S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

RTS Migration to RTS FAST

Reference n°: 20140805 – 18149 – 21531

Effective as of: 2014*

Action required from users: MANDATORY ACTION

S&P CAPITAL IQ
McGRAW HILL FINANCIAL

* 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 20140805 – 18149 – 21531
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MIGRATION OF THE RTS MARKET DATA STREAM TO THE RTS FAST MARKET DATA STREAM

To reflect the changes caused by the migration of the RTS market data stream to the FAST Protocol, 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

Table 1 Current update summary

Notice Reference	20140623 – 20288 – 20610
Exchanges	RTS
Concerned MICs	RTSX
Internal Source ID	12
Effective Date	For the migration day when the changes to your custom feed handler take effect, please contact your QuantFEED® project manager.
Impact	• Update of the Referential Tags • Update of the Quotation Tags
Action required	**MANDATORY ACTION** – see sections 2.1.6. SecurityType, 2.1.7. FOSMarketId, 2.1.8. CFICode and 2.2.17. TradingStatus.

2. QuantFEED® Technical Implementation

S&P Capital IQ Real-Time Solutions enhances the referential, quotation and quotation context data to accommodate the new information disseminated on the RTS FAST market data stream, as described below:

2.1. Changes to the Level 1 Referential Data

S&P Capital IQ Real-Time Solutions **introduces** the referential tag below to accommodate the information disseminated on the Level 1 of the RTS FAST market data stream:

Table 2 Referential tags added on the RTS FAST market data stream

Tag Name	Numeric ID	Type
StdMaturity	200	String
ContractMultiplier	231	Float64
MarketSegmentID	1300	String
OperatingMIC	9533	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 RTS FAST market data stream

Tag Name	Numeric ID	Type
Description	107	String
SecurityType	167	String
FOSMarketId	207	UInt16
CFICode	461	String

S&P Capital IQ Real-Time Solutions also **removes** the referential tags below:

Table 4 Referential tags no longer disseminated on the RTS FAST market data stream

Tag Name	Numeric ID	Type
RoundLot	561	Float64
InternalAggregationId	9404	UInt16
MARKET_RTS_Signs	11650	UInt32

2.1.1. StdMaturity

The values of the referential tag **StdMaturity** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the standard maturity of a security.

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

Table 5 StdMaturity – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`StdMaturity`	QuantFEED® tag name.
Numeric ID	200	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***, specifying the standard maturity of a security.

2.1.2. ContractMultiplier

The values of the referential tag **ContractMultiplier** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the amount of underlying asset represented by each derivative contract.

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

Table 6 ContractMultiplier – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`ContractMultiplier`	QuantFEED® tag name.
Numeric ID	`231`	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`	String data type.
Format / Possible values	*`[Exchange Specific Value]`*	An ***exchange specific value***, specifying the amount of underlying asset represented by each derivative contract.

2.1.3. MarketSegmentID

The values of the referential tag **MarketSegmentID** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to detail the ID of the market segment.

QuantFEED® implementation of the tag `MarketSegmentID` is described below:

Table 7 MarketSegmentID – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`MarketSegmentID`	QuantFEED® tag name.
Numeric ID	`1300`	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***, detailing the ID of the market segment.

2.1.4. OperatingMIC

The values of the referential tag **OperatingMIC** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the parent MIC.

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

Table 8 OperatingMIC – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`OperatingMIC`	QuantFEED® tag name.
Numeric ID	`9533`	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	*`[Exchange Specific Value]`*	An ***exchange specific value***, specifying the parent MIC.
Possible Values	`RTSX`	MOSCOW EXCHANGE-DERIVATIVES AND CLASSICA MARKET

2.1.5. Description

The values of the referential tag **Description** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to characterize an instrument.

QuantFEED® implementation of the tag `Description` is detailed in the table below:

Table 9 Description – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`Description`	QuantFEED® tag name.
Numeric ID	`107`	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***, characterizing the instrument.

2.1.6. SecurityType

The values of the referential tag **Security Type** conveyed on the RTS FAST 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`):

Table 10 SecurityType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SecurityType`	QuantFEED® tag name.
Numeric ID	`167`	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	*`[Exchange Specific Value]`*	An ***exchange specific value***, detailing the type of security.

Table 10 SecurityType – technical implementation in QuantFEED® (Continued)

Component	Value	Description
Possible Values	COMMODITY	Commodity
	CS	Common Stock
	FUT	Future
	INDEX	Index
	MLEG	Multileg
	OPT	Options
	TB	Treasury Bill - non US

2.1.7. FOSMarketId

The values of the referential tag **FOSMarketId** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to identify a security.

QuantFEED® implementation of the tag `FOSMarketId` is described in the table below (existing values are in `black`, newly added values are in `green`):

Table 11 FOSMarketId – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	FOSMarketId	QuantFEED® tag name.
Numeric ID	207	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	UInt16	UInt16 data type.
Format	*[Exchange Specific Value]*	An ***exchange specific value***, specifying the market used to help identify a security.
Possible Values	RTSX	RTS Stock Exchange
	UKEX	Ukrainian Exchange
	ETSC	ETS Eurasian Trading System Commodity Exchange

2.1.8. CFICode

The values of the referential tag **CFI Code** conveyed on the RTS FAST 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 12 CFICode – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	CFICode	QuantFEED® tag name.
Numeric ID	461	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	*[Exchange Specific Value]*	An ***exchange specific value***, detailing the standardized identification code of an instrument.

Table 12 CFICode – technical implementation in QuantFEED® (Continued)

Component	Value	Description
Possible Values	DBXXXX	Debts - Bonds
	ESXXXX	Equities - Shares
	FXXXXX	Futures
	~~MRIXXX~~	Other - Referential Instruments - Indices
	~~MXXXXX~~	Other
	OCAFPX	Options - Call Options - American - Futures - Physical
	OPAFPX	Options - Put Options - American - Futures - Physical
	~~OPEXXX~~	Options - Put Options - European
	TIXXXX	Referential Instruments - Indices
	TTAXXX	Referential Instruments - Commodities - Agriculture, forestry and fishing
	TTEXXX	Referential Instruments - Commodities - Extraction Resources

The list below shows the possible combinations of `FOSMarketIds`, `SecurityTypes` and `CFICodes`, before and after the migration day:

```
BEFORE the the migration day
{ RTSX CS          ESXXXX }
{ RTSX FUT         FXXXXX }
{ RTSX INDEX       MRIXXX }
{ RTSX MLEG        MXXXXX }
{ RTSX OPT         OPEXXX }
```

```
AFTER the the migration day
{ RTSX FUT         FXXXXX }
{ RTSX INDEX       TIXXXX }
{ RTSX MLEG        FXXXXX }
{ RTSX OPT         OCAFPX }
{ RTSX OPT         OPAFPX }
{ UKEX CS          ESXXXX }
{ UKEX FUT         FXXXXX }
{ UKEX INDEX       TIXXXX }
{ UKEX OPT         OCAFPX }
{ UKEX OPT         OPAFPX }
{ UKEX TB          DBXXXX }
{ ETSC COMMODITY   TTAXXX }
{ ETSC COMMODITY   TTEXXX }
```

Referential Data Sample

Below is an example of the referential tags implementation before and after the upgrade (newly added tags are in `green`, tags disseminating updated values are in `blue`, and removed tags are in ~~`crossed-out red`~~):

Referential Data before the migration day

```
instr # 209/25573 = 438330341
    PriceCurrency               string{RUB}
    Symbol                      string{O6U4O6Z4}
    Description                 string{OFZ6-9.14-12.14}
    SecurityType                string{MLEG}
    FOSMarketId                 RTSX
    CFICode                     string{MXXXXX}
    NbLegs                      uint8{2}
    RoundLot                    float64{10}
    InternalCreationDate        Timestamp{2014-08-25 04:50:39:096}
    InternalModificationDate    Timestamp{2014-08-25 04:50:51:912}
    InternalSourceId            uint16{12}
    InternalAggregationId       uint16{187}
    LocalCodeStr                string{O6U4O6Z4}
    PriceIncrement_static       float64{1}
    UnderlyingLocalCodeStr      string{OFZ6}
    MaturityYear                uint16{2014}
    MaturityMonth               uint8{9}
    MaturityDay                 uint8{4}
    LegFOSInstrumentCode        uint32{438330337}
    LegFOSInstrumentCode_1      uint32{438328021}
    LegRatioQty                 float64{1}
    LegRatioQty_1               float64{1}
    LegFIXSide                  '1'=Buy
    LegFIXSide_1                '2'=Sell
```

Referential Data after the migration day

```
instr # 209/1006875 = 439311643
    PriceCurrency               string{RUB}
    Symbol                      string{O6U4O6Z4}
    Description                 string{Календарный спред OFZ6-9.14-12.14}
    SecurityType                string{MLEG}
    StdMaturity                 string{20140904}
    FOSMarketId                 RTSX
    ContractMultiplier          float64{10}
    CFICode                     string{FXXXXX}
    NbLegs                      uint8{2}
    MarketSegmentID             string{F}
    InternalCreationDate        Timestamp{2014-08-18 14:51:07:160}
    InternalModificationDate    Timestamp{2014-08-18 14:51:07:160}
    InternalSourceId            uint16{55}
    InternalAggregationId       uint16{55}
    InternalEntitlementId       int32{1160}
    LocalCodeStr                string{170700870}
    PriceIncrement_static       float64{1}
    MaturityYear                uint16{2014}
    MaturityMonth               uint8{9}
    MaturityDay                 uint8{4}
    OperatingMIC                string{RTSX}
    LegFOSInstrumentCode_1      uint32{165054790}
    LegFOSInstrumentCode_2      uint32{170697030}
    LegRatioQty_1               float64{1}
    LegRatioQty_2               float64{1}
    LegFIXSide_1                '2'=Sell
    LegFIXSide_2                '1'=Buy
```

2.2. Changes to the Level 1 Quotation Data

S&P Capital IQ Real-Time Solutions **introduces** the quotation tags below to accommodate the information disseminated on the Level 1 of the RTS FAST market data stream:

Table 13 Quotation tags added on the RTS FAST market data stream

Tag Name	Numeric ID	Type
LowLimitPrice	1148	Float64
HighLimitPrice	1149	Float64
TradingSessionId	9101	Int8
SessionTotalOffBookAssetTraded	9114	Float64
SessionTotalOffBookVolumeTraded	9115	Float64
SessionTotalVolumeTraded	9120	Float64
PreviousSessionClosingPrice	9122	Float64
SessionHighPrice	9124	Float64
SessionLowPrice	9125	Float64
SessionVWAPrice	9126	Float64
SessionTotalAssetTraded	9127	Float64
DailySettlementPrice	9133	Float64
OpenInterest	9150	Float64
InternalDailyClosingPriceType	9155	Char
PriceActivityMarketTimestamp	9309	Timestamp
SettlementPriceDate	9380	Timestamp

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

Table 14 Quotation tags disseminating updated values on the RTS FAST market data stream

Tag Name	Numeric ID	Type
TradingStatus	9100	Enum

2.2.1. LowLimitPrice

The values of the quotation tag **LowLimitPrice** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the low limit of a 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 `LowLimitPrice` is described in the following table:

Table 15 LowLimitPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`LowLimitPrice`	QuantFEED® tag name.
Numeric ID	`1148`	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***, indicating the low limit of a price.

2.2.2. HighLimitPrice

The values of the quotation tag **HighLimitPrice** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the high limit of a 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 `HighLimitPrice` is described in the following table:

Table 16 HighLimitPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`HighLimitPrice`	QuantFEED® tag name.
Numeric ID	`1149`	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***, indicating the high limit of a price.

2.2.3. TradingSessionId

The values of the quotation tag **TradingSessionId** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the ID of the current trading session:

- 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 `TradingSessionId` is described in the following table:

Table 17 TradingSessionId – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`TradingSessionId`	QuantFEED® tag name.
Numeric ID	`9101`	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	`Int8`	Int8 data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, indicating the ID of the current trading session.

2.2.4. SessionTotalOffBookAssetTraded

The values of the quotation tag **SessionTotalOffBookAssetTraded** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the total number of assets traded off book during the current trading session:

- 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 `SessionTotalOffBookAssetTraded` is described in the table below:

Table 18 SessionTotalOffBookAssetTraded – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SessionTotalOffBookAssetTraded`	QuantFEED® tag name.
Numeric ID	`9114`	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 total number of assets traded off book during the current trading session.

2.2.5. SessionTotalOffBookVolumeTraded

The values of the quotation tag **SessionTotalOffBookVolumeTraded** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the total volume traded off book during the current trading session:

- 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 `SessionTotalOffBookVolumeTraded` is described in the table below:

Table 19 SessionTotalOffBookVolumeTraded – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SessionTotalOffBookVolumeTraded`	QuantFEED® tag name.
Numeric ID	`9115`	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 total volume traded off book during the current trading session.

2.2.6. SessionTotalVolumeTraded

The values of the quotation tag **SessionTotalVolumeTraded** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the total volume traded during the current trading session:

- 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 `SessionTotalVolumeTraded` is described in the table below:

Table 20 SessionTotalVolumeTraded – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SessionTotalVolumeTraded`	QuantFEED® tag name.
Numeric ID	`9120`	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 total volume traded during the current trading session.

2.2.7. PreviousSessionClosingPrice

The values of the quotation tag **PreviousSessionClosingPrice** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the closing price value of the previous trading session:

- 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 `PreviousSessionClosingPrice` is described in the table below:

Table 21 PreviousSessionClosingPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousSessionClosingPrice`	QuantFEED® tag name.
Numeric ID	`9122`	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 closing price value of the previous trading session.

2.2.8. SessionHighPrice

The values of the quotation tag **SessionHighPrice** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the highest price value of the current trading session:

- 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 `SessionHighPrice` is described in the table below:

Table 22 SessionHighPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SessionHighPrice`	QuantFEED® tag name.
Numeric ID	`9124`	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 highest price value of the current trading session.

2.2.9. SessionLowPrice

The values of the quotation tag **SessionLowPrice** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the lowest price value of the current trading session:

- 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 `SessionLowPrice` is described in the table below:

Table 23 SessionLowPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SessionLowPrice`	QuantFEED® tag name.
Numeric ID	`9125`	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 lowest price value of the current trading session.

2.2.10. SessionVWAPrice

The values of the quotation tag **SessionVWAPrice** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the volume-weighted average price value of the current trading session:

- 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 `SessionVWAPrice` is described in the table below:

Table 24 SessionVWAPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SessionVWAPrice`	QuantFEED® tag name.
Numeric ID	`9126`	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 volume-weighted average price value of the current trading session.

2.2.11. SessionTotalAssetTraded

The values of the quotation tag **SessionTotalAssetTraded** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the total number of assets traded during the current trading session:

- 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 `SessionTotalAssetTraded` is described in the table below:

Table 25 SessionTotalAssetTraded – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`SessionTotalAssetTraded`	QuantFEED® tag name.
Numeric ID	`9127`	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 total number of assets traded during the current trading session.

2.2.12. DailySettlementPrice

The values of the quotation tag **DailySettlementPrice** conveyed on the RTS FAST 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 26 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.

2.2.13. OpenInterest

The values of the quotation tag **OpenInterest** conveyed on the RTS FAST 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 27 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.

2.2.14. InternalDailyClosingPriceType

The values of the quotation tag **InternalDailyClosingPriceType** conveyed on the RTS FAST 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 (the values disseminated as of the migration day are highlighted in `green`):

Table 28 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, as described below.

Table 28 InternalDailyClosingPriceType – technical implementation in QuantFEED® (Continued)

Component	Value	Description
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).

2.2.15. PriceActivityMarketTimestamp

The values of the quotation tag **PriceActivityMarketTimestamp** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the time of the last change of a book or trade, in terms of Last Price, Bid or Ask:

- 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 `PriceActivityMarketTimestamp` is described below:

Table 29 PriceActivityMarketTimestamp – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PriceActivityMarketTimestamp`	QuantFEED® tag name.
Numeric ID	9309	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 time of the last change of a book or trade, in terms of Last Price, Bid or Ask.

2.2.16. SettlementPriceDate

The values of the quotation tag **SettlementPriceDate** conveyed on the RTS FAST 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 30 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.

2.2.17. TradingStatus

Each time a modification of the trading status occurs, the values of the quotation tag **Trading Status** in the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Other Values*:

- 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 **Trading Status** is described in the table below (newly added values are in `green`):

Table 31 TradingStatus – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`TradingStatus`	QuantFEED® tag name.
Numeric ID	9100	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	`Enum`	Enumeration data type.
Format	*`[Exchange Specific Value]`*	An ***exchange specific value***, as described below, concerning the characteristics of the trading status.
Possible Values	2	Trading Halt
	5	Price Indication
	17	Ready to Trade
	18	Not Available for Trading
	~~20~~	Unknown or Invalid
	21	Pre-Open

Quotation Data Sample

Below is an example of the quotation tags implementation before and after the upgrade (newly added tags are in green and tags disseminating updated values are in blue):

Quotation Data before the migration day

```
InstrumentStatusL1
-- 209/17316
        BID: 13782      20
        ASK: 13806      2
        LastPrice                       float64{13805}
        LastTradeQty                    float64{1}
        DailyHighPrice                  float64{13987}
        DailyLowPrice                   float64{13756}
        DailyTotalVolumeTraded          float64{200}
        DailyTotalAssetTraded           float64{2773658}
        LastTradePrice                  float64{13805}
        LastTradeTimestamp              Timestamp{2014-08-22 09:48:48:673}
        InternalDailyOpenTimestamp      Timestamp{2014-08-21 14:49:46:062}
        InternalDailyCloseTimestamp     Timestamp{2014-08-21 14:49:35:546}
        InternalPriceActivityTimestamp  Timestamp{2014-08-22 09:50:31:281}
        TradingStatus                   17=ReadyToTrade
        DailyOpeningPrice               float64{13942}
        PreviousDailyTotalVolumeTraded  float64{753}
        PreviousDailyTotalAssetTraded   float64{10567959}
        PreviousDailyClosingPrice       float64{13904}
        PreviousBusinessDay             Timestamp{2014-08-20}
        CurrentBusinessDay              Timestamp{2014-08-21}
        PreviousDailySettlementPrice    float64{13914}
```

Quotation Data after the migration day

```
InstrumentStatusL1
-- 209/1001060
        BID: 13794      4
        ASK: 13814      2
        LastPrice                       float64{13805}
        LastTradeQty                    float64{1}
        DailyHighPrice                  float64{13987}
        DailyLowPrice                   float64{13756}
        DailyTotalVolumeTraded          float64{200}
        DailyTotalAssetTraded           float64{2773658}
        LastTradePrice                  float64{13805}
        LastTradeTimestamp              Timestamp{2014-08-22 09:48:48:673}
        InternalDailyOpenTimestamp      Timestamp{2014-08-21 15:00:00:015}
        InternalDailyCloseTimestamp     Timestamp{2014-08-21 14:45:02:016}
        InternalDailyHighTimestamp      Timestamp{2014-08-22 06:01:13:272}
        InternalDailyLowTimestamp       Timestamp{2014-08-22 09:31:21:168}
        InternalPriceActivityTimestamp  Timestamp{2014-08-22 09:49:03:020}
        LowLimitPrice                   float64{12682}
        HighLimitPrice                  float64{15146}
        TradingStatus                   17=ReadyToTrade
        TradingSessionId                int8{1}
        SessionTotalOffBookAssetTraded  float64{0}
        SessionTotalOffBookVolumeTraded float64{0}
        SessionTotalVolumeTraded        float64{200}
        PreviousSessionClosingPrice     float64{13904}
        SessionHighPrice                float64{13987}
        SessionLowPrice                 float64{13756}
        SessionVWAPPrice                float64{13868}
        SessionTotalAssetTraded         float64{2773658}
        DailyOpeningPrice               float64{13942}
        PreviousDailyTotalVolumeTraded  float64{753}
        PreviousDailyTotalAssetTraded   float64{10567959}
        PreviousDailyClosingPrice       float64{13904}
        PreviousBusinessDay             Timestamp{2014-08-21}
        CurrentBusinessDay              Timestamp{2014-08-22}
        PreviousDailySettlementPrice    float64{13914}
        OpenInterest                    float64{27384}
        InternalDailyClosingPriceType   char{a}
        PriceActivityMarketTimestamp    Timestamp{2014-08-22 09:49:03:033}
        SettlementPriceDate             Timestamp{2014-08-21}
```

2.3. Changes to the Level 1 Quotation Context Data

S&P Capital IQ Real-Time Solutions **introduces** the quotation context tags below to accommodate the information broadcast on the RTS FAST market data stream:

Table 32 Quotation context tags added on the RTS FAST market data stream

Tag Name	Numeric ID	Type
TradeID	1003	String

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

Table 33 Quotation context tags no longer disseminated on the RTS FAST market data stream

Tag Name	Numeric ID	Type
MARKET_RTS_TradeStatusSellSide	16270	UInt32
MARKET_RTS_TradeStatusBuySide	16271	UInt32

2.3.1. TradeID

Each time a trade occurs, the values of the quotation context tag **TradeID** conveyed on the RTS FAST market data stream are disseminated via QuantFEED® data stream in *Context* to detail the unique ID assigned to the trade entity once it is received or matched by the exchange or central counterparty:

- 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 `TradeID` is described in the table below:

Table 34 TradeID – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	TradeID	QuantFEED® tag name.
Numeric ID	1003	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***, detailing the unique ID assigned to the trade entity once it is received or matched by the exchange or central counterparty.

Quotation Context Data Sample

Below is an example of the quotation context tags implementation before and after the upgrade (newly added tags are in green and removed tags are in ~~crossed out red~~):

Quotation Context Data before the migration day

```
"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  14:50:05:497 438327677  0  244   *   *   *   *   f
MARKET_RTS_TradeStatusSellSide=uint32{33554436},MARKET_RTS_TradeStatusBuySide=uint32{335544
36}
TE  14:50:05:497 438327677  0  244   *   *   *   *   f
MARKET_RTS_TradeStatusSellSide=uint32{33554436},MARKET_RTS_TradeStatusBuySide=uint32{335544
36}
```

Quotation Context Data after the migration day

```
"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  10:45:56:549  439308441  18  244   *   *   *   *   TradeID=924628118
TE  10:45:56:551  439308441  18  244   *   *   *   *   TradeID=924628119
```

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.