

Deriv/SERV

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TODAY

Deriv/SERV's Trade Information Warehouse Goes Live

DTCC announced on November 15, 2006 the launch of its Trade Information Warehouse, creating a centralized and secure global infrastructure for the post-trade processing of over-the-counter (OTC) derivatives.

On December 13, DTCC announced the selection of CLS Bank International (CLS) to provide central settlement of payments for contracts housed in the warehouse. (See related article on page 3)

The warehouse is made up of two components:

- A comprehensive trade database containing the "official legal record" for all contracts eligible for automated Deriv/SERV confirmation;
- A central support infrastructure that automates and standardizes post-trade processes (such as payments, notional adjustments and contract term changes) over the life of each contract, which can extend five or more years.

Initially, the warehouse will support credit derivatives, and then extend to other OTC derivatives products including rates, equities, foreign exchange and commodities – depending on market demand and input from the senior group working with DTCC in guiding the initiative.

"The trade warehouse is a 'just in time' technological solution necessary to support our vibrant OTC derivatives markets," said Robert E. Diamond, Jr., president of Barclays PLC. "My thanks to DTCC and all industry participants who worked tirelessly to implement the warehouse in record time."

In its coverage of the warehouse, the *Financial Times* wrote, "The scheme, which is being run by The Depository Trust & Clearing Corporation, should significantly strengthen the infrastructure of the credit derivatives market." The *Financial Times* Alphaville blog summed up the warehouse launch this way: "Crisis may have been averted in the paper-strewn world of over-the-counter derivatives."

Current environment

Today's OTC derivatives environment requires continuous bilateral reconciliation for each contract. In other words, each trading party must continually

"sync up" with each of its counterparties over the life of each contract, keeping track of post-trade events such as assignments, amendments, terminations and notional adjustments. Processing is not standard across the industry, and the work involves considerable manual processing relying on faxes, emails and phone calls.

The credit derivatives market more than doubled annually through mid-2006, when the notional amount of credit derivatives reached \$26 trillion, up from \$12.4 trillion in mid-2005.

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Deriv/SERV Expands Processing Pipeline for OTC Derivatives

DTCC continues to expand its powerful automated post-trade processing platform for OTC derivatives, with the addition of a range of new equity derivatives products scheduled for early 2007. New global products will include: Asia ex-Japan (AEJ) share and index options, AEJ share and index swaps, AEJ share and index variance swaps and Japanese index variance swaps.

DTCC will now have 21 global OTC equity derivatives products supported by its automated matching and confirmation platform. Prior to the addition of the new products, Deriv/SERV already supported American and European share and index options, swaps and variance swaps and Japanese share and index options. Additional products are expected to be included to the service on a regular basis during 2007.

Increasing automation

"With the large number of OTC equity derivatives products that currently exist and continue to emerge across the globe, automating this dynamic and complex market is increasingly important," said Gina Ghent, DTCC vice president, Business Development. "DTCC is working closely with global dealers and buy-side firms, as well as industry groups to bring to market a comprehensive, robust platform that supports a wide range of OTC equity derivatives products. We are leveraging our experience in automating the OTC credit derivatives market, but we're much farther up the learning curve for equities."

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Warehouse Goes Live

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“The warehouse represents the launch of a very innovative and important industry solution to improve process, efficiency and risk control in the global credit derivatives markets,” said Dick Weil, chief operating officer of PIMCO. “It was made possible by some exceptional cooperation between dealers, investment managers and regulators.”

The warehouse will automate many processes that occur throughout a contract’s lifecycle, which today involve significant manual effort. This includes bilateral contract and cash-flow reconciliation. Other post-confirmation processes, such as credit event processing and assignment processing, will be made much more efficient. From a risk management perspective, the warehouse will help firms ensure accurate balance sheet information for corporate and regulatory reporting purposes, support accurate collateral management and promote correct and complete payments.

“The implementation of the warehouse marks a milestone in the evolution of the OTC derivatives marketplace,” said Thomas A. Russo, vice chairman, Lehman Brothers. “Our industry has come together in record time to put in place a common operational platform to manage credit derivative contracts over their life, yielding standardization, efficiency and risk reduction.”

Building on Deriv/SERV’s foundation

Today, 80% of credit derivatives traded globally are electronically confirmed through Deriv/SERV, up from 15% in 2004. The warehouse builds on Deriv/SERV by using confirmed trade details as input for the warehouse, so that post-trade processing flows automatically from up-to-date trade terms.

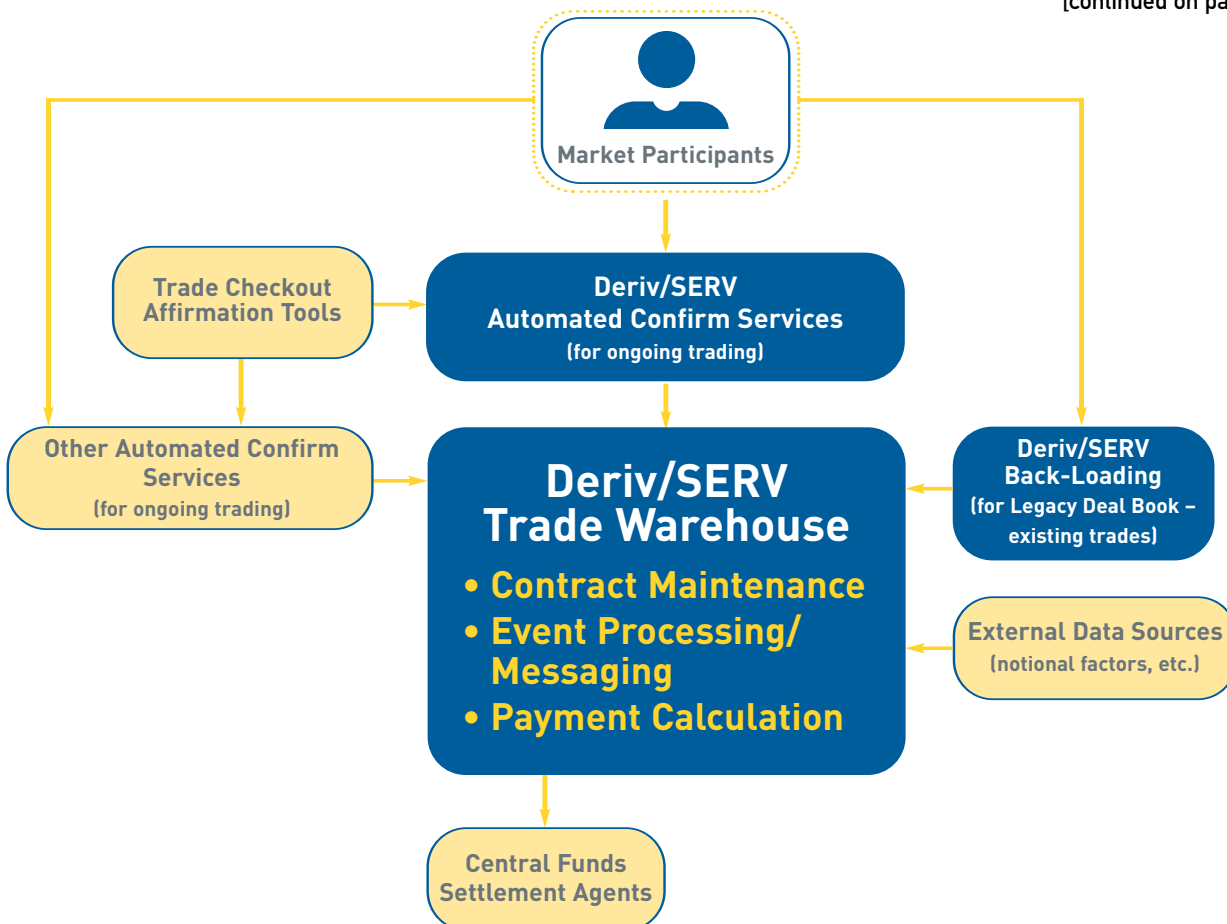
“The trade warehouse is the successful result of a truly cooperative, global effort on the part of both financial services firms and their regulators,” said Dr. Hugo Banziger, chief risk officer, Deutsche Bank. “The warehouse demonstrates their common interest to work together to bring about growth and stability to our financial markets.”

Warehouse plan

With the November 15 launch, all new trades and post-trade events submitted to Deriv/SERV for electronic confirmation will automatically be loaded into the Trade Information Warehouse. The warehouse will assign a unique reference identifier for each contract, and maintain the “current state” contract terms, taking into account assignments, terminations and amendments.

“Our goal is to provide a safe, efficient processing environment globally – modeled on the automated central asset servicing that central securities depositories provide for equities, fixed income and other securities,” said Peter Axilrod, DTCC managing director, Business Development. “The Trade Information Warehouse provides the underpinnings to support the entire post-trade lifecycle for OTC derivatives in a paperless environment.”

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DTCC Chooses CLS Bank as Global Settlement Partner for Warehouse

DTCC selected CLS to provide central settlement of payments for contracts housed in DTCC Deriv/SERV's Trade Information Warehouse.

The partnering of these two industry-owned organizations will provide an integrated global payment processing infrastructure for the OTC derivatives market, linking the Trade Information Warehouse with a central settlement facility. Initially supporting credit derivatives, the solution is designed to be extended to other OTC derivatives products including rates, equities, and commodities – the timing of which will be determined through collaboration with warehouse customers.

“This strategic partnership will provide an automated, seamless processing and settlement environment for the handling of OTC derivatives contracts on a global basis,” said Robert McGrail, executive managing director, Domestic and International Core Services, DTCC. “After an extensive review and selection process by DTCC and its Board’s OTC Derivatives Operations and Planning Committee, CLS became the logical choice because of our shared customer base, and CLS’ reputation for resiliency, reliability and broad experience handling foreign exchange.”

CLS provides global settlement services in 15 currencies, and is an integral part of the foreign exchange market, settling 270,000 instructions equivalent to approximately \$2.9 trillion each day. Like DTCC, CLS operates on an “at cost” basis for the benefit of the financial services industry.

“Leveraging CLS’ existing settlement infrastructure and
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Reports on the Warehouse

Here are examples of how the financial media reported the news that DTCC launched the Trade Information Warehouse.

*“Trade Information Warehouse Opens Its Doors,”
Euroweek, Nov. 17, 2006.*

The warehouse was endorsed by the Federal Reserve Bank of New York at the end of September when it hailed the progress made by leading banks in tackling the many inefficiencies in the CDS market. The Fed sees the warehouse as an important part of the process by which the industry is rationalised and is made less vulnerable to systemic risk.

*“DTCC to Buy Side: CDS Data, Please,” AsianInvestor,
December 2006.*

New York-based Depository Trust & Clearing Corporation (DTCC) is calling on the world’s buy-side firms to load data about existing credit derivatives into a new warehousing service....Encouraged by regulators in the United States, United Kingdom and Germany, DTCC set up the warehouse to automate the post-trade life of credit derivatives.

“Automation Slow in Post-Trade Derivatives Processing,” Asian Banker Interactive, Nov. 24, 2006.

Development in post-trade processing infrastructure is important for Asia where challenges arise from the risk and cost associated with the widespread use of manual processes.... Now DTCC has launched a data warehouse to keep track of over-the-counter (OTC) derivatives as

they move from hand to hand.

“DTCC Plots Improvements for Derivative Management,” Derivatives Week, Nov. 17, 2006.

The Depository Trust & Clearing Corp. is planning early next year to complete its search for a credit derivatives trade settlement agent and to finalize the back loading of existing over-the-counter contracts to an automated platform.

*“DTCC Launches Credit Derivatives Warehouse,”
Reuters News, Nov. 14, 2006.*

The long-awaited launch is the latest industry move to address regulator concerns over the failure of institutional back offices to keep step with the fast-growing over-the-counter market.

*“New ‘Warehouse’ for Derivatives,” Risk News,
Nov. 17, 2006.*

In the past year, banks have tried to improve trading practices by cutting their backlogs of unprocessed deals and turning to electronic trading systems. The new system will take this further by offering a centralized platform for confirming and processing trades, as well as a means of recording all trades over a five-year period, and tracking any legal changes to these deals.

*“Derivatives Diary: DTCC Flicks the Switch on Warehouse,” Dow Jones Capital Markets Report,
Nov. 14, 2006.*

The warehouse came about as part of a massive cleanup of the industry instigated in September last year by the New York Federal Reserve and 17 leading market participants.

Deriv/SERV Expands

CONTINUED FROM COVER

The OTC equity derivatives market continues to grow at a steady pace. As of June 2006, according to the International Swaps and Derivatives Association, Inc., the market had \$6.4 trillion in notional value outstanding, an increase of 32% over the prior year. With the number of market participants and products offerings also expanding rapidly, global dealers and buy-side firms are placing greater attention to improving their operational practices, which still rely predominantly on manual methods.

'Foremost focus': standardization

"These recent enhancements are another step in DTCC's ongoing effort to bringing greater depth and diversity to the automated service it provides in this fast-growing market," said Peter Axilrod, DTCC managing director, Business Development. "By continually expanding on the capabilities of Deriv/SERV's electronic platform, we aim to help market participants meet their commitment to regulators to strengthen their operational infrastructure, increase efficiency and reduce operational risk."

In a November 21, 2006, letter to the Federal Reserve Bank of New York, 17 of the leading global OTC derivatives dealers addressed the documentation issue and

characterized standardization as "our foremost focus and an important precursor to large-scale automated trade matching."

The dealers also commented in the letter that they have developed a prioritization plan to create and publish additional Master Confirmation Agreements, and to move towards greater adoption of electronic processing platforms. In addition, these market participants pledged to create an environment in which frequently traded products are supported by streamlined documentation.

Enhancing Interest Rates Derivatives Service

Earlier this fall, Deriv/SERV's interest rates service was also enhanced to support lifecycle events such as assignments, terminations and amendments. The service currently supports 13 interest rate swaps and swaptions products on the automated platform.

"Obtaining matching and confirmation for life cycle events of an interest rate swap contract is currently a time-consuming, highly manual practice," said Bill Stenning, vice president, DTCC. "Automating the process is critical in helping market participants expedite confirmation of these post-trade details and addresses a primary need of buy-side firms, whose transactions include a large number of assignments, amendments and other events." ■

CLS Bank

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global reach, including 57 member banks and 800-plus international banks, brokers and other customers who access CLS indirectly as third-parties through members, made CLS the logical provider," said Guido Buehler, managing director, UBS Investment Bank, and member of DTCC's OTC Derivatives Operations and Planning Board Committee. "CLS will support the settlement of warehouse payment obligations in the 9 trade warehouse currencies currently supported with the option to add more currencies in the future."

Combining Strengths

"We are pleased to be partnering with DTCC, bringing together Deriv/SERV's strength in automating OTC derivatives processing with CLS' multi-currency expertise and robust settlement infrastructure. It is excellent to see the financial industry leveraging the CLS infrastructure," said Rob Close, President and Chief Executive Officer, CLS Bank International. "We share DTCC's vision of a strategic partnership that will support the global expansion of the OTC derivatives market and reduce cost and risk, and CLS is committed to working with DTCC to expand this solution to other OTC derivatives products over time."

While most OTC credit derivative transactions are now matched and confirmed electronically through Deriv/SERV,

market participants still bilaterally settle payments over the life of each contract in a fragmented and non-standardized manner. The Trade Information Warehouse automates and centralizes the most up-to-date information about a derivatives contract, and will link this data with CLS' electronic settlement process, so that payments will take place automatically, resulting in more efficient, accurate and complete payment processing.

Through CLS, warehouse customers will gain settlement certainty – all payment instructions generated by the warehouse and settled by CLS will be final and irrevocable in immediately available funds. The Deriv/SERV warehouse will receive real-time information on the status of all payment instructions that have been submitted to CLS Bank.

The Request for Proposal process began in September, and involved confidential discussions with a number of financial institutions. The decision was finalized by DTCC and its OTC Derivatives Operations and Planning Board Committee in December. DTCC and CLS are working to complete the necessary connectivity and development, as well as legal arrangements and necessary regulatory approval, required to deliver this seamless solution to the marketplace. A definitive timeframe for implementation of this new settlement capability will be announced in 2007. ■

2007 Will Be the Year of Automating Alternative Investment Products

Development of DTCC's platform for processing and settling alternative investment products (AIP) is proceeding on schedule, with a pilot group of firms poised to test the new service in February. The service is expected to launch in 2007, pending approval by the Securities and Exchange Commission.

"A standardized and automated service is key to supporting the continued and projected growth of this market segment," said Ann Bergin, DTCC managing director, Distribution Services. "Our service will be the first of its kind for this industry, and the pilot firms have worked closely with us to develop a standard operating model that reconciles varying practices in the market."

Among the pilot group are hedge funds, fund administrators and broker/dealers, which have been working with DTCC product managers and technology specialists to address the operational inefficiencies of AIP processing. These firms have been reviewing and refining business and technology specifications that would streamline the manual, error-prone processes and multiple systems that connect brokers/dealers and the funds or their administrators.

How it works now

Most AIP transactions are currently processed with hard copy documents, by fax, email, phone calls and manual entries on spreadsheets.

"With alternative investments, a manual entry is made when the funds are moved, say \$1 million to a hedge fund," explained David Hall, manager of client services, Man Investments, an investment management company specializing in AIPs that is a member of the pilot group. "A placeholder for that debit is noted in the brokerage account, but it may not be clear where the money went until the transaction is completed and confirmed."

This sort of paper-based matching and confirmation can take literally weeks to complete, a huge impediment given the size and complexity of these transactions. The lack of automation not only prolongs transaction processing, it also makes it difficult for participants to provide the level of detail that investors want in their brokerage statements.

"When you have information exchanged on an ad hoc basis between 30 different brokers in 30 different formats – even though this exchange occurs with a great deal of control and care – you have inordinate delays in reporting clients' positions and we aren't able to provide the level of detail they'd like," Hall noted. "There's a tangible benefit

to the client as well as the firm in developing a system that puts the clients' investment dollars to work more quickly through a structured, secure platform."

When you consider that a typical hedge fund investment may require 40 to 50 pages of paperwork – all of which is currently processed manually – DTCC's automated service could eliminate piles of paperwork as well as countless emails, faxes and phone calls exchanged by the trading parties.

"We are working together to develop a blueprint that helps us reduce risk and better manage a return for the client," said Kirk Strawn, director of intermediary sales, Man Investments. "With DTCC's network, and backing from all different points in the industry, it's clearly a win-win for all involved."

'Higher comfort level'

Some investment management firms say investors are directly impacted by the operational inefficiencies as well. "Sound investment opportunities are being missed because entry into this market is perceived to be too complex," Hall said. "Automation is key to making alternatives more acceptable to investors, who are put off by the lack of an easy-to-use investment tool."

Pilot committee members working with DTCC focused on critical functions for the initial scope of the project, including new account set-up, initial and subsequent subscriptions, redemptions/tender offers, exchanges, position and valuation reporting, distributions, account maintenance and commissions. The pilot firms also placed a priority on global capabilities, so the service is designed to accommodate global hedge fund investors who have a U.S. partner, and will include settlement reporting in other currencies.

Compliance benefits

Firms expect standardization and automation to enhance their compliance controls as well. "There is a perceived risk whenever you are using a manual process," said Brenda Fournier, vice president of compliance, Man Investments. "Regulatory concerns arise when there are challenges with providing an accurate record of a transaction. When you have an opportunity to improve the operational capabilities through a service like this, it clearly benefits our compliance efforts."

"There is a consensus among members of the committee that DTCC's AIP service will give everyone a higher comfort level," Strawn said. "Operations will be more open and uniform, and we're better positioned to better serve our clients, and ultimately, grow our client base. We're moving to a new level of sophistication and security, and that's a great step forward." ■

Without Greater Automation, the OTC Equity Derivatives Market Faces Increased Risk

Rapid growth in the global over-the-counter (OTC) equity derivatives market is being constrained by the absence of adequate infrastructure and automation, according to a report released by the Aite Group, an independent research and advisory firm focused on the impact of technology and regulation on the financial industry.

Called "Trends in OTC Equity Derivatives," the study was sponsored by DTCC and is one of the first to analyze forces shaping the OTC equity derivatives market and the challenges it faces in bringing greater efficiency to the marketplace.

The study reports that the extended length of time required to confirm OTC equity derivatives transactions is causing concerns among market participants and regulators in many countries, inhibiting market growth, increasing risk and increasing customer costs. Many of the

delays, which can last for weeks and even months, stem largely from the complex legal documentation required to complete a transaction.

Operational risk

Increased attention from regulators, such as the Federal Reserve Bank of New York and the U.K.'s Financial Services Authority (FSA), and the findings of this report, could bring greater focus among market participants to improve their operational practices. The current manually based, paper-intensive environment is fraught with excess operational risk for market participants, the Aite report notes. Other observations are that:

- About one trade in five is subject to some type of processing or trade capture error, based on figures provided by the International Swaps and Derivatives Association, Inc.;
- Because of these error rates, a large number of trades have to be rebooked. The need to rebook stems from improperly entered trades in a bank's or client's system. Rebooking becomes an issue since it means incorrect data have been entered into the trading, risk and accounting systems, and have yielded inaccurate risk and exposure profiles;
- As a conservative estimate, US\$400 billion in notional trade amounts initiated between June 2005 and June 2006 had some type of error or were rebooked.

Market growth

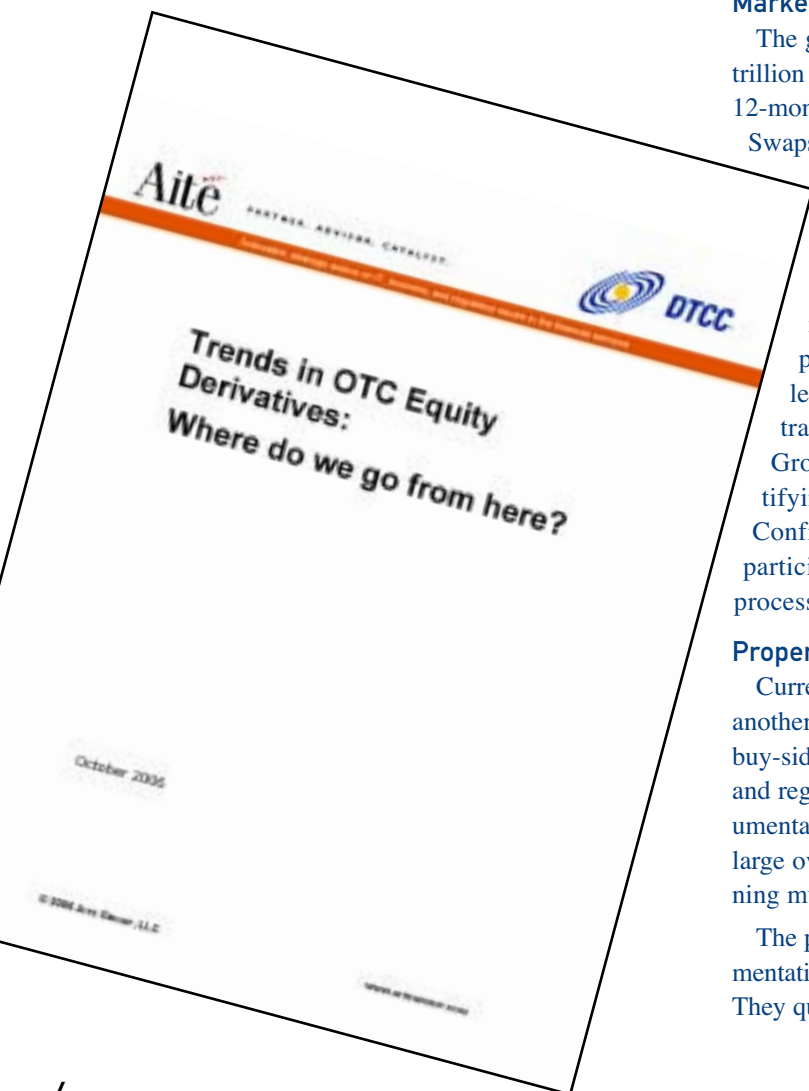
The global OTC equity derivatives market grew to \$6.4 trillion in notional value outstanding as of June 2006, a 12-month increase of 32%, according to the International Swaps and Derivatives Association, Inc. These products are actively traded in Europe, the Americas and Asia, with a wide range of market participants and a myriad of products existing in the market.

"The primary barriers we observed to increasing automation in the marketplace are the complexities that arise between trading firms in the legal documentation of OTC equity derivatives transactions," said Brad Bailey, senior analyst, Aite Group. "Understanding these complexities and identifying ways to simplify the execution of Master Confirmation Agreements (MCAs) between market participants would be an important first step to ease the processing issues in these products."

Proper documentation

Currently, not all dealers have signed MCAs with one another. In order to get the proper documentation to their buy-side clients, dealers need to establish which products and regions are important to each client and have that documentation in place as a starting point. In many cases, large overwhelming packets of legal documentation spanning multiple regions and products are sent to clients.

The potential combinations of product and regional documentation present a very cumbersome array of possibilities. They quickly add up to a significant universe of documents



from both a dealer's and a buy-side client's point of view. For instance, a typical, large buy-side firm with just five OTC equity derivative dealer relationships would be looking at about 80 possible combinations of product and regional legal documents.

A solution

The Aite Group study sees a solution probably evolving "around a unified set of documents that can be used across a wide range of geographical regions, products and clients."

"Because equity derivatives are a complex market, the documentation requires a great deal of attention," said Gina Ghent, DTCC vice president, Business Development.

"DTCC is working closely with market participants to facilitate the signing of MCAs between them as a way to help bring these firms into our automated environment. We have the capability to automate the broad and dynamic range of equity derivatives products, but without accelerating the pace of MCA execution, market automation will not occur as rapidly as it should."

DTCC provides automated processing for OTC equity, interest rates and credit derivatives through its Deriv/SERV matching and confirmation service. ■

[The complete report by the Aite Group is available for download at the DTCC Website at www.dtcc.com under "Thought Leadership" and "Industry Perspectives."]

Warehouse Goes Live

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In 2007, the warehouse will expand to support central payment calculation, and a central settlement capability through links with a central settlement provider to streamline payment settlement. Also in 2007, the warehouse will offer customers the flexibility of electronically reconciling ("tying out") complex or non-standard contracts that cannot be legally confirmed through Deriv/SERV, replacing the customary telephone-based approach.

The warehouse is designed with a flexible, but secure, open architecture capable of being extended and allowing other service providers to connect to the warehouse. As a result, the warehouse will be able to offer additional efficiencies in portfolio management, bilateral margining and other post-trade processes, both directly and through links with other providers.

"We developed the warehouse in close collaboration with leading dealers and buy-side firms over an aggressive 10-month timeframe," said Bill Hodgson, DTCC vice president, Business Development, who led development from London. "This has been a cross-border collaboration – from developing business requirements, to designing an operating model, to setting processing standards, to testing. We anticipate that a wide range of industry service

providers will be connecting to the warehouse and offering complementary services."

Background on the warehouse

DTCC announced in February 2006 its plans to build the warehouse. Since then, DTCC has been working aggressively with senior personnel from 19 leading global dealers and the buy-side community (including traditional asset managers and hedge funds) to develop this industry

infrastructure solution. The project is being overseen by a Senior Oversight Group, which was established by the OTC Derivatives Operations and Planning Committee of DTCC's Board to make implementation recommendations to the Board Committee.

Major credit derivatives dealers pledged their commitment to the warehouse project,

calling it "a material step forward in reducing operational risk and increasing operational efficiency in the credit derivatives market," in a letter to the Federal Reserve Bank of New York on March 10, 2006.

Financial regulators have also publicly stressed the importance of a global infrastructure for the credit derivatives market and the Trade Information Warehouse.

Testing of the warehouse's functionality began in September. In addition, backloading, which involves populating the warehouse database with trade data on existing contracts, has started and will continue through 2007. ■

The warehouse is designed with a flexible, but secure, open architecture capable of being extended and allowing other service providers to connect to the warehouse.

DTCC Hosts OTC Equity Derivatives Summits Connecting Buy- and Sell-Side Firms

More than 200 financial executives attended summits on OTC equity derivatives hosted by DTCC in New York and London this fall to discuss processing issues facing the derivatives community, and the challenges in streamlining and automating equity derivatives documentation.

“While the OTC equity derivatives market continues to grow in both volume and new participants, processing remains mostly manual. Dealers and buy-side firms have been looking for ways to bring greater efficiencies to their operational practices,” said Gina Ghent, DTCC vice president, Business Development.

One of the great problems facing market participants lies in the legal documentation – called Master Confirmation Agreements (MCAs) – required for equity derivative transactions. “The summits served as opportunities for DTCC to bring its knowledge and expertise to a broad audience hungry for information on dealing with legal documentation,” said Ghent. “And it also provided a forum for these parties to communicate and begin discussing MCA negotiation and execution.”

Global database

DTCC has also collaborated with market participants to create a global database that lists the various forms of MCAs and dealer contact information so that buy-side firms can analyze their documentation needs and contact relevant parties. Centralizing this information will greatly help buy-side customers simplify the steps needed to obtain the legal documents from each of their counterparties and expedite getting their MCAs in place.

“The sooner firms and their counterparties complete

their MCAs, the sooner they can begin processing trades on DTCC’s automated platform,” said Ghent. “This is truly an important first step in reducing the level of unconfirmed trades and errors that occur in the processing of OTC equity derivatives transactions.”

Processing platform

DTCC offers automated matching and confirmation for OTC equity derivatives on its Deriv/SERV platform. The service supports equity index and share options, swaps and variance swaps. The service also accommodates relevant lifecycle events, including new trades, full and partial terminations, increases, amendments and exits.

With the number of products offered in OTC equity derivatives continuing to expand worldwide, DTCC is working with the OTC derivatives community to add new products to the platform quarterly. This effort is aimed at ensuring customers are provided with a robust global platform that accommodates a wide range of products trading in the marketplace. ■



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The Depository Trust & Clearing Corporation

DTCC’s purpose is to help grow the world economy by furthering the development of low-cost, efficient capital.

Our mission is, by 2010, to be the acknowledged world-class provider of servicing solutions to financial markets through leadership, innovation, technology, risk management and strategic alliances.

DTCC’s derivatives services are offered through DTCC Deriv/SERV LLC.

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