FINRA
Financial Industry Regulatory Authority

Richard G. Ketchum
Chairman and
Chief Executive Officer

April 6, 2011

Mr. Carlo di Florio
Director
Office of Compliance Inspections and Examinations
U. S. Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Mr. Robert Cook
Director
Division of Trading and Markets
U.S. Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549

Re: FINRA Blueprint for a Consolidated Audit Trail

Dear Mr. di Florio and Mr. Cook:

As you know, FINRA fully supports the objectives of the U.S. Securities and Exchange Commission's rule proposal to require the creation of a national market system plan to operate a comprehensive consolidated audit trail ("CAT"). Given our unique position as a regulator for six national securities exchanges and all over-the-counter market activity, FINRA believes that if we were ultimately selected as the CAT processor, we would be able to leverage our OATS and other existing systems, as well as existing exchange systems, to create a CAT that meets the primary objectives of the Commission's CAT proposal in a relatively short timeframe and with modest costs and changes to the industry.

Accordingly, we have developed the attached draft blueprint, describing of how FINRA, in close consultation with the exchanges, would build a CAT by leveraging existing data sources and systems. We will be reaching out to you in the near future to set up a meeting with you and your respective staffs to discuss our blueprint in detail. In the interim, if you have any questions or require additional information, please feel free to contact me at (202) 728-8140 or Steve Luparello at (202) 728-6947, or Tom Gira at (240) 386-5026.

Very truly yours,

Richard G. Ketchum
Chairman and CEO, FINRA

Attachment

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FINRA Blueprint for a Consolidated Audit Trail ("CAT")

FINRA

April 6, 2011

Executive Summary

Market events over the past several years illustrate the limitations of current audit trails, particularly with respect to identifying trading activity conducted on a cross-market basis. In May 2010, the U.S. Securities and Exchange Commission ("SEC" or "Commission") issued a rule proposal that would create a single, cross-market consolidated audit trail ("CAT"). FINRA strongly supports the creation of such an audit trail, and in fact, is currently working toward completion of the expansion of its existing Order Audit Trail System ("OATS") that will include order and execution activity related to approximately 80% of all U.S. exchange-listed transaction volume.

Given its unique position as a regulator for six national securities exchanges and all over-the-counter market activity, FINRA believes it can leverage its OATS and other existing systems and infrastructure to create a CAT that meets the primary objectives of the SEC's CAT proposal in a relatively short timeframe and with minimal costs and changes to the industry. Accordingly, FINRA has developed a blueprint of how it would build a CAT if it were chosen as the CAT processor by leveraging existing data sources and systems.[1] FINRA proposes to enhance its existing systems to implement the CAT in phases, beginning with the remaining 20% of the equity market. In later phases, FINRA would expand the CAT to include standardized options, fixed income securities, conventional options, and security-based derivatives (e.g., credit default swaps, equity swaps and other security-based swaps). These later phases would be designed after the equities and options models.

Specifically, FINRA would build the CAT from four currently existing data sources: (1) order information reported to FINRA by broker-dealers pursuant to FINRA's OATS Rules; (2) order and execution data from all national securities exchanges; (3) trade reports submitted to FINRA's transaction reporting facilities; and (4) quotation data from national securities exchanges and FINRA facilities. Further, FINRA would use existing CRD numbers to uniquely identify market participants across market centers by mapping market center specific identifiers to CRD numbers. FINRA's plan also includes a mechanism to capture the identity of sponsored market participants and customers whose trading activity would be required to be disclosed pursuant to any large trader reporting system that ultimately may be adopted by the SEC.

FINRA's CAT would include electronic linkages between orders reported by broker-dealers and exchanges and market data from FINRA-operated facilities to ensure a fully linked audit trail from the receipt or origination of an order through execution. To ensure the accuracy of these linkages, FINRA would require most broker-dealer data to be reported on T+1. However, in the event the SEC decides a near real-time reporting element is essential for the CAT, FINRA would accept certain order and execution information and make it available to regulators on a near real-time basis as recently suggested by the Securities Industry Financial Markets Association in its FIX "Drop Copy" proposal. This

[1] FINRA recognizes that under the Commission's rule proposal, the decision as to the appointment of an NMS Plan Processor is one collectively made by the national securities exchanges and FINRA (collectively, "Participants"). Moreover, while our blueprint sets out recommended reporting timeframes and processes, we recognize that the final decisions will be made as part of the final Commission rulemaking and, where discretion is provided, to the Participants through the Joint Plan.

near real-time data would augment the full complement of order information required to be reported on T+1.

By using existing reporting mechanisms and data infrastructure, FINRA believes that if we were appointed the CAT processor, we can fully implement a CAT for equity securities within 18 months following the approval of the CAT NMS Plan and the appointment of FINRA as the CAT processor. In addition to the significant time and cost savings associated with using existing technology and infrastructure, FINRA has the most comprehensive experience in building, administering and using audit trails in cross-market surveillance scenarios. We believe that such experience is essential in building and administering a useful and effective consolidated audit trail for securities regulators to rely on in the decades to come.

Introduction

In response to the Commission's proposal for a single, cross-market consolidated audit trail, FINRA believes that OATS and other existing market systems can be leveraged to create a fully linked audit trail, capturing all events in the life of an order from its origination or receipt through execution, including routes to other broker-dealers and national securities exchanges. This document provides a high-level blueprint of how FINRA would plan to build a CAT that incorporates most of the elements in the SEC's proposal using existing data sources, interfaces, and technology platforms, enhancing them where necessary.

FINRA's plan provides for FINRA to operate as the CAT processor and would be implemented in a phased approach, with the goal of the initial phase to deliver as much of the information that currently exists today in a CAT format as quickly as possible. Additional elements requiring technology enhancements, such as large trader identifiers and near real-time reporting, would be added in the later phases. Nonetheless, FINRA's long-term objective is to build a consolidated audit trail for all securities traded on U.S. exchange and over-the-counter securities markets that will enable regulators to track the identity and trading patterns of market participants across all U.S. markets and between underlying securities and related derivative securities.

The document contains three sections. The first section provides a high-level overview of the planned business requirements, including changes to existing OATS requirements, which are necessary to support FINRA's CAT proposal. The second section provides a high-level overview of how FINRA plans to implement these business requirements and support the CAT on an ongoing basis through the use of, and modifications to, its existing technology platforms. The final section lays out FINRA's phased implementation plan with a target implementation date for all equity securities of 18 months following the approval of the CAT NMS Plan and the appointment of FINRA as the CAT processor.

I. Business Requirements

FINRA has conducted a comprehensive analysis of what it believes are the necessary elements of an effective cross-market consolidated audit trail, including the data to be included, the scope of securities covered, the market participants that would be subject to the CAT and how the CAT would be governed. Each of these elements is described in detail below.

A. Information To Be Included in FINRA's CAT

FINRA's CAT would be built from four main data sources: (1) order information reported by broker-dealers; (2) order and execution data from all national securities exchanges; (3) trade reports submitted to FINRA's transaction reporting facilities; and (4) quotation data from national securities exchanges and FINRA facilities.[2]

i. Order Information Reported by Broker-Dealers

Order information from broker-dealers would be reported to the FINRA CAT processor in the same way OATS data is transmitted to FINRA today, thereby requiring minimal changes for broker-dealers currently reporting to OATS and replacing OATS obligations. FINRA also would add FIX as an alternate reporting option and would translate FIX-tagged messages into an OATS format for inclusion in the CAT repository. FINRA would retain the existing order event submission timeline. Broker-dealers would submit order event information to FINRA by 8:00 a.m. ET on the calendar day following the market day on which the order event occurred.[3]

FINRA notes that the Commission proposed requiring broker-dealers to report order lifecycle information on a real-time basis, which the Commission defined to mean immediately and with no built-in delay from the time the reportable event occurs. In response to the Commission's proposal, SIFMA developed a "Drop Copy" proposal,[4] which would require certain order and execution data (constituting a subset of the data elements OATS currently requires) to be reported to the CAT processor in near real-time.

While FINRA continues to have concerns regarding real or near real-time reporting from an accuracy, investigative utility, and cost-benefit analysis standpoint, FINRA is prepared to accept from registered broker-dealers the drop copy data ("abbreviated order submissions") SIFMA proposes to make available. Specifically, FINRA would accept the abbreviated order submissions on an approximately 15-minute delayed reporting basis and, after performing a basic level of data validation, make such submissions

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[2] FINRA quotation data would include quotations in NMS stocks sent to the FINRA Alternative Display Facility (ADF) and quotations provided to FINRA's proposed Quotation Consolidation Facility ("QCF").

[3] Because OATS is able to accept intraday file submissions, broker-dealers would have the option to report order events to the CAT prior to the 8:00 a.m. ET deadline, as some firms do today.

[4] See letter from James T. McHale, Managing Director and Associate General Counsel, SIFMA, to David Shillman, Associate Director, Division of Trading and Markets, Securities and Exchange Commission, dated January 12, 2011, at http://www.sec.gov/comments/s7-11-10/s71110-83.pdf.

available for query by the SEC and SROs within approximately one hour of their receipt. Because these abbreviated order submissions would contain a unique order identifier and specific market participant identifier, FINRA would be able to add such submissions to the order lifecycle created using the OATS, exchange and FINRA TRF data on a T+1 basis. This approach would provide the SEC and SROs with the ability to view limited, but indicative, information regarding a particular order or execution on an intraday basis, while the full scope of CAT information would be available to regulators on a T+1 basis.

Based on its experience in conducting surveillance, FINRA does not believe that it is essential that all of the information proposed to be captured in the CAT be received real time or near-real-time. Specifically, information that typically is not included in surveillance patterns can be promptly received from broker-dealers on an as needed basis, without incurring the substantial costs to capture this information in CAT on an ongoing basis. Accordingly, attached as Appendix A is a chart that sets forth what information is received in OATS today, what information would be added to OATS as part of the CAT, and what information FINRA proposes not be included in the CAT. One area of note is the request in CAT for unique customer identifiers. Given the large number of retail investors, the high number of retail investors that have accounts at multiple firms, the complexities associated with tracking these accounts, and the relatively small and infrequent amount of trading by typical retail investors, FINRA believes that the CAT initially should only require unique identification of large traders as defined under SEC rules. Over time, FINRA believes the SROs and the SEC should analyze the benefits, usefulness and costs associated with expanding the CAT to include unique identifiers for retail accounts, or a subsection of retail accounts.

ii. Order and Execution Data from National Securities Exchanges

Each national securities exchange would be required to submit relevant order and execution data to the FINRA CAT processor in a common format. Market data currently provided to FINRA by certain exchanges pursuant to regulatory services agreements would be leveraged to eliminate redundant data submissions.

iii. FINRA Trade Reporting Facility ("TRF") Data

The CAT repository would include transaction data from all of the FINRA transaction reporting facilities, including each TRF, the ADF, and the OTC Reporting Facility.

iv. Quote Data

Each national securities exchange would be required to provide to the FINRA CAT processor in the prescribed common format any quotation data not included in the order data transmitted as described above. FINRA would be required to provide ADF and QCF quote data in the prescribed common format. Market data currently provided to FINRA by certain exchanges pursuant to regulatory services agreements would be leveraged to eliminate redundant data submissions.

B. Securities Reportable to the FINRA CAT and Phased Implementation Plan

FINRA's long term proposal for the CAT would be to include equity securities, options, fixed income securities, and security-based swaps as covered securities. The first phases would include only secondary market transactions in exchange-listed equity securities (NMS stocks) and OTC equity securities.[5] The next phases we propose would involve the reporting of standardized options. Fixed income securities, conventional options, and security-based derivatives (e.g., credit default swaps, equity swaps, and other security-based swaps) would be included in later phases, which would be designed after the equities and options models. Please see Section III of this document for FINRA's detailed proposed implementation plan, including a full description of the steps involved in each implementation phase.

C. Broker-Dealers Subject to the FINRA CAT

The SEC's initial CAT proposal would require all SEC-registered broker-dealers to report order information to the CAT. While the Commission acknowledged in its proposal that it had considered allowing small broker-dealers to report order information to the CAT manually, the SEC's preliminary belief was that to be effective, all CAT submissions should be in electronic form. Further, the Commission expressed concern about giving a wholesale exemption from CAT reporting requirements to small broker-dealers. FINRA's existing OATS rules provide two provisions under which members may be relieved of certain OATS requirements. The first provision is an exclusion from reporting for certain firms that route their orders exclusively to another reporting firm that is solely responsible for further routing decisions, on the basis that their reporting would be essentially duplicative of that of the second firm. The second provision grants FINRA exemptive authority in certain limited situations to provide relief to small member firms that do not otherwise qualify for exclusion from the definition of an OATS Reporting Member. This exemptive authority is limited to those firms meeting specific criteria in situations where complying with the full scope of the OATS Rules would be unduly burdensome.

In regard to firms that are excluded from the definition of Reporting Member under FINRA's existing OATS rules, FINRA would propose to retain this exclusion for the FINRA CAT if the Reporting Member to whom order flow was directed could provide the excluded broker-dealer's actual time of receipt or origination and the identity of the excluded broker-dealer's customer, if a large trader, on the Reporting Member's order report. Excluded firms would be required to have a written agreement with the Reporting Member to which they are directing order flow, as they do today, and have supervisory systems in place to ensure that the Reporting Member to which they are directing order flow is accurately reporting all required information on their behalf to the CAT.

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[5] The FINRA CAT could also accommodate the inclusion of primary market transactions as covered securities. We would anticipate that primary market transaction reporting could be added after the implementation of Phase I.

As to small broker-dealers, FINRA recommends that the SEC implement a similar approach to exclusions and exemptions.

D. Treatment of Proprietary Orders and Orders Originated in Firm-Controlled Accounts to Represent Riskless Principal or Agency Customer Orders

Unlike FINRA's existing OATS rules, FINRA's CAT proposal would, consistent with the SEC's proposed rule, require all proprietary orders to be reported to the CAT, including orders originated in the normal course of market making. Additionally, any order originated in a firm-controlled account for purposes of working a customer order would be reportable. This would include internally generated orders for firm-controlled accounts that represent agency or riskless principal customer orders. The requirement to report representative orders is explained in more detail in Section I.G. below.

E. Market Participant Identifiers

To address existing disparities in the identifiers assigned to broker-dealers by different exchanges and SROs, FINRA as the CAT processor would use the Central Registration Depository ("CRD") number to uniquely identify broker-dealers. Each exchange and FINRA would be required to provide a mapping of CRD number to unique market participant identifier so that a cross-referenced database linking unique SRO assigned identifiers to the SRO member's CRD number could be created. CAT data could be queried at the firm level (by CRD number) or by the unique market center identifiers used by firms for each transaction in a specific market center. Firms would be required to specify the unique exchange identifier used for any given transaction on the required T+1 CAT reports so that orders could be linked to the related order entry made to a national securities exchange. Activity occurring otherwise than on a national securities exchange would continue to be reported to the CAT with the FINRA MPID used for OATS reporting today, which already is linked to the firm's CRD number.

F. Sponsored Market Participants and Large Trader Identifiers

One of the primary goals of the SEC's CAT proposal is to provide regulators with the ability to obtain the identity of the ultimate customer for each transaction captured in the CAT. The SEC's proposal requires each order to contain the name and address of both the beneficial owner of the account and the name and address of the individual making the investment decision, such as an investment advisor. With the goal of cross-market surveillance in mind, and more specifically the ability to track the activity of a single individual or entity trading across multiple broker-dealers and market centers, FINRA believes that name and address alone would result in potential misidentification due to common names, spelling differences, and other issues. In addition to these obstacles, FINRA does not believe obtaining tax identification or social security numbers for individual investors is feasible at this time. Accordingly, FINRA believes that requiring identification of all customers would substantially increase the complexity and cost while negatively impacting the accuracy of the CAT.

That being said, FINRA strongly believes that the CAT should provide more granularity for certain classes of market participants than is available with existing audit trails. These market participants are: (1)

entities that have sponsored or direct access to market centers via a relationship with a sponsoring market participant; and (2) customers whose trading activity would be required to be disclosed pursuant to any large trader reporting system that ultimately may be adopted by the SEC, as well as all active traders the SEC believes should be included in the CAT.

Specifically, FINRA's CAT would require all sponsored access relationships and large trader identifiers to be disclosed to FINRA as the CAT processor. For sponsored access, unique market participant identifiers would be required for each individual sponsored access relationship so that all audit trail data could be tagged with both the sponsoring firm's identity and the sponsored party's identity. In addition, for entities required to register with the SEC as a large trader, brokers executing transactions on behalf of these large traders would be required to register the large trader with FINRA and obtain a unique market participant identifier for each individual large trader. This information would be used to tag all audit trail data with both the executing broker's identity and the large trader's identity.

G. Additional Data Required by the CAT that is Not Currently Captured in OATS or Exchange Data

FINRA has conducted an extensive analysis of the current OATS reporting requirements as compared to what information is required by the SEC's CAT proposal. OATS already requires substantially all of the same information as the CAT proposal, with minimal differences.[6] Of the differences, there are some that FINRA believes would be beneficial to include in the FINRA CAT. Specifically, FINRA would propose to add to the existing OATS reports: (1) customer account type; (2) Large Trader Identifier;[7] (3) unique identifier for branch office and registered representative; and (4) a flag denoting if an order was solicited or unsolicited.

FINRA also would propose to require two new order event types that would allow customer orders handled on a riskless principal or agency allocation basis to be linked to the related representative orders originated in a firm-controlled account and routed away for further handling and execution. Under current OATS rules, FINRA is not able to link customer orders executed in this manner to the individual street-side executions that are ultimately allocated to the customer order. Specifically, when a firm holds a customer order at the firm and sends a representative order to another market center for execution, only information about the execution of the customer order held at the firm is reported to OATS. Information about the representative order and related routing information is generally not captured.

To resolve these linkage limitations for the FINRA CAT, firms would be required to report the origination of all representative orders in firm-controlled accounts and link such orders to the customer orders they are representing through the use of an "Internal Transfer Report."[8] Firms would then be required to

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[6] See Appendix A.

[7] See Appendix B for a description of how FINRA would obtain the identity of large traders through the registration of unique market participant identifiers rather than by requiring broker-dealers to provide the CAT processor with the larger trader number assigned by the SEC in order reports, thereby minimizing the ability of market participants to reverse engineer a large trader's identity or trading strategy.

[8] See Appendix C for a description of how an Internal Transfer Report would be used.

report the routing of the representative orders to other market centers. The result would be that a customer order would link to the firm-originated representative order, which would link to routes subsequently made to other market centers.

In addition, once an execution is received back from a market center and shares are allocated to the original customer order, broker-dealers would be required to submit a Fill Report to the CAT with information about the time and price of the final allocation to the customer account.[9]

The inclusion of the Internal Transfer Report and the Fill Report in the FINRA CAT are key elements to meeting the SEC's goals for a CAT, as they would enable regulators to trace a tape-reported transaction to the customer or broker-dealer involved in the transaction. Regulators also could focus on when a particular customer order was executed and the final price received by the customer. This process would work the same for a single order (for example an order handled on a riskless principal basis) or for multiple orders.

With these two new order types, FINRA believes the CAT will reflect and accommodate the realities of today's markets, where many orders are often combined to form one larger order for processing and, conversely, one order often is splintered into many for execution. It is unclear to FINRA how the SEC's CAT, as currently proposed, would effectively handle these common scenarios.

H. Governance Plan

Consistent with the SEC's CAT proposal, FINRA would expect that the exchanges and FINRA (collectively, "Participants") adopt an NMS plan ("Plan") to govern the creation, implementation, and maintenance of the CAT. The Plan would include provisions governing: (1) the Plan's operation and administration; (2) the costs to develop and operate the CAT; (3) the operation of the CAT; (4) the data required to be provided by the Participants and their members to the CAT; (5) clock synchronization; (6) compliance by the Participants and their members with the Plan; and (7) the expansion of the CAT to additional types of securities.

The Plan would allocate responsibility for operating the CAT to the Plan Processor. If FINRA were chosen as the Plan Processor, it would be responsible for maintaining the CAT specifications and the day-to-day operation of the CAT. Similar to the way OATS operates today, the Plan would provide for regularly scheduled releases. The Participants would jointly make decisions involving investments, costs, and annual budgets.

The Plan would require each of the Participants to adopt rules to implement the CAT. As the operator of the CAT and the primary enforcer of CAT reporting rules, FINRA would be responsible for interpreting the various Participants' implementing rules and issuing guidance on CAT submissions, thereby ensuring consistency and efficiency in the operation and administration of the CAT.

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[9] See Appendix C for a description of how a Fill Report would be used.

II. Technology Requirements and Enhancements

A. Existing Technology Platforms and Overall Project Plan

To discharge FINRA's current regulatory obligations under both its own SRO license, as well as those arising from contractual obligations with other SROs, FINRA has built a highly sophisticated infrastructure consisting of data sources, interfaces, and technology platforms incorporating all forms of market data, including orders, quotes, and trades. FINRA's proven infrastructure has processed consolidated volumes of market data in excess of five billion records per day and supports regulation of six national securities exchanges and over-the-counter equity and fixed income market activity. This involves processing data related to approximately 80% of all equity trading activity in the U.S. securities markets, including all of the NASDAQ and NYSE equity exchanges. FINRA believes its current technology capabilities already meet many of the objectives of the CAT proposal and, with certain enhancements, can be modified to create an audit trail that meets the SEC's objectives for a single, cross-market consolidated audit trail.

To achieve the large and diverse set of technical capabilities required to meet the objectives of the SEC's CAT proposal, including access to the CAT by the SEC and participating SROs, FINRA would plan to establish six different project tracks as follows: (1) collection of market participant order data (OATS and intraday abbreviated order submissions); (2) collection of equity exchange data; (3) CAT database interface and reporting; (4) broker-dealer sponsored access and SEC large trader identification; (5) collection of options exchange data (including the Options Consolidated Quote ("OCQ"); and (6) infrastructure, network and security. Each of these project tracks is described below.

1. Collection of Market Participant Order Data (OATS and intraday abbreviated order submissions)

One of the core features of the SEC's CAT proposal is the ability to collect and make available to regulators the market participants' order data. FINRA currently collects this data for Nasdaq-listed and OTC equity securities from all FINRA member firms and will expand this capability to all NMS stocks beginning in July 2011.

The major functional breakdown of OATS can be subdivided as follows:

- Data ingestion and syntax/semantics validation of member firm order data;
- Duplicate and context data checks;
- Linkage of order data between member firms;
- Linkage of order data to FINRA transaction system reports;
- Linkage of order data to exchange orders and executions;[10] and

[10] OATS currently links to The NASDAQ Stock Market, NASDAQ OMX BX, and NASDAQ OMX PSX exchange order data. As part of the OATS for CQS initiative going live in July, 2011, OATS will link to New York Stock Exchange, NYSE AMEX, and NYSE ARCA exchange orders.

- Publication of data submission statistics including rejections and match statistics.

i. Data Ingestion and First Level Validation of Order Data

Currently, OATS receives around 300 million order events on a daily basis and has processed peaks in excess of 500 million order events. This is expected to expand to 600-800 million events per day as part of the expansion to all NMS stocks. The events are submitted according to the FINRA *OATS Reporting Technical Specifications*, which is a positional delimited format optimized for high volume transmissions from FINRA member firms. OATS currently provides file level validation to the firms within an hour of receipt of file submission. If a file is accepted, OATS verifies the contents of the file and provides feedback the next day to firms. FINRA is planning to further expedite response times to firms about their OATS submissions. Specifically, FINRA will provide firms file validations, data syntax, and field validations within one hour of submission. However, immediate response and validation of the submissions may not be required or even desired by some of FINRA's high volume firms, so the intent would be to continue to support FINRA's current batch-oriented ingestion approach but on a shortened timeline.

ii. Intraday Abbreviated Order Submission Reporting

In addition to the OATS enhancements and expansion already in progress, FINRA would establish an intraday abbreviated order submission capability based on SIFMA's drop-copy proposal to accept abbreviated key order events on an intraday basis via a FIX formatted drop copy ("abbreviated order submissions"). The OATS application would be modified to ensure that the entire abbreviated order submission was received and validated. FINRA would not anticipate requiring broker-dealers to resubmit or correct any rejected intraday data. Once the submission has been verified, the data would be loaded into the data warehouse where the information would be made available via the CAT interface for query by the SEC, FINRA, and other SROs. FINRA expects the initial validations for semantics and duplicates of messages to be completed within one hour of receipt of the files. FINRA expects that the same unique order ID would be provided in the full OATS submission from the firms, which would enable the CAT to link orders to the intraday abbreviated order submissions.

The abbreviated order submissions would include four categories of business events:

- Order Receipt and Origination;
- Order Transmittal;
- Order Execution; and
- Order Cancel and Modifications.

FINRA intends to work with broker-dealers to establish the details on how to handle unexpected events, errors, rejections, and recovery. This would ensure an operational solution that minimizes impacts to the participants.

As the CAT is expanded to include other security types, such as options, the same general order reporting requirements (similar to an OATS reporting format) for broker-dealers would be required. FINRA plans to leverage the same technology applications for all market participant order reporting across all CAT-reportable security types.

2. Collection of Equity Exchange Data

FINRA currently collects market data from all NYSE and NASDAQ exchanges pursuant to regulatory service agreements with those exchanges. FINRA typically receives this data the morning following a trading day and loads it into a cross-market data warehouse. The exchange market data, which is retained online for 12 months, includes orders, quotes, trades, and best bid and offer ("BBO") data. FINRA also collects data from all over-the-counter market quotation and trade reporting systems, including each TRF, the ADF, and the OTC Reporting Facility. This market data is also retained online for 12 months. FINRA would extend its existing data collection and processing technologies to market data from the other U.S. equity exchanges that do not already provide such data to FINRA. FINRA estimates that it will have to expand its data ingestion and storage capacity by approximately 20% to support these additional equity exchanges. The processing, validation, and warehousing of the exchange data would be done in the scalable data processing and data warehouse environment currently in place for NYSE and NASDAQ exchange data today. Once collected, FINRA would publish data from the exchanges into a separate CAT database and make such data available for OATS order lifecycle processing and other surveillance activities.

To ensure the consistency and integrity of CAT data, FINRA plans to establish a standard specification and protocol to collect the necessary exchange data by building on what already exists in industry-standard FIX protocol implementations – and adding necessary fields and messages to support the CAT requirements. This would provide a single common industry utility based on open, existing industry-standard messaging protocols for reporting exchange data and would streamline the data processing for the exchanges and SROs. FINRA also would establish an exchange data processing gateway to validate exchange submissions and report the results back to the exchanges in a similar manner to how OATS currently interacts with members and reporting agents. FINRA's member firm interface web site would be repositioned to allow submitting exchanges to view and correct (or re-submit) data as necessary. FINRA has an operational support team available on a 7x24 basis that would be accessible to exchanges to ensure that data submission issues would be addressed promptly and remedied. Finally, the scalability of FINRA's systems currently supports the industry's peak volume days, as well as forecasted market data growth. FINRA is constantly evaluating the available "headroom" in its systems' processing capacities and has processes already in place to enable rapid and efficient scaling.

3. CAT Database Interface and Reporting

Once data is collected from the various exchanges and market participants, the SEC and SROs would have full access to CAT data via the existing FINRA member interface web portal. FINRA would provide a set of standard data analysis and summarization tools, along with the ability to drill down to detail data via a web-based application. More specifically, FINRA would expand the functionality of its existing Web

Integrated Audit Trail ("WIAT") to include a new set of standard business intelligence features for the SEC and SROs, including:

- Summary information for orders, quotes, and trades by firm and security;
- Price and volume graphics;
- Detail data query capabilities; and
- A data catalogue of the CAT data objects and attributes, including detailed descriptions of each object and attribute.

The WIAT application would allow authorized users to access the CAT database using form-based queries requiring Firm ID, Security ID, a date range and a selection of which data sets the user wants to view. The WIAT application retrieves the selected data that matches the entered criteria and sorts the data chronologically. This market display would support several standard formats, including a tabular display.

FINRA's experience in handling large, consolidated volumes of market data in excess of five billion records per day and supporting regulation of numerous exchanges and markets suggest a wide range of use cases that need to be considered beyond this set of standard features in the audit trail application. FINRA would provide a set of optional services through which the SEC and SROs could receive and work with their own copy of the CAT data for analysis and processing. These services could include provisioning the requested data to transportable disk or tape, secure file transfer or provisioning copies within the FINRA data center. Each option would need to be weighed by the SEC, SROs, and FINRA to manage the effectiveness of the solution.

FINRA's experience with creating other consolidated data repositories is that regulators will find many new and currently unanticipated uses for the CAT data once it becomes available. To efficiently prioritize and meet the CAT Plan Participants' evolving needs, the Plan's governance committee would be required to effectively manage, among other things: CAT service level agreements with the SEC and SROs (i.e., agreed-upon standards for the delivery of CAT services); CAT capacity planning; the processing, prioritization, and implementation of changes to the CAT; and the provision and monitoring of access to the CAT database.

FINRA would expect that a large burden would be placed on the data repository environment. As a result, safeguards and procedures would need to be enacted to protect the community from having a program execution by one participant that could be detrimental to the overall system performance. These safeguards and procedures may include limits on the amount of data that could be downloaded to the SEC or SROs' own environments, the size of result sets that could be analyzed or returned by an analysis program, and the number of users accessing the environment.

FINRA is aware of the performance demands this type of data processing and querying will place on its infrastructure and will ensure response times to the industry via an agreed-upon service level.

4. Market Participant Identification

One of the principal objectives of the CAT is to provide a consolidated view of activity, including the identity of market participants, across multiple market centers. For all SEC-registered broker-dealers, a unique identifier already exists in the form of the CRD number. The FINRA CAT would use this number to uniquely identify SEC-registered entities across market centers. Beginning with the scheduled July 2011 OATS expansion to CQS stocks, FINRA will have the ability to map, link, and track the market activity of FINRA, NYSE, and NASDAQ members across the NYSE, NASDAQ, and over-the-counter markets. This will be accomplished by mapping all NYSE, NASDAQ, and over-the-counter market participant identifiers to the market participant's CRD number. Audit trail data could then be queried by firm (CRD number) or by unique market participant identifier (e.g., NYSE trading mnemonic, NYSE Arca Equity Trading Permit ID, or NASDAQ MPID). Further, beginning in July 2011, FINRA members will be required to report the specific exchange participant identifier used with each transaction on their OATS submissions so that OATS events can be directly linked to the related exchange order. FINRA also will use exchange data to map NASDAQ- and NYSE-only member firms' CRD numbers to the specific exchange participant identifiers to consolidate activity by these firms across the NASDAQ and NYSE markets.

As noted in Section I of this document, the FINRA CAT would require all sponsored access relationships and entities deemed to be large traders to register with the FINRA CAT processor. Broker-dealers would be required to submit these relationships to FINRA on a daily basis and report the CRD ID of all parties to such relationships (both sponsoring party and sponsored party), if applicable, and for non-SEC registered entities, a unique identifier for the sponsored party or large trader.[11]

5. Collection of Options Exchange, OCQ, and Firm-Level Data

FINRA currently processes options exchange data from both the NYSE Arca and AMEX options exchanges. FINRA typically receives this data the morning following a trading day and loads it into an options market data warehouse, which is retained online for 12 months. The data includes orders, quotes, trades, and BBO information. FINRA's existing capabilities can be expanded such that it can collect data from all U.S. options exchanges. Similar to the approach with equity exchange data, FINRA would establish a standard specification and protocol to collect the necessary data by building on what already exists in FIX and expanding it to add the fields and messages necessary to support CAT requirements. This would provide a single common industry utility for reporting options exchange data for the exchanges and SROs. In addition to collecting data from the options exchanges, FINRA would collect the OPRA OCQ feed for inclusion in the CAT database. Once collected, FINRA would publish data collected from the exchanges, OCQ data, and firm-level order data into a CAT database and make the data available for order lifecycle processing in the same manner as for equity securities.

[11] See Appendix B for a description of how FINRA would obtain the identity of large traders through the registration of unique market participant identifiers rather than by requiring broker-dealers to provide the CAT processor with any large trader number assigned by the SEC in order reports, thereby minimizing the ability of market participants to reverse engineer a large trader's identity or trading strategy.

6. Infrastructure, Network and Security

a. Data Center Capacity and Redundancy

Security is a primary concern when collecting, storing, and managing confidential regulatory data. FINRA currently hosts its servers and operations in two geographically separate data centers to provide redundancy and disaster recovery capabilities. In addition, FINRA would extend its existing entitlement applications and procedures used by firms when registering for reporting to OATS and accessing regulatory report cards. FINRA also plans to leverage its existing operational support desk that is staffed on a 5x24 basis to resolve support or security issues.

b. Service Levels and Reliability

FINRA currently runs and operates its existing regulatory and registration systems on a 7x24 basis with weekends reserved for systems maintenance functions. Operations are managed through a series of best practices and industry tools to ensure that systems are maintained at current versions.

FINRA collects and loads data volumes consistent with 80% of the current U.S. equity market activity and can scale its infrastructure to handle the volumes of the remaining equity and options exchanges. Further, FINRA has extensive experience with regulatory workloads and anticipates establishing an industry working group with the SEC and SROs to better understand usage demands beyond what is currently handled.

Organizationally, each project would have a dedicated project team including project management, analysts, developers, testers, and business expertise. Several of the CAT projects would need to establish working groups with industry stakeholders to assist with the development of requirements and the alignment of the CAT's capabilities with industry operations.

III. Implementation Plan

As noted at the beginning of this document, FINRA would propose to implement the CAT in a phased approach, with the goal being to deliver as much of the information that currently exists today in a CAT format as quickly as possible. Some of the required changes are already underway with FINRA's expansion of its OATS Rules to CQS issues, currently scheduled to be effective July 11, 2011. FINRA has identified six potential implementation phases. Because the first of these phases is currently underway, it is identified as Phase 0. The proposed phases are as follows.

Phase 0 – Expansion of OATS to CQS Issues – Scheduled for Release on July 11, 2011

- Order events in CQS issues will be reported to OATS.
- FINRA will build a market participant/exchange participant mapping to CRD ID for each FINRA, NYSE, and NASDAQ member broker-dealer. OATS will require firms to

submit both the OATS Reporting MPID and the unique exchange participant identifier on each order routed to a national securities exchange.

- OATS orders will be linked to their related exchange orders and TRF trade reports by unique order identifiers.
- Feedback regarding semantic validation of OATS submissions will be made available to firms within four hours of receipt by FINRA.
- OATS will accept compressed files.

Phase 1 – Initial Equity Securities Implementation – 12 months after approval of CAT NMS Plan

- Collect equity exchange quote and trade data not currently captured by FINRA.
- Require sponsored access and large trader registration and implement market event record tagging with the identity of both sponsored and sponsoring parties, and both executing broker and large trader.
- Incorporate the ISG SIP match process functionality into the CAT and eliminate separate data transmission by SROs to ISG.
- Enable external form-based access to the data (tabular detail data) for the SEC and SROs.

Phase 2 – Full Equity Securities Implementation – 18 Months after Approval of CAT NMS Plan

- Implementation of Internal Transfer Reports and Fill Reports.
- Accept FIX Drop Copy of abbreviated order submissions on an intraday basis.
- Expand external access to include market data summaries.
- Enable bulk data requests of FINRA CAT data.
- Establish a FIX OATS submission alternative.

Phase 3 – Initial Standardized Options Implementation (requires the establishment of an industry working group) – To be Determined

- Acquire OCQ data.
- Acquire options exchange data.
- Expand sponsored access and large trader registration to options activity.

Phase 4 – Full Standardized Options Implementation (requires the establishment of an internal and industry working group) – To be Determined

- Expand OATS reporting requirements to standardized options.

Phase 5 – Fixed Income and Security-Based Derivatives Implementation (requires the establishment of an internal and industry working group) – To be Determined

- Acquire participant fixed income, conventional options, and securities-based derivatives data.
- Acquire security-based swap execution facility data.

IV. Conclusion

FINRA strongly supports the creation of a single, cross-market consolidated audit trail and believes, for the reasons set forth above, is it best positioned to create, operate, and administer such an audit trail. In fact, upon expansion of the OATS Rules to all NMS stocks later this year, FINRA will already have a fully-linked order audit trail covering approximately 80% of U.S. equity market activity in NMS stocks. By modifying OATS to include new data, enhancing the consistency and granularity of market participant identifiers, and expanding the amount of information captured in OATS, among other things, OATS will be able to capture the full life cycle of orders for all order handling scenarios, facilitate more efficient and effective cross-market and cross-product surveillance, and enable more timely market reconstructions.

By leveraging its existing technology platforms and processes, as well as those of the exchanges, and building upon a proven OATS infrastructure that the securities industry has devoted significant resources to and developed substantial experience with over a period of more than a decade, FINRA believes significant savings in cost, time to market, and ease of implementation can be achieved over building a new system from the ground up. Specifically, we estimate that the initial cost for Phases I and 2 will be between $100 - $125 million and the ongoing annual costs for these phases will be between $30 - $40 million. In addition to FINRA's existing technology infrastructure, FINRA as an organization has decades of experience in building, administering, and using audit trails for a wide variety of surveillance and investigative purposes. This hands-on experience is invaluable in determining how best to build and operate a comprehensive order audit trail that meets the important goals that the SEC has set out for the CAT. For all of these reasons, FINRA believes that it is best positioned to build, implement, and administer a single, cross-market consolidated audit trail.

Appendix A

Existing FINRA Order Audit Trail System ("OATS") Elements Compared to FINRA-Recommended Elements for the Consolidated Audit Trail ("CAT")

SEC's CAT Proposal	OATS	Recommended for CAT
Customer Information		
Customer name	No	No
Customer address	No	No
Customer account number	No	No
Customer account type (i.e. options)	No	Yes
Customer type (retail, institutional, proprietary)	Account Type Code	Yes
Account open date	No	No
Large trader identifier	No	Yes
Unique customer identifier	No	No
Broker/Dealer Identifier Information		
Order handler identifier (i.e. exchange, association, B/D)	Receiving Firm MPID/Routing Firm MPID	Yes
Identifier of Branch office or registered Representative	Receiving Terminal ID - could be repurposed for BR or RR	Yes
Receipt or Origination of an Order		
Date/Time order is received (milliseconds)	Order Received Timestamp (seconds)	Yes
NMS security symbol	Issue symbol	Yes
Security type	Yes (not on OATS submission, but obtained via issue reference data)	Yes (would follow OATS process of obtaining from issue reference data)
Price (if applicable)	Limit Price	Yes
Size (displayed/non-displayed)	Shares Quantity	Yes
Side	Buy/Sell Code	Yes
Order type	N/A (currently derived off limit price field)	Yes
Sell (long, short, short exempt)	Buy/Sell Code/ Short Exempt Indicator	Yes
Short sale locate identifier	No	Yes
Open/Close indicator	No	No
Time in Force	Time in Force Code	Yes
Solicited/Unsolicited	No	Yes
Account prior position	No	No

Appendix A

Existing FINRA Order Audit Trail System ("OATS") Elements Compared to FINRA-Recommended Elements for the Consolidated Audit Trail ("CAT")

SEC's CAT Proposal	OATS	Recommended for CAT
Option type	No	Yes
Special handling instructions	Special handling codes	Yes
Unique order identifier	Order receiving Firm Order ID/Routed order ID.	Yes
	Received Method Code	Yes
	Customer Instruction Flag	Yes
	Stop Price	Yes
	Expiration Date and Time	Yes
	DNR/DNI Code	Yes
	Receiving Terminal ID (electronic orders)	No
	Receiving/ Originating Department IDs	Yes
	Program Trading Code	Yes
	Arbitrage Code	Yes
	ECN Flag	Yes
	Time Managed Order Trigger Timestamp	Yes
	Negotiated Trade Flag	Yes
Routing an Order		
Unique order identifier	Order receiving Firm Order ID/Routed or Sent to Routed order ID	Yes
Date and time order was routed (milliseconds)	Order Sent timestamp (seconds)	Yes
Identifier of B/D routing the order	Order Receiving Firm MPID	Yes
Identifier of B/D receiving the order	Sent to Firm MPID	Yes
Identity and nature of desk to which an order is routed, if routed internally	Desk Type Code	Yes
	Routing method Code	Yes

Appendix A

Existing FINRA Order Audit Trail System ("OATS") Elements Compared to FINRA-Recommended Elements for the Consolidated Audit Trail ("CAT")

SEC's CAT Proposal	OATS	Recommended for CAT
	Bunched order Indicator	Yes
	Destination Code	Yes
	Routed Order Type Indicator	Yes
	ISO Indicator	Yes
	Desk received Timestamp	Yes
	Desk Special Handling Codes	Yes
	Desk Identifier	Yes
Material terms of the order	See Order Origination	
Receiving a Routed Order		
Unique order identifier	Firm Order ID/Routed Order ID	Yes
Date and Time order is received (milliseconds)	Order Received timestamp (Seconds)	Yes
Identifier of B/D receiving the order	Order Receiving Firm MPID	Yes
Identifier of B/D routing the order	Routing Firm MPID	Yes
	Member Type Code	Yes
	Received Method Code	Yes
Material terms of the order	See Order Origination	Yes
Order Modification and Cancellation		
Unique Order Identifier	Firm Order ID	Yes
Date and time Order is cancelled or modified (milliseconds)	Order Cancel Timestamp (Cancel)/ Order received Timestamp (Modification) (seconds)	Yes
Identity of Person responsible for modification or cancellation	Cancel by Flag	Only need indicator of firm or customer
Price (modification)	Limit Price	Yes
Remaining size of the order (modification)	Shares Quantity /Leaves Quantity	Yes

Appendix A

Existing FINRA Order Audit Trail System ("OATS") Elements Compared to FINRA-Recommended Elements for the Consolidated Audit Trail ("CAT")

SEC's CAT Proposal	OATS	Recommended for CAT
	Cancel Type Flag	Yes (would derive from leaves quantity)
Material terms of the order	See Order Origination	
Order Execution		
Unique order identifier	Firm Order ID	Yes
Execution date/time (milliseconds)	Execution Timestamp (seconds)	Yes
Capacity of entity executing the order	Capacity Code	Yes
Execution price	Execution Price	Yes
Size of execution	Execution Quantity	Yes
Unique identifier of exchange or B/D executing the order	Order Receiving Firm MPID	Yes
Whether the execution was reported pursuant to a transaction reporting plan	Market Center ID Reporting Exception Code	Yes
	Trader terminal ID	No
	Branch/Sequence Number	Yes
	Execution Type Indicator	No
Account number for any subaccounts	No	No
Unique identifier of clearing broker or prime broker	No	Yes (on trade report)
Unique order identifier of any contra-side order	No	Yes
Special settlement terms	Special Handling Code	Yes
Short sale borrow information	No	No
Amount of commission	No	No
Identifier of B/D to whom commission is paid	No	No
Cancelled trade indicator	No	Yes (on trade report)

CAT Large Trader Registration Process

The following example illustrates how FINRA would obtain the identity of large traders through the registration of unique market participant identifiers rather than by requiring broker-dealers to provide the CAT processor with any large trader number assigned by the SEC in order reports, thereby minimizing the ability of market participants to reverse engineer a large trader's identity or trading strategy.

Assumptions:

- Hedge Fund A (HFA) has registered with the SEC as a large trader and the SEC assigned HFA a larger trader identifier of 345.
- HFA has executing broker relationships with BD1, BD2 and BD3.

Each of the three BDs would be required to register its relationship with HFA with the FINRA CAT processor and provide the CAT processor with a unique market or exchange participant identifier ("collectively MP ID") to represent the relationship[1]. If any of the BDs trade on behalf of HFA on more than one market center that use different market participant identifiers, a unique identifier for each exchange or market center would be required.

CAT Large Trader Data Base

Broker-Dealer	Larger Trader	Larger Trader #	MP ID Market Center 1	MP ID Market Center 2
BD1 (CRD#1234)	HFA	345	BDQI	BDY
BD2 (CRD#4567)	HFA	345	BDYT	BFG
BD3 (CRD#6789)	HFA	345	BNOU	BOU

Using the above information, the CAT would trace all order and market events reported to the CAT under MP IDs BDQI and BDY to both BD1 and HFA. Likewise, all order events reported to the CAT under MP IDs BDYT and BFG would be traced to BD2 and HFA; and all order events reported to the CAT under MP IDs BNOU and BOU would be traced to BD3 and HFA.

Under the structure described above, large trader identifiers would only reside in the CAT Large Trader Database. Thus, broker-dealers would never provide the actual large trader numbers on any market data reported to the CAT, such as order events and trade reports.

[1] FINRA assumes individual market participant identifiers would be obtained from FINRA and national securities exchanges in the same manner as is done today.