

S&P Capital IQ Real-Time Solutions **updates** the values of the referential tags below to accommodate the information disseminated on the BME market data stream:

Table 2   Referential tags disseminating updated values on the BME market data stream

Tag Name	Numeric ID	Type
SecurityType	167	String
CFICode	461	String

2.1.1. SecurityType

The values of the referential tag **SecurityType** conveyed on the BME market data stream are disseminated via FeedOS data stream in *Referential* to specify the type of security.

FeedOS implementation of the tag SecurityType is described in the table below:

Table 3   SecurityType – technical implementation in FeedOS

Component	Value	Description
Tag Name	SecurityType	FeedOS tag name.
Numeric ID	167	FeedOS 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 / Possible Values	*[Exchange Specific Value]*	An **exchange specific value**, detailing the type of security.

2.1.2. CFICode

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

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[*]   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.

FeedOS implementation of the tag `CFICode` is described in the table below :

Table 4   CFICode – technical implementation in FeedOS

Component	Value	Description
Tag Name	CFICode	FeedOS tag name.
Numeric ID	461	FeedOS 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 / Possible Values	*[Exchange Specific Value]*	An **exchange specific value**, detailing the standardized identification code of an instrument.

The list below shows the possible combinations of `SecurityTypes` and `CFICodes`, before and after the migration day (please note that additional combinations may be available, as the exchange could introduce new instruments):

```
BEFORE 2015-04-27                      AFTER 2015-04-27
{ XMCE  CS     ESXXXX }                { XMCE  CS     ESXXXX }
{ XMCE  CS     EXXXXX }                { XMCE  CS     RXXXXX }
{ XMCE  INDEX  TIXXXX }                { XMCE  CS     EXXXXX }
{ XMCE  INX    MRIXXX }                { XMCE  INDEX  TIXXXX }
{ XMCE  MF     EUXXXX }                { XMCE  INX    MRIXXX }
{ XMCE  MLEG   FMDPSX }                { XMCE  MF     EUXXXX }
{ XMCE  MLEG   FMEXNX }                { XMCE  MLEG   FMDPSX }
{ XMCE  MLEG   FMICXX }                { XMCE  MLEG   FMEXNX }
{ XMCE  MLEG   FMSCXX }                { XMCE  MLEG   FMICXX }
{ XMCE  MLEG   FMSPSX }                { XMCE  MLEG   FMSCXX }
{ XMCE  MLEG   FMSPXX }                { XMCE  MLEG   FMSPSX }
{ XMCE  RIGHTS RXXXXX }                { XMCE  MLEG   FMSPXX }
{ XMEF  FUT    FCECSB }                { XMCE  RIGHTS RXXXXX }
{ XMEF  FUT    FCECSE }                { XMEF  FUT    FCECSB }
{ XMEF  FUT    FCECSK }                { XMEF  FUT    FCECSE }
{ XMEF  FUT    FCECSM }                { XMEF  FUT    FCECSK }
{ XMEF  FUT    FCECSW }                { XMEF  FUT    FCECSM }
{ XMEF  FUT    FCECSX }                { XMEF  FUT    FCECSW }
{ XMEF  FUT    FFDPSX }                { XMEF  FUT    FCECSX }
{ XMEF  FUT    FFICSX }                { XMEF  FUT    FFDPSX }
{ XMEF  FUT    FFMCSX }                { XMEF  FUT    FFICSX }
{ XMEF  FUT    FFSCSX }                { XMEF  FUT    FFMCSX }
{ XMEF  FUT    FFSPSX }                { XMEF  FUT    FFSCSX }
{ XMEF  FUT    FXXXXX }                { XMEF  FUT    FFSPSX }
{ XMEF  FUT    SCECSB }                { XMEF  FUT    FXXXXX }
{ XMEF  FUT    SCECSD }                { XMEF  FUT    SCECSB }
{ XMEF  FUT    SCECSE }                { XMEF  FUT    SCECSD }
{ XMEF  FUT    SCECSK }                { XMEF  FUT    SCECSE }
{ XMEF  FUT    SCECSM }                { XMEF  FUT    SCECSK }
{ XMEF  MLEG   FFDPSS }                { XMEF  FUT    SCECSM }
{ XMEF  MLEG   FFICSS }                { XMEF  MLEG   FFDPSS }
{ XMEF  MLEG   FFSCXS }                { XMEF  MLEG   FFICSS }
{ XMEF  MLEG   FFSPXS }                { XMEF  MLEG   FFSCXS }
{ XMEF  MLEG   FMDPSX }                { XMEF  MLEG   FFSPXS }
{ XMEF  MLEG   FMDPXX }                { XMEF  MLEG   FMDPSX }
{ XMEF  MLEG   FMEXNX }                { XMEF  MLEG   FMDPXX }
{ XMEF  MLEG   FMICSX }                { XMEF  MLEG   FMEXNX }
{ XMEF  MLEG   FMICXX }                { XMEF  MLEG   FMICSX }
{ XMEF  MLEG   FMMCXX }                { XMEF  MLEG   FMICXX }
{ XMEF  MLEG   FMSCSX }                { XMEF  MLEG   FMMCXX }     (see next page)
```

```
        BEFORE 2015-04-27                      AFTER 2015-04-27                    (Continued)
        { XMEF  MLEG    FMSCXX }               { XMEF  MLEG    FMSCSX }
        { XMEF  MLEG    FMSPSX }               { XMEF  MLEG    FMSCXX }
        { XMEF  MLEG    FMSPXX }               { XMEF  MLEG    FMSPSX }
        { XMEF  MLEG    MCXXXX }               { XMEF  MLEG    FMSPXX }
        { XMEF  OPT     OCASPS }               { XMEF  MLEG    MCXXXX }
        { XMEF  OPT     OCEICS }               { XMEF  OPT     OCASPS }
        { XMEF  OPT     OCESPS }               { XMEF  OPT     OCEICS }
        { XMEF  OPT     OPASPS }               { XMEF  OPT     OCESPS }
        { XMEF  OPT     OPEICS }               { XMEF  OPT     OPASPS }
        { XMEF  OPT     OPESPS }               { XMEF  OPT     OPEICS }
        { XMEF  OPT     OXXXXX }               { XMEF  OPT     OPESPS }
                                               { XMEF  OPT     OXXXXX }
```

Referential Data Sample

Below are several examples showing the current implementation of the updated (in blue) referential tags:

```
instr # 238/10512 = 499132688
    PriceCurrency              string{EUR}
    Symbol                     string{VOU}
    Issuer                     string{F}
    Description                string{VOUSSE CORP, SOCIEDAD ANONIMA}
    SecurityType               string{CS}
    FOSMarketId                XMCE
    ContractMultiplier         float64{1}
    CFICode                    string{RXXXXX}
    RoundLot                   float64{1}
    MinTradeVol                float64{1}
    SecurityGroup              string{EE}
    MarketSegmentID            string{2}
    InternalCreationDate       Timestamp{2015-04-02 05:01:08:458}
    InternalModificationDate   Timestamp{2015-04-02 05:01:08:960}
    InternalSourceId           uint16{89}
    InternalAggregationId      uint16{89}
    InternalEntitlementId      int32{1012}
    LocalCodeStr               string{ES0176406066}
    ISIN                       string{ES0176406066}
    PriceDisplayPrecision      int16{2}
    PriceIncrement_dynamic_TableId  uint32{5832813}
    OperatingMIC               string{BMEX}
    CCP_Eligible               bool{False}
    DynamicVariationRange      float64{0}
    StaticVariationRange       float64{5}
```

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 BME market data stream:

Table 5   Quotation tags added on the BME market data stream

Tag Name	Numeric ID	Type
StaticTradingReferencePrice	9396	Float64
MARKET_BME_HaltReason	14922	UInt8

2.2.1. StaticTradingReferencePrice

The values of the quotation tag **StaticTradingReferencePrice** conveyed on the BME market data stream are disseminated via FeedOS data stream in *Other Values* to indicate the price of the last auction session:

- 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 StaticTradingReferencePrice is described in the table below:

Table 6   StaticTradingReferencePrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	StaticTradingReferencePrice	FeedOS tag name.
Numeric ID	9396	FeedOS unique ID disseminated on the 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**, indicating the price of the last auction session.

2.2.2. MARKET_BME_HaltReason

The values of the quotation tag **MARKET_BME_HaltReason** conveyed on the BME market data stream are disseminated via FeedOS data stream in *Other Values* to indicate the reason of the trading halt:

- 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_BME_HaltReason` is described in the table below:

Table 7   MARKET_BME_HaltReason – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MARKET_BME_HaltReason`	FeedOS tag name.
Numeric ID	14922	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`UInt8`	UInt8 data type.
Format	*[Exchange Specific Value]*	An **exchange specific value**, indicating the reason of the trading halt.
Possible Values	100	Halted by Regulator
	101	Halted by Market Surveillance
	102	Knock-out
	103	Knock-in pending

Quotation Data Sample

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

```
InstrumentStatusL1
-- 238/1130
        BID: 0  0        *NO ORDER*
        ASK: 0  0        *NO ORDER*
        LastPrice                    float64{0.48}
        LastTradeQty                 float64{1925}
        DailyHighPrice               float64{0.48}
        DailyLowPrice                float64{0.48}
        DailyTotalVolumeTraded       float64{1925}
        DailyTotalAssetTraded        float64{924}
        LastTradePrice               float64{0.48}
        LastTradeTimestamp           Timestamp{2015-03-19 09:43:41:150}
        InternalDailyOpenTimestamp   Timestamp{2015-03-19 08:00:27:133}
        InternalDailyCloseTimestamp  Timestamp{2015-03-18 16:39:00:050}
        InternalDailyHighTimestamp   Timestamp{2015-03-19 09:42:00:443}
        InternalDailyLowTimestamp    Timestamp{2015-03-19 08:00:27:140}
        InternalPriceActivityTimestamp  Timestamp{2015-03-19 09:52:19:523}
        TradingStatus                2=TradingHalt
        LastOffBookTradePrice        float64{0.63}
        LastOffBookTradeQty          float64{347554}
        LastOffBookTradeTimestamp    Timestamp{2015-03-18 14:48:09:620}
        DailyOpeningPrice            float64{0.48}
        DailyClosingPrice            float64{0.48}
        PreviousDailyTotalVolumeTraded  float64{15344}
        PreviousDailyTotalAssetTraded   float64{6811.36}
        PreviousDailyClosingPrice    float64{0.46}
        PreviousBusinessDay          Timestamp{2014-02-25}
        CurrentBusinessDay           Timestamp{2014-02-26}
        LastAuctionPrice             float64{0.5}
        StaticTradingReferencePrice  float64{75.3}
        LastAuctionVolume            float64{2875}
        DailyTotalOffBookVolumeTraded  float64{0}
        DailyTotalOffBookAssetTraded   float64{0}
        InternalDailyClosingPriceType  char{a}
        InternalLastAuctionTimestamp  Timestamp{2015-03-19 08:00:12:143}
        MARKET_BME_HaltReason        uint8{100}
```

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.