AUTOMATING OTC DERIVATIVES PROCESSING AND RISK MANAGEMENT

The over-the-counter (OTC) derivatives market has in recent years seen the explosion of exotic structured products in different underlying instruments tied to interest rates, currencies, credit, commodities and equities. The current financial crisis, which can be traced back to proliferation of such exotics, has exposed fundamental systemic issues in risk management, compliance, operations, and technology. While ISDA and central securities depositories have introduced policies and systems to standardize and streamline OTC trade lifecycle processing, a transformational shift is needed to address the challenges of risk management, counterparty exposure, processing inefficiencies, and infrastructure and communication bottlenecks.

Advantage Oracle Financial Services

Oracle Financial Services Consulting has deep domain expertise in capital markets and extensive experience in implementing complex projects for global Tier 1 Institutions. Participants in the OTC Derivatives market can leverage our expertise to address varied technology requirements.

- Process Automation – An efficient work flow based system that facilitates end-to-end lifecycle processing is arguably the best way to manage OTC contracts that stay open for years. Our Industry Reference Model (IRM) provides a robust process framework with a pre-built repository of over 450 banking and capital markets processes. IRM provides a holistic approach to drive process-led transformation and downstream BPM and SOA based IT enablement initiatives. We are uniquely positioned to accelerate such initiatives backed by live implementations and significant experience in industry platforms.

- Document Management – Maintaining contractual legal documents with numerous counterparties, monitoring compliance with “economic” and “non-economic” contract terms, and providing easy access to dealers, investment managers and risk managers is a significant challenge. Oracle’s Enterprise Content Management solution enables companies to effectively capture, secure, share and distribute digital and paper based contractual documents and reports. We can help lower costs and improve operational efficiencies by streamlining communications and automating routine tasks.

- Connectivity and FpML Messaging – FpML is the established business information exchange protocol for most OTC derivative contracts. Connectivity with market participants that mandate FpML compliant messaging or in-house development of such FpML compliant derivative platforms is a critical focus area for Straight through processing (STP). We have in-depth expertise in delivering FIX, FpML and SWIFT solutions that facilitate real-time, automated communications and bridge gaps in STP. We are accredited both as a SWIFT Solution Partner and a SWIFT Service Partner.
Risk Management – Most market participants lack comprehensive systems for tracking real time consolidated risk exposure across counterparties, OTC contracts and collaterals. Valuation of instruments and integrated limits/threshold management across desks are other key areas requiring automation. We can help build technology agnostic, meta-data driven, and analytics focused risk management platforms to address areas of trading risk analytics, sensitivity analysis, scenarios stress testing, enterprise risk analytics (e.g., historical VaR), yield curve sensitivity analysis, portfolio valuations, benchmarking and optimization, what-if scenarios analysis and limit management for pre-settlement risk, settlement risk and issuer risk.

OTC Derivative Trade Lifecycle

In addition to supporting industry needs in the above key areas, we also provide custom solutions for the entire OTC Derivatives trade lifecycle:

- Product evaluation and implementation of third-party products
- Automation of Deal Capture and Trade Execution
- Maintenance and production support of proprietary and vendor applications
- Ongoing QA for Derivatives applications
- Application enhancements and re-engineering of trade Matching, Affirmation and Allocation systems
- Processing of “Give Ups” to CCPs or Prime Broker
- Automation of post Confirmation events – Valuation, Collateral exchange
- Daily Maintenance – Valuation and Collateral management, Cash flow management, Portfolio reconciliation
- Processing of Novation and Closeouts
Experience Snap shot

<table>
<thead>
<tr>
<th>Function</th>
<th>Project</th>
<th>Services</th>
</tr>
</thead>
<tbody>
<tr>
<td>Front Office</td>
<td>Migration from client’s Credit Derivatives system to Calypso and enhancements to Calypso</td>
<td>Migration and enhancements</td>
</tr>
<tr>
<td></td>
<td>STP enabling of OTC trade system</td>
<td>Design, development, Maintenance &amp; Support</td>
</tr>
<tr>
<td>Middle Office</td>
<td>Derivatives Feed for Global Market Risk Application</td>
<td>End-to-end design and development</td>
</tr>
<tr>
<td></td>
<td>MISYS Summit implementation for IRS, CDS, TRORS, and real estate derivatives</td>
<td>Customization and enhancements</td>
</tr>
<tr>
<td></td>
<td>Prime brokerage services – Automatic give-ups and reverse give-ups for FX derivatives</td>
<td>Development and enhancements</td>
</tr>
<tr>
<td>Back Office</td>
<td>Automate OTC Trade Capture for common swap instruments into downstream Accounting Systems</td>
<td>Implementation of FpML transformation engine and integration</td>
</tr>
<tr>
<td></td>
<td>Integration of Imagine Data Service with proprietary risk platform.</td>
<td>Customization and integration</td>
</tr>
</tbody>
</table>

Project Showcase

**STP Enablement of OTC Derivatives system**

Client – Derivatives house of a leading investment bank

**Challenges:**

- Significant portion of OTC trades booked through Trade Capture system needed to be set up manually in the Risk Management system and other downstream applications.
- Personnel bandwidth constraints due the large and steady increase in the volume of OTC Equity and Index Options, Variance and Dispersion Swap hedge trades.
- Existing manual processes were time consuming and prone to errors.
- Future business projections indicated significant growth driving the need for standardization of the current process.
- Stability and throughput issues with exotic options pricing engine running compute intensive stochastic Monte Carlo simulations.

**Solution Highlights:**

- A phased solution approach ensured smooth transition of the business into an enhancement application which was STP enabled for all classes of products handled by the Trade Capture system.
- The global Trade Capture system was reengineered to facilitate automation of the booking process reducing the number of manual security set-ups and trade booking steps.
- Evaluated grid vendors and assisted in implementing DataSynapse compute grid and Coherence Distributed Cache Management to improve performance by as much as ~50% for complex simulations.
- Client engagement is to develop and maintain applications, conduct System Integration, Regression and UAT and to provide production support for critical applications with 24x7x365 coverage.
Benefits:

- Direct increase in volume absorption capability.
- Enhanced transparency and reporting of cash and physically settled contracts in Risk Management system and of upcoming OTC expiries for Trading and Sales desks.
- STP enabling allowed Middle Office to book the FX cash adjustments in Risk Management system to reflect cross currency exposure correctly.
- Flexibility to establish a client services workflow process to provide Life Cycle management of a transaction.

OTC Trade Capture Automation

Client – A leading US asset management and securities services firm

Challenges:

- OTC Trade volumes growing rapidly at ~80% annually creating bottlenecks.
- Critical trade processes, confirmation and novation, were handled manually affecting processing efficiency (errors, rebooking and amendments), increasing risk and costs of back-office support.
- Integration with disparate systems, a legacy from the recent merger of two big banks.

Solution Highlights:

- Automation of the Confirmation and Novation of trade for Interest Rate Swaps (IRS), Credit Default Swaps (CDS), CDX (Credit Default Index) and CXT (Credit Default Index Tranche).
- Implemented a third-party flexible rules engine for FpML message (FpML 4.2) transformation to any fixed length format messages (XML, EDI, copybook/mainframes).
- Automated asset setup in accounting systems and integration with Portfolio management system.

Benefits:

- Substantial increase in operational efficiencies through STP of trades spanning across middle and back office applications.
- Empowered business users for maintaining business rules owing to the ease rendered by the FpML transformation engine.
- Future-proof and open infrastructure ready for the next stage of STP development.

Contact Us

For more information on our offerings for the financial services industry, please visit www.oracle.com/financialservices or email us on financialservices_ww@oracle.com

Copyright © 2009, Oracle and/or its affiliates. All rights reserved.

This document is provided for information purposes only and the contents hereof are subject to change without notice. This document is not warranted to be error-free, nor subject to any other warranties or conditions, whether expressed orally or implied in law, including implied warranties and conditions of merchantability or fitness for a particular purpose. We specifically disclaim any liability with respect to this document and no contractual obligations are formed either directly or indirectly by this document. This document may not be reproduced or transmitted in any form or by any means, electronic or mechanical, for any purpose, without our prior written permission.

Oracle is a registered trademark of Oracle Corporation and/or its affiliates. Other names may be trademarks of their respective owners. 0409