

FeedOS™ Developer's Notice

CME – Feed Migration from MDPFF to MDP3 Protocol

Reference n°: 20141124 – 17560 – 23232

Effective as of: Q1 2015*

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
FeedOS™ Developer's Notice: CME – Feed Migration from MDPFF to MDP3 Protocol
Reference 20141124 – 17560 – 23232
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MIGRATION OF THE CME MARKET DATA STREAM FROM MDPFF TO MDP3 PROTOCOL

To reflect the changes caused by the migration of the CME market data stream from MDPFF to MDP3 protocol, S&P Capital IQ Real-Time Solutions has decided to enhance the content of FeedOS.

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. FeedOS Technical Implementation](#)
- [3. Finding the Latest Information.](#)

1. Update Summary

Table 1 Current update summary

Notice Reference	20141124 – 17560 – 23232
Exchanges	CME (including MALAYSIA DERIVATIVES)
Concerned MICs	XCME, XCBT, XMGE, XCEC, XKLS, XNYM
Internal Source ID	15, 16, 17, 35*
Effective Date	Q1 2015*
Impact	<ul style="list-style-type: none">• Update of the Referential Tags• Update of the Quotation Tags• Update of the Quotation Context Tags• Addition of the Trade Aggregation• Microsecond Timestamp Precision on the Level1 Market Data• Removal of the Market News Detailing the Security Trading Status
Action required	MANDATORY ACTION - see sections: <ul style="list-style-type: none">• 2.2.1. TradingStatus• 2.4. Addition of the Trade Aggregation.

2. FeedOS Technical Implementation

Effective **Q1 2015***, S&P Capital IQ Real-Time Solutions enhances the referential, quotation and quotation context data, and introduces trade aggregation to accommodate the new information disseminated on the CME market data stream, as described below:

- [2.1. Changes to the Referential Data](#)
- [2.2. Changes to the Quotation Data](#)
- [2.3. Changes to the Quotation Context Data](#)
- [2.4. Addition of the Trade Aggregation](#)
- [2.5. Microsecond Timestamp Precision on Level1 Market Data](#)
- [2.6. Removal of the Market News Detailing the Security Trading Status.](#)

2.1. Changes to the Referential Data

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

Table 2 Referential tags added on the CME market data stream

Tag Name	Numeric ID	Type
UnitOfMeasure	996	String
MaxTradeVol	1140	Float64
OperatingMIC	9533	String

2.1.1. UnitOfMeasure

The values of the referential tag **UnitOfMeasure** conveyed on the CME market data stream are disseminated via FeedOS data stream in *Referential* to specify the unit of measure of the underlying commodity upon which the contract is based.

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

Table 3 UnitOfMeasure – technical implementation in FeedOS

Component	Value	Description
Tag Name	<code>UnitOfMeasure</code>	FeedOS tag name.
Numeric ID	996	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 / Possible Value	<i>[Exchange Specific Value]</i>	An exchange specific value , specifying the unit of measure of the underlying commodity upon which the contract is based.

* This is the proposed day for the update of the standard version of the feed handler. For dedicated feed handlers, the date and Source IDs may differ. For the actual day when the changes to your custom feed handler will take effect, please contact your FeedOS™ project manager.

2.1.2. MaxTradeVol

The values of the referential tag **MaxTradeVol** conveyed on the CME market data stream are disseminated via FeedOS data stream in *Referential* to specify the maximum order quantity that can be submitted for a security.

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

Table 4 MaxTradeVol – technical implementation in FeedOS

Component	Value	Description
Tag Name	MaxTradeVol	FeedOS tag name.
Numeric ID	1140	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	Float64	Float64 data type.
Format / Possible Value	<i>[Exchange specific value]</i>	An exchange specific value , specifying the maximum order quantity that can be submitted for a security.

2.1.3. OperatingMIC

The values of the referential tag **OperatingMIC** conveyed on the CME 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 the table below:

Table 5 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.
Type	String	String data type.
Format	<i>[Exchange specific value]</i>	An exchange specific value , specifying the parent MIC.
Possible Values	XCBT	Chicago Board of Trade
	XCME	Chicago Mercantile Exchange
	XKLS	Bursa Malaysia
	XMGE	Minneapolis Grain Exchange
	XNYM	New York Mercantile Exchange

Referential Data Sample

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

```
instr # 305/801332 = 640432692
  PriceCurrency      string{USD}
  Symbol             string{ZD}
  Description         string{$10DOW JONES FUTURES}
  SecurityType       string{FUT}
  StdMaturity        string{201503}
  FOSMarketId        XCBT
  Factor             float64{10}
  CFICode            string{FFIXSX}
  MinTradeVol        float64{1}
  UnitOfMeasure      string{IPNT}
  MaxTradeVol        float64{1500}
  MatchAlgorithm     string{F}
  MarketSegmentID    string{5}
  MarketSegmentDesc  string{Equity}
  InternalCreationDate Timestamp{2014-10-24 15:22:24:940}
  InternalModificationDate Timestamp{2015-01-13 23:13:36:350}
  InternalSourceId    uint16{16}
  InternalEntitlementId int32{1022}
  LocalCodeStr        string{ZDH5}
  PriceIncrement_static float64{1}
  MaturityYear         uint16{2015}
  MaturityMonth        uint8{3}
  MaturityDay          uint8{20}
  OperatingMIC         string{XCBT}
  PriceDisplayPrecision int16{0}
  MARKET_CME_DisplayPricePrimaryDenominator uint16{32}
  MARKET_CME_DisplayPriceSecondaryDenominator uint16{2}
  MARKET_CME_DisplayPriceNbOfDecimal uint16{3}
```

2.2. Changes to the Quotation Data

S&P Capital IQ Real-Time Solutions **updates** the quotation tags below to accommodate the information disseminated on the CME market data stream:

Table 6 Quotation tags disseminating updated values on the CME market data stream

Tag Name	Numeric ID	Type
TradingStatus	9100	Enum

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

Table 7 Quotation tags no longer disseminated on the CME market data stream

Tag Name	Numeric ID	Type
SettlPriceType	731	UInt8

2.2.1. TradingStatus

Each time a modification of the trading status occurs, the values of the quotation tag **TradingStatus** conveyed on the CME 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 `TradingStatus` is described in the following table (newly added values are in green):

Table 8 Trading Status of the CME market data stream – technical implementation in FeedOS

Component	Value	Description
Tag Name	TradingStatus	FeedOS tag name.
Numeric ID	9100	FeedOS unique ID broadcast on the S&P Capital IQ Real-Time Solutions data stream. It is the numeric equivalent of the tag name.
Type	Enum	Enumeration data type.
Format	<i>[Exchange Specific Value]</i>	An exchange specific value , as described below, concerning the characteristics of the trading status.
Possible Values	2	Trading Halt
	5	Price Indication
	15	New Price Indication
	17	Ready to Trade
	18	Not Available for Trading
	21	Pre-Open

Quotation Data Sample

Below are several examples of the quotation tags implementation (updated tags are in blue, removed tags are in ~~crossed out-red~~):

```
"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..."

VU 21:45:00:009.156 639632361 TradingStatus=21
SI 22:00:00:004.761 639632361 OPEN *
TE 22:00:00:004.761 639632361 * * * * * * 0
VU 22:00:00:004.761 639632361 CurrentBusinessDay=2015-01-22 TradingStatus=15
VU 22:00:00:005.062 639632361 TradingStatus=17
VU 20:15:00:002.046 639632361 TradingStatus=21
VU 20:30:00:001.994 639632361 TradingStatus=15
VU 20:30:00:002.424 639632361 TradingStatus=17
SI 21:15:00:026.691 639632361 CLOSE *
TE 21:15:00:026.691 639632361 * * * * * * C
[...]
VU 21:42:22:264.141 639632361 SettlPriceType=100
VU 21:42:22:264.162 639632361 HighLimitPrice=17361 LowLimitPrice=15701
```

2.3. Changes to the Quotation Context Data

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

Table 9 Quotation context tags no longer disseminated on the CME market data stream

Tag Name	Numeric ID	Type
TradeCondition	277	String

Quotation Context Data Sample

Below is an example showing the removed (in ~~crossed-out red~~) quotation context tags:

```
"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..."

VU  22:00:00:046.158    640477224    TradingStatus=17
TE  22:00:00:050.216    640477224    16923    1    *    *    *
TradeCondition=E-opening-reopening-trade-detail
VU  22:00:00:050.323    640477224    DailyOpeningPrice=16923
```

2.4. Addition of the Trade Aggregation

Effective Q1 2015, the consecutive trades of an instrument on the CME market data stream are aggregated, as shown in the example 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..."

BEFORE Q1 2015
TE  14:08:36:014        703098276    *    *    *    *    0.004    72@2
TE  14:08:39:193        703098276    *    *    0.002    219@5    *    *
TE  14:09:40:374        703098276    0.004    1    *    *    *    *
AggressorSide='1'=Buy
TE  14:09:40:374        703098276    0.004    11    *    *    *    *
AggressorSide='1'=Buy
TE  14:09:40:375        703098276    *    *    *    *    0.004    60@1

AFTER Q1 2015
TE  14:08:36:014.434    703098276    *    *    *    *    0.004    72@2
TE  14:08:39:193.082    703098276    *    *    0.002    219@5    *    *
TE  14:09:40:374.501    703098276    0.004    12    *    *    *    *
AggressorSide='1'=Buy
TE  14:09:40:374.516    703098276    *    *    *    *    0.004    60@1
```


2.5. Microsecond Timestamp Precision on Level1 Market Data

In the Level1 Market Data disseminated after Q1 2015, the timestamps display 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      2014-12-02 00:13:26:865.465      2014-12-02 00:13:26:865.360      648835815      *
*      2e-05 40@2      3e-05 40@2
TE      2014-12-02 00:31:24:812.044      2014-12-02 00:31:24:811.947      648835815      *
*      2.2e-05 30@1      *      *
TE      2014-12-02 00:32:22:446.680      2014-12-02 00:32:22:446.586      648835815      *
*      2.2e-05 35@2      *      *
```

2.6. Removal of the Market News Detailing the Security Trading Status

In the Market Data before Q1 2015, the exchange published Market News about the security trading status, as shown in the example 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..."
"MN : MARKE NEWS"

SI      2014-12-01 23:00:00:045.420      2014-12-01 23:00:00:044 648835815      OPEN      *
TE      2014-12-01 23:00:00:045.420      2014-12-01 23:00:00:044 648835815      *      *
*      *      *      *      O
VU      2014-12-01 23:00:00:045.420      2014-12-01 23:00:00:044 648835815
TradingStatus=17
MN      null null XCME Normal product XS = ReadyToTrade trade_date=2014-12-02
related_instruments:
MN      null null XCME Normal product XS = ReadyToTrade trade_date=2014-12-02
related_instruments:
MN      null null XCME Normal product D9 = ReadyToTrade trade_date=2014-12-02
related_instruments:
MN      null null XCME Normal product D9 = ReadyToTrade trade_date=2014-12-02
related_instruments:
MN      null null XCME Normal product YB = ReadyToTrade trade_date=2014-12-02
related_instruments:
```

In the Market Data after Q1 2015, the exchange no longer publishes Market News about the security trading status, as shown in the example 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      2014-12-01 23:00:00:048.010      2014-12-01 23:00:00:047.934      648835815      OPEN
*
TE      2014-12-01 23:00:00:048.010      2014-12-01 23:00:00:047.934      648835815      *
*      *      *      *      *      O
VU      2014-12-01 23:00:00:048.010      2014-12-01 23:00:00:047.934      648835815
CurrentBusinessDay=2014-12-02 TradingStatus=15
VU      2014-12-01 23:00:00:051.673      2014-12-01 23:00:00:051.546      648835815
TradingStatus=17
TE      2014-12-01 23:14:13:621.975      2014-12-01 23:14:13:621.876      648835815      *
*      2e-05 10@1      3e-05 10@1
TE      2014-12-01 23:14:20:491.657      2014-12-01 23:14:20:491.552      648835815      *
*      1.9e-05 10@1      3.1e-05 10@1
```

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>.