QuantFEED® Developer's Notice

ATHENS – Feed Upgrade

Reference n°: 20131025

Effective as of: 30 October 2013

Action required from users: Attention Required

S&P Capital IQ's Real-Time Solutions (QuantHouse®) – QuantFEED®
QuantFEED® Developer's Notice
Reference 20131025
October 25, 2013

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UPGRADE OF ATHENS MARKET DATA STREAM

To improve the quality of content provided on ATHENS market data stream, S&P Capital IQ's Real-Time Solutions has decided to upgrade 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's summary

Notice Reference	20131025
Exchanges	ATHENS
Concerned MICs	XATH, XCYS
Internal Source ID	90
Effective Date	**2013-10-30**
Impact	• Feed Upgrade – Referential, Quotation and Quotation Context Tags • L1 Kinematics Update on Open Phase
Action required	**Attention Required**

2. Functional Description

Effective Wednesday, **October 30, 2013**, S&P Capital IQ's Real-Time Solutions changes the content of the referential and quotation data disseminated on ATHENS market data stream to reflect the feed handler upgrade, as described below:

2.1. Changes to the Referential Data

S&P Capital IQ's Real-Time Solutions **removes** the following referential tags from ATHENS market data stream:

Table 2   Referential Tags removed from ATHENS market data stream

Tag Name	Numeric ID	Type
ContractMultiplier	231	Float64
InternalAggregationId	9404	UInt16
SEDOL	9505	String
PriceIncrement_dynamic_TableId	9522	UInt32

Moreover, S&P Capital IQ's Real-Time Solutions **introduces** the referential tags below to accommodate the information broadcast on ATHENS market data stream:

Table 3   Referential Tags added on ATHENS market data stream

Tag Name	Numeric ID	Type
IssueDate	225	Timestamp
PriceIncrement_static	9506	Float64
MBLLayersDesc	9532	String
OperatingMIC	9533	String
SegmentMIC	9534	String

Furthermore, the referential tags below will disseminate **new values**:

Table 4   Referential Tags disseminating new values on ATHENS market data stream

Tag Name	Numeric ID	Type
MarketSegmentID	1300	String
InternalSourceId	9403	UInt16
LocalCodeStr	9500	String

Below is an example of the referential tags's implementation before and after the upgrade:

ATHENS Referential Data before 2013-10-30

```
instr # 103/1500105 = 217506761
    PriceCurrency             string{EUR}
    Symbol                    string{ETE}
    Description               string{NATIONAL BANK (CR)}
    SecurityType              string{CS}
    FOSMarketId               XATH
    ContractMultiplier        float64{1}
    CFICode                   string{ESXXXX}
    MarketSegmentID           string{13}
    InternalCreationDate      Timestamp{2013-09-03 02:52:27:650}
    InternalModificationDate  Timestamp{2013-10-22 02:57:23:664}
    InternalSourceId          uint16{107}
    InternalAggregationId     uint16{107}
    LocalCodeStr              string{904.ETE}
    ISIN                      string{GRS003003019}
    SEDOL                     string{BB36BJ7}
    PriceIncrement_dynamic_TableId     uint32{6094953}
```

ATHENS Referential Data after 2013-10-30

```
instr # 103/1500105 = 217506761
    PriceCurrency                string{EUR}
    Symbol                       string{ETE}
    Description                  string{NATIONAL BANK (CR)}
    SecurityType                 string{CS}
    FOSMarketId                  XATH
    IssueDate                    Timestamp{2003-12-23 10:22:56}
    CFICode                      string{ESXXXX}
    CountryOfIssue               string{GRC}
    MinTradeVol                  float64{1}
    MarketSegmentID              string{M}
    InternalCreationDate         Timestamp{2013-10-23 09:51:28:972}
    InternalModificationDate     Timestamp{2013-10-23 10:00:36:292}
    InternalSourceId             uint16{90}
    LocalCodeStr                 string{GRS003003019}
    ISIN                         string{GRS003003019}
    PriceIncrement_static        float64{0.02}
    MBLLayersDesc                string{0}
    OperatingMIC                 string{ASEX}
    SegmentMIC                   string{XATH}
```

2.2. Changes to the Quotation Data

S&P Capital IQ's Real-Time Solutions **removes** the following quotation tags from ATHENS market data stream:

Table 5   Quotation Tags removed from ATHENS market data stream

Tag Name	Numeric ID	Type
DailySettlementPrice	9133	Float64
PreviousDailySettlementPrice	9145	Float64

Moreover, S&P Capital IQ's Real-Time Solutions **introduces** the quotation tags below to accommodate the information broadcast on ATHENS market data stream:

Table 6   Quotation Tags added on ATHENS market data stream

Tag Name	Numeric ID	Type
LastOffBookTradePrice	9110	Float64
LastOffBookTradeQty	9111	Float64
LastOffBookTradeTimestamp	9112	Float64
DailyTotalOffBookVolumeTraded	9148	Float64
DailyTotalOffBookAssetTraded	9149	Float64
PriceActivityMarketTimestamp	9309	Timestamp

Below is an example of the quotation tags's implementation before and after the upgrade:

ATHENS Quotation Data before 2013-10-30

```
InstrumentStatusL1
-- 103/1500105
BID: 4.65       0        *NO ORDER*
ASK: 4.7        340824
        LastPrice                   float64{4.7}
        LastTradeQty                float64{88}
        DailyHighPrice              float64{4.7}
        DailyLowPrice               float64{4.4}
        DailyTotalVolumeTraded      float64{7748485}
        DailyTotalAssetTraded       float64{33405460.24}
        LastTradePrice              float64{4.7}
        LastTradeTimestamp          Timestamp{2013-10-22 14:16:30}
        InternalDailyOpenTimestamp  Timestamp{2013-10-22 07:29:52:771}
        InternalDailyCloseTimestamp Timestamp{2013-10-22 14:06:28:395}
        InternalDailyHighTimestamp  Timestamp{2013-10-22 14:06:27:299}
        InternalDailyLowTimestamp   Timestamp{2013-10-22 07:38:38:926}
        InternalPriceActivityTimestamp Timestamp{2013-10-22 14:18:41:897}
        TradingStatus               18=NotAvailableForTrading
        DailyOpeningPrice           float64{4.45}
        DailyClosingPrice           float64{4.7}
        DailySettlementPrice        float64{4.7}
        PreviousDailyTotalVolumeTraded  float64{8844733}
        PreviousDailyTotalAssetTraded   float64{37602238.54}
        PreviousDailyClosingPrice   float64{4.4}
        PreviousBusinessDay         Timestamp{2013-10-21}
        CurrentBusinessDay          Timestamp{2013-10-22}
        PreviousDailySettlementPrice    float64{4.07}
        LastAuctionPrice            float64{4.7}
        LastAuctionVolume           float64{278726}
        InternalLastAuctionTimestamp    Timestamp{2013-10-22 14:06:28:395}
```

ATHENS Quotation Data after 2013-10-30

```
InstrumentStatusL1
-- 103/1500105
BID: 4.51       22949   @7
ASK: 4.52       42812   @13
        LastPrice                   float64{4.51}
        LastTradeQty                float64{30}
        DailyHighPrice              float64{4.52}
        DailyLowPrice               float64{4.4}
        DailyTotalVolumeTraded      float64{2576930}
        DailyTotalAssetTraded       float64{11528202.95}
        LastTradePrice              float64{4.51}
        LastTradeTimestamp          Timestamp{2013-10-22 09:16:00:050}
        InternalDailyOpenTimestamp  Timestamp{2013-10-22 14:47:13:962}
        InternalDailyCloseTimestamp Timestamp{2013-10-15 14:20:03:211}
        InternalDailyHighTimestamp  Timestamp{2013-10-22 14:52:05:041}
        InternalDailyLowTimestamp   Timestamp{2013-10-22 14:47:44:437}
        InternalPriceActivityTimestamp Timestamp{2013-10-22 14:52:06:444}
        TradingStatus               17=ReadyToTrade
        LastOffBookTradePrice       float64{4.5}
        LastOffBookTradeQty         float64{100000}
        LastOffBookTradeTimestamp   Timestamp{2013-10-22 08:50:56:500}
        DailyOpeningPrice           float64{4.45}
        PreviousDailyTotalVolumeTraded float64{9701956}
        PreviousDailyTotalAssetTraded  float64{36017936.79}
        PreviousDailyClosingPrice   float64{3.9}
        PreviousBusinessDay         Timestamp{2013-10-15}
        CurrentBusinessDay          Timestamp{2013-10-22}
        LastAuctionPrice            float64{4.45}
        LastAuctionVolume           float64{47466}
        DailyTotalOffBookVolumeTraded float64{200000}
        DailyTotalOffBookAssetTraded  float64{896000}
        InternalLastAuctionTimestamp Timestamp{2013-10-22 14:47:13:962}
        PriceActivityMarketTimestamp Timestamp{2013-10-22 09:16:08:070}
```

Furthermore, S&P Capital IQ's Real-Time Solutions desynchronizes the dissemination of the `OPEN` signal and `Ready to Trade` value of the Trading Status.

2.3. Changes to the Quotation Context Data

S&P Capital IQ's Real-Time Solutions **removes** the following quotation context tags from ATHENS market data stream:

Table 7   Quotation Context Tags removed from ATHENS market data stream

Tag Name	Numeric ID	Type
TradeConditionsDictionaryKey	9358	UInt32

Moreover, S&P Capital IQ's Real-Time Solutions **introduces** the quotation context tags below to accommodate the information broadcast on ATHENS market data stream:

Table 8   Quotation Tags added on ATHENS market data stream

Tag Name	Numeric ID	Type
TradeID	1003	String

Below is an example of the quotation context tags's implementation before and after the upgrade:

ATHENS Quotation Context Data before 2013-10-30

```
EV 103/1500105          2013-10-25 12:09:14     /ServerUTCTime: 2013-10-25 12:09:15:922
content: LastPrice LastTradeQty Context
        LastTradeQty  = 10
        LastPrice     = 4.22
CONTEXT:
TradeConditionsDictionaryKey:   uint32{195035283}
        COMSTOCK_ENUM_SRC_ID:   904
        COMSTOCK_f79:   0
EV 103/1500105          2013-10-25 12:09:14     /ServerUTCTime: 2013-10-25 12:09:16:031
content: Ask Context
        BestAsk       = 4.22    8489
CONTEXT:
COMSTOCK_ENUM_SRC_ID:   904
```

ATHENS Quotation Context Data after 2013-10-30

```
EV 103/1500105          2013-10-25 12:09:14:450 /ServerUTCTime: 2013-10-25 12:09:15:838
content: LastPrice LastTradeQty Context
        LastTradeQty  = 10
        LastPrice     = 4.22
CONTEXT:
TradeID:        19560
EV 103/1500105          2013-10-25 12:09:14:460 /ServerUTCTime: 2013-10-25 12:09:15:890
content: Ask
        BestAsk       = 4.22    8489    @3
```

3. QuantFEED® Technical Implementation

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

3.1. Market Segment ID

The values of the referential tag **Market Segment ID** conveyed on ATHENS market data stream are disseminated via QuantFEED®'s data stream in *Referential* to specify the ID of the market segment.

QuantFEED®'s implementation of the values available for the tag `MarketSegmentID` is described in the table below:

Table 9   MarketSegmentID – technical implementation in QuantFEED®

Component	Value		Description	
Tag Name	`MarketSegmentID`		QuantFEED® tag name.	
Numeric ID	1300		QuantFEED® unique ID disseminated on S&P Capital IQ's 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**, specifying the ID of the market segment.	**Venue**
	Before 2013-10-30	**After 2013-10-30**		
	13	`M`	Main	XATH
	2	`B`	Low Dispersion	XATH
	3	`C`	Surveillance	XATH
	0	`Z`	Stocks to be delisted	XATH
	15	`O`	Bonds	XATH
	20	`T`	ETFs	XATH
	6	`F`	Alternative for Stocks	ENAX
		`G`	Alternative for Bonds	ENAX
		`E`	Forced Sales	XATH
		`A`	Main	XCYS
		`P`	Parallel	XCYS
		`S`	Special Conditions	XCYS
Possible Values		`L`	Special Characteristics	XCYS
		`X`	Corporate Bonds	XCYS
		`H`	Government Bonds	XCYS
		`I`	Emerging Companies for Stocks	XECM
		`J`	Emerging Companies for Bonds	XECM
		`R`	EUAs primary allocation	EUAX
	0/23	`W`	Warrant	XATH

3.2. Internal Source ID

The values of the referential tag **Internal Source ID** conveyed on ATHENS market data stream are disseminated via QuantFEED®'s data stream in *Referential* to specify the internal ID of the source market.

QuantFEED®'s implementation of the values available for the tag `InternalSourceId` is described in the table below:

Table 10   InternalSourceId – technical implementation in QuantFEED®

Component	Value		Description
Tag Name	InternalSourceId		QuantFEED® tag name.
Numeric ID	9403		QuantFEED® unique ID disseminated on S&P Capital IQ's Real-Time Solutions's data stream. This is the numeric equivalent of the tag name.
Type	UInt16		UInt16 data type.
Format	*[Exchange Specific Value]*		An ***exchange specific value***, specifying the internal ID of the source market.
Possible Values	**Before 2013-10-30**	**After 2013-10-30**	
	107	90	

3.3. Local Code String

The values of the referential tag **Local Code String** conveyed on ATHENS market data stream are disseminated via QuantFEED®'s data stream in *Referential* to specify the instrument identifier within the given market.

QuantFEED®'s implementation of the values available for the tag `LocalCodeStr` is described in the table below:

Table 11   LocalCodeStr – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	LocalCodeStr	QuantFEED® tag name.
Numeric ID	9500	QuantFEED® unique ID disseminated on S&P Capital IQ's 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***, specifying the instrument identifier within the given market.
Possible Values	ISIN value	

Caution	Although the `LocalCodeStr` changes, the Instrument Internal Code remains the same (see the examples in section 2. Functional Description).

3.4. Operating MIC and Segment MIC

The values of the referential tags **Operating MIC** and **Segment MIC** conveyed on ATHENS market data stream are disseminated via QuantFEED®'s data stream in *Referential* to reflect ATHENS's adoption of the ISO 10383:2012 standard. This new edition of the ISO standard refines the level of granularity on ATHENS market data stream, by introducing two levels of MIC codes – *operating* (parent-like) and *market segment* (child-like) MICs.

QuantFEED®'s implementation of the values currently available for the tags OperatingMIC and SegmentMIC is described in the table below:

Table 12   OperatingMIC and SegmentMIC – technical implementation in QuantFEED®

Component	Value		Description
Tag Name	OperatingMIC	SegmentMIC	QuantFEED® tag name.
Numeric ID	9533	9534	QuantFEED® unique ID disseminated on S&P Capital IQ's Real-Time Solutions's data stream. This is the numeric equivalent of the tag name.
Type	String	String	String data type.
Format	*[Exchange Specific Value]*	*[Exchange Specific Value]*	An **exchange specific value**, specifying the parent and child MICs.
Possible Values	ASEX	ENAX	ATHENS EXCHANGE ALTERNATIVE MARKET
	ASEX	EUAX	ATHENS EXCHANGE EUAS MARKET
	ASEX	HOTC	HELLENIC EXCHANGE OTC MARKET
	ASEX	XADE	ATHENS EXCHANGE S.A. DERIVATIVES MARKET
	ASEX	XATH	ATHENS EXCHANGE S.A. CASH MARKET
	XCYS	XECM	MTF – CYPRUS EXCHANGE

3.5. OPEN Signal – Trading Status Desynchronization

S&P Capital IQ's Real-Time Solutions does not send the OPEN signal and the value 17 (Ready to Trade) of the Trading Status simultaneously, as the exchange sends the auction trades before the trading status (the OPEN signal resets the traded volumes), as shown in the example below:

```
VU      2013-10-17 06:00:37:614.551     2013-10-17 05:41:33:660 216007801
TradingStatus=18
VU      2013-10-17 07:15:20:370.189     2013-10-17 07:15:19:970 216007801
TradingStatus=5
TE      2013-10-17 07:15:20:370.189     2013-10-17 07:15:19:970 216007801      *      *
0.631   200@1   0.64    5000@1
TE      2013-10-17 07:15:20:591.055     2013-10-17 07:15:20:220 216007801      *      *
0.635   3000@1  *       *
TE      2013-10-17 07:15:21:029.111     2013-10-17 07:15:20:730 216007801      *      *
*       *       0.634   650@1
[...]
VU      2013-10-17 07:29:35:660.445     2013-10-17 07:29:34:880 216007801
LastAuctionPrice=0.644
VU      2013-10-17 07:29:46:707.878     2013-10-17 07:29:46:140 216007801
LastAuctionPrice=0.64   LastAuctionVolume=129011
VU      2013-10-17 07:30:00:547.378     2013-10-17 07:30:00:040 216007801
LastAuctionVolume=116011
SI      2013-10-17 07:30:03:224.337     2013-10-17 07:30:02:760 216007801        OPEN     *
TE      2013-10-17 07:30:03:224.337     2013-10-17 07:30:02:760 216007801      *      *
*       *       *       *       O
TE      2013-10-17 07:30:20:126.713     2013-10-17 07:30:18:910 216007801   0.64    61
*       *       *       *       HL      TradeID=238
TE      2013-10-17 07:30:20:126.713     2013-10-17 07:30:18:920 216007801   0.64    4939
*       *       *       *       TradeID=239
[...]
TE      2013-10-17 07:30:20:126.713     2013-10-17 07:30:18:970 216007801   0.64    14215
*       *       *       *       TradeID=259
VU      2013-10-17 07:30:20:126.713     2013-10-17 07:30:18:970 216007801
LastAuctionPrice=0.64   LastAuctionVolume=118011
VU      2013-10-17 07:30:20:126.713     2013-10-17 07:30:18:970 216007801
TradingStatus=17
TE      2013-10-17 07:30:20:126.713     2013-10-17 07:30:18:980 216007801      *      *
0.642   15785@1 0.643   6250@2
TE      2013-10-17 07:30:34:944.694     2013-10-17 07:30:34:510 216007801   0.643   1600
*       *       *       *       H       TradeID=472
TE      2013-10-17 07:30:34:944.694     2013-10-17 07:30:34:510 216007801   0.643   4650
*       *       *       *       TradeID=473
```

4. Finding the Latest Information

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

- E-mail: support@quanthouse.com

- Web: http://support.quanthouse.com.