S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

ATHENS – Feed Update

Reference n°: 20140814 – 21582 – 21583

Effective as of: 01 December 2014*

Action required from users: MANDATORY ACTION

S&P CAPITAL IQ
McGRAW HILL FINANCIAL

* This is the proposed day for the update of the standard version of the feed handler. For dedicated feed handlers, this date may differ. 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 (QuantHouse®) – QuantFEED®
QuantFEED® Developer's Notice
Reference 20140814 – 21582 – 21583
November 21, 2014

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UPDATE OF THE ATHENS MARKET DATA STREAM

To reflect the changes caused by the dissemination of new values on the ATHENS 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. Update Summary
- 2. QuantFEED® Technical Implementation
- 3. Finding the Latest Information.

1. Update Summary

Table 1 Current update summary

Notice Reference	20140814 – 21582 – 21583
Exchanges	ATHENS
Concerned MICs	XATH, XCYS
Internal Source ID	90, 91
Effective Date	**2014-12-01***
Impact	• Update of the Referential Tags • Update of the Quotation Tags
Action required	**MANDATORY ACTION** – see sections 2.1.2. SecurityType and 2.1.3. CFICode.

2. QuantFEED® Technical Implementation

Effective Monday, **December 01*, 2014**, S&P Capital IQ Real-Time Solutions enhances the referential and quotation data to accommodate the new information disseminated on the ATHENS market data stream, as described below:

- 2.1. Changes to the Referential Data
- 2.2. Changes to the Quotation Data.

* This is the proposed day for the update of the standard version of the feed handler. For dedicated feed handlers, this date may differ. For the actual day when the changes to your custom feed handler take effect, please contact your QuantFEED® project manager.

2.1. Changes to the Referential Data

S&P Capital IQ Real-Time Solutions **introduces** the referential tag below to accommodate the information disseminated on the ATHENS market data stream:

Table 2 Referential tags added on the ATHENS market data stream

Tag Name	Numeric ID	Type
`BloombergTicker`	9519	String

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

Table 3 Referential tags disseminating updated values on the ATHENS market data stream

Tag Name	Numeric ID	Type
`SecurityType`	167	String
`CFICode`	461	String

Caution	Although the `SecurityType` and the `CFICode` change, the `LocalCodeStr`, the `FOSMarketId` and the Instrument Internal Code remain the same.

2.1.1. BloombergTicker

The values of the referential tag **BloombergTicker** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Referential* to identify a company or entity in Bloomberg system.

QuantFEED® implementation of the tag `BloombergTicker` is described in the table below:

Table 4 BloombergTicker – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`BloombergTicker`	QuantFEED® tag name.
Numeric ID	`9519`	QuantFEED® 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***, identifying a company or entity in Bloomberg system.

2.1.2. SecurityType

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

QuantFEED® implementation of the tag `SecurityType` is described in the table below (existing values are in `black`, newly added values are in `green`, and removed values are in ~~`crossed out red`~~):

Table 5 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 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
	~~`BOND`~~	Bonds
	`CB`	Convertible Bond
	`CORP`	Corporate Bond
	`CPP`	Corporate Private Placement
	`CS`	Common Stock
	`DUAL`	Dual Currency
	`EUCORP`	Euro Corporate Bond
	`EUFRN`	Euro Corporate Floating Rate Notes
	`EUSOV`	Euro Sovereigns
	`INDEX`	Index
	`MF`	Mutual Fund (Exchangeable Traded Fund)
	`OPT`	Options
	`PS`	Preferred Stock
	`REPO`	Repurchase
	`STRUCT`	Structured Notes
	`TB`	Treasury Bill - non US
	`TCAL`	Principal Strip Of A Callable Bond Or Note
	`TINT`	Interest Strip From Any Bond Or Note
	`TIPS`	Treasury Inflation Protected Securities
	`TPRN`	Principal Strip From A Non-Callable Bond Or Note
	`WAR`	Warrant
	`XLINKD`	Indexed Linked

2.1.3. CFICode

The values of the referential tag **CFICode** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the standardized identification code of an instrument.

QuantFEED® implementation of the tag `CFICode` is described in the table below (existing values are in `black`, newly added values are in `green`, and removed values are in ~~`crossed out red`~~):

Table 6 CFICode – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`CFICode`	QuantFEED® tag name.
Numeric ID	`461`	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 standardized identification code of an instrument.
Possible Values	`DBXXXX`	Debts - Bonds
	`DYXXXX`	Debts - Money Market Instruments
	`EPXXXX`	Equities - Preferred Shares
	`ESXXXX`	Equities - Shares
	`EUXXXX`	Equities - Units
	`OCAFXX`	Options - Call Options - American - Futures
	`OCAXXX`	Options - Call Options - American
	`OCEFXX`	Options - Call Options - European - Futures
	`OCEXXX`	Options - Call Options - European
	`OPAFXX`	Options - Put Options - American - Futures
	`OPAXXX`	Options - Put Options - American
	`OPEFXX`	Options - Put Options - European - Futures
	`OPEXXX`	Options - Put Options - European
	`RWXXXX`	Rights - Warrants
	~~`RXXXXX`~~	Rights
	`SXXXXX`	Structured Products
	`TIXXXX`	Referential Instruments - Indices
	`XXXXXX`	Undefined

Referential Data Sample

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

```
instr # 102/2861 = 213912365
    PriceCurrency            string{EUR}
    Symbol                   string{HYGEI15F0.30}
    SecurityType             string{OPT}
    StdMaturity              string{201506}
    StrikePrice              float64{0.3}
    FOSMarketId              XADE
    ContractMultiplier       float64{100}
    CFICode                  string{OCAXXX}
    CountryOfIssue           string{GRC}
    MarketSegmentID          string{2}
    InternalCreationDate     Timestamp{2014-10-01 14:59:48:770}
    InternalModificationDate Timestamp{2014-10-01 14:59:48:770}
    InternalSourceId         uint16{90}
    InternalEntitlementId    ATD
    LocalCodeStr             string{HYGEI15F0.30}
    PriceIncrement_static    float64{0.001}
    UnderlyingLocalCodeStr   string{HYGEIA}
    MaturityYear             uint16{2015}
    MaturityMonth            uint8{6}
    MaturityDay              uint8{19}
    BloombergTicker          string{BBG5WWA}
    OperatingMIC             string{ASEX}
    SegmentMIC               string{XADE}
```

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 ATHENS market data stream:

Table 7 Quotation tags added on the ATHENS market data stream

Tag Name	Numeric ID	Type
`DailySettlementPrice`	9133	Float64
`PreviousDailySettlementPrice`	9145	Float64
`OpenInterest`	9150	Float64
`InternalDailyClosingPriceType`	9155	Char
`PreviousInternalDailyClosingPriceType`	9156	Char
`SettlementPriceDate`	9380	Timestamp
`PreviousSettlementPriceDate`	9381	Timestamp
`OpenInterestDate`	9382	Timestamp
`SettlementPriceType`	9383	Char
`PreviousSettlementPriceType`	9384	Char

2.2.1. DailySettlementPrice

The values of the quotation tag **DailySettlementPrice** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the value of the daily settlement price:

- 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 tag `DailySettlementPrice` is described in the table below:

Table 8 DailySettlementPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`DailySettlementPrice`	QuantFEED® tag name.
Numeric ID	`9133`	QuantFEED® 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***, specifying the value of the daily settlement price.

2.2.2. PreviousDailySettlementPrice

The values of the quotation tag **PreviousDailySettlementPrice** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the value of the previous daily settlement price:

- 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 tag `PreviousDailySettlementPrice` is described in the table below:

Table 9 PreviousDailySettlementPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousDailySettlementPrice`	QuantFEED® tag name.
Numeric ID	`9145`	QuantFEED® 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***, specifying the value of the previous daily settlement price.

2.2.3. OpenInterest

The values of the quotation tag **OpenInterest** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the amount of derivative contracts that have not been settled in the immediately previous time period for a specific underlying security:

- 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 `OpenInterest` is described in the table below:

Table 10 OpenInterest – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`OpenInterest`	QuantFEED® tag name.
Numeric ID	`9150`	QuantFEED® 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***, detailing the amount of derivative contracts that have not been settled in the immediately previous time period for a specific underlying security.

2.2.4. InternalDailyClosingPriceType

The values of the quotation tag **InternalDailyClosingPriceType** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the type of the internal daily closing price:

- 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 `InternalDailyClosingPriceType` is described in the table below (currently disseminated values are in `green`):

Table 11 InternalDailyClosingPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`InternalDailyClosingPriceType`	QuantFEED® tag name.
Numeric ID	`9155`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Char`	Char data type.
Format	*`[Internal Specific Value]`*	An ***internal specific value***, detailing the type of daily closing price.
Possible Values	0	**Undefined**
	a	**Official Close** – Explicit closing price value calculated and distributed by an exchange for the main trading session of a given trading day.
	b	**Official Indicative** – Exchange has provided an indicative price and marked it as indicative, however no trading activity is observed.
	c	**Official Carry Over** – Explicit Closing price value from a previous trading day carried forward by the exchange to the given trading day.
	d	**Last Price** – Final price disseminated by the exchange for the main trading session or dissemination period of a given trading day (for indices).
	e	**Last Eligible Price** – Execution price of the final trade (subject to trade qualifiers) accepted by the exchange for the main trading session of a given trading day.
	z	**Manual** – Price disseminated manually (in case of production correction).

2.2.5. PreviousInternalDailyClosingPriceType

The values of the quotation tag **PreviousInternalDailyClosingPriceType** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the type of the previous internal daily closing price:

- 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 `PreviousInternalDailyClosingPriceType` is described in the table below (currently disseminated values are in `green`):

Table 12 PreviousInternalDailyClosingPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousInternalDailyClosingPriceType`	QuantFEED® tag name.
Numeric ID	`9156`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Char`	Char data type.
Format	*`[Internal Specific Value]`*	An ***internal specific value***, detailing the type of the previous daily closing price.
Possible Values	0	**Undefined**
	a	**Official Close** – Explicit closing price value calculated and distributed by an exchange for the main trading session of a given trading day.
	b	**Official Indicative** – Exchange has provided an indicative price and marked it as indicative, however no trading activity is observed.
	c	**Official Carry Over** – Explicit Closing price value from a previous trading day carried forward by the exchange to the given trading day.
	d	**Last Price** – Final price disseminated by the exchange for the main trading session or dissemination period of a given trading day (for indices).
	e	**Last Eligible Price** – Execution price of the final trade (subject to trade qualifiers) accepted by the exchange for the main trading session of a given trading day.
	z	**Manual** – Price disseminated manually (in case of production correction).

2.2.6. SettlementPriceDate

The values of the quotation tag **SettlementPriceDate** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the date of the settlement price:

- 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 `SettlementPriceDate` is described in the table below:

Table 13 SettlementPriceDate – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SettlementPriceDate`	QuantFEED® tag name.
Numeric ID	`9380`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Timestamp`	Timestamp data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, indicating the date of the settlement price.

2.2.7. PreviousSettlementPriceDate

The values of the quotation tag **PreviousSettlementPriceDate** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the date of the previous settlement price:

- 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 `Previousettlementpricedate` is described in the table below:

Table 14 PreviousSettlementPriceDate – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousSettlementPriceDate`	QuantFEED® tag name.
Numeric ID	`9381`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Timestamp`	Timestamp data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, indicating the date of the previous settlement price.

2.2.8. OpenInterestDate

The values of the quotation tag **OpenInterestDate** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the date of the derivative contracts that have not been settled in the immediately previous time period for a specific underlying security:

- 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 tag `OpenInterestDate` is described below:

Table 15 OpenInterestDate – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`OpenInterestDate`	QuantFEED® tag name.
Numeric ID	`9382`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Timestamp`	Timestamp data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, indicating the date of the derivative contracts that have not been settled in the immediately previous time period for a specific underlying security.

2.2.9. SettlementPriceType

The values of the quotation tag **SettlementPriceType** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the type of settlement price:

- 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 `SettlementPriceType` is described in the following table (currently disseminated values are in `green`):

Table 16 SettlementPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SettlementPriceType`	QuantFEED® tag name.
Numeric ID	`9383`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Char`	Timestamp data type.
Format	*[Exchange Specific Value]*	An ***exchange specific value***, indicating the type of settlement price.
Possible Values	a	**Official** – Explicit Official Daily Settlement Price, as distributed by the exchange.
	b	**Preliminary** – Settlement Price subject to change until the Official Daily Settlement Price is published.
	z	**Manual** – Settlement Price disseminated manually (in case of a correction).
	0	**Undefined**

2.2.10. PreviousSettlementPriceType

The values of the quotation tag **PrevioussettlementPriceType** conveyed on the ATHENS market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the type of the previous settlement price:

- 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 `PreviousSettlementPriceType` is described in the following table (currently disseminated values are in `green`):

Table 17 PreviousSettlementPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousSettlementPriceType`	QuantFEED® tag name.
Numeric ID	`9384`	QuantFEED® unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Char`	Timestamp data type.
Format	*`[Exchange Specific Value]`*	An ***exchange specific value***, indicating the type of the previous settlement price.
Possible Values	a	**Official** – Explicit Official Daily Settlement Price, as distributed by the exchange.
	b	**Preliminary** – Settlement Price subject to change until the Official Daily Settlement Price is published.
	z	**Manual** – Settlement Price disseminated manually (in case of a correction).
	0	**Undefined**

Quotation Data Sample

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

```
InstrumentStatusL1
-- 102/1551
      BID: 1 800  @1
      ASK: 0 0    *NO ORDER*
        LastPrice                      float64{4.2}
        LastTradeQty                   float64{5}
        DailyTotalVolumeTraded         float64{0}
        DailyTotalAssetTraded          float64{0}
        LastTradePrice                 float64{4.2}
        LastTradeTimestamp             Timestamp{2014-11-11 13:28:26:660}
        InternalDailyOpenTimestamp     Timestamp{2014-11-11 07:48:28:392}
        InternalDailyCloseTimestamp    Timestamp{2014-11-11 13:36:03:077}
        InternalDailyHighTimestamp     Timestamp{2014-11-11 14:59:51:463}
        InternalDailyLowTimestamp      Timestamp{2014-11-11 14:59:51:463}
        InternalPriceActivityTimestamp Timestamp{2014-11-11 07:48:28:415}
        TradingStatus                  17=ReadyToTrade
        PreviousDailyTotalVolumeTraded float64{0}
        PreviousDailyTotalAssetTraded  float64{0}
        PreviousDailyClosingPrice      float64{0.17}
        PreviousBusinessDay            Timestamp{2014-11-10}
        CurrentBusinessDay             Timestamp{2014-11-11}
        DailySettlementPrice           float64{0.91}
        PreviousDailySettlementPrice   float64{0.17}
        OpenInterest                   float64{8}
        InternalDailyClosingPriceType  char{a}
        PriceActivityMarketTimestamp   Timestamp{2014-11-11 07:48:24:450}
        SettlementPriceDate            Timestamp{2014-11-11}
        OpenInterestDate               Timestamp{2014-11-11}
        PreviousSettlementPriceDate    Timestamp{2014-11-10}
        SettlementPriceType            char{a}
        PreviousSettlementPriceType    char{a}
```

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: http://support.quanthouse.com.