CME Group

CME Global Repository Service

Swap Data Repository (SDR)
User Guide

Contents

1.0   Introduction

This document provides an overview of CME's CFTC registered Swap Data Repository (SDR) operating under the brand CME Global Repository Service (GRS). It details supporting functions, workflows, message flows, and interfaces to allow Users to submit swap data to CME for SDR reporting purposes. CME GRS will leverage existing CME connectivity, functionality and processes in order to accept, store and report swap data.

1.1   Prerequisites

This document assumes that the user has basic SDR flow knowledge. For more information, please refer to Parts 43, 45 and 49 of the CFTC's regulations.

1.2   Contact Information

SDR Business Team:
repository@cmegroup.com

SDR Support Team:
repositorysupport@cmegroup.com

SDR Support Team Phone number:
+1 312-338-7112

1.3 Modes of Submission to CME Global Repository Service

Swaps may be submitted to CME SDR via the following methods:

Submission method	Swap Type	Transport	Asset Classes	Reports covered
FIX API	Cleared	MQ, Webservice	FX, Commodities, Interest Rates, Credit	Parts 43, 45 and 46
FIX API	Un-Cleared	MQ, Webservice	FX, Commodities, Interest Rates, Credit	Parts 43, 45 and 46
CSV upload	Cleared, Uncleared	UI, Webservice, SFTP	FX, Commodities, Interest Rates, Credit, Equity	Parts 43, 45 and 46

1.4 ClearPort API via MQ

In order to submit swaps to CME Global SDR via API, such submissions must currently be done via MQ. This is an IBM product that facilitates software messaging between two computer systems. User systems would need to install (and appropriately license) IBM MQ client software in order to use MQ based messaging.

A prerequisite to facilitating MQ connectivity is to establish connectivity into the CME network. This can be accomplished via either a Virtual Private Network (VPN) or a leased line connection into CME. For more information on these modes of connectivity into CME, please contact repositorysupport@cmegroup.com.

1.5 CME SDR Participant UI

Per table 1 above, the csv upload submission methodology requires an upload to CME SDR via a Participant User Interface (UI). This UI serves as the front end to CME SDR. Users can utilize the Participant UI to accomplish the following:

- Upload csv submissions to CME SDR
- View trade submissions made to CME SDR on behalf of Users.
- Run comprehensive trade reports based on submitted trades

A demo video on the CME SDR Participant UI is available upon request.

2.0   SDR Message Flows

This section illustrates some high level message flows between CME SDR and customers of the service.

Key to the flows is the concept of universal swap identifiers (USIs). These are unique identifiers associated with each swap, as mandated by the CFTC. The flow and assignment of USIs are depicted below for the various cases. The USI flows will be covered in terms of the following submission scenarios:

- Real Time submissions (RT)
  - This is in accordance with CFTC part 43 SDR reporting regulations.

- Primary Economic Terms (PET)
  - This is in accordance with CFTC part 45 SDR reporting regulations

- Simultaneous submission of RT and PET

- Unallocated trade submission

- Allocated trade submission (i.e. Block trades)

All flows as shown in this document assume usage of a middleware platform as an intermediary to trade submission. Note that direct submissions to CME by end counterparties (which do not go via a middleware platform) are also supported as well. The overall flows in such a direct submission scenario would by and large be the same as depicted in this document, with the exception that any flows in/out of CME would be sent/consumed by the counterparties themselves, instead of by an intervening platform.

2.1   CME Cleared Trade Submissions to CME SDR

The following diagrams depict the flow in which a trade is transacted on a middleware platform, and is subsequently cleared at CME Clearing and submitted to CME SDR. It is assumed that initial bilateral trade is submitted to CME SDR (for RT+PET reporting) and that the post cleared trades are also submitted to CME SDR. The figures below depict submissions for two scenarios: i) PET and RT data are submitted to CME on separate messages, and ii) PET and RT data are submitted to CME on the same message

Figure 1

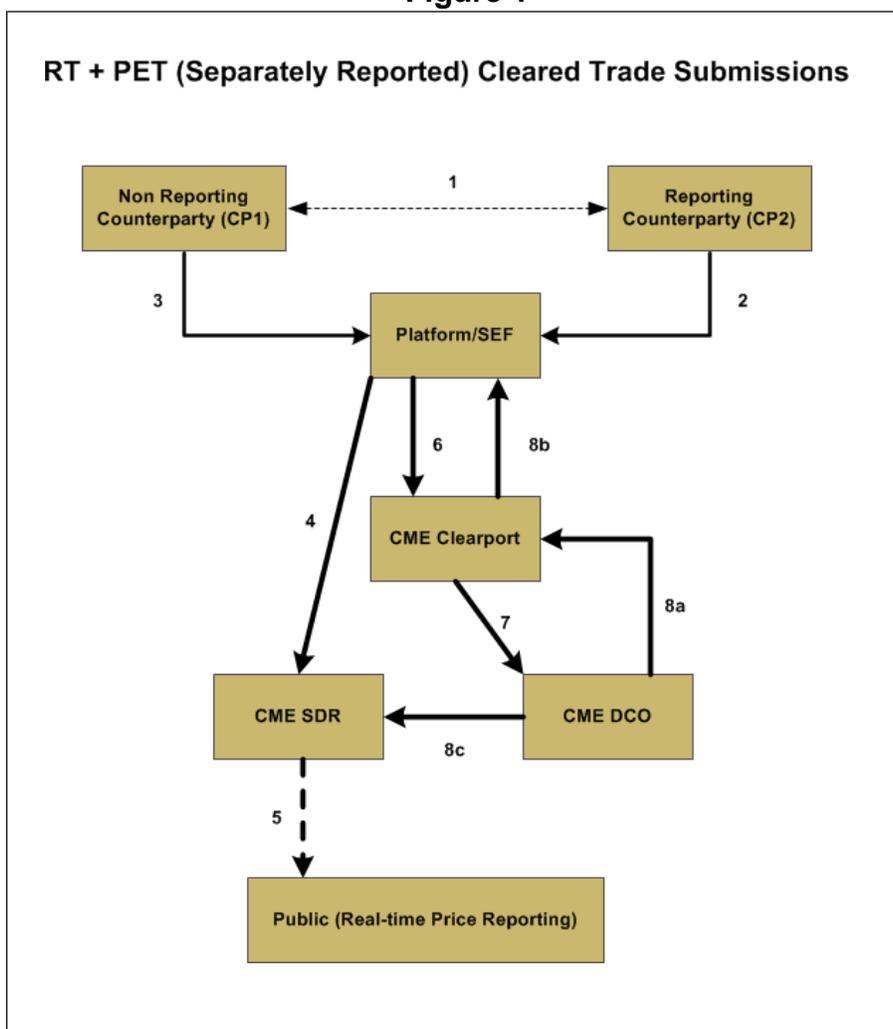RT + PET (Separately Reported) Cleared Trade Submissions

Figure 1 Flow
1. Bilateral trade between CP1 and CP2
2. CP2 enters trade economics
3. CP1 affirms trade
4. Platform, (or CP1 or CP2) may assign USI "α" to bilateral trade, and sends a message to CME SDR for real-time price reporting
5. CME SDR will report the real-time price component to public (CFTC Part 43 Rule)
6. Platform sends a separate message to CME ClearPort for PET
7. CME ClearPort sends message to CME DCO for clearing
8. (a) CME DCO validates trade, clears trade resulting in novation, and creates a new USI for each cleared swap (β and ɣ). A cleared trade notification is sent from CME DCO to ClearPort
   (b) ClearPort sends the cleared trade notification, along with α, β and ɣ USIs to the platform.
   (c) CME DCO sends cleared trade notification to CME SDR. Within CME SDR, original trade α is terminated and is replaced with β and ɣ trades
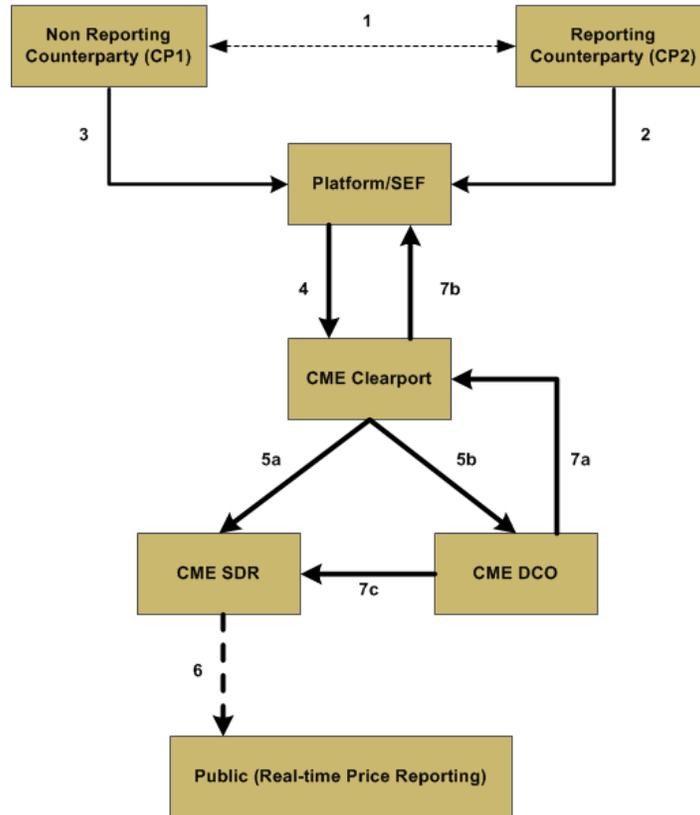
Figure 2
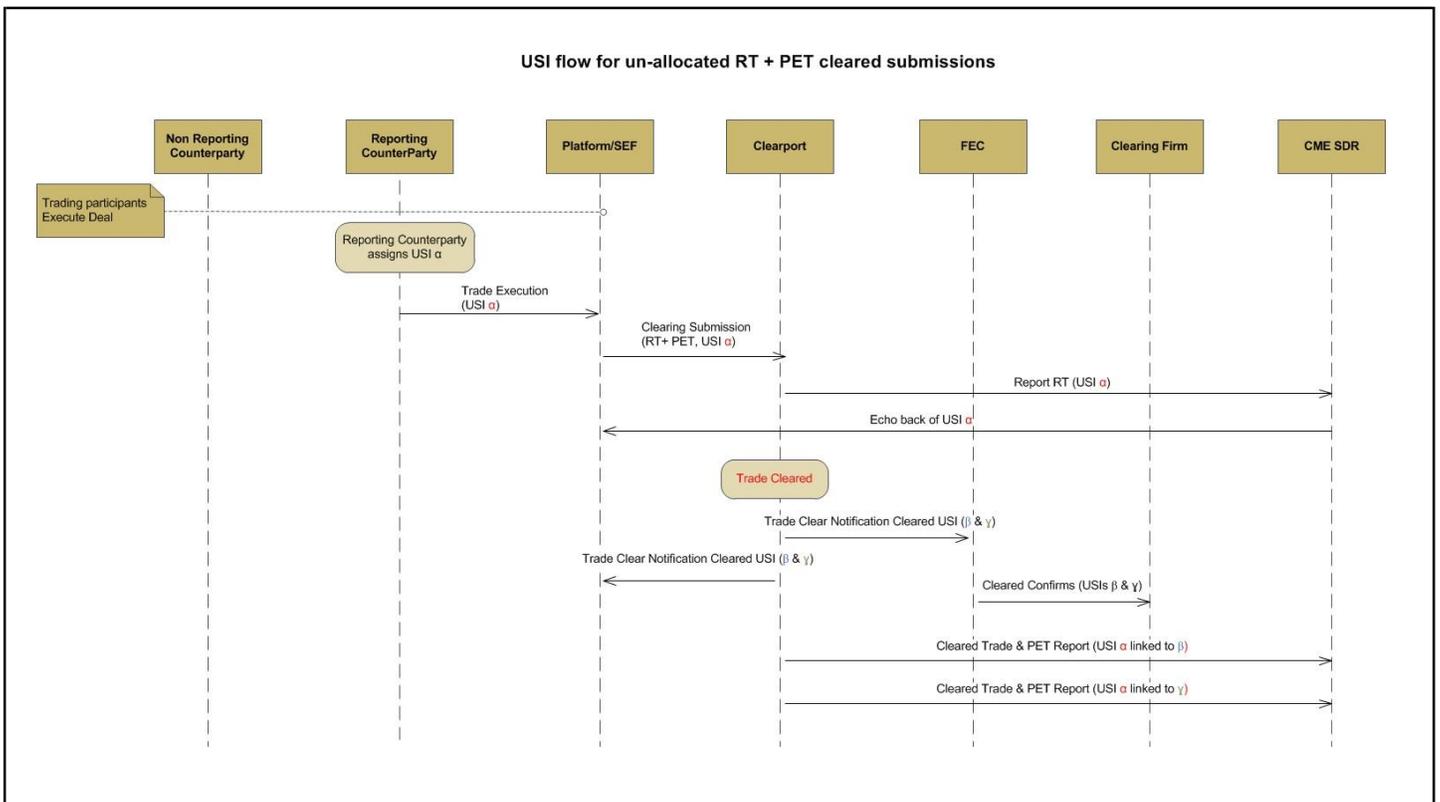
RT + PET Cleared Trade Submissions

Figure 2 Flow
1. Bilateral trade between CP1 and CP2
2. CP2 enters trade economics
3. CP1 affirms trade
4. Platform (or CP1 or CP2) may assign USI "α" to bilateral trade, and sends the trade to CME ClearPort along with RT+PET data (Note – DCO generates USI if not otherwise provided)
5. (a) ClearPort sends message to CME SDR for real-time price reporting
   (b) CME ClearPort sends message to CME DCO for clearing
6. CME SDR will report the real-time price component to public (CFTC Part 43 Rule)
7. (a) CME DCO validates trade, clears trade resulting in novation, and creates a new USI for each cleared swap (β and γ). A cleared trade notification is sent from CME DCO to ClearPort
   (b) ClearPort sends the cleared trade notification, along with α, β and γ USIs to the platform.
   (c) CME DCO sends cleared trade notification to CME SDR. Within CME SDR, original trade α is terminated and is replaced with β and γ trades

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2.1.1 USI Flow for un-allocated RT+PET cleared submissions

The figure below depicts USI flow for the submission of <u>non-allocated</u> RT+PET submissions to CME RS. For clarity, this is the case where the real time report on the initial trade and the PET report are simultaneously made to CME, in conjunction with the clearing submission to CME Clearing. The high level points of the flow are as follows:

- Swap is transacted on a middleware platform. This is the alpha (α) trade, bearing the α USI, which is generally assigned upstream from CME.
- The α trade is submitted to ClearPort.
- ClearPort simultaneously sends the α trade to CME RS for real time, public reporting, in accordance with CFTC part 43 reporting regulations.
- ClearPort echoes the α USI back to the platform.
- ClearPort initiates the clearing of the α trade, resulting in beta (β) and gamma (γ) cleared trades, bearing β and γ USIs assigned by CME.
- The PET reports on β and γ are made to CME SDR.
- Cleared Trade Notifications, bearing β and γ USIs, are sent to CME's Front End Clearing System (FEC) where clearing firms manage trades.
- Cleared Trade Notifications, bearing β and γ USIs, are sent back to platforms.
- Cleared Confirms, sent to the Clearing firms, bear the β and γ USIs.

Figure 3

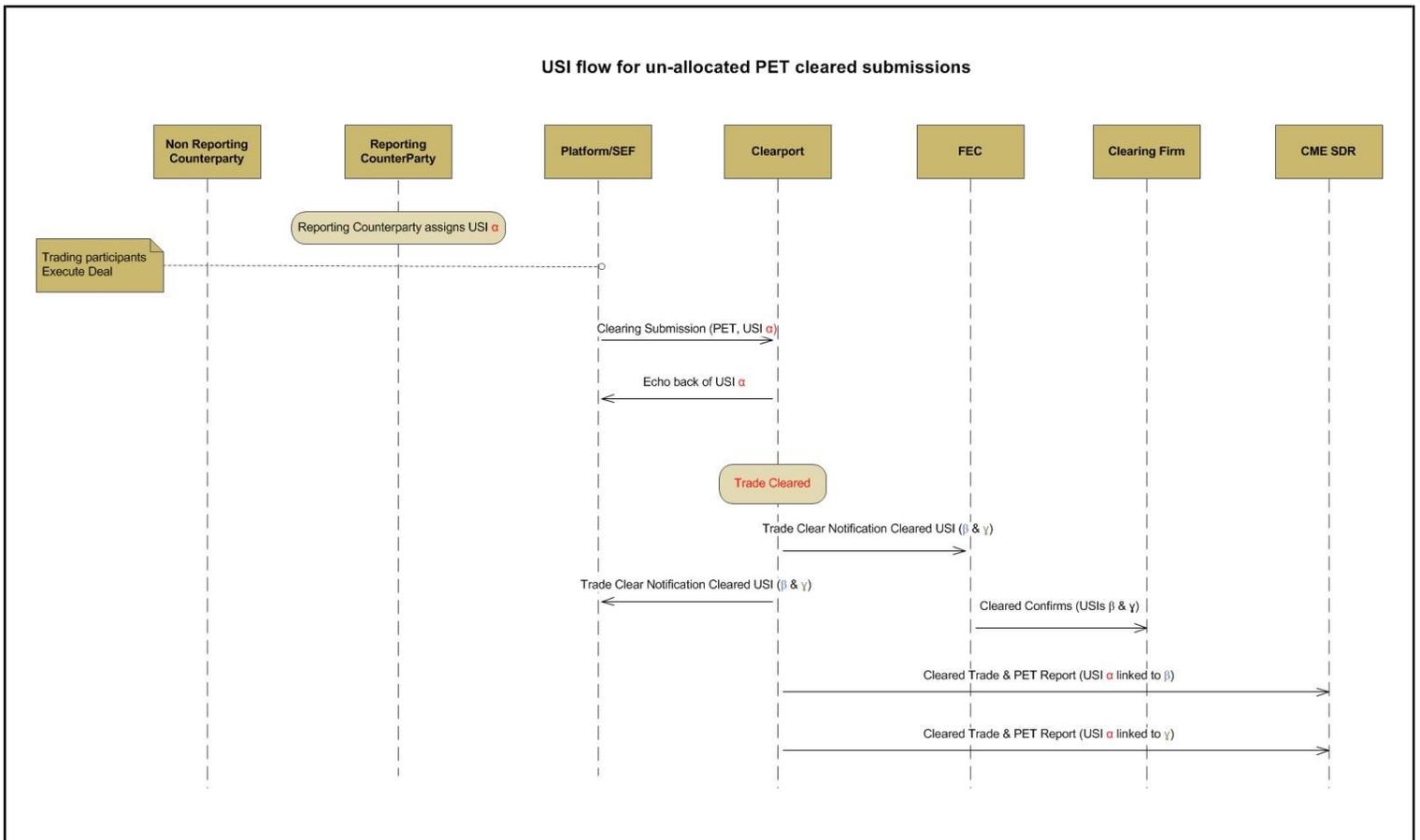USI flow for un-allocated RT + PET cleared submissions

2.1.2   USI Flow for un-allocated PET cleared submissions

The figure below depicts USI flow for the submission of non-allocated PET submissions to
CME SDR. It is assumed here that the RT report has already been made. For clarity, this is the
case where the PET report is made to CME, in conjunction with the clearing submission to
CME Clearing. The high level points of the flow are as follows:

- Swap is transacted on a middleware platform. This is the alpha (α) trade, bearing the α
  USI, which is generally assigned upstream from CME.
- The α trade is submitted to ClearPort.
- ClearPort initiates the clearing of the α trade, resulting in beta (β) and gamma (γ)
  cleared trades, bearing β and γ USIs assigned by CME.
- The PET reports on β and γ are made to CME SDR.
- Cleared Trade Notifications, bearing β and γ USIs, are sent to CME's Front End
  Clearing System (FEC) where clearing firms manage trades.
- Cleared Trade Notifications, bearing β and γ USIs, are sent back to platforms.
- Cleared Confirms, sent to the Clearing firms, bear the β and γ USIs.

Figure 4

USI flow for un-allocated PET cleared submissions

2.1.3 USI Flow for allocated block RT + PET cleared submissions

The figure below depicts USI flow for the submission of allocated RT+PET submissions to CME SDR. For clarity, this is the case where the real time report on the initial block trade is made to CME SDR. Subsequently, the individual allocations are cleared at CME and PET reports on each of these allocations are made to CME SDR. The high level points of the flow are as follows:

- Swap (block trade) is transacted on a middleware platform. This is the alpha (α) trade, bearing the block level USI (call this "α block"), which is generally assigned upstream from CME.
- The α block trade is submitted to CME RS for real time, public reporting, in accordance with CFTC part 43 reporting regulations.
- ClearPort echoes the block USI (α block) back to the platform.
- Trades are allocated by asset managers, upstream from CME, and each allocation is submitted to CME for Clearing. Each inbound allocation to CME has its own α USI (call this "α allocation"). Each "α allocation" USI is assigned upstream from CME.
- Each allocation is cleared. As a result, each "α allocation" trade results in β and γ trades, with corresponding β and γ USIs.
- For each allocation, the PET reports on β and γ are made to CME SDR.
- For each allocation, Cleared Trade Notifications, bearing β and γ USIs, are sent to CME's Front End Clearing System (FEC) where clearing firms manage trades.
- For each allocation, Cleared Trade Notifications, bearing β and γ USIs, are sent back to platforms.
- For each allocation, Cleared Confirms, sent to the Clearing firms, bear the β and γ USIs.

Figure 5
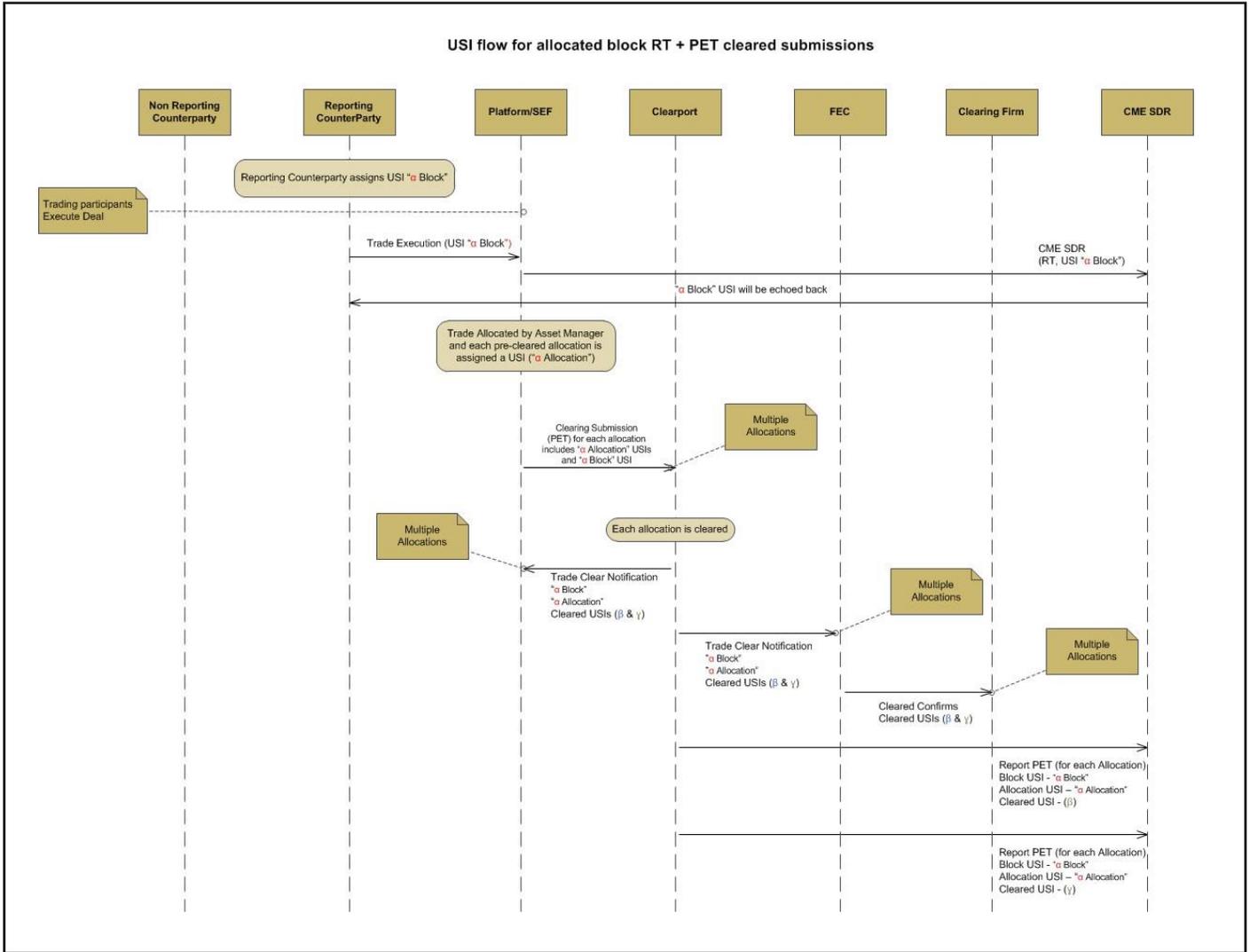
2.2 CME Bilateral (Non-Cleared) Trade Submissions to CME SDR

The following diagrams depict the flow in which a bilateral trade is transacted on a middleware platform, and is subsequently reported to CME SDR. Note that the trade in this scenario is non-cleared, and thus bypasses CME Clearing upon submission. The figures below depict submissions for two scenarios: i) PET and RT data are submitted to CME on separate messages, and ii) PET and RT data are submitted to CME on the same message
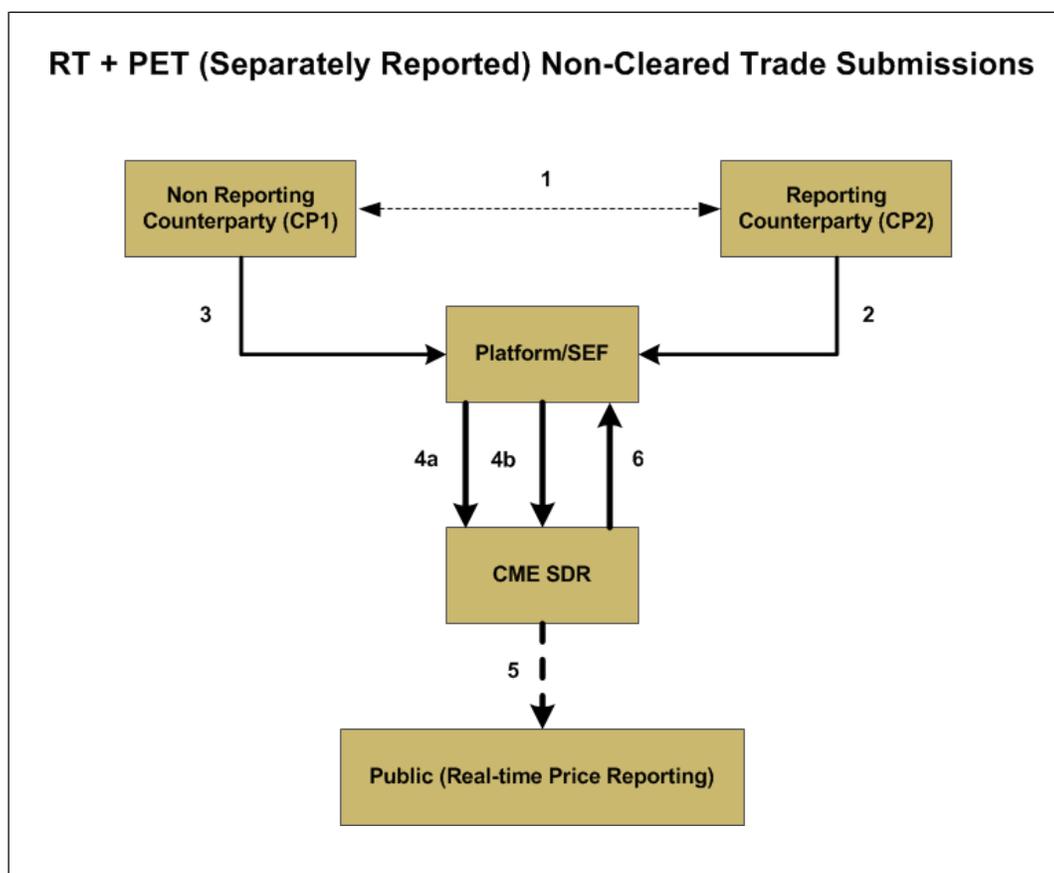
Figure 6

Figure 6 Flow

1. Bilateral trade between CP1 and CP2
2. CP2 enters trade economics
3. CP1 affirms trade
4. (a) Platform sends a message to CME SDR for real-time price reporting
   (b) Platform sends a separate message to CME SDR for PET
5. CME SDR will report the real-time price component to public (CFTC Part 43 Rule)
6. CME SDR echoes the USI "α" back to the platform

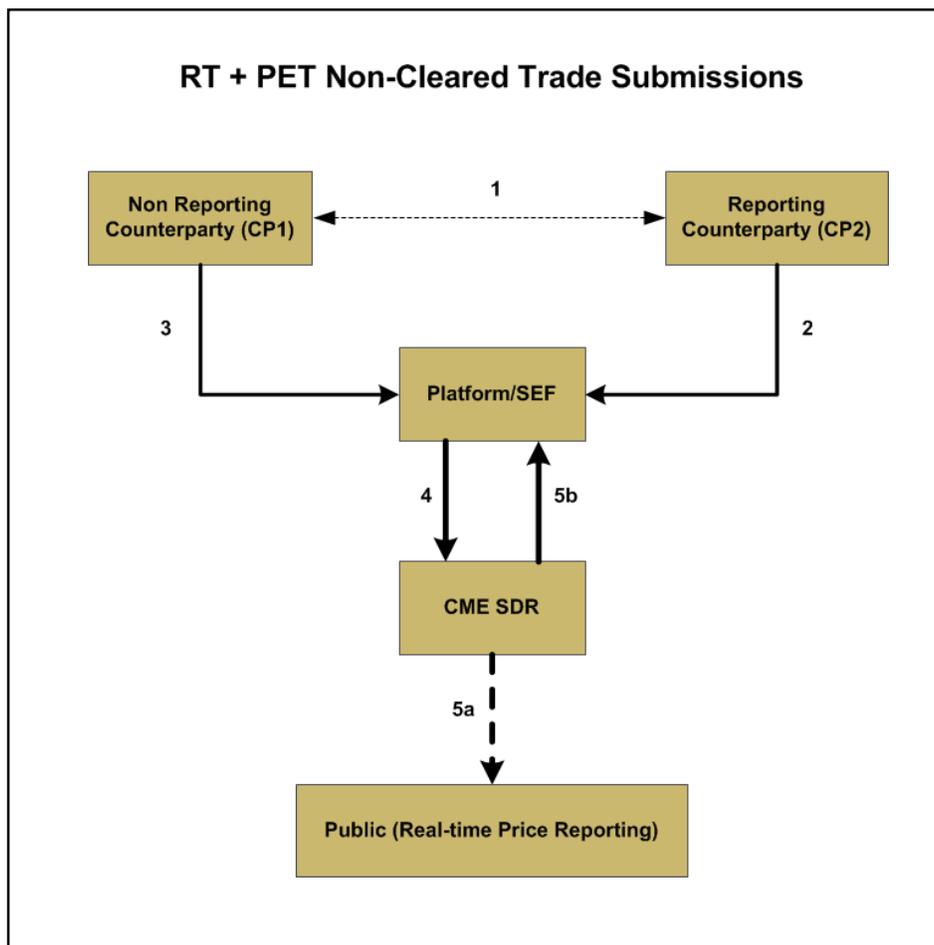**Figure 7**

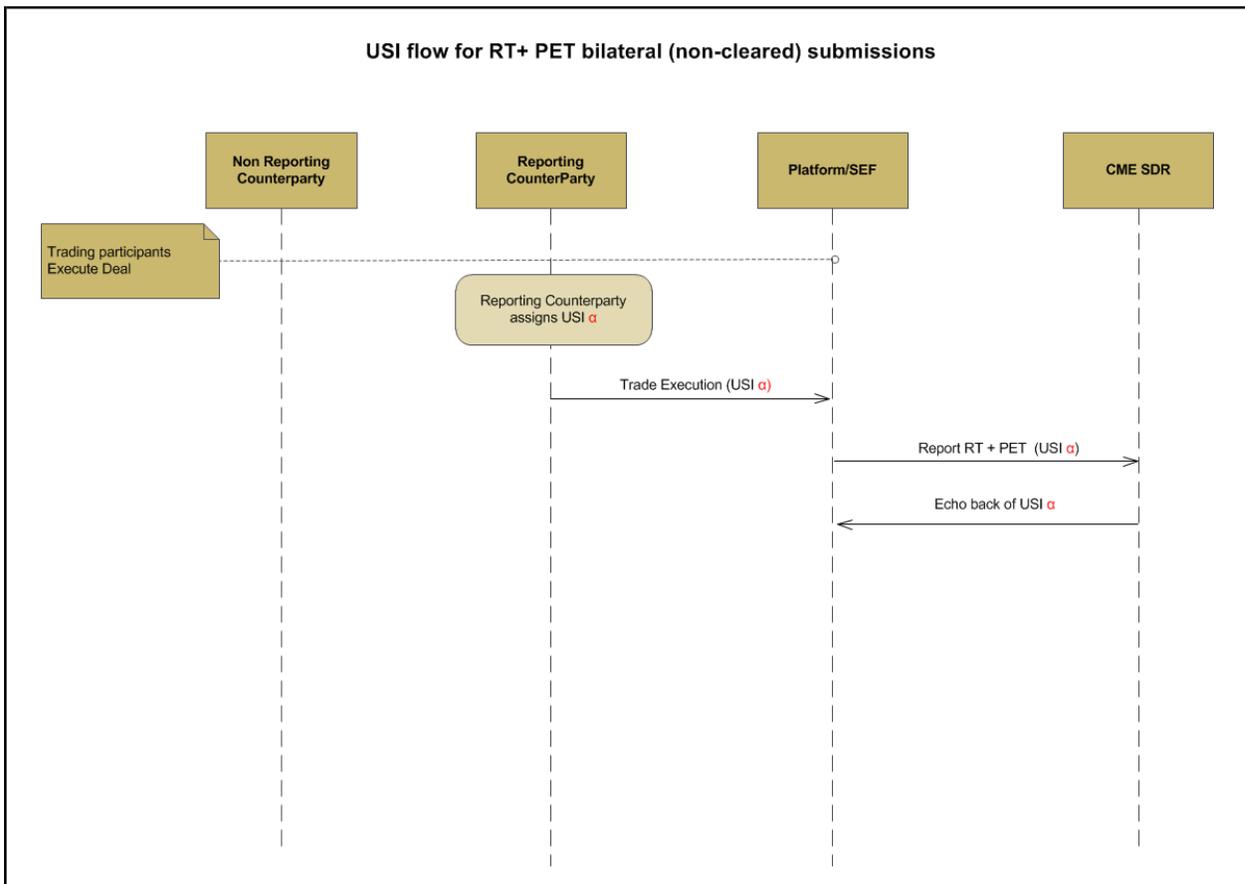RT + PET Non-Cleared Trade Submissions

Figure 7 Flow

1. Bilateral trade between CP1 and CP2
2. CP2 enters trade economics
3. CP1 affirms trade
4. Platform (or CP1 or CP2) may assign USI "α" to bilateral trade, and sends the trade (with PET+RT data) to CME SDR
5. (a) CME SDR will report the real-time price component to public (CFTC Part 43 Rule)
   (b) CME SDR echoes the USI "α" back to the platform.

2.2.1   USI Flow for RT+PET bilateral (non-cleared) submissions

The figure below depicts USI flow for the submission of RT+PET non-cleared trade submissions to CME RS. For clarity, this is the case where the real time report on the initial trade and the PET report are simultaneously made to CME, for non-cleared SDR submissions. The high level points of the flow are as follows:

- Swap is transacted on a middleware platform. This is the alpha (α) trade, bearing the α USI, which is generally assigned upstream from CME.
- The α trade is reported to the CME SDR for real time, public reporting, in accordance with CFTC part 43 reporting regulations.
- The PET reports on α are made to CME SDR.
- CME SDR echoes the α USI back to the platform.

Figure 8

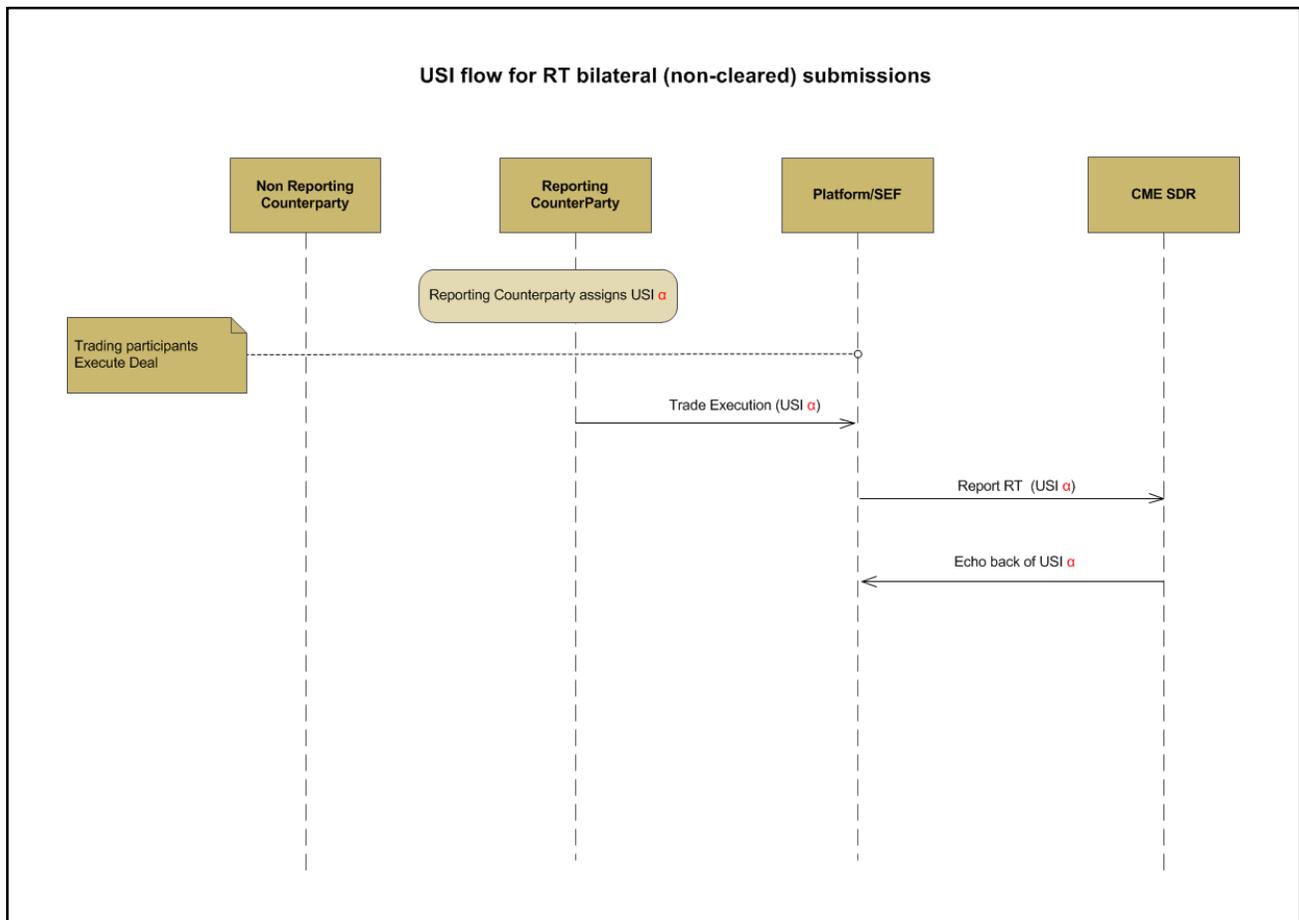USI flow for RT+ PET bilateral (non-cleared) submissions

2.2.2 USI Flow for RT bilateral (non-cleared) submissions

The figure below depicts USI flow for the submission of RT non-cleared trade submissions to CME RS. For clarity, this is the case where the only the real time report on the initial trade is made to the SDR. It is assumed that the PET report is made independently to an SDR. The high level points of the flow are as follows:

- Swap is transacted on a middleware platform. This is the alpha (α) trade, bearing the α USI, which is generally assigned upstream from CME.
- The α trade is reported to the CME SDR for real time, public reporting, in accordance with CFTC part 43 reporting regulations.
- CME SDR echoes the α USI back to the platform.

Figure 9

2.2.3   USI Flow for PET bilateral (non-cleared) submissions

The figure below depicts USI flow for the submission of PET non-cleared trade submissions to CME RS. For clarity, this is the case where the only the PET report on the bilateral trade is made to the SDR. It is assumed that the RT report is made independently to an SDR. The high level points of the flow are as follows:

- Swap is transacted on a middleware platform. This is the alpha (α) trade, bearing the α USI, which is generally assigned upstream from CME.
- The PET report on α are made to CME SDR.
- CME SDR echoes the α USI back to the platform.

Figure 10

USI flow for PET bilateral (non-cleared) submissions
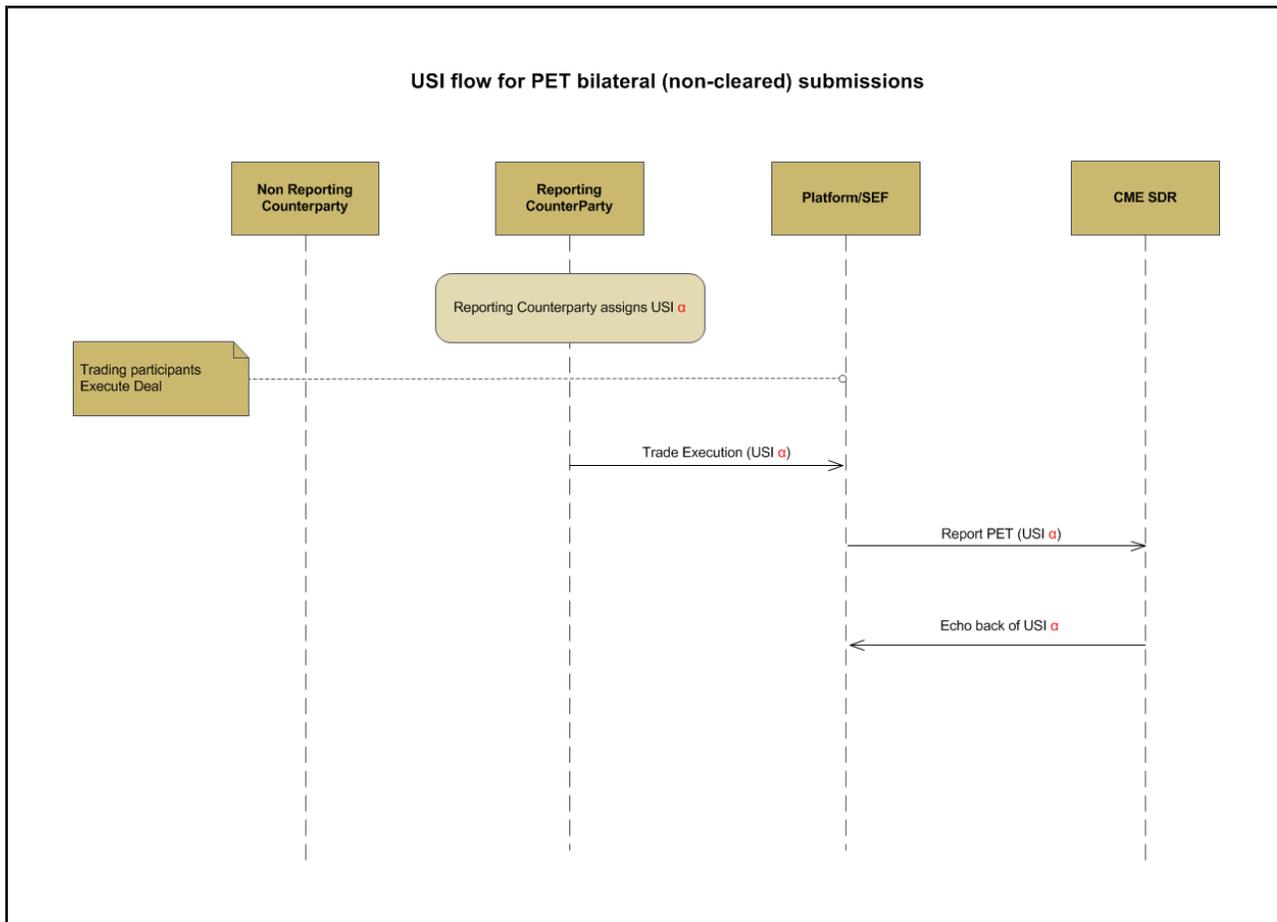
3.0 Continuation Data Reporting

Continuation data reporting can be reported either using the life cycle approach, or using a snapshot approach. The life cycle approach involves reporting all life cycle events affecting the terms of a swap. The snapshot approach requires reporting of a daily snapshot of all primary economic terms of a swap including any changes to such terms occurring since the previous snapshot. The continuation data reporting also includes valuation data.
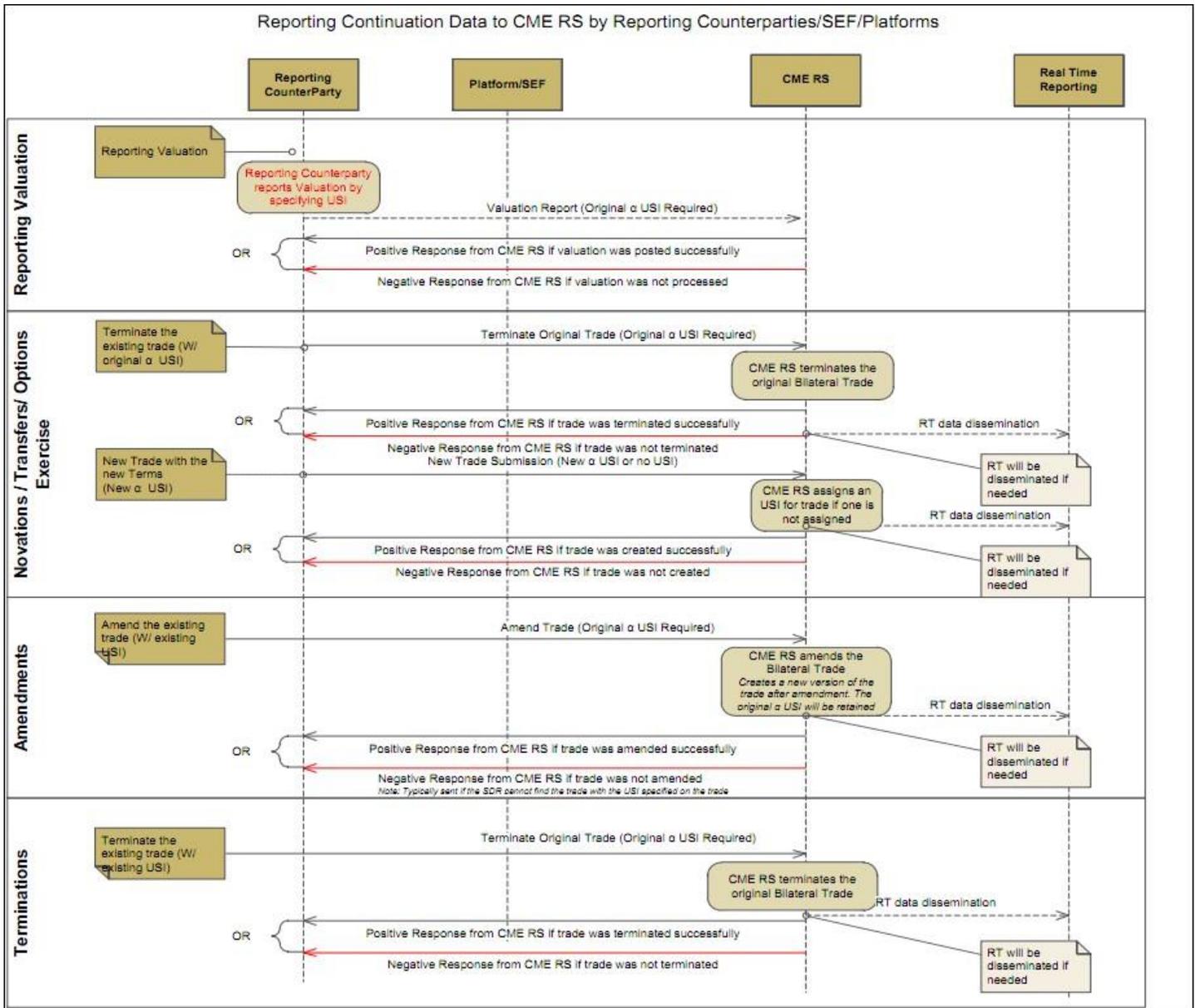
3.1 Reporting continuation data for trades cleared at CME

Figure 11
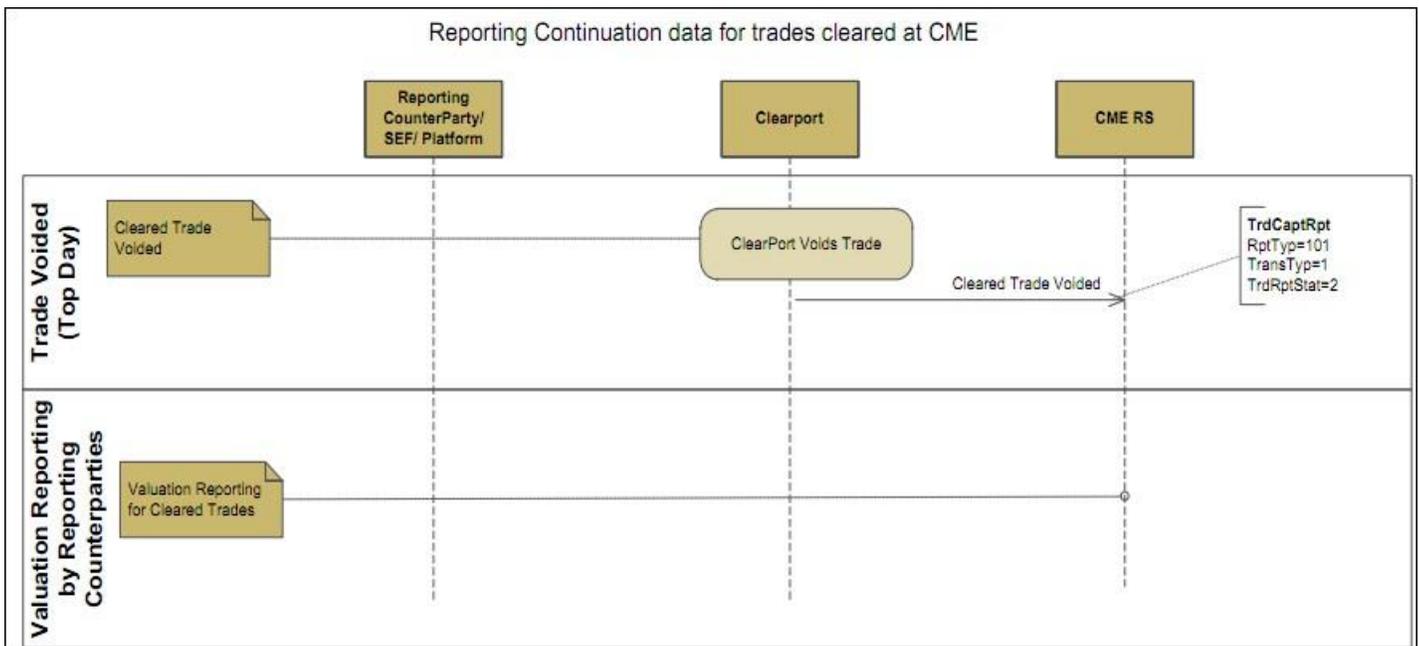
3.2 Reporting continuation data for all other trades (bilateral and cleared at other DCOs)

Figure 12

Reporting Continuation Data to CME RS by Reporting Counterparties/SEF/Platforms

4.0 Links to more detailed information

The preceding sections provide a high level overview of CME SDR and its associated flows. More detailed information on the service, including messaging and csv specifications, can be found at www.cmegroup.com/repository