S&P CAPITAL IQ
McGRAW HILL FINANCIAL

S&P Capital IQ Real-Time Solutions

FeedOS™ Feed Description

KOREAN EQUITIES

Reference n°: 20150729 – 22904 – 21954

S&P Capital IQ Real-Time Solutions
FeedOS™ Feed Description: KOREAN EQUITIES
Reference 20150729 – 22904 – 21954
July 29, 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

130 East Randolph
One Prudential Plaza, Suite 2900
Chicago, IL 60601
United States of America
Tel: +1-(312)-233-7129

United Kingdom
20 Canada Square
Canary Wharf
London E14 5LH
United Kingdom
Tel: +44 (0) 203 107 1676

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

www.spcapitaliq.com

TABLE OF CONTENTS

FEEDOS™ KOREAN EQUITIES FEED DESCRIPTION

As part of the S&P Capital IQ Real-Time Solutions FeedOS™ documentation, this feed description provides you with details about the types of data broadcast on the KOREAN 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
- 4. Extended-Session Kinematics
- 5. Special Behavior
- 6. Finding the Latest Information.

1. Referential Data

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

- 1.1. Available Markets and Branches
- 1.2. Types of Instruments.

1.1. Available Markets and Branches

This section details the list of Markets and Branches available on the KOREAN EQUITIES market data stream.

1.1.1. Markets

The KOREAN EQUITIES market data stream broadcasts informations about the following markets:

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

FeedOS Market ID	Market
XKRK	Korea Exchange - Stock Market
XKOS	KOSDAQ

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

```
MARKETS
market # 155    CC=KR/KOREA/SEOUL, DESCR=KOREA EXCHANGE -- STOCK MARKET, WEB=sm.krx.co.kr/
webeng/
    MIC = XKRX
    TimeZone = Asia/Seoul
    Country = KR
    NbMaxInstruments = 2000000
market # 156    CC=KR/KOREA; REPUBLIC OF/SEOUL, DESCR=KOSDAQ, WEB=www.kosdaq.or.kr
    MIC = XKOS
    TimeZone = Asia/Seoul
    Country = KR
    NbMaxInstruments = 2000000
```

1.1.2. Branches

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

```
BRANCHES
    { XKRX BN   DBFXXX } qty: 3880
    { XKRX CD   EMXXXX } qty: 2
    { XKRX CD   EXXXXX } qty: 45
    { XKRX CORP DBFXXX } qty: 3418
    { XKRX CS   ESXXXX } qty: 875
    { XKRX CS   EXXXXX } qty: 30
    { XKRX FOR  ESXXXX } qty: 2
    { XKRX GO   DBFXXX } qty: 3279
    { XKRX GO   DTXXXX } qty: 41
    { XKRX INDEX  TIXXXX } qty: 108
    { XKRX MF   EUXXRX } qty: 8
    { XKRX MF   EUXXXE } qty: 190
    { XKRX MF   EUXXXX } qty: 7
    { XKRX NONE DBXXXX } qty: 99
    { XKRX REPO DBFTXX } qty: 44
    { XKRX REPO DBFXXX } qty: 6
    { XKRX REPO DYFXXX } qty: 1047
    { XKRX TB   DBFTXX } qty: 294
    { XKRX WAR  RWXXCE } qty: 2938
    { XKRX WAR  RWXXPE } qty: 990
    { XKRX WAR  RWXXXX } qty: 11
    { XKOS CD   EMXXXX } qty: 2
    { XKOS CD   EXXXXX } qty: 40
    { XKOS CS   ESXXXX } qty: 1101
    { XKOS FOR  ESXXXX } qty: 9
    { XKOS INDEX  TIXXXX } qty: 52
    { XKOS WAR  RWXXXX } qty: 8
```

1.2. Types of Instruments

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

- 1.2.1. Equities
- 1.2.2. Bonds
- 1.2.3. Indices
- 1.2.4. Warrant.

1.2.1. Equities

The sample below illustrates the details of an equity:

```
instr # 155/27490 = 325086050
    PriceCurrency                 string{KRW}
    Symbol                        string{A214320}
    Description                   string{INNOCEAN}
    SecurityType                  string{CS}
    FOSMarketId                   XKRX
    CFICode                       string{ESXXXX}
    CountryOfIssue                string{KOR}
    RoundLot                      float64{1}
    InternalCreationDate          Timestamp{2015-07-16 20:32:00:059}
    InternalModificationDate      Timestamp{2015-07-27 21:55:01:086}
    InternalSourceId              uint16{249}
    InternalAggregationId         uint16{249}
    InternalEntitlementId         int32{1049}
    LocalCodeStr                  string{KR7214320004}
    ISIN                          string{KR7214320004}
    PriceIncrement_dynamic_TableId        uint32{16318564}
    OperatingMIC                  string{XKRX}
    ParValue                      float64{500}
    PriceEarningRatio             float64{12.7}
```

1.2.2. Bonds

The sample below illustrates the details of a bond:

```
instr # 155/27808 = 325086368
    PriceCurrency                string{KRW}
    Symbol                       string{KYONGNAM BANK19-07COUP1A-27}
    Description                  string{KYONGNAM BANK19-07COUP1A-27}
    SecurityType                 string{BN}
    StdMaturity                  string{201607}
    FOSMarketId                  XKRX
    CouponRate                   float64{1.64}
    IssueDate                    Timestamp{2015-07-27}
    CFICode                      string{DBFXXX}
    SecurityStatus               uint8{1}
    InternalCreationDate         Timestamp{2015-07-27 21:25:54:209}
    InternalModificationDate     Timestamp{2015-07-27 21:55:00:962}
    InternalSourceId             uint16{249}
    InternalAggregationId        uint16{249}
    InternalEntitlementId        int32{1011}
    LocalCodeStr                 string{KR6192521575}
    ISIN                         string{KR6192521575}
    MaturityYear                 uint16{2016}
    MaturityMonth                uint8{7}
    MaturityDay                  uint8{27}
    PriceIncrement_dynamic_TableId      uint32{16318568}
    OperatingMIC                 string{XKRX}
    CouponPaymentDate2           int32{20151027}
```

1.2.3. Indices

The sample below illustrates the details of an index:

```
instr # 155/27544 = 325086104
    PriceCurrency                string{KRW}
    Symbol                       string{KTOP30-E}
    Description                  string{KTOP 30 Estimated Index}
    SecurityType                 string{INDEX}
    FOSMarketId                  XKRX
    CFICode                      string{TIXXXX}
    InternalCreationDate         Timestamp{2015-07-19 23:30:00:034}
    InternalModificationDate     Timestamp{2015-07-20 21:55:00:918}
    InternalSourceId             uint16{249}
    InternalAggregationId        uint16{249}
    InternalEntitlementId        int32{1010}
    LocalCodeStr                 string{KOSPI_KTOP30EstimatedIndex_600}
    OperatingMIC                 string{XKRX}
```

1.2.4. Warrant

The sample below illustrates the details of a warrant:

```
instr # 155/19152 = 325077712
    PriceCurrency              string{KRW}
    Symbol                     string{J584B11}
    Description                string{HDS4B11CJ OSHOP- C}
    SecurityType               string{WAR}
    StdMaturity                string{201507}
    StrikePrice                float64{416000}
    FOSMarketId                XKRX
    CFICode                    string{RWXXCE}
    CountryOfIssue             string{KOR}
    RoundLot                   float64{10}
    InternalCreationDate       Timestamp{2014-08-26 20:35:35:381}
    InternalModificationDate   Timestamp{2015-07-24 21:55:00:841}
    InternalSourceId           uint16{249}
    InternalAggregationId      uint16{249}
    InternalEntitlementId      int32{1049}
    LocalCodeStr               string{KRA581183480}
    ISIN                       string{KRA581183480}
    UnderlyingFOSMarketId      XKOS
    UnderlyingLocalCodeStr     string{KR7035760008}
    UnderlyingFOSInstrumentCode uint32{327157005}
    MaturityYear               uint16{2015}
    MaturityMonth              uint8{7}
    MaturityDay                uint8{28}
    PriceIncrement_dynamic_TableId      uint32{16318567}
    OperatingMIC               string{XKRX}
```

1.3. Specific Referential Tags

The following sections describe specific referential tags or generic tags with particular values available on the KOREAN EQUITIES market data stream:

- 1.3.1. PriceCurrency.

1.3.1. PriceCurrency

The values of the referential tag **PriceCurrency** conveyed on the KOREAN EQUITIES market data stream are disseminated via FeedOS data stream in *Referential* to specify the currency of the price.

FeedOS implementation of the tag `PriceCurrency` is described in the table below:

Table 2 PriceCurrency – technical implementation in FeedOS

Component	Value	Description
Tag Name	`PriceCurrency`	FeedOS tag name.
Numeric ID	`15`	FeedOS 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 currency of the price.
Possible Values	`KRW`	South Korean Won

2. Quotation Data

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

- 2.1. Quotation Values
- 2.2. Trading Status
- 2.3. MBL and MBO Data.

2.1. Quotation Values

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

```
InstrumentStatusL1
-- 155/2326
        BID: 3470       18
        ASK: 3535       170
        LastPrice                      float64{3510}
        LastTradeQty                   float64{412}
        DailyHighPrice                 float64{3540}
        DailyLowPrice                  float64{3510}
        DailyTotalVolumeTraded         float64{9964}
        DailyTotalAssetTraded          float64{35090345}
        LastTradePrice                 float64{3510}
        LastTradeTimestamp             Timestamp{2015-07-28 06:00:30}
        InternalDailyOpenTimestamp     Timestamp{2015-07-27 22:30:00:312}
        InternalDailyCloseTimestamp    Timestamp{2015-07-28 09:05:00:257}
        InternalDailyHighTimestamp     Timestamp{2015-07-28 00:00:21:676}
        InternalDailyLowTimestamp      Timestamp{2015-07-28 01:09:06:241}
        InternalPriceActivityTimestamp Timestamp{2015-07-28 09:05:00:257}
        LowLimitPrice                  float64{2480}
        HighLimitPrice                 float64{4600}
        TradingStatus                  18=NotAvailableForTrading
        TradingSessionId               int8{3}
        SessionTotalOffBookAssetTraded float64{0}
        SessionTotalOffBookVolumeTraded float64{0}
        PriorSessionsTotalAssetTraded  float64{35090345}
        PriorSessionsTotalVolumeTraded float64{9964}
        PriorSessionsTotalOffBookAssetTraded    float64{0}
        PriorSessionsTotalOffBookVolumeTraded   float64{0}
        SessionTotalVolumeTraded       float64{0}
        PreviousSessionClosingPrice    float64{3510}
        SessionTotalAssetTraded        float64{0}
        SessionClosingPrice            float64{3510}
        DailyOpeningPrice              float64{3540}
        DailyClosingPrice              float64{3510}
        PreviousDailyTotalVolumeTraded float64{6713}
        PreviousDailyTotalAssetTraded  float64{23884620}
        PreviousDailyClosingPrice      float64{3540}
        PreviousBusinessDay            Timestamp{2015-07-27}
        CurrentBusinessDay             Timestamp{2015-07-28}
        InternalDailyClosingPriceType  char{a}
        StockDividend                  float64{30}
        InternalLastAuctionTimestamp   Timestamp{2015-07-28 05:58:19:759}
        PriceActivityMarketTimestamp   Timestamp{2015-07-28 09:05:00}
        TradingReferencePrice          float64{3540}
```

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

2.2. Trading Status

Each time a modification of the trading status occurs, the values of the quotation tag **Trading Status** in the KOREAN 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 Level1 event `quotNotifTradeEventExt`, for Java.

FeedOS implementation of the tag **Trading Status** is described in the table below:

Table 3 Trading Status of the KOREAN EQUITIES market data stream – technical implementation in FeedOS

Component	Value	Description
Tag Name	`TradingStatus`	FeedOS tag name.
Numeric ID	`9100`	FeedOS unique ID broadcast on S&P Capital IQ Real-Time Solutions data stream. It 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
	`15`	New Price Indication
	`17`	Ready to Trade
	`18`	Not Available for Trading
	`21`	Pre-Open

2.3. MBL and MBO Data*

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

3. Closing Price

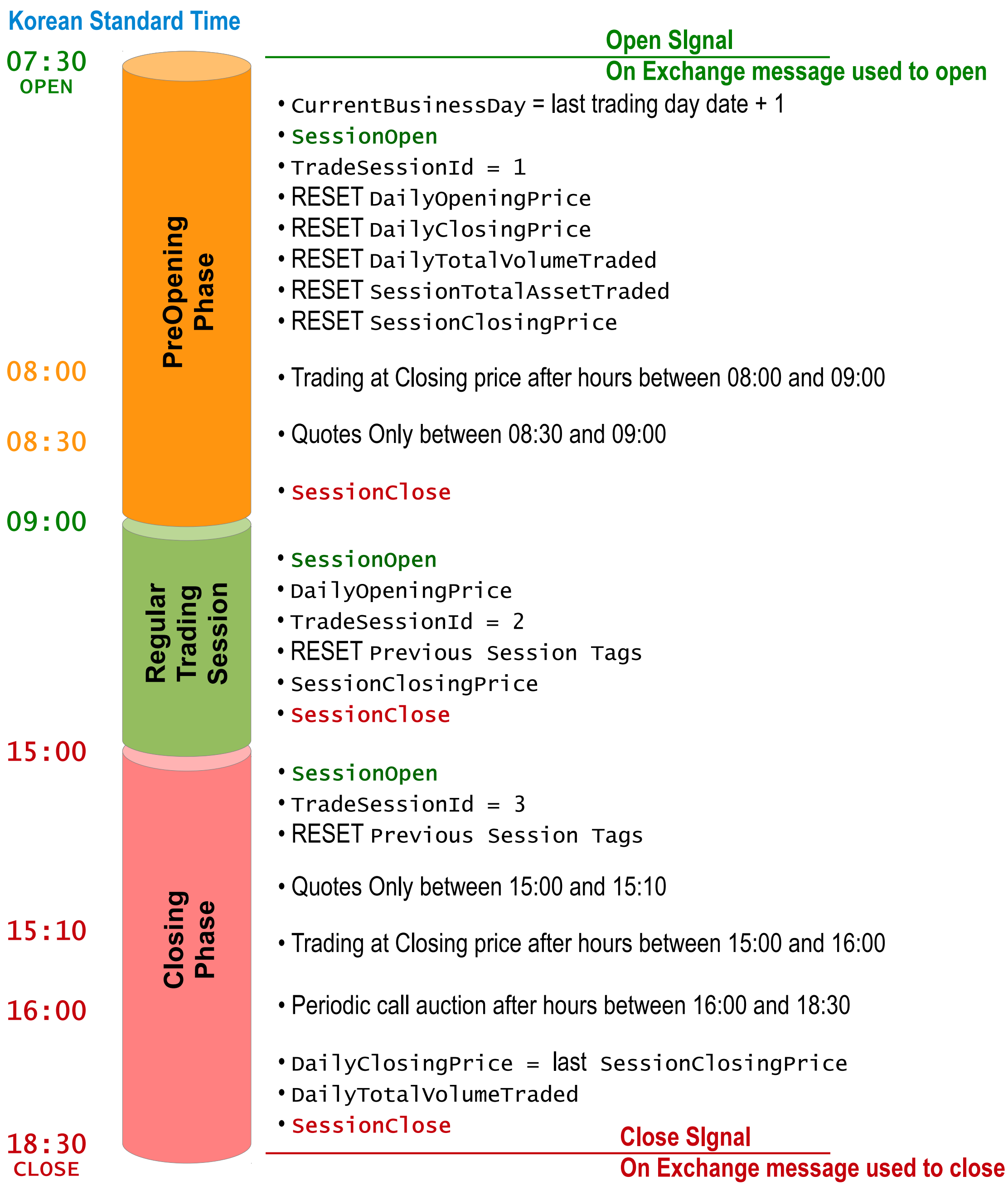
The closing price is the last trade price upon close. There is no settlement price.

4. Extended-Session Kinematics

The following diagram describes the main trading phases and the update mechanism of the tags on the KOREAN EQUITIES market data stream:

* 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.

Figure 1 **Example of tags update mechanism for an Equity on the KOREAN EQUITIES market data stream**



5. Special Behavior

The following section describe the special behavior of the KOREAN EQUITIES market data stream:

- 5.1. Level1 Market Data Kinematics – TradingStatus at the Beginning of the G3 Board

5.1. Level1 Market Data Kinematics – TradingStatus at the Beginning of the G3 Board

In the Level1 Market Data Kinematics **before 2014-11-17**, when the G3 board begins at 06:00 UTC (15:00 Local Time), the Trading Status of the Single Price of the G3 board is `5=Price Indication`, as shown below:

```
"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"

VU   05:59:56:331   325060233    LastAuctionVolume=45268
TE   05:59:56:868   325060233    *    *    *    *    1264000    6550
TE   05:59:57:404   325060233    *    *    *    *    1264000    6552
TE   05:59:57:558   325060233    *    *    *    *    1264000    7052
TE   05:59:57:842   325060233    *    *    *    *    1264000    7053
TE   05:59:58:076   325060233    *    *    *    *    1264000    7054
TE   05:59:58:564   325060233    *    *    *    *    1264000    7074
TE   05:59:59:878   325060233    *    *    1262000    3    *    *
TE   06:00:00:592   325060233    *    *    *    *    *    *    c
VU   06:00:00:592   325060233    TradingStatus=18
VU   06:00:00:670   325060233    TradingStatus=5
TE   06:00:02:397   325060233    1264000    45268    *    *    *    *
VU   06:00:02:398   325060233    SessionClosingPrice=1264000
InternalDailyClosingPriceType=a
VU   06:00:02:410   325060233    LastAuctionPrice=?    LastAuctionVolume=?
TE   06:10:00:331   325060233    1264000    701    *    *    *    *    ohl
VU   06:10:00:331   325060233    TradingSessionId=3    TradingStatus=17
TE   06:10:05:957   325060233    1264000    3    *    *    *    *
```

In the Level1 Market Data Kinematics **after 2014-11-17**, when the G3 board begins at 06:00 UTC (15:00 Local Time), the Trading Status of the Single Price of the G3 board is `21=PreOpen`, as shown below:

```
"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"

VU   05:59:56:331   325060233    LastAuctionVolume=45268
TE   05:59:56:868   325060233    *    *    *    *    1264000    6550
TE   05:59:57:404   325060233    *    *    *    *    1264000    6552
TE   05:59:57:558   325060233    *    *    *    *    1264000    7052
TE   05:59:57:842   325060233    *    *    *    *    1264000    7053
TE   05:59:58:076   325060233    *    *    *    *    1264000    7054
TE   05:59:58:564   325060233    *    *    *    *    1264000    7074
TE   05:59:59:878   325060233    *    *    1262000    3    *    *
TE   06:00:00:592   325060233    *    *    *    *    *    *    c
VU   06:00:00:592   325060233    TradingStatus=18
VU   06:00:00:670   325060233    TradingStatus=21
TE   06:00:02:397   325060233    1264000    45268    *    *    *    *
VU   06:00:02:398   325060233    SessionClosingPrice=1264000
InternalDailyClosingPriceType=a
VU   06:00:02:410   325060233    LastAuctionPrice=?    LastAuctionVolume=?
TE   06:10:00:331   325060233    1264000    701    *    *    *    *    ohl
VU   06:10:00:331   325060233    TradingSessionId=3    TradingStatus=17
TE   06:10:05:957   325060233    1264000    3    *    *    *    *
```

6. 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.