

**S&P Capital IQ Real-Time Solutions**

## **FeedOS™ Developer's Notice**

---

### **BATS Y – Feed Update**

Reference n°: 20150216 – 24474 – 25353

**Effective as of: 04 May 2015\***

**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: BATS Y – Feed Update  
Reference 20150216 – 24474 – 25353  
April 22, 2015

**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 Offices**

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

**Singapore Offices**

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

[www.capitaliq.com](http://www.capitaliq.com)

Copyright © 2015 by Standard & Poor's Financial Services LLC, a part of McGraw Hill Financial.

All rights reserved. S&P CAPITAL IQ is a trademark of Standard & Poor's Financial Services LLC. STANDARD & POOR'S, S&P, GLOBAL CREDIT PORTAL and RATINGSDIRECT are registered trademarks of Standard & Poor's Financial Services LLC.

No content (including ratings, credit-related analyses and data, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of Standard & Poor's Financial Services LLC or its affiliates (collectively, S&P). The Content shall not be used for any unlawful or unauthorized purposes. S&P and any third-party providers, as well as their directors, officers, shareholders, employees or agents (collectively S&P Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Parties are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, for the results obtained from the use of the Content, or for the security or maintenance of any data input by the user. The Content is provided on an "as is" basis. S&P PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Parties be liable to any party for any direct, indirect, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related and other analyses, including ratings, and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact or recommendations to purchase, hold, or sell any securities or to make any investment decisions. S&P assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P's opinions and analyses do not address the suitability of any security. S&P does not act as a fiduciary or an investment advisor except where registered as such. While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives.

S&P keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P may have information that is not available to other S&P business units. S&P has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.



# UPDATE OF THE BATS Y MARKET DATA STREAM

To improve the quality of the market data disseminated on the BATS Y 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	20150216 – 24474 – 25353
Exchanges	BATS Y
Concerned MICs	BATY
Internal Source ID	48
Effective Date	2015-05-04*
Impact	<ul style="list-style-type: none"><li>• Update of the Referential Tags</li><li>• Update of the Level1 Market Data Kinematics – Halted Instruments Behavior</li><li>• Update of the Level1 Market Data Kinematics – Opening Auctions</li><li>• Microsecond Timestamp Precision on the Level1 Market Data</li></ul>
Action required	<b>MANDATORY ACTION</b> - see sections: <ul style="list-style-type: none"><li>• <a href="#">2.2. Update of the Level1 Market Data Kinematics – Halted Instruments Behavior</a></li><li>• <a href="#">2.3. Update of the Level1 Market Data Kinematics – Opening Auctions</a></li><li>• <a href="#">2.4. Microsecond Timestamp Precision on the Level1 Market Data.</a></li></ul>

## 2. FeedOS Technical Implementation

Effective Monday, **May 04\*** 2015, S&P Capital IQ Real-Time Solutions enhances the referential data and updates the Level1 Market Data Kinematics to accommodate the information disseminated on the BATS Y market data stream, as described below:

- [2.1. Changes to the Referential Data](#)
- [2.2. Update of the Level1 Market Data Kinematics – Halted Instruments Behavior](#)
- [2.3. Update of the Level1 Market Data Kinematics – Opening Auctions](#)
- [2.4. Microsecond Timestamp Precision on the Level1 Market 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 BATS Y market data stream:

**Table 2** Referential tags added on the BATS Y market data stream

Tag Name	Numeric ID	Type
<a href="#">PriceCurrency</a>	15	String
<a href="#">ForeignFOSMarketId</a>	9501	UInt16

Moreover, S&P Capital IQ Real-Time Solutions **updates** the referential tags below:

**Table 3** Referential tags disseminating updated values on the BATS Y market data stream

Tag Name	Numeric ID	Type
<a href="#">CFICode</a>	461	String

#### 2.1.1. PriceCurrency

The values of the referential tag **PriceCurrency** conveyed on the BATS Y market data stream are disseminated via FeedOS data stream in *Referential* to specify the currency of the price.

---

\* 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 PriceCurrency is described in the table below:

**Table 4 PriceCurrency – technical implementation in FeedOS**

Component	Value	Description
Tag Name	PriceCurrency	FeedOS tag name.
Numeric ID	15	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	<i>[Exchange Specific value]</i>	An <b>exchange specific value</b> , specifying the currency of the price.
Possible Values	USD	United States Dollar

### 2.1.2. ForeignFOSMarketId

The values of the referential tag **ForeignFOSMarketId** conveyed on the BATS Y market data stream are disseminated via FeedOS data stream in *Referential* to internally specify the foreign market of a security.

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

**Table 5 ForeignFOSMarketId – technical implementation in FeedOS**

Component	Value	Description
Tag Name	ForeignFOSMarketId	FeedOS tag name.
Numeric ID	9501	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	UInt16	UInt16 data type.
Format	<i>[Exchange Specific value]</i>	An <b>exchange specific value</b> , internally specifying the foreign market of a security.
Possible Values	ARCX	NYSE Arca
	XASE	NYSE Market LLC
	XNAS	NASDAQ - All Markets
	XNYS	New York Stock Exchange

### 2.1.3. CFICode

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

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

**Table 6** 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	<i>[Exchange specific value]</i>	An <b>exchange specific value</b> , detailing the standardized identification code of an instrument.
Possible Values	EPXXXX	Equities - Preferred Shares
	ESXXXX	Equities - Shares
	EUXXXX	Equities - Units
	EXXXXX	Equities
	RWXXXX	Rights - Warrants
	RXXXXX	Rights

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 2015-05-04**

```
{ BATY CS ESXXXX }
{ BATY NONE EUXXXX }
{ BATY PS EPXXXX }
{ BATY WAR RWXXXX }
```

**AFTER 2015-05-04**

```
{ BATY CS ESXXXX }
{ BATY NONE EUXXXX }
{ BATY NONE EXXXXX }
{ BATY NONE RXXXXX }
{ BATY PS EPXXXX }
{ BATY WAR RWXXXX }
```

## Referential Data Sample

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

```
instr # 158/10557 = 331360573
  PriceCurrency      string{USD}
  Symbol             string{JHDG}
  SecurityType       string{CS}
  FOSMarketId        BATY
  CFICode            string{ESXXXX}
  SecurityGroup       string{15}
  InternalCreationDate Timestamp{2015-04-10 11:45:01:269}
  InternalModificationDate Timestamp{2015-04-10 11:45:01:269}
  InternalSourceId    uint16{48}
  InternalEntitlementId int32{1008}
  LocalCodeStr        string{JHDG}
  ForeignFOSMarketId  ARCX
  PriceIncrement_dynamic_TableId uint32{3342436}
  UMTF               string{JHDG}
  OperatingMIC        string{BATS}
  SegmentMIC          string{BATY}
```

## 2.2. Update of the Level1 Market Data Kinematics – Halted Instruments Behavior

In the Level1 Market Data Kinematics **before 2015-05-04**, the exchange sent the OPEN signal for all instruments, including those on halt, as shown in the example 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"

VU 11:20:52:052 331360573 RegSHOAction=1 TradingStatus=2
SI 12:00:00:227 331360573 OPEN *
TE 12:00:00:227 331360573 * * * * * 0
VU 12:00:00:227 331360573 TradingStatus=17
VU 14:50:16:914 331360573 RegSHOAction=1 TradingStatus=5
VU 14:50:16:914 331360573 TradingStatus=17
TE 14:50:16:915 331360573 * * 11.6 100@1 * *
TE 14:50:16:916 331360573 * * * * 21.04 100@1

```

In the Level1 Market Data Kinematics **after 2015-05-04**, the exchange sends the OPEN signal only for non-halted instruments, as shown in the example 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"

VU 11:20:52:039.625 331360573 RegSHOAction=1 TradingStatus=2
VU 14:50:16:914.328 331360573 TradingStatus=5
SI 14:50:16:914.328 331360573 OPEN *
TE 14:50:16:914.328 331360573 * * * * * 0
VU 14:50:16:914.328 331360573 RegSHOAction=1 TradingStatus=17
TE 14:50:16:915.451 331360573 * * 11.6 100@1 * *
TE 14:50:16:915.564 331360573 * * * * 21.04 100@1

```

## 2.3. Update of the Level1 Market Data Kinematics – Opening Auctions

In the Level1 Market Data Kinematics **before 2015-05-04**, the Trading Status of all auction eligible instruments was set to 5=PriceIndication at 08:00 New York Time (EDST):

```

"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"

VU 12:00:00:008 331360573 RegSHOAction=1 TradingStatus=17
SI 12:00:00:349 331360573 OPEN *
TE 12:00:00:349 331360573 * * * * * 0
VU 12:00:00:349 331360573 TradingStatus=5
TE 13:29:13:011 331360573 * * 35.7 200@1 * *
TE 13:29:13:011 331360573 * * * * 38.47 200@1
TE 13:30:00:006 331360573 * * 34.32 100@1 * *
TE 13:30:00:006 331360573 * * * * 40.01 100@1

```

In the Level1 Market Data Kinematics **after 2015-05-04**, the Trading Status of all auction eligible instruments will be set to 17=ReadyToTrade, at 08:00 New York Time (EDST), 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"

SI 12:00:00:033.156 331360573 OPEN *
TE 12:00:00:033.156 331360573 * * * * * 0
VU 12:00:00:033.156 331360573 RegSHOAction=1 TradingStatus=17
TE 13:29:13:012.135 331360573 * * 35.7 200@1 * *
TE 13:29:13:012.136 331360573 * * * * 38.47 200@1
TE 13:30:00:233.272 331360573 * * 34.32 100@1 * *
TE 13:30:00:233.391 331360573 * * * * 40.01 100@1

```

## 2.4. Microsecond Timestamp Precision on the Level1 Market Data

Effective 2015-05-04, 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 19:55:07:508.521 331360573 * * * * 41.27 700@2
TE 20:00:48:238.168 331360573 * * * * 47.22 100@1
TE 20:00:48:240.254 331360573 * * * * 48.31 100@1

```



### 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](mailto:rts-support@spcapitaliq.com)
- Web: <http://support.quanthouse.com>.