Meeting between OTC Derivatives Regulators Forum (ODRF) members and representatives of trade repositories (TRs) and central counterparties (CCPs)  
October 4 - 5, 2011

Participants: See attached two Attendee Lists:
(i) ODRF Attendees with TR representatives, and
(ii) ODRF Attendees with CCP Representatives.

Summary: On October 4, 2011, OTC Derivatives Regulators Forum members met with representatives of five TR service providers to discuss questions and issues related to trade repository functionality and market transparency.

ODRF members also met with representatives of eight CCP representatives on October 5, 2011 that currently provide or are planning to provide OTC derivatives clearing services, to discuss questions and issues related to clearing of OTC derivatives products.

The TR and CCP representatives provided brief status updates of their respective services, and discussed current market developments, including Dodd-Frank Wall Street Reform and Consumer Protection Act, and ongoing engagement with ODRF members. See attached agendas for the topics covered.

Press Releases related to the October 4 -5, 2011 ODRF meetings are available at:
# List of Registered Attendees

<table>
<thead>
<tr>
<th>Country</th>
<th>Institution/Authority</th>
<th>Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Securities and Investments Commission</td>
<td>(Dialing in)</td>
</tr>
<tr>
<td></td>
<td>Reserve Bank of Australia</td>
<td>Mark Chambers</td>
</tr>
<tr>
<td></td>
<td>Financial Services and Markets Authority</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>National Bank of Belgium</td>
<td>Steven van Cauwenberge</td>
</tr>
<tr>
<td></td>
<td>Markets Authority</td>
<td>Didier Niclaes</td>
</tr>
<tr>
<td>Canada</td>
<td>Alberta Securities Commission</td>
<td>Debra MacIntyre</td>
</tr>
<tr>
<td></td>
<td>Autorité des marchés financers (Québec)</td>
<td>Jean-Philip Villeneuve</td>
</tr>
<tr>
<td></td>
<td>Bank of Canada</td>
<td>Derek West</td>
</tr>
<tr>
<td></td>
<td>Office of the Superintendent of Financial Institutions</td>
<td>Brad Shinn</td>
</tr>
<tr>
<td></td>
<td>Ontario Securities Commission</td>
<td>Kevin Fine</td>
</tr>
<tr>
<td></td>
<td>European Central Bank</td>
<td>Corinna Freund</td>
</tr>
<tr>
<td></td>
<td>European Commission</td>
<td>Perrine Herrenschild</td>
</tr>
<tr>
<td></td>
<td>European Securities and Markets Authority</td>
<td>Muriel Jakubowicz (by phone)</td>
</tr>
<tr>
<td></td>
<td>Autorité de Contrôle Prudentiel</td>
<td>Fabrizio Planta (by phone)</td>
</tr>
<tr>
<td></td>
<td>(ACP)</td>
<td></td>
</tr>
<tr>
<td>France</td>
<td>Autorité des Marchés</td>
<td>Julien Mignot</td>
</tr>
<tr>
<td></td>
<td>Financiers</td>
<td>Catherine Dias</td>
</tr>
<tr>
<td></td>
<td>Banque de France</td>
<td>Philippe Mongars</td>
</tr>
<tr>
<td></td>
<td>Banque de France</td>
<td>Anne-Laure Roche-Rault</td>
</tr>
<tr>
<td>Germany</td>
<td>BaFin</td>
<td>Claudia Grund</td>
</tr>
<tr>
<td></td>
<td>Deutsche Bundesbank</td>
<td>Anna Pliquet</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Hong Kong Monetary Authority</td>
<td>Polly Lee</td>
</tr>
<tr>
<td></td>
<td>Hong Kong Securities and Futures Commission</td>
<td>Ryan Ko</td>
</tr>
<tr>
<td>International</td>
<td>Bank for International Settlements</td>
<td>Can Okay</td>
</tr>
<tr>
<td>Italy</td>
<td>Bank of Italy</td>
<td>Domenico Gammaldi</td>
</tr>
<tr>
<td>Japan</td>
<td>Bank of Japan</td>
<td>Keiko Harimoto</td>
</tr>
<tr>
<td></td>
<td>Financial Services Agency</td>
<td>Makoto Seta</td>
</tr>
<tr>
<td>Mexico</td>
<td>Bank of Mexico</td>
<td>Luis Manuel de los Santos</td>
</tr>
<tr>
<td></td>
<td>Monetary Authority of Singapore</td>
<td>Cayetano</td>
</tr>
<tr>
<td>Singapore</td>
<td></td>
<td>Pui Hoon (by phone)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nagatsuka Ken (by phone)</td>
</tr>
<tr>
<td>Spain</td>
<td>Banco de España</td>
<td>Tiak Peow Phua (by phone)</td>
</tr>
<tr>
<td></td>
<td>CNMV</td>
<td>Montserrat Jimenez</td>
</tr>
<tr>
<td>Sweden</td>
<td>Financial Supervisory Authority</td>
<td>Miguel Angel Herrero Alvite</td>
</tr>
<tr>
<td></td>
<td>Sveriges Riksbank</td>
<td>Jan Axelsson</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>AFM</td>
<td>Johanna Stenkula von Rosen</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>De Nederlandsche Bank</td>
<td>Wim Moëlkker</td>
</tr>
<tr>
<td></td>
<td>Bank of England</td>
<td>Frans Alexander Rijkschoeff</td>
</tr>
<tr>
<td></td>
<td>Financial Services Authority</td>
<td>Robleh Ali</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Robert Barnes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benjamin Cohn-Urbach</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sarah Harris</td>
</tr>
<tr>
<td></td>
<td></td>
<td>David Lawton</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ben Mitchell</td>
</tr>
</tbody>
</table>
United States
Commodity Futures Trading Commission
Warren Gorlick
Sebastian Pujol Schott

FDIC
Petrina Dawson
John Feid

Federal Reserve Bank of Chicago
Richard Heckinger
Robert Steigerwald

Federal Reserve Bank of New York
Marsha Takagi
Christopher Tsuboi

Federal Reserve Board
Jennifer A. Lucier
Namirembe Mukasa
Jeff Stehm

New York State Department of Financial Services
Regina Stone
Paul Zhang

Office of the Comptroller of the Currency
Michelle Taylor
Kurt Wilhelm

Securities and Exchange Commission
Kim Allen
Dawn Patterson

TR Representatives at TR Session
Spain
REGIS-TR
Jesus Benito
Teresa Castilla

Sweden
TriOptima
Mireille Dyrberg
Raf Pritchard

United Kingdom
DTCC Derivatives Repository Ltd
Stewart Macbeth

United States
DTCC Trade Information Warehouse
Marisol Collazo

ICE
Chuck Vicci

ICE Trade Vault & ICE eConfirm
Bruce Tupper
## List of Registered Attendees

### Authorities

<table>
<thead>
<tr>
<th>Country</th>
<th>Organization/Institution</th>
<th>Representative(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Australia</td>
<td>Australian Securities and Investments Commission</td>
<td>(Dialing in) Mark Chambers</td>
</tr>
<tr>
<td></td>
<td>Reserve Bank of Australia</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Financial Services and</td>
<td></td>
</tr>
<tr>
<td>Belgium</td>
<td>Markets Authority</td>
<td>Didier Niclaes Steven van Cauwenberge</td>
</tr>
<tr>
<td></td>
<td>National Bank of Belgium</td>
<td></td>
</tr>
<tr>
<td>Canada</td>
<td>Alberta Securities Commission</td>
<td>Jean-Philip Villeneuve</td>
</tr>
<tr>
<td></td>
<td>Autorité des marchés financiers (Québec)</td>
<td>Derek West Carolynn Wilkins</td>
</tr>
<tr>
<td></td>
<td>Bank of Canada</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Office of the Superintendent of Financial Institutions</td>
<td>Brad Shinn</td>
</tr>
<tr>
<td></td>
<td>Ontario Securities Commission</td>
<td></td>
</tr>
<tr>
<td>European</td>
<td>European Central Bank</td>
<td>Constance Freund Muriel Jakubowicz</td>
</tr>
<tr>
<td>Authorities</td>
<td>European Commission</td>
<td>Perrine Herrenschmidt</td>
</tr>
<tr>
<td></td>
<td>European Securities and Markets Authority</td>
<td>Fabrizio Planta (by phone)</td>
</tr>
<tr>
<td>France</td>
<td>Autorité de Contrôle Prudentiel (ACP)</td>
<td>Julien Mignot</td>
</tr>
<tr>
<td></td>
<td>Autorité des Marchés</td>
<td>Catherine Dias</td>
</tr>
<tr>
<td></td>
<td>Banque de France</td>
<td>Philippe Mongars</td>
</tr>
<tr>
<td></td>
<td>Banque de France</td>
<td>Anne-Laure Roche-Rault</td>
</tr>
<tr>
<td>Germany</td>
<td>BaFin</td>
<td>Claudia Grund</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Sophie Hübner</td>
</tr>
<tr>
<td>Hong Kong</td>
<td>Deutsche Bundesbank</td>
<td>Ryan Ko</td>
</tr>
<tr>
<td></td>
<td>Hong Kong Monetary Authority</td>
<td>Polly Lee Pansy Pang</td>
</tr>
<tr>
<td></td>
<td>Hong Kong Securities and Futures Commission</td>
<td></td>
</tr>
<tr>
<td>International</td>
<td>Bank for International</td>
<td></td>
</tr>
<tr>
<td>Organisations</td>
<td>Settlements</td>
<td>Can Okay</td>
</tr>
<tr>
<td>Italy</td>
<td>Bank of Italy</td>
<td>Domenico Gammaldi</td>
</tr>
<tr>
<td>Japan</td>
<td>Bank of Japan</td>
<td>Keiko Harimoto</td>
</tr>
<tr>
<td></td>
<td>Financial Services Agency</td>
<td>Makoto Seta</td>
</tr>
<tr>
<td>Mexico</td>
<td>Bank of Mexico</td>
<td>Luis Manuel de los Santos</td>
</tr>
<tr>
<td></td>
<td>Monetary Authority of Singapore</td>
<td>Cayetano David Margolin</td>
</tr>
<tr>
<td>Singapore</td>
<td>Singapore</td>
<td>Shu Ping Chien</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Pui Hoon (by phone)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Nagatsuka Ken (by phone)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Tiak Peow Phua (by phone)</td>
</tr>
<tr>
<td>Spain</td>
<td>Banco de España</td>
<td>Montserrat Jimenez</td>
</tr>
<tr>
<td></td>
<td>CNMV</td>
<td>Miguel Ángel Herrero Alvite</td>
</tr>
<tr>
<td>Sweden</td>
<td>Financial Supervisory Authority</td>
<td>Jan Axelsson</td>
</tr>
<tr>
<td></td>
<td>Sveriges Riksbank</td>
<td>Johanna Stenkula von Rosen</td>
</tr>
<tr>
<td>The Netherlands</td>
<td>De Nederlandsche Bank</td>
<td>Wim Moeliker</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>Bank of England</td>
<td>Frans Alexander Rijkschoeff</td>
</tr>
<tr>
<td></td>
<td>Financial Services Authority</td>
<td>Robleh Ali Robert Barnes</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Benjamin Cohn-Urbach Sarah Harris</td>
</tr>
<tr>
<td></td>
<td></td>
<td>David Lawton</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Ben Mitchell</td>
</tr>
</tbody>
</table>
United States
Commodity Futures Trading Commission
Warren Gorlick
Robert Wasserman

FDIC
Petrina Dawson
John Feid

Federal Reserve Bank of Chicago
Richard Heckinger

Federal Reserve Bank of New York
Marsha Takagi
Christopher Tsuboi

Federal Reserve Board
Jennifer A. Lucier
Namirembe Mukasa

New York State Department of Financial Services
Regina Stone
Paul Zhang

Office of the Comptroller of the Currency
Michelle Taylor
Kurt Wilhelm

Securities and Exchange Commission
Kim Allen
Dawn Patterson

CCP Representatives at CCP Session

Germany
Eurex Clearing
Patrick Deierling

Hong Kong Exchanges and Clearing Limited
Kelvin Lee

Japan
Japan Securities Clearing Corporation
Takeshi Hirano

Tokyo Stock Exchange
Moriyuki Iwanaga

United Kingdom
ICE Clear Europe
Paul Swann

LCH.Clearnet SwapClear
Michael Davie

United States
CME
Daniel Maguire

ICE Clear Credit
Kim Taylor

IDCG
Sasha Rozenberg

Chris Edmonds

Peter Barsoom

Garry O’Connor

Alan Sobba
OTC Derivatives Regulators’ Forum
Joint Session with Authorities and Trade Repositories

Federal Reserve Bank of New York

Tuesday, 4 October 2011, 2.00 pm – 3.30 pm EDT

Agenda

**TRs Participating**

- DTCC Derivatives Repository Ltd – Stewart Macbeth (General Manager, Global Repositories Business)
- DTCC Warehouse Trust Company – Marisol Collazo (Managing Director)
- ICE Trade Vault – Chuck Vice (ICE President & COO) and Bruce Tupper (ICE Trade Vault & ICE eConfirm VP)
- Regis-TR – Jesus Benito (Managing Director) and Teresa Castilla (Functional Development Manager)
- TriOptima - Mireille Dyrberg, (COO) and Raf Pritchard (CEO triResolve)

**Topics for Discussion**

1. Comments from TRs on the practicalities of making data available to authorities, including the systems used by the TRs, and how extendable these systems are once the amount and scope of information received increases.

2. What aggregate information have TRs observed as being the kinds of information authorities want to see out of trade repositories, and are there particular types of aggregate data that TRs have found or expect to find challenging to compile? How will TRs aggregate data or allow for the aggregation of data in a multiple-TR environment? How can authorities ensure there are no unreasonable barriers to aggregation? Who will be responsible for the practical aggregation of data, authorities or the TRs themselves?

3. What information do TRs currently disclose to the market? As legislation comes into effect in each jurisdiction that will allow/require TRs to make certain information public, what do the TRs see as the information that should be made public?

4. What challenges have TRs experienced, or expect to experience, as supervisory regimes for TRs are put into place, and how do they expect to manage these challenges?

5. What is the future of TRs – what developments should we expect to see across TRs over the next 3-5 years, and how will the landscape look once TR regimes are in force across the globe?
6. What key points would the TRs like authorities to be aware of, and what engagement are TRs seeking with authorities, and in what form do they expect this to take place?

7. Could TR’s please give an overview of the key operational risk planning they have undertaken and any mitigating actions taken as a result (e.g. Business Continuity Planning and Data Security)?

Discussion and questions on any other issues
OTC Derivatives Regulators’ Forum
Joint Session with Authorities and CCPs

Federal Reserve Bank of New York

Wednesday, 5 October 2011, 9.00 am – 11.00 am EDT

Agenda

CCPs Participating:
- CME - Kim Taylor (Managing Director and President, Clearing Division)
- Eurex - Patrick Deierling (Senior Vice President, Clearing Initiatives)
- ICE Clear Europe - Paul Swann
- ICE Clear Credit - Chris Edmonds (President) & Peter Barsoom (Chief Operating Officer)
- International Derivatives Clearing Group (IDCG) - Garry O’Connor (CEO) and Alan Sobba (Chief Policy and Communications Officer)
- Japan Securities Clearing Corporation – Moriyuki Iwanaga (Executive Officer, Tokyo Stock Exchange) and Takeshi Hirano (Director, OTC Derivatives Clearing Service)
- LCH.Clearnet Ltd SwapClear – Michael David (CEO, SwapClear) and Daniel Maguire (Head of OTC Derivatives, Risk and Operations)
- HKEX – Kelvin Lee (VP – Market Development Division)

Topics for Discussion

1. Gain views from CCPs on their experiences with information sharing about their operations amongst regulators and the usefulness of the different forms of information sharing used globally, including the use of supervisory colleges, PLS, public disclosure etc.

2. Exchange of views between Authorities and CCPs about what information CCPs currently disclose, both about their own operations and regular data about volumes cleared, etc, and the information that should be disclosed or could usefully made public by all CCPs.

3. Provide the CCPs with an opportunity to discuss issues of interest to them with the ORDF (will require advanced notification of topics from CCPs).
Overview

Industry Mandates:

- DTCC has support to develop global trade repository offerings as follows:
  - Equity derivatives: selected by ISDA, joint bid with MarkitSERV
  - Rates derivatives: selected by ISDA
  - Commodities: selected by ISDA, joint bid with EFETnet
  - FX: selected by AFME, SIFMA and ASIFMA, joint bid with SWIFT
  - Credit: existing business is accepted as a credit repository

Objectives:

- These mandates each have a number of components:
  - Support voluntary reporting, including OTC Derivatives Supervisors Group ("ODSG") commitments
  - Meet detailed jurisdictional obligatory regulatory reporting requirements of many jurisdictions as they become known, e.g. current proposed CFTC and SEC rules

Positioning:

- Market neutral
  - No commercial interest in data, direct or indirect, i.e. not trying to restrict competition in any service
  - Support and promote open common standards, and support product evolution
- Operationally secure, reliable and capable
- Regulator access should be TR location agnostic

DerivSERV GlobalTrade Repository Services
TR Development

- Core cross-product platform in UAT as of 30 Sep 2011
  - For ODSG and Dodd-Frank requirements
  - Designed so that has flexibility to meet other jurisdictional requirements

- Detailed message specifications are with user groups
  - Generic messages, and product extensions, for all except FX
  - Predominantly confirmation based so fully granular as to trade attributes, but include other information e.g. execution time, sales/trader location
  - Application processing in real-time on receipt of data (certain standard reports are scheduled)
  - May need subsequent enhancement for any final rules for additional fields

- Regulatory access
  - Direct access via portal to scheduled reports
  - Direct access via portal to support frequency ad hoc queries
  - Further tailored queries supported on request

- Credit TR continues its operations
  - Full flow trade coverage (including CDS, swaptions, recovery swaps and locks) in near real-time
  - Summary structured trades coverage for OSDG group
  - Expansion of portal reports ongoing, over 30 regulatory authorities have direct access to data
TR Development

- **Equities TR**
  - G14 will add underlying information in Nov 2011
  - Nov 2011 will also see additional regulatory reporting (position level, with underlying sector, location, exchange) and public reporting
  - Full detail on index options and variance April 2012, following near real time confirmation based model

- **Rates TR**
  - G14 adoption Nov 2011
  - Summary data on full portfolio
  - Detailed information on electronically confirmable trades in near real-time. Coverage estimated to be 85% of G14 activity, fully paired records, full confirmation detail (including counterparty name)

- **Commodities**
  - G14 plus (3 energy firms) adoption from Jan 2012
  - Oil reporting initial focus, although platform capable of wider range of products
  - Flexible to open use formats ConfirmHub, EfetNET(CpML), FpML, and CSV

- **FX**
  - G22 adoption date TBD, potentially Q2 2012
  - Full trade details for all flow trades
  - <10% exotic tail will be covered using summary data
TR Operation

- Regulatory access to be TR location agnostic
  - Operate all asset classes through both new US SDR company and DTCC Derivatives Repository Limited
  - Commodities likely to have dedicated companies, to reflect user group and EFET JV
  - Operations to be extended in Asia-Pacific
  - Standard reports developed from ODRF guidance
- Strong user support for DTCC offering, due to benefits of aggregate provision
  - User costs minimized with single interface and message protocol, using existing flows and existing services, where accessible
  - Informative public data, due to completeness – avoids misleading information about net open interest
  - Efficient regulator access – direct access to complete relevant data set, eliminating costs of collection, standardization and aggregation
  - **Opportunity now is to do this right.** Industry is supportive that data should be available to regulators and RFP selections provide scale opportunity
  - Primary threats come from jurisdictional rule differences and restrictions, and commercial providers looking to restrict access to data, internalize or commercialize data
TR Implementation

- Implementation
  - Near dates achieve full population reporting, plus very timely detailed information on flow/electronically confirmable trades, which are high percentages of all activity
    - Rich data set for many purposes – eg detailed liquidity analyses for trading and clearing obligations
  - Mark-to-market valuation submissions will follow, and should be able to be implemented leveraging processes that support current financial accounting, client valuation and bilateral collateral processes
    - Mark-to-market data is needed for prudential and systemic regulation
  - Structured trades more difficult to cleanly report with authoritative data, particularly in compressed time periods
    - Details can be provided in certain PDF documents as support, if required
  - There is a significant effort required to add certain attributes and represent certain trades in consistent forms, but this impacts a minority of trades and data, however these issues significantly extend time to the full implementation of regulatory reporting
  - Firms’ lead times to implement new automated processes are often 12 months, as have to fit into release cycles, and these can involved complex internal system co-ordination and integration which limit capacity for change.
  - G14+ are making progress leveraging existing processes heavily to avoid such implementation bottlenecks, and other firms will be able to adopt a similar approach. DTCC is now reaching out beyond G14
  - Flexibility to participant reporting is key, with an expectation that timeliness will tighten and trades will move from summary reporting to full electronic reporting in market standard form over time
  - Very prescriptive jurisdictional reporting process and formats add complexity and time to implementation. Regulatory focus needs to be on regulatory output needs which are largely common
  - In addition, the freedom for the counterparties to chose their TR for regulatory reporting and any linking of TR services are important regulatory issues. Regulations must eliminate anti-competitive or coercive practices
ICE: The Logical Choice for a Commodities SDR

Experienced & Trusted
- Over 10 years successfully building & operating global derivatives businesses
- Deep & broad knowledge of commodity markets in all areas of the company
- Repeatedly partner with participants to launch new clearing & confirmation services

Capable
- Process & store millions of confidential transactions every year without incident
- All systems designed, developed & operated by an in-house staff of over 500 technologists
- All systems meet mission critical demands for response time, availability & scalability

Global
- Roughly 50% of total ICE revenue is generated outside North America
- Exchange & clearinghouse subsidiaries operate under the direct jurisdiction of local US, UK/EU & Canadian regulators
- ICE liaisons with more than 25 foreign regulators beyond ICE’s “home” regulators
Limited Investment by Market Participants

Advantages for ICE Users:

- Existing interfaces only need minor modifications to enable reporting
- Cleared Trades (ICE DCOs):
  - Primary, Continuation & Valuation Data Provided by ICE DCOs & Large Trader Reports
- Non-Cleared Trades (ICE eConfirm):
  - Add submission of paper confirmed trades
  - Add valuation data
  - Use Click & Confirm functionality to meet End-User Exception reporting
**ICE is uniquely qualified to provide a commodities SDR given the key data sources.**

<table>
<thead>
<tr>
<th></th>
<th>ICE Cleared</th>
<th>CME Cleared *</th>
<th>Bilateral-Electronic Confirmation</th>
<th>Bilateral-Paper Confirmation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Swap Creation Data</strong></td>
<td>ICE Trading Platform or ICE Block</td>
<td>N/A</td>
<td>ICE eConfirm</td>
<td>Reporting Counterparty</td>
</tr>
<tr>
<td><strong>Swap Confirmation Data</strong></td>
<td>ICE Clearinghouses</td>
<td>N/A</td>
<td>ICE eConfirm</td>
<td>Reporting Counterparty</td>
</tr>
<tr>
<td><strong>Swap Continuation Data</strong></td>
<td>ICE Clearinghouses</td>
<td>N/A</td>
<td>Reporting Counterparty</td>
<td>Reporting Counterparty</td>
</tr>
<tr>
<td><strong>Swap Valuation Data</strong></td>
<td>ICE Clearinghouses</td>
<td>N/A</td>
<td>Reporting Counterparty</td>
<td>Reporting Counterparty</td>
</tr>
</tbody>
</table>

* CME OTC Cleared trades are categorized as futures for regulatory reporting purposes. Therefore, they do not need to be reported to an SDR.
PET Data - Bilateral Trades (Non-Cleared)

Post Dodd-Frank implementation, anticipated that bilateral trades will represent <5% of market share.

ICE eConfirm Counterparty Trades

- ICE eConfirm will submit all “Matched” trades to SDR
- Limited technical effort required by ICE eConfirm Participants
- Existing ICE eConfirm API will be enhanced (e.g., new status & events)

Non-ICE eConfirm Counterparty Trades

- Today, Participants do not send paper confirmations to ICE eConfirm
- ICE eConfirm will be enhanced to allow for submission of these deals
- Paper confirmations will not be electronically matched - only submitted for reporting purposes to SDR
Continuation Data: Position Reporting

**Continuation Data: Cleared**

- Cleared position data for market participants is managed by FCMs - Large Trader Reports (LTRs) from FCMs to SDR
- Today, LTRs are limited to select products & trading levels (e.g., 50 lots)

**Continuation Data: Non-Cleared**

- Participants to notify SDR of post-trade or life cycle events – allows SDR to report non-cleared positions
- ICE eConfirm will be enhanced to allow submission & matching of life cycle events among counterparties

**Position Reporting: LTRs**

- Combining cleared & non-cleared data - Trade Vault will be able to provide regulators with position view for contracts covered under LTRs
Significant investment by ICE underway

- Creating central database of trades processed by: ICE Trading Platform, ICE Clearinghouses & ICE eConfirm
- Building regulatory reporting component
- Designing submission requirements for participants & trusted sources
- Preparing participant reporting views & screens

Operations & Technical Working Groups to address:

- Submission of life-cycle events & exotic trades
- Calculation of notional amounts, positions & valuations
- Review of ICE Trade Vault Legal Documents

Work with regulators to design reports component

- Reporting views & screens for staff
- Successfully meet SDR duties (accept & maintain data for monitoring)
Contact us at ICE Trade Vault
Bruce Tupper: 770.738.2121
bruce.tupper@theice.com
Implementing A Swap Data Repository Service
Dodd-Frank Act Reporting Requirements

White Paper
August, 2011
ICE Trade Vault functionality designs are based on the proposed rules of the Dodd-Frank Act. ICE is prepared to make appropriate adjustments as needed when the rules are final. In areas where the rules diverge from logical operational processes, ICE designed the ICE Trade Vault service to reflect industry best practices for the commodity and energy asset class.
Executive Summary

IntercontinentalExchange, Inc. ("ICE") will offer active participants in the commodity and energy trading market a Swap Data Repository ("SDR") service that leverages a widely-accepted technology platform, applies an industry-standard confirmation service, and relies on data delivery protocols that will provide easy integration and workflow compatibility for a wide range of internal and third party systems. The ICE SDR called Trade Vault ("Trade Vault") will be a high-performance, high-volume transaction recording and reporting service built on a responsive, scalable, and flexible architecture. Trade Vault will offer storage and retrieval features that meet applicable global regulations, and will support the compliance efforts of market participants as they transition to new regulatory regimes.

The regulatory reporting of swap transactions is a fundamental component of the Dodd Frank Wall Street Reform and Consumer Protection Act ("Dodd-Frank Act"), which requires all participants to report trade details on every swap transaction. To help meet these requirements, ICE is offering market participants a new service that leverages its network of trading systems (e.g. webICE trading platform and ICE Block) and clearing houses (e.g. ICE Clear Europe) to submit trade data to Trade Vault on behalf of its customers. Trade Vault will also accept data from ICE eConfirm, an electronic confirmation matching service used by more than 250 firms in the commodity and energy markets for the submission of confirmation trade data from their in-house trading systems. Customers will be able to extend their existing ICE eConfirm interfaces to meet SDR recordkeeping requirements. ICE intends to ease reporting burdens by minimizing the cost of development and compliance.

To address this task, ICE will create Trade Vault, focused exclusively on the commodities asset class, to record, retrieve and maintain trade data. Trade Vault will support specific goals of the Dodd-Frank Act, by standardizing commodity reference data, resolving duplicate records, and permitting multiple parties to submit and query a secure, reliable database on a real-time or ad hoc basis.

Trade Vault will create unique identifiers for individual transactions and derivative products as well as specific participants. It also will provide a Real-time Ticker or trade reporting service that satisfies regulatory mandates for public dissemination, and it will track block and large notional value swaps with applicable time delays.

Trade Vault will have controls and multi-tiered, rights of access functionality to ensure confidentiality of trade data and users, who will have access to a support team on a 24/7 basis. The ICE SDR envisions a launch date in the first quarter of 2012 for the global financial oil, natural gas, electricity, and natural gas liquids markets, with subsequent markets, such as metals, agricultures and coal following on a phased basis.
Overview: Swap Data Repositories

The Dodd-Frank Act requires that all swap transaction data, without exception, be reported to new, regulated market entities defined as Swap Data Repositories, or SDRs. The fundamental purpose of an SDR is to provide transparency to the swaps market and to deliver real-time, public disclosure of transaction data. An SDR will be required to register with the Commodity Futures Trading Commission (“CFTC”) and meet compliance requirements by reporting economic terms of a swap transaction, reporting and recording lifecycle events related to that transaction, manage data reporting obligations, and maintain policy and procedures to ensure data security. SDRs will interact directly with a range of market participants, and its core duties include:

- Acceptance and confirmation of data;
- Recordkeeping;
- Real-time reporting;
- Monitor, screening, and analyzing data;
- Maintenance of data privacy and integrity;
- Permitting access to regulators.

To better understand the impact of submitting trade data to an SDR, ICE has provided the following definitions derived from the Dodd-Frank Act. These definitions are subject to final rule-making by regulators and will impact the actual roles and responsibilities of market participants. ICE has included the statutory definitions to provide context for determining how an organization may prepare itself for new swap data reporting requirements. Key terms of the legislation are:

- **Swap**: [Section 721 of Dodd-Frank Act] Defines “swap” expansively bringing in most financial instruments or transactions. Physically settled forwards and options, exchange traded futures, and equity securities are excluded from definition of swaps. Swaps are regulated by the CFTC.

- **End-User**: An end user is a participant that is not a financial entity [a commodity pool operator, e.g. hedge fund], a swap dealer, or major swap participant] that is using a swap to hedge or mitigate commercial risk.

- **Swaps Dealer**: (“SD”) [Section 721 of Dodd-Frank Act] A firm that holds itself out as a dealer in swaps; makes a market in swaps; regularly enters into swaps with counterparties in the ordinary course of its business for its own account; or engages in any activity causing the person to be commonly known in the trade as a dealer or market-maker in swaps.

- **Major Swaps Participant**: (“MSP”) [Section 721 of Dodd-Frank Act] An entity that: (1) maintains a substantial position in swaps for any of the major swap categories as determined by the CFTC (excluding positions held for hedging or mitigating commercial risk and positions maintained by any employee benefit plan for the primary purpose of hedging or mitigating any risk directly associated with the operation of the plan); (2) has substantial counterparty exposure that could have serious adverse effects on the financial stability of the U.S. banking system or financial markets; or (3) is a financial entity that is not subject to capital requirements imposed by any federal banking agency, is highly leveraged relative to the amount of capital it holds and maintains a substantial position in outstanding swaps in any major swap category.

- **Swaps Execution Facilities**: (“SEF”) [Sections 721, 733 of Dodd-Frank Act] A facility, trading system or platform in which multiple participants have the ability to execute or trade swaps by
accepting bids and offers made by other participants that are open to multiple participants in the facility or system, through any means of interstate commerce.

- **Designated Contract Markets**: ("DCM") Must have 85% of their transactions (by volume) executed on exchange. DCM can list a swap, but unlike a SEF, the swap must be cleared.

- **Designated Clearing Organization**: ("DCO") [Sections 723, 725 of Dodd-Frank Act] All clearable swaps must be cleared. Dodd-Frank Act also mandates that these swaps transactions must be cleared through a DCO and FCMs shall manage participants' accounts.

- **Swaps Data Repository**: ("SDR") the facilitator of the transparency requirements. The SDR disseminates to the public and the CFTC swap data on a real-time basis.

- **Unique Swap Identifier**: ("USI") would be created and assigned to a swap at the time it is executed, and used to identify that particular swap transaction throughout its existence.

- **Unique Counterparty Identifier**: ("UCI") would be used for precise, reliable, and unique identification of each counterparty to any swap subject to the Commission's jurisdiction, in all recordkeeping and data reporting concerning swaps.

- **Unique Product Identifier**: ("UPI") would be used for categorization of swaps with respect to the underlying products referenced in them.

The CFTC's proposed rules envisage reporting for all derivatives, both bilateral and cleared, and include reporting of trade details, trade confirmations and valuation data. Dodd-Frank does not allow for any reporting exemptions for certain participants; therefore, this piece of the legislation will affect all market participants. In addition, CFTC prescribes that SDRs be constructed by asset class, and that each have the ability to accept and process all products in the class.

These definitions are subject to final rule-making, though market participants should begin now to consider a Swap Data Repository service provider. Regulators have made it clear with the recent passage of rules establishing SDRs that these entities will be among the first priority for implementing key aspects of the Dodd-Frank Act. ICE is launching Trade Vault to provide market participants with a simple, cost-effective solution to address this critical regulatory mandate.

With deep expertise in technology and markets, ICE is in a unique position to provide electronic services that increase operational efficiency and support regulatory compliance. As the preferred solution for the world's largest trading firms and financial institutions, Trade Vault will build on ICE's widely-accepted clearing infrastructure as well as the ICE eConfirm service and provide market participants with a viable and clear path through a complex regulatory environment.
Key Data Resources

ICE is uniquely qualified to create a commodity SDR because of its connection to the data sources that must populate the repository. With the advent of mandatory clearing regulation as required in the Dodd-Frank Act, ICE anticipates that 90+% of the volume in the OTC market will be cleared. The remaining will trade bilaterally, and these transactions will consist of non-clearable swaps, exotic swaps, and trades where one party elects an end-user clearing exception.

Today, commodity trades are cleared via CME or ICE. Currently, CME’s OTC Cleared trades are categorized as futures for regulatory reporting purposes. Therefore, CME Cleared deals do not have an SDR reporting requirement. Unless regulatory developments change, ICE and its clearinghouse will be the dominant source of cleared swaps in the SDR. (See chart below)

In accepting and processing bilateral trades, ICE eConfirm will provide the platform for reporting these trades to Trade Vault and will enable ICE eConfirm users to utilize their existing interfaces. Bilateral trades can be subdivided into two categories – those confirmed electronically and those confirmed via paper. ICE eConfirm participants typically report that they electronically confirm 80+% of their swaps business online. As a result, the ICE eConfirm matched trades provide the second key data source for Trade Vault.

Lastly, for the remaining bilateral trades that are confirmed via paper, ICE eConfirm will be enhanced to allow participants to submit initial trade information and paper trade confirmations to Trade Vault. These trades will be accepted for regulatory reporting purposes and will not utilize the confirmation matching engine.

<table>
<thead>
<tr>
<th>Creation</th>
<th>ICE Cleared</th>
<th>CME Cleared</th>
<th>Bilateral: Electronic Confirmation</th>
<th>Bilateral: Paper Confirmation</th>
</tr>
</thead>
<tbody>
<tr>
<td>ICE Trading Platform or ICE Block</td>
<td>N/A</td>
<td>ICE eConfirm</td>
<td>Reporting Counterparty</td>
<td></td>
</tr>
<tr>
<td>Confirmation</td>
<td>ICE Clearinghouses</td>
<td>N/A</td>
<td>ICE eConfirm</td>
<td>Reporting Counterparty</td>
</tr>
<tr>
<td>Continuation</td>
<td>ICE Clearinghouses</td>
<td>N/A</td>
<td>Reporting Counterparty</td>
<td>Reporting Counterparty</td>
</tr>
<tr>
<td>Valuation</td>
<td>ICE Clearinghouses</td>
<td>N/A</td>
<td>Reporting Counterparty</td>
<td>Reporting Counterparty</td>
</tr>
</tbody>
</table>
Proposed Reporting Roles & Trade Flows

Trade Vault will have the ability to receive data from multiple sources, including clearinghouses, SEFs/DCMs, and reporting parties. In addition, any participant may transmit data to Trade Vault using a third-party service provider. ICE’s real-time, integrated systems will collect and standardize trade data and send it via a trade capture module for storage in Trade Vault’s database. Once the data is collected in Trade Vault, both regulators and participants will access a robust reporting module, subject to access controls, and the public will view data via the CFTC-prescribed Real-Time Ticker.

Reporting Party Hierarchy

1. Swap Dealer (“SD”)
2. Major Swap Participant (“MSP”)
3. Non-SD/Non-MSP

The Dodd-Frank Act establishes a framework for determining reporting party responsibility for each swap trade. A hierarchy of counterparty types is described, in which SDs outrank MSPs, who outrank non-SD/MSP counterparties. When both counterparties are at the same hierarchical level, proposed regulation calls for them to select the counterparty obligated to report. Final-rulemaking is likely to refine these conventions, which in their current form, may prompt confusion or delay with respect to reporting responsibilities and timing. However, ICE is developing Trade Vault to address various scenarios, and provide participants with the capacity to act on the appropriate reporting roles.

Swap Creation & Confirmation Reporting Responsibility

Swap Data recordkeeping and reporting requirements are contained in the statute, and the following table provides a summary view of the obligation which depends upon entity type, execution venue, and type of swap data:

<table>
<thead>
<tr>
<th>Creation Data</th>
<th>On-Platform &amp; Cleared</th>
<th>On-Platform &amp; Not Cleared</th>
<th>Off-Platform &amp; Cleared</th>
<th>Off-Platform &amp; Not Cleared</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEF/DCM</td>
<td>SEF</td>
<td>SD/MSP/Non-SD/Non-MSP</td>
<td>SD/MSP/Non-SD/Non-MSP</td>
<td></td>
</tr>
<tr>
<td>Confirmation Data</td>
<td>DCO</td>
<td>SD/MSP/Non-SD/Non-MSP</td>
<td>DCO</td>
<td>SD/MSP/Non-SD/Non-MSP</td>
</tr>
</tbody>
</table>

1 "Under the proposed regulations, determination of who must report required swap creation data is based on two criteria. The first criterion is whether the swap is (1) executed on a SEF or DCM and cleared on a DCO; (2) executed on a SEF or DCM but not cleared; (3) not executed on a SEF or DCM but cleared on a DCO; or (4) not executed on a SEF or DCM and not cleared. The second criterion is whether the reporting counterparty (as determined according to Sec. 45.5) is an SD or MSP, or instead is a non-SD/MSP counterparty. Using these two criteria to determine who reports is intended to streamline and simplify the data reporting approach, by calling for reporting of each set of swap creation data by the registered entity or counterparty that has the easiest, fastest, and cheapest access to the set of data in question. The results of this approach are shown in the following table.” (Dodd-Frank Act)

2 "Under the proposed regulations, determination of who must report required swap continuation data is based on two criteria. The first criterion is whether or not the swap is cleared on a DCO. The second criterion is whether the reporting counterparty (as provided in the proposed regulations) is an SD or MSP, or instead is a non-SD/MSP counterparty. Using these two criteria to determine who reports is intended to streamline and simplify the data reporting approach, by calling for reporting of each set of swap continuation data by the registered entity or counterparty that has the easiest, fastest, and cheapest access to the set of data in question. The results of this approach are shown in the following table.” (Dodd-Frank Act)
Swap Continuation & Valuation Data Reporting Responsibility

Swap Data continuation and valuation requirements are contained in the statute and the following table provides a summary view of the reporting responsibility which hinges on entity type and clearing scenario:

<table>
<thead>
<tr>
<th></th>
<th>Cleared</th>
<th>Not Cleared</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Continuation Data</strong></td>
<td>SD/MSP/ Non-SD/Non-MSP</td>
<td>SD/MSP/ Non-SD/Non-MSP</td>
</tr>
<tr>
<td><strong>Valuation Data</strong></td>
<td>SD/MSP/ &amp; DCO</td>
<td>SD/MSP/ Non-SD/Non-MSP</td>
</tr>
</tbody>
</table>

A potential adjustment, subject to final rule-making, is to exclusively require DCOs to report valuation data for cleared swaps. In this event, reporting counterparties should not have to report valuation data for any cleared swap and would only have to report for non-cleared swaps. In all circumstances, Trade Vault will attempt to ease the burden on reporting counterparties by directly receiving valuation data from DCOs and applying those valuations as needed.

ICE has identified the following four dominant trade flow scenarios which will be processed by the SDR. The majority of trading volume is associated with scenarios one and four. Taking this into account, this White Paper focuses on these two scenarios.

1. Trades executed on-platform and cleared;
2. Trades executed on-platform and not cleared;
3. Trades executed off-platform and cleared; and
4. Trades executed off-platform and not cleared.

**Trades Executed On-Platform & Cleared**

Regulations mandate that all clearable swaps be cleared and exchange traded. Following the proposed rules, ICE estimates over 90% of OTC trading volume will be on-platform and cleared. The reporting burden for these trades should fall onto SEFs/DCMs for initial reporting and DCOs for confirmation, continuation and valuation reporting. The following graphic shows the potential trade data flow in this case. This design takes into account that the SEF/DCM will assign unique identifiers while the DCO will process lifecycle events and publish valuation data.
**Trades Executed Off-Platform & Not Cleared**

Trades that are either eligible for the End-User Exception or are not mandated for clearing and traded off-platform, fall under scenario four listed above. The reporting burden on these trades is on participants for initial reporting, confirmation, continuation and valuation. Participants electing to use End-User Exception, however, must submit additional data to the SDR to meet compliance, and their confirmations should be completed in a time-sensitive manner.

Most confirmations will need to be electronically processed to meet this mandate. By electronically confirming trades on ICE eConfirm, which will be fully integrated to Trade Vault, participants can satisfy their requirement to submit to a SDR in an automated manner. The following graphic show the potential trade data flow in this case and assumes assignment of the unique identifier processing of lifecycle events via the ICE eConfirm:

**Off-Platform & Not Cleared Reporting**

![Diagram](https://www.icecom.com/tradevault)

**Exotic Trades**

Based on ICE’s previous experience with bespoke and structured transactions, or exotic trades, this trade data is not easily accommodated by electronic submission. Therefore, ICE intends to gather feedback on the appropriate method for capturing exotic and non-standard trade data from working groups, though it has several proposed data schemes that will accommodate these transactions.
Trade Continuation Data

As proposed by the CFTC, commodities market participants will be required to use the “snapshot” approach for submission of swap continuation data. This approach requires a daily update of the current state of the swap which incorporates all of the changes that have happened to the swap since the previous snapshot. As a consequence, reporting entities are required to submit swap continuation data to an SDR on a daily basis throughout the life of the swap.

By contrast, the life cycle approach, which is proposed by the CFTC for all non-commodity asset classes, requires a recording of individual post-trade events (e.g., novation and early termination) as they occur. ICE anticipates the CFTC’s mandate for the commodities asset class to use the snapshot approach may be changed to a lifecycle approach in the final rule because of unnecessary reporting burden incumbent in the latter process.

Should the lifecycle option become part of the final rule, ICE will engage working groups to design a series of standardized life cycle events to be adopted by the reporting entities. This working group would build upon the messaging protocols and framework from other asset classes and utilize any existing industry standards (e.g., ICE eConfirm data schemas and API queries). ICE believes that the initial implementation tasks needed to establish the life cycle approach will be worth the costs in the long term given the burdensome and costly nature of the snapshot approach.

Unique Identifiers

Industry standards are an essential component of ICE Services and the Dodd-Frank Act seeks to have a range of market participants coalesce around unique identifiers for products, transactions, and market participants. ICE has a strong record of working with trade groups and standard-making bodies to create and implement solutions. Trade Vault will continue this effort as it relates to development of unique identifiers. Examples of industry collaboration include:

- **International Swaps and Derivatives Association:** 2005 Commodity Definitions, NYMEX December 2008 Option Expiration and U.S. Crude Oil & Refined Petroleum Products Annex
- **Leadership for Energy Automated Processing:** Created and designed the XML schema for physical crude oil & refined products, Master Agreement for Purchasing and Selling Refined Petroleum Products & Crude Oil
The CFTC prescribes creation of unique identifiers (Unique Swap Identifiers, Unique Product Identifiers, and Unique Counterparty Identifiers) that are based on open standards that can be internationally adopted. Regulations state Unique Swap Identifiers ("USIs") shall be assigned to a trade at the venue of execution. For on-platform trades (cleared and bilateral), this will place responsibility of assigning USIs on SEFs/DCMs. For off-platform trades that are cleared, Trade Vault envisions that DCOs will issue USIs. For off-platform trades that are bilateral, ICE eConfirm will create and assign USIs upon submission of trades for reporting purposes.

The creation of UPIs will simplify trade processing and reporting for the asset class. The commodity and energy asset class is dynamic and innovative in respect to product development. Central coordination is necessary to prevent duplication of UPIs. Trade Vault will engage participants to create a taxonomy for UPIs. Trade Vault will issue UPIs, maintain reference data representation of each commodity product, including schema definitions and disseminate the representation to participants. In order for Trade Vault to provide End-User Exception Reports, products offered by DCOs shall be identified to support the clearing mandate of regulations. As the aggregator and disseminator of a Real-Time Ticker, Trade Vault will utilize the applicable codes to consolidate and publish the data in a consistent and timely manner.

**Limited System Development**

ICE has an unparalleled record of integrating trade capture systems, both vendor and proprietary, to enable the submission and download of trade data. As described above, ICE’s trading and clearinghouse platforms will support reporting requirements for cleared swaps within Trade Vault. For bilateral trades, Trade Vault participants will utilize ICE eConfirm to submit data to the SDR. Trade capture system integration is not required to utilize ICE eConfirm; however, most participants choose this option to take advantage of auto-matching capabilities of the service.

For participants with limited IT resources, ICE eConfirm accepts manual trade data input. A manual trade entry screen provides participants with an electronic form containing dropdowns and fill-in boxes. In instances where only one participant to a trade is able to upload trade data, the system provides electronic affirmation ("Click & Confirm").

Manual trade entry screens and Click & Confirm functionality will assist End-Users to comply with regulations. Participants will be able to set up default values for many fields to reduce the number of entries to report transactions. Below is an example of the Click & Confirm screen for an End-User Exception transaction:
Access Controls

Trade Vault will offer company set-up and user authorization functionality, including an administrator’s component. Each entity will be classified by registered type: SEF, DCM, DCO, or Participant. Participants will be cataloged per regulator and market type as to their classification (e.g., CFTC/US Financial Power: MSP).

Access to Trade Vault will be strictly limited to users with valid credentials. Password standards will comply with appropriate security policies. Upon enrollment into Trade Vault, a participant firm will designate a master user (“Administrator”).

Trade Vault will have a robust User Permission Screen for managing user IDs and access, similar to other ICE systems. The Administrator will create and permission all subsequent user IDs for a firm. ICE personnel will not create nor manage Trade Vault user IDs beyond the initial one for the Administrator. This will ensure Trade Vault access will be granted by a trusted individual at the participant firm who is closest to and has the most knowledge of those in the firm that require access.

Once a user ID is created by the Administrator, company level access shall be granted. Access to multiple companies will be possible for the same user ID as long as the underlying companies are associated via a parent/child relationship within Trade Vault. Access will be restricted to unrelated firms. Trade data access will be strictly limited in accordance to the company level access granted to a particular user ID.

Permissions for user IDs will also be granted per market type (e.g., Financial Oil, Financial Natural Gas and Financial Power) and address the needs of operations departments that divide workload by market type, which is common practice in the asset class. In addition, participants will be able to manage oversight access via a robust Regulator Filter. To manage the Regulator Filter, participants will “open” a regulatory agency to allow access. These filter settings will exist at a granular level (e.g., settings by trading region, market type, product and index filters) to provide participants with the greatest flexibility and control to permission regulators. An example of the Regulator Filter screen is below:
Reporting Capabilities

Trade Vault will feature a data warehouse and reporting platform modeled on the high-volume system that ICE currently uses to support its own compliance reporting needs. The warehouse and platform, combined with business intelligence tools, will allow Trade Vault to deliver a suite of reports tailored for participants and regulators. These reports will include:

- End-User Clearing Exception Reporting
- Position Reporting
- Valuation Reporting

In addition, Trade Vault will provide reports specifically tailored for regulators only. In anticipation of regulators’ request for new reports, Trade Vault will build an electronic request system. An audit log of these requests will be provided to participants and regulators. If a request is participant-specific, only the participant and regulator will have access to view the request. These reports will include:

- Position Limit Reporting
- Large Trader Reporting

Regulations prescribe a framework for distribution to the public, which includes a Real-Time Ticker for the public reporting of swap transactions. Trade Vault will offer a Real-Time Ticker Reporting Service to SEFs/DCMs for immediately reporting trade data following execution to satisfy recordkeeping obligations. Trade Vault will then extract the real-time reporting fields to disseminate trade data to the public. This will allow SEFs/DCMs to meet both requirements with a single submission.
For trades executed off-platform, the reporting party is obligated to report the real-time data to a SDR which publicly disseminates data. Trade Vault will provide Real-Time Ticker data to third-party distributors. Trade Vault will offer historical data views via its website while strictly adhering to the Commission’s rules on which data elements are part of the public record.

Trade Vault also anticipates that the public reports are likely to include the following:

- Minimum Block Size Reporting
- Commitment of Traders Reports
- Other Summary Reporting

**Conclusion**

Given the critical importance of complying with Dodd-Frank Act regulatory requirements, ICE will establish Trade Vault to serve the Swap Data Repository requirements of participants in the commodity and energy asset class. Trade Vault will build on ICE’s successful track record of working with customers to develop innovative trading platforms, data-reporting tools, and risk management services.

Trade Vault is planning a first quarter 2012 launch date focused on the global financial oil, natural gas, electricity, and natural gas liquids markets. ICE is undertaking significant research and analysis to ensure Trade Vault will provide a simple and cost-effective solution for its customers, one that is dynamic and adaptable as regulatory rules are finalized.
1. REGIS-TR – responding to regulatory demand
   - Market Environment and changing Regulatory Framework
   - Introduction to REGIS-TR – The European Trade Repository for OTC Derivatives

2. High-level product scope and functional offering

3. Product developments
Key components in respect to trade repositories are:

- The risk mitigation goals impact financial and non-financial (i.e. corporate) market participants

- Clearing: Clearing to be mandatory also for non-financial market participants beyond a certain activity threshold

- Reporting: non-standardised, non-clearable contracts should be electronically confirmed with an auditable monitoring process for all participants – no threshold applies (currently)

- Timing: A reporting obligation for OTC derivatives positions no later than trade date plus 1 to record and report contracts with ESMA-registered trade repositories

- ESMA to define the technical standards for reporting by June 2012

- The new regulations apply from end-2012
Two European market infrastructures cooperate to provide a sophisticated trade repository responding to regulatory requirements.

Shareholders:
- Two well known European Market Infrastructures
- Providing exchange trading, clearing, settlement and custody services

European based (Luxembourg) entity with global reach
- Open governance structure
- To be ESMA regulated and looking for compliance with non-European regulators across the globe
- Service covering all OTC derivative products (one-stop-shop) before regulation materialises
- Servicing all types of market participants and respective activity profiles in the OTC derivative space
1. REGIS-TR – responding to regulatory demand
2. High-level product scope and functional offering
   - Core Service offering
   - Participation and account structure
   - Access and connectivity
   - Fee Structure
3. Product developments
Core service offering for all OTC derivative classes

Registration
- Registry Stamp
- Informative Stamp

Administration
- Communication
- Matching
- Affirmation
- Reconciliation
- Consolidation

Reporting
- Regulators
- Participants
- Markets

Diagram:
- Interest rates and fixed-income
- Credit default swaps
- Equities
- Commodities
- Foreign exchange

All markets & all contracts
- **Master accounts** – set-up in the system for direct participants of REGIS-TR, allowing to link n sub-accounts containing the registered contracts (m prop and n client accounts)

- **Associated accounts** – same rights and duties as a regular master accounts but allowing to delegate operation and communication to another Master account holder (PoA)

- **Sub-accounts** – Identified as prop or client account (n/m number of accounts)
  - Prop accounts – reflecting the contracts of the participant’s direct activities
  - Client accounts – reflecting the registered positions with clients not holding own master accounts in REGIS-TR
  - Users of client accounts will be limited in operational activity, only being able to respond to alleged operations (e.g. confirming alleged contracts)

- **Premium services** – Consolidation of transaction and other relevant data for clients accessing REGIS-TR via multiple sub-accounts, possibly via multiple master account holders

- **Participant and client identification:**
  - Participants are identified by BIC/BIE plus tax identifier (the latter is also very suitable for non-financials)
  - Clients identified via flexible 11-digit ID type
System Access and communication between participants and REGIS-TR:

- Use of web-based application
- Manual input/queries with secured Internet access. Web access, exportable to CSV files
- Mass upload/download of XML files through secured Internet access
- Automatic transfer of XML files through a SWIFTNet FileAct file transfer connection between REGIS-TR and the participant
- Customer Service and English speaking helpdesk
  - 5 people available on Target2 calendar from 8:30 to 18:30
1. REGIS-TR – responding to regulatory demand

2. High-level product scope and functional offering

3. Product developments
   - Near-future product and service enhancements
Future developments
Committed product release road-map

- Leveraging of BME IT department, with more than 200 professionals, specialised in development, systems and communications and security in the business of market infrastructures and financial services
- Developments jointly agreed with customer committee participants
- Development costs borne by REGIS-TR and recovered by usage fees
- No up-front investment risk for the industry – usage commitment necessary

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Launch – Interest rate derivatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release 2 – Forex derivatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release 3 – Equities and Commodity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Release 4 – Credit derivatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Future developments
Parallel development of optional value-added services for the industry

Value-added Services

**Transaction reporting:**
- Offering of transaction reporting for OTC derivatives in accordance with MiFiD II

**Exposure valuation:**
- Inclusion of pricing and valuation data:
  - Directly by the participant – bilateral exposure agreements
  - Independent third-party exposure valuation

**Collateral Management:**
- Existing international or domestic collateral pools for collateralisation of exposures in OTC derivatives
Contact Details

CLEARSTREAM BANKING
Mergenthalerallee 61 65760 Eschborn
Tel: +49 69 211 15287
Email: regis-tr@clearstream.com

IBERCLEAR
Plaza de la Lealtad, 1 28014 Madrid
Tel. +34 91 709 5035
Email: comercial@REGIS-TR.com
All information contained herein is confidential information regarding REGIS-TR. By receiving such information, the recipient agrees to keep it strictly confidential, and to disclose it exclusively to those of its directors, officers, employees and representatives that may need it for the only purpose of evaluating REGIS-TR services and who will be bound by the same confidentiality obligations. The recipient will not divulge any such information to any other party. Any reproduction, distribution, publication, display or copy of such information, in whole or in part, is prohibited without the prior written permission of REGIS-TR.

REGIS-TR disclaims any and all liability as to the information set forth herein, and as to any errors or omissions, including without limitation any express or implied representation or warranty with respect to the completeness and accuracy of such information.
REGIS-TR S.A. is a fully operational provider of Trade Repository services for OTC derivatives with a global scope, with the main objective of becoming a flexible one-stop-shop solution to register OTC derivatives trades in all asset classes by any participant type and activity profile as well as under any applicable jurisdiction. The company, founded on 9th December 2010, is a societe anonyme, incorporated under the laws of the Grand Duchy of Luxembourg and is registered with the Trade and Companies Register of Luxembourg under registration number B. 157650.

Two well known neutral Securities Services Infrastructures, Clearstream Banking S.A., (I)CSD, and Iberclear, the Spanish CSD, are equal shareholders in the Company. Both have a long history and extensive track records as financial market infrastructures. Between both shareholding companies, well over 4,000 employees are employed globally; with offices in Europe, the USA as well as Asia, serving almost 3,000 customers in over 110 countries. Both shareholding entities provide operational, IT, legal, risk, compliance, commercial, auditing and accounting experts to ensure an orderly and compliant operation of REGIS-TR according to international standards and following CPSS-IOSCO principles for financial market infrastructures.

REGIS-TR provides services primarily in the following areas:

- Registration of OTC derivatives trades in all asset classes (Interest Rates are live since December 2010). FX, equities and commodities are envisaged within 2011 and CDss in 2012.

- Registration of standardised and customised contracts: Includes the possibility of attaching contracts in PDF format which are also electronically managed and confirmed. Reconciliation facilities and contract custody services are included.

- Compliance with any transparency and regulatory reporting requirement derived from future position reporting regulation in Europe and the USA for all registered contracts. Transaction reporting (under MiFID) will also be complied with when applicable.

- Electronic matching and electronic confirmation of contracts inputted in REGIS-TR.

- Legal certainty: The electronic registration and confirmation in REGIS-TR offers a means of evidence of the existence of the contract and its terms as agreed between the parties, and it may replace, if so agreed between the parties, the physical signature and paperwork related to hard copy contracts.

- Reporting to Market Authorities and publication of aggregated data.
• Archive: A minimum of 10 years after maturity or termination is guaranteed.

The technical architecture, run and operated on the IT environment of the Spanish Stock Exchange benefits the same quality standards as all the platforms developed and maintained under BME market infrastructure in terms of security and reliability. Furthermore, the REGIS-TR database is fully scalable, so it can be easily adapted to suit its capacity needs.

REGIS-TR is currently in conversations with different CSDs, Exchanges and Monetary Authorities in regions such as Asia-Pacific, Africa as well as Central and South America where similar legislations on OTC derivatives registration obligations are in discussion or under development. These market infrastructures are significantly interested in leveraging on REGIS-TR’s trade repository’s system and REGIS-TR is willing to offer white labelling trade repository services to these markets, allowing for the establishment of national domestic trade repositories in the mentioned markets.

REGIS-TR receives and processes creation, confirmation and continuation data from participants. This data can be communicated through standard XML files sent via SWIFTNet FileAct, standard XML files uploaded via secure Internet access or manual input. The XML files have been designed using standard industry language, taking into account FpML flow definitions and schemes, ensuring that the automation of the feed between the participant’s back office applications and REGIS-TR is easy to develop and implement.

REGIS-TR will be deployed in three different steps. The first one is already live, providing the core trade repository functionality and allowing registration, matching and confirmation of interest rate derivatives. The same functionality will be available for FX derivatives with their delivery committed to November 2011. This same release will equally permit access to the information registered in REGIS-TR by regulators at entity level. The third release, scheduled to be delivered before March 2012 will allow for registration of equity and commodity derivatives.
Role of Eurex Clearing as CCP: The Future of Clearing

OTC Derivatives Regulator’s Forum
Federal Reserve Bank of New York

05 October 2011
Eurex Clearing is one of largest CCPs globally

Eurex Clearing …

- is the clearinghouse within Deutsche Borse Group
- offers fully automated and straight-through post trade services for derivatives, equities, repo (sale and repurchase agreement), energy and fixed income transactions
- acts as a central counterparty for its cleared markets – becomes a buyer to all sellers and a seller to all buyers thereby minimizing counterparty risk and improving operational efficiency
- offers flexible trade management functions, advanced risk management services, efficient collateral and delivery management tools
- is a company incorporated in Germany and licensed as a credit institution under supervision of the Bundesanstalt für Finanzdienstleistungsaufsicht (BaFin) pursuant to the Banking Act (Gesetz für das Kreditwesen).
- the Financial Services Authority (FSA) has granted Eurex Clearing status as a Recognised Overseas Clearing House (ROCH) in the United Kingdom
Eurex Clearing Offers Central Counterparty Services for Multiple Asset Classes Across Multiple Markets

For the Frankfurt Stock Exchange (FWB®), the Irish Stock Exchange and the European Energy Exchange Eurex Clearing is Central Counterparty only for CCP eligible trades.
Core business drivers for CCPs will be four factors

1. Product Coverage
   - Exchange traded securities and derivatives
   - Exchange look alike securities and derivatives
   - OTC securities and derivatives

2. Process Efficiency
   - Straight Through Processing
   - Trade management
   - Integrated settlement netting

3. Risk Management
   - Real time risk management / intraday margining
   - Default process / lines of defence
   - Capital efficiency

4. Legal Soundness
   - Legal framework and clearinghouse rules
   - Segregation & Portability (client asset protection)
Product Coverage

Eurex Clearing is the leading European CCP and committed to provide industry leading clearing solutions.

1. **Interest Rate Products**
   - Exchange traded
   - OTC: Exchange look-alike
   - OTC: Swaps

2. **Equity Based Products**
   - Exchange traded
   - OTC: Exchange look-alike
   - Planned

3. **Commodity Products**
   - Exchange traded
   - OTC: Exchange look-alike
   - OTC: Swaps etc.

4. **Credit Default Swaps**
   - Exchange traded
   - OTC: Exchange look-alike
   - OTC: Swaps etc.
   - OTC / bilateral
   - Planned

5. **Securities Lending**
   - Platform based
   - Planned

---

3. **Risk Management**

3. **Integrated Collateral Management**

4. **Segregation & Portability**

2. **Process Efficiency**

---

www.eurexclearing.com
Eurex Clearing is an Integral Part of the Deutsche Börse Value Chain

Information
- Streaming data feeds
- Physical terminals
- Indices

Trading
- Operate open electronic order books
- Connectivity to international trading members

Clearing
- Central Counterparty (CCP) including:
  - Verification of trade-related information
  - Risk Management
  - Position & Trade Management incl. Give-up / Take-up
  - Exercise & Assignment / Notification & Allocation
  - Corporate Actions
  - Netting Services

Settlement
- Delivery of securities
- Financing services
- Securities lending & borrowing

Custody
- New Issues services
- Income & Redemption payments
- Tax services for both release at source and claims
- Corporate Action notification & processing
- Proxy Voting service

Information Services
- Eurex/O TC
- FWB/FSE
- Eurex Bonds
- Eurex Repo

Eurex Clearing
Clearstream Banking (Frankfurt and Luxembourg)

IT services and software development (Deutsche Börse Systems)

www.eurexclearing.com
Substantial changes in trading patterns lead to the extension of the range of Pre-Trade Risk Services by Eurex Clearing.

Eurex Clearing’s Pre-Trade Risk Services provide efficient toolbox to address risk management requirements arising out of algorithmic trading, but applicable to several parts of the Trading & Clearing members business.

<table>
<thead>
<tr>
<th>Pre-Trade Risk Service</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pre-Trade Limit System *</td>
<td>CMs are able to limit the trading activities of their traders and NCM already pre-trade. Limit System is able to address size and frequency of trading.</td>
</tr>
<tr>
<td>Intraday Theoretical Price files</td>
<td>Interested parties can retrieve from the Eurex Clearing Website 4 times per day updated intraday theoretical price file.</td>
</tr>
<tr>
<td>Order Confirmation Broadcast *</td>
<td>Clearing Member and NCM are continuously informed about the status of their open orders.</td>
</tr>
<tr>
<td>Stop Button *</td>
<td>Stop Button allows quick reaction of CMs in emergency situations to prevent any further risk increase. Stop Button can be used by NCMs as well.</td>
</tr>
</tbody>
</table>
... which is already complemented by a comprehensive range of Post-Trade Risk Services

Eurex Clearing’s Post-Trade Risk Services provide real-time information for optimized intraday risk management once a trade has been executed*

<table>
<thead>
<tr>
<th>Post-Trade Risk Service</th>
<th>Trade Confirmation Broadcast</th>
<th>Risk Based Margining</th>
<th>Intraday Risk Information</th>
<th>Enhanced Risk Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>Description</td>
<td>View confirmed trade history in real-time</td>
<td>Position netting</td>
<td>Intraday on-screen broadcast of margin exp. in 10 minute intervals</td>
<td>Real-time update with FIXML-based messages via AMQP:</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Risk measured on probability distribution of returns</td>
<td>Real-time risk calc. on derivative positions</td>
<td>Positions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Risk netting on margin class and margin group level</td>
<td>Near time calc. for equities &amp; FI</td>
<td>Margin Requirements</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>System Parameters</td>
</tr>
</tbody>
</table>

* Derivatives, Equities and Fixed Income
Eurex Clearing ensures highest protection by providing segregation and timely portability

Introduction

- We have introduced a further dimension to our proven clearing service by addressing segregation and portability needs that will benefit both Clearing Members and their clients
- Since the unprecedented example from 2008, there has been a growing demand from clients for mechanisms to effectively address the requirements for Client Asset Protection
- Our solution has been designed with a view to ensure compliance with regulatory initiatives that will be implemented during 2012

Benefits

- Our Client Asset Protection service has been designed to deliver
  - Maximum protection for clients under a proven legal construct
  - Segregation of client margin collateral mitigating the impact on clients in the event of a Clearing Member’s (CM’s) default
  - Portability of positions enabling continued trading in the event of their CM’s default
  - Portability of client margin collateral in the event of a CM’s default
  - Unique client segregation offering a higher level of protection with the Individual Clearing Model
  - Further capital efficiencies with upcoming regulations
Over $22.6 Trillion notional cleared globally

ICE Clear Credit cleared over $8.1 Billion in client-related notional

ICE Trust launches CDS clearing 3/2009

ICE Clear Europe launches Single Names 12/2009

ICE Trust launches Client clearing

ICE Trust/ICE Clear Europe launch Single Names 12/2009

ICE CDS clearing surpasses $10 Trillion globally 07/2010

ICE Trust converts to DCO/SCA named ICE Clear Credit

North American CDS open interest of $727 Billion migrated 7/16/2011

ICE CDS clearing surpasses $20 Trillion globally 07/2011

As of September 16, 2011

IntercontinentalExchange
ICE operates the leading global OTC marketplace for natural gas, power, refined oil products and natural gas liquids.

Energy Products
- Over 500 cleared energy products
- Brokered and electronic markets

Energy Customers
- Commercial energy companies ~51%
- Banks/Financial institution ~24%
- Liquidity providers ~25%

Listing of ICE Clear Europe Energy Membership can be found at https://www.theice.com/clear_europe_membership.html
ICE Overview

ICE Regulated Futures Exchanges

- **U.S. & Canada Agricultural**
  - Cocoa
  - Coffee
  - Cotton
  - Sugar
  - Orange Juice
  - Barley
  - Canola Oil

- **Eurozone Energy**
  - Brent Crude
  - WTI Crude
  - Sour Crude
  - Gasoil/Heating oil
  - Natural gas
  - Electricity
  - Coal
  - Emissions

- **Financial**
  - FX
  - US Dollar Index
  - Russell Equity Indexes

ICE OTC

- **OTC Contracts**
  - OTC Energy
  - Oil and refined products
  - Physical/Financial gas
  - Physical/Financial power
  - Natural gas liquids

- **OTC Credit**
  - OTC Wet and Dry Freight
  - OTC Iron Ore

ICE Data & Services

- **Market Data**
  - Real-time prices/screens
  - Indices and end of day reports
  - Tick-data, time and sales
  - Market price validations

- **Services**
  - ICE eConfirm
  - Coffee & cocoa grading facilities

Integrated Markets, Clearing and Technology

- ICE Clear U.S. and ICE Clear Canada – OTC and Exchange-traded Agricultural and Financials
- ICE Clear Europe – OTC CDS and Energy Clearing
- ICE Clear Credit – OTC CDS Clearing

IntercontinentalExchange
### ICE Global CDS Products and Clearing Participants

#### 80 Indices

<table>
<thead>
<tr>
<th>North America (CDX)</th>
<th>Europe (iTraxx)</th>
</tr>
</thead>
<tbody>
<tr>
<td>IG S8 – S17</td>
<td>Main S7 – S16</td>
</tr>
<tr>
<td>HY S8 – S16</td>
<td>XO S9 – S16</td>
</tr>
<tr>
<td>HVOL S8 – S16</td>
<td>HVOL S7 – S16</td>
</tr>
</tbody>
</table>

#### 249 Single Names

<table>
<thead>
<tr>
<th>Sector</th>
<th>North America</th>
<th>Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Consumer Services</td>
<td>30</td>
<td>22</td>
</tr>
<tr>
<td>Industrials</td>
<td>18</td>
<td>15</td>
</tr>
<tr>
<td>Consumer Goods</td>
<td>15</td>
<td>19</td>
</tr>
<tr>
<td>Utilities</td>
<td>6</td>
<td>16</td>
</tr>
<tr>
<td>Financials</td>
<td>22</td>
<td>15</td>
</tr>
<tr>
<td>Basic Materials</td>
<td>7</td>
<td>14</td>
</tr>
<tr>
<td>Telecommunications</td>
<td>3</td>
<td>13</td>
</tr>
<tr>
<td>Healthcare</td>
<td>9</td>
<td>2</td>
</tr>
<tr>
<td>Oil &amp; Gas</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Technology</td>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>

Listing of clearing eligible instruments can be found at:
- [ICE Clear Credit](#)
- [ICE Clear Europe](#)

#### Clearing Participant (CP)

<table>
<thead>
<tr>
<th>Clearing Participant (CP)</th>
<th>ICE Clear Credit</th>
<th>ICE Clear Europe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bank of America</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Barclays</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>BNP Paribas</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Citibank</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Credit Suisse</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Deutsche Bank</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Goldman Sachs</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HSBC *</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>JPMorgan</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Merrill Lynch</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Morgan Stanley</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Nomura</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>RBS *</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Societe Generale *</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>UBS</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Unicredit AG</td>
<td>-</td>
<td>✓</td>
</tr>
</tbody>
</table>

*HSBC, RBS and Societe Generale are self-clearing participants only for ICE Credit

Listing of Clearing Participants can be found at:
- [ICE Clear Credit](#)
- [ICE Clear Europe](#)

As of September 20, 2011
Features of ICE CDS Clearing

Expertise & Depth
- Over 320 cleared CDS products globally
- 41 Clearing Participants globally
- Managed numerous Credit Events, Succession Events and Matured Contracts
- Leading market connectivity processing thousands of trades daily

Customer Protection
- Segregation of gross margin at the clearing house
- Robust default protection and legal framework
- Pre and post default portability of positions and collateral supported

Risk Management
- World class risk management designed specifically for CDS
- Guaranty fund covers simultaneous default of 2 largest Clearing Participants
- Transparent and replicable margin requirements
- EOD settlement process based on prices subject to execution

Ease of Doing Business
- Open access: supporting multiple platforms
- Trades cleared intra-day, on a near real-time basis
- Support for all trade life cycle events: backloading, netting, credit events
- Allows users to leverage existing infrastructure – no costly technology build
2011 Global Accomplishments

**Dodd-Frank Compliance**
- Successfully converted ICE Trust to DCO/SCA and renamed ICE Clear Credit
- Migrated $727 Billion in open interest
- ICE Clear Europe deemed SCA

**Expanded Product / Members**
- Cleared global volume of $23 trillion
- Launched 47 single names globally
- Added 12 additional Clearing Participants
- Operationally ready to clear Latin American sovereigns in ICE Clear Credit
- Operationally ready to clear Western European sovereigns in ICE Clear Europe

**Pricing & Risk Management**
- Successfully conducted two default management exercises
- Developed capabilities to support strategic restructuring process and successfully participated in industry-wide test in Europe

**Process Improvements**
- Adapted operations and technology in ICE Clear Credit to accommodate both FCM/BD and self-clearing workflows
- Launched CP-CP trade date clearing
Japan Securities Clearing Corporation
Outline of service and future plans

October 5, 2011

Japan Securities Clearing Corporation
Prepared for OTC Derivatives Regulators Forum
1. Overview of Japan Securities Clearing Corporation (JSCC)

- Corporate history and its structure
  - Established by 5 Japanese Stock Exchanges and Japan Securities Dealers Associations (Jul. 2002)
  - Clearing volume (in USD value on average per day for FY2010)
    - Cash products: USD25bil.
    - Exchange listed derivative products: USD 45bil.
  - Clearing Participants
    - 152 participants for listed transaction (As of Mar. 2011)
  - Capital amount and shareholders
    - Class A share (for listed trade clearing service); TSE (87.7%), OSE (11.5%), other exchanges (0.7%)
    - Class B share (for CDS clearing service); TSE (100%)
  - Affiliate CCP; Japan Government Bond Clearing Corporation (“JGBCC”) in which JSCC owns 35.6% of JGBCC’s stake. JGBCC clears OTC trades of JGB and its daily average clearing volume in FY2010 was 940 bil. in USD value.
JSCC’s shareholders and affiliate

Class A Share
For Exchange Transaction Clearing Business

Class B Share
For CDS Clearing Business

Class C Share
(To be issued)
For IRS Clearing Business

Other Exchanges (OSE etc.)
12.3%
87.7%
100%

JSCC

Tokyo Stock Exchange Group

JGBCC Participants

JGBCC
64.4%

35.6%

IRS Clearing Participants
1. Overview of Japan Securities Clearing Corporation (JSCC)
   - Service coverage by JSCC

   ![Diagram showing the service coverage by JSCC](image-url)
2. Milestones, Initiatives for OTC Derivatives Clearing

<JSCC>

- July 19, 2011: JSCC launched CDS clearing services. First initiative to clear CDS index transactions in the Asian region.
- Fall, 2012: Target date for launch of IRS clearing services.

| Sep 2008 | Lehman Brothers collapsed |
| Mar 2009 | G20 Pittsburgh Summit |
| May 2010 | Amendment to Financial Instruments and Exchange Act |
| November 2012 | Mandatory Clearing |
3. Overview of CDS Clearing Service

- **CDS index clearing in Japan**

  - **Scope of Clearing**: iTraxx Japan Series
  - **Clearing Cycle**: Weekly
  - **Participants**: 5 participants (as of July 2011)
  - **Margin**: 99% ETL

- **Track record of CDS clearing at JSCC**

  - **Outstanding Notional Amount of Japanese CDS**
    - June 09: $1,000,000 million
    - December 09: $800,000 million
    - June 10: $800,000 million
    - December 10: $1,100,000 million

  - **Total Obligation Assumption Values**: JPY 71,284 mil. (As of Sep. 22, 2011)
  - **Total Number of cleared Trades**: 51

- **Cleared Volume (As of Sep. 22, 2011)**

  - 21-Jul: 0
  - 28-Jul: 0
  - 4-Aug: 0
  - 11-Aug: 0
  - 18-Aug: 0
  - 25-Aug: 0
  - 1-Sep: 0
  - 8-Sep: 0
  - 15-Sep: JPY 3,600 million
  - 22-Sep: JPY 7,100 million

- The scope will expand to include single name CDS as early as by fall 2012
- Risk Monitoring is conducted on a daily basis.
- More dealers are expected to participate in a timely manner.
- Also include short charge and bid-offer spread charge, etc.
4. CDS Clearing Workflow

- Member firms request for clearing through DS Match. DTCC sends trades data to JSCC on a daily basis.
- After checking clearing conditions, JSCC will terminate original trades and register new trades (between a member firm and JSCC), without forcing member firms to operate with DTCC.
- JSCC will provide member firms with various data and info related to cleared trades, margin requirement, fund settlement, settlement price, etc. via OTC Platform (web-based).
- Collateral management will be handled in the existing clearing system and platform.
- Fund settlement will take place in Bank of Japan, while cash as collateral in commercial banks in Japan.
5. Overview of the IRS market in the Asia-Pacific Region and JSCC’s IRS Clearing Initiatives

Regarding IRS Clearing, JSCC
- Has Formed the Working Group (consists of about 25 bank/dealer members) since May 2009
- Intends to launch IRS Clearing by Nov.2012
- Aims at JPY denominated plain vanilla IRS swap as an initial scope

Source: BIS
* Outstanding amounts as of Dec.2010
** CAGR of outstanding amounts for Dec.2000-Dec.2010

Outstanding Amount in U.S. Dollars with the growth rate.
- New Zealand Dollar: 121 billion, 46%
- Australian Dollar: 4195 billion, 37%
- Hong Kong Dollar: 357 billion, 7%
- Chinese Yuan: Big room for future growth
- Others (include Korean Won, Singapore Dollar, Indian Rupee, and other Asian currencies): 18296 billion, 27%
- Japanese Yen: 59,509 billion, 16%

Japanese Yen

Chinese Yuan

Hong Kong Dollar

Korean Won

India Rupee

Singapore Dollar

Australian Dollar

New Zealand Dollar

*Others

Outstanding Amount

Outstanding Amount (Growth rate)

8
SwapClear: Summary Statistics & Service Overview
1. Service Statistics
2. Service Participation & Membership Criteria
3. Default Management Process & Experience
4. Product Eligibility
5. Product & Service Enhancements 2011
6. SwapClear Client Clearing Objectives
7. ForexClear
1. Service Statistics

SwapClear Notional Outstanding (USD bn)

- SwapClear Notional Outstanding (USD bn sides)
- Cumulative TriReduce Notional Reduction (USD bn sides)

Notional Distribution by Currency

USD: 33%
EUR: 41%
JPY: 12%
GBP: 11%
CHF: 3%
Unlabeled: 1%

SwapClear Full terminations by Currency since February 2008

<table>
<thead>
<tr>
<th>Currency</th>
<th>Trade Count (sides)</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR</td>
<td>279,350</td>
</tr>
<tr>
<td>GBP</td>
<td>93,750</td>
</tr>
<tr>
<td>JPY</td>
<td>14,638</td>
</tr>
<tr>
<td>USD</td>
<td>219,216</td>
</tr>
<tr>
<td>Total Sides:</td>
<td>606,954</td>
</tr>
</tbody>
</table>
2. Service Participation & Membership

**SwapClear Participation Statistics**

<table>
<thead>
<tr>
<th></th>
<th>31-Aug-11</th>
<th>30-Jun-10</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of clearing members</td>
<td>58</td>
<td>28</td>
</tr>
<tr>
<td>Number of dealers</td>
<td>90</td>
<td>40</td>
</tr>
<tr>
<td>Number of members offering client clearing</td>
<td>36</td>
<td></td>
</tr>
<tr>
<td>Number of live client accounts</td>
<td>58</td>
<td></td>
</tr>
</tbody>
</table>

**Clearing Member Eligibility**

- Membership of SwapClear is based on stringent criteria designed to protect both LCH.Clearnet and other members.
- Only clearing members may clear trades directly with LCH.Clearnet.
- Other firms can benefit from clearing by using an LCH.Clearnet member to access the clearing service.

**Current Membership Criteria**

All SwapClear members must meet the following minimum criteria of eligibility:

- Swap portfolio - Minimum size $1 trillion
- Capital - Minimum $5 billion in clearing member or parent providing guarantee (FCM: $1 billion)
- Credit rating - Single A or better
- Margin multipliers - Applied if an existing member is downgraded below A
- Default management process - Compulsory participation
- Entry “firedrill” for new members
3. Default Management Process

SwapClear default managed Lehman’s $9 trillion book (66,390 trades in 5 currencies)
Only 35% of Lehman’s Initial Margin was used across all assets cleared in LCH.Clearnet

Robust default waterfall
- Membership Criteria
- Variation Margin
- Initial Margin
- Defaulter’s Default Fund Contribution
- LCH.Clearnet’s Capital & Reserves to £20mm
- Remaining Default Fund
- SwapClear Undertaking (£50mm per SwapClear Member)
- Replenishment of LCH.Clearnet’s Capital

Unique Default Management Process: analyse, neutralize, auction
- Morning Day 1 - Risk Analysis - Monday Sept. 15 2008
  9.15am Lehman’s declared in default
  9.30am Default management group (DMG) members meet

- Days 1 - 3 - Risk Neutralization
  DMG Members:
  - Acted on behalf of LCH.Clearnet
  - Executed approximately 60 trades
  - Faced SCMs as trade counterparts
  - Neutralized the risk within three days

- Weeks 1 - 3 - Auction
  DMG Members:
  - Continued trading to further neutralise risk
  - Auctioned 5 currency portfolios (EUR, USD, GBP, JPY, CHF)
  - Received aggressive prices
  - Confirmed trades on a T+1 basis
<table>
<thead>
<tr>
<th>SwapClear-eligible OTC Interest Rate Derivatives Product Characteristics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Currency</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Leg type</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Notional Amount</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Fixed Leg</td>
</tr>
<tr>
<td>Floating Leg</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Date Structures</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>Additional Payments</td>
</tr>
</tbody>
</table>
5. Product & Service Enhancements

**2011 Deliveries to date**

**System Enhancements**
- Full platform migration (risk management)
  - Customised extension of 3rd party risk management system
  - Increased capacity and performance
  - Enables quicker future product roll out
  - Enhanced Ops, Risk and Default Management tools
  - Full end-to-end firedrill (default simulation) completed Jun11

**Product Extensions**
- New currencies: HUF, CZK and SGD IRS out to 10yrs
- Unadjusted fixed and final period end dates
- Multiple financial calendars for fixings

**Service Enhancements**
- US FCM Client clearing model
- Extension to include US agency debt & CAD cash as margin collateral
- SMART – SwapClear margin simulator

**Tri-Optima Trade Compression**
- 2011 YTD TriReduce Notional Reduction (USD sides) - US$26,530 billion
  - EUR - 86,262 sides → US$11,598 billion notional
  - USD - 114,974 sides → US$12,310 billion notional
  - GBP - 22,658 sides → US$1,535 billion notional
  - JPY - 14,638 sides → US$1,087 billion notional

**Scheduled 2011**

**Strategic Initiatives**
- Membership Criteria and DMPA re-strike (target delivery early 2012)

**Product Extensions**
- FRAs in 10 currencies (excluding FCM client activity)
- Variable Notional Swaps in USD, EUR, GBP

**Risk Management Enhancements**
- Further NPV refinements
- OIS discounting extended to JPY
- Short end curve fitting
- OIS discounting methodology

**Service Enhancements**
- Development of new ‘ClearLink’ API to enable;
  - Direct connectivity to multiple SEF and affirmation platforms (initially Bloomberg and Tradeweb) for the purpose of receiving matched dealer-to-client trades
  - Direct connectivity to FCMs to facilitate the ‘Give up’ process
- Risk Free Netting for clients clearing via FCMs
- Opening hours extended to 19:00 EST (midnight London)
- Client to Client and Affiliate activity enabled for FCM model

**Tri-Optima Trade Compression**
- Further 5 runs planned: EUR, USD, GBP, CHF and JPY
6. Client Clearing Service Objectives

**International model**

**Segregation**
Client positions and margin must be segregated from House positions and margin. In addition, individual clients must be able to choose to be legally segregated from all other clients of their clearing member (individual segregated account / omnibus net segregated account).

**Portability**
Client positions and margin must be portable to its choice of SCM to maintain economic performance.

**Return of Surplus Collateral**
Return of surplus collateral to the underlying client and not to the Insolvency Practitioner/Estate of Defaulted SwapClear Clearing Member.

The legal model must be enforceable along every step of the chain and on a cross border basis. LCH currently have approval in relation to UK, Dutch, French, German, Italian, Irish and Swiss SCMs.

**US (FCM) model**

**Segregation & Portability**
Customer positions and margin must be segregated from House positions and margin, and be portable en masse to a receiving FCM, selected by the CFTC / Bankruptcy judge / Bankruptcy Trustee, in compliance with the requirements of the Commodity Exchange Act and applicable CFTC Rules.
7. Clearing FX - ForexClear

- **Mandated FX products:** likely to be Options, Non Deliverable Forwards and Non Deliverable Options at 5%, 3% and <1% of market notional respectively
- **Liquidity risk in FX settlement:** market solution required prior to Regulatory approval to clear physically settling FX products
- **NDF / NDO markets:** eleven currencies against US $ cover >85% of notional, with average duration of 30 days
- **NDF risk management:** straightforward. EMTA procedures used as back-up to Central bank fixings, with appropriate multipliers for sovereign default
- **NDO risk management complex:** average daily volumes of $20bn, likely to be later delivery
- **FX Swaps / Forwards:** unlikely to be mandated. Some market interest to clear driven by anticipated impact of CRD IV

**Clearing FX Options**
- **FX Settlement** Herstatt Risk managed by CLS.
  - **Halt risk:** default during the 2 hour CLS settlement cycle. Low probability. Requires netting to mitigate
  - **Liquidity risk:** managed bilaterally. CCP management would require significantly higher cash margin balances or access to Central Bank liquidity
  - Market wide discussions underway
- **Risk management** biggest challenges
  - Quality of data for valuation
  - Exercise expiry process
  - Market accepted risk management model
The contents of this document are a broad overview of the SwapClear service and have been provided to you for information purposes only.

Nothing in this document should be considered to be legal advice. Accordingly, users may not rely upon the contents of this document and should seek their own independent legal advice. The Regulations, Rules and Procedures of LCH.Clearnet are published on our website (www.lchclearnet.com).

The information and any opinion contained in this document, does not constitute investment advice or a personal recommendation with respect to any applicable securities or other financial instruments. This document has not been prepared for a specific client and accordingly no reliance should be placed on it. Nothing in this document should be taken as a public offer to sell or to buy any applicable securities of financial instruments.

Copyright © LCH.Clearnet Limited 2011
All rights reserved. No part of this document may be copied, whether by photographic or any other means, without the prior written consent of LCH.Clearnet Limited.
SwapClear is a registered trademark of LCH.Clearnet Limited.