

# FINANCIAL INFORMATION FORUM

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## Via Electronic Delivery

September 18, 2014

Ms. Elizabeth M. Murphy  
Secretary  
U. S. Securities and Exchange Commission  
100 F Street, NE,  
Washington, DC 20549-1090

Re: Release No. 34-70892, File Number 4-668, Proposed National Market System Plan Governing the Process of Selecting a Plan Processor and Developing a Plan for the Consolidated Audit Trail (“Selection Process NMS Plan”)

Dear Ms. Murphy,

The Selection Process NMS Plan<sup>1</sup> requires that the SROs identify optimal proposed solutions for the CAT Processor as part of the CAT NMS Plan. The Financial Information Forum (FIF)<sup>2</sup>, on behalf of our Consolidated Audit Trail Working Group is submitting the following recommendations on elements of the optimal proposed solution. FIF developed these recommendations based on FIF member feedback as well as a review of survey responses from all short-listed bidders. Based on responses from the bidders, we believe that in nearly all cases our recommendations could be accommodated by one or more bidder.

We appreciate the opportunity to provide these additional comments and look forward to working with the SROs and the SEC as the CAT process moves forward.

Regards,



Manisha Kimmel  
Executive Director  
Financial Information Forum

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<sup>1</sup> National Market System Plan Governing the Process of Selecting a Plan Processor and Developing a Plan for the Consolidated Audit Trail, November 13, 2013, Release No. 34-70892, File Number 4-668, Section VI.C

<sup>2</sup> FIF ([www.fif.com](http://www.fif.com)) was formed in 1996 to provide a centralized source of information on the implementation issues that impact the securities industry across the order lifecycle. Our participants include trading and back office service bureaus, broker-dealers, market data vendors and exchanges. Through topic-oriented working groups, FIF participants focus on critical issues and productive solutions to technology developments, regulatory initiatives, and other industry changes.



## **FIF Consolidated Audit Trail Working Group CAT Processor Proposed Optimal Solution Recommendation**

September 15, 2014

For additional information, please contact:

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## 1 Introduction

The purpose of this document is to provide specific functional requirements to assist the SROs in defining the proposed optimal solution for the CAT Processor. In developing this recommendation, FIF sought input from the shortlisted bidders to better understand their solutions and determine the feasibility of FIF requests related to functionality that have been distributed to the SROs on previous occasions. This document summarizes important functions that FIF recommends be included in the proposed optimal solution for the CAT Processor.

FIF reviewed these recommendations with the CAT bidders to validate that our requirements would not excessively burden a CAT solution. FIF also wanted to understand the bidder perspective on these requirements, and if they might have creative solutions to these requirements.

An appendix is provided with links to the questions asked of the bidders as well as each bidder's response.

## 2 FIF Recommendation

Our recommendation does not cover all aspects of the proposed optimal solution most notably security. The FIF CAT WG's expertise centers on the CAT Reporter experience from an implementation perspective and does not include information security experts that we would expect the SROs to consult regarding this aspect of CAT functionality. Additionally, issues like cost, funding and governance are also not included because these issues will be discussed in future DAG meetings.

### 2.1 Specifications

- Consideration should be given to implementation practices that can reduce the industry's risks associated with this large initiative and to minimize re-work due to incomplete, incorrect or misunderstood interfaces.
- The CAT Processor should engage the industry during implementation phase, including provision of tools to assist in industry communications (web site, help desk, etc.).
- A phased implementation of the Plan would benefit both the CAT Processor and the CAT Reporters. Phases could be defined by security type (e.g., NMS and OTC equities then options), by customer type (e.g., institutional customers, retail customers), or by functionality. Given the magnitude of this effort, it is critical that we consider approaches that minimize systemic risk.
- Potentially, a pilot program could be defined that solicits a small number of CAT Reporter firms to implement a subset of CAT reporting to demonstrate that the CAT infrastructure works within the defined operating characteristics (performance, response time, security, accuracy, etc.) and

allows adequate data extraction/surveillance reporting. Compliance issues associated with participation in the pilot program should not be subject to enforcement.<sup>1</sup>

- An approved CAT specification must be available to the industry at least 12 months prior to go-live of CAT.
- Very detailed specifications, including an extensive set of use cases which demonstrate various trading scenarios, is required by the industry to ensure a smooth adoption of the CAT.
- Prior to final publication of the final specification, the industry requests two, six week industry review cycles with a revised specification distributed prior to the second review cycle.

## 2.2 Customer Definition Process

- The firm-designated id represents the customer definition model supported by the industry; the SROs have submitted an exemptive request to the SEC in support of this model. (See firm-designated id scenario document ([click here](#)) for an overview of the definition flow and subsequent use of firm-designed id in CAT Reports).
- The CAT Reporter should have the flexibility to define periodic updates to the customer definition information via either delta updates or total replaces.
- The CAT Reporter should be able to submit customer definition information via a CAT web site or file submission.
- Provide flexibility in customer identification formats to accommodate varied account specifications.
- Provide intelligent analysis on entry of customer definition information to identify errors.
- Leverage the LEI definition process to reduce customer definition information required to uniquely define customer.

## 2.3 CAT Data and Submission Format

- Allow use of multiple standard message formats as input into CAT, with CAT Processor translating to a standardized record or message format for processing.
- Provide for extending current message formats to include new CAT required data.
- Provide for extending current message interface for new asset classes.
- CAT Reporters should be able to submit CAT reports via flat files, on-line through CAT web-site or via a FIX message format.

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<sup>1</sup> FIF recommends that consideration with respect to compliance be granted as part of the introduction of any new CAT functionality.

- Provide for varied network connectivity options to CAT in support of both small and large broker-dealers.
- Exchange reporting of options market maker quotes should be sufficient for CAT Reporting; duplicate reporting by options market makers is unnecessary and very costly to both the industry and the CAT Processor. It is our understanding that the SROs have submitted an exemptive request in support of this position.<sup>2</sup>
- FIF suggests that the current data model for NMS equities can be extended to handle CAT reporting of options.

## 2.4 Linkage Processing

- FIF suggests that there may be some scenarios that could benefit from applying the Daisy Chain concept to internal routes (e.g., Aggregate Orders).
- Since there is no link between orders to fill a firm’s inventory and the fills from that inventory to satisfy customer orders, FIF believes that reporting such linkages would not be required by SEC Rule 613.
- The reporting requirements and the linkages throughout the order flow need to be explored, especially for more complicated scenarios. Part of the analysis needs to determine if the CAT Reporter or the CAT Processor should provide linkages through all the events in the order flow lifecycle.
- The optimal solution should have functionality that can accommodate additional linkages, if required.
- It is the consensus opinion of FIF and its members that linkage at the Order-ID level should not be required for linking between representative and client orders. The CAT Audit Trail should mirror the current business processes; the audit trail should not create a link where one doesn’t exist today. There can be no accurate linkage of client orders and representative orders because the execution of the representative order determines how that execution will, or will not, be used to fill any particular client order. Therefore, the linkage would occur when representative order executions are used to fill particular client orders.
- When representative orders are handled in a riskless principal capacity, it is recommended that these orders and executions would have no pre-trade linkage known between customer orders and representative orders but there is a post-execution linkage established between the representative order execution and the resulting fill of the customer order from that execution. A CAT report could be created to provide an audit trail of that link. FIF recommends that the CAT reporting requirements model this diversity allowing flexibility in how events are reported to accommodate the diversity of current business processes.

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<sup>2</sup> While not addressed in bidder requirements, it is our understanding that the SROs and SEC are actively considering this request.

- In examining intra-firm linkage issues as they relate to average price processing, FIF believes decoupling allocations from order linkage and tying allocations to the Customer-ID mirrors the actual allocation process. Since sub-account information will be supplied on CAT Allocation reports and firm-designated customer identifiers will be supplied on CAT Order reports, and because sub-accounts and firm-designated customer identifiers can be linked back to the CAT Customer-ID, the CAT now has linkages among all of a customer's orders, executions and allocations for a single day, although there may not always be sufficient linkage information to relate a specific order, execution and allocation for a customer within that day.

## 2.5 Amendment / Exception Processing

- For allocation reporting, allow different models such that a firm can report each amendment to an allocation report up to settlement date or allow a firm to only report the final allocation on settlement date eliminating the interim allocations pre-settlement date. Take into account that options have a higher number of allocations and amendments than equities.
- "As of" transaction processing must also be accommodated in the CAT reporting process, as well as in the error identification/correction cycle.
- Cancel/correct transactions must be accommodated in the CAT reporting process, as well as in the error identification/correction cycle.

## 2.6 Error Correction Process

- Support for a continuous validation model for CAT Processor report validation is requested in the error correction process.
- Support for continuous feedback to CAT Reporters on error identification is requested in the error correction process.
- CAT incorporation of allocation reports into its data validation and match criteria process are received one day following the related order and execution reports. Errors associated with allocation reports should have a repaired window starting from the date of the allocation report submission, not the original order report.
- CAT Processor should use intelligent analysis to quickly identify errors in data submitted (either customer definitions or CAT reports) and especially linkage data pinpointing the source of the break and minimizing the number of reports or data requiring correction.
- Error corrections from CAT Reporters should be accepted by the CAT Processor and resolved at any time within the error correction timeframe or even if beyond the error correction timeline. FIF believes that if a CAT Reporter identifies an error in a CAT data submission after the error correction window, updating the record should be permitted in order to ensure that the CAT processor has access to the most accurate data available.<sup>3</sup>

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<sup>3</sup> Most bidders indicated their bid proposals conformed to RFP requirements which specified T+5 error identification/correction cycle. FIF would expect that data submitted after the error correction cycle may require separate processing.

- CAT Reporters should be permitted to re-submit corrected reports even if the CAT Processor had not identified an error.
- A more pro-active publishing strategy should be pursued for communications with CAT Reporters especially regarding the error notification and correction process. This could include a Web-based service that allows viewing of the CAT data and error notification as well as submission of repairs, i.e., what data is visible to the CAT processor and what caused the break or issue. Having this type of service will reduce the dependency to first test repairs through the CAT DEV/QA environment to verify that the trade correction corrected the reporting issue. File transmissions of error notifications as well as error corrections should also be supported.
- A powerful tool set should be available to CAT Reporters that supports viewing of CAT data, detailed analysis of cause for breaks and test tools for validation of error corrections before submission.
- Linkage breaks (e.g. a reject is received for part 5 of a 10 part client order) should not be grounds to cause subsequent events (parts 6 through 10) to be rejected.
- Broken linkages should be repairable without having to resubmit all subsequent activity; correction should only be required for that event which was affected.
- CAT Reporters should be able to submit on-line corrections or submit bulk files with corrections of errors discovered.
- The CAT Processor should support auto-correction of identified errors as new data is introduced to the CAT Processor with immediate feedback to CAT Reporters.

## 2.7 Access to CAT Database

- To reduce errors and improve the timelines for error corrections, CAT Reporters should have access to their own data in the CAT database including customer definition information.
- CAT Reporters should be able to view their exact submissions to the CAT (as opposed to how the CAT Processor may transform or store the data in the CAT database) as well as the error reports from the CAT.
- A set of web-based tools should be supplied by the CAT to allow viewing, data extraction, correction and submission of data by CAT Reporters.
- The CAT Processor should provide a query/extract access to CAT Reporter data.<sup>4</sup>
- The CAT Processor should provide sufficient access to CAT data so that CAT Reporters can use their own data stored in the CAT database.
- CAT Reporter data should be available for access by CAT Reporters for the same amount of time as data is available to SEC and SRO (e.g., up to 7 years).

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<sup>4</sup> Security concerns regarding CAT Reporter retrieval of PII data would need to be addressed.

## 2.8 Performance / Availability

- The CAT Processor should be available 24x7 to allow ingestion of CAT reports, CAT Reporter inquiry and error correction.
- The performance of the CAT Processor should accommodate the planned (and projected) ingestion rate of business data with no performance degradation to the submitting CAT Reporters.
- The performance of the CAT Processor should handle the required validation and error identification of planned (and projected) volume of CAT reports such that the 4 hour window of feedback to CAT Reporters can be met.
- The performance of the CAT Processor should provide "reasonable" responsiveness for CAT Reporter web inquiry and input of CAT data.
- The performance of the CAT Processor should provide "reasonable" responsiveness for SEC and SRO inquiries for surveillance and market reconstruction purposes so that inquiry activity does not interfere with CAT Reporter responsiveness or overall performance of CAT Processor.

## 2.9 Testing and Customer Support

- A full-functioning test environment must be available for industry use at least 6 months prior to go-live of CAT.
- An industry-wide test phase is required using production data with agreed success criteria and conducted during the three month period prior to go-live of CAT.
- Test systems should be available intra-day to CAT Reporters during every business day for on-going validation of CAT Reporter interface and release testing.
- Test systems should be available evenings and week-ends for specialized stress and interface testing.
- The test environment must replicate the production error identification/correction cycle, including rapid turnaround and error identification/correction.
- A robust customer support model that provides assistance from final specification publication throughout the CAT testing and on-boarding is essential to the industry for smooth and efficient adoption of CAT. An on-going customer service model that supports 24x7 customer help interface points, including phone, email, web-site chats and self-help would lessen the impact, and cost, to the industry in the adoption and on-going use of the CAT utility. Help desk access to technical support personnel both during business hours as well as off-hours and weekends is critical to meeting the aggressive implementation schedules.
- A robust tool set is needed to assist CAT Reporters in testing and validation of CAT reports prior to submission to CAT Processor.

## 2.10 Sunsetting of Existing Regulatory Reporting Systems

- A plan must be defined where high priority existing regulatory reporting systems can be eliminated within six to twelve months after initial roll-out of CAT. As previously submitted to the SROs, FIF has prioritized the list of systems/rules for elimination:
  - High Priority – due to high impact
    - OATS
    - Large Trader Reporting (since Large Trader Reporting uses EBS, LTR and EBS are linked)
    - Electronic Blue Sheets (EBS)
    - CBOE 8.9 (Clearing Firms reporting of executed orders and positions in the accounts of market makers) – Executed Order Portion only<sup>5</sup>
  - High Priority – due to ease of elimination/medium impact
    - NYSE 410B
    - PHLX 1022 (specialists/registered options traders reporting of orders)
    - FESC/NYSE 123 (e) and (f)
  - Low Priority - due to impact on broker dealers
    - COATS
    - Equity Cleared Reports
  - Potential Later Phases
    - Large Options Position Reporting (LOPR)
    - FINRA Rule 4560 (Short Interest)
    - CBOE 8.9 (Clearing firms reporting of executed orders and positions in the accounts of market makers) – Position Portion
    - INSITE reporting under NASD 3150
    - FINRA IPO Distribution Report/FINRA 5130(j) once primary market transactions are added to CAT)

Clearing firms, vendor and third party providers which service multiple clients will be especially burdened due to the mixed regulatory reporting requirements as a result of the SEC Rule 613 staged roll-out of CAT for large and small broker dealers. The NMS Plan should address this challenge.<sup>6</sup>

- The CAT Processor could potentially develop tools for an earlier sunset date for existing systems.

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<sup>5</sup> CBOE's recently approved Rule 15.2A should also be eliminated as part of the initial rollout of CAT. Additionally, a gap analysis has yet to be performed on FINRA's proposed CARDS versus CAT.

<sup>6</sup> While bidders did not foresee challenges with accommodating a seamless rollout, establishing the schedule for the elimination of existing systems is an SRO decision.

## 2.11 CAT User Applications/Inclusion of Direct Feeds

- Applications<sup>7</sup> and use cases should be included in CAT Processor deliverables to demonstrate that the proposed solution adequately addresses CAT User requirements including those specifically raised in SEC Rule 613.
- Market data depth of book direct feeds should be included in the CAT Processor functional requirements in order to address surveillance goals and current market structure issues.

## 3 Conclusion

FIF found responses from bidders to be useful in the development of the aforementioned recommendations. Many bidders went well beyond the RFP requirements and in some cases proposed functionality beyond FIF prior requests. With respect to processor functionality, in all cases at least one bidder included elements of the recommended FIF optimal solution in their bid proposal with the exception of the FIF recommendation to allow data submission beyond the error correction timeframe.<sup>8</sup>

We respectfully request that the SROs outline a proposed optimal solution that incorporates these recommendations as part of the CAT NMS Plan. Additionally, these recommendations should be considered as the CAT processor selection process progresses to its final stages.

## 4 Appendix

- [FIF Questions to Bidders Related to the Proposed Optimal Solution](#)
- CAT Bidder Responses to FIF Questions (Available on FIF website [here](#))
  - [AxiomSL/CSC](#)
  - [CAT Pro](#)
  - [EPAM](#)
  - [FINRA](#)
  - [SunGard](#)
  - [Thesys](#)

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<sup>7</sup> Some bidders included specific tools (e.g., statistics, order book reconstruction and visualization) within their bid proposals. Bidders, in general, indicated support for this requirement subject to SRO approval of a more complete set of applications as part of CAT processor functionality.

<sup>8</sup> The RFP focuses solely on data submission within the error correction timeframe. See footnote 3 above.