S&P Capital IQ Real-Time Solutions

QuantFEED® Developer's Notice

MICEX Migration to MICEX FAST

Reference n°: 20140623 – 20288 – 20610

Effective as of: 2014*

Action required from users: MANDATORY ACTION

* For the actual day when the changes to your custom feed handler take effect, please contact your QuantFEED® project manager.

S&P Capital IQ Real-Time Solutions (QuantHouse®) – QuantFEED®
QuantFEED® Developer's Notice
Reference 20140623 – 20288 – 20610
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MIGRATION OF THE MICEX MARKET DATA STREAM TO THE MICEX FAST MARKET DATA STREAM

To reflect the changes caused by the migration of the MICEX 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
- 2. QuantFEED® Technical Implementation
- 3. Finding the Latest Information.

1. Update Summary

Table 1 Current update summary

Notice Reference	20140623 – 20288 – 20610
Exchanges	MICEX
Concerned MICs	MISX
Internal Source ID	183
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 2.2.1. SecurityType, 2.2.2. CFICode, 2.3.1. TradingStatus.

2. QuantFEED® Technical Implementation

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

- 2.1. Changes to the Level 1 Events
- 2.2. Changes to the Level 1 Referential Data
- 2.3. Changes to the Level 1 Quotation Data.

2.1. Changes to the Level 1 Events

The sections below describe the changes on:

- 2.1.1. BBO Data in L1 Events
- 2.1.2. Trade Data in L1 Events.

2.1.1. BBO Data in L1 Events

The Best Bid Offer is now enriched with the Number of orders, as shown below (newly added objects are in `green`):

```
BEFORE the migration day                                  AFTER the migration day
-- 486/6738                                               -- 486/1002165
        BID: 99.4     0      *NO ORDER*                           BID: 97.5     648      @2
        ASK: 99.7     0      *NO ORDER*                           ASK: 99.7     180      @2
[...]                                                     [...]
```

2.1.2. Trade Data in L1 Events

Before the migration day, the Bid and Ask values and the `LastTradeQty` field were multiplied by `RoundLot`. After the migration day, the trade quantities are no longer multiplied by `RoundLot`, as shown below:

```
BEFORE the migration day                                  AFTER the migration day
instr # 486/24631 = 1019240503                            instr # 486/1011757 = 1020227629
    PriceCurrency       string{RUB}                           PriceCurrency       string{RUB}
    Symbol              string{GAZP}                          Symbol              string{GAZP}
    Description         string{Gazprom}                       Description         string{Gazprom}
    SecurityType        string{CS}                            SecurityType        string{CS}
    FOSMarketId         MISX                                  FOSMarketId         MISX
    CFICode             string{ESXXXX}                        CFICode             string{ESXXXX}
    RoundLot            float64{10}                           RoundLot            float64{10}
[...]                                                     [...]

InstrumentStatusL1                                        InstrumentStatusL1
-- 486/24631                                              -- 486/1011757
        BID: 145.81     8740                                      BID: 145.81     874      @2
        ASK: 145.86     2050                                      ASK: 145.86     205      @2
        LastPrice       float64{145.81}                           LastPrice       float64{145.81}
        LastTradeQty    float64{100}                              LastTradeQty    float64{10}
[...]                                                     [...]
```

2.2. 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 MICEX FAST market data stream:

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

Tag Name	Numeric ID	Type
`PriceDisplayPrecision`	9507	Int16
`OperatingMIC`	9533	String
`OutstandingSharesBillions`	9557	Int32
`OutstandingShares`	9558	Int32

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 MICEX FAST market data stream

Tag Name	Numeric ID	Type
`SecurityType`	167	String
`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 MICEX FAST market data stream

Tag Name	Numeric ID	Type
`MARKET_MICEX_FaceValueCurrency`	11402	String
`MARKET_MICEX_QuoteBasis`	11403	String

2.2.1. SecurityType

The values of the referential tag **Security Type** conveyed on the MICEX 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`, 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
	`COFP`	Certificate of Participation
	`CORP`	Corporate Bond
	`CS`	Common Stock
	`ETF`	Exchange-Traded Fund
	`EUSOV`	Euro Sovereigns

Table 5 SecurityType – technical implementation in QuantFEED® (Continued)

Component	Value	Description
Possible Values	FXFWD	FX Forward
	FXSPOT	FX Spot
	FXSWAP	FX Swap
	GO	General Obligation Bonds
	INDEX	Index
	MF	Mutual Fund (Exchangeable Traded Fund)
	PS	Preferred Stock
	~~TB~~	Treasury Bill - non US

2.2.2. CFICode

The values of the referential tag **CFI Code** conveyed on the MICEX 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 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	DBXTXX	Debts - Bonds - Government/Treasury guarantee
	DBXXXX	Debts - Bonds
	~~EMXXXX~~	Equities - Other
	EPXXXX	Equities - Preferred Shares
	ESXXXX	Equities - Shares
	~~EUCXXX~~	Equities - Units - Closed-end
	EUOXXE	Equities - Units - Open-end - Exchange Traded-Funds
	~~EUOXXX~~	Equities - Units - Open-end
	EUXXXX	Equities - Units
	~~MRCXXX~~	Other - Referential Instruments - Currencies
	~~MRIXXX~~	Other - Referential Instruments - Indices
	TCFXXX	Referential Instruments - Currencies - Forward
	TCSXXX	Referential Instruments - Currencies - Spot rate
	TIXXXX	Referential Instruments - Indices
	~~XXXXXX~~	Undefined

The example below shows the list `SecurityTypes` and `CFICodes`, before and after the migration day:

```
BEFORE the the migration day        AFTER the the migration day
CORP   DBXXXX                       COFP    EUXXXX
CS     ESXXXX                       CORP    DBXXXX
INDEX  MRIXXX                       CS      ESXXXX
MF     EUCXXX                       ETF     EUOXXE
MF     EUOXXX                       EUSOV   DBXTXX
NONE   DBXXXX                       FXFWD   TCFXXX
NONE   EMXXXX                       FXSPOT  TCSXXX
NONE   MRCXXX                       FXSWAP  TCFXXX
NONE   XXXXXX                       GO      DBXXXX
PS     EPXXXX                       INDEX   TIXXXX
TB     DBXXXX                       MF      EUXXXX
                                    PS      EPXXXX
```

2.2.3. PriceDisplayPrecision

The values of the referential tag **PriceDisplayPrecision** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the number of decimals to be shown after the separator.

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

Table 7 PriceDisplayPrecision – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PriceDisplayPrecision`	QuantFEED® tag name.
Numeric ID	`9507`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Int16`	Int16 data type.
Format / Possible Values	*[Exchange Specific Value]*	An ***exchange specific value***, specifying the number of decimals to be shown after the separator.

2.2.4. OperatingMIC

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

QuantFEED® implementation of the values currently available for 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 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	`MISX`	ASX BookBuild

2.2.5. OutstandingSharesBillions

The values of the referential tag **OutstandingSharesBillions** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the number of total financial assets purchased and held by investors, expressed in billions (10^9 units).

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

Table 9 OutstandingSharesBillions – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`OutstandingSharesBillions`	QuantFEED® tag name.
Numeric ID	`9557`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Int32`	Int32 data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, specifying the number of total financial assets purchased and held by investors, expressed in billions (10^9 units).

2.2.6. OutstandingShares

The values of the referential tag **OutstandingShares** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Referential* to specify the number of total financial assets purchased and held by investors, expressed in units.

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

Table 10 OutstandingShares – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`OutstandingShares`	QuantFEED® tag name.
Numeric ID	`9557`	QuantFEED® unique ID disseminated on S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Type	`Int32`	Int32 data type.
Format / Possible Values	*`[Exchange Specific Value]`*	An ***exchange specific value***, specifying the number of total financial assets purchased and held by investors, expressed in units.

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 # 486/24631 = 1019240503
    PriceCurrency                 string{RUB}
    Symbol                        string{GAZP}
    Description                   string{Gazprom}
    SecurityType                  string{CS}
    FOSMarketId                   MISX
    CFICode                       string{ESXXXX}
    RoundLot                      float64{10}
    SecuritySubType               string{EQIN}
    MarketSegmentID               string{TQBR}
    InternalCreationDate          Timestamp{2014-06-09 04:58:10:511}
    InternalModificationDate      Timestamp{2014-06-17 04:58:09:562}
    InternalSourceId              uint16{183}
    InternalAggregationId         uint16{184}
    LocalCodeStr                  string{TQBR_GAZP}
    ISIN                          string{RU0007661625}
    PriceIncrement_static         float64{0.01}
    MARKET_MICEX_FaceValue        float64{5}
    MARKET_MICEX_FaceValueCurrency  string{RUB}
    MARKET_MICEX_QuoteBasis       string{R}
```

Referential Data After the migration day

```
instr # 486/1011757 = 1020227629
    PriceCurrency                 string{RUB}
    Symbol                        string{GAZP}
    Description                   string{Gazprom}
    SecurityType                  string{CS}
    FOSMarketId                   MISX
    CFICode                       string{ESXXXX}
    RoundLot                      float64{10}
    MarketSegmentID               string{TQBR}
    InternalCreationDate          Timestamp{2014-06-07 11:10:15:946}
    InternalModificationDate      Timestamp{2014-06-07 11:10:15:946}
    InternalAggregationId         uint16{248}
    InternalEntitlementId         int32{1176}
    LocalCodeStr                  string{TQBR_GAZP}
    ISIN                          string{RU0007661625}
    PriceIncrement_static         float64{0.01}
    PriceDisplayPrecision         int16{2}
    OperatingMIC                  string{MISX}
    OutstandingSharesBillions     int32{23}
    OutstandingShares             int32{673512900}
    MARKET_MICEX_FaceValue        float64{5}
```

2.3. 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 MICEX FAST market data stream:

Table 11 Quotation tags added on the MICEX FAST market data stream

Tag Name	Numeric ID	Type
`DailyClosingPrice`	9132	Float64
`PreviousDailyTotalVolumeTraded`	9137	Float64
`PreviousDailyTotalAssetTraded`	9138	Float64
`PreviousBusinessDay`	9143	TImestamp
`InternalDailyClosingPriceType`	9155	Char
`DailyHighBidPrice`	9174	Float64
`DailyLowAskPrice`	9177	Float64
`AccruedInterest`	9228	Float64
`PriceActivityMarketTimestamp`	9309	TImestamp

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

Table 12 Quotation tags disseminating updated values on the MICEX FAST market data stream

Tag Name	Numeric ID	Type
`TradingStatus`	9100	Enum

2.3.1. TradingStatus

Each time a modification of the trading status occurs, the values of the quotation tag **Trading Status** in the MICEX 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 13 TradingStatus – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`TradingStatus`	QuantFEED® tag name.
Numeric ID	9100	QuantFEED® unique ID disseminated on 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	5	Price Indication
	17	Ready to Trade
	18	Not Available for Trading
	21	Pre-Open

2.3.2. DailyClosingPrice

The values of the quotation tag **DailyClosingPrice** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the 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 `DailyClosingPrice` is described in the table below:

Table 14 DailyClosingPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`DailyClosingPrice`	QuantFEED® tag name.
Numeric ID	`9132`	QuantFEED® unique ID disseminated on 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 daily closing price.

2.3.3. PreviousDailyTotalVolumeTraded

The values of the quotation tag **PreviousDailyTotalVolumeTraded** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the total volume traded during the previous day:

- 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 `PreviousDailyTotalVolumeTraded` is described in the table below:

Table 15 PreviousDailyTotalVolumeTraded – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousDailyTotalVolumeTraded`	QuantFEED® tag name.
Numeric ID	`9137`	QuantFEED® unique ID disseminated on 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 previous day.

2.3.4. PreviousDailyTotalAssetTraded

The values of the quotation tag **PreviousDailyTotalVolumeTraded** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to specify the total number of assets traded during the previous day:

- 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 `PreviousDailyTotalVolumeTraded` is described in the table below:

Table 16 PreviousDailyTotalVolumeTraded – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousDailyTotalVolumeTraded`	QuantFEED® tag name.
Numeric ID	`9138`	QuantFEED® unique ID disseminated on 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 previous day.

2.3.5. PreviousBusinessDay

The values of the quotation tag **PreviousBusinessDay** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the previous business day:

- 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 `PreviousBusinessDay` is described below:

Table 17 PreviousBusinessDay – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PreviousBusinessDay`	QuantFEED® tag name.
Numeric ID	`9143`	QuantFEED® unique ID disseminated on 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 previous business day.

2.3.6. InternalDailyClosingPriceType

The values of the quotation tag **InternalDailyClosingPriceType** conveyed on the MICEX 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 values available for the tag `InternalDailyClosingPriceType` is described in the table below (the values disseminated as of the migration day are highlighted in `green`):

Table 18 InternalDailyClosingPriceType – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`InternalDailyClosingPriceType`	QuantFEED® tag name.
Numeric ID	9155	QuantFEED® unique ID disseminated on 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.
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).

2.3.7. DailyHighBidPrice

The values of the quotation tag **DailyHighBidPrice** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the highest bid price of the trading day:

- 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 `DailyHighBidPrice` is described below:

Table 19 DailyHighBidPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`DailyHighBidPrice`	QuantFEED® tag name.
Numeric ID	`9174`	QuantFEED® unique ID disseminated on 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 highest bid price of the trading day.

2.3.8. DailyLowAskPrice

The values of the quotation tag **DailyLowAskPrice** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the lowest ask price of the trading day:

- 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 `DailyLowAskPrice` is described below:

Table 20 DailyLowAskPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`DailyLowAskPrice`	QuantFEED® tag name.
Numeric ID	`9177`	QuantFEED® unique ID disseminated on 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 lowest ask price of the trading day.

2.3.9. AccruedInterest

The values of the quotation tag **AccruedInterest** conveyed on the MICEX FAST market data stream are disseminated via QuantFEED® data stream in *Other Values* to indicate the value of the accrued interest:

- 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 `AccruedInterest` is described below:

Table 21 DailyLowAskPrice – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`AccruedInterest`	QuantFEED® tag name.
Numeric ID	`9228`	QuantFEED® unique ID disseminated on 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 value of the accrued interest.

2.3.10. PriceActivityMarketTimestamp

The values of the quotation tag **PriceActivityMarketTimestamp** conveyed on the MICEX 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 if 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 22 PriceActivityMarketTimestamp – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	`PriceActivityMarketTimestamp`	QuantFEED® tag name.
Numeric ID	`9309`	QuantFEED® unique ID disseminated on 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.

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
-- 486/6738
        BID: 99.4       0       *NO ORDER*
        ASK: 99.7       0       *NO ORDER*
        LastPrice                       float64{99.4}
        LastTradeQty                    float64{100}
        DailyHighPrice                  float64{99.47}
        DailyLowPrice                   float64{99.2501}
        DailyTotalVolumeTraded          float64{14050}
        DailyTotalAssetTraded           float64{1395672.8768}
        LastTradePrice                  float64{99.4}
        LastTradeTimestamp              Timestamp{2014-06-10 14:24:40}
        InternalDailyOpenTimestamp      Timestamp{2014-06-10 05:45:00:051}
        InternalDailyCloseTimestamp     Timestamp{2014-06-10 16:02:00:909}
        InternalDailyHighTimestamp      Timestamp{2014-06-10 14:16:53:521}
        InternalDailyLowTimestamp       Timestamp{2014-06-10 11:17:34:427}
        InternalPriceActivityTimestamp  Timestamp{2014-06-10 14:45:01:790}
        TradingStatus                   18=NotAvailableForTrading
        SessionVWAPPrice                float64{99.3361}
        DailyOpeningPrice               float64{99.35}
        PreviousDailyClosingPrice       float64{99.4054}
        CurrentBusinessDay              Timestamp{2014-06-10}
```

Quotation Data After the migration day

```
InstrumentStatusL1
-- 486/1002165
        BID: 97.5       648       @2
        ASK: 99.7       180       @2
        LastPrice                      float64{99.4054}
        LastTradeQty                   float64{100}
        DailyHighPrice                 float64{99.47}
        DailyLowPrice                  float64{99.2501}
        DailyTotalVolumeTraded         float64{14050}
        DailyTotalAssetTraded          float64{1395672.8768}
        LastTradePrice                 float64{99.4}
        LastTradeTimestamp             Timestamp{2014-06-10 14:24:40}
        InternalDailyOpenTimestamp     Timestamp{2014-06-10 06:00:00:375}
        InternalDailyCloseTimestamp    Timestamp{2014-06-10 14:50:00:212}
        InternalDailyHighTimestamp     Timestamp{2014-06-10 14:16:53:489}
        InternalDailyLowTimestamp      Timestamp{2014-06-10 11:17:34:419}
        InternalPriceActivityTimestamp Timestamp{2014-06-10 14:50:00:212}
        TradingStatus                  18=NotAvailableForTrading
        SessionVWAPPrice               float64{99.3361}
        DailyOpeningPrice              float64{99.35}
        DailyClosingPrice              float64{99.4054}
        PreviousDailyTotalVolumeTraded float64{8700}
        PreviousDailyTotalAssetTraded  float64{864380.5545}
        PreviousDailyClosingPrice      float64{99.4}
        PreviousBusinessDay            Timestamp{2014-06-09}
        CurrentBusinessDay             Timestamp{2014-06-10}
        InternalDailyClosingPriceType  char{a}
        DailyHighBidPrice              float64{99.47}
        DailyLowAskPrice               float64{99.27}
        AccruedInterest                float64{1.15}
        PriceActivityMarketTimestamp   Timestamp{2014-06-10 14:50:00:212}
```

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.