

CME Clearing360 FIXML API

Trade Overview

Version: 1.1
2/10/10

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1.0 Introduction

This document contains guidelines for implementing the CME Clearing360 FIXML Trade API. This API allows firms and other authorized users to submit block trades and other privately negotiated deals to CME Clearing.

Additional information on FIXML can be found on the FIX Protocol site at:
http://fixprotocol.org/documents/3922/FIX-5.0_SP1_VOL-3.pdf

1.1 Trade API Description

The CME Clearing360 FIXML Trade API is a request/response model that allows participants to submit and receive FIXML messages from CME Group for specific message events. The CME Front End Clearing (FEC) User Interface (UI) initiates the generation of FIXML messages based on user activity. Users are allowed to complete the following actions:

- Submit trades (New, Add)
- Replace existing trades (Change)
- Cancel trades (Delete)
- Transfer trades

There are two sides to every trade: a “buy” side and a “sell” side. In cases where multi-leg instruments (spread transactions reported using a single message) are involved, the term “side” represents one half of a whole trade, regardless of how many parties or legs are involved in the trade.

Post-trade messages, which are typically communicated after the successful execution of a trade, are always communicated from the point of view of the trading party, and not that of the clearing organization, regardless of the message flow direction.

This document provides the following naming conventions and definitions:

- **FIX Field Names** - FIX field names provide the full name of the field. Example FIX field names are TradeID and TradeType.
- **FIXML Attribute Abbreviations** - The attribute (or tag names) that are used in FIXML messages. They are tied directly back to FIX Field Names. FIXML attribute examples are: TrdID and TrdTyp
- **Element (Message or Component) Names and Abbreviations** - The names given to the various message or component blocks. They follow the same conventions as explained above. There is a long FIX name and an abbreviated FIXML value. Attributes make up element component blocks, and element component blocks make up messages. Example message/element names are TrdCaptRpt and Instrmt.

1.2 Prerequisites

This document assumes that users have a basic understanding of XML and some familiarity with trade reporting models.

Refer to the FIXML Schema at <http://www.fixprotocol.org> to gain an introduction to or an enhanced understanding of FIXML functionality.

1.3 CME Clearing Contact Information

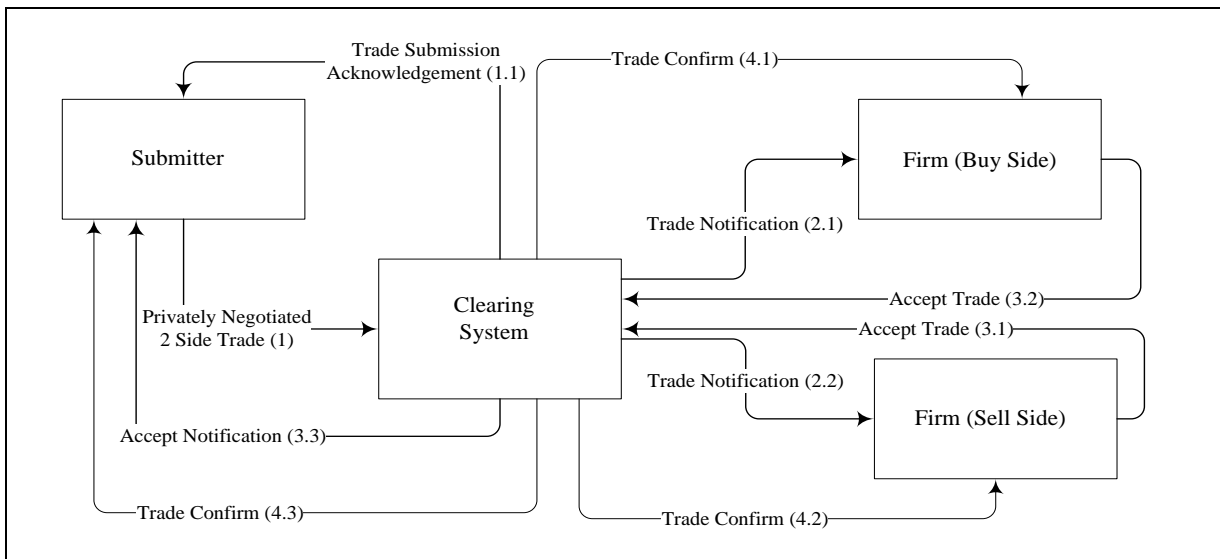
For more information please contact:
ccs@cmegroup.com

2.0 Privately Negotiated, Third Party Reporting For Claim

This method allows authorized third parties to submit multi-sided, privately negotiated trades into CME Clearing. All counterparties of each trade must accept their side to complete the match in CME Clearing. In various FIXProtocol.org documents, this is known as "Two-Party Report for Pass Through." When both parties have claimed/approved their side of the trade, a trade (or match) confirmation is sent to both parties.

2.1 Work Flow

The following diagram depicts the process of privately negotiated, third party reporting for claim:



After a qualified third-party has negotiated any privately negotiated trade (PNT) between two CME Group registered market participants, the party submits a single (outright) or multi-legged (spread), two-sided (meaning Buy and Sell) FIXML message to Front End Clearing (FEC) by MQ messaging. The message contains these and additional other fields:

- Product information
- Price and quantity
- Buy and sell alphanumeric firm identifiers (formerly firm numbers)
- Execution IDs
- Customer accounts
- Customer origin
- Time of execution

The following series of events occurs next:

1. The third party sending the message is identified by the SID (SenderCompID) of the Hdr (StandardHeader) Block.
2. When the clearing system receives the initial two-sided message, it acknowledges the message back to the third-party so that it is always aware of the current status of trades in clearing. The platform is identified by the SID. The third party (IDB) is identified by party role 30.
3. Once the message has been received by the clearing system, the two sides are posted in pending status and are matched when both parties have accepted.

Clearing firms have the responsibility of either accepting or rejecting. This can be done manually by the Front End Clearing (FEC) for each side of the trade, or it can be done automatically if auto-accept rules are established.

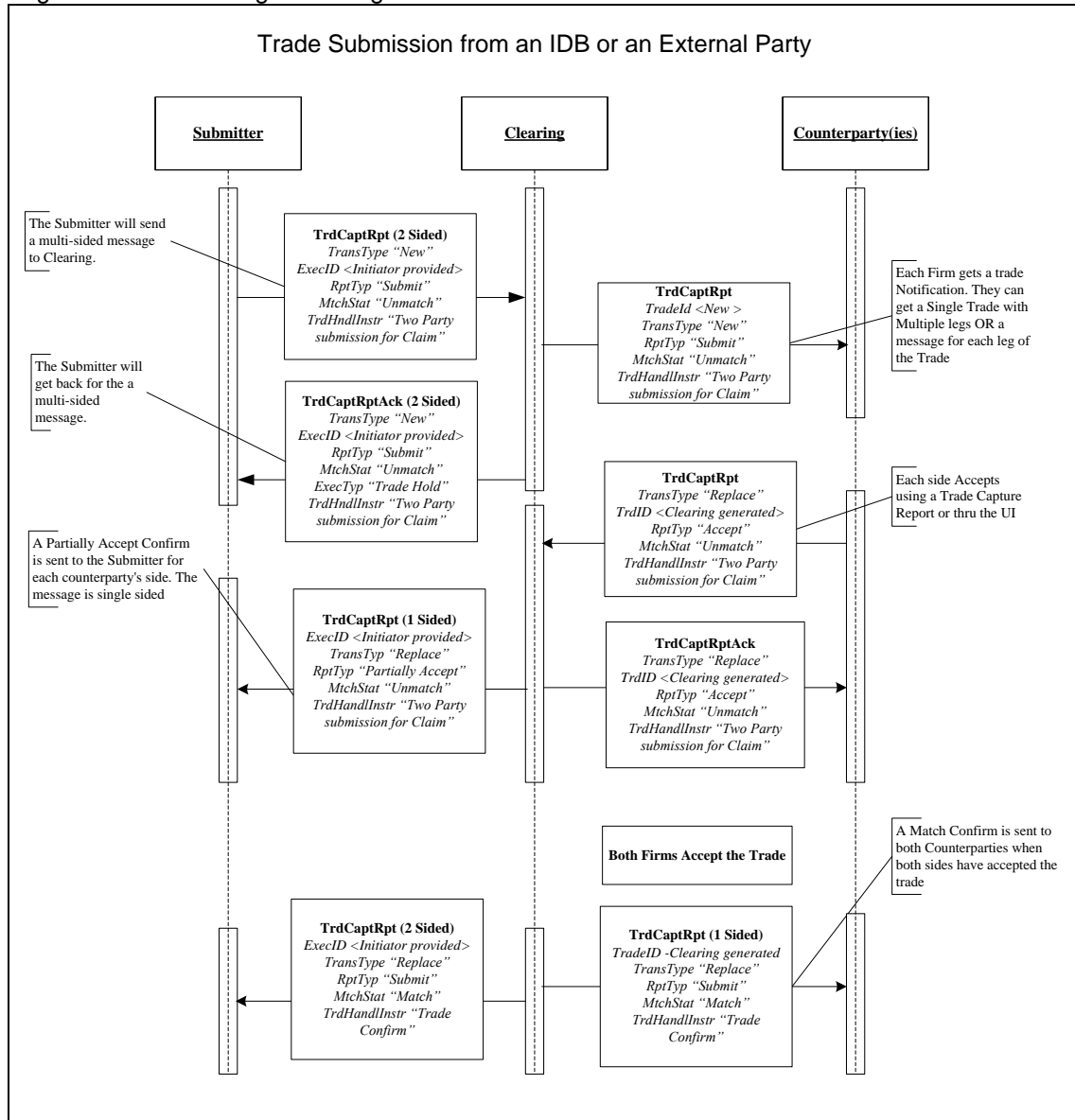
4. When both firms accept the trade, the trade is considered matched and a match trade confirmation is sent to the third party.

If either firm rejects the trade, it is removed from the clearing system, and a FIXML Cancel (delete) message is sent to each of the firms, automatically removing the trade from their book keeping system. The originating third party also receives a cancel message indicating that the trade was canceled.

Once the trade has been canceled, the third-party must submit a new trade, if it is to be submitted again with amended details.

2.2 New Trade Submission Message Flow

The following diagram details the basic flow of submitting, confirming, and clearing a privately negotiated trade through Clearing 360:



2.2.1 Message Flow Table – Key Fields

| Message Function | Message Type | ReportType | TradeHandl Instruction | TransType | TrdRptStatus | Trade Identifiers |
|-----------------------------------|-----------------------|-------------|------------------------------------|-------------|--------------|------------------------|
| Trade Submission | TradeCaptureReport | 0 – Submit | 5 – Two party submission for claim | 0 – New | Not used | ExecID |
| Trade Acknowledgment | TradeCaptureReportAck | 0 – Submit | 5 – Two party submission for claim | 0 – New | 0 – Accepted | ExecID TradeMatchID |
| Trade Notification | TradeCaptureReport | 1 – Alleged | 5 – Two party submission for claim | 0 – New | Not used | TrdID |
| Trade Claim from Parties involved | TradeCaptureReport | 2 – Accept | 5 – Two party submission for claim | 2 – Replace | Not used | TrdID |
| Cleared Trade Confirmation | TradeCaptureReport | 0 – Submit | 0 – Cleared Trade Confirmation | 2 – Replace | 0 = Accepted | TrdID |

2.2.2 Message Flow Details

The following steps describe the message flow for a new trade submission:

1. IDB or another broker submits a multi-sided **Trade Capture Report** to CCP with a **MatchStatus** of **Unmatch**.
2. CCP captures and validates the trade.
3. A **Trade Capture Report Acknowledgement** is returned to the third party with a **Trade Report Status** of **Accepted** or **Rejected** returned to the submitter once the trade is received by CCP.
 - The message type is a TrdCaptRptAck, rather than TrdCaptRpt.
 - CME TrdIDs are assigned to each leg of each side of the trade.
 - Match Id will be sent out on initial TradeCaptureReportAcknowledgement
4. Counterparties receive Trade Capture Report Notification for authorization purposes. The trade remains pending until its details have been Accepted by the Counterparties.
5. Counterparties respond with a **Trade Capture Report** to accept trade with a Report Type of **Accept**.

6. CCP sends **Trade Capture Report Acknowledgement** to acknowledge receipt of claim responses.
7. When both sides have accepted their side of the trade, a multi-sided confirmation Trade Capture Report is sent back to the third party
 - The Match Status (MtchStat) changes from "1" (Unmatched) to "0" (Matched).
 - A Trade Handling Instruction (TrdHndInstr) of "0" is sent in match trade confirmations.
 - The Transaction Type is "2" (Replace/Change).
8. CCP sends single-sided **Trade Capture Report** with Trade Handling Instruction of **Trade Confirm** to the parties responsible for each side (clearing firms and trading firms).
9. Optionally if the trade is not claimed by either party (duration determined by the CCP) the trade will be dropped.

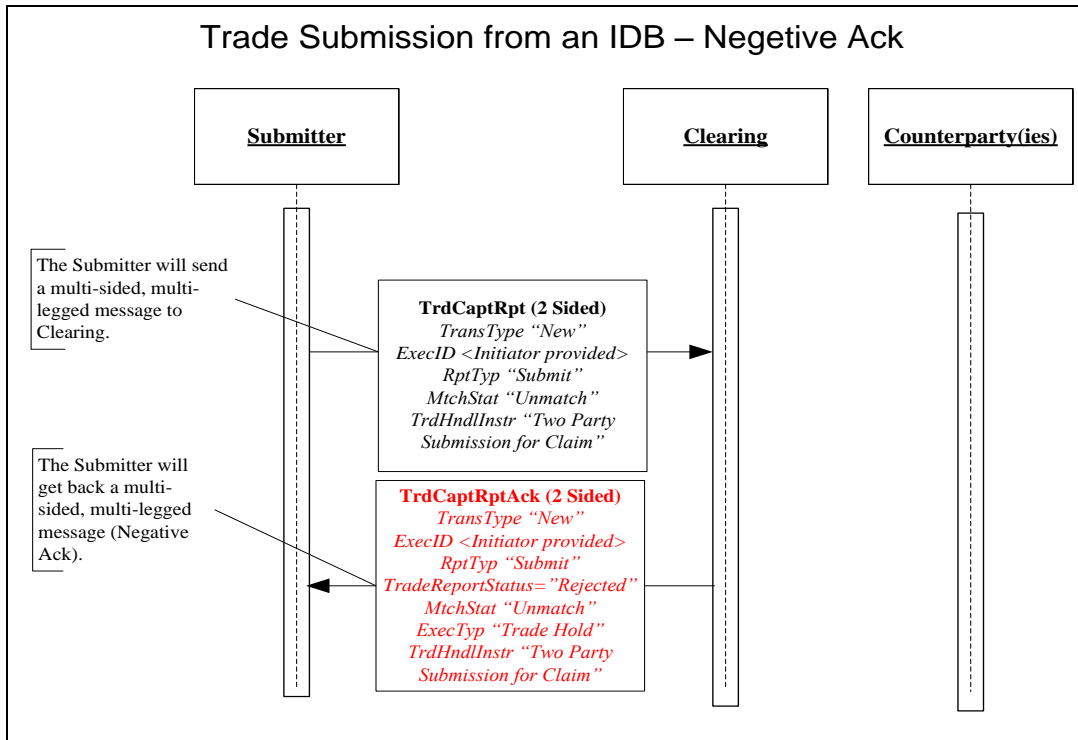
2.3 Alternate Flow – Clearing Rejects Trade Submission by IDB

Negative Trade Acknowledgement is returned to IDB if one or more sides of the trade cannot be validated due to unacceptable trade data (invalid product, counterparty, trade price, etc).

Trade confirmations are not sent to parties.

2.3.1 Message Flow Table – Key Fields

| Message Function | Message Type | ReportType | TradeHandl Instruction | TransType | TrdRptStatus | Trade Identifiers |
|-----------------------|-----------------------|------------|------------------------------------|-----------|--------------|-------------------|
| Trade Submission | TradeCaptureReport | 0 – Submit | 5 – Two party submission for claim | 0 – New | N/A | ExecID |
| Trade Acknowledgement | TradeCaptureReportAck | 0 – Submit | 5 – Two party submission for claim | 0 – New | 1 - Rejected | ExecID |



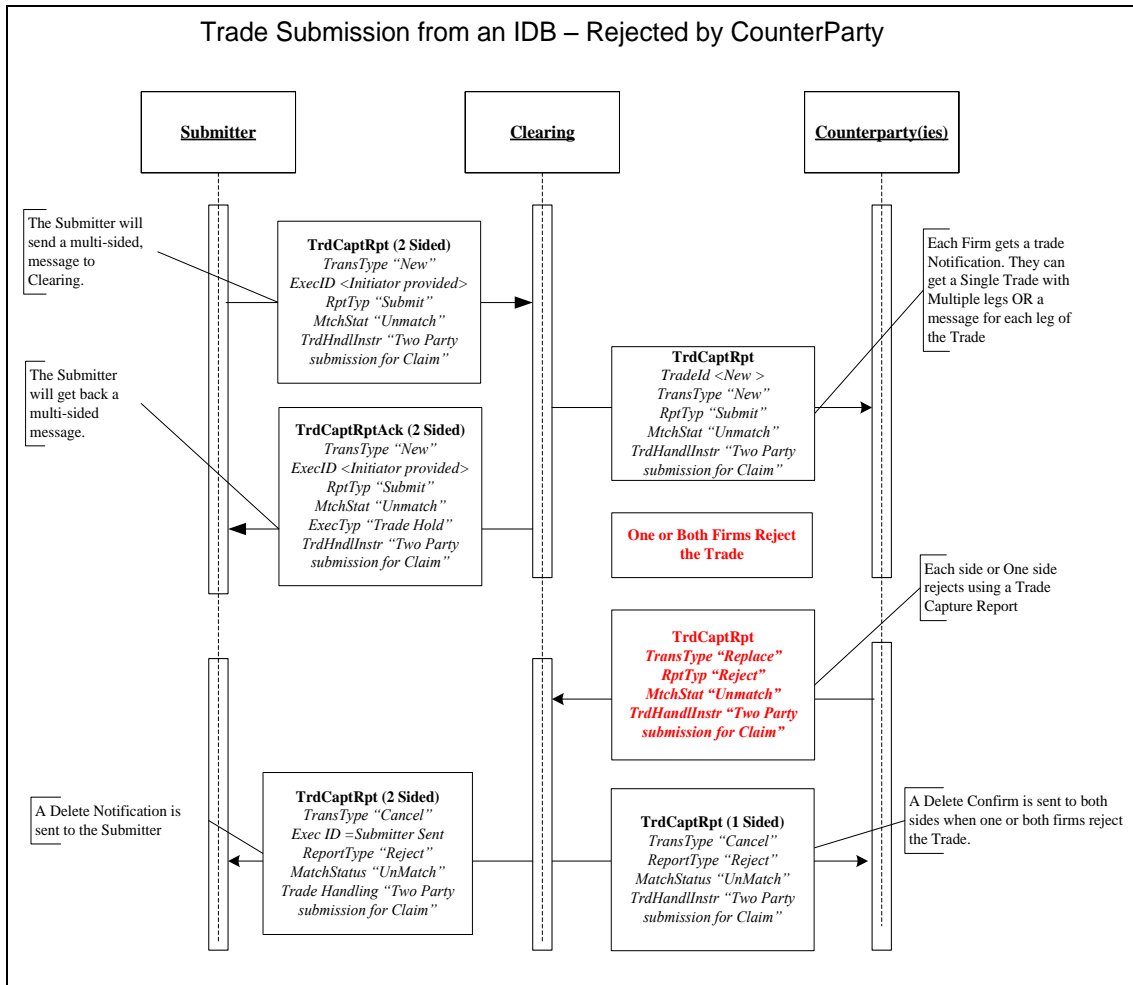
2.4 Alternate Flow – Trade Submission From IDB Rejected by Claiming Party

The following steps describe the message flow for a trade submission from the IDB being rejected:

1. IDB or other broker submits multi-sided Trade Capture Report to CCP as unmatched.
2. CCP captures and validates the trade.
3. **Trade Capture Report Acknowledgement** is returned to the submitter after the trade is received by CCP.
4. Counterparties receive a **Trade Capture Report** notifying them for authorization purposes.
5. One or more counterparties reject the trade with a Trade Response.
6. CCP sends a **Trade Capture Report Ack** upon receipt of the reject response.
7. CCP sends a Trade Notification with a **Trade Capture Report** with a **Report Type** of "Reject" notifying the opposite party that the trade has been rejected.
8. Multi-sided **Trade Capture Report** is returned to IDB with a **Trade Report Status** of "Rejected".

2.4.1 Message Flow Table – Key Fields

| Message Function | Message Type | ReportType | TradeHandl Instruction | TransType | TrdRptStatus | Trade Identifiers |
|--------------------------------------|-----------------------|---------------------------|------------------------------------|------------|--------------|-------------------|
| Trade Submission | TradeCaptureReport | 0 – Submit | 5 – Two party submission for claim | 0 – New | Not used | ExecID |
| Trade Acknowledgement | TradeCaptureReportAck | 0 – Submit 1 - Reject | 5 – Two party submission for claim | 0 – New | 0 – Accepted | ExecID |
| Trade Notification to Counterparties | TradeCaptureReport | 4 – Alleged 3 – Reject | 5 – Two party submission for claim | 1 – Cancel | Not used | TradeID |
| Trade Response | TradeCaptureReport | 3 – Reject | 5 – Two party submission for claim | 1 - Cancel | Not used | TradeID |
| Trade Confirmation | TradeCaptureReport | 3 – Reject | 5 – Two party submission for claim | 1 - Cancel | 1 - Rejected | TradeID |

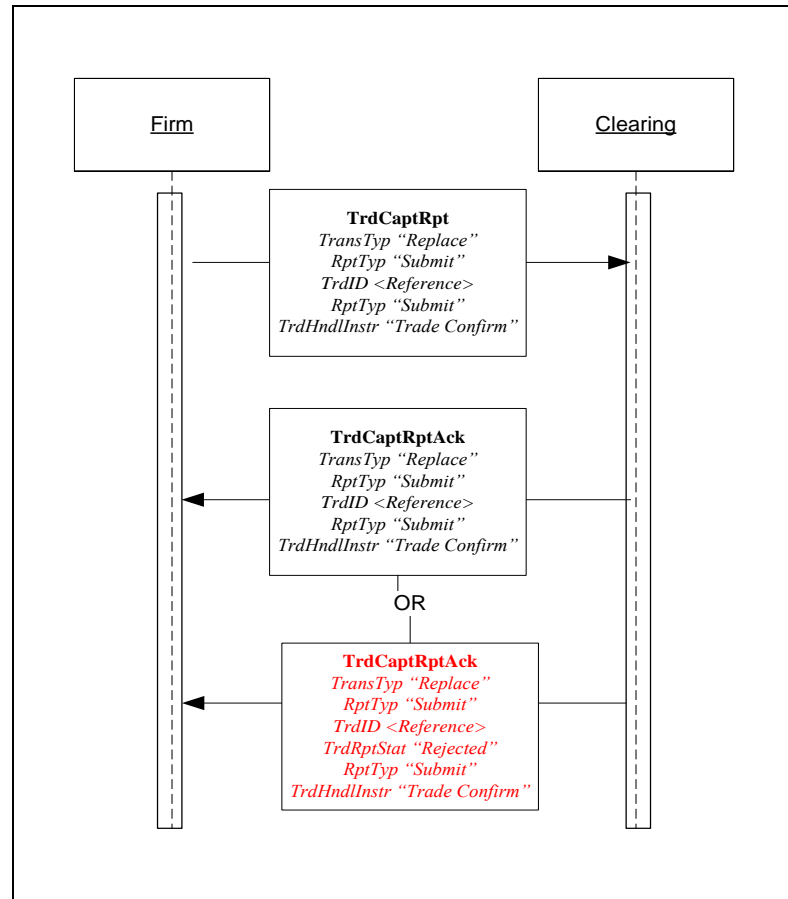


2.5 Trade Changes Initiated by Clearing Member Firm to a Cleared Trade

Once CME Clearing has confirmed a trade, Clearing Firms may submit Replace (Change) instructions to update Clearing Firm specific information, such as Account, Origin and CTI (CustCpy) or submit post trade allocation instructions.

2.5.1 Message Flow

The basic message flow for post trade amendments from Clearing Member firms is illustrated below:



Note: The clearing system responds to the specific Trade Capture Report amendment request from the clearing member firm with a trade acknowledgement.

2.5.2 Message Flow – Key Fields

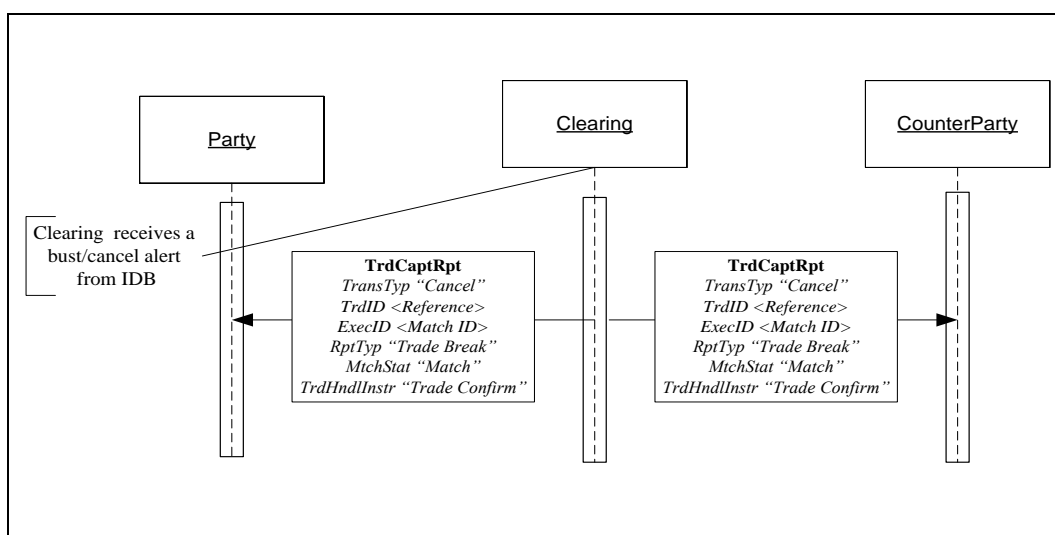
| Message Function | Message Type | ReportType | TradeHndl Instrunction | TransType | TrdRptStatus | Trade Identifiers |
|------------------------------|-----------------------|------------|------------------------|-------------|--------------|-------------------|
| Trade Change Submission | TradeCaptureReport | 0 – Submit | 0 – Trade Confirm | 2 - Replace | Not used | TrdID |
| Trade Change Acknowledgement | TradeCaptureReportAck | 0 – Submit | 0 – Trade Confirm | 2 - Replace | 0 – Accepted | TrdID |
| Trade Confirmation | TradeCaptureReport | 0-Submit | 0 – Trade Confirm | 2 - Replace | Not used | TrdID |

2.6 Trade Cancel Initiated to a Cleared Trade

If CME Clearing receives a trade cancel alert from the IDB, amended Trade Capture Report alerts are sent to clearing firms.

2.6.1 Message Flow

The basic message flow for post trade cancels is illustrated below:



2.6.2 Message Flow Table – Key Fields

| Message Function | Message Type | ReportType | TradeHandl Instruction | TransType | TrdRptStatus | Trade Identifiers |
|----------------------------|-----------------------|-----------------|------------------------|------------|--------------|-------------------|
| Trade Break Submission | TradeCaptureReport | 6 – Trade Break | 0 – Trade Confirm | 1 - Cancel | Not used | |
| Trade Break Acknowledgment | TradeCaptureReportAck | 6 – Trade Break | 0 – Trade Confirm | 1 - Cancel | 0 – Accepted | |
| Trade Confirmation | TradeCaptureReport | 6 – Trade Break | 0 – Trade Confirm | 1 - Cancel | Not used | |

3.0 Product Identifiers

Every Reference entity is assigned a Clearing Code by CME Clearing. The CME Clearing360 API requires the submitters to provide the Clearing Code to identify the contract. This information is available in a FIXML Product Reference file which is available for download. This is refreshed every night with the tradable contracts for the next business day.

Alternatively, participants can provide a Red Code or a Pair Clip (MarkIT identifier) to identify an Index or Single Name. The Source (Src) attribute qualifying the contract identifier on the messages will indicate what is being sent on the messages. Source (Src=104) is always required when a Red Code or Pair Clip is provided. CME Clearing returns the same information from the trade submission in the Trade Capture Report Acknowledgement and all additional Trade Capture Report messages. The following identifiers are supported:

- RED-6 for Single Name
- RED-9 for Index
- Pair Clip
- Clearing Code

3.1 Required Fields for Product Identifiers

The following table outlines the various product identifiers with required fields. Additional fields are needed to define the contract:

| RED-6 for Single Name | RED-9 for Index | Single Name with Pair Clip | CME Clearing Code |
|-----------------------|-----------------|----------------------------|----------------------|
| ID – 6 bytes | ID – 9 bytes | ID – 9 bytes | ID – 6 bytes |
| Src = "104" | Src = "104" | Src = "106" | Src = "H" (optional) |
| Snrty | | Snrty | |
| RstrctTyp | | RstrctTyp | |

4.0 Revision History

| Version | Date | Author | Description |
|---------|---------|--------|--|
| 1.0 | 9/30/08 | NU | Initial release of document. |
| 1.1 | 2/10/10 | NU | Added Product Identifiers section. |