

Client System Impact

Equity Futures Enhancement

Version: 1.1
6/24/09

Equity Futures Enhancements

In the second half of 2009, a number of enhancements will be introduced for CME and CBOT Equity futures and future spreads on CME Globex. The messaging and functionality impacts are documented below.

This launch will also result in reduced message response times. Already among the fastest in the industry, this upgrade is expected to reduce response times by 20 - 40% for CBOT Equity futures, and 40-50% for CME Equity futures.

Please note: as a result of the reduced message response times, bandwidth utilization in these futures markets may ultimately increase by as much as 20%.

	New Release Launch	Mock Trading Session	Production Launch
CBOT Equity Futures	Monday, June 29	Saturday, August 22	Sunday, August 30
CME Equity Futures	Monday, August 3	Not Available	Sunday, October 4

1.0 Functionality changes

1.1 Cancel/Replace Request

Cancel/Replace behavior will change in regards to tag 37-OrderID. As shown below, tag 37-OrderID will not be modified for a Cancel/Replace. Currently, this tag is populated with a new value for the Cancel/Replace Confirmation.

Please note: for CBOT Equity futures, tag 38-OrderQty now must be populated with an order quantity greater than 0 in all Cancel/Replace Request messages, per FIX standards. A Cancel/Replace Request with tag 38=0 will be rejected with the following message in tag 58-Text:

Business Reject: Required Field Missing 'Quantity less than 1: '0' tag: 38'

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Current Cancel/Replace Behavior

→ New Order

- Tag 35-MsgType=D
- Tag 11-ClOrdID=300935830118

← Acknowledgement

- Tag 35=8
- Tag 39-OrdStatus=0
- Tag 11=300935830118
- Tag 37-OrderID=20081203000041

→ Cancel/Replace

- Tag 35=G
- Tag 37=20081203000041
- Tag 11=300935830118

← Cancel/Replace Confirmation

- Tag 35=8
- Tag 39=5
- Tag 37=**20081203000042**
- Tag 11=300935830118

New Cancel/Replace Behavior

→ New Order

- Tag 35-MsgType=D
- Tag 11-ClOrdID=300935830118

← Acknowledgement

- Tag 35=8
- Tag 39-OrdStatus=0
- Tag 11=300935830118
- Tag 37-OrderID=504137434

→ Cancel/Replace

- Tag 35=G
- Tag 37=**504137434**
- Tag 11=300935830118

← Cancel/Replace Confirmation

- Tag 35=8
- Tag 39=5
- Tag 37=**504137434**
- Tag 11=300935830118

1.2 In-Flight Fill Mitigation (IFM)

Currently for CBOT Equity futures, customer systems can submit a Cancel/Replace Request (tag 35=G) message with the IFM value flagged Y or N. As of this launch, customer systems must ensure a consistent value for tag 9768-OFMOverride. The value set in this tag (Y, N or not included) in the initial Cancel/Replace message for a given order must be the same in all subsequent Cancel/Replace messages within the same order sequence.

2.0 Timestamps in CME Globex Messaging

In both iLink and FIX/FAST messaging, UTCTimeStamps and UTCTimeOnly types may, but do not always, include milliseconds, as defined in the FIX protocol.

FIX Protocol defines **UTCTimeStamps** as the time/date combination represented in UTC (Universal Time Coordinated, also known as GMT) in either YYYYMMDD-HH:MM:SS (whole seconds) or YYYYMMDD-HH:MM:SS.sss (milliseconds); and **UTCTimeOnly** as the time-only represented in UTC (Universal Time Coordinated, also known as GMT) in either HH:MM:SS (whole seconds) or HH:MM:SS.sss (milliseconds) format.

CBOT Equity futures will now send milliseconds in iLink timestamps, as options and FX futures do today. FIX/FAST timestamps will always default to “000” milliseconds and should not be relied upon by customers.

All other futures on CME Globex will not send milliseconds in the iLink and FIX/FAST timestamps. Customer applications must be able to support both formats.

3.0 FIX tag 38-OrderQty Change for Cancel Confirmation Execution Reports

In iLink Execution Reports for cancel confirmations (tag 35-MsgType=8, tag 39-OrdStatus=4), tag 38-OrderQty will return the original order quantity for all cancels, including partially filled orders.

Currently, tag 38-OrderQty returns the working order quantity only if the order has been partially filled.

Current tag 38-OrderQty Behavior

New Order (tag 35=D)

```
8=FIX.4.2|9=247|35=D|34=21|49=Y01555N|50=555|52=20090131-
15:03:02.548|56=CME|142=555|43=N|57=G|97=N|1=123456|11=ORD8595413485947|21=1|
38=100|40=2|44=49730|54=1|59=0|60=20090131-
15:03:02.548|77=O|55=ZD|107=ZDZ9|109=230|167=FUT|204=1|9701=123456|9702=1|9717=
65535|10=138|
```

Execution Report, Partial Fill (tag 35=8, tag 39=1)

```
8=FIX.4.2|9=401|35=8|34=34|369=22|52=20090131-
15:03:08.786|49=CME|50=G|56=Y01555N|57=555|1=123456|6=0|11=ORD8595413485947|14
=20|17=09400120090131090308TN00000003|20=0|31=49730|32=20|37=200901310000005|38
=100|39=1|40=2|41=0|44=49730|48=CME008046336|54=1|55=ZD|59=0|60=20090131-
15:03:08|75=20090131|107=ZDZ9|150=1|151=80|167=FUT|337=TRADE|375=CME000A|432=
20090131|442=1|527=IY011qmae2dr2009013100000003|1057=N|9717=65535|10=154|
```

Order Cancel Request (tag 35=F)

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8=FIX.4.2|9=199|35=F|34=36|49=Y01555N|50=555|52=20090131-
 15:09:18.470|56=CME|142=555|43=N|57=G|97=N|11=ORD8595413485947|37=20090131000
 005|41=1234|48=123456|54=1|60=20011017-
 14:22:00.260|107=ZDZ9|167=FUT|9717=17935|10=005|

Execution Report, Cancel Confirmation (tag 35=8, tag 39=4)

8=FIX.4.2|9=298|35=8|34=49|369=36|52=20090131-
 15:09:18.488|49=CME|50=G|56=Y01555N|57=555|1=123456|6=0|11=ORD8595413485947|14
 =0|17=09700020090131090918|20=0|37=20090131000005|**38=80**|39=4|40=2|41=1234|44=4
 9730|48=CME008046336|54=1|55=ZD|59=0|60=20090131-
 15:09:18|107=ZDZ9|150=4|151=0|167=FUT|432=20090131|9717=17935|10=043|

New tag 38-OrderQty Behavior

New Order (tag 35=D)

8=FIX.4.2|9=251|35=D|34=348|49=Y01555N|50=555|52=20090131-
 17:21:11.142|56=CME|142=555|43=N|57=G|97=N|1=123456|11=ORD8595413486039|21=1|
38=100|40=2|44=50|54=1|59=0|60=20090131-17:21:11.142|77=O|55=ZD|107=ZDZ9
 |109=230|167=FUT|204=1|9701=123456|9702=1|9717=65535|10=065|

Execution Report, Partial Fill (tag 35=8, tag 39=1)

8=FIX.4.2|9=385|35=8|34=620|369=349|52=20090131-
 17:21:31.955|49=CME|50=G|56=Y01555N|57=555|1=123456|6=0|11=ORD8595413486039|14
 =20|17=54233:24TN0000001|20=0|31=50|32=20|37=5485336505|**38=100**|39=1|40=2|41=0|
 44=50|48=CME003610839|54=1|55=ZD|59=0|60=20090131-
 17:21:31.911|75=20090131|107=ZDZ9|150=1|151=80|167=FUT|337=TRADE|375=CME000A|4
 32=20090131|442=1|527=IY011qmae2mu200901311|1057=N|9717=65535|10=167|

Order Cancel Request (tag 35=F)

8=FIX.4.2|9=202|35=F|34=355|49=Y01555N|50=555|52=20090131-
 17:24:14.782|56=CME|142=555|43=N|57=G|97=N|11=ORD8595413486039|37=5485336505|
 41=1234|48=123456|54=1|60=20011017-
 14:22:00.260|107=ZDZ9|167=FUT|9717=17935|10=172|

Execution Report, Cancel Confirmation (tag 35=8, tag 39=4)

8=FIX.4.2|9=292|35=8|34=627|369=355|52=20090131-
 17:24:14.783|49=CME|50=G|56=Y01555N|57=555|1=123456|6=0|11=ORD8595413486039|14
 =0|17=54233:26|20=0|37=5485336505|**38=100**|39=4|40=2|41=1234|44=50|48=CME0036108
 39|54=1|55=ZD|59=0|60=20090131-
 17:24:14.780|107=ZDZ9|150=4|151=0|167=FUT|432=20090131|9717=17935|10=250|

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4.0 iLink Messaging Format Changes

4.1 FIX tag 17-ExecID

For all Execution Reports, tag 17-ExecID will remain unique per instrument per session. However, the value will no longer be fixed length, and may be between 1 and 19 characters long.

The Execution Report Fill (tag 35-MsgType=8, tag 39-OrdStatus=1 or 2) and Trade Cancellation (tag 35=8, tag 39=H) messages will still contain a Trade Number (TN) value in tag 17-ExecID.

Please note: Customer systems should only parse or reference the value in this tag following the "TN" in the Fill messages. For example, tag 17=00002220060918140926TN0000002.

Current Format Examples: tag 17-ExecID

Buy Side Order (tag 35=D)

8=FIX.4.2|9=215|35=D|34=3988|49=NNM000N|50=XXXX|52=20081203-
21:06:16|56=CME|57=G|142=MySenderLocationID|1=MyAccount|11=ORD1725|21=1|38=1|4
0=2|44=12668|54=1|55=ZD|59=0|60=20081203-
1:06:16|107=ZDZ9|167=FUT|204=1|9702=1|9717=ORD1724|10=053|

Order Acknowledgement (tag 35=8)

8=FIX.4.2|9=291|35=8|34=748|369=3988|52=20081203-
21:06:16.386|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1725|14=0|
17=62400020081203150616|20=0|37=20081203090476|38=1|39=0|40=2|41=0|44=1266848=
CME000175380|54=1|55=ZD|59=0|60=20081203-
21:06:16|107=ZDZ9|150=0|151=1|167=FUT|432=20081203|9717=D1724|10=166|

Fill Notice (tag 35=8)

8=FIX.4.2|9=393|35=8|34=749|369=3988|52=20081203-
21:06:16.387|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1725|14=1|
17=62400120081203150616TN0006053|20=0|31=12668|32=1|37=20081203090476|38=1|39
=2|40=2|41=0|44=12668|48=CME000175380|54=1|55=ZD|59=0|60=20081203-
21:06:16|75=20081203|107=ZDZ9|150=2|151=0|167=FUT|337=TRADE|375=CME000A|432=2
0081203|442=1|527=INNM1o5wi6zb200812030006053|1057=Y|9717=D1724|10=101|

New Format Examples: tag 17-ExecID

Buy Side Order (tag 35=D)

8=FIX.4.2|9=218|35=D|34=4017|49=NNM000N|50=XXXX|52=20081203-
21:19:05|56=CME|57=G|142=MySenderLocationID|1=MyAccount|11=ORD1739|21=1|38=1|4
0=2|44=36|54=1|55=ZD|59=0|60=20081203-
21:19:05|107=ZDZ8|167=FUT|204=1|9702=1|9717=ORD1738|10=219|

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Order Acknowledgement (tag 35=8)

8=FIX.4.2|9=287|35=8|34=791|369=4017|52=20081203-
 21:19:05.155|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1739|14=0|
17=52207:2296193|20=0|37=5253678296|38=1|39=0|40=2|41=0|44=36|48=CME003977162|
 54=1|55=ZD|59=0|60=20081203-
 21:19:05.154|107=ZDZ9|150=0|151=1|167=FUT|432=20081203|9717=D1738|10=080|

Fill Notice (tag 35=8)

8=FIX.4.2|9=380|35=8|34=793|369=4018|52=20081203-
 21:19:13.913|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1739|14=1|
17=52207:2296195TN0000001|20=0|31=36|32=1|37=5253678296|38=1|39=2|40=2|41=0|44=
 =36|48=CME003977162|54=1|55=ZD|59=0|60=20081203-
 21:19:13.845|75=20081203|107=ZDZ9|150=2|151=0|167=FUT|337=TRADE|375=CME000A|43
 2=20081203|442=1|527=INNM1o5wi704200812031|1057=N|9717=D1738|10=181|

4.2 FIX tag 37-OrderID

For all Execution Report (tag 35=8) and Cancel Reject (tag 35=9) messages, this tag will remain a unique order identifier assigned by CME Globex per instrument per session. However, the value will no longer be fixed length, and may be between 1 and 19 characters long.

Current Format Examples: tag 37-OrderID

Buy Side Order (tag 35=D)

8=FIX.4.2|9=215|35=D|34=3988|49=NNM000N|50=XXXX|52=20081203-
 21:06:16|56=CME|57=G|142=MySenderLocationID|1=MyAccount|11=ORD1725|21=1|38=1|4
 0=2|44=12668|54=1|55=ZD|59=0|60=20081203-
 1:06:16|107=ZDZ9|167=FUT|204=1|9702=1|9717=ORD1724|10=053|

Order Acknowledgement (tag 35=8)

8=FIX.4.2|9=291|35=8|34=748|369=3988|52=20081203-
 21:06:16.386|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1725|14=0|
 17=62400020081203150616|20=0|**37=20081203090476**|38=1|39=0|40=2|41=0|44=1266848=
 CME000175380|54=1|55=ZD|59=0|60=20081203-
 21:06:16|107=ZDZ9|150=0|151=1|167=FUT|432=20081203|9717=D1724|10=166|

Fill Notice (tag 35=8)

8=FIX.4.2|9=393|35=8|34=749|369=3988|52=20081203-
 21:06:16.387|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1725|14=1|
 17=62400120081203150616TN0006053|20=0|31=12668|32=1|**37=20081203090476**|38=1|39
 =2|40=2|41=0|44=12668|48=CME000175380|54=1|55=ZD|59=0|60=20081203-

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21:06:16|75=20081203|107=ZDZ9|150=2|151=0|167=FUT|337=TRADE|375=CME000A|432=20081203|442=1|527=INNM1o5wi6zb200812030006053|1057=Y|9717=D1724|10=101|

New Format Examples: tag 37-OrderID

Buy Side Order (tag 35=D)

8=FIX.4.2|9=218|35=D|34=4017|49=NNM000N|50=XXXX|52=20081203-21:19:05|56=CME|57=G|142=MySenderLocationID|1=MyAccount|11=ORD1739|21=1|38=1|40=2|44=36|54=1|55=ZD|59=0|60=20081203-21:19:05|107=ZDZ9|167=FUT|204=1|9702=1|9717=ORD1738|10=219|

Order Acknowledgement (tag 35=8)

8=FIX.4.2|9=287|35=8|34=791|369=4017|52=20081203-21:19:05.155|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1739|14=0|17=52207:2296193|20=0|**37=5253678296**|38=1|39=0|40=2|41=0|44=36|48=CME003977162|54=1|55=ZD|59=0|60=20081203-21:19:05.154|107=ZDZ9|150=0|151=1|167=FUT|432=20081203|9717=D1738|10=080|

Fill Notice (tag 35=8)

8=FIX.4.2|9=380|35=8|34=793|369=4018|52=20081203-21:19:13.913|49=CME|50=G|56=NNM000N|57=XXXX|1=MyAccount|6=0|11=ORD1739|14=1|17=52207:2296195TN0000001|20=0|31=36|32=1|**37=5253678296**|38=1|39=2|40=2|41=0|44=36|48=CME003977162|54=1|55=ZD|59=0|60=20081203-21:19:13.845|75=20081203|107=ZDZ9|150=2|151=0|167=FUT|337=TRADE|375=CME000A|432=20081203|442=1|527=INNM1o5wi704200812031|1057=N|9717=D1738|10=181|

4.3 FIX tag 9770-EngineQuoteReqID

In response to a Quote Request (tag 35=R) message, CME Globex sends a Quote Acknowledgement (tag 35=b) message with tag 9770-ExchangeQuoteReqID containing a unique value. This value will be variable length and may contain as little as 1 character.

Current Format Examples: tag 3770-EngineQuoteReqID

Request for Quote (tag 35=R)

8=FIX.4.2|9=130|35=R|34=4418|49=NNM000N|50=XXXX|52=20081204-16:42:47.231|56=CME|57=G|142=MySenderLocationID|131=QR1750|146=1|55=ZD|107=ZDZ9|167=FUT|9943=1|10=119|

Quote Acknowledgement (tag 35=b)

8=FIX.4.2|9=116|35=b|34=1203|369=4418|52=20081204-16:42:47.434|49=CME|50=G|56=NNM000N|131=QR1750|297=0|**9770=CME00017538010424742577**|10=068

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New Format Examples: tag 3770-EngineQuoteReqID

Request for Quote (tag 35=R)

8=FIX.4.2|9=136|35=R|34=4423|49=NNM000N|50=XXXX|52=20081204-
16:45:13.028|56=CME|57=G|142=MySenderLocationID|131=QR1751|146=1|55=ZD|107=ZDZ9
|167=FUT|9943=1|10=238|

Quote Acknowledgement (tag 35=b)

8=FIX.4.2|9=118|35=b|34=1208|369=4423|52=20081204-
16:45:13.134|49=CME|50=G|56=NNM000N|57=XXXX|131=QR1751|297=0|**9770=CME0016252**
391|10=226|