FIX/FAST on the Market Data Platform

Elimination of ITC-Format CME Globex Market Data
Client System Impact

Version: 1.1
10/2/09

1. Introduction

Note: **There may be changes to the structure of the data blocks due to enhancements in functionality.**

The CME Globex Market Data Platform (MDP) allows you to access our futures and options market data directly, which:

- Offers a dual-feed, User Datagram Protocol multicast architecture
- Allows highly efficient message delivery
- Is designed for scalability and flexible customer redistribution of market data messages
- Is a dissemination platform able to process increasing rates of market data messages

FIX/FAST market data format, the latest step in CME Group market data, drastically reduces end-to-end latency and improves bandwidth scalability. The new format is based on FIX and FAST protocols for increased efficiency. FIX provides the core message structure and syntax while the FAST protocol increases optimization. FIX/FAST is the basis of a new industry standard for market data.

The ITC format will no longer be compatible with CME Globex and client systems must be developed to the FIX/FAST format. Functionality that was previously available in ITC will be made available in FIX/FAST format to existing CME Globex clients and new CME Globex clients who previously received market data in ITC format.

Market data for exchanges which are part of CME Group will be converted from ITC to FIX/FAST on Globex. Exchanges that are not part of CME Group will continue to receive market data in ITC format for floor.

Note: **All FIX/FAST channels will be impacted by the template update which is necessary to facilitate the conversion of ITC messages to FIX/FAST for CME Globex.** **See “Template Modification” on Page 4.**

New clients to MDP FIX/FAST should refer to system documentation in the following order:

1. Read the MDP FIX/FAST SDK, starting with:

http://www.cmegroup.com/globex/files/SDKFFOverview.pdf.

2. Read this document - ITC to FIX/FAST Client Impact.

Existing clients to MDP FIX/FAST should refer to system documentation in the following order:

1. Read this document - ITC to FIX/FAST Client Impact.
2. Refer to the MDP FIX/FAST SDK as necessary for further information:

http://www.cmegroup.com/fixfastsdk.

1.1 Key Customer Events and Dates

The enhancements will be available for development according to the following schedule:

Milestone	Date
New Release environment	To be announced
Certification environment	To be announced
Production environment	To be announced

More detailed information on the launch schedule will be announced in the CME Globex Notices; please see www.cmegroup.com/globexnotices.

For more information, please contact:

Market Data Operations (MDO)

+1 312 648 3653

email: mdo@cmegroup.com

OR

Certification Support for Electronic Trading (CSET)

+1 312 930 2322

email: cset@cmegroup.com

1.2 Market Data Platform FIX/FAST Channel Definitions (Market Data Configuration)

An FTP site is used to disseminate market data configuration information. Refer to Section 2.1.2.1: “FTP Site Information - Template Dissemination and Market Data Configuration“ of Market Data Platform FIX/FAST Core Functionality for additional information.

1.3 Template Modification

FIX/FAST is a template-based protocol. As a result, messages can only be interpreted using a template, and client systems must implement templates in MDP FIX/FAST. New tags and tag values have been added for this release, so a new template will be made available.

Refer to the sections below for additional information at:

http://www.cmegroup.com/globex/files/SDKFFCore.pdf

- Section 4: “Template Overview”
- Section 2.1.2: “Services - Template Dissemination and Market Data Configuration”

1.4 ITC to FIX/FAST Migration Advisory

Please be advised that CME Group will phase out the ITC market data format in 2009; CME Group strongly recommends that customers plan to migrate to Market Data Platform FIX/FAST format.

Information on the New Release and Certification environments is available at:

http://www.cmegroup.com/cert/

FIX/FAST customer documentation, including channel definitions, is available at:

http://www.cmegroup.com/fixfast/

For more information, please contact:

Market Data Operations (MDO)

+1 312 648 3653

email: mdo@cmegroup.com

1.5 Testing and Certification Requirements

Certification for this release will be performed manually.

For more information on environment access and setup support, please contact CME Group Market Data Operations (MDO).

For more information on development and certification testing, please contact CME Group Certification Support for Electronic Trading (CSET).

Note: **ITC is not available in the New Release and Certification environments.**

1.6 Client System Impact Summary

Messaging level enhancements have been made to facilitate the conversion of ITC messages to FIX/FAST for CME Globex. Please see the applicable sections within this document for a detailed description of these and additional system impacts.

The following data blocks are now available in the Market Data Incremental Refresh (tag 35-MsgType=X) message for CME Globex:

- **Theoretical Settlement** data blocks contain the theoretical settlement price for an instrument. They are sent daily, following the close of the trading session. See “Theoretical Settlement Data Block” on Page 7.

Note: **The Clearing Settlement Price will be sent later in the day, as it has been in previous releases.**

- **Open Interest** data blocks contain the total number of orders per instrument that are not yet offset or fulfilled for the previous trading day. See “Open Interest Data Block” on Page 8.
- **Cleared Volume** data blocks contain the volume of contracts that have been through the clearing process for an active instrument for the previous trading day. See “Cleared Volume Data Block” on Page 9.
- **Fixing Price** data blocks contain the fixing price, which is a volume-weighted average price for the nearby futures contract of an option. See “Fixing Price Data Block” on Page 10.

2. CME Globex Messaging Impacts

This section describes the new FIX tags and valid values. In addition, the following data blocks are now available to facilitate the conversion of ITC messages to FIX/FAST for CME Globex. They will be included in Market Data Incremental Refresh (tag 35-MsgType=X) messages.

- “Theoretical Settlement Data Block”
- “Open Interest Data Block”
- “Cleared Volume Data Block”
- “Fixing Price Data Block”

2.1 New FIX Tags and Values

The following table describes the new FIX tags and valid values that are now available as a result of migrating ITC messages to FIX/FAST format. They will be included in Market Data Incremental Refresh (tag 35-MsgType=X) messages.

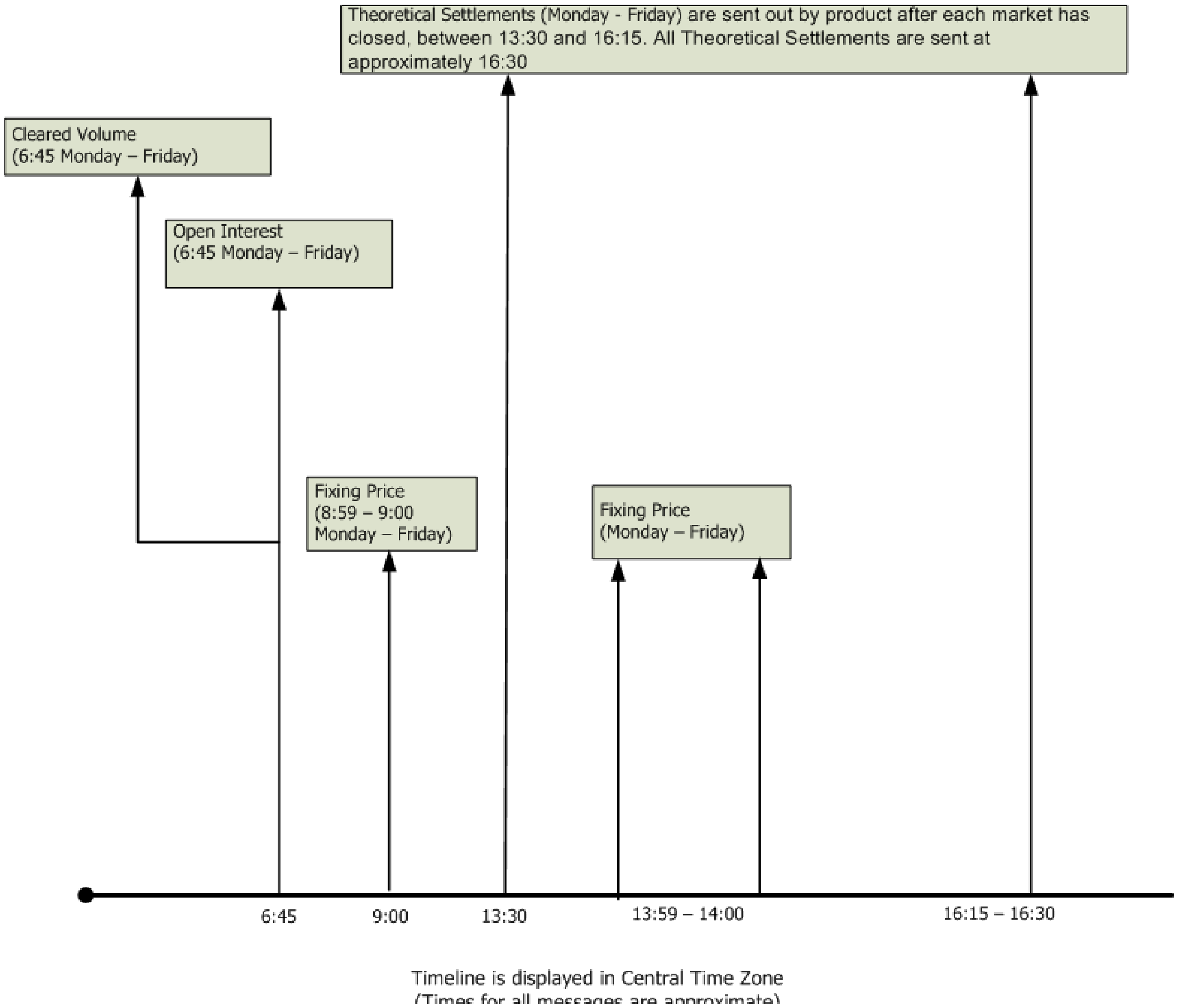
Table 2.1. Market Data Incremental Refresh (tag 35-MsgType=X) Message

Tag	FIX Name	Format	Sample Values	Description
64	SettlDate	LocalMktDate (8)	20080123	Settlement Date for the instrument. The Settlement Date is January 23, 2008 The format is YYYYMMDD
269	MDEntryType	Char (1)	B	Type of Market Data entry. **The following values are now available:** B = Trade Volume C = Open Interest W = Fixing Price
5790	FixingBracket	Char (5)	14:00	Time that the Fixing Price was calculated.

2.2 CME Globex Message Timeline

The following timeline shows when certain messages are typically sent on a given trading day.

Note: **The following times are subject to change without notice.**



2.3 Theoretical Settlement Data Block

Theoretical Settlement data blocks contain the theoretical settlement price for an instrument. They are sent daily by product group, following the close of the trading session. They are similar to the Closing and Settlement Price data blocks, but will contain tag 64-SettlDate and tag 286-OpenCloseSettlFlag.

Tag 279-MDUpdateAction will be set to 0 = New and tag 269-MDEntryType will be set to 6 = Settlement Price. Tag 64-SettlDate will be present and tag 286-OpenCloseSettlFlag will be set to 5 = Theoretical Price.

2.3.1 Theoretical Settlement Data Block Sample Message

The following sample message contains the Theoretical Settlement data block.

1128=8|35=X|49=CME|34=6957050|52=20080124203153918|75=20080124|268=1|**279=0|**22=8|48=64288|83=127|**269=6|**270=2000|273=203153000|**286=5|64=20080123|**

Table 2.2. Market Data Incremental Refresh (tag 35-MsgType=X) Message

Tag	FIX Name	Format	Sample Values	Description
FIX Header - **1128=8|35=X|49=CME|34=6957050|52=20080124203153918|75=20080124|268=1|**				
279	MDUpdateAction	Char (1)	0	Type of Market Data update action. 0 = New
22	SecurityIDSource	String (1)	8	Identifies source of tag 48-SecurityID value. This value is always 8 for CME and is required if tag 48- SecurityID is specified
48	SecurityID	String (12)	64288	Unique instrument ID as qualified by the exchange per tag 22-SecurityIDSource
83	RptSeq	Int (1)	127	Sequence number per Instrument update
269	MDEntryType	Char (1)	6	Type of Market Data Entry. 6 = Settlement Price
270	MDEntryPx	Price (20)	2000	Price of the Market Data Entry
273	MDEntryTime	UTCTime Only (12)	203153000	Time of Market Data Entry. The Market Data entry time is 20:31:53.000 UTC time
286	OpenCloseSettlFlag	MultipleCharValue (1)	5	Flag to indicate the type of entry 5 = Theoretical Price **Note:** This tag will not be included in the final settlement.
64	SettlDate	LocalMkt Date (8)	20080123	Settlement Date for the instrument. The Settlement Date is January 23, 2008 The format is YYYYMMDD

2.4 Open Interest Data Block

Open Interest data blocks contain the total number of contracts per instrument that are not yet offset or fulfilled for the previous trading day. They are sent before the start of the trading session.

Tag 75-TradeDate will contain the date of the previous trading day. Tag 279-MDUpdateAction will be set to 0 = New and tag 269-MDEntryType will be set to C = Open Interest. Tag 271-MDEntrySize will contain the quantity or volume of the Open Interest.

2.4.1 Open Interest Data Block Sample Message

The following sample message contains the Open Interest data block.

1128=8|35=X|49=CME|34=6957050|52=20080124064553918|**75=20080124|**268=1|**279=0|**22=8|48=64288|83=127|**269=C|271=2000|**273=064553000|

Table 2.3. Market Data Incremental Refresh (tag 35-MsgType=X) Message

Tag	FIX Name	Format	Sample Values	Description
FIX Header - **1128=8|9=118|35=X|49=CME|34=6957050|52=20080124163153918|75=20080124|268=1|**				
279	MDUpdateAction	Char (1)	0	Type of Market Data update action. 0 = New
22	SecurityIDSource	String (1)	8	Identifies source of tag 48-SecurityID value. This value is always 8 for CME and is required if tag 48- SecurityID is specified.
48	SecurityID	String (12)	64288	Unique instrument ID as qualified by the exchange per tag 22-SecurityIDSource.
83	RptSeq	Int (1)	127	Sequence number per Instrument update.
269	MDEntryType	Char (1)	C	Type of Market Data Entry. C = Open Interest
271	MDEntrySize	Qty(12)	2000	Quantity or volume represented by the Market Data Entry.
273	MDEntryTime	UTCTime Only (12)	064553000	Time of Market Data Entry. The Market Data entry time is 06:45:53.000 UTC time

2.5 Cleared Volume Data Block

Cleared Volume data blocks contain the number of contracts that have been through the clearing process for an active instrument for the previous trading day.

Tag 75-TradeDate will contain the date of the previous trading day. Tag 279-MDUpdateAction will be set to 0 = New and tag 269-MDEntryType will be set to B = Trade Volume. Tag 271-MDEntrySize will contain the Cleared Volume.

2.5.1 Cleared Volume Data Block Sample Message

The following sample message contains the Cleared Volume data block.

1128=8|35=X|49=CME|34=6957050|52=20080124163153918|**75=20080124**|268=1|**279=0|**22=8|48=64288|83=127|**269=B|271=2000|**273=163153000|

Table 2.4. Market Data Incremental Refresh (tag 35-MsgType=X) Message

Tag	FIX Name	Format	Sample Values	Description
FIX Header - **1128=8|35=X|49=CME|34=6957050|52=20080124163153918|75=20080124|268=1|**				
279	MDUpdateAction	Char (1)	0	Type of Market Data update action. 0 = New
22	SecurityIDSource	String (1)	8	Identifies source of tag 48-SecurityID value. This value is always 8 for CME and is required if tag 48- SecurityID is specified.
48	SecurityID	String (12)	64288	Unique instrument ID as qualified by the exchange per tag 22-SecurityIDSource.
83	RptSeq	Int (1)	127	Sequence number per Instrument update.
269	MDEntryType	Char (1)	B	Type of Market Data Entry. B = Trade Volume
271	MDEntrySize	Qty(12)	2000	Quantity or volume represented by the Market Data Entry.
273	MDEntryTime	UTCTime Only (12)	163153000	Time of Market Data Entry. The Market Data entry time is 16:31:53:000 UTC time

2.6 Fixing Price Data Block

Fixing Price data blocks contain the Fixing Price, a volume-weighted average price for the nearby futures contract of an Option, and the time the Fixing Price was calculated (tag 5790-FixingBracket). Tag 279-MDUpdateAction will be set to 0 = New and tag 269-MDEntryType will be set to W = Fixing Price.

2.6.1 Fixing Price Data Block Sample Message

The following sample message contains the Fixing Price data block.

1128=8|35=X|49=CME|34=6957050|52=20080124134553918|75=20080124|268=1|**279=0|**22=8|48=64288|83=127|**269=W|**270=2000|273=134553000|**5790=14:00**

Table 2.5. Market Data Incremental Refresh (tag 35-MsgType=X) Message

Tag	FIX Name	Format	Sample Values	Description
FIX Header - **1128=8|35=X|49=CME|34=6957050|52=20080124134553918|75=20080124|268=1|**				
279	MDUpdateAction	Char (1)	0	Type of Market Data update action. 0 = New
22	SecurityIDSource	String (1)	8	Identifies source of tag 48-SecurityID value. This value is always 8 for CME and is required if tag 48- SecurityID is specified.
48	SecurityID	String (12)	64288	Unique instrument ID as qualified by the exchange per tag 22-SecurityIDSource.
83	RptSeq	Int (1)	127	Sequence number per Instrument update.
269	MDEntryType	Char (1)	W	Type of Market Data Entry. W = Fixing Price
270	MDEntryPx	Price (20)	2000	Price of the Market Data Entry
273	MDEntryTime	UTCTime Only (12)	134553000	Time of Market Data Entry. The Market Data entry time is13:45:53.000 UTC time
5790	FixingBracket	Char (5)	14:00	Time that the Fixing Price was calculated.

Revision History

Initial Release	Version	Last Update	Author	Description
4/1/09	1.0		DT	Initial Release
4/1/09	1.1	10/2/09	DT	Removed tag 64-SettlDate from "Open Interest Data Block Sample Message", page 9.