Real-Time Clearing:

The New Race to Zero

Clearing over-the-counter derivatives via a central counterparty is nothing new. Both the energy and interest rate swaps markets have been clearing trades for nearly a decade, albeit for different market participants and in different ways. While the energy market has been clearing customer trades in real-time, interest rate swaps largely have been clearing dealer-to-dealer trades at the end of each day. Dealers never felt the need to clear in real-time because there was so little perception of intraday counterparty credit risk. Instead, they chose to clear to realize mutually advantageous margin efficiencies.

The collapse of Lehman Brothers in 2008 and the introduction of the Dodd-Frank Act have changed that. New rules state that buy-side firms should be able to access central clearing for interest rate and credit default swaps on a real-time basis. This faster clearing cycle will reduce counterparty credit exposure and lead to more efficient collateral and inventory management, freeing capital and lowering margin requirements. A more automated and real-time clearing workflow will allow the market to more accurately manage risk and, by doing so, better deploy capital. But the path to this environment will require a technology investment by swaps dealers, Futures Commissions Merchants (FCMs) and the clearinghouses themselves.

Will Rhode
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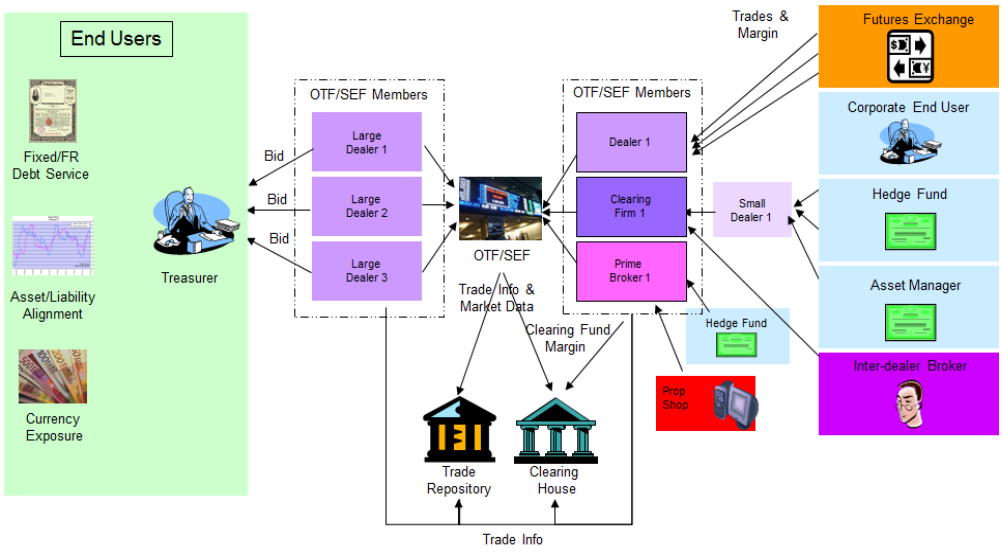
Introduction

When the Commodities Futures Trading Commission (CFTC) deemed that swaps clearing must occur "as soon as technologically practicable following execution," they set an important new standard for clearing latency and set out to remove a major component of systemic risk, as the agency itself describes:

> *"Minimizing the time between trade execution and acceptance into clearing is an important risk mitigant. This time lag potentially presents credit risk to the swap counterparties, clearing members, and the DCO (Derivatives Clearing Organization) because the value of a position may change significantly between the time of execution and the time of novation, thereby allowing financial exposure to accumulate in the absence of daily mark-to-market."*

Historically, interest rate swap clearing cycles -- periods during which submitted trades are matched and made legally binding -- were run once or twice a day. Even in the bilateral world, market participants did not have the desire, nor the capability, to calculate counterparty exposures in real-time or near real-time. But once the clearing mandate goes live in March, DCOs, FCMs and clearing brokers must be able to accept trades for clearing within just one minute of submission. The goal is to create a market in which clicking "execute" completes the trade entirely. This will require coordination across a horizontal market structure and a complex interconnected web of execution venues, clearinghouses and data repositories (Exhibit 1).

Exhibit 1: Horizontal Swaps Market Structure



Source: TABB Group

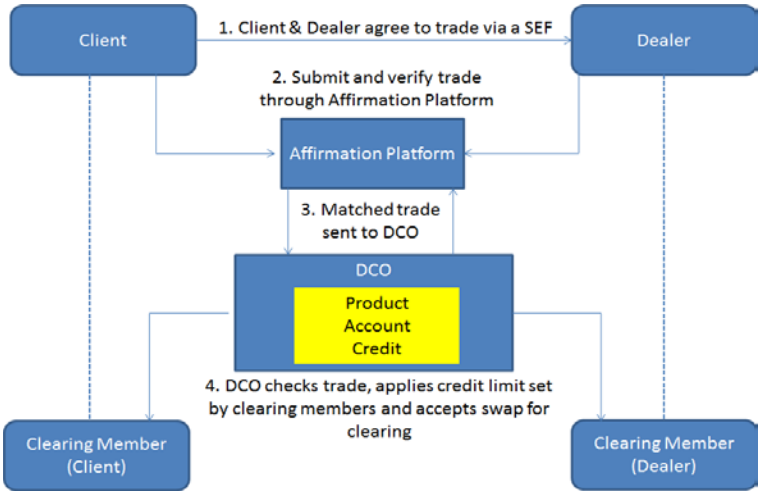
If a client is hitting credit limits in its clearing account, the clearing broker must somehow notify the clearinghouse, and every SEF that trades that product, to ensure that no new trades are initiated. This will require eliminating any and all trade errors while simultaneously preserving open access to clearing and the competitive execution of

transactions. In a cleared world, firms should be able to trade with anyone. They should be able to enter a trade with a bank in a Request-for-Quote platform and exit the trade with a hedge fund on a Central Limit Order Book (CLOB), with the initial counterparty being none the wiser. That is one of the goals of central clearing -- a new, more open and competitive marketplace. The fear, however, has been that FCMs and clearing brokers could have preserved the pre-existing status quo by acting as gatekeepers to the world of central clearing. Without real-time clearing, brokers would have been justified in throttling credit to firms they considered risky. They could have successfully argued that they did not want to find themselves on the hook for client trades as they waited for the DCO to clear. But such power in the hands of intermediaries would have been vulnerable to abuse and potentially could have limited the number of trading counterparties to the select few that remained in the favor of the clearing agent. For this reason, the CFTC writes, the new regulations…

> *"… would prohibit arrangements involving FCMs, SDs, MSPs, or DCOs that would (a) disclose to an FCM, SD, or MSP the identity of a customer's original executing counterparty; (b) limit the number of counterparties with whom a customer may enter into a trade; (c) restrict the size of the position a customer may take with any individual counterparty, apart from an overall credit limit for all positions held by the customer at the FCM; (d) impair a customer's access to execution of a trade on terms that have a reasonable relationship to the best terms available; or (e) prevent compliance with specified time frames for acceptance of trades into clearing."*

Of course, while preserving the principles of open and competitive trading, this ruling potentially exposes FCMs and clearing brokers to counterparty credit risks they are not willing to take on in a world with latency. The only mitigant to this risk is real-time clearing. Clearing agents will need the trade to be sent to the DCO and for the DCO to make the necessary product, account and credit checks with sufficient speed to eliminate the exposure taken on by the intermediary in a new, centrally cleared environment (Exhibit 2).

Exhibit 2: The One Minute Clearing Cycle



Source: TABB Group, CME

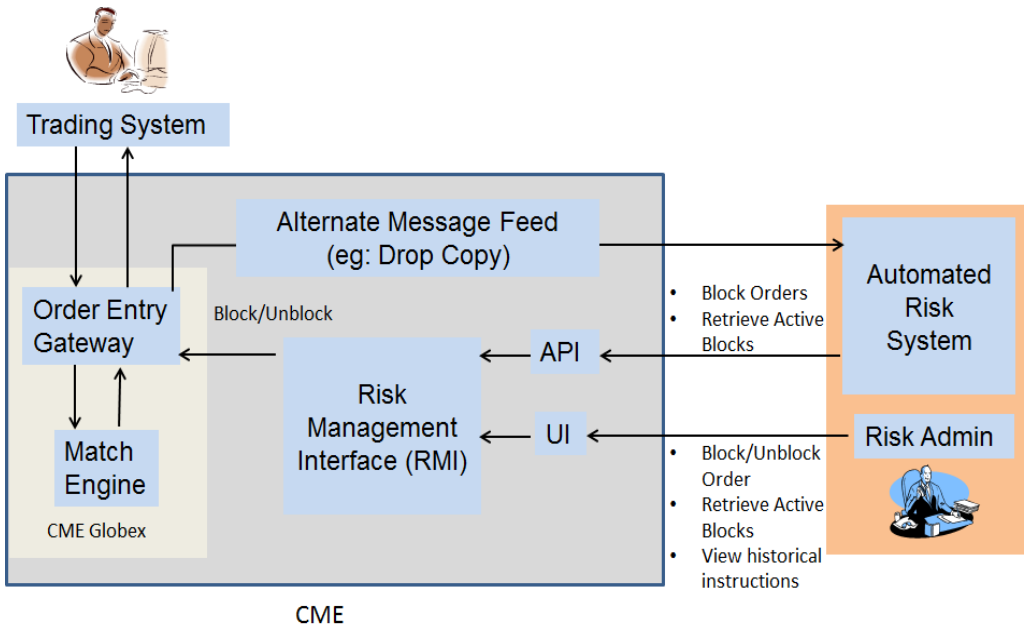
The Real-Time FCM

FCMs have experience managing the risk of futures; they have less experience managing the risk of swaps. The CFTC wants to ensure that FCMs, which clear on behalf of customers, are subject to standards at least as stringent as those applicable to Swap Dealers (SDs) and Major Swap Participants (MSPs), which will clear for themselves. The good news is that FCMs will have flexibility in developing procedures that meet their needs. The CFTC has proposed a wide range of approaches. Clearing intermediation can be addressed either through simple numerical limits on order or position size, or through more complex, automated pre-trade and margin-based limits. They could include price limits that would reject orders that are too far away from the market, or limits on the number of orders that could be placed in a short time.

And there are tools available to help. Automated screening procedures, such as the CME's Globex Credit Controls, allow risk managers to set pre-execution credit control limits on futures and options and could prove to be an effective tool for reducing risk in swaps (Exhibit 3). Clearing firm risk administrators can choose a set of actions to implement on either an automated or manually managed mode if specified limits are breached, including e-mail notifications, order blocking, and order cancellation determined across a range of parameters:

- Exposure Limits
- Maximum Quantity Limits
- Open and Filled Position Calculations
- Good Till Cancel (GTC) and Good Till Day (GTD) Orders

Exhibit 3: Managing Trade Permissions



Source: TABB Group, CME

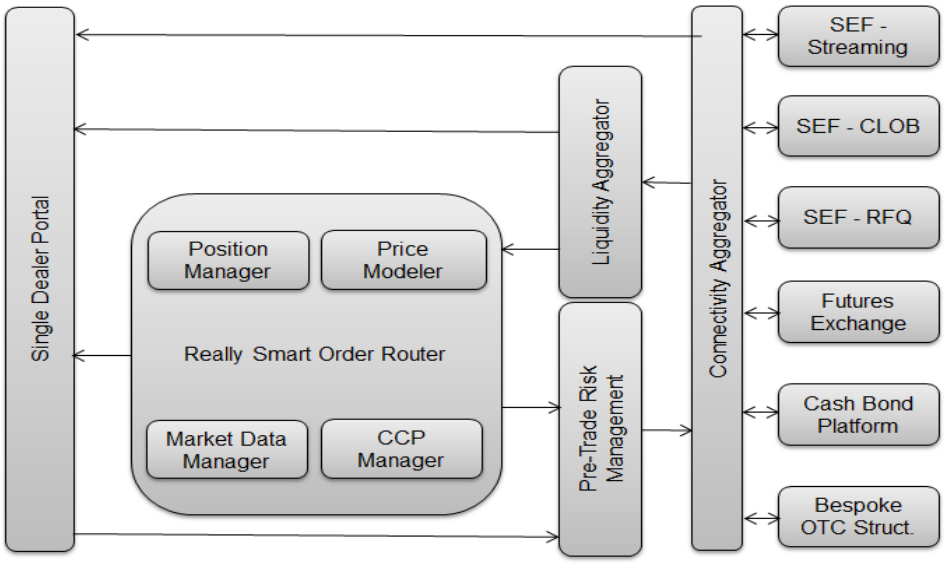
SEF Aggregation

One of the most complicated things about swaps trading in a post Dodd-Frank world is discovering and aggregating liquidity across an abundance of market models. In most other markets where liquidity has fragmented across multiple electronic platforms, trading is done only via an order book. Aggregating this liquidity simply requires consolidating these order books into a single virtual order book, one in which the user can see the total size available at each price point to both buy and sell. Despite the prescriptive nature of the proposed CFTC rules, the swaps market will comprise more market models than any other heavily regulated market. This flexibility is the biggest difference between a designated contract market (DCM), which is a futures exchange, and a SEF. DCMs can only operate with an order book model, whereas SEFs have a choice. The following models will be used:

- Request for Quote (RFQ), last look
- RFQ, firm
- Request for Stream (RFS)
- Continuous Stream
- Scheduled Auction
- Central Limit Order Book (CLOB)

In each of these six cases, the market can either be anonymous or name give-up. Furthermore, some SEFs will use two or more of these 12 permutations to attract liquidity from market participants with different trading needs. For example, a single SEF might look to attract asset managers with an RFQ market and higher turnover traders via an order book. That means that SEF aggregators must be able to normalize available liquidity presented in at least 12 different ways to provide a consolidated view of the world. SEF aggregation technology is expected to come to market in time for the expected liquidity fragmentation that will come with Dodd-Frank (Exhibit 4).

Exhibit 4: SEF Liquidity Aggregation



Source: TABB Group

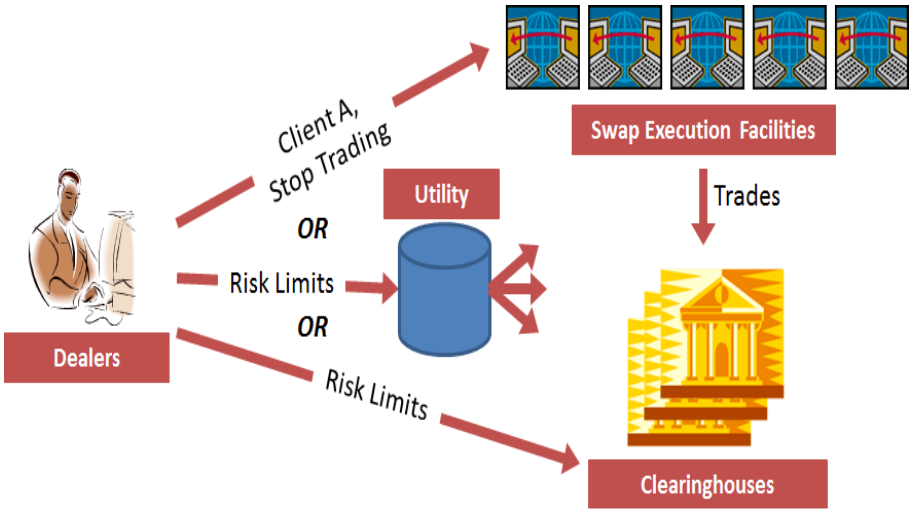
An important component of SEF aggregation and agency execution will be credit checks. Working in conjunction with a pre-trade risk engine, the idea is to ensure that the trading client has enough credit in its clearing account(s) for the given trade. If executing and clearing with the same broker, this is a relatively easy check. If the executing broker and clearing broker are different, however, some coordination or centralization of information is needed to allow the executing broker to check the client's credit limit at the clearinghouse.

Certainty of Clearing

While immediate acceptance for clearing upon execution occurs in some futures markets, it might not be feasible for all cleared markets at this time. For example, where the same cleared product is traded on multiple execution venues, a DCO will need to be able to aggregate the risk of trades coming in to ensure that a clearing member or customer has not exceeded its credit limits. This presents the industry with the so-called "Certainty of Clearing" conundrum.

There are a couple of possible solutions to this problem: Dealers could provide each customer's credit limit to the clearinghouses (or to a central utility that would then broadcast the information out to the relevant SEFs), or dealers could monitor clients themselves and tell the clearinghouses and SEFs when not to allow a particular firm to trade (Exhibit 5). The pros and cons for each are numerous and have everything to do with how willing brokers are to provide data to third parties. Brokers also have to consider who is on the hook if a trade fails.

Exhibit 5: Certainty of Clearing



Source: TABB Group

Pre-Funding Positions

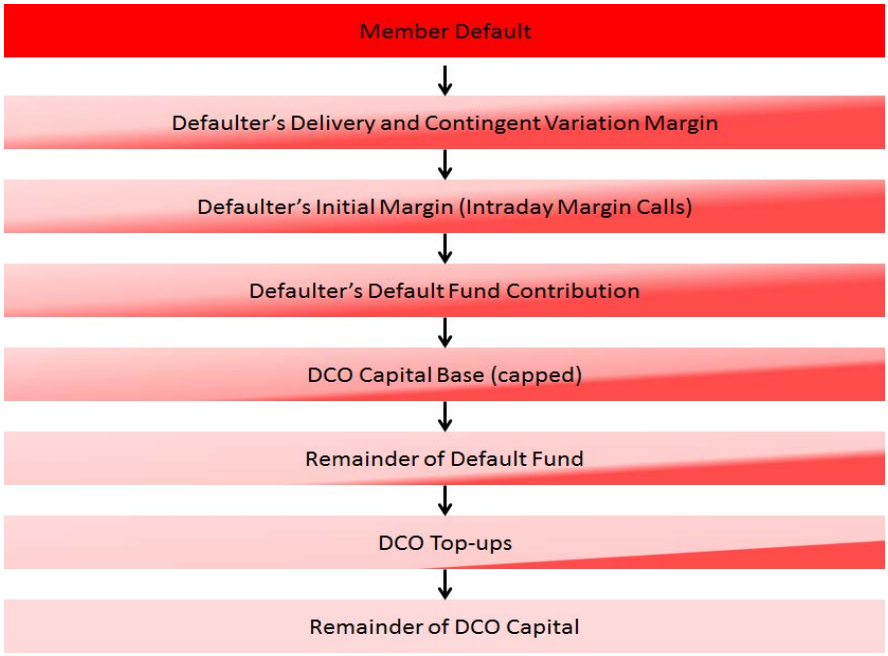
Some have argued that, while DCOs may be able to clear trades in real-time, the time lag between the clearing of a trade and the actual, physical receipt of margin funds constitutes a credit risk issue. Until the DCO receives the necessary margin it is, in effect, extending a

loan to the clearing agent. Such loans should be subject to the same capital requirements (as well as the right to charge interest) found in other areas of the financial marketplace. Alterantively, positions should be pre-funded. While the CFTC accepts that a DCO should be able to apply a pre-funding requirement on its clearing members, it doesn't mandate it, stating that:

> *"This standard may not be practicable for DCOs that are linked to high-volume automated trading systems. Currently, many DCOs in such circumstances calculate margin at the end of the day for collection the next day. Nothing in the final rules, however, precludes a DCO in its discretion from applying such a standard."*

Indeed, with a well-capitalized and risk managed clearinghouse, pre-funding every trade might be considered an unnecessary precaution. With a robust risk management system like Standard Portfolio Analysis of Risk (SPAN), as well as clearing level limits based on creditworthiness, historical activity, and current total exposures, DCOs should be able to assess the ability of their members to deliver the necessary funds at the necessary time. Only firms of a certain size can become a clearing member, and a number of requirements are placed upon them, including capital and default fund contributions. In the event of a default, the DCO follows its default rules and procedures, which will allow it to seize the default member's assets and either transfer the assets to another member or auction the portfolio. If there isn't enough collateral to cover the loss, the DCO will look to its own capital base and the remaining default fund contributed by members still in good standing (Exhibit 6).

Exhibit 6: DCO Default Waterfall



Source: TABB Group, DCOs

Clearinghouses in the energy markets have successfully monitored their members' activities and communicated with those that are approaching their limits for the better part of a decade. If a firm requests an increased limit due to the fact that it knows it is ramping up business or have significant new exposures coming through in one day, the DCO can work with the firm to determine if there is room for expansion or if it needs to post additional collateral in order to facilitate a limit expansion.

The product spectrum for rates and credit is arguably more diverse than the energy market, and it is undoubtedly larger. That said, the main focus of clearing under Dodd-Frank will be on more standardized, vanilla products. For this reason, TABB Group believes the new world of real-time clearing will apply as successfully in rates and credit as it has for so many years in the energy markets.

About

TABB Group

TABB Group is a financial markets research and strategic advisory firm focused exclusively on capital markets. Founded in 2003 and based on the methodology of first-person knowledge, TABB Group analyzes and quantifies the investing value chain, from the fiduciary and investment manager to the broker, exchange, and custodian. Our goal is to help senior business leaders gain a truer understanding of financial markets issues and trends so they can better grow their businesses. TABB Group members are regularly cited in the press and speak at industry conferences. For more information about TABB Group, visit www.tabbgroup.com.

The Author

Will Rhode

Will Rhode is a principal at TABB Group. He is the director of fixed income research, as well as a respected thought leader in market structure reform and financial technology. Rhode has authored several research reports, including: “Corporate Bond Market Transformation: Dealers, Platforms, Investors”; “US Buy-Side Swaps Trading 2012 – I Can See Clearing Now”; “Corporate Bond Trading: Building Networks, Realizing Liquidity”; “European Credit & Rates Dealers 2011: Capital, Clearing & Central Limit Order Books”; “Breaking Down the UK Equity Market: Executable Liquidity, Dark Trading, High Frequency and Swaps”; “European Derivatives 2010: The Buy-Side Perspective on Equity Options, Futures and Swaps”; and “The Alternative Emerging Market: Equity Swaps and Synthetic Prime.”

TABB GROUP

www.tabbgroup.com

New York
+ 1.646.722.7800

Westborough, MA
+ 1.508.836.2031

London
+ 44 (0) 203 207 9397

