DTCC

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THE FUTURE OF CLEARING: MITIGATING RISK AND ENHANCING EFFICIENCIES IN THE U.S. EQUITY AND FIXED INCOME MARKETS

A Clearance Services White Paper April 2014

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EXECUTIVE SUMMARY

In The Depository Trust & Clearing Corporation's (DTCC) Systemic Risk White Paper[1], President and Chief Executive Officer Michael Bodson noted, "While operational and counterparty risks still represent a major cause of concern for the industry, the reality is that systemic shocks have become *more* frequent, *more* severe and *more* difficult to anticipate." Industry leaders are no longer pondering "if" there will be another failure of the magnitude of Lehman Brothers (Lehman) or MF Global, but rather "when" it will occur and how significant the potential impact of such an event will be on the capital markets. It is therefore critical that DTCC's business strategies and project portfolios take these emerging risks into account and plan for them accordingly to support our ongoing commitment to maintain and strengthen DTCC's core services.

DTCC has begun developing a number of initiatives in 2014 aimed at reducing systemic risk for the capital markets, and reducing operational risk for the clients of its wholly owned subsidiaries, National Securities Clearing Corporation (NSCC) and Fixed Income Clearing Corporation (FICC).[2] Each of these initiatives is subject to further development and discussion with DTCC's clients and its regulators.

The significant benefits of having a central counterparty-based market infrastructure to contain and control systemic ramifications in times of market stress have been demonstrated in several real-world crises, including the Lehman insolvency. FICC's recent expansion of its membership types to include buy-side firms (specifically, registered investment companies), as well as its proposal to create the Centrally Cleared Institutional Tri-party service and the Mortgage Novation service, are examples of DTCC's strategy of reducing systemic risk by expanding the share of centrally cleared trade activity in the fixed-income markets. Similarly, the proposed Institutional Delivery (ID) Clearing process would broaden the scope of the obligations cleared and settled through NSCC's Continuous Net Settlement system, and therefore provide counterparty risk mitigation between the sell-side and buy-side that does not exist today. Further, DTCC Limit Monitoring, to be implemented in April 2014, will provide a new tool for NSCC's clients to monitor systemic risk by incorporating DTCC's uniquely broad view of trading activity into a robust post-trade control. The proposed Automated Customer Account Transfer Service (ACATS) redesign would address both systemic and operational risk issues, by enhancing the ACATS system so it can provide a customer account transfer facility through the stressful market conditions of a broker-dealer default.

FICC's proposal to cross-margin between GSD and MBSD will further help reduce systemic risk by looking at members' exposures more holistically and accurately - thus improving liquidity and providing risk management enhancements that are particularly crucial in stressed market conditions. Additionally, these initiatives have the potential to provide significant operational risk benefits to the clients of FICC, thus further mitigating systemic risk.

A number of these initiatives – the Institutional Delivery (ID) Clearing, 'pre-settlement' of obligations, expanding GSD membership to the Buy-side, and cross-margining between MBSD and GSD – also have the potential to offer increased capital efficiency for clients. These initiatives are being discussed and developed in collaboration with our clients and regulators, incorporating their comments and addressing their concerns wherever possible, and could be subject to regulatory approval, where necessary.

The following is a summary of priority initiatives for DTCC's Clearing business in 2014:

National Securities Clearing Corporation (NSCC):

The proposed Institutional Delivery (ID) Clearing would improve clients' capital efficiency by increasing the number of ID trades that are eligible for processing through NSCC's Continuous Net Settlement system (CNS). The design would include a fund, contributed to by broker-dealers, which mitigates NSCC's market risk should an institution fail to settle an obligation in a broker-dealer default.

The proposed Automated Customer Account Transfer Service (ACATS) redesign would enhance existing functionality to facilitate the transfer of both individual accounts and bulk transfers away from a firm that is in distress or after it has defaulted. The redesign will also complete a multi-year initiative to track the settlement of ACATS obligations, and reverse only uncompleted obligations in the event of a broker-dealer default.

[1] This white paper may be found on DTCC's corporate website using the following link: http://www.dtcc.com/~/media/Files/Downloads/WhitePapers/Beyond_the_Horizon_White_Paper_Systemic_Risk.ashx
[2] The Fixed Income Clearing Corporation consists of the Mortgage-Backed Securities Division ("MBSD") and the Government Securities Division ("GSD").

DTCC Limit Monitoring, to be implemented in April 2014, will provide post-trade controls to NSCC member broker-dealers, which will alert these clients to potentially unusual trading activity based on pre-set trading limits for their customers and their own trading desks. Given the technology glitches that have impacted the financial markets in recent years, and the increasing complexity in securities trading, this new level of risk control is expected to further support the stability of the U.S. capital markets.

The proposed pre-settlement of obligations proposal would grant customer protection by allowing customers to prefund their settlement obligations with money funds or securities directly with NSCC and secure the settlement of a trade. For NSCC members executing the trade on behalf of the customer, the trades could potentially be eliminated from the risk management calculation and reduce the margin NSCC would need to collect from members.

Fixed Income Clearing Corporation (FICC):

The proposed Cross-Margining Between MBSD and GSD will potentially reduce members' overall margin requirements by allowing margin credits stemming from activity in MBSD to offset margin debits resulting from their Government securities activity, and vice versa. In addition, cross-margining will allow for a more accurate assessment of the members' overall risk by looking at a combined portfolio of MBSD and GSD activity.

Expanding GSD's Membership to Include Buy-Side Entities allows Registered Investment Companies (RICs) to become netting members of GSD. This is an important step toward bringing buy-side activity into netting and settlement services for Government securities. By including the activity of buy-side members, a dealer member's institutional activity is appropriately offset thus reducing the member's overall securities position subject to margin.

The proposed Centrally Cleared Institutional Tri-Party service will provide for a new membership category for RICs, who will act as the cash lender in tri-party repo transactions with GSD members. This would extend the benefits and efficiencies afforded by GSD's central counterparty services to RICs for these transaction types.

The proposed Mortgage Novation service for MBSD will extend central counterparty efficiencies introduced with Pool Netting. In addition to novating trades at the point when they are matched and guaranteed, FICC is proposing to expand its central counterparty services to encompass more trade types. This means that FICC would become central counterparty of all matched trades, whereby each member's trade allocations and settlements would occur versus FICC, including the settlement of transactions that are not currently Pool Netting eligible (such as Specified Pool Trades and trades with stipulations). As a result, member submission of Notifications of Settlement (NOS) would no longer be required.*

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**This paper provides a more detailed description for each of the projects briefly introduced above. The collective benefits of the projects are then delineated, followed by the timeline for each initiative. Unless otherwise stated each of the proposals remain subject to the approval of the U.S. Securities and Exchange Commission.*

PROJECT DESCRIPTION BY PRODUCT

NSCC:

Increased Risk Management and Efficiency for Institutional Clearance and Settlement: Proposed ID Clearing

NSCC provides its members with a central counterparty guaranty for transactions between sell-side broker-dealers, which predominantly clear and settle in NSCC's Continuous Net Settlement system (CNS). When broker-dealers act on behalf of their institutional buy-side clients, they not only clear and settle the guaranteed dealer-side of the transaction, but they are also required to clear and settle the offsetting buy-side obligation for the transaction.

The differences in processing sell-side versus buy-side trades produce daily inefficiencies for broker-dealers. These differences become even more pronounced should a sell-side broker-dealer default. While guaranteed CNS obligations would continue to settle versus NSCC, buy-side broker-to-custodian bank obligations have no guarantee of settlement. The proposed Institutional Delivery (ID) Clearing process would integrate buy-side obligations into CNS processing, which would improve NSCC's ability to settle obligations between the buy-side and the sell-side, addressing both the operational inefficiencies and the risk management challenges in the processing of these types of transactions.

Because ID Clearing would provide NSCC with the ability to collect margin from members daily, NSCC can step in and complete ID obligations in the event of a broker-dealer default. This initiative could also expand NSCC's role in the event of a broker-dealer default, by permitting NSCC to settle institutional deliveries and receives of a defaulted broker in the same way it currently guarantees sell-side receive and deliver obligations.

For example, in current processing, Broker A receives a sell order from a buy-side investment manager. As agent, Broker A sells the stock in the market to Broker B. Broker A must book two obligations: its receive from the buy-side, and its deliver to Broker B. The table below illustrates this example.

	CNS Activity	DTC Activity	
Broker A	delivers 100 shares to CNS	receives 100 shares from buy-side	*1st obligation*
Broker B	receives 100 shares from CNS		*2nd obligation*

The broker receives shares at DTC and delivers shares to CNS as two transactions in two different systems.

The example below illustrates the proposed ID Clearing process, using the same brokers, A and B, as in the example above. In contrast to the example above, instead of receiving shares from the buy-side through DTC, Broker A will receive shares from the buy-side in CNS, through an omnibus DTC account.

	CNS Activity
Omnibus account	receives 100 shares from buy-side/delivers 100 shares to CNS
Broker A	has no obligation in CNS (its buy-side and sell-side obligations net to zero)
Broker B	receives 100 shares from CNS

All of this activity would take place in CNS, and Broker A could gain operational efficiencies because it will not have to enter transactions into CNS or DTC.

In addition to increasing operational efficiency, the development of the ID Clearing process could address the counterparty risk of sell-side-to-buy-side trades which are not currently margined by NSCC.

This solution would improve NSCC's ability to settle obligations between the buy-side and the sell-side by creating a consistent operational process that would not change in the event of a broker-dealer default. In the event that NSCC ceases to act for a broker-dealer, counterparties would not need to take market action to settle the eligible obligations as they do currently; instead they would settle the obligations with NSCC. The reduced need for market action in potentially turbulent market conditions would greatly mitigate risk for the buy-side institutions and the end investors, such as pension funds and mutual funds.

Proposed ACATS Redesign

ACATS enables the automated transfers of customer accounts from one broker-dealer to another in compliance with related Financial Industry Regulatory Authority (FINRA) rules. DTCC has launched a multi-year, phased effort to redesign ACATS functionality, increasing the scope of the system, particularly in the event of a broker default.

An important part of existing ACATS functionality includes incentive charges. These charges are settlement debits which may be incurred by a firm during the transfer of customer assets through the system. These debits are, in turn, credited to the receiver of the customer assets, so that the receiver can book the entire customer account to its systems regardless of whether the underlying assets are actually received.

ACATS transfers can play a role in efficiently moving customer assets away from a broker leading up to default, when it could be particularly challenging to ensure that as many customer assets as possible are able to be transferred away from the defaulting firm.

The first phase of the ACATS redesign comprises three proposed changes to the system that could improve how it may contribute to customer protection and risk mitigation in the event of a broker default. The first proposed change would expand ACATS functionality to facilitate the bulk movement of multiple customer accounts from a firm as part of day-to-day processing and when a firm is in distress or has defaulted. This proposal is subject to further discussion and development in collaboration with NSCC's clients and regulators. If an appropriate solution is developed, DTCC will work with the industry to see how the system could support bulk transfers, allowing as many customers as possible to leave a broker-dealer in distress, or a broker-dealer that has defaulted.

The second proposed change would support the transfer of individual customer accounts when a firm is in distress or after a firm has defaulted. ACATS has functionality to support the transfer of assets between a broker and a bank. These transfers of assets between a broker and a bank do not incur incentive charges. The new proposed functionality, based on the broker-bank transfer design, would facilitate broker-to-broker account transfers, free of incentive charges, away from a defaulted broker. If an appropriate solution is developed, this approach would allow brokers to benefit from using ACATS to communicate details about transferring customers and their accounts away from a distressed or defaulted firm, while not placing the financial burden of incentive charges on the distressed or defaulted firm.

The third change will complete the work DTCC has undertaken since 2008, in cooperation with the industry, to track the settlement of ACATS obligations. Currently, ACATS tracks the settlement of transfer obligations of CNS-eligible securities, and mutual funds eligible for settlement through the interface between ACATS and NSCC's Fund/SERV system. In May 2014, DTCC will implement changes that will enable ACATS to track the settlement of obligations in securities eligible for settlement at DTC, but not CNS. The next phase of the ACATS redesign will create a solution for the tracking and reversal of the remaining securities transferred through ACATS – those securities which are not eligible for processing through CNS, DTC, or the ACATS-Fund/SERV interface.

DTCC Limit Monitoring

The universe of securities trading, which has grown more complex over the past two decades, today requires new, targeted risk controls. In response to the risks inherent in the market's faster speeds and technological innovations, DTCC developed, in collaboration with the industry, a tool to help manage these risks: DTCC Limit Monitoring.

In September 2012, self-regulatory organizations (SROs), broker-dealers, buy-side firms, and clearing organizations formed an industry working group to discuss and address technology issues that could potentially trigger unintended market activity. The working group concluded that supplemental controls, in both the exchange and the post-trade environments, could further mitigate the risks associated with technology problems that are not caught by broker-dealers' risk management systems. The working group's aim was to construct complementary tools to existing controls to catch potentially extreme events or errors and prevent market disruption. In the end, the group determined a multi-layered approach with coordinated risk checks was extremely critical. As a cross-market clearing agency for the U.S. equity markets, NSCC is well positioned to provide post-trade controls as a second line of defense to pre-trade and exchange level controls.

DTCC Limit Monitoring will provide post-trade controls to NSCC member broker-dealers, for all broker-to-broker trading cleared from exchanges, Electronic Trading Systems, dark pools, and other liquidity destinations in the U.S., including Real-Time Trade Matching (RTTM®) trades. DTCC Limit Monitoring will provide the industry with controls that would supplement their internal risk management controls, to manage the risk incurred from trading in today's complex and highly automated markets.

NSCC's Universal Trade Capture (UTC) platform – a service that streamlines the way U.S. equity trade data is captured and distributed throughout the clearance process – will feed broker-to-broker trades to DTCC Limit Monitoring. NSCC members, that are either required or elect to use the service under NSCC's Rules, will input trading alert criteria, defining limits based on the net-notional value for trading activity of their clients (correspondent accounts), activity processed from established special representative relationships, and activity for their own accounts. If trading activity exceeds the pre-set early warning levels or established trading limits, DTCC Limit Monitoring will generate and deliver a warning or breach message to the NSCC member. If an entity exceeds the pre-set limits established by the clearing firm, it will not result in NSCC rejecting more trades for that client. The clearing firm is required to review the alert information provided by DTCC Limit Monitoring along with other information available to the client to appropriately manage the associated risk and determine a course of action.

Pre-Settlement of Obligations Proposal

DTCC is proposing to enhance CNS processing to use the existing CNS Fully-Paid-For-Account in new ways.

Currently, the Fully-Paid-For-Account is used when a broker borrows shares from a customer to satisfy an institutional delivery. A broker-dealer that has a pending receive obligation from CNS and, at the same time, has an institutional delivery obligation at DTC, can borrow shares from a segregated customer position to deliver shares to the institution. The broker-dealer gets the benefit of using the customer shares to settle an institutional delivery that would otherwise fail, and uses the subsequent delivery from CNS to make the customer's position whole again. However, if CNS fails to deliver the shares to the broker-dealer on the same day as the institutional delivery is made, the broker-dealer should set aside the value of that position in a secure location while it is awaiting delivery. This can be achieved by prepaying the value of the failing position in the CNS Fully-Paid-For-Account.

Pending further development and subject to regulatory approvals, this initiative is proposed to be rolled out in two phases:

Phase 1 would expand NSCC's Rules to allow a broker-dealer to use the Fully-Paid-For-Account to prepay a failing position and meet regulatory segregation requirements.

Phase 2 would allow broker-dealers to pay for an obligation before settlement – in effect, to "pre-settle" the obligation.

Phase 1 implementation would not modify the operational process around the use of the Fully-Paid-For-Account: instead, its goal would be to remove the limitation that restricts the use of the account to satisfy institutional deliveries made with borrowed shares. Upon the implementation of Phase 1, the Fully-Paid-For-Account could be used for any Fully-Paid-For failing position. Because the proposed changes would be Rules-based only, there would be no required technology modifications to

CNS input and output; however, changes to the NSCC members' internal systems could be needed. Additionally, NSCC is seeking to extend the existing Securities and Exchange Commission No-Action letters to support this new use of the account.[3]

Proposed Phase 2 would allow broker-dealers to pay for an obligation before settlement – in effect, to "pre-settle" the obligation. In Phase 2, building on the foundation expected in Phase 1, NSCC could collect securities before settlement of a broker-dealer's CNS receive or deliver obligations, further reducing risk for NSCC and the industry. While the proposed Phase 1 implementation would allow NSCC to collect money to settle a broker's failed CNS receive obligations, in the proposed Phase 2 implementation, NSCC would not only collect money to settle a broker's CNS receive obligations, but would also collect securities to settle a broker's CNS deliver obligations. In addition, the scope of the processing would expand beyond obligations that fail after settlement, and would allow broker-dealers to put up customer securities before settlement.

FICC:

Proposed Cross-Margining Between MBSD and GSD

Subject to the approval of the SEC, FICC intends to introduce a new Value-at-Risk (VaR) model to move from a full-revaluation model to a margin approach that is based on a portfolio's risk sensitivities (i.e., the impact of changes in interest rates and other key risk factors on the market value of the portfolio). This will provide more transparency into our margin methodology and reduce our bespoke model library maintenance costs. This project is an essential first step in harmonizing margin processes between MBSD and GSD and paves the way for offering cross margining between these two divisions of FICC. This new approach to margin calculation is aimed at improving the performance of FICC's VaR model, especially in times of heightened volatility.

The new, sensitivity-based VaR approach will replace FICC's current VaR model to provide a more robust tool for managing the market risk of members' portfolios. Impact studies will be performed to determine how members' margin requirements will be affected by the VaR changes, and specific details will be communicated to each member individually to assist them in planning for implementation of the new calculations. This proposal is subject to the approval of the SEC.

In addition to implementing the VaR change, FICC will work to harmonize the margining processes of GSD and MBSD so that the portfolios of joint members can be viewed in tandem. As part of the harmonization process, MBSD will perform a twice-daily Clearing Fund requirement and collection, and will explore options to move the mark-to-market component of the Clearing Fund to a twice-daily cash pass-through in funds-only settlement, similar to the current GSD processes.

Once harmonization of the margining processes is completed, cross-margining between GSD and MBSD can be implemented. This will allow common members (and some of their affiliates) of GSD and MBSD to have their margin requirements calculated on a consolidated basis by taking into consideration the net risk of eligible positions at both divisions. This has the potential to lower a member's overall margin requirements since risk associated with GSD positions may effectively offset risk associated with positions in MBSD, and vice versa.

FICC will provide all members with firm-specific details on the expected impact of the proposed Clearing Fund modification, as well as initiate extensive outreach to its Membership to ensure adequate understanding of the changes.

The Expansion of GSD Membership to the Buy-Side

Historically, GSD has served the sell-side community, which consists primarily of broker-dealers and bank members. Enabling buy-side firms to become members of GSD will foster greater safety, efficiency, and transparency in the U.S. Government securities market by capturing a larger portion of activity from both current and new members. In January, 2014, the SEC approved FICC's rule filing to allow RICs to become Tier Two Netting Members by establishing a $100 million minimum financial requirement in net asset value for RICs. FICC believes that the participation of RICs as guaranteed service members will contribute to the safety, efficiency and transparency of the market. FICC also believes that RICs will benefit from

[3] In two letters received from the SEC on September 3, 1981 and on May 10, 1984, the SEC undertook the position that as long as a broker conformed to the conditions represented in those letters, it may treat securities due from NSCC in the long free account as if in its possession or control for a period not exceeding 14 calendar days from the initial establishment of the long free account.

the GSD netting service and the associated operational benefits of a central counterparty service, such as risk reduction and decreased processing costs.

Capturing sell-side members' activity transacted with the buy-side provides the clearing corporation with a more accurate picture of each member's total trade portfolio and associated risk. For example, today, if a current (sell-side) member buys securities from another (sell-side) member and subsequently sells those securities to a buy-side entity (such as a mutual fund), only the purchase of securities is captured by GSD and included in margin calculations. If the sale to the buy-side entity were also captured, the margin of the sell-side member could potentially be reduced since its buy activity might be fully or partially offset by the newly captured sell activity to the buy-side members. The original rule filing does not cover the participation of RICs in Centrally Cleared Institutional Tri-Party services. This will be covered by the initiative described below.

Proposed Centrally Cleared Institutional Tri-Party Service

Subject to the SEC's approval, the Centrally Cleared Institutional Tri-Party service will allow RICs to submit their cash lending tri-party repurchase agreements executed with GSD members to the FICC for central clearing and guaranteed settlement. In connection with this proposal, FICC will establish a new limited service membership category for the RICs who choose to participate in this service. This new membership category will be separate from the existing GSD membership category for the RICs for Delivery versus Payment (DVP) transactions (described above in the section on "The Expansion of GSD Membership to the Buy-Side"). RICs that meet the GSD's membership requirements could elect to enroll in either or both of these membership categories.

The estimated daily average value of tri-party repo transactions is approximately $1.7 trillion, and the majority of these repo transactions are collateralized with Fed-eligible securities. Considering the significant value of tri-party repo transactions, the operational and risk management benefits afforded by including these transactions in GSD's central counterparty services would be considerable. In addition to enhancing the safety, efficiency and transparency of the repo market, the service could provide a wider and more comprehensive view of the repo market to the regulators for risk monitoring and risk management purposes. Further, the centralized liquidation of a failed counterparty would reduce the potential for market disruption and fire-sale risk.

The proposed new membership type for the RICs to participate in the Centrally Cleared Institutional Tri-Party service would: 1) limit service eligibility to only those tri-party repo transactions where the RIC is the cash lender; 2) establish a new margining procedure for RICs who join GSD as a cash lender; 3) require the RICs to establish a tri-party account at each clearing bank, which would allow FICC to settle at the clearing bank of the cash borrower; and 4) include a new rules-based solution to mitigate the GSD's increased need for liquidity in the event of a member default (whereby RICs as cash lenders would provide temporary liquidity to FICC in the amount of their outstanding tri-party trades with an insolvent FICC member, in addition to all other existing liquidity solutions).

Proposed Mortgage Novation Service

The Mortgage Novation service is the final phase of FICC's efforts to develop a full central counterparty netting and novation model for its mortgage-backed securities trade management services. It expands and extends the services that were rolled out by Pool Netting in April, 2012, which allowed MBS members to net their eligible pool allocations that had the same pool number, contractual settlement date and delivery date versus FICC as central counterparty for subsequent settlement.

With the implementation of the Mortgage Novation service, trade novation will occur at the time of trade match, in contrast to today's process where only settlement obligations stemming from Pool Netting are novated. This means that all subsequent netting, allocation and settlement will be made versus FICC as central counterparty. The service will also extend novation, clearance and settlement services to include additional trade types, including trades carrying stipulations (referred to as "stip trades"). It will additionally allow members to match Specified Pool Trades (SPTs) based on pool number/CUSIP number without the member's reference to a TBA CUSIP. FICC will perform the appropriate pool number to TBA CUSIP mapping.

Plans for the Mortgage Novation service were delineated in the MBSD Mortgage Novation Service Description issued in July, 2011 (as well as its predecessor white paper entitled "Service Description for Central Counterparty for Mortgage Backed Securities – The Next Steps" issued in February 2009)[4]. These initial service plans were predicated upon running a daily TBA net of all compared, novated trades and included extensive messaging and processing changes.

Daily TBA Netting was vetted extensively with our membership and, while it was recognized that it could be of value to our members and the industry, it would also introduce a number of operational burdens that could erode service benefits. The service was subsequently restructured to achieve maximum benefits without requiring the extensive processing changes necessitated by daily netting, such as requiring members to cancel and rebook their outstanding activity on a daily basis and for FICC to reconfigure its messaging specifications entirely. In addition, other service components included in the original project not directly related to novation were removed from the project to keep the scope tight and in focus. (For example, fail netting at both the TBA and pool level were eliminated from the project scope, as was the ability to process activity in securities that are not correlated to TBA CUSIPs.) By streamlining the initiative, the redesigned Mortgage Novation project maximizes member benefits while simultaneously reducing their development efforts.

The Mortgage Novation service will preserve many of the current MBSD processes. Bilateral trade matching of dealer-to-dealer and broker-to-dealer submissions will still be required and will be the first step in the overall trade processing lifecycle. Upon matching, trades will continue to be guaranteed as they are today, but they will be simultaneously novated, where FICC will become central counterparty to all matched trades.

Matching services for Trade-for-Trade (TFTD) trades (i.e., trades that are not designated for TBA Netting) will be expanded to include matching and novation of Specified Pool Trades (SPTs) as well as Trade-For-Trade trades executed with stipulations (STIPs). With respect to SPTs, members will have the ability to submit pool numbers on their trades without submitting the TBA CUSIP to which the pool number maps (i.e. the system will correlate that pool number to the associated TBA CUSIP). For trades with stipulations, members will have the ability to match and novate trades executed with stipulations attached, such as variance stipulations or stipulations that designate the acceptable number of pools that may be submitted per million.

Matched trades designated for TBA Netting will continue to be netted on the SIFMA-designated netting day corresponding to the underlying security class (A, B, C or D). Since novation occurs upon match, once trades are netted, rather than being reported to members as Settlement Balance Orders facing their Original (SBOO) or Non-original (SBON) counterparties, they will become Settlement Balance Orders facing FICC (SBOF) as the central counterparty. Partially Matched (PMAT) trades (where only one side of a broker-submitted trade is matched) will not be eligible for TBA netting but will be risk-managed and guaranteed.

On pool notification day and beyond, members would either use the existing Electronic Pool Notification (EPN) system to allocate their TBA trades versus FICC as the central counterparty or would have the option of excluding trades from the allocation process by submitting a Do Not Allocate (DNA) request. By placing a DNA request on a trade, the member indicates its preference to have the trade be paired off rather than requiring that pools be allocated to the trade.

When a seller allocates a trade versus FICC as the central counterparty, the system will immediately turn that allocation to a member on the other side of the trade (i.e., a buyer). Simultaneously, the allocations will be fed automatically from EPN to the Pool Netting service for netting and settlement versus FICC. Since allocations will be submitted into Pool Netting directly from EPN, the need for members to submit pool data into the RTTM® service in order to have their pools netted and settled versus FICC will become optional. That is, if a member takes no additional action after allocating pools to trades via EPN, those allocations would still be netted and settled versus FICC as the central counterparty. All trades will settle versus FICC on a delivery versus payment basis, allowing for complete retirement of NOS.

The Mortgage Novation service will represent a significant change to the daily operations of the mortgage-backed securities market. Consequently, FICC will activate Mortgage Novation on a CUSIP-by-CUSIP basis so that services will be introduced to members incrementally. The service will, however, be rolled out to all clients at the same time. This project will entail substantial updates to the MBSD Clearing Rules and will require regulatory approval.

[4] This white paper is available on DTCC's corporate website at www.dtcc.com.

HOW THESE SERVICES SUPPORT STRATEGIC GOALS

NSCC:

Increased Risk Management

By using UTC data, DTCC Limit Monitoring provides a broad scope of the trade data. This broad scope provides DTCC clients with a powerful new risk management tool.

Operational Benefits to Clients

In the proposed ID Clearing design, if NSCC incorporates sell-side to buy-side obligations into CNS, clients would gain operational benefits because they would process their affirmed buy-side trades in the same way as they process their sell-side trades. From a client's perspective, ID obligations would net with sell-side executions in CNS, and clients would benefit from the efficiencies of CNS netting. If NSCC enhances the usage of the Fully-Paid-For-Account, the proposal would increase the efficiency of the existing process. The proposed expansion of ACATS to support transfers from a defaulting broker would bring new activity into ACATS that does not use the system today.

Protecting in the Event of a Default

In the event that NSCC ceases to act for a broker-dealer, the proposed ID Clearing process could support the continued settlement of that broker-dealer's institutional obligations. NSCC's consistent presence in the process could minimize market disruption during potentially tumultuous conditions. The proposed redesigned ACATS could, subject to further development and regulatory approval, help facilitate client account transfers in the event of a default by offering operational standards during a stressful time, and increasing protection of customer assets.

Liquidity Benefits

The ID Clearing process could reduce the NSCC liquidity exposure by providing a mechanism which will support timely delivery of affirmed trades to/from NSCC to the buy-side members in the event of a member insolvency. This integration of buy-side obligations into CNS processing could also reduce the amount of market action that NSCC would need to perform to complete settlement on behalf of its defaulted member.

Capital Benefits to Clients

In the proposed ID Clearing design, the combination of a broker's Clearing Fund calculation and ID Clearing contribution would reflect both its CNS obligations and obligations processed via the proposed ID Clearing service. Further, in the proposed design, all affirmed trades will be eligible, increasing the potential number of obligations which could produce a credit in the broker's Clearing Fund and ID Clearing contribution calculation. The "pre-settlement" of obligations planned for phase 2 of the Fully-Paid-For initiative would allow broker-dealers to use their capital more effectively. Expanding ACATS to be more effective in a broker default could reduce the capital constraints placed on a firm in distress as a result of their ACATS deliveries.

FICC:

Benefits from Increased Risk Management

The initiatives referenced herein were designed to further bolster FICC's systemic and operational risk management capabilities. The MBS Novation, GSD buy-side expansion and Centrally Cleared Institutional Tri-Party projects increase the number of trades included in guaranteed net settlement services offered by FICC thus extending risk management benefits to more trade types in the fixed income marketplace. Mortgage Novation will also extend settlement guarantee and novation services to include trades executed with stipulations. GSD buy-side expansion will extend Government securities services offered by FICC to this important market segment, improving daily risk management by capturing a larger portion of activity from both current and new members and reducing counterparty risk through guaranteed buy-side trade settlement with FICC as the central counterparty. The Centrally Cleared Institutional Tri-Party service will further expand the scope of GSD's central counterparty services by making additional activity eligible for netting and guaranteed settlement.

Benefits During a Member Default

Central counterparty services mitigate systemic risk in the event of a member default. By novating all matched trades in mortgage-backed securities, the MBS Novation service bolsters central counterparty services and extends the reach of risk mitigation processes. In addition, through the expansion of central counterparty services to new transaction types, such as buy-side and tri-party activity, FICC would further centralize and simplify the liquidation of a failed counterparty, reducing the potential for market disruption. For the Centrally Cleared Institutional Tri-Party service, the centralized liquidation of a failed counterparty would reduce the potential for market disruption and fire-sale.

Broaden the Client Base with Access to Clearing Services/Expand Membership

The GSD Buy-side Expansion and the Centrally Cleared Institutional Tri-Party projects will extend the benefits of FICC membership and central counterparty services to important market segments. These projects will not only expand membership and extend FICC's benefits to critical market participants that were previously not eligible for services, but they will also provide a more accurate picture of our current sell-side members' total trade portfolios and associated risk by capturing their activity executed with the buy-side.

Capital Efficiencies to Clients

FICC VaR changes and cross margining will enhance the capital efficiency of joint members of GSD and MBSD by taking into consideration the net risk of eligible positions at both Divisions, potentially reducing the member's overall margin requirements and freeing up member capital.

The member expansion to the buy-side and the Centrally Cleared Institutional Tri-Party service will promote a more efficient use of capital/collateral as FICC, as central counterparty, would have a more complete view of the actual risk the members have in each asset class. The services have the potential to provide additional balance sheet offset to dealer members through the incremental volume of transactions being netted, novated and settled through FICC.

Operational Benefits

MBS Novation provides a number of operational benefits to members. On the execution side, the service eliminates the need for broker Give-Up (GUP) processing, and therefore streamlines processing. Matching services are being expanded to establish a trade-for-trade matching service for trades carrying stipulations (stip trades) and the Specified Pool Trade (SPT) service will allow members to match SPTs based on pool number/CUSIP without submitting the corresponding TBA CUSIP.

MBS Novation streamlines the allocation and settlement processes, since novated trades are allocated and settled versus FICC. Settlement versus FICC as central counterparty also obviates the need for members to submit Notifications of Settlement (NOS), simplifying post-settlement processing.

GSD buy-side expansion also imparts a number of operational benefits to members. These include increased operational netting benefits (since both sides of the trade will net), potential balance sheet offset with regard to repo transactions, automated coupon tracking and a reduction in manual TMPG processing for trades currently being done outside of the clearing corporation. In addition, the service will provide a complete audit trail of submitted activity and automated reporting.

The Centrally Cleared Institutional Tri-Party service will result in a decrease in transaction settlements and their attendant operational requirements and risks, as more transactions for a greater number of industry participants would be subject to netting, novation and guaranteed settlement with independent risk management.

STATUS OF THE INITIATIVES

NSCC:

ID Clearing: Quantitative analysis is ongoing. The Industry Steering Committee meetings are expected to begin in Q2 2014. Subject to further development, and required regulatory approvals, implementation could occur in Q4 2015.

Pre-settlement of Obligations: Subject to further development and regulatory approvals, Phase 1 implementation of the Fully-Paid-For-Account project is scheduled for Q3 2014. Phase 2 implementation remains subject to further discussions, and an implementation will be determined at a later date.

DTCC Limit Monitoring: DTCC Limit Monitoring front end was made available to clients in late 2013 to begin establishing their risk entities and associated net notional trading limits. Regulatory approval was received on February 28, 2014, and DTCC will implement the tool in April 2014.

ACATS Redesign: Industry Steering Committee meetings are expected to begin Q2 2014 for Phase 1.

FICC:

Cross Margining between MBSD and GSD: This initiative will be rolled out in several phases that require regulatory input, and will be subject to formal approval by the SEC. Quantitative analysis is ongoing and technology impacts/availability, as well as regulatory reviews, may alter the implementation schedule. Under the current plan, the new VaR Model for MBSD is expected to be introduced in the first quarter of 2015. A proposal to harmonize the Clearing Fund methodology between MBSD and GSD and a plan to introduce Cross Margining between these two divisions of FICC is expected in 2015.

Expansion of GSD Membership to the Buy-side: The rule filing for the expansion of GSD Membership was approved in January, 2014, allowing for RICs to gain access to GSD DVP services.

Centrally Cleared Institutional Tri-Party service: GSD is currently working with industry participants and the regulators to delineate the proposed service. The rule filing is expected to be submitted to the SEC by Q3 2014.

Mortgage Novation: Due to the widespread and far-reaching changes that will be introduced with Mortgage Novation, testing efforts, within FICC as well as externally with the clients, will be extensive in both scope and duration. Internal testing is scheduled to begin in 2015 and will extend into 2016; client testing would therefore start in 2016, with service implementation to follow.

CONCLUSION

For more than 35 years, DTCC's family of companies has helped automate, centralize, standardize, and streamline processes that are critical to the safety and soundness of the capital markets. The role DTCC plays in the industry is critical now more than ever, as risks continue to grow more complex, and the regulatory landscape continues to change. In navigating this new environment, the financial markets are increasingly looking at the infrastructure, and the purpose it can serve in helping firms manage the new regulatory landscape and the benefits it can deliver in risk mitigation, cost savings and capital optimization. In selecting and prioritizing the projects of its Equity and Fixed Income Clearing divisions, DTCC focused on ways to further mitigate systemic and operational risk, both in daily processing as well as in times of increased market stress. The 2014 projects described in this paper are being designed to reinforce these mission-critical objectives while providing greater value and enhancing processing efficiencies for our members.

As always, DTCC is interested in hearing from its members and other industry participants on the services we are developing. Any comments should be directed to:

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* This paper (the "Paper") is provided for informational purposes only. Certain processes and services referenced in this Paper are subject to the approval of the U.S. Securities and Exchange Commission. This Paper should not be regarded as a definitive or exhaustive description nor should it be regarded as a substitute for each of the GSD, MBSD and NSCC Rules (collectively, the "Rules"), which govern in all respects, the relationship between FICC/GSD, FICC/MBSD and NSCC, and their members, respectively. In all cases, members and prospective members should refer to the Rules for a complete statement of procedures, obligations, and requirements. This Paper shall not be deemed to impose any obligations on either FICC or NSCC that are not set forth in the Rules, and in the case of any discrepancy between this Paper and the Rules, the Rules shall govern. This Paper may be amended at any time without prior notice.