S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

OMX NORDIC – Feed Update

Reference n°: 20140221

Effective as of: 03 March 2014

Action required from users: Mandatory Action

S&P CAPITAL IQ
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S&P Capital IQ Real-Time Solutions (QuantHouse®) – QuantFEED®
QuantFEED® Developer's Notice
Reference 20140221
February 21, 2014

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UPDATE OF THE OMX NORDIC MARKET DATA STREAM

To improve the quality of the OMX NORDIC 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

Table 1 Current upgrade summary

Notice Reference	20140221
Exchanges	OMX NORDIC
Concerned MICs	XCSE, XHEL, XICE, ISEC, XSTO, XFND, XSAT, FNSE, FNFI
Internal Source ID	67
Effective Date	**2014-03-03**
Impact	• Update of the Referential Tags • Update of the Quotation Tags • Changes in L1 Kinematics
Action required	**Mandatory Action**

2. Functional Description

Effective Monday, **March 03, 2014**, S&P Capital IQ Real-Time Solutions updates the values of the referential tag `SecurityType` (**NumericID**: `167`, **Type**: `String`), by migrating the ETN instruments previously comprised in the `XCN` type to the `WAR` type. Subsequently, the `XCN` value previously disseminated by the tag `SecurityType` is now removed.

S&P Capital IQ Real-Time Solutions also introduce a new referential tag – `SecuritySubType` (**NumericID**: `762`, **Type**: `String`) – to accommodate the information disseminated on the OMX NORDIC market data stream for the same ETN Instruments.

Moreover, S&P Capital IQ Real-Time Solutions normalizes the reset of the Last Auction tags and introduces a new L1 CLOSE kinematics that applies to instruments that have not been traded during a trading day on the OMX NORDIC market data stream.

3. QuantFEED® Technical Implementation

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

- 3.1. Security Type
- 3.2. Security Subtype
- 3.3. OMX NORDIC L1 Kinematics Update.

3.1. Security Type

The values of the referential tag **Security Type** conveyed on the OMX NORDIC 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 (removed values are in ~~crossed out red~~):

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's data stream. This is the numeric equivalent of the tag name.
Type	`String`	String data type.
Format	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the type of security.
Possible Values	NONE	Unknown Security Type
	CB	Convertible Bond
	CORP	Corporate Bond
	CS	Common Stock
	GO	General Obligation Bonds
	~~XCN~~	Extended Comm Note The ETN instruments previously comprised in the `XCN` security type are now included in the `WAR` type. Moreover, these instruments will disseminate the values of a new tag `SecuritySubType` (NumericID: 762, Type: String), as detailed in the section 3.2. Security Subtype on page 3.
	WAR	Warrant

3.2. Security Subtype

The values of the referential tag **Security Subtype** conveyed on the OMX NORDIC market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the subtype of a security.

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

Table 3 SecuritySubType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SecuritySubType`	QuantFEED® tag name.
Numeric ID	762	QuantFEED® unique ID disseminated on 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***, detailing the subtype of a security.
Possible Values	XCN	Extended Comm Note **Note:** The associated security type of the ETN instruments is now `War`, as detailed in section 3.1. Security Type on page 2.

Below is an example of the current implementation of the newly added (in `green`) and updated (in `blue`) referential tags:

```
instr # 430/10022 = 901785382
    PriceCurrency                string{SEK}
    Symbol                       string{BEAR EL X2 H}
    Description                  string{BEAR EL X2 H}
    SecurityType                 string{WAR}
    StdMaturity                  string{202001}
    FOSMarketId                  XSTO
    CFICode                      string{RWXXXX}
    RoundLot                     float64{1}
    SecuritySubType              string{XCN}
    MarketSegmentID              string{158}
    MarketSegmentDesc            string{OMX STO Exchange Traded Notes}
    InternalCreationDate         Timestamp{2013-12-17 04:00:00:525}
    InternalModificationDate     Timestamp{2014-03-30 15:24:32:328}
    InternalSourceId             uint16{67}
    LocalCodeStr                 string{72795}
    ISIN                         string{SE0003172840}
    MaturityYear                 uint16{2020}
    MaturityMonth                uint8{1}
    MaturityDay                  uint8{26}
    PriceIncrement_dynamic_TableId       uint32{5505124}
    OperatingMIC                 string{XSTO}
    CCP_Eligible                 bool{False}
```

3.3. OMX NORDIC L1 Kinematics Update

The following sections describe the L1 kinematics changes in terms of:

- 3.3.1. Normalizing the Clearing and Reset of the Last Auction Tags

- 3.3.2. CLOSE Kinematics.

3.3.1. Normalizing the Clearing and Reset of the Last Auction Tags

The following sections describe the reset of the Last Auction tags – `LastAuctionPrice` (**NumericID**: `9146`, **Type**: `Float64`), `LastAuctionVolume` (**NumericID**: `9147`, **Type**: `Float64`), `LastAuctionImbalanceSide` (**NumericID**: `9151`, **Type**: `Char`) and `LastAuctionImbalanceVolume` (**NumericID**: `9152`, **Type**: `Float64`) – on the OMX NORDIC market data stream before and after 2014-03-03:

- 3.3.1.1. Clearing and Resetting the Last Auction Tags before 2014-03-03
- 3.3.1.2. Clearing and Resetting the Last Auction Tags after 2014-03-03.

3.3.1.1. Clearing and Resetting the Last Auction Tags before 2014-03-03

In the L1 kinematics before 2014-03-03, the Last Auction tags were not cleared at the beginning of the auction phases, as shown in the examples 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  07:00:00:001 140529444  MARKET_OMX_NORDIC_MarketSegmentState=P  TradingStatus=21
VU  08:30:00:001 140529444  MARKET_OMX_NORDIC_MarketSegmentState=O  TradingStatus=15
TE  08:38:05:590 140529444  *       *       100     1000@1  *       *
SI  08:45:00:023 140529444  OPEN    *
TE  08:45:00:023 140529444  *       *       *       *       *       *       O
TradeID=68881,MARKET_OMX_NORDIC_CrossType=char{O}
VU  08:45:00:023 140529444  TradingStatus=17
VU  08:45:00:031 140529444  MARKET_OMX_NORDIC_MarketSegmentState=T
TE  09:17:21:598 140529444  *       *       101.6   1000@1  *       *
TE  09:17:37:760 140529444  *       *       *       *       102.5   1000@1
TE  09:53:52:929 140529444  *       *       101.7   874@1   *       *
TE  15:30:11:000 140529444  102.59  100000  *       *       *       *       f
Buyer=NDA,Seller=NDA,MARKET_OMX_NORDIC_ReportedTradeType=char{1}
TE  15:37:04:859 140529444  *       *       *       *       !       0
TE  15:37:19:757 140529444  *       *       *       *       103.5   1000@1
TE  15:37:25:149 140529444  *       *       102.6   1000@1  *       *
VU  15:55:00:002 140529444  MARKET_OMX_NORDIC_MarketSegmentState=L  TradingStatus=5
SI  15:59:58:098 140529444  CLOSE   101.5
TE  15:59:58:098 140529444  101.5   *       *       *       *       *       C
VU  15:59:58:098 140529444  TradingStatus=18
TE  15:59:58:098 140529444  *       *       !       0       *       *
TE  15:59:58:098 140529444  *       *       *       *       !       0
VU  15:59:59:957 140529444  MARKET_OMX_NORDIC_MarketSegmentState=S
VU  16:20:00:006 140529444  MARKET_OMX_NORDIC_MarketSegmentState=C
```

3.3.1.2. Clearing and Resetting the Last Auction Tags after 2014-03-03

In the L1 kinematics after 2014-03-03, the Last Auction tags are cleared at the beginning of each auction phase. Moreover, each time the exchange sends a Net Order Imbalance Indicator (NOII) message with an auction reset, the Last Auction tags are reset, as shown in the examples 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  02:04:16:691 140529444  MARKET_OMX_NORDIC_OrderBookTradingState=T
MARKET_OMX_NORDIC_OrderBookHaltReason=
TE  null    140529444       *       *       !       0       !       0
VU  07:00:00:001 140529444  MARKET_OMX_NORDIC_MarketSegmentState=P  TradingStatus=21
VU  08:30:00:001 140529444  MARKET_OMX_NORDIC_MarketSegmentState=O  TradingStatus=15
VU  08:30:00:013 140529444  LastAuctionPrice=?      LastAuctionVolume=?
LastAuctionImbalanceSide=O      LastAuctionImbalanceVolume=?
TE  08:38:05:590 140529444  *       *       100     1000@1  *       *
SI  08:45:00:023 140529444  OPEN    *
TE  08:45:00:023 140529444  *       *       *       *       *       *       O
VU  08:45:00:023 140529444  TradingStatus=17
VU  08:45:00:031 140529444  MARKET_OMX_NORDIC_MarketSegmentState=T
TE  09:17:21:598 140529444  *       *       101.6   1000@1  *       *
TE  09:17:37:760 140529444  *       *       *       *       102.5   1000@1
TE  09:53:52:929 140529444  *       *       101.7   874@1   *       *
TE  15:30:11:000 140529444  102.59  100000  *       *       *       *       f
Buyer=NDA,Seller=NDA,MARKET_OMX_NORDIC_ReportedTradeType=char{1}
TE  15:37:04:859 140529444  *       *       *       *       !       0
TE  15:37:19:757 140529444  *       *       *       *       103.5   1000@1
TE  15:37:25:149 140529444  *       *       102.6   1000@1  *       *
VU  15:55:00:002 140529444  MARKET_OMX_NORDIC_MarketSegmentState=L  TradingStatus=5
VU  15:55:00:021 140529444  LastAuctionPrice=?      LastAuctionVolume=?
LastAuctionImbalanceSide=O      LastAuctionImbalanceVolume=?
SI  15:59:58:098 140529444  CLOSE   *
TE  15:59:58:098 140529444  *       *       *       *       *       *       C
VU  15:59:58:098 140529444  TradingStatus=18
TE  15:59:58:098 140529444  *       *       !       0       *       *
TE  15:59:58:098 140529444  *       *       *       *       !       0
VU  15:59:59:957 140529444  MARKET_OMX_NORDIC_MarketSegmentState=S
VU  16:20:00:006 140529444  MARKET_OMX_NORDIC_MarketSegmentState=C
```

3.3.2. CLOSE Kinematics

If trades occur during the trading day, the market sends the `CLOSE` signal and the closing price. However, if no eligible closing trade occurs during the trading day, the market sends only the `CLOSE` signal, without the closing price, as shown in the examples below:

Sample OMX CLOSE kinematics for a traded instrument

```
"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"

TE  15:34:11:046 140514971      *       *       *       *       !       0
TE  15:34:11:046 140514971      *       *       *       *       116.2   1000@1
TE  15:34:11:060 140514971      *       *       !       0       *       *
TE  15:34:11:060 140514971      *       *       115.7   1000@1  *       *
VU  15:55:00:002 140514971      MARKET_OMX_NORDIC_MarketSegmentState=L  TradingStatus=5
SI  15:59:37:144 140514971      CLOSE   113.3
TE  15:59:37:144 140514971      113.3   *       *       *       *       *       C
VU  15:59:37:144 140514971      TradingStatus=18
TE  15:59:37:144 140514971      *       *       !       0       *       *
TE  15:59:37:144 140514971      *       *       *       *       !       0
VU  15:59:59:957 140514971      MARKET_OMX_NORDIC_MarketSegmentState=S
VU  16:20:00:006 140514971      MARKET_OMX_NORDIC_MarketSegmentState=C
```

Sample OMX CLOSE kinematics for a not-traded instrument

```
"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"

TE  15:34:11:046 140514971      *       *       *       *       !       0
TE  15:34:11:046 140514971      *       *       *       *       116.2   1000@1
TE  15:34:11:060 140514971      *       *       !       0       *       *
TE  15:34:11:060 140514971      *       *       115.7   1000@1  *       *
VU  15:55:00:002 140514971      MARKET_OMX_NORDIC_MarketSegmentState=L  TradingStatus=5
VU  15:55:00:020 140514971      LastAuctionPrice=?      LastAuctionVolume=?
LastAuctionImbalanceSide=O      LastAuctionImbalanceVolume=?
SI  15:59:37:144 140514971      CLOSE   *
TE  15:59:37:144 140514971      *       *       *       *       *       *       C
VU  15:59:37:144 140514971      TradingStatus=18
TE  15:59:37:144 140514971      *       *       !       0       *       *
TE  15:59:37:144 140514971      *       *       *       *       !       0
VU  15:59:59:957 140514971      MARKET_OMX_NORDIC_MarketSegmentState=S
VU  16:20:00:006 140514971      MARKET_OMX_NORDIC_MarketSegmentState=C
```

4. 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.