

# STP for Institutional Settlement

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## Executive Summary

As a significant step toward providing a straight-through processing (“STP”) solution for the institutional marketplace, the Fixed Income Clearing Corporation (“FICC”), a subsidiary of the Depository Trust and Clearing Corporation (“DTCC”), has prepared this white paper outlining potential solutions predicated upon the Government securities processing model. While this paper focuses almost exclusively on the Government securities model (for ease of presentation), it describes a new paradigm that could ultimately evolve into a comprehensive settlement model suitable for all security types (other fixed income products, equities, etc.). In moving forward to expand this model to encompass the unique requirements of other security types, a joint working group of The Bond Market Association (“TBMA”) and DTCC/FICC will be formed. To facilitate the development of the Government securities component of the project, FICC will establish two working groups, an Operations Working Group and a Risk Management Working Group.

The objectives for the first phase of this project (i.e., the Government securities phase) are two-fold: 1) to delineate a strategy for incorporating the majority of the dealers’ sides of institutional trades into the clearing corporation’s existing net settlement process; and 2) to leverage existing and proposed industry processing models to facilitate STP on behalf of institutions. In addition, in developing services to achieve these goals, FICC has tried to conceive solutions that provide maximum flexibility and freedom of choice to the dealer and institutional community. To this end, FICC has developed three distinct approaches that, when used together, will achieve these objectives. These are:

- **Direct Institutional Netting Participation** – As has been the case for over a decade, FICC will continue to allow institutions to join the clearing corporation as direct members, and will encourage increased institutional participation in netting services. (Institutions have historically joined FICC as comparison-only members.) FICC will review existing admission and risk management practices to further address the unique concerns of institutional customers and facilitate, in a prudent manner, direct institutional netting membership.

- ***FICC's Existing Correspondent Clearing Service*** – This approach leverages FICC's long-standing Correspondent Clearing Service, whereby full netting members have the ability to submit trades on behalf of institutions for netting and settlement using the Executing Firm feature. Such full netting members could include existing broker-dealers or any other entity willing to join FICC and assume settlement liability on behalf of its institutional customer.
- ***A New STP Institutional Settlement Model*** – This approach calls for the restructuring of FICC's net settlement systems to include those trades that are not captured using either of the two models described above. The redesign would allow FICC to capture the dealer's buy side trades without requiring institutions to join the clearing corporation by treating the dealer and institutional sides of the trade discretely. **Specifically, FICC will include the dealer side of the trade in its net settlement process, while the institutional side of the trade will not be netted, but rather settled on a trade-for-trade basis.** This trade-for-trade settlement would be based on settlement instructions provided by the institution's matching engine (e.g., a Centralized Matching Utility – "CMU" – an Electronic Trading System – "ETS" – etc.).

All three models support the objectives of STP and netting the vast majority of the dealer's side of institutional trades using the existing settlement infrastructure. By expanding the number of trades in FICC's netting system, dealers will incur a number of significant benefits:

- Maximized netting benefits through the inclusion of the dealer's institutional block trade in FICC's netting process. (This results in fewer securities obligations requiring financial settlement);
- Decreased risk through guaranteed settlement, whereby FICC becomes the legal counterparty to every net settlement position;
- Potential Balance Sheet relief for the dealer under FIN 41;
- Expanded use of Common Message Formats;
- A Common Message Hub to provide a single point of connectivity; and
- An established framework for the full integration of functions across CMUs, ETSs, clearing corporations and depositories that will ultimately allow for a seamless settlement process extending from block execution through to settlement with the custodians. This will ease the administrative burden currently incurred by dealers in managing multiple sub-accounts at the allocated trade level.

It must also be recognized that the proliferation of ETSs and the emergence of CMUs are rapidly changing the landscape of the fixed income institutional marketplace. FICC fully endorses these advancements and is uniquely positioned to work within this framework to achieve STP goals through collaboration with all market participants – dealers, CMUs, ETSs, institutions, their custodians, and potentially other service providers. As such, FICC's intended role is to fill the gap by providing those services for which it is logically best suited based on its existing products and services. Specifically, CMUs and ETSs will be capable of providing FICC with pre-matched, fully allocated trades that have been enriched with delivery instructions for use in its new STP Institutional Settlement model.

Further, by leveraging the existing infrastructure within the fixed income marketplace, operational and risk management processing efficiencies would be maximized, and redundant communications and software development would be precluded. This translates into a reduced time-to-market for the services, and potentially a substantial cost savings for the industry.

While the importance of providing netting and settlement services for financing transactions executed with institutions is fully recognized, the start leg of these transactions that settle on a same-day basis will not be included in the initial service implementation. Non-same-day settling financing transactions, however, (e.g., forward-starting repos and repo close legs) are easily accommodated by the Direct Institutional Netting Participation and Correspondent Clearing Services models. Additional analysis is required to determine how FICC will incorporate financing transactions into its new STP Institutional Settlement model.

FICC encourages our membership and other interested parties to participate in further shaping and refining these concepts into a more robust plan for implementation. In addition to soliciting general comments on this paper, as previously noted, FICC will establish two working groups, an Operations Working Group and a Risk Management Working Group, to assist in the development of more detailed business requirements for the Government securities model. The issues related to expanding this project to include other security types will be addressed by a joint working group of TBMA and DTCC/FICC.

# 1. Direct Institutional Netting Participation

## 1.1. Introduction of a Two-Tiered Membership Approach

Historically, while institutions have joined FICC as comparison-only members, they have not subscribed to netting services, primarily due to admission barriers. Netting membership standards were initially developed to address the unique risks posed by dealers. Such standards include meeting certain standards of regulation, strict capital requirements, stringent collateralization formulas, and a loss allocation scheme that provides for the potential mutualization of loss among members in the event of a participant's default. These dealer-based standards are not appropriate for all institutions, many of which have legal, financial or contractual limitations that would preclude them from becoming direct FICC netting members as currently defined.

While FICC will not compromise the safety and soundness of its membership and risk management practices, it is developing a new netting membership category with alternate standards that will remove some of the barriers that have previously precluded direct institutional netting membership, in exchange for providing a limited settlement guaranty. Specifically, FICC plans to introduce two netting membership tiers to adequately protect both itself and its members against risk, while at the same time appropriately accommodating both dealer and institutional members. Standards for Tier One ("T1") and Tier Two ("T2") netting members would be designed to be commensurate with the risks and/or regulatory restrictions posed by each specific candidate for membership.

A T1 member would be a full netting member under the current definition. Some institutions currently meet the criteria to become full netting members, and as such could join FICC as T1 members. They would be indistinguishable from other T1 members, subject to all associated capital and margin requirements, and would be fully liable for losses in the event of the liquidation of another FICC member (up to and including the potential mutualization of unrecoverable liquidation losses). As T1 members, their trades would receive FICC's full performance guaranty, and FICC would facilitate balance sheet offset for them under FIN 41.

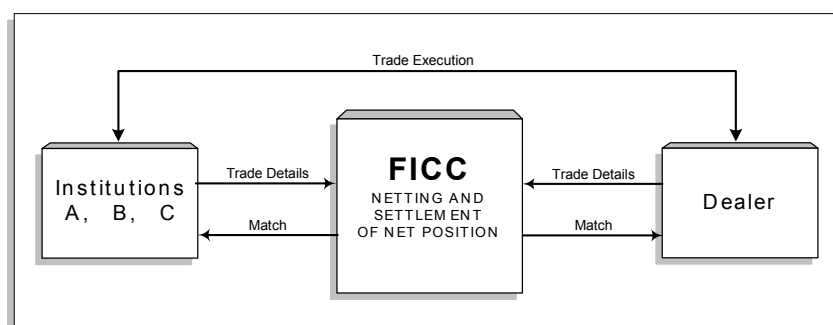
Other institutions, while financially strong, may not be able to join as T1 members because they are not regulated to the same degree as broker-dealers and banks are, or because they cannot adhere, for legal and/or regulatory reasons, to certain membership requirements. For example, some institutions are precluded from participating in a loss allocation process whereby a defaulting member's losses could potentially be mutualized among all clearing corporation members (regardless of whether or not members conducted business with the defaulting member). These institutions could join as T2 netting members.

T2 members would be subject to different admission criteria and would not be required to mutualize liquidation losses. In consideration of this, T2 members would receive a limited performance guaranty on their activity. Further, in order to preserve the direct nature of the relationship between the trading parties and reduce counterparty risk exposure, T2 members would be restricted to engaging in direct dealer-to-institution trading (i.e., they would not be able to have trades with anonymous counterparties, as with blind-brokering). T2 members may also not meet the standards established by FIN 41 for balance sheet relief.

The concept of a two-tiered membership is also being developed to integrate the current members of the Mortgage-Backed Securities (MBS) Division of FICC into FICC’s standardized netting/settlement and risk management practices. This is being done in conjunction with the establishment of FICC as a central counterparty for mortgage-backed securities trades. This concept is more fully described in a separate white paper entitled “FICC as Central Counterparty for Mortgage-Backed Securities,” which will be released shortly for industry comment.

## 1.2. Direct Institutional Netting Participation Processing Model

The model below illustrates how the dealer’s trades *and* the institution’s trades (for both T1 and T2 members), could benefit from netting and associated risk management if institutions became direct netting members of FICC.



As FICC netting members, upon trade execution, the institutions would submit trade details to FICC for processing by the Real-Time Trade Matching (RTTM) system. The dealer would submit corresponding trade details to effect a match. Matched trades would be automatically forwarded to FICC’s netting system, and settlement of net positions would take place on settlement date directly between FICC (via its clearing banks) and the dealers and institutions (via their custodian banks) according to instructions provided to FICC by the members.

This model exactly corresponds to RTTM’s bilateral matching and full multilateral net settlement facility, currently used by the majority of FICC netting members. Alternatively, institutions might elect to participate in FICC’s Locked-In or Demand processes. These would allow institutions to authorize specific dealers to unilaterally submit trade input, either directly or via an ETS/CMU, that would be automatically recorded and marked as matched within RTTM if the trade is not DKed by the institution (for Demand trades) or canceled by the submitter (for Locked-in trades). Using this process, the institutions would not be required to submit trade input to have trades netted and settled through FICC (though they could optionally submit input for record keeping purposes, if desired). Locked-in and Demand processing would allow institutions to achieve 100% matching of trades on trade date, even if they do not wish to submit trades or are not capable of submitting trades interactively or via multi-batch.

As netting members of the clearing corporation, institutions’ trades, regardless of submission mode, would be processed just as any other netting member’s trades. As indicated above, risk

management and liquidation procedures might, however, differ, depending upon the institution's type of netting membership.

Because matching and net settlement of trades submitted by institutions that are netting members of FICC will be virtually identical to those currently in place for existing netting members, institutions and other interested parties can access a full description of current services on our corporate internet site located at [www.ficc.com](http://www.ficc.com).

## 2. FICC's Existing Correspondent Clearing Service

### 2.1. Service Overview

FICC's Correspondent Clearing Service, which has been in place for more than 10 years, supports the ability of members that clear on behalf of other entities to compare and track their trades by identifying the true executing party to the trade in the Executing Firm field on their submissions. Further, if a trade is netting-eligible, and the correspondent clearing firm is a netting member that elects to be liable to FICC for the settlement of that trade, it is included in the net (and as such, is subject to mark and margin requirements). This allows access by a greater number of firms (that might otherwise be ineligible) to FICC's netting services.

FICC's existing Correspondent Clearing Service is widely accepted by member firms for matching trades within RTTM; however, it is currently underutilized as a vehicle for encompassing more of those trades into the net. Of the 485 correspondent firms that clear through 20 FICC members, only 97 benefit from netting. The trades of the remaining firms are submitted for comparison-only.

The Corresponding Clearing Service is an excellent model for accomplishing the objectives of STP for institutional settlement, while at the same time providing dealers with the full benefits of net settlement. If, however, the correspondent clearing firm submitting the institutional trade to FICC has indicated that the institution for which it is submitting is not netting eligible, then its dealer counterparty is precluded from netting as well. As such, the benefits of reduced risk, decreased number of securities movements, balance sheet offset, etc., are not applied to these trades.

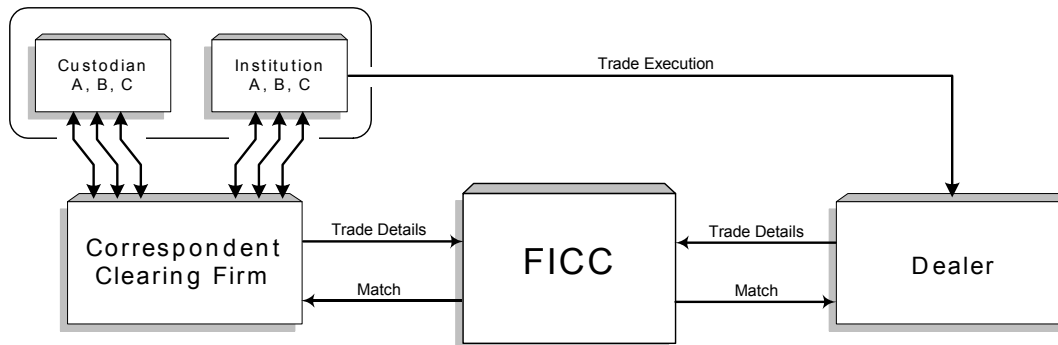
FICC is eager to expand this service to allow for the capture and netting of more institutional trades. As such, FICC openly solicits comment from currently eligible and potential new correspondent clearing firms regarding the service. Specifically, what are the barriers to current participation and what would FICC need to incorporate into this model to encourage greater netting participation by clearing firms and their correspondents?

As indicated above, it should be noted that this model is not limited to currently-eligible correspondent clearing firms, but may also include any current or new FICC netting member – a dealer or other organization – that elects to provide correspondent clearing services on behalf of institutions *and assumes margining and settlement liability for those trades to the clearing corporation*. FICC is prepared to make any necessary changes/enhancements to accommodate new types of correspondent clearing entities that wish to subscribe to the service.

The implementation of this model would require little or no effort. It also does not require direct participation by the institutions, while at the same time preserves the legal relationship between the clearing firm and its institutional customer. That is, FICC will novate these trades for clearance and settlement only.

## 2.2. Correspondent Clearing Service Processing Model

The processing model below illustrates how FICC captures the dealer and institutional sides of a buy side trade in the net when institutions clear through a correspondent clearing firm that is a netting member of FICC and assumes settlement liability of that trade. As noted above, this approach leverages the use of FICC's existing Executing Firm processing feature.



In this model, the trade execution takes place directly between the dealer netting member and the institution. (The netting member might trade with any one or all of the institutions depicted.) The institutions themselves are not FICC members. They do, however, have a relationship with a correspondent clearing firm that is an FICC netting member and assumes settlement liability for the trade.

The institution would notify the correspondent clearing firm of the execution and provide it with all of the required trade details. The dealer would submit trade details to FICC's RTTM system for matching. On trade input, the dealer would submit the correspondent clearing firm as its counterparty and would enter the executing firm symbol identifying the institution it executed the trade with in the Contra Executing Firm field. The correspondent clearing firm would submit trade details to FICC, listing the dealer as the trade counterparty and identifying the institution on whose behalf it is submitting the trade by entering the institution's executing firm symbol in the Executing Firm field.

FICC would automatically compare the trade details submitted by the dealer and the correspondent clearing firm in order to effect a match. RTTM will first attempt an exact match of the Contra Executing Firm field submitted by the dealer to the Executing Firm field submitted by the correspondent clearing firm. If, however, the information submitted in the Executing Firm fields does not match, but all other mandatory match criteria agree, the trade will still be compared in real time. Whether or not the trade is then netted is determined by how the correspondent clearing firm has designated its executing firm, either as netting eligible or not netting eligible. If the executing firm submitted by the correspondent clearing firm is not netting eligible, the trade would be precluded from entering the net (as would the contra-dealer's side).

Once the trade has been matched, it would be netted and settled within FICC, just as any other trade submission by a netting member. The correspondent clearing firm would typically be responsible for either maintaining the securities under a custodial agreement, or settling trade-for-trade with the custodians of the institutions in accordance with the correspondent clearing agreement.

FICC members that do not elect to assume liability for their institutional customers' trades (thereby precluding the dealer counterparties' trades from being included in the net as well) could use the STP Institutional Settlement model described in Section 3 of this document (the New STP Institutional Settlement Model) as an alternative way to allow for netting the dealer's side of this activity.

### **2.3. Risk Management**

As both trade counterparties are FICC netting members, or clear through FICC netting members, and have met stringent operational and financial requirements defined in FICC's Rulebook, all risk management procedures delineated in the Rulebook would apply to both the correspondent clearing firm and the dealer counterparty. This includes forward mark, fail mark and clearing fund requirements.

## 3. New STP Institutional Settlement Model

### 3.1. Overview

In the past, FICC has not been successful in attracting institutional customers to FICC's netting and settlement services. In addition to some of the barriers to membership described in the "Direct Institutional Netting Participation" section of this document, many institutions have not joined the clearing corporation because they saw no operational benefit to netting their activity. Because FICC requires that both parties to the transaction subscribe to matching and netting services in order for a trade to enter its net settlement process, the dealer side of institutional trades have long settled outside of the clearing corporation without receiving the benefit of netting (and attendant risk management services).

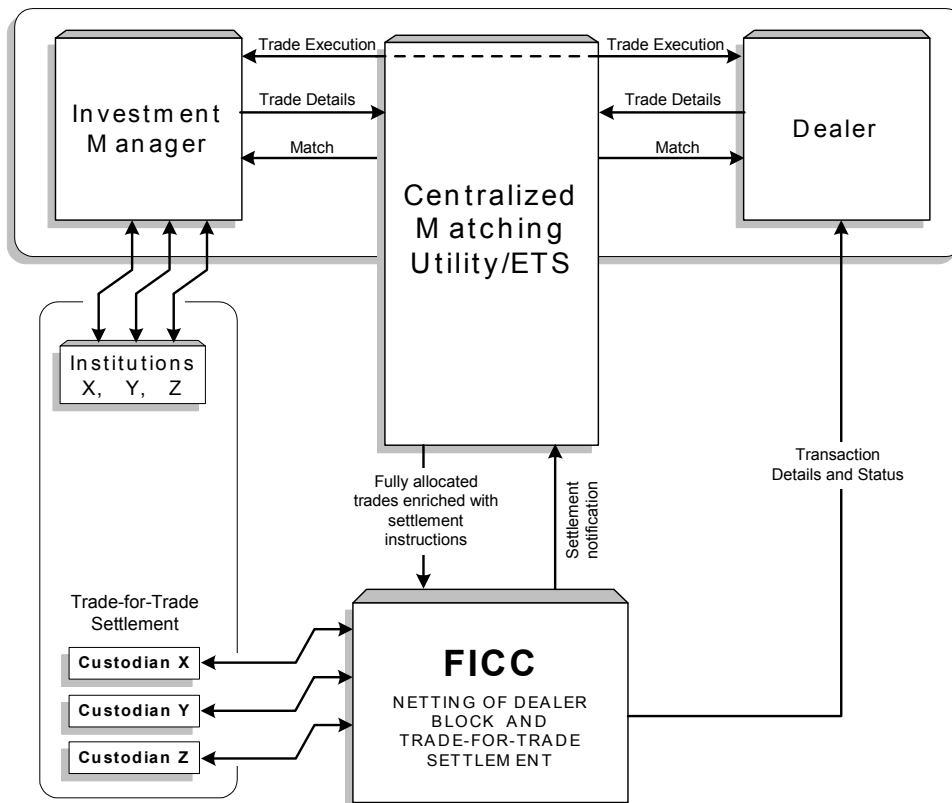
The proliferation of ETSs and the emergence of CMUs provide FICC with a new opportunity to redesign its netting and settlement systems to capture the institutional activity of its dealer members and provide them with the benefits of net settlement. As noted in the Executive Summary, FICC fully supports and encourages the use of ETSs and CMUs in executing and matching institutional trades for STP. FICC is now in the unique position to extend the value of these services by essentially picking up where they leave off. ***That is, once a trade has been executed, matched, fully allocated and enriched with settlement instructions by the ETSs and CMUs, these trades could be submitted to FICC for netting of the dealer's side of institutional trades, and trade-for-trade settlement (without netting) of the institution's side.*** Note that, for ease of description, for the following discussion all securities settlements performed under this processing model are presumed to be Fedwire eligible.

This approach yields multiple benefits. It perfectly compliments the services being offered by ETSs and CMUs by providing a low cost, STP solution for trade settlement using FICC's existing platform. Following this approach, the institution is not required to have any relationship with FICC (i.e., does not have to join or establish communications with the clearing corporation), thus preserving the one-to-one relationship between the dealer and its institutional customer, with all of its attendant legal and credit considerations. The clearing corporation would simply act as the dealer's settlement agent for the institutional deliveries (assuming no liability on behalf of institutions), while the dealer itself would receive the full benefits of netting.

In restructuring the net settlement system, FICC intends to work closely with all relevant industry participants moving forward to ensure the overall integrity of the process. These include, but are not limited to, The Bond Market Association, the Asset Manager's Forum, the Association of Global Custodians, our dealer membership, the clearing banks, the ETSs and the CMUs.

### 3.2. STP Institutional Settlement Processing Model

This processing model shows how FICC would net the dealer's side of an institutional trade, while facilitating trade-for-trade settlement of the institutions' sides when a CMU or ETS is used to perform matching and allocation functions. It assumes that the CMU/ETS is not assuming settlement liability for the trade.



#### 3.2.1. CMU/ETS Processing Summary (Prior to Submission to FICC)

To impart a more complete picture of the processing flow of an institutional trade throughout its life, one possible approach is provided here. It must be noted, however, that the exact process utilized between the institutions, dealers, and CMUs/ETSs would be done in accordance with the procedures of the CMU/ETS. This is for illustrative purposes only.

As the schematic above illustrates, after the trade is executed between the dealer and the institution (in this case through the institution's investment manager), the dealer and the investment manager would submit trade details for the block trade to the CMU/ETS for matching. The investment manager would then allocate the trade among its institutional customers (in this illustration – institution X, institution Y and institution Z), using the automated allocation facility provided by the CMU/ETS. The allocations would then be

matched to the block trade, and match status information would be communicated to both the dealer and the investment manager.

The allocations would be enriched with settlement instructions identifying the custodian bank and account of each institution. These instructions would either be automatically appended to the trade using the standing instruction database of the CMU/ETS, or would be submitted with the allocations by the investment manager and appended to the CMU/ETS's submission. The CMU/ETS would then forward the settlement instructions to the appropriate institution's custodian banks, if required.

### 3.2.2. FICC Processing Summary

Once the CMU/ETS receives and matches a balanced, fully-allocated set of trades, this would be submitted to FICC. (Again, the procedures leading to the submission of this fully allocated set of trades could occur in any number of ways, but to simplify the discussion, we will continue with the above example.)

A balanced set of trades includes:

- A block trade for the dealer-side representing the original block trade executed with a particular investment manager on behalf of one or more institutions (for example, a single sell for \$10 MM); and
- A set of fully allocated trades *enriched with settlement instructions* representing the various trades executed by the institutions comprising the block trade executed between the dealer and the investment manager (for example, a buy for \$5 MM on behalf of institution X, a buy for \$3 MM on behalf of institution Y, and a buy for \$2 MM on behalf of institution Z).

The sum of the institutional "buy side" trades -\$10 MM- would necessarily equal the amount of the block sell trade executed between the dealer and the investment manager.

Once submitted to FICC by the ETS/CMU, the dealer's block trade would be recorded, netted and settled on a locked-in basis according to FICC's existing rules and procedures. FICC would also track the individually allocated institutional trades associated with each dealer's block trade. (These trades **would not** be netted.) To more easily describe this tracking, and to facilitate a discussion of various example scenarios that are to follow, a separate tracking account will be established for each dealer. (The methodology ultimately implemented for tracking the dealer's institutional trades may be different.) On settlement date, the clearing corporation would effect trade-for-trade settlement with the custodian banks of each institution as directed by the settlement instructions provided on trade input by the CMUs/ETSS (as modified to reflect FICC as the deliverer/receiver of securities to/from the custodian banks).

FICC will generate electronic output providing real-time trade status and settlement information to dealer netting members, and will also make this output available to other interested parties. In addition, to ensure the integrity of the comparison and netting systems, FICC will construct and implement a set of comprehensive reconciliation procedures equivalent to those in place for other services.

It should be noted that FICC does not accept data for processing unless it has received appropriate authorization from both data submitters and their recipients. As such, FICC will work closely with ETSS/CMUs and dealers to establish an appropriate agreement between all involved parties for the submission of the dealers' trades to FICC by the ETS/CMU.

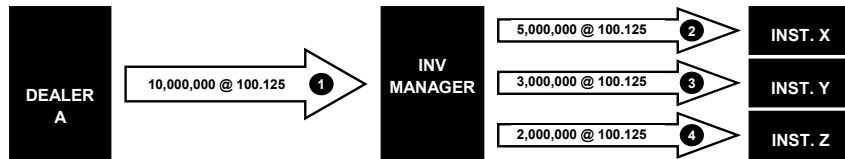
### 3.3. Initial Booking of Trades to Dealer's Netting and Tracking Accounts

As noted above, for internal record keeping and risk management purposes, FICC will establish a second "tracking" account for each dealer member that chooses to net its trades with institutions. The tracking account will be used for recording the institutional (or ex-clearing corporation) side of the trade to maintain the integrity of operational and risk management processes at the clearing corporation level. Trades posted to this account will not be eligible for netting; however, FICC's TAP, forward mark, fail mark and clearing fund calculations will be applied to these positions (via the dealer's tracking account) to facilitate the uniform application of our risk management policies.

To facilitate an understanding of how the accounting for the dealer's tracking account will function, several diagrams have been developed to illustrate how trades are reflected in the dealer's netting accounts (both cash and securities) and the dealer's tracking accounts (both cash and securities) throughout the life of the trade.

#### TRADES AS RECORDED BEFORE NET

(time = T)



DEALER NETTING ACCOUNT - SECURITIES							
BUYS				SELLS			
PAR	PRICE	FROM	DR	PAR	PRICE	TO	CR
				10,000,000	100.125	INST A/C	10,012,500

FUNDS-ONLY ACCOUNT			
DR		CR	

DEALER TRACKING ACCOUNT - SECURITIES (not netted)							
INSTITUTIONAL BUYS FROM DEALER				INSTITUTIONAL SELLS TO DEALER			
PAR	PRICE	BOUGHT BY	DR	PAR	PRICE	SOLD BY	CR
5,000,000	100.125	Inst. X	5,006,250				
3,000,000	100.125	Inst. Y	3,003,750				
2,000,000	100.125	Inst. Z	2,002,500				

FUNDS-ONLY TRACKING ACCOUNT			
DR		CR	

The trade being portrayed involves the sale of \$10 MM in securities priced at \$100.125 by Dealer A through the investment manager on behalf of institutions X, Y and Z. The allocation of the dealer's \$10 MM block trade is as follows: 1) a sell of 5 MM to institution

X; 2) a sell of \$3 MM to institution Y; and 3) a sell of \$2 MM to institution Z (all at the same price of \$100.125).

The diagram above shows how the trade is initially posted to Dealer A's netting and tracking accounts (prior to netting). Line ❶ represents the booking of the block trade to the dealer's netting account as a sell of \$10 MM for \$10,012,500. Lines ❷, ❸, and ❹ represent the booking of the individual, fully allocated trades to the Dealer Tracking Account (i.e., 5MM for \$5,006,250 on behalf of institution X, \$3 MM for \$3,003,750 on behalf of institution Y, and \$2MM for \$2,002,500 on behalf of institution Z).

### 3.3.1. Settlement of Institutional Trades

As previously noted, the dealer's side of the institutional trade will be netted along with its other activity in the same security resulting in one net settlement, per CUSIP, either due to or due from the dealer. Such net settlement will occur pursuant to FICC's existing rules and procedures. Additionally, FICC will effect settlement with the institutions by delivering and receiving securities on a trade-for-trade basis to or from the institution's custodian (as provided on trade input by the CMU/ETS).

In the case of a good delivery, securities settle versus payment between FICC's account at one of its clearing banks and the institution's account at its custodian. FICC would provide notification of settlement to the dealer netting member upon completion of the transaction. (Settlement notification could also be made available to any and all interested parties.)

***To preserve the integrity of the netting system, the original dealer counterparty remains contingently liable for performance on its institutional trades until final settlement is effected between FICC and the institution (at its custodian bank).*** This means that the original dealer will remain accountable for the trade from a risk management perspective (i.e., will be assessed mark and margin) until settlement takes place. Further, if the institution does not effect settlement with FICC for any reason, FICC preserves the right to transfer the institution's settlement obligation to the original dealer counterparty on a case-by-case basis.

The occurrence of common settlement problems with institutions should be mitigated by the fact that: 1) trades are processed on a pre-matched basis; and 2) sufficient information has been exchanged so that all parties are fully aware of the transaction details. Still, a number of exception scenarios should be considered. The more common include:

- Failed delivery
- DK (or "bounce") of a delivery
- Settlement of delivery with a money difference
- Special handling

Below are descriptions of *potential* ways to handle certain exceptions that may occur in the settlement process. FICC will consult with the Operations Working Group to identify any other issues or concerns the industry may have and to devise the exact procedures that would be applied under the various settlement scenarios.

***If the institution fails to settle a trade,*** FICC will electronically confirm the fail at end of day with the original dealer netting member and any and all other interested parties electing to

receive fail notifications. As the original dealer netting member remains contingently liable for institutional settlements, if the trade continues to fail, FICC reserves the right to transfer the fail to the dealer's account. (Note: Other processes surrounding fails, such as fail mark and coupon payments, are described in section 3.4.)

***If an institution DKs (or "bounces") a delivery***, FICC would notify the dealer counterparty and all other interested parties. A new instruction would be generated, and redelivery would be attempted. If successive attempts to complete delivery proved unsuccessful, again, because the original dealer counterparty remains contingently liable for its institutional trades, FICC could instead make delivery to the dealer, and any associated financing costs incurred by FICC would be passed on to the dealer.

The possibility exists that the institution's custodian might ***deliver securities to FICC for an amount other than the contract amount***. Currently, this trade would be DKed by FICC as part of customary street practices. If, however, the original dealer counterparty would like the settlement to occur for a different amount, FICC would settle the trade and post the money difference to the dealer's tracking account.

***The process may also accommodate special handling***, such as the prioritization of delivery or the inclusion in a special program at the dealer, etc. This would be accomplished by transferring the obligation back to the original dealer so that the dealer would facilitate settlement rather than FICC. These and other special situations, including pair-offs, will be analyzed with the Operations Working Group.

### 3.3.2. Calculation and Settlement of TAP

*(Section Note: While our existing membership is familiar with our settlement methodology, in an effort to inform the wider audience intended for the document, certain processing descriptions are being included here for completeness.)*

Dealer netting members settle their trades on a net basis at the clearing corporation's calculated "system value", which is generally the current market value plus accrued interest. (Essentially, FICC marks all trades to the current market value and then settles the net position at such system value.) A Transaction Adjustment Payment (TAP) is then applied to the dealer's Funds-Only Account to bridge the gap between the net system (or market) value and the net contract value. In other words, today, a dealer's net original contract value, plus or minus TAP, is equal to the FICC system value. On the other hand, institutional trades will not be netted and they will not settle at a net system value; they will settle trade-for-trade at their original contract values. FICC's operational and risk management processes for the settlement of TAP therefore need to be modified to account for the differences between the dealers' net settlement value (at system value) and the institutions' settlement value (at original contract value).

FICC will continue to pay and collect TAP as calculated for all positions on its books (including positions in the Dealer Tracking Account) to maintain integrity within FICC's system. The debits and credits to the Dealer Tracking Account are processed to compensate for the fact that TAP debits and credits are not actually applied to the institution. The timing of TAP payments will be amended in order to continuously protect the clearing corporation from exposure and will correspond with the actual settlements with the institutions. Specifically, FICC will not pay through credits arising from TAP calculated for the Dealer

Tracking Account as part of the morning Funds-Only Settlement. Rather, these credits will only be available after the settlement of the associated institutional transactions. Based on the timing difference in respect of cash flow, FICC may consider a second Funds-Only Settlement in the afternoon.

Consider the following two examples. In an up market, by receiving securities in from a dealer at system value (e.g., \$1MM), and delivering those securities to institutions at contract value (e.g., \$900,000), FICC would incur an overdraft in its settlement account (in this example, \$100,000). This overdraft would be funded by the debit TAP assessed and collected from the original dealer’s tracking account in the morning. Conversely, in a down market, by receiving securities in from a dealer at system value (e.g. \$900,000) and delivering those securities to institutions at contract value (e.g. \$1MM), FICC would have excess funds in its settlement account (e.g., \$100,000). This would be equal to the credit TAP assessed to (but not paid to) the dealer’s Funds-Only Tracking Account in the morning. These credits are effectively paid out in conjunction with settlement of the buy-side trades. The exact timing of TAP debits and credits remains to be determined. It is one of the issues FICC will work out with the assistance of its Operations Working Group.

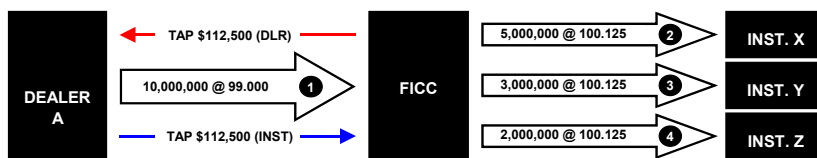
Recall the example in the previous diagram where Dealer A is selling to Institutions X, Y and Z at 100.125. Assume the dealer’s net position is marked down to a system value of 99.

This next diagram shows the calculation of TAP for both the dealer’s Funds-Only Account and Funds-Only Tracking Account as part of the post-netting, overnight processing cycle.

Line ❶ shows the calculation of the settlement value for the block trade booked to the dealer’s netting account using the system price of \$99. Now, rather than settling \$10 million at \$10,012,500, Dealer A will receive proceeds of \$9,900,000. The associated TAP, or difference between the contract value and the lower system value, is \$112,500. This is the amount credited to the Dealer A’s Funds-Only Account to make the dealer “whole.”

**OBLIGATIONS AS RECORDED AFTER NET, BEFORE SETTLEMENT**

(time = T + 1 @ 10:00 AM - system price = 99.000)



DEALER A NETTING ACCOUNT - SECURITIES							
RECEIPTS				DELIVERIES			
PAR	PRICE	FROM	DR	PAR	PRICE	TO	CR
				10,000,000	99.000	FICC	9,900,000

FUNDS-ONLY ACCOUNT			
DR		CR	
		TAP	112,500

DEALER A TRACKING ACCOUNT - SECURITIES (not netted)							
INSTITUTIONAL BUYS FROM DEALER				INSTITUTIONAL SELLS TO DEALER			
PAR	PRICE	BOUGHT BY	DR	PAR	PRICE	SOLD BY	CR
5,000,000	100.125	Inst. X	5,006,250				
3,000,000	100.125	Inst. Y	3,003,750				
2,000,000	100.125	Inst. Z	2,002,500				

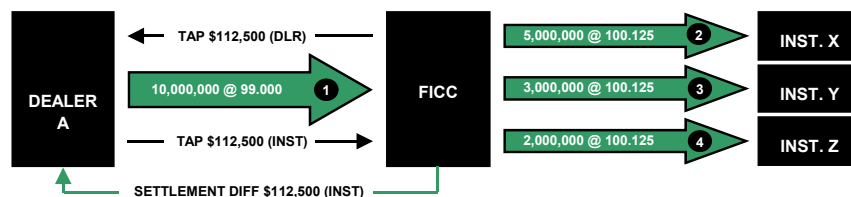
FUNDS-ONLY TRACKING ACCOUNT			
DR		CR	
TAP	56,250		
TAP	33,750		
TAP	22,500		
<b>TOTAL</b>	<b>112,500</b>		

Lines ②, ③, and ④ show that the delivery amounts for the allocated institutional trades are not adjusted as these trades are not netted and must be delivered at the appropriate, original contract values. As these trades will settle at the contract value rather than the system value, FICC needs a facility to debit these accounts in order to credit the dealer. The TAP calculated for each line item represents the difference between the contract values and the lower system values. These are the amounts posted to the Funds-Only Tracking Account as three debits (or as “cash out”) for each of the institutional trades (i.e., \$56,250 for institution X’s \$5MM trade, \$33,750 for institution Y’s \$3MM trade, and \$22,500 for institution Z’s \$2MM trade). Dealer A will consequently have a debit TAP in its Funds-Only Tracking Account equal to the credit TAP in its regular Funds-Only Account, and will be expected to satisfy these entries as part of its daily Funds-Only Settlement at start of day.

Throughout the day, as institutional trades are settled and funds collected, the actual resultant settlement differences will be applied to the dealer’s Funds-Only Tracking Account. Refer to the diagram below:

**OBLIGATIONS AS RECORDED AFTER SETTLEMENT (no fails)**

(time = T + 1 @ 4:00 PM - system price = 99.000)



DEALER A NETTING ACCOUNT - SECURITIES							
RECEIPTS				DELIVERIES			
PAR	PRICE	FROM	DR	PAR	PRICE	TO	CR
			SETTLED	10,000,000	99.000	FICC	9,900,000

FUNDS-ONLY ACCOUNT			
DR		CR	
		TAP	112,500

DEALER A TRACKING ACCOUNT - SECURITIES (not netted)							
INSTITUTIONAL BUYS FROM DEALER				INSTITUTIONAL SELLS TO DEALER			
PAR	PRICE	BOUGHT BY	DR	PAR	PRICE	SOLD BY	CR
5,000,000	100.125	Inst. X	5,006,250	SETTLED			
3,000,000	100.125	Inst. Y	3,003,750	SETTLED			
2,000,000	100.125	Inst. Z	2,002,500	SETTLED			

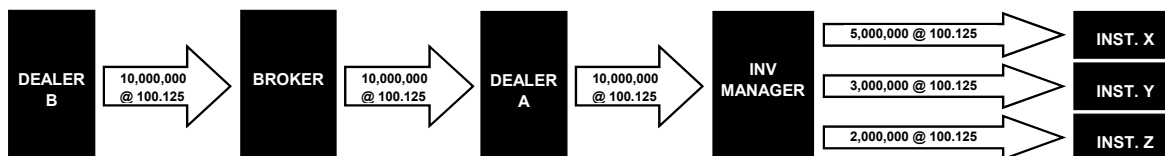
FUNDS-ONLY TRACKING ACCOUNT			
DR		CR	
TAP	56,250	SETTL DIFF	56,250
TAP	33,750	SETTL DIFF	33,750
TAP	22,500	SETTL DIFF	22,500
<b>TOTAL</b>	<b>112,500</b>	<b>TOTAL</b>	<b>112,500</b>

As illustrated above, the settlement differences applied as each institutional delivery is made (see lines ②, ③, and ④) will effectively offset TAP paid (in this example) or collected at start of day in Funds-Only Settlement. Again, this approach may require a second Funds-Only Settlement intraday, after the close of the securities Fedwire.

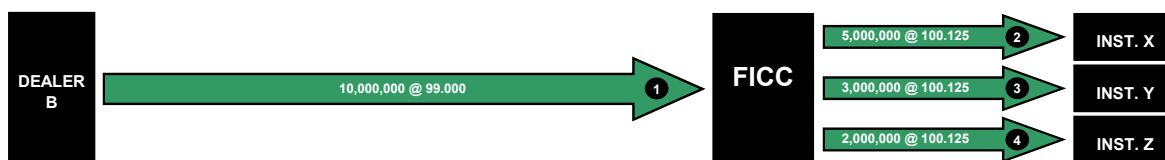
In demonstrating how TAP is calculated and applied, the above example assumes, for the sake of simplicity, that a net position remained in Dealer A’s Netting Account on the evening prior to settlement date. In a realistic processing environment, however, as a result of FICC’s multilateral netting process, Dealer A would, most likely, have netted out of its position (for

example, because it bought securities from a broker to sell to the institutions). If Dealer A had netted out of its position, the essential mechanics of the example would remain intact. The primary difference is that TAP would be applied to another dealer's Funds-Only Account on the morning of settlement date in lieu of being posted to Dealer A's Funds-Only Account. However, as noted previously, Dealer A, the original counterparty to the institution, assumes contingent liability for institutional trades in the event that they do not settle. Accordingly, TAP would still be applied to Dealer A's Funds-Only Tracking Account, reflecting its institutional activity (and potential liability) on the morning of settlement date.

**TRADES AS RECORDED BEFORE NET (time = T)**



**OBLIGATIONS AS RECORDED AFTER NET (time = T + 1 @ 4:00 PM - system price = 99.000)**



DEALER B NETTING ACCOUNT - SECURITIES							
BUYS				SELLS			
PAR	PRICE	FROM	DR	PAR	PRICE	TO	CR
			SETTLED	10,000,000	99.000	FICC	9,900,000

DEALER B FUNDS-ONLY ACCOUNT			
DR		CR	
		TAP	112,500

DEALER A TRACKING ACCOUNT - SECURITIES (not netted)							
INSTITUTIONAL BUYS FROM DEALER				INSTITUTIONAL SELLS TO DEALER			
PAR	PRICE	BOUGHT BY	DR	PAR	PRICE	SOLD BY	CR
5,000,000	100.125	INST. X	5,006,250	SETTLED			
3,000,000	100.125	INST. Y	3,003,750	SETTLED			
2,000,000	100.125	INST. Z	2,002,500	SETTLED			
TOTAL			10,012,500				

DEALER A FUNDS-ONLY TRACKING A/C			
DR		CR	
TAP	56,250	SETTL DIFF	56,250
TAP	33,750	SETTL DIFF	33,750
TAP	22,500	SETTL DIFF	22,500
TOTAL	112,500	TOTAL	112,500

Consider the following example:

In this example, Dealer A buys securities from a broker that, in turn, purchased securities from Dealer B. After netting, the broker and Dealer A are net flat (i.e., have no position in the security). Dealer B, therefore, has an obligation to deliver the securities to FICC, and, appropriately, its Funds-Only Account is credited TAP at start of day. To fund this credit, Dealer A's Funds-Only Tracking Account is debited the offsetting TAP at start of day. As the accounts above (post-settlement) reflect, Settlement Differences are recorded in Dealer A's Funds-Only Tracking Account throughout the day as the individual institutional trades are settled. Dealer A would receive the net Settlement Difference (effectively offsetting the TAP it paid in the morning) as part of its afternoon Funds-Only Settlement.

## **3.4. Risk Management**

### **3.4.1. Forward Mark**

For trades that do not have a contractual settlement for the next day (typically when-issued trades, but sometimes trades with contractually extended settlement), forward mark is calculated each day to appropriately mark forward settling positions to the current market value over multiple days. Forward mark debits are collected, and the corresponding credits are paid through to members, each morning as part of the Funds-Only Settlement process.

In conjunction with institutional trades, the forward mark would be handled in a manner similar to the TAP process, with the original dealer's tracking account being assessed mark each morning, and receiving an offsetting cash adjustment on settlement date once delivery of the securities has been completed. (As with TAP, credit marks would not be paid through, until, as noted, settlement of the underlying transaction has taken place.)

Unlike TAP, the longer-term effects of a daily mark (and potentially considerable market movements) must be considered. Accordingly, dealers may collect mark from their institutional customers over the life of the trade, or, conversely, an institutional customer might request its credit mark from the dealer. FICC may therefore provide the dealer with the ability to adjust the settlement money on the institutional trades as mark is paid to the dealers by the institutions or vice versa.

Again, the exact process employed for the calculation and settlement of forward mark is another agenda item to be worked out with the Operations and Risk Management Working Groups.

### **3.4.2. Fail Mark**

Fail mark is assessed and posted to the dealer's Funds-Only Account for trades that do not settle on their scheduled settlement date. Such trades may remain in a failed status for many days, through no fault of either party, resulting in multi-day mark being assessed. That is, fails will be marked to the current market value each day the trades remain unsettled. Currently, these fail marks are collected and paid through to members as part of morning Funds-Only Settlement.

In conjunction with institutional trades, fail mark will be handled in a manner similar to the TAP process (with credits to the dealer's Funds-Only Tracking Account being withheld until the settlement of the underlying trades). As previously mentioned, FICC will electronically confirm fails at the end of each business day. To the extent both parties recognize the trade but cannot facilitate delivery, FICC will continue to mark the fails. Additionally, if a fail occurs over a coupon period, the coupon will be tracked by FICC and could be charged back to the dealer's Funds-Only Account as part of its money differences in lieu of settlement.

In the event that a fail becomes aged, and is unlikely to settle, to protect FICC from the concomitant risk of an extended failure period, FICC will have the right to transfer the fail to the original dealer, as it retains contingent liability for the settlement of its institutional trades.

### **3.4.3. Clearing Fund**

FICC will look to adjust its clearing fund and risk management practices to ensure the integrity of the netting system is in no way compromised. The dealer's side of an institutional trade will always be netted and guaranteed for settlement without compromising any risk management process. FICC will be reviewing detailed risk scenarios with the Risk Management Committee to develop appropriately prudent procedures.

### **3.5. Extension of Model for Correspondents that Do Not Assume Settlement Liability for Trades**

As noted in section 2.2 ("Correspondent Clearing Service Processing Model"), many participants of FICC that act as correspondent clearing firms for institutions submit trades to FICC for comparison only. The dealers, therefore, do not get the benefit of netting their institutional activity. The STP Institutional Settlement model could be used as an alternative way to allow for netting the contra-dealer's side of this activity.

## **4. Other Industry Initiatives**

There are a number of other significant initiatives underway in the fixed income marketplace with expected implementations over the next few years. FICC will continue to follow the development of projects that offer services and benefits complementary to those provided by the STP institutional settlement project. These include efforts to establish common message formats and protocols as well as developing a common message hub to provide a single point of connectivity for all fixed income players.

## **5. Next Steps**

FICC solicits input from its membership regarding any of the models described in this white paper. FICC will further work with the STP Committee of TBMA, the Asset Manager's Forum, the Association of Global Custodians, our dealer membership, the clearing banks, the ETSs and the CMUs to formulate business requirements that meet the needs of all industry participants. Representatives of these groups will be asked to serve on FICC's Operations and Risk Management Working Groups to provide direction and leadership as we move forward with the Government securities phase of this initiative. Further, to expand this model to encompass the unique requirements of other security types, as noted in the Executive Summary, a joint working group of TBMA and DTCC/FICC will be formed.

## **6. Contacts**

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