Healthcare of Ontario Pension Plan

Summary of Regulatory Reforms in the OTC Derivatives Market

May, 2011

Background

Over the past ten years, the OTC Derivatives markets have seen significant changes with increasing trade volumes and standardization levels evolving. In light of the 2008 financial crisis much more scrutiny has been placed on the industry. Government leaders around the world demanded that the market be more transparent, mitigate systemic risk and protect against market abuse. At the 2009 G-20 summit in Pittsburgh, leaders committed to this by agreeing that:

All standardized OTC derivatives contracts should be traded on exchanges or electronic trading platforms, where appropriate, and cleared through central counterparties by the end of 2012 at the latest. OTC derivative contracts should be reported to trade repositories. Non- centrally cleared contracts should be subject to higher capital requirements.

As a result of this commitment and the tight deadlines imposed by the G20, countries around the world quickly formed working groups with the objective of meeting these requirements. In Canada the Bank of Canada has formed the OTC Working group and with the help of the CMIC (Canadian Market Infrastructure Committee) OTCD Program are working together to develop a response to the G20 commitments. Other countries such as the US under the creation of the Dodd-Frank Act, The European Union under the EMIL (European Market Infrastructure Legislation), Hong Kong, Japan and Australia are all doing similar work

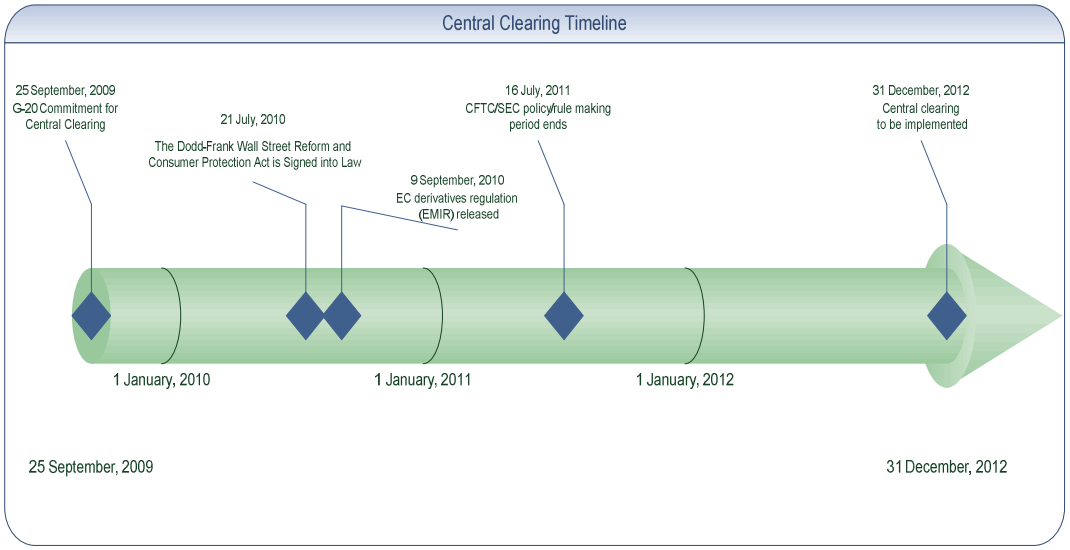
In the US, on March 1st, 2010 the g14 dealers and a number of prominent buy- side institutions sent a "letter" to the FRBNY setting forth the goals and commitments to deliver structural improvements to the global OTC Derivative markets. The strategic goals outlined in this letter addressed the following themes:

- **Transparency**: Appropriate transparency and disclosure of OTC market data
- **Clearing**: Robust , efficient and accessible central clearing for the OTC Derivatives markets
- **Standardisation**: Product, process and legal standardisation to enable greater efficiency and mitigate operational risk
- **Operational Efficiency**: Operational performance, with focus on driving electronification, straight – through-processing and trade date matching, affirmation and processing
- **Collateral**: robust risk management, including strong legal and market practices and operational frameworks

These same goals have been echoed by the CMIC.

Timeline

Below is the timeline illustrating how the market is planning on moving towards the central clearing deadlines. Moving from bilateral agreed deals to deals cleared through a clearinghouse and its implications is a significant undertaking and as such the market has pushed back on the regulators stating that more time is needed to formulate rules. It has been rumored that the deadline for policy and rulemaking in the US will move from July 16, 2011 to the end of December , 2012. With that said, the G-20 have not waivered on its commitment to having all eligible derivatives trades centrally cleared by year end 2012.



Evolving Market Landscape

Traditionally the OTC derivatives markets have been characterised by privately negotiated transactions entered into by two counterparties, in which each assumes the credit risk of the other and manages this risk bilaterally. The shift of these products to central clearing would make significant progress towards reducing risk by improving counterparty credit risk management, allowing multilateral netting, reducing uncertainty about market participants' exposures and increasing transparency of market activity. However, post trade execution of OTC derivative products require a considerate amount of operational processing. In order to be able to centrally clear these products, post trade processing must function efficiently and in an automated way. In essence straight-through-processing for all OTC derivative products will be necessary in order to meet the G20 requirements.

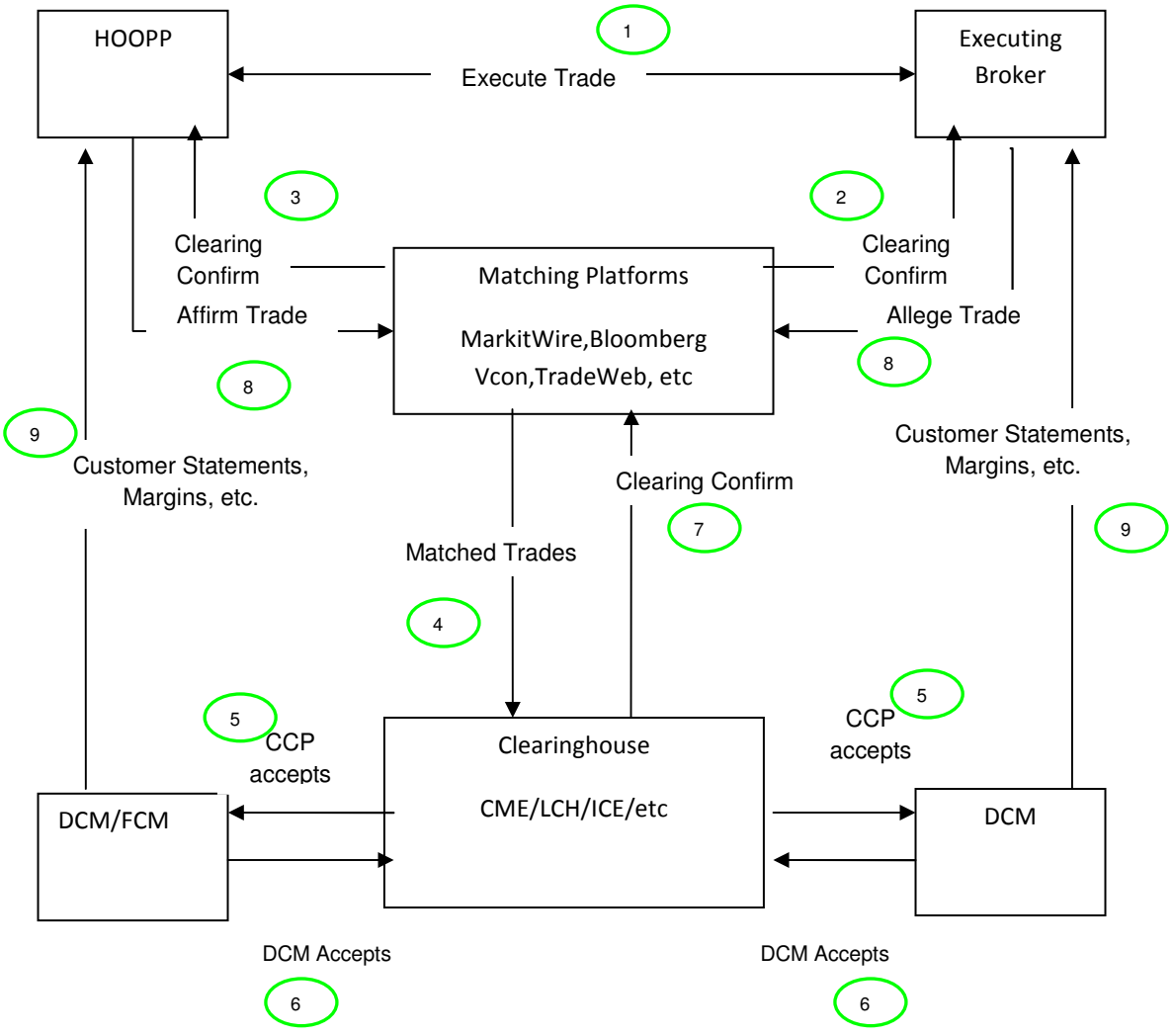
In reaction to the impending regulatory changes, the market Infrastructure will need to change and several service providers have created tools to facilitate STP.

Market Infrastruture	Credit	Interest Rates	Equities	Commodities	FX
Execution/Trading	Creditex, GFI,ICAP, BGC, TradeWeb	TradeWeb, ICAP, BGC	TradeWeb, ICAP, BGC	ICAP, BGC	TBD
Affirmation/ Confrimation	MarkitSERV, BBG (VCON), ICELink	MarkitWire, BBG (VCON)	MarkitSERV	Swift	TBD
Central Clearing (CCP)	ICE,CME,EUREX	LCH,CME,IDCG	NYSE Bclear, Eurex (Q4 2011)	CME,ICE	
Repository	DTCC	TriOptima	DTCC	CME,ICE	TBD
Valuations	Markit, Superderivatives,CMA, Lombard				
Payment/Settlement	CLS/Swift	PPS/Swift	Swift	Swift	CLS
Reconciliation	Markit,Omgeo/Allustra, Lombard, Euroclear, Smartstream, TriOptima				
Portfolio Compression	Creditex/TriOptima	TriOptima	-	TriOptima	-

Data received from Capco

Operationally central clearing will have a large impact on our workflow and straight through processing will become necessary. Below is a diagram outlining the process for an OTC derivative to be cleared using a Matching platform and a DCM. Further consideration must be given on how we can integrate this workflow with SimCorp Dimension in an automated fashion.

Example: Process for Transacting and Clearing a Trade



1. HOOPP and Dealer agree to trade through electronic trading platform
2. Dealer Alleges trade on Matching Platform
3. HOOPP affirms trade, selects it for clearing and designates a Derivative Clearing Member (DCM)
4. Matched/Affirmed trade is sent to Clearinghouse
5. Clearinghouse checks overall DCM limits and id ok sends confirm to DCMs
6. DCMs checks clients limits and accepts trade at Clearinghouse
7. Clearinghouse generates clearing confirm to Matching platform
8. Macthing platform sends clearing message to trading parties
9. DCMs send statement, margin calls, etc. to HOOPP

Impacts to HOOPP/ Things to consider

Below are items that HOOPP will need to focus on in order to prepare for Central Clearing

- **Trade Execution**
  According to current rules proposed by Dodd-Frank, all eligible swaps will need to be traded on an electronic platform such as an SEF (Swaps Exchange Facility).
- **Derivatives Clearing Member**
  HOOPP will need to select one or many DCMs.
- **Affirmation/Confirmation**
  OTC trades will need to be affirmed and confirmed on T+0 in ordered to be cleared. Currently HOOPP receives several paper confirmations from counterparties and often signed confirms may be return more than 10 business days from trade date. It will be necessary to use electronic platforms like DTCC and MarkitWire to confirm eligible deals on a T+0 basis
- **Margining**
  OTC derivatives will now be settling margin similar to how exchange traded futures are settled. HOOPP will be required to post Initial Margin and daily variation margin
- **Pricing**
  To process the above mention margin, HOOPP will need to receive clearing houses prices in order to agree on margins. How will these prices differ from HOOPP's internally generated prices? Will we still generate internal pricing to verify clearing house price. What will be the process for obtaining and verifying prices.
- **Risk Management**
  Will need to consider use of DCM and Clearing House with respect to counterparty risk management.
- **Trade Repositories**
  All OTC swaps are required to be reported to trade repositories, similar to credit default swap deals currently maintained in DTCC TIW.
- **Legal Document Implication**
  HOOPP will need to determine what documentation will need to be in place before changing the workflow to centrally clear OTC Swaps.
- **Accounting**
  Will it be necessary to use the clearinghouse prices for accounting purposes or would reconciliation between internally generated and clearing house price be sufficient?
  How to account for variation margin?
- **Integration and workflow**
  HOOPP will need to determine what data files will be required and how to integrate them in order to achieve STP
- **Training and documentaton**
  HOOPP will need to ensure that the new workflow is appropriately documented and that training is provided to the groups affected
- **Controls**
  HOOPP will need to ensure that the appropriate controls are in place when designing the workflow