Information Memo

Trading Technology

TO: ALL MEMBERS, MEMBER ORGANIZATIONS and Vendors
                   Interfacing with the Common Message Switch (CMS)

SUBJECT: **Connectivity to Common Customer Gateway (CCG) and**
                   Improved Latency to the NYSE Market.

Route To: **Technology and Operations Officers**

During the 1st half of 2007, the NYSE has implemented several changes to its systems and infrastructure that has greatly reduced order flow latency from approximately 290 milliseconds (ms) down to approximately 110 ms within the NYSE Trading systems.

In the 2nd half of 2007, the NYSE has a series of significant enhancements that will further increase both the NYSE's delivery and execution speed and messaging capabilities. We will continue to strive to reduce these latency numbers to benefit you, our valued customer, and the order flow that you transact through Exchange systems. Our challenge and commitment in 2007 is to manage this transformation as quickly and effectively as we can to ensure a smooth transition.

A new Common Customer Gateway (CCG) to replace the Common Message Switch (CMS) for interfacing to the NYSE Trading Systems is currently scheduled for implementation in the 4th quarter of 2007. This new gateway leverages the high-performance TCM messaging server developed by NYSE TransactTools and is used widely across the industry today for high volume, low-latency electronic trading. In 2008, we will be extending the new CCG interface as the one Common interface for all NYSE Group product offerings including Arca, Matchpoint, Bonds, Options, etc. The implementation of CCG will be done in various phases to allow for a smooth changeover for internal systems and firm migrations. Here are the details of the plan and Phase 1 and 2 implications.

CCG – Overview

The NYSE and NYSE Arca today use two separate points of entry with various protocol options. The NYSE systems reengineering objective will be to ultimately consolidate the two points of entry and have the Common Customer Gateway capable of handling cash equity order flow, and in the future, any product line the NYSE introduces and trades. With this consolidation, firms will have the ability to consolidate their points of entry and realize cost savings. In addition, the current protocol choices will continue to be supported, however you can expect the NYSE to eventually standardize its protocol to FIX.

Phase 1 – CCG Connectivity

In Phase 1, the CCG will provide the capability to route NYSE FIX 4.2 protocol orders, cancels and cancel with replacement messages to the NYSE Market via CMS. We highly recommend that your firm begin migration to the CCG during this phase as it will position your firm to be ready to route these messages with reduced latency to the existing NYSE Trading system SDOT in Phase 2 which is targeted for the 4th quarter of 2007.

Connectivity testing to CCG is currently available for this phase.

To facilitate the migration process for our customers, please refer to the attached "**CCG Connectivity FACT Sheet".** This FACT sheet will provide contact numbers for SIAC Member Firm Customer Service, NYSE Member Firm Sales and Business representatives, link to the NYSE FIX 4.2 Specification, testing process and procedures, and direction regarding your existing open orders.

Phase 2 - Firm Migration

In Phase 2, the CCG will route NYSE FIX 4.2 protocol messages directly to Super DOT for execution on the NYSE Market. We highly recommend that **FCS protocol users** begin their migration to CCG during phase one, and/or no later than this phase 2 as your firm is expected to realize reduced latency when routing these messages to the existing NYSE Trading system and in the future, be in a position to route messages significantly faster to the new NYSE Matching Engine. During this transition from the CMS supported protocols to the NYSE FIX 4.2 protocol into CCG, we will ask you to begin this migration on a firm mnemonic basis.

Testing for this phase will be available in 3rd quarter of 2007.
Phase 2 is targeted for implementation in 4th quarter of 2007.

Listed on the following pages, are the protocol and functionality changes that will be implemented as part of Phase 2.

Current NYSE Market Equities Trading functionality remains, unless explicitly stated otherwise.

1. Protocol
   1.1. CCG will only support FIX 4.2.

   1.2. For many session errors, CMS sends a logout with Text(58) fields indicating the error condition, followed by a disconnect. CCG will simply drop the connection.

   1.3. CCG will support customized 9000 series user tags.

2. Service Changes
   2.1. CCG will not route orders to AMEX. If CCG receives an order with a routing code designating "A" for AMEX, the order will be rejected back to the originator.

3. Drop Copy Changes
   CMS Drop Copy is a copy of an order, execution report or admin response that is sent from CMS back to the firm on a line designated by that firm. With the implementation of CCG, Drop Copy will change as follows:

   3.1. For CCG, the Drop Copy configuration will be different from CMS. As a result, multiple Drop Copy connections may be required for a firm, due to the CCG architecture.

   3.2. CCG will provide Report Drop Copies for the Clearing Firms that receive Clearing Copies today.

4. The NYSE Market Order terms listed below are planned for elimination. If they are received by CCG, the order will be rejected back to the originator.

   4.1. With or Without (Tag 40 = 6)
   4.2. Or Better modifier (Tag 40 = 7)
   4.3. Try to Stop (Tag 9438 = T)

5. General Messaging Changes

   5.1. CCG will require all orders and cancel with replacement orders contain an Exchange designation: FIX Tag 207 – Security Exchange

   If CCG receives an order or cancel with replacement order with the routing code designating "N" for NYSE and the symbol is not traded at the NYSE, the order will be rejected back to the originator, unless for example, the stock has been halted at NYSE and is being traded at ARCA due to the security trading under $1.05.

   5.2. CCG will require all orders and cancel with replacement orders to contain an Account Type: FIX Tag 47 - Rule 80A

   If CCG receives an order or cancel with replacement order that does not contain an Account Type, the order will be rejected back to the originator.

   5.3. Simple Cancel messages destined for NYSE Market will be considered as Cancel Balance by CCG.

   5.4. The following services will not be supported by CCG.
      - Price Filtering
      - Algo Routing – FIX Tag 143 – Target Location ID must be designated for an order to be routed to a Booth and Tag 57 (TargetSubID) = **4** (OVR-overrides preset booth routing parameters)

   5.5. CCG may provide reject text in Tag 58 that differs from what CMS sends today.

   5.6. CCG will provide Specialist "PRIN" Copies and Odd lot Alarms in FIX format, not templates.

Phase 3 – Stock Migration

In phase 3, the functions performed by **Super DOT** will be transferred to other systems within the NYSE infrastructure in a more distributed and scalable manner. In addition to greater speed to market, we anticipate that this change will also have a positive impact on our ability to add capacity in a more granular, scalable way. We believe that a 90% reduction in latency can be achieved with this effort.

CCG will provide to firms that have migrated the ability to take advantage of the stock symbol migration to the new faster NYSE Matching Engine, thereby providing significant latency improvements (expected to be less than 10 MS). The NYSE will coordinate this symbol migration to the new NYSE Matching Engine with close communication to our customers.

Once the stock migration has been fully implemented, plans to streamline FIX protocol will be evaluated. This new standardized format will be available in early 2008.

Summary

These exciting changes are scheduled for the 4th quarter of 2007 and 1st half of 2008. In fact, we are already working on the New NYSE Matching Engine. Those changes along with the infrastructure changes will be announced in the coming months.

Thank you for your continuing commitment to the NYSE, and please be assured that we are working hard to make the NYSE the best place to trade – the best prices, the most liquidity, the most choices and the lowest fees – all adding up to *your* NYSE.

If you have any business questions relating to the CCG migration phases, please contact
Your NYSE Sales Representative or John Limerick at (212) 656-3099

For technical type information, testing arrangements and/or questions please contact **SIAC Service Desk at 1-866-873-7422 or send an email to** sfti@siac.com - please place "CCG" in the subject line.

Member Firm Customer Service
CCG Connectivity FACT Sheet

Below is information that you will need in order to test and implement your connectivity to the Common Customer Gateway (CCG) for access to the NYSE trading systems.

Contact Number	Member Firm Customer Service at **1-866-873-7422**
Protocol	**The protocol to be used is NYSE FIX 4.2.**
FIX Spec	**The NYSE Euronext FIX Service Interface Specification and User Guide Version 3.2 dated April 13** is the FIX Spec to be used. The FIX Spec may be obtained by using the link below and then selecting the specification described above from the list. **http://www.nyse.com/content/publications/1043269645619.html** OR contact the Service Desk by calling 866-873-7422 or e-mailing sfti@siac.com.
Mnemonics	**The preferred method for testing your access to the NYSE via CCG is to use a currently unused NYSE mnemonic or to request a new mnemonic for this purpose.**
Testing	1. Assign a mnemonic for testing with CCG. 2. Contact Member Firm Customer Service at 1-866-873-7422. 3. Connectivity and application format testing will be conducted using an automated tool (TestAid). Orders can be sent in and automated responses will be sent back to your firm. 4. Testing using DBK (Display Book) will be conducted for verifying cancel and cancel/replaces processing. 5. Manual testing will be conducted to validate CCG functionality. **An analyst will be assigned to your firm to go through a script verifying full firm application and session level functionality.**
Initial Implementation	A new session will be created for your firm using the mnemonic that you have been testing (either a currently unused NYSE mnemonic or a new mnemonic). After running in production for a couple of days both your firm and SIAC will be assured that any possible problem with the new protocol would have been addressed.
Open Orders	After the initial implementation, your firm can schedule the migration of your remaining mnemonics. Contact Member Firm Customer Service at 1-866-873-7422 to discuss and schedule the conversion of your open orders.
Business Questions/ Contacts	Contact your NYSE M.F. Sales representative or John Limerick at the NYSE at (212) 656-3099.