



S&P Capital IQ Real-Time Solutions

FeedOS™ Feed Description

SGX EQUITIES

Reference n°: 20150724 - 26458 - 26685 - 27246

S&P Capital IQ Real-Time Solutions FeedOS[™] Feed Description: SGX EQUITIES Reference 20150724 – 26458 – 26685 – 27246 July 24, 2015

France

52 Rue de la Victoire 75009 Paris France

Tel: +33 (0) 1 73 02 32 11

United States

55 Water Street, 44th floor New York, NY 10041 United States of America Tel: +1-(212)-438-4346

United Kingdom

20 Canada Square Canary Wharf London E14 5LH United Kingdom Tel: +44 (0) 203 107 1676 Chicago, IL 60601 United States of America Tel: +1-(312)-233-7129

Singapore

130 East Randolph

One Prudential Plaza, Suite 2900

12 Marina Boulevard #23-01 Marina Bay Financial Centre Tower 3 Singapore 018982 Tel: +65 6530 6546

www.spcapitaliq.com

Copyright © 2015 by Standard & Poor's Financial Services LLC, a part of McGraw Hill Financial.

All rights reserved. S&P CAPITAL IQ is a trademark of Standard & Poor's Financial Services LLC. STANDARD & POOR'S, S&P, GLOBAL CREDIT PORTAL and RATINGSDIRECT are registered trademarks of Standard & Poor's Financial Services LLC.

No content (including ratings, credit-related analyses and data, valuations, model, software or other application or output therefrom) or any part thereof (Content) may be modified, reverse engineered, reproduced or distributed in any form by any means, or stored in a database or retrieval system, without the prior written permission of Standard & Poor's Financial Services LLC or its affiliates (collectively, S&P). The Content shall not be used for any unlawful or unauthorized purposes. S&P and any third-party providers, as well as their directors, officers, shareholders, employees or agents (collectively S&P Parties) do not guarantee the accuracy, completeness, timeliness or availability of the Content. S&P Parties are not responsible for any errors or omissions (negligent or otherwise), regardless of the cause, for the results obtained from the use of the Content, or for the security or maintenance of any data input by the user. The Content is provided on an "as is" basis. S&P PARTIES DISCLAIM ANY AND ALL EXPRESS OR IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR USE, FREEDOM FROM BUGS, SOFTWARE ERRORS OR DEFECTS, THAT THE CONTENT'S FUNCTIONING WILL BE UNINTERRUPTED OR THAT THE CONTENT WILL OPERATE WITH ANY SOFTWARE OR HARDWARE CONFIGURATION. In no event shall S&P Parties be liable to any party for any direct, incidental, exemplary, compensatory, punitive, special or consequential damages, costs, expenses, legal fees, or losses (including, without limitation, lost income or lost profits and opportunity costs or losses caused by negligence) in connection with any use of the Content even if advised of the possibility of such damages.

Credit-related and other analyses, including ratings, and statements in the Content are statements of opinion as of the date they are expressed and not statements of fact or recommendations to purchase, hold, or sell any securities or to make any investment decisions. S&P assumes no obligation to update the Content following publication in any form or format. The Content should not be relied on and is not a substitute for the skill, judgment and experience of the user, its management, employees, advisors and/or clients when making investment and other business decisions. S&P's opinions and analyses do not address the suitability of any security. S&P does not act as a fiduciary or an investment advisor except where registered as such. While S&P has obtained information from sources it believes to be reliable, S&P does not perform an audit and undertakes no duty of due diligence or independent verification of any information it receives.

S&P keeps certain activities of its business units separate from each other in order to preserve the independence and objectivity of their respective activities. As a result, certain business units of S&P may have information that is not available to other S&P business units. S&P has established policies and procedures to maintain the confidentiality of certain non-public information received in connection with each analytical process.

TABLE OF CONTENTS

FeedOS™ SGX EQUITIES Feed Description	
1. Referential Data	
1.1. Available Markets and Branches	
1.1. Available Markets and branches.	
1.1.2. Branches	
1.2. Types of Instruments	
1.2.1. Bonds	
1.2.2. Equities	
1.2.3. Indices	
1.2.4. Warrants	
1.2.5. Forwards	
1.3. Specific Referential Tags	
1.3.1. Symbol	
1.3.2. RoundLot	
1.3.3. OperatingMIC	
1.3.4. SegmentMIC	
2. Quotation Data	
2.1. Quotation Values.	
2.2. TradingStatus	
2.3. Specific Quotation Tags	
2.3.1. Trade Conditions	
2.3.1.1. TradeCondition	
2.3.1.2. TradeID	
2.3.2. Other Values	
2.3.2.1. DailyClosingPrice	
2.3.2.2. LastAuctionImbalanceSide	
2.3.2.3. LastAuctionImbalanceVolume	
2.3.2.4. InternalDailyClosingPriceType	
2.3.2.5. MARKET_OMNET_OMX_TradingStateName	
2.4. MBL and MBO Data	
3. Closing Price	15
4. Special Behavior	15
4.1. Microsecond Timestamp Precision on the Level1 Market Data	
•	
5. Finding the Latest Information	14



FEEDOS™ SGX EQUITIES FEED DESCRIPTION

As part of the S&P Capital IQ Real-Time Solutions FeedOS $^{\infty}$ documentation, this feed description provides you with details about the types of data broadcast on the SGX EQUITIES market data stream, their possible values and current FeedOS technical implementation.

The topics this feed description covers include:

- 1. Referential Data
- 2. Quotation Data
- 3. Closing Price
- 5. Finding the Latest Information.

1. Referential Data

The following sections describe the characteristics of the referential data on the SGX EQUITIES market data stream, in terms of:

- 1.1. Available Markets and Branches
- 1.2. Types of Instruments
- 1.3. Specific Referential Tags.

1.1. Available Markets and Branches

This section details the list of markets and branches available on the SGX EQUITIES market data stream:

- 1.1.1. Markets
- 1.1.2. Branches.

1.1.1. Markets

The SGX EQUITIES market data stream disseminates informations about the following markets:

Table 1 List of markets available on the SGX EQUITIES market data stream

FeedOS Market ID	Market
XSES	Singapore Exchange

The following example shows the list of markets available on the SGX EQUITIES market data stream and their IDs, returned by the command dumps:

```
Note For details about the specific markets available on SGX Equities, see also the section 1.3.1. Symbol on page 5.
```

1.1.2. Branches

The example below shows the list of branches available on the SGX EQUITIES market data stream, returned by the command dumps. Each branch displays the following details: FOSMarketID, SecurityType, CFICode and Quantity (of instruments):

```
BRANCHES
   { XSES CS ESXXXA } qty: 159
   { XSES CS ESXXXX } qty: 2790
   { XSES CS RXXXXX } qty: 396
   { XSES FORWARD MMFXXX } qty: 1725
   { XSES GO DBXXXX } qty: 2898
   { XSES INDEX TIXMBX } qty: 67
   { XSES MF EUXXMX } qty: 21
   { XSES MF
             EUXXXE } qty: 288
   { XSES MF EUXXXX } qty: 177
   { XSES PS ERXXXX } qty: 27
   { XSES WAR RWMXCX } qty: 948
   { XSES WAR RWMXPX } qty: 591
   { XSES WAR RWXXCX } qty: 1035
   { XSES WAR RWXXPX } qty: 627
   { XSES WAR RWXXXX } qty: 249
```

1.2. Types of Instruments

The following sections describe the instruments available on the SGX EQUITIES market data stream, according to their type:

- 1.2.1. Bonds
- 1.2.2. Equities
- 1.2.3. Indices
- 1.2.4. Warrants
- 1.2.5. Forwards.

1.2.1. Bonds

The sample below illustrates the details of a bond:

```
instr # 226/1014443 = 474970795
   PriceCurrency
                                string{USD}
   Symbol
                                string{32XB_BD}
   Description
                                string{SumitoMBk f180723S}
   SecurityType
                                string{GO}
   FOSMarketId
                                XSES
                                float64{1}
   ContractMultiplier
                                string{DBXXXX}
   CFTCode
   RoundLot
                                float64{1}
   InternalCreationDate
                                Timestamp{2015-07-22 00:00:50:417}
   InternalModificationDate
                                Timestamp{2015-07-22 00:00:50:417}
   InternalSourceId
                                uint16{221}
   InternalAggregationId
                                uint16{221}
   InternalEntitlementId
                                int32{1091}
   LocalCodeStr
                                string{32XB_BD}
   TSTN
                                string{US865622BU72}
   PriceIncrement_static
                                float64{0.001}
   MBLLayersDesc
                                string{0,3}
   OperatingMIC
                                string{XSES}
```

1.2.2. Equities

The sample below illustrates the details of an equity:

```
instr # 226/1014083 = 474970435
   PriceCurrency
                                string{USD}
   Symbol
                                string{AXD_US}
   Description
                                string{GDR Advanta US$S}
   SecurityType
                                string{CS}
   FOSMarketId
                                XSES
   ContractMultiplier
                                float64{1}
   CFICode
                                string{ESXXXA}
   RoundLot
                                float64{1}
   InternalCreationDate
                                Timestamp{2015-05-11 00:00:49:920}
   InternalModificationDate
                                Timestamp{2015-06-29 00:00:50:683}
   InternalSourceId
                                uint16{221}
   InternalAggregationId
                                uint16{221}
   InternalEntitlementId
                                int32{1091}
   LocalCodeStr
                                string{AXD_US}
   PriceIncrement_dynamic_TableId
                                        uint32{14483556}
   MBLLayersDesc
                                string{0,3}
   OperatingMIC
                                string{XSES}
```

1.2.3. Indices

The sample below shows the details of an index:

```
instr \# 226/1014351 = 474970703
   PriceCurrency
                                string{JPY}
   Symbol
                                string{_JP14}
   Description
                                string{SGX JP ACC INV 1X IDX NR}
   SecurityType
                                string{INDEX}
   FOSMarketId
                                XSES
   ContractMultiplier
                                float64{1}
   CFICode
                                string{TIXMBX}
   RoundLot
                                float64{1}
   InternalCreationDate
                                Timestamp{2015-07-01 00:00:49:326}
   InternalModificationDate
                                Timestamp{2015-07-01 00:00:49:326}
   InternalSourceId
                                uint16{221}
   InternalAggregationId
                                uint16{221}
   InternalEntitlementId
                                int32{1091}
   LocalCodeStr
                                string{_JP14}
   PriceIncrement_static
                                float64{0.0001}
   MBLLayersDesc
                                string{0,3}
                                string{XSES}
   OperatingMIC
```

1.2.4. Warrants

The sample below illustrates the details of a warrant:

```
instr # 226/1014305 = 474970657
   PriceCurrency
                                string{SGD}
   Symbol 3
                                string{BABW_US}
   Description
                                string{ChinaGaoxian W180918}
   SecurityType
                                string{WAR}
   FOSMarketId
                                XSES
   ContractMultiplier
                                float64{1}
   CFICode
                                string{RWXXXX}
   RoundLot
                                float64{1}
                                Timestamp{2015-06-16 00:00:50:603}
   InternalCreationDate
   InternalModificationDate
                                Timestamp{2015-06-30 00:00:50:559}
   InternalSourceId
                                uint16{221}
   InternalAggregationId
                                uint16{221}
   InternalEntitlementId
                                int32{1091}
   LocalCodeStr
                                string{BABW_US}
                                string{SG42Q1000003}
   ISIN
   PriceIncrement_dynamic_TableId
                                        uint32{14483556}
   MBLLayersDesc
                                string{0,3}
   OperatingMIC
                                string{XSES}
```

1.2.5. Forwards

The sample below illustrates the details of a forward:

```
instr # 226/1013719 = 474970071
    PriceCurrency
                                   string{SGD}
    Symbol
                                   string{ARO_US}
    Description
                                   string{STI ETF.ES.1503}
                                   string{FORWARD}
    SecurityType
    FOSMarketId
                                  XSES
    CFICode
                                  string{MMFXXX}
    RoundLot
                                  float64{1}
    InternalCreationDate Timestamp{2015-02-19 00:00:50:041}
    InternalModificationDate Timestamp{2015-06-27 11:14:46:247}
   InternalSourceId uint16{221}
InternalAggregationId uint16{221}
InternalEntitlementId int32{1091}
    LocalCodeStr
                                  string{ARO_US}
                                   string{SG41M3000002}
    ISIN
    PriceIncrement_static
                                  float64{0.01}
    MBLLayersDesc
                                   string{0,3}
    OperatingMIC
                                   string{XSES}
```

1.3. Specific Referential Tags

The following sections describe specific referential tags available on the SGX EQUITIES market data stream:

- 1.3.1. Symbol
- 1.3.2. RoundLot
- 1.3.3. OperatingMIC
- 1.3.4. SegmentMIC.

1.3.1. Symbol

The values of the referential tag **Symbol** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Referential* to identify the specific market.

FeedOS implementation of the tag Symbol is described below:

Table 2 Symbol – technical implementation in FeedOS

Component	Value	Description
Tag Name	Symbol	FeedOS tag name.
Numeric ID	55	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	String	String data type.

Table 2 Symbol – technical implementation in FeedOS (Continued)

Component	Value	Description
Format	[Exchange Specific Value]	An exchange specific value, identifying the specific market.
	RY	Ready market
Possible Values	ВІ	Buying-in market – the platform where the Central Depository (CDP) conducts buying-in for failed trades against a short clearing member.
	US	Unit Share market – this market allows trading for odd lots in any quantity less than the board size.

1.3.2. RoundLot

The values of the referential tag **RoundLot** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Referential* to specify the smallest order that can be placed.

FeedOS implementation of the tag RoundLot is described below:

Table 3 RoundLot – technical implementation in FeedOS

Component	Value	Description
Tag Name	RoundLot	FeedOS tag name.
Numeric ID	561	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	Float64	Float64 data type.
Format	[Exchange Specific Value]	An exchange specific value , detailing the smallest order that can be placed.
	1	Smallest order is 1.
Possible	10	Smallest order is 10.
Values	100	Smallest order is 100.
	1000	Smallest order is 1000.

1.3.3. OperatingMIC

The values of the referential tag **OperatingMIC** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Referential* to specify the parent MIC.

FeedOS implementation of the tag OperatingMIC is described in below:

Table 4 OperatingMIC – technical implementation in FeedOS

Component	Value	Description
Tag Name	OperatingMIC	FeedOS tag name.
Numeric ID	9533	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	String	String data type.
Format	[Exchange Specific Value]	An exchange specific value, specifying the parent MIC.
Possible Values	XSES	Parent MIC for all SGX EQUITIES branches.

1.3.4. SegmentMIC

The values of the referential tag **SegmentMIC** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Referential* to specify the child MIC.

FeedOS implementation of the tag SegmentMIC is described below:

Table 5 SegmentMIC – technical implementation in FeedOS

Component	Value	Description
Tag Name	SegmentMIC	FeedOS tag name.
Numeric ID	9534	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	String	String data type.
Format	[Exchange Specific Value]	An exchange specific value, specifying the child MIC.
Possible Values	XSCA	Singapore Catalist Market

2. Quotation Data

The following sections describe the characteristics of the quotation data on the SGX EQUITIES market data stream, in terms of:

- 2.1. Quotation Values
- 2.2. TradingStatus
- 2.3. Specific Quotation Tags
- 2.4. MBL and MBO Data.

2.1. Quotation Values

The example below shows the possible values of an instrument on the SGX EQUITIES market data stream:

```
InstrumentStatusL1
-- 226/1011991
       BID: 0.69
                        900
                                @1
       ASK: 0.695
                       75100
                                @3
       LastPrice
                                        float64{0.69}
       LastTradeQty
                                        float64{100}
                                        float64{0.695}
       DailyHighPrice
       DailyLowPrice
                                        float64{0.69}
       DailyTotalVolumeTraded
                                        float64{35400}
       DailyTotalAssetTraded
                                        float64{24476}
       LastTradePrice
                                        float64{0.69}
       LastTradeTimestamp
                                        Timestamp{2015-07-24 08:22:40:552}
       InternalDailyOpenTimestamp
                                        Timestamp{2015-07-24 01:00:00:021}
       InternalDailyCloseTimestamp
                                        Timestamp{2015-07-24 09:06:00:004}
       InternalDailyHighTimestamp
                                        Timestamp{2015-07-24 03:54:43:514}
       InternalDailyLowTimestamp
                                        Timestamp{2015-07-24 01:38:50:435}
       InternalPriceActivityTimestamp
                                       Timestamp{2015-07-24 09:06:00:004}
       TradingStatus
                                        18=NotAvailableForTrading
                                        float64{0.69}
       DailyOpeningPrice
       DailyClosingPrice
                                        float64{0.69}
       PreviousDailyTotalVolumeTraded float64{156600}
        PreviousDailyTotalAssetTraded
                                        float64{107546}
       PreviousDailyClosingPrice
                                        float64{0.69}
       PreviousBusinessDay
                                        Timestamp{2015-07-23}
                                        Timestamp{2015-07-24}
        CurrentBusinessDay
       LastAuctionPrice
                                        float64{0.695}
       LastAuctionVolume
                                        float64{0}
       LastAuctionImbalanceSide
                                        char{0}
       LastAuctionImbalanceVolume
                                        float64{0}
       InternalDailyClosingPriceType
                                        char{d}
                                        Timestamp{2015-07-24 00:57:40:573}
       InternalLastAuctionTimestamp
       PriceActivityMarketTimestamp
                                        Timestamp{2015-07-24 08:22:40:552}
       MARKET_OMNET_OMX_TradingStateName
                                                string{CLOSE}
```

For more details about the fields and tags available in quotation data type, and their possible values, see *FeedOS Quotation Tags Guide*.

2.2. TradingStatus

Each time a modification of the trading status occurs, the values of the quotation tag **TradingStatus** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS 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 Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the tag TradingStatus is described in the following table:

Table 6 TradingStatus – technical implementation in QuantFEED®

Component	Value	Description
Tag Name	TradingStatus	FeedOS tag name.
Numeric ID	9100	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	Enum	Enum data type.
Format	[Exchange Specific Value]	An exchange specific value , detailing the characteristics of the trading status.
	2	Trading Halt
	5	Price Indication
Possible	16	Trade Dissemination Time
Values	17	Ready to Trade
	18	Not Available for Trading
	21	Pre-Open

2.3. Specific Quotation Tags

The following sections describe additional, specific quotation tags available on the SGX EQUITIES market data stream:

- 2.3.1. Trade Conditions
- 2.3.2. Other Values.

2.3.1. Trade Conditions

The following subsections describe the trade conditions on the SGX EQUITIES market data stream:

- 2.3.1.1. TradeCondition
- 2.3.1.2. TradeID.

2.3.1.1. TradeCondition

Each time a trade occurs, the values of the quotation tag **Trade Condition** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Context*:

- in the callback carrying the Level1 event notif_TradeEventExt(), for C++
- in the event handler TradeEventExtEventHandler, for C#

• in the callback carrying the Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the tag TradeCondition is described in the table below:

Table 7 TradeCondition – technical implementation in FeedOS

Component	Value	Description
Tag Name	TradeCondition	FeedOS tag name.
Numeric ID	277	FeedOS unique ID broadcast on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	String	String data type.
Format	[Exchange Specific Value]	An exchange specific value, detailing the conditions of a trade.
	0	No Condition – The default condition. It is set when the users are from different participants.
Possible Values	2	Internal Trade/Crossing – In case of an internal trade, this trade condition is added in the broadcast. It is set when both users belong to the same participant.

2.3.1.2. TradeID

Each time a trade occurs, the values of the quotation context tag **TradeID** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Context* to identify the trade:

- in the callback carrying the Level1 event notif_TradeEventExt(), for C++
- in the event handler TradeEventExtEventHandler, for C#
- in the callback carrying the Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the tag TradeID is described in the table below:

Table 8 TradeID – technical implementation in FeedOS

Component	Value	Description
Tag Name	TradeID	FeedOS tag name.
Numeric ID	1003	FeedOS unique ID broadcast on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	String	String data type.
Format / Possible Values	[Exchange Specific Value]	An exchange specific value , identifying the trade.

2.3.2. Other Values

The following subsections describe additional specific quotation tags on the SGX EQUITIES market data stream:

- 2.3.2.1. DailyClosingPrice
- 2.3.2.2. LastAuctionImbalanceSide
- 2.3.2.3. LastAuctionImbalanceVolume
- 2.3.2.4. InternalDailyClosingPriceType
- 2.3.2.5. MARKET_OMNET_OMX_TradingStateName.

2.3.2.1. DailyClosingPrice

The values of the quotation tag **DailyClosingPrice** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Other Values* to specify the final price at which a security is traded on a given 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 Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the tag DailyClosingPrice is described in the table below:

Table 9 DailyClosingPrice – technical implementation in FeedOS

Component	Value	Description
Tag Name	DailyClosingPrice	FeedOS tag name.
Numeric ID	9132	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	Float64	Float64 data type.
Format / Possible Values	[Exchange Specific Value]	An exchange specific value , specifying the final price at which a security is traded on a given trading day.

2.3.2.2. LastAuctionImbalanceSide

The values of the quotation tag **LastAuctionImbalanceSide** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Other Values* to indicate the imbalance side of a closing auction:

- in the callback carrying the Level1 event notif_TradeEventExt(), for C++
- in the event handler TradeEventExtEventHandler, for C#
- in the callback carrying the Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the tag LastAuctionImbalanceSide is described in the table below:

Table 10 LastAuctionImbalanceSide – technical implementation in FeedOS

Component	Value	Description
Tag Name	LastAuctionImbalanceSide	FeedOS tag name.
Numeric ID	9151	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.
Туре	Char	Char data type.
Format	[Exchange Specific Value]	An exchange specific value , detailing the imbalance side of a closing auction.
	В	Buy-side imbalance
Possible Values	S	Sell-side imbalance
N N	N	No imbalance (buy side equals sell side)
	0	Insufficient orders to calculate.

2.3.2.3. LastAuctionImbalanceVolume

The values of the quotation tag **LastAuctionImbalanceVolume** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS data stream in *Other Values* to indicate the imbalance volume of a closing auction:

• in the callback carrying the Level1 event notif_TradeEventExt(), for C++

- in the event handler TradeEventExtEventHandler, for C#
- in the callback carrying the Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the tag LastAuctionImbalanceVolume is described in the table below:

Table 11 LastAuctionImbalanceVolume – technical implementation in FeedOS

Component	Value	Description	
Tag Name	LastAuctionImbalanceVolume	FeedOS tag name.	
Numeric ID	9152	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.	
Туре	Float64	Float64 data type.	
Format / Possible Values	[Exchange Specific Value]	An exchange specific value , detailing the imbalance volume of a closing auction.	

2.3.2.4. Internal Daily Closing Price Type

The values of the quotation tag **InternalDailyClosingPriceType** conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS 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 Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the values currently available for the tag InternalDailyClosingPriceType is described in the table below (the values currently disseminated are highlighted in green):

Table 12 InternalDailyClosingPriceType – technical implementation in FeedOS

Component	Value	Description	
Tag Name	InternalDailyClosingPriceType	FeedOS tag name.	
Numeric ID	9155	FeedOS unique ID disseminated on S&P Capital IQ Real- Time Solutions data stream. This is the numeric equivalent of the tag name.	
Туре	Char	Char data type.	
Format	[Internal Specific Value]	An <i>internal specific value</i> , detailing the type of daily closing price, as described below.	

Table 12 InternalDailyClosingPriceType – technical implementation in FeedOS (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.	
	С	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).	
	е	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).	

2.3.2.5. MARKET_OMNET_OMX_TradingStateName

Each time a modification of the trading state occurs, the values of the quotation tag MARKET_OMNET_OMX_TradingStateName conveyed on the SGX EQUITIES market data stream are disseminated via FeedOS 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 Levell event quotNotifTradeEventExt, for Java.

FeedOS implementation of the tag MARKET_OMNET_OMX_TradingStateName is described in the table below:

Table 13 MARKET_OMNET_OMX_TradingStateName – technical implementation in FeedOS

Component	Value	Description	
Tag Name	MARKET_OMNET_OMX_Trading StateName	FeedOS tag name.	
Numeric ID	14800	FeedOS unique ID disseminated on the S&P Capital IQ Real-Time Solutions data stream. This is the numeric equivalent of the tag name.	
Туре	String	String data type.	
Format	[Exchange Specific Value]	An exchange specific value, detailing the current state of the trade.	
Possible Values	PRE-OPEN	FIXSecurityTradingStatus_ PreOpen	Pre-Open
	PRE-OPEN1	FIXSecurityTradingStatus_ PreOpen	Pre-Open
	PRE-OPEN2	FIXSecurityTradingStatus_ PreOpen	Pre-Open
	NON-CANCEL	FIXSecurityTradingStatus_ TradeDisseminationTime	Non-cancellation
	OPEN	FIXSecurityTradingStatus_ ReadyToTrade	Open

Table 13 MARKET_OMNET_OMX_TradingStateName – technical implementation in FeedOS (Continued)

Component	Value	Description	
Possible Values	PRE-CLOSE	FIXSecurityTradingStatus_ PriceIndication	Pre-Closing
	CLOSE	FIXSecurityTradingStatus_ NotAvailableForTrading	Close
	CLOSE_MKT	FIXSecurityTradingStatus_ NotAvailableForTrading	Closing Market
	CLOSE_	FIXSecurityTradingStatus_ NotAvailableForTrading	Close Signal Collect
	DL	FIXSecurityTradingStatus_ NotAvailableForTrading	Delisted
	SUSP	FIXSecurityTradingStatus_ TradingHalt	Suspended
	ADJUST	FIXSecurityTradingStatus_ PriceIndication	Adjusting
	ві	FIXSecurityTradingStatus_ NotAvailableForTrading	Trading restricted to Buying-In market only
	BI_OPEN	FIXSecurityTradingStatus_ ReadyToTrade	Buying-In Opening
	CIRB	FIXSecurityTradingStatus_ ReadyToTrade	Triggered by the trading engine whenever an order would trade outside of the upper and lower circuit breaker limits for stocks under Circuit Breaker monitoring.
	CIRH	FIXSecurityTradingStatus_ PriceIndication	Halt due to Circuit Breaker Triggered
	н	FIXSecurityTradingStatus_ PriceIndication	Trading Halt
	J	FIXSecurityTradingStatus_ PriceIndication	Instrument Session State Adjust
	MCE	FIXSecurityTradingStatus_ PriceIndication	Mandatory Call Event has occurred for Callable Bull/Bear Contracts (CBBC).
	PL	FIXSecurityTradingStatus_ NotAvailableForTrading	Pending Listing
	_PRV_CLOSE	FIXSecurityTradingStatus_ ReadyToTrade	Previous Close
	_PRV_OPEN	FIXSecurityTradingStatus_ ReadyToTrade	Previous Open

2.4. MBL and MBO Data*

The MBL book has a 10-level depth. The MBO book is full depth.

^{*} The MBL and MBO data may not be included by default in your Level1 data subscription, but sold separately. Depending on your contract, additional terms, conditions and fees may apply. For more details about the subscription options, please contact S&P Capital IQ Real-Time Solutions.

3. Closing Price

At the end of the market day, SGX publishes the daily closing price only for the ETFs listed in the Ready market, after the trading phase ends. There is no closing price computed and published in unit share and buying-in markets or for any other securities listed on SGX. Moreover, there is no settlement price.

However, SGX derives the ETF Reference Closing Price for all ETF counters at the end of each business day upon market close at 17:06 (normal day) or 12:36 (for half-day trading).

4. Special Behavior

The following section describe the special behavior of the EURONEXT UTP market data stream:

• 4.1. Microsecond Timestamp Precision on the Level1 Market Data.

4.1. Microsecond Timestamp Precision on the Level1 Market Data

In the Level1 Market Data disseminated, the server timestamps displays microsecond units, as shown in the example below (highlighted in green):

```
"TE (TradeEvent): MARKET_TIME INSTRUMENT LAST_PRICE TRADE_QTY BID_PRICE BID_QTY ASK_PRICE ASK_QTY *CONTENT_MASK* *FLAGS*"

TE 2015-05-26 08:41:21:961.433 474957956 3.72 5000 * * * * * TradeCondition=2,TradeID=65630128234823799:0,AggressorSide='2'=Sell TE 2015-05-26 08:43:06:359.468 474957956 3.72 5000 * * * * * TradeCondition=2,TradeID=65630128234823800:0,AggressorSide='1'=Buy TE 2015-05-26 08:43:47:103.312 474957956 3.72 5000 * * * * * TradeCondition=2,TradeID=65630128234823801:0,AggressorSide='2'=Sell
```

5. Finding the Latest Information

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

- E-mail: rts-support@spcapitaliq.com
- Web: https://support.quanthouse.com.