

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

## **FeedOS™ Developer's Notice**

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### **OSLO MIT – Feed Update**

Reference n°: 20150324 – 23726 – 21127

**Effective as of: 20 April 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: OSLO MIT – Feed Update  
Reference 20150324 – 23726 – 21127  
April 01, 2015

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# UPDATE OF THE OSLO MIT MARKET DATA STREAM

To reflect the changes caused by the Millennium Exchange Release 8.6 North Sea on the Oslo Børs, 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	20150324 – 23726 – 21127
Exchanges	OSLO MIT
Concerned MICs	BURG, XOAM, XOAS, XOSL
Internal Source ID	65, 92
Effective Date	2015-04-20*
Impact	<ul style="list-style-type: none"><li>• Update of the Referential Tags</li><li>• Update of the Quotation Tags</li><li>• Update of the Quotation Context Tags</li><li>• Changes to the Level 1 Market Data Kinematics</li></ul>
Action required	<b>MANDATORY ACTION</b> - see sections: <ul style="list-style-type: none"><li>• <a href="#">2.4. Update of the Level1 Market Data Kinematics – CLOSE</a></li><li>• <a href="#">2.5. Update of the Level1 Market Data Kinematics – Halted Instruments Behavior.</a></li></ul>

## 2. FeedOS Technical Implementation

Effective Monday, **April 20<sup>\*</sup> 2015**, S&P Capital IQ Real-Time Solutions enhances the referential, quotation and quotation context data, and updates the Level1Market Data Kinematics to accommodate the information disseminated on the OSLO MIT market data stream, as described below:

- [2.1. Changes to the Referential Data](#)
- [2.2. Changes to the Quotation Data](#)
- [2.3. Changes to the Quotation Context Data](#)
- [2.4. Update of the Level1 Market Data Kinematics – CLOSE](#)
- [2.5. Update of the Level1 Market Data Kinematics – Halted Instruments Behavior.](#)

### 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 OSLO MIT market data stream:

**Table 2** Referential tags added on the OSLO MIT market data stream

Tag Name	Numeric ID	Type
<a href="#">SecurityStatus</a>	965	UInt8

#### 2.1.1. SecurityStatus

The values of the referential tag **SecurityStatus** conveyed on the OSLO MIT market data stream are disseminated via FeedOS data stream in *Referential* to indicate the status of an instrument.

FeedOS implementation of the values currently available for the tag **SecurityStatus** is described in the table below:

**Table 3** SecurityStatus – technical implementation in FeedOS

Component	Value	Description
<b>Tag Name</b>	SecurityStatus	FeedOS tag name.
<b>Numeric ID</b>	965	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
<b>Type</b>	UInt8	UInt8 data type.
<b>Format</b>	<i>[Exchange specific value]</i>	An <b>exchange specific value</b> , indicating the status of an instrument.
<b>Possible Values</b>	1	Active (Default value)
	2	Inactive
	3	Suspended

\* 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.

## Referential Data Sample

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

```
instr # 187/756990 = 392924414
  PriceCurrency      string{NOK}
  Symbol             string{NANO}
  Issuer             string{Nordic Nanovector ASA}
  Description        string{Nordic Nanovector}
  SecurityType       string{CS}
  FOSMarketId        XOSL
  CFICode            string{ESXXX}
  CountryOfIssue     string{NO}
  RoundLot           float64{1}
  SecurityStatus     uint8{2}
  SecuritySubType    string{SH}
  SecurityGroup      string{OBW}
  InternalCreationDate Timestamp{2015-03-23 02:01:02:231}
  InternalModificationDate Timestamp{2015-03-27 02:01:01:822}
  InternalSourceId   uint16{65}
  LocalCodeStr       string{1301592}
  ISIN               string{NO0010597883}
  PriceIncrement_dynamic_TableId uint32{4259941}
  OperatingMIC       string{XOSL}
  DynamicVariationRange float64{0}
  StaticVariationRange float64{0}
  MARKET_LSE_NormalMarketSize float64{300}
  MARKET_LSE_SegmentCode string{OBW}
```

## 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 OSLO MIT market data stream:

**Table 4** Quotation tags added on the OSLO MIT market data stream

Tag Name	Numeric ID	Type
<a href="#">MARKET_TURQUOISE_DarkBookTradingStatus</a>	14721	Enum
<a href="#">MARKET_TURQUOISE_OffBookReportingTradingStatus</a>	14722	Enum

### 2.2.1. MARKET\_TURQUOISE\_DarkBookTradingStatus

The values of the quotation tag **MARKET\_TURQUOISE\_DarkBookTradingStatus** conveyed on the OSLO MIT market data stream are disseminated via FeedOS data stream in *Other Values* to indicate the trading status:

- 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_TURQUOISE_DarkBookTradingStatus` is described in the table below:

**Table 5** `MARKET_TURQUOISE_DarkBookTradingStatus` – technical implementation in FeedOS

Component	Value	Description
Tag Name	<code>MARKET_TURQUOISE_DarkBookTradingStatus</code>	FeedOS tag name.
Numeric ID	14721	FeedOS unique ID broadcast on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	Enum	Enum data type.
Format	<i>[Exchange Specific Value]</i>	An <b>exchange specific value</b> , indicating the trading status of the Dark Book.
Possible Values	2	Trading Halt
	5	Price Indication
	17	Ready to Trade
	18	Not Available for Trading

### 2.2.2. `MARKET_TURQUOISE_OffBookReportingTradingStatus`

Each time a trade occurs, the values of the quotation tag `MARKET_TURQUOISE_OffBookReportingTradingStatus` conveyed on the OSLO MIT market data stream are disseminated via FeedOS data stream in *Other Values* to indicate the off book trading status:

- 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_TURQUOISE_OffBookReportingTradingStatus` is described in the table below:

**Table 6** `MARKET_TURQUOISE_OffBookReportingTradingStatus` – technical implementation in FeedOS

Component	Value	Description
Tag Name	<code>MARKET_TURQUOISE_OffBookReportingTradingStatus</code>	FeedOS tag name.
Numeric ID	14722	FeedOS unique ID broadcast on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	Enum	Enum data type.
Format	<i>[Exchange Specific Value]</i>	An <b>exchange specific value</b> , indicating the off book trading status.
Possible Values	2	Trading Halt
	17	Ready to Trade
	18	Not Available for Trading

## Quotation Data Sample

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

```
InstrumentStatusL1
-- 187/756990
  BID: 34.7      6016    @1
  ASK: 34.8      2862    @2
  LastPrice      float64{34.7}
  LastTradeQty   float64{100}
  DailyHighPrice float64{35.5}
  DailyLowPrice  float64{34}
  DailyTotalVolumeTraded float64{276752}
  DailyTotalAssetTraded float64{9571516.7}
  LastTradePrice float64{34.7}
  LastTradeTimestamp Timestamp{2015-03-24 10:32:13:409}
  InternalDailyOpenTimestamp Timestamp{2015-03-24 08:00:29:015}
  InternalDailyCloseTimestamp Timestamp{2015-03-23 16:37:00:084}
  InternalDailyHighTimestamp Timestamp{2015-03-24 09:13:46:004}
  InternalDailyLowTimestamp Timestamp{2015-03-24 09:01:48:613}
  InternalPriceActivityTimestamp Timestamp{2015-03-24 10:32:13:409}
  TradingStatus  17=ReadyToTrade
  LastOffBookTradePrice float64{34.6}
  LastOffBookTradeQty float64{7835}
  LastOffBookTradeTimestamp Timestamp{2015-03-24 09:30:54:747}
  DailyOpeningPrice float64{34.7}
  PreviousDailyTotalVolumeTraded float64{2173729}
  PreviousDailyTotalAssetTraded float64{75511846.2}
  PreviousDailyClosingPrice float64{34.5}
  PreviousBusinessDay Timestamp{2015-03-23}
  CurrentBusinessDay Timestamp{2015-03-24}
  LastAuctionPrice float64{34.7}
  LastAuctionVolume float64{8150}
  DailyTotalOffBookVolumeTraded float64{23505}
  DailyTotalOffBookAssetTraded float64{813273}
  PreviousInternalDailyClosingPriceType char{a}
  InternalLastAuctionTimestamp Timestamp{2015-03-24 08:00:26:797}
  PriceActivityMarketTimestamp Timestamp{2015-03-24 10:32:13:409}
  MARKET_TURQUOISE_DarkBookTradingStatus Enum{17}
  MARKET_TURQUOISE_OffBookReportingTradingStatus Enum{17}
  MARKET_LSE_MIT_TradingStatusDetails char{T}
  MARKET_LSE_MIT_TotalAuctionVolume float64{8150}
```

## 2.3. Changes to the Quotation Context Data

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

**Table 7** Quotation context tags added on the OSLO MIT market data stream

Tag Name	Numeric ID	Type
MMTF1agsv2	9901	String

### 2.3.1. MMTFlagsV2

The values of the quotation tag **MMTFlagsV2** conveyed on the OSLO MIT market data stream are disseminated via FeedOS data stream in *Context* to detail the Market Model Typology (version 2) 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.

QuantFEED® implementation of the tag **MMTFlagsV2** is described in the table below (newly available values are in **green**):

**Table 8**      **MMTFlagsV2 – technical implementation in QuantFEED®**

Component	Value	Description
Tag Name	MMTFlagsV2	FeedOS tag name.
Numeric ID	9901	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] 10-character long</i>	An <b>exchange specific value</b> , detailing the Market Model Typology (version 2) applicable to the trade.
Possible Values	<b>MMT Level 1 - MARKET MECHANISM – OFFSET 1</b>	
	1	Central Limit Order Book
	2	Quote Driven Market
	3	Dark Order Book
	4	Off Book
	<b>MMT Level 2 - TRADING MODE – OFFSET 2</b>	
	1	Undefined Auction
	2	Continuous Trading
	3	At Market Close Trading
	4	Out of Main Session Trading
	5	Trade Reporting (On Exchange)
	6	Trade Reporting (Off Exchange)
	7	Trade Reporting (Systematic Internaliser)
	O	Scheduled Opening Auction
	K	Scheduled Closing Auction
	I	Scheduled Intraday Auction
	U	Unscheduled Auction
	<b>MMT Level 3 - TRANSACTION TYPE</b>	
	<b>3.1. TRANSACTION CATEGORY – OFFSET 3</b>	
	B	Benchmark Trade
	P	Plain-Vanilla Trade
	D	Dark Trade
	T	Technical Trade
	G	Give-up/Give-In Trade
	F	Trade with Conditions



Table 8 MMTFlagsV2 – technical implementation in QuantFEED® (Continued)

Component	Value	Description
Possible Values	<b>3.2. NEGOTIATED TRANSACTION INDICATOR – OFFSET 4</b>	
	N	Negotiated Trade
	-	No Negotiated Trade
	<b>3.3. CROSSING TRADE INDICATOR – OFFSET 5</b>	
	X	Crossing Trade
	-	No Crossing Trade
	<b>3.4. MODIFICATION INDICATOR – OFFSET 6</b>	
	C	Trade Cancellation
	A	Trade Amendment
	-	New Trade
	<b>3.5. BENCHMARK INDICATOR – OFFSET 7</b>	
	B	Benchmark Trade
	-	No Benchmark Trade
	<b>3.6. EX/CUM DIVIDEND INDICATOR – OFFSET 8</b>	
	E	Ex/cum dividend Trade
	-	No Ex/Cum Dividend Trade
	<b>MMT Level 4 - PUBLICATION MODE – OFFSET 9</b>	
	-	Immediate Publication
	1	Non Immediate Publication

## Quotation Context Data Sample

Below is an example showing the newly added (in **green**) quotation context tags:

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

TE 09:56:51:297.554 392918866 44.9 13 * * 45 6070@4
TradeID=1181374316812924, AggressorSide='1'=Buy,
TradeConditionsDictionaryKey=uint32{266338406}, MMTFlagsV2=12P-----
```

## 2.4. Update of the Level1 Market Data Kinematics – CLOSE

In the Level1 Market Data Kinematics **before 2015-04-20**, the CLOSE signal was sent when the MARKET\_LSE\_MIT\_TradingStatusDetails received the value c=MarketClose, 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 07:10:00:058.199 392918865 MARKET_LSE_MIT_TradingStatusDetails=y
TE 07:10:00:058.215 392918865 * * 0.2 1000@1 * *
VU 07:15:00:108.872 392918865 MARKET_LSE_MIT_TradingStatusDetails=a TradingStatus=21
SI 07:15:00:132.984 392918865 OPEN *
TE 07:15:00:132.984 392918865 * * * * * * 0
VU 07:15:00:132.984 392918865 MARKET_LSE_MIT_TradingStatusDetails=T
InternalDailyClosingPriceType=?
VU 07:45:01:012.758 392918865 MARKET_LSE_MIT_TradingStatusDetails=T
MARKET_LSE_MIT_HaltReason=?
VU 07:45:25:030.183 392918865 TradingStatus=17
TE 09:03:45:533.090 392918865 0.2 1 0.2 999@1 * * HL
TradeID=1181374308417942,AggressorSide='2'=Sell,TradeConditionsDictionaryKey=uint32{2663384
05},MMTFlagsV2=12P-----
VU 09:03:45:533.090 392918865 DailyOpeningPrice=0.2
TE 09:03:50:573.225 392918865 0.2 1 0.2 998@1 * *
TradeID=1181374308417944, AggressorSide='2'=Sell,
TradeConditionsDictionaryKey=uint32{266338405}, MMTFlagsV2=12P-----
VU 17:20:00:014.078 392918865 MARKET_LSE_MIT_TradingStatusDetails=d
LastAuctionPrice=? LastAuctionVolume=? TradingStatus=5
VU 17:25:29:129.044 392918865 MARKET_LSE_MIT_TradingStatusDetails=z TradingStatus=18
VU 17:25:30:004.886 392918865 MARKET_LSE_MIT_TradingStatusDetails=b TradingStatus=15
VU 17:58:00:129.422 392918865 MARKET_LSE_MIT_TradingStatusDetails=x TradingStatus=18
SI 17:59:00:203.602 392918865 CLOSE 0.2
TE 17:59:00:203.602 392918865 0.2 * * * * * C
VU 17:59:00:203.602 392918865 MARKET_LSE_MIT_TradingStatusDetails=c
InternalDailyClosingPriceType=d
VU 17:59:00:203.602 392918865 DailyClosingPrice=0.2

```

In the Level1 Market Data Kinematics **after 2015-04-20**, the CLOSE signal will be sent earlier, when the MARKET\_LSE\_MIT\_TradingStatusDetails receives the value z=ClosingPricePublication, 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"

VU 07:10:00:058.199 392918865 MARKET_LSE_MIT_TradingStatusDetails=y
TE 07:10:00:058.215 392918865 * * 0.2 1000@1 * *
VU 07:15:00:108.872 392918865 MARKET_LSE_MIT_TradingStatusDetails=a TradingStatus=21
SI 07:15:00:132.984 392918865 OPEN *
TE 07:15:00:132.984 392918865 * * * * * * 0
VU 07:15:00:132.984 392918865 MARKET_LSE_MIT_TradingStatusDetails=T
MARKET_TURQUOISE_OffBookReportingTradingStatus=17 InternalDailyClosingPriceType=?
VU 07:45:01:012.758 392918865 MARKET_LSE_MIT_TradingStatusDetails=T
MARKET_TURQUOISE_DarkBookTradingStatus=17 MARKET_LSE_MIT_HaltReason=?
VU 07:45:25:030.183 392918865 TradingStatus=17
TE 09:03:45:533.090 392918865 0.2 1 0.2 999@1 * * HL
TradeID=1181374308417942, AggressorSide='2'=Sell,
TradeConditionsDictionaryKey=uint32{266338405}, MMTFlagsV2=12P-----
VU 09:03:45:533.090 392918865 DailyOpeningPrice=0.2
TE 09:03:50:573.225 392918865 0.2 1 0.2 998@1 * *
TradeID=1181374308417944, AggressorSide='2'=Sell, TradeConditionsDictionaryKey=uint32{2663384
05}, MMTFlagsV2=12P-----
VU 17:20:00:014.078 392918865 MARKET_LSE_MIT_TradingStatusDetails=d
LastAuctionPrice=? LastAuctionVolume=? TradingStatus=5
SI 17:25:29:129.044 392918865 CLOSE 0.2
TE 17:25:29:129.044 392918865 0.2 * * * * * C
VU 17:25:29:129.044 392918865 MARKET_LSE_MIT_TradingStatusDetails=z
InternalDailyClosingPriceType=d TradingStatus=18
VU 17:25:29:131.648 392918865 DailyClosingPrice=0.2 InternalDailyClosingPriceType=a
VU 17:25:30:004.886 392918865 MARKET_LSE_MIT_TradingStatusDetails=b TradingStatus=15
VU 17:57:00:046.501 392918865 MARKET_TURQUOISE_OffBookReportingTradingStatus=15
VU 17:58:00:129.422 392918865 MARKET_LSE_MIT_TradingStatusDetails=x TradingStatus=18
VU 17:59:00:203.602 392918865 MARKET_LSE_MIT_TradingStatusDetails=c
MARKET_TURQUOISE_DarkBookTradingStatus=18
VU 17:59:00:329.970 392918865 MARKET_TURQUOISE_OffBookReportingTradingStatus=18

```

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

In the Level1 Market Data Kinematics **before 2015-04-20**, halted instruments closed (Trading Status 18=Not Available for Trading) at the end of the trading day, and then reopened (Trading Status 17=Ready to Trade) at the beginning of a new trading day, like regularly traded instruments, as shown in the example below:

```

VU 07:22:35:400 392921684 LastAuctionPrice=1.28
TE 07:44:21:122 392921684 * * ! 0 ! 0
VU 07:44:21:122 392921684 TradingStatus=18
TE 07:44:21:122 392921684 * * ! 0 ! 0
VU 07:44:21:125 392921684 LastAuctionPrice=? LastAuctionVolume=?

```

In the Level1 Market Data Kinematics **after 2015-04-20**, halted instruments will remain halted (Trading Status 2=Trading halt) during market closing and opening, until they will be traded again, as shown in the example below:

VU	07:22:35:400	392921684	LastAuctionPrice=1.28			
TE	07:44:21:122	392921684	* * !	0	!	0
VU	07:44:21:122	392921684	TradingStatus=2			
TE	07:44:21:122	392921684	* * !	0	!	0
VU	07:44:21:125	392921684	LastAuctionPrice=?		LastAuctionVolume=?	

### 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: <https://support.quanthouse.com>.