

FINANCIAL INFORMATION FORUM

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DRAFT - Via Electronic Delivery

October 16, 2017

To: Mr. Ed Watson, Chief Operating Officer, Thesys CAT, LLC;
Mr. Shane Swanson, Chief Compliance Officer, Thesys CAT, LLC
Mr. Michael Simon, CAT NMS Plan Chair on behalf CAT NMS Plan Operating Committee

Dear Mr. Watson, Mr. Swanson, and Mr. Simon,

The Financial Information Forum (“FIF”)¹ Consolidated Audit Trail Working Group (“FIF CAT WG”) appreciates the opportunity to provide additional comments to Thesys CAT, LLC and the Operating Committee on the DRAFT CAT Reporting Technical Specifications for Industry Members (“Discussion Document”),² distributed to the industry on September 7, 2017. FIF comments are provided in the spirit of identifying core issues and finding solutions that will deliver a high quality and cost-efficient reporting interface on which to evolve this audit trail. This letter supplements:

- FIF’s comment letter of September 25³, which identified major concerns and reviewed Sections 1 through 3 of the Discussion Document, and
- The series of review summaries (#5 through 10), for Discussion Document Sections 4, 5, and 9, which have been sent to Thesys CAT, the CAT NMS Plan Operating Committee and the Advisory Committee over the last week. These summaries are included as an Addendum to this letter for your convenience.
- Feedback provided to the Advisory Committee on reporting requirements for complex options (Discussion Document, Section 6).

The remaining sections of the Discussion Document (Equity Scenarios, Option Scenarios, Submission Process (except for CAT Reporting Hours), Feedback and Corrections, Testing, Additional Information, Failure Codes) are virtually empty. Security considerations are not addressed in the Discussion Document.

Assessment

FIF CAT WG completed an extensive review of this Discussion Document including 10 review sessions, with an average of 200 participants/call, and many hours of work by each member firm to prepare for these reviews. The document contains only a portion of the information required for a complete and final specification that can be used by Industry Members to implement the CAT requirements. FIF concerns include the following:

- Functions are missing, as evidenced by the empty sections in the Discussion Document,
- The functions contained in the specification are described in minimal detail,

¹ FIF (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.

² DRAFT CAT Reporting Technical Specifications for Industry Members, DRAFT V0.1, dated September 1, 2017

³ [Letter](#) from William H. Hebert, Managing Director, FIF to Mr. Ed Watson and Mr. Shane Swanson, *Re: DRAFT CAT Reporting Technical Specifications for Industry Members DRAFT V0.1, dated September 1, 2017, September 25, 2017*

- The event details are incomplete and inconsistent; and,
- There are gaps and errors in reflecting current business processes (*e.g.*, Quotes for Equities).

To compound these problems, FIF has foundational concerns (*see* “Foundational Concerns” below) with the functions and interfaces that were included in the Discussion Document. In FIF’s opinion, it will be difficult to transform this Discussion Document into a Final Specification by the scheduled publish date of November 15. And, as previously highlighted in the Industry Outreach Event on September 7, the comments submitted by the October 16 comment letter deadline could not be guaranteed to be considered for inclusion in the final specification.

After this thorough review of the Discussion Document and considering the extent of the differences between the CAT reporting interface as described in the Discussion Document and the industry’s view of CAT reporting requirements, FIF respectfully proposes that the specification delivered in November should serve as an Initial Specification. Two iterations of specification reviews will then be needed before a final specification can be delivered that the industry could use for implementation. This iterative process would, in FIF’s opinion, better reflect the CAT NMS Plan’s Objective Milestones⁴ where it states that iterative drafts of the Technical Specifications would be published, as needed, before publishing of the final document. Moreover, utilizing this iterative process to develop a sound final document that will not require significant material changes also will serve as a substantial step toward meeting the other CAT NMS Plan’s Objective Milestone - publishing a final specification no later than 1 year before Industry Members are required to begin reporting data to the Central Repository.

Foundational Concerns

In addition to the assessment of the Discussion Document given above, FIF is concerned with the direction of the reporting requirements exhibited in this Discussion Document, including:

1. **Reporting Scope:** Thesys CAT has taken a very broad interpretation of the CAT NMS Plan, and in some cases, requires regulatory reporting beyond the scope of Rule 613 or any other regulatory framework.
 - Requirements included in this Discussion Document for complex orders and equity quote messages are examples of proposed reporting requirements not covered by any existing rule. Regulatory reporting should be established via rule-making, not technical specification writing.
 - Other cases (*e.g.*, reporting of all fills and data capture beyond material terms of the order) represent a broad interpretation of Rule 613 and the CAT NMS Plan that impacts current business processes and which are not covered within existing regulatory reporting frameworks today. This would require significant analysis, consideration, and vetting before introducing additional regulatory reporting requirements in these areas. The implications to the current business processes could be quite extensive. There is little time in the current schedule for the Plan Processor to thoughtfully and completely define these new requirements. And it would further aggravate an already tight and aggressive schedule for the industry.
 - This scope expansion, including explicit reporting of implied actions and sequence numbers on events, will result in a much larger than anticipated impact on the industry to implement CAT and a corresponding increase in industry cost, none of which was contained in the industry cost estimates included in the CAT NMS Plan.

⁴ CAT NMS Plan, Appendix C, Section 10.c, Objective Milestones to Assess Progress.

2. **Deviation from OATS:** The proposed reporting model (*e.g.*, new and paired events, reporting results on an event, explicit reporting of implicit actions) differs from current business logic used by firms to implement OATS. Given the abbreviated schedule in producing the Discussion Document, the implications of these changes were not documented, especially regarding the error conditions and error procedures for handling repairs across new, related events. FIF is concerned that there is not sufficient time to fully vet such a new reporting model, given the constrained schedule. In addition, the new model does not account for the retirement of OATS, making the transition from OATS to CAT much more difficult and expensive, and further complicating a reconciliation process between OATS and CAT. OATS to CAT reconciliation is a necessary step both to validate CAT reporting during the test period and to manage the required duplicative reporting prior to OATS retirement.
3. **Retirement of Duplicative Systems:** The Discussion Document has not adequately addressed the inclusion in Phase 1 of all of the transactions and data needed for the retirement of OATS, comparable functions in EBS and Large Trader.

The Discussion Document has not provided any insight into the regulatory benefits achieved by proposing these fundamental changes that would justify the significant increase in the implementation costs for the industry.

Proposal

As FIF has previously stated, Rule 613 milestones and the CAT NMS Plan implementation schedule have been a constraining factor in the development and delivery of the CAT Specification.

To transform this Discussion Document into a viable specification for industry CAT implementation, FIF recommends the following actions.

- The Operating Committee request that schedule and content relief be granted by the SEC so that a revised implementation plan can be established. This new plan should define a more focused and realistic Phase 1 deliverable. FIF recommends that options reporting be postponed to Phase 2 of CAT. This would allow Thesys CAT to focus on just one asset class for Phase 1. And it would provide sufficient time for analysis and definition of a reporting framework for options.
- Thesys CAT build upon the already-established definitions, business processes, and FAQs included in OATS today which would allow rapid development of detailed CAT specifications for equities. We are not recommending OATS 2.0, but rather leveraging the OATS rules framework, which would allow Thesys CAT and the industry to quickly build an equities reporting structure. We recommend that any significant deviation from the OATS reporting model be postponed until after the retirement of OATS. We would also recommend that any significant expansion of equities reporting be postponed until after Phase 1 to allow sufficient time for analysis and definition required for any new reporting requirements.
- The Customer Information Final Specification should be made available more than 5 months prior to start of customer information reporting to CAT (the current CAT NMS Plan schedule). More than 5 months is needed for implementation of this new reporting interface, sourcing of the customer data from multiple systems (and hardcopy) and, most importantly, any required customer data remediation which will likely involve customer outreach. If the publication of the Customer Information Specification cannot be improved, then Customer reporting should be postponed to post-Phase 1. There are also schedule and security advantages to the postponement of customer reporting to post-Phase 1. Staging of this functionality not only reduces schedule and implementation risk, it also provides additional time to ensure the infrastructure is sufficiently secure to contain the sensitive PII information.

- FIF recommends that this new plan also allow sufficient time for the following activities:
 - Evaluation by the Plan Processor, Operating Committee and Advisory Committee of the industry feedback that has been provided including dialogue with the industry to fully understand the issues and concerns that were identified with the “Discussion Document”.
 - Development of an Initial Specification which would include a thorough and comprehensive design and detailed definitions of all function, interfaces, error and exception handling, connectivity definition, security, testing functionality, extensive use cases and FAQs demonstrating CAT reporting of business scenarios, and retirement considerations for OATS, EBS, Large Trader and other identified duplicative reporting systems.
 - The industry should be afforded sufficient time to review this initial specification (4 to 6 weeks) and the Plan Processor should be provided a reasonable time period to evaluate and incorporate that feedback.
 - Given the current state of the Discussion Document, a second iterative review of the initial specification be conducted, allowing the full cycle of industry review, evaluation and incorporation of feedback by Thesys CAT and the Operating Committee.

We believe this approach will enable a final specification to be delivered to the industry upon which it can determine a schedule for CAT implementation and start its design and development phases.

Summary

FIF has consistently supported and remains firmly committed to the Consolidated Audit Trail. We believe that CAT provides the foundation for a more modern, comprehensive and consistent set of regulatory reporting requirements that should enable an improved regulatory and surveillance infrastructure as well as a well-structured and simplified reporting interface for the industry. Building a comprehensive specification on which to implement industry reporting to CAT is the most efficient and cost-effective model for Industry Members to implement CAT interfaces that conform to Rule 613/CAT NMS Plan. We continue to offer our assistance in working with Thesys CAT and the Operating Committee to deliver a solid specification for industry review.

Sincerely,



William H. Hebert
Managing Director
Financial Information Forum

cc:

Ms. Heather Seidel, Acting Director, Division of Trading and Markets, SEC
Mr. Gary Goldsholle, Deputy Director, Division of Trading and Markets, SEC
Mr. David Shillman, Associate Director, Division of Trading and Markets, SEC
Mr. David Hsu, Assistant Director, Division of Trading and Markets, SEC

Mr. Michael Beller, CEO, Thesys Technologies

Mr. Robert Walley, Partner, Deloitte, for distribution to the CAT Operating Committee, *BATS Exchange, Inc., BATS Y-Exchange, Inc., BOX Options Exchange LLC, C2 Options Exchange, Incorporated, Chicago Board Options Exchange, Inc., Chicago Stock Exchange, Inc., EDGA Exchange, Inc., EDGX Exchange, Inc., Financial Industry Regulatory Authority, Inc., International Securities Exchange, LLC, Miami International Securities Exchange, LLC, NASDAQ OMX BX, Inc., The Investors Exchange, NASDAQ OMX PHLX, LLC, The NASDAQ Stock Market LLC, National Stock Exchange, Inc., New York Stock Exchange LLC, NYSE Arca, Inc., NYSE MKT LLC.*

Ms. Manisha Kimmel, Chair, CAT Advisory Committee and on behalf of CAT Advisory Committee

Ms. Ellen Greene, Managing Director, SIFMA

Mr. James Toes, President and CEO, STA

Addendum

October 2, 2017

Summary of Session 5, September 29 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.1)

This Summary is a continuation of the FIF CAT WG review of the Initial CAT Reporting Specification for Industry Members, focusing on the major concerns identified to date with the specification. In the previous 2 summaries of the 2 review sessions, the following 11 concerns were described:

1. **End of Trading Day** – Section 9.7
2. **Timestamps** - Section 3.1
3. **Sequence Numbers** - Section 3.1
4. **Reporter ID** – Section 1.3.1
5. **New Events** – Section 4.1
6. **Missing information that is on OATS interface**
7. **Missing Blue Sheets data in CAT Interface**
8. **Complex orders with CAT-eligible securities**
9. **Complex orders with non-CAT eligible securities**
10. **Quote Messages with Equities**
11. **Trade Events**

Sessions 4 and 5 reviewed Sections 1 through 4.1

Session 5 on September 29 continued with the review.

Major Concerns - #12 and #13

Two major concerns were discussed, both of which are significant, though subtle, differences between the CAT and OATS reporting models and would require major changes to the business logic in processing these CAT events. These models create more confusion and complication to the reporting process, without adding any more clarity to the audit trail.

- Requiring the reporting of an event as well as the result of the event on one report. This pairing of request and response on one report is required on the Route, Modify Route, Cancel Route, Internal Route and New Quote Events. The regulatory benefit of this new reporting model is not obvious, yet the changes in processing it will require is substantial. This model raises many questions (*see below*), uncertainties and ambiguities rather than providing surveillance clarity. Introducing a request/response model requires an architecture that accounts for the complexities this type of model would produce. And it needs to be explained in relation to the daisy chain linkage logic, because with daisy chains, it should be the responsibility of the “routed to” firm to report the status of the received request.
- Two events (Modify Route and Cancel Route) now require the reporting of an “intent to take an action” and not reporting of the event itself. What does it mean to report “intent”? What can be the regulatory definition, and implied enforcement actions, of “intent”? How will “intent” be proven? Why is “intent” even being considered from a regulatory perspective? Shouldn’t the only reportable action be what actually happened?

In the absence of understanding the regulatory rationale and the processing rules/guidelines surrounding these reporting events, FIF disagrees with these two new reporting models. Reporting of these events will result in major changes to business logic and create more uncertainty and confusion with the audit trail. FIF recommends that, for Phase 1, simple, well-vetted, report models be used for these events. Specifically, FIF requests that “results” be eliminated from the Route, Modify Route, Cancel Route, Internal Route and New Quote Events and reporting “intent to take action” be eliminated from the Modify Route and Cancel Route Events.

There is significant ambiguity and differences in the message handling of Route Events across market centers. FIF recommends that the CAT audit trail could be improved through efforts to standardize reporting requirements and eliminate ambiguity across Participants and Industry Members on the handling and reporting of routed orders.

These concerns (and other comments) are discussed in more detail in the sections below.

Detailed Comments

Section 4.1 – New Order Event – In FIF’s comment letter⁵, FIF incorrectly recommended that support for the Solicitation Flag on the New Order Event (and other CAT events) was not needed. In fact, this flag is required for Blue Sheets and would be needed for the eventual retirement of EBS.

Section 4.2 – Route

Discussion on required “results” field on Route Event

There was a lot of confusion on this event, because of the inclusion of the “result and resultTimestamp” fields on this event. The CAT Route report must record two separate events – the routing of an order to another firm, as well as the response of that “routed” firm (the “result” and “resultTimestamp” fields) to the route request. This is a change to the current OATS protocol and represents a major change to the business processes and logic for the broker dealer. The results of a route request is not available concurrently with the routing action itself, and would require resource intensive post-processing to determine the status, particularly in the case of “no response”.

In OATS today, if a Route is rejected or not acknowledged, then the Route does not need to be reported. This change in reporting model represents a major change in business logic in processing of route requests.

In addition, to require the reporting of the results of a Route request breaks the daisy chain linkage in that there could be two firms independently reporting on the order status, creating surveillance uncertainty on which firm has control of the order. In strict daisy chain protocol, there should be only one firm which “owns” the order status at any point in time. With reporting “results” on route, there could be two firms reporting order status which can be “out of synch” (e.g., if routing firm reports “no response” because it didn’t wait a sufficient time period, when in fact the routed firm has accepted the order and is processing it). Once the order was routed away, it should be the responsibility of the “routed to” firm to report the order status, not the “routed from” firm.

⁵ *Supra* note, 3.

This leads to many questions on how to handle the variations of different independent events that can occur between the routing of the event and the receipt of a response to the route request, the timing of these events and how to report those different possibilities. For example:

- How much time should elapse before a broker dealer specifies “No Response” as a “result” on a Route Request?
- If a broker dealer specifies “No Response” as a “result” on a Route Request, is any further action required of the broker dealer, *e.g.*, is a Cancel Route required?
- If a broker dealer specifies “No Response” as a “result” on a Route Request, but the receiving broker dealer or venue (eventually) accepts the order with an “Order Accepted”, what action is required?

Today, there is no uniformity across market centers on the handling of routed orders. Can the CAT requirements impose uniform reporting requirements and eliminate ambiguity across Participants and Industry Members on the handling/reporting of routes? What would be the suggested CAT reporting sequence for these scenarios?

- Broker dealers can have an order Accepted by the market center, but then be followed by Rejected. One example of this would be during End of Day processing. The routed order is accepted but cannot be processed before market close and the order is then rejected.
- A Route of an order just prior to market close, but due to latency, the market closes.
- A Route is successful, and accepted by a venue, but the quantity on the order is reduced with no new order reported.

There is similar “paired” reporting on the other CAT Events, requiring reporting of not only the request but the response as well. *E.g.*, “result” and “resultTimestamp” are required data elements not only on the Route Event, but also, Modify Route, Cancel Route, Internal Route and New Quote Events.

FIF recommends that the Plan Processor, for Phase 1 of CAT:

- Simplify the reporting requirements for Route (and the other CAT events mentioned above – Modify Route, Cancel Route, Internal Route and New Quote) and not require the reporting of “results”.
- Ensure that the reporting by the “routed to” firm, given the daisy chain linkage, is sufficient to establish the order status.

Other Comments on Route Event

- Specification is not clear on this case - If customer modifies an order, then it should be reported as an Order modify event; if it had subsequently been a routed order or route that had gone out on that order, then a route modify event should also be reported.
- Question on report timing - If a customer order has been routed to an exchange, and customer tries to modify or cancel the order, then it is reported as an order cancel or modify event. Do you wait to report if the corresponding order route has been cancelled or modified, because some action could have been taken on the order in the meantime? Suggest that order modify/cancel and route modify/cancel are independent reports because the route might not need to be modified/cancelled, depending on the modification to the order.

Section 4.2.1 – Modify Route Request

Section 4.2.2 – Cancel Route Request

*“When an industry member initiates a modify or cancel/replace request on an order that has previously been routed away, the industry member **must report the intent to modify the order**, using a Modify Route Request event to CAT.”*

*“When the industry member initiates a cancel request on an order that has previously routed away, a Cancel Route Request must be reported to CAT **to represent the intent.**”*

This model to report “intent” is confusing – what does it mean to report “intent”. This reporting model is quite different from current OATS reporting where the actual modify or cancel is reported, and not the “intent” to modify/cancel the order. Again, this is a big impact to the current business logic handling these events.

FIF recommends for Phase 1 that reporting of “intent” be dropped.

October 6, 2017

Summary of Session 6, October 2 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.1)

This Summary is a continuation of the FIF CAT WG review of the Initial CAT Reporting Specification for Industry Members, focusing on the major concerns identified to date with the specification.

Major Concerns – Previously Reported

The following major concerns have been identified in the last 6 sessions:

1. **End of Trading Day** – Section 9.7
2. **Timestamps** - Section 3.1
3. **Sequence Numbers** - Section 3.1
4. **Reporter ID** – Section 1.3.1
5. **New Events** – Section 4.1
6. **Missing information that is on OATS interface**
7. **Missing Blue Sheets data in CAT Interface**
8. **Complex orders with CAT-eligible securities**
9. **Complex orders with non-CAT eligible securities**
10. **Quote Messages with Equities**
11. **Trade Events**
12. **Reporting Results on Route, Modify Route, Cancel Route, Internal Route and New Quote Events**
13. **Reporting “intent to take an action” on Modify Route and Cancel Route Events**

New Major Concerns – New Concerns Identified in this Session

14. **New Events added to Reporting Requirements are confusing, add complexity, with no explanation of regulatory benefit.**
 - a. **Modify Route** – The specification description of this new event and accompanying examples are confusing. The guidelines on when to use this event complicate the reporting process and we are concerned it will be error prone. This event fails to take into account the common business process of partial routes, which would significantly add to the complexity of reporting the Modify Route Event. FIF believes this Event is not needed, and sufficient information can be captured with the Order Modify Event.

Although the error correction process is not yet included in the specification, FIF is also concerned that error correction with this new event will be more complicated and also error prone. FIF recommends that Thesys CAT reconsider introducing this new event at this time.

Extended comments are provided under Detailed Comments, Section 4.2.1 - Modify Route Event, including review of the data elements on this event and recommendations for changes if Thesys CAT decides to keep the Modify Route Event as a required reporting event for Phase 1.

- b. **Cancel Route** – FIF has similar concerns with the new Cancel Route Event. Introduction of this new event complicates the reporting and error correction process, and we fail to see what the reporting benefits could be for this new event that justifies its inclusion in the CAT

reporting model at this time. FIF recommends that, for Phase 1 reporting by Industry Members, that this new event be withdrawn.

Additional comments are provided under Detailed Comments, Section 4.2.2 - Cancel Route Event, including review of the data elements on this event and recommendations for changes, if Thesys CAT decides to keep the Modify Route Event as a required reporting event for Phase 1.

15. New data elements are confusing, costly to provide and no explanation of regulatory benefit has been provided.

This specification calls for the reporting of many new data elements on the Event Reports. The rationale for requesting this additional data is not provided, nor the cost/benefit analysis to justify the requirement to report this new data. In addition, the specific definition for these new data elements is often confusing, incomplete or inaccurate. Requesting this additional data goes well beyond the “Material Terms of the Order” and managing/reporting on this level of detail does not seem to be worth the additional cost/burden on the broker-dealer. In addition, it will increase reporting errors with no tangible regulatory benefit.

One specific example is the inclusion of “orderAttributes”, “routingInstructions”, “definedHandlingInstructions”, and “routeExclusionList” on the Route Event. While “definedHandlingInstructions” (see Detailed Comments – Section 4.2 Route) could be loosely mapped to the OATS “Special Handling Instruction” field, the remaining elements are not well-defined. Two of the data elements are free form text fields, with little guidance to the broker-dealer as to what should be included, and in what format. This makes it more error prone for the broker-dealer and more difficult to interpret for the regulators. Without more definition, documentation and guidance, firms will not know how to report these data elements. FIF recommends that Thesys CAT reconsider inclusion of these extra data elements in Phase 1. Only new data that is specifically required by the Rule and can be cost justified should be included in Phase 1 reporting by Industry Members.

Opportunity for correcting current regulatory reporting problems

1. Standardize reporting requirements and eliminate ambiguity on handling/reporting of routed orders across Participants and Industry Members.

There is significant ambiguity and differences in the message handling of Route Events across market centers. FIF recommends that the CAT audit trail could be improved through efforts to standardize reporting requirements and eliminate ambiguity across Participants and Industry Members on the handling and reporting of routed orders. Details in Section 4.2. (Reported on October 2)

2. CAT reporting should mimic the business processes used by the broker-dealers and Participants.

FIF requests that the Order Modify Event be split into two events – Modify and Replace. This would reflect the processes supported by some venues. If the Modify Route Event remains as a required reporting event for Phase 1, FIF also recommends that the Modify Route Event be split into two events – Modify and Replace. See details in 4.2.1 and 4.5.

Detailed Comments

Section 4.1 – New Order Event

- NBBO data elements, required only for ATSS, are missing from New Order Event
- “workingPrice” is missing on New Order Event but is on the Order Accepted Event.
- “Sequence Number” is not included
- “firmDesignatedID” is marked as a Conditional field. When would it not be mandatory?

Section 4.2 – Route Reports –

The specification regarding the Route Report is not clear; however, we understand that Thesys CAT intends to clarify this section. Perhaps some use cases could be added to this section?

Please verify or answer the following:

- If the original client order was modified by the client, then the Order Modify Event is used.
- If the original client order was modified by the client, but it was routed away, then both an Order Modify Event and a Modify Route Event is required to be reported.
- For Institutional work flow, a new order that is routed away can be “partially” routed away. What is the reporting sequence to modify this partial route if the customer changes the order? This is a similar situation with Order Cancel and Route Cancel.

FIF previously disagreed with reporting “results” on the Route Event.

Comments on Route Data Elements

- “displayQty” - is a required field on Route Event. Why is this field required for a broker-dealer on a Route Event?
- “minQty” – is a conditional field on Route Event. Why is this field needed for a broker-dealer reporting on a Route?
- “destinationType” – missing in data dictionary. Why is this field necessary? The Reporter ID of the destination is provided on this report, so that the Plan Processor, through the CAT Reporter definition, knows the “designation type” for the Reporter. This field should not be required on this (or any) event report.
- “orderAttributes”, “routingInstructions”, “definedHandlingInstructions”, “routeExclusionList” – more descriptions are needed with these data fields. The distinctions between these fields are not clear. Why are “orderAttributes” needed on a Route event? Are these fields going to be used in any matching algorithms? Would some of this information be more appropriate to be reported by the recipient of the order?
 - “routingInstructions” – *“A free-form text field to capture the routing instructions, if specific instructions are included on the order. Information to include broker specific routing strategies as well as exchange specific, e.g., if using STGY routing at NASDAQ, using FIX, then “76=STGY”.* How is this non-standardized data, specific to a venue, be meaningful to regulators? Was any thought given to standardizing this information? Would raw FIX logs be acceptable input? It would be complicated to include these data elements on a Route Event. The elements vary by venue and the data is not held in a single place. It would need to be extracted, selected by venue and mapped into the appropriate information to be included in this report. This could result in many errors. What is the regulatory benefit of including this information on the Route Event?

- “definedHandlingInstructions” – “This order handling instructions field is a way to provide multiple instruction codes in a relatively flexible manner. This field will contain zero or more order instruction codes, each separated by a single pipe symbol (ASCII decimal 124, hex 7C). Codes which require a value will include that value immediately after the code Field Name and a single equal sign (ASCII decimal 61, hex 3D). All instructions that apply to the order are to be included.” The allowable values included for this field are not sufficient for OATS parity; additional values will be needed to facilitate OATS migration (e.g., Do Not Reduce, Do Not Increase, Self-Trade Prevention).
- “orderAttributes” – “A free-form text field to define reportable attributes of an order, that are not defined in definedHandlingInstructions.”. What exactly needs to be included in this data element?
 - “resultTimeStamp” – is a required field. But if the “results” are either No Response or Not Acknowledged, what timestamp must be recorded?
 - NBBO related fields are missing on the Route Event

Opportunity - No Uniformity when routing across market centers

Today, there is no uniformity across market centers on the handling of routed orders. Can the CAT requirements impose uniform reporting requirements and eliminate ambiguity across Participants and Industry Members on the handling/reporting of routes? What would be the suggested CAT reporting sequence for these scenarios?

- Broker dealers can have an order Accepted by the market center, but then be followed by Rejected. One example of this would be during End of Day processing. The routed order is accepted but cannot be processed before market close and the order is then rejected.
- A Route of an order just prior to market close, but due to latency, the market closes.
- A Route is successful, and accepted by a venue, but the quantity on the order is reduced with no new order reported.

Section 4.2.1 – Modify Route Report

FIF requests that Thesys CAT remove the requirement to report Modify Route Events in Phase 1 of Industry Member reporting. OATS does not require reporting when a route is changed. Only the linkage between the original request and the resultant action is reported. The intermediate actions are identified by the Reportable events that capture the receipt of the Modify Order request. FIF disagrees with the requirement to report “intent” versus reporting of an event, as well as the reporting of “result”.

Reporting the route modification is complicated because of the timing of the receipt of messages, and the subsequent handling of partially routed orders across multiple execution venues. Institutional OMSs do not know when/if routing has happened as this is typically handled by a distributed infrastructure. Requiring firms to report this activity would present firms with additional expenses that have not been considered as part of the original cost analysis done to date. FIF recommends that when a customer modifies an order, that the Order Modify Event (exclusively) be used to report that customer instruction.

Through the modification/cancellation of an Order, the associated route(s) of that Order are implicitly modified or cancelled. The customer’s request and the resultant action that is taken to satisfy the request must be captured (i.e., the overt instructions); all of the intermediate steps (implicit actions) are unnecessary records that will not improve regulatory surveillance, and will only serve to clutter the audit

trail and complicate reporting processes. FIF believes that it would be better to communicate reportable change requests consistently at the order level, not at the route level.

The requirement to explicitly report the Modify Route event complicates the error correction process. Depending on the nature of the error, both an Order Modify and a Modify Route correction must be made. Because there is no description of the Error Correction process in this specification, FIF deems it difficult to assess this impact.

Alternative

IF Thesys CAT continues to require the Modify Route Event, then FIF requests that this Modify Route Event be split into two events:

- Modify Route
- Replace Route

The third method to change a route would be to Cancel a Route and then specify a new Route Event. That case is already covered in the spec.

Venues today support both types of processes. The exact protocol for Modify and Replace may be different with each venue. However, Modify Route maintains the order ID but changes attributes on the route. Replace Route replaces the order Id. The data elements supported on these three events should support the protocols supported by the different venues. Support of both Modify Route and Replace Route Events will allow the CAT audit trail to better reflect the actual events being used between the broker-dealer and the venue. (See Section 4.5 for an example.)

Comments on Modify Route Data Elements:

- “orderID”, “routedOrderID”, and “routedOriginalOrderID” – the descriptions for these fields are inadequate and it is difficult to discern the difference between these data elements. The descriptions need to take into account that these are the linkage mechanism to many different CAT Events.
- NBBO related data elements – These data elements are not consistently present on related Events. *E.g.*, NBBO is not on New Order but is on Order Accepted; NBBO is not on Route but is on Modify Route.
- “initiator” – Choices provided are Customer, Firm, ATS, Exchange, MM. Rule 613 only requires knowing if the customer initiated a Cancel or Modify request. Why require the other classifications for “not a customer”?
 - These fields are not mutually exclusive. How is Thesys CAT defining these fields so it can be clear to the broker-dealer which to choose?
 - There can be multiple levels of hierarchy in the order flow at some firms, and the leaf system (child system) doing the route may not always have transparency if the route was initiated by a customer or the firm. There would be a good deal of complexity in trying to determine for the Route or Modify Route Reports who the initiator of the Route or Modify Route Request. It would require re-interpretation of the order hierarchy every time a route request was generated.
- “session” – If “orderID” is unique, is “session” necessary? On a manual route, how would “session” be specified?
- “destinationType” – missing in data dictionary. Why is this field necessary? The Reporter ID of the destination is provided on this report, so that the Plan Processor, through the CAT Reporter

definition, knows the “designation type” for the Reporter. This field should not be required on this (or any) event report.

- “desiredLeavesQty” - There is an inconsistency across Event types. This field is supported on Cancel Route, Option Cancel Route and Option Modify Route, but not on Modify Route.
- “result” – FIF previously disagreed with the report of “result” on this Report.
- “resultTimeStamp” – is a required field. But if the “result” is either No Response or Not Acknowledged, what timestamp must be recorded?

Section 4.2.2 – Cancel Route

FIF does not understand the value of the Cancel Route Event. As was stated in Section 4.2.1 (Modify Route), FIF does not believe reporting this event will improve transparency and will only serve to complicate the reporting process. Unless Thesys CAT can demonstrate how reporting this Event will improve the audit trail, FIF requests that Thesys CAT consider removal of this Event for Phase 1 reporting by Industry Members. The Order Cancel Event should be sufficient in the audit trail to understand the status of the order. FIF disagrees with the requirement to report “intent” versus reporting of an event, as well as the reporting of “result”.

Comments on Cancel Route Data Elements

- “desiredLeavesQty” – is it intended to capture the desired quantity to be left with the venue where the order is cancelled? Is this the method to report a partial quantity cancel (*e.g.*, old CMS protocol with NYSE)? Should this still be supported? Is it required for OATS migration? This field is not present on the Modify Route Event but is present on both the Option Modify Route and Option Cancel Route Events.
- “destinationType” - missing in data dictionary. Why is this field necessary? The Reporter ID of the destination is provided on this report, so that the Plan Processor, through the CAT Reporter definition, knows the “designation type” for the Reporter. This field should not be required on this (or any) event report.
- “result” – FIF had previously raised the concern about reporting results on the Cancel Route Event – What does “unsolicited” mean as a Cancel Route result?
- “session” – If “orderId” is unique, is “session” necessary?
- “resultTimeStamp” – is a required field. But if the “results” are either No Response or Not Acknowledged, what timestamp must be recorded?

Section 4.3 – Order Accepted

Requiring a different event type for acceptance of an order from another firm, versus use of the New Order Event (with an indication of receipt from another broker-dealer) will complicate the error correction workflow. Because there is no information within this specification on Error Handling, it is difficult to assess the adequacy and cost of the repair methods with the Order Accepted Event and how difficult it will be to repair for instances where firms need to repair the Order Accepted Event.

Some of the questions raised by the industry are:

- If an Order Accepted Event is rejected by CAT because the client was misreported and the broker-dealer determines that a New Order Event must be submitted to repair the rejection, will the CAT be able to handle that?
- What will be the workflow for unrepairable rejects with no link to the original Order Accepted Event?

Comments on Order Accepted Data Elements

- “orderAttributes”, “routingInstructions”, “definedHandlingInstructions”, “routeExclusionList” – more descriptions are needed with these data fields. The distinctions between these fields are not clear. Why are these data elements needed on an Order Accepted event?
- What does it mean to specify “routingInstructions” on Order Accepted Event?
- “receivingDeptType” – Allowable values are confusing and not mutually exclusive. The definition of this field is not consistent across all uses on Equities and Options Events. As recommended in FIF’s September 25 comment letter, FIF would recommend that CAT use the same Department Type values as supported by OATS today. These values are well-vetted and there does not seem to be any industry confusion in using them.
This field is conditional on Order Accepted Event and required for New Order Event. The same is true for Options Order Accepted Event and Options New Order Event. Why does this field have different requirements depending on the Event type?
- Information Barrier data element is missing.
- “price” is required in Order Accepted Event and conditional on New Order Event
- “workingPrice” – Why is this data element on Order Accepted Event but not on New Order Event?

Section 4.4 –Internal Route

The Internal Route needs clarification. It appears the definition is broader to include not just routing between departments/desks but also to include working of an order within a desk, or when an order is sent to different systems, but still within the authority and control of a desk/department. This seems to be excessive monitoring if the desk/department still has control of that order and will ultimately report the status of that order. How a desk/department works the order does not seem applicable for reporting. What is actually required for CAT reporting of Internal Route?

“This approach will allow CAT to track changes in orderID within a broker as an order is passed between internal entities or partial quantities are routed to internal entities as slices of another order.” To clarify, if an order is not passed to different internal desks/department, but is sliced within a desk/department, does an Internal Route Event have to be reported?

Should there be a corresponding Internal Route Event for Options?

Comments on Internal Route Data Elements

- Can a “Desk” and “Department” be defined with the specification?
- Information Barrier data element is missing on Internal Route Event.
- “displayQty” – Why is this field required on the Internal Route? What is its regulatory value on an Internal Route?
- “receivingDeptType” – Allowable values are confusing and not mutually exclusive. The definition of this field is not consistent across all uses on Equities and Options Events. As recommended in FIF’s September 25 comment letter, FIF would recommend that CAT use the same Department Type values as supported by OATS today. These values have been well-vetted and there does not seem to be any industry confusion in using them.
- “algo” - *“If specific handling instructions were included on the order regarding an algorithm, this is a freeform field with the strategy of the algo handling the order, e.g. VWAP.”* What information is being requested, and what benefit would it be to regulators? For Internal Routes,

isn't most of this information internal to a broker-dealer and could not be interpreted or understood by regulators?

This field is on New Order, Order Accepted, Internal Route, and Options Route but not on Equity Route Event. This seems inconsistent.

Section 4.5 – Order Modify

Alternative

FIF requests that the Order Modify Event be split into two events:

- Modify Order
- Replace Order.

The third method to change an order would be to Cancel an Order and then enter a New Order Event. That case is already covered in the spec.

Venues today support both types of processes. The exact protocol for Modify and Replace may be different with each venue. However, Modify Order maintains the order ID but changes attributes on the order. The data elements supported on these three events should support the protocols supported by the different venues. Replace Order replaces the order Id. Support of both Order Modify and Order Replace Events will allow the CAT audit trail to better reflect the actual events being used between the broker-dealer and the venue.

E.g., from NASDAQ OUCH specifications: “The Modify Order Message is used to request modifications that will not affect order priority on the book unless the share amount is increased. Since priority of the order does not change (exception noted), allowed modifications are restricted to only the ones specified in the message details below.” And “The Replace Order Message allows you to alter most of the attributes of an order in a single message. This is more efficient than canceling an existing order and immediately succeeding it with a new order. Replacing an order always gives it a new timestamp for its time priority on the book.” Cancel Order is also a permissible event, and for NASDAQ, allows cancels of partial quantities: “If you wish you simply partially cancel an order and retain its time priority, send a Cancel Order Message instead.”

Following are examples of the different events. Firm B could be another broker, an ATS, an exchange.

MODIFY example

Firm A sends Order 1 to Firm B

- *Both firms know Order 1 is open.*

Firm A sends a Modify (message 2) to Firm B.

Firm B sends a Modify confirmation to Firm A.

- *Both firms still know Order 1 is open – with a new quantity or price, or other modified fields.*

REPLACE example

Firm A sends Order 1 to Firm B

- *Both firms know Order 1 is open.*

Firm A sends a Replace (message 2) to Firm B.

Firm B sends a Replaced confirmation to Firm A.

- *Both firms know Order 1 is canceled.*
- *Both firms know Order 2 is open.*

STRAIGHT CANCEL AND NEW ORDER example

Firm A sends Order 1 to Firm B

Firm B sends Ack 1 to Firm A
➤ *Both firms know Order 1 is open.*
Firm A sends Cancel to Firm B
Firm B sends Cancel Confirm to Firm A
Firm A sends Order 2 to Firm B
Firm B sends Ack 2 to Firm B
➤ *Both firms know Order 2 is open.*

PARTIAL CANCEL example

Firm A sends Order 1 to Firm B (Buy 200 shares)
➤ *Both firms know Order 1 is open as a Buy of 200 shares.*
Firm A sends (partial) Cancel 100 to Firm B.
Firm B sends Cancel Confirm for 100 shares to Firm A

Both firms know Order 1 still open as a Buy of 100 shares.

Error Scenario Question

The following scenario shows an order, route, modify and trade, but due to the independent timing of these events at different firms, the sequence of event execution does not result in the expected action. What should be the CAT reporting for Firm A?

MISTIMED MODIFY/REPLACE/CANCEL example

Firm A sends Order 1 to Firm B (Buy 200 shares)
Firm B sends Ack 1 to Firm A
➤ *Both firms know Order 1 is open as a Buy of 200 shares.*
Firm B sends Order to Venue C
Venue C sends Ack 2 to Firm B
Firm A sends a *MODIFY/REPLACE/CANCEL* (message 2) to Firm B.
Firm B sends a *MODIFY/REPLACE/CANCEL* confirmation to Firm A.
➤ *Both firms still know Order 1 is open – with a new quantity or price, or other modified fields.*
Firm B attempts to send *MODIFY/REPLACE/CANCEL* to Venue C, however venue C has executed the order
➤ *What event type do you report in response to FIRM A to CAT?*

Section 4.6 – Order Cancel Event

FIF is seeking additional clarity for how Cancel events are interpreted under the guise of CAT. In OATS, a Cancel/Replace allows firms to report a reduction in quantity.

Some exchange protocols (*e.g.*, NASDAQ) allow firms to place partial cancels, and still maintain their place within the orderbook, leaving the original order for the most part unchanged.

Questions:

- Should a partial cancel be reported as an Order Modify Event?
- Should all these reporting variations be allowed, to best reflect the processing method of the broker-dealer?

October 6, 2017

Summary of Session 7, October 4 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.1)

This Summary is a continuation of the FIF CAT WG review of the Initial CAT Reporting Specification for Industry Members, focusing on the major concerns identified to date with the specification.

Major Concerns – Previously Reported

The following major concerns have been identified in the last 6 sessions:

1. **End of Trading Day** – Section 9.7
2. **Timestamps** - Section 3.1
3. **Sequence Numbers** - Section 3.1
4. **Reporter ID** – Section 1.3.1
5. **New Events** – Section 4.1
6. **Missing information that is on OATS interface**
7. **Missing Blue Sheets data in CAT Interface**
8. **Complex orders with CAT-eligible securities**
9. **Complex orders with non-CAT eligible securities**
10. **Quote Messages with Equities**
11. **Trade Events**
12. **Reporting Results on Route, Modify Route, Cancel Route, Internal Route and New Quote Events**
13. **Reporting “intent to take an action” on Modify Route and Cancel Route Events**
14. **New Events added to Reporting Requirements are confusing, add complexity, with no explanation of regulatory benefit**
15. **New data elements are confusing, costly to provide and no explanation of regulatory benefit.**

Opportunity for correcting current regulatory reporting problems -

1. **Standardize reporting requirements and eliminate ambiguity on handling/reporting of routed orders across Participants and Industry Members**
2. **CAT reporting should mimic the business processes used by the broker-dealers and Participants.**

New Major Concerns – New Concerns Identified in this Session

16. **Explicit reporting of implicit actions generates excessive message activity, unnecessary reporting, and will likely lead to increase errors, with no underlying regulatory value.**

The specification calls for reporting of changes in order status even when no explicit action is taken to cause that order status change. FIF requests that this approach be reconsidered for CAT Phase 1 and only be required where there are cases of order status ambiguity. Otherwise, CAT will be requiring that new business processes be introduced where none are needed, generating excessive message traffic, cost and complexity to the industry. Cancellation processing of IOCs and order restatement at beginning of day are two examples of this concern. See Sections 4.6 and 4.9 for more details.

New Opportunity for correcting current regulatory reporting problems

None

Detailed Comments

Section 4.5 Order Modify Event

The Order Modified/ Route Modify sections are very confusing and poorly described. The modification of an order routed away can be handled in many ways, and the current approach is incomplete. The example provided on pp. 31-32 is contradictory to the rules specified. One firm attempted to use this specification to map out scenarios in use by their firms and they could not complete the task. (Note: Section 7 use cases were not helpful.) For any revision of the specification, not only must the description be improved but use cases must be included which demonstrate how the CAT events must be reported. A suggestion for a beginning set of use cases – take the use cases included in the OATS technical specification (for all event types) and demonstrate an equivalent CAT reporting sequence. Additional use cases may be needed to demonstrate use of the new Event types.

Comments on Order Modify Event

- “capacity” – “Riskless Principal” is not an order attribute.

Section 4.6 Cancel

Questions on Cancel Event

- Our understanding from the SIFMA call on 9/19/2017 was that for GTC’s, where a cancel would be required to terminate the posted order, only the venue that takes the action on the order (*i.e.*, the venue which could affect a Trade on the order, using CAT terminology) would report the Order Cancel event. However, for auto-expiring orders, such as IOC’s or GTD’s, the “Order Canceled” event was not intended to be used at the time they expire. Can you verify this understanding? Is there any other event that is appropriate to the auto-expiring orders on their expiration, or is no event reported at that time?
- Are explicit cancels being required on DAY orders? FIF disagrees with this approach. Why is this necessary? What is the regulatory benefit? And because explicit cancels are not performed on these orders, the audit trail would not be reflecting the business process.
- How should a partial cancel be reported? In OATS, a Cancel/Replace allows reduction in quantity. NASDAQ allows cancels of partial quantities. Should a partial cancel be reported as an Order Modify Event? Should all these reporting variations be allowed, to best reflect the processing method of the broker-dealer?
- If the client or the firm changes the side of an order from Sell Long to Sell Short before routing away the order away for execution, is that considered a Side Change and trigger reporting of cancellation of order with Sell Long and creation of new order with Sell Short for CAT? There may be situations in basket trading when the side is corrected before routing away for execution, but the order is not cancelled.

The guidance provided on p. 32 does not appear to be accurate. There is guidance on how to handle the child/leaf order in the context of firm orders. The origination of a firm order in System A, given then to an algo or Smart Order Router - the firm order can be Sell Long or Short on the parent and have a different side on the leaf order before being routed.

Comments on Data Elements on Cancel

- “cancelReason” field – Can this field be better explained? If cancels were initiated by the client, wouldn’t the cancels be reported all the way through the chain? How would the exchange know that the client initiated the cancel?

Section 4.7 Quote Events

FIF had previously reported our concerns with the Quote Event definition (see September 25 comment letter⁶). The specification definition is overly broad and does not reflect the equities business processes for handling quotes. Handling of manual quotes needs to be outside the scope of CAT reporting because there are no business processes today that systematically capture and record manual quotes. This would be very difficult and costly and require extensive re-engineering to report the manual capture of equity quotes in CAT Phase 1. Please note that reporting received quotes goes beyond the scope of Rule 613 and NMS (601-602) in general where they explicitly state that we do not need to report all protected quotes. Please provide the Rule 613 or CAT NMS Plan justification that forms the rationale for these reporting requirements.

Section 4.7.1 Quote

FIF proposes a narrow definition of what would constitute an equity quote and how that would be reported to CAT. Three scenarios are listed below for reporting equity quotes to CAT. These scenarios are based on how quotes are captured and reported today, and for which there are existing business processes and reporting rules to offer guidance:

1. An equity quote is only reportable if it is displayed; if not displayed, it is not reportable. *E.g.*, quotes can be displayed with the FINRA Alternate Display Facility, so there is precedence and rules associated with capturing of displayed quotes that could be used by CAT.
2. When an equity quote is “worked” between the customer and broker-dealer, the result of that negotiation can be an order. An example of that scenarios follows:
 - a. Customer calls or IMs a broker-dealer for a quote. This would be the RFQ.
 - b. Broker-dealer provides a quote.
 - c. There might be some back and forth between the customer and broker-dealer.
 - d. Customer and broker-dealer agree upon terms.
 - e. Broker-dealer enters an order on the Customer’s behalf and reports a New Order Event to CAT. (Or customer may enter the order in his OMS, or customer may chase the verbal agreement with an electronic order).
 - f. Broker-dealer executes the order in some fashion (and submits the appropriate CAT report – *e.g.*, Route or Trade Event):
 - i. He can act as agent and route the order to an exchange
 - ii. He can participate on the other side, fully or partially. This is often called committing capital.
 - iii. He can cross with another customer order.
 - g. Broker-dealer reports the fill back to the customer(s).Note that this workflow can stop after step a (the broker-dealer does not provide a quote) or after step b or c (the customer and broker-dealer do not come to terms). In those cases, we recommend that there is no CAT reporting obligation. Based on the above scenario, the CAT requirements would be to report a New Order (step e) and when the broker-dealer participates (step f.ii), the trade would have one side as the Firm.
3. A variation of the above #2 scenario would be where two broker-dealers interacted, instead of a customer and a broker-dealer. This would follow the preceding example with just substituting “customer” with broker-dealer 2. In OATS, the trade would be tagged as a negotiated trade and both broker-dealers would report the trade. We would recommend similar treatment in CAT.

⁶ [Letter](#) from William Hebert, Managing Director, FIF to Thesys CAT, September 25, 2017, Re: DRAFT CAT Reporting Technical Specifications for Members, v.1

Note: RFQs (via phone, electronic, or IM) would not be considered a CAT reportable event. Only displayed quotes would be CAT reportable.

Comments on Data Elements on Quote

“result” – As previously submitted, FIF disagrees with the reporting of “result” on the Quote Event.

Section 4.7.2 Quote Accepted

We do not understand the meaning of “Quote Accepted”. What constitutes a “Quote Accepted”? CAT is receiving data feeds from SIPS containing quotes. Are these quotes to be “accepted” by broker-dealers? The specifications states that equity Market Maker Quotes are reported as Orders. In Section 4.7.1, we recommend an approach to equity Quotes. We would recommend elimination of this event, as not needed, given the recommended approach to equity Quotes in Section 4.7.1

Section 4.7.3 Quote Cancel

FIF requests clarification on when a Quote Cancel Event is used. When a quote is replaced with an updated quote, is a Quote Cancel required?

“If the issuer of a quote cancels a quote that's recipient was an ATS or a broker dealer (not a customer), then both the issuer of the quote and the entity that accepted the quote must report Quote Canceled events.” FIF does not think that is a reasonable approach.

Section 4.8 Trade

For facilitation trades (vs firm prop account) and Riskless Principal transactions, the specification requires reporting the New Order event. For the execution or Trade event, the specification requires reporting a two sided Trade Event. These reporting requirements do not match the business processes for facilitation trades and riskless principal transactions. The CAT reporting requirements would require firms to generate an extra transaction and record that extra transaction on their books to satisfy the CAT reporting requirements.

Can Thesys CAT provide use cases showing their proposed CAT reporting scenarios for riskless principal transactions and facilitation accounts?

However, this may be a reasonable reporting paradigm for cross transactions.

The language used in the 4.8 Trade Event description (page 37) conflicts with the orderID field description for the Trade Event (page 39) – see table below. The event description implies that there is a principal order placed by the broker while the field description defines the field as conditional, which we believe to reflect business processes as not all principal fills are subject to the creation of a principal order (e.g., fill from inventory). Our recommendation to Thesys is for the event description and the field level descriptions to be made consistent and reflect current business processes.

Name	Description
Trade Event Description	"Trade reporting for riskless principal scenarios includes some extra information to link the execution of the client order to the broker's principal order. In this instance, when the broker reports execution of the client order against the broker's principal account - the side information for the broker <i>must also contain the order ID of the principal order placed by the broker.</i> "
leavesQty	"The quantity of the order remaining unfilled after this trade event. <i>Not required if this side of the trade is the broker in an execution of an order against a proprietary account.</i> "
orderID	"The internal order ID for this side of the trade. <i>Not necessary if this side of the trade is the broker when a broker is executing an order against its proprietary account.</i> "

Comments on Data Elements for Trade

- "risklessOrderID" – this will be problematic, as previously noted.
- "liquidity Code" – will be difficult to identify this information
- "leavesQty" – complicated to quantify and can be error-prone, and do not believe it is necessary. FIF recommends elimination of this data element.
- "clearingNumber" – it would be more efficient if the Plan Processor or the TRF provided this information because clearing number is not easily available to the broker dealer. The broker-dealer could report the MPID.
- "traderId" – FIF recommends elimination of this field. Rule 613 specifically states that identification down to the individual trader with a Reporter ID firm is not necessary.
- NBBO fields should only be reported by an ATS.
- "TradeID" field is missing that would provide uniqueness and allow matching to trade reports in FINRA TRF.

Section 4.9 Order Restatement

Why is this necessary? What regulatory reporting gap is this event satisfying? Is the intention of the event to be reported only by market centers and not non-ATS broker-dealers? FIF does not agree with the requirement of broker-dealers to use Order Restatement at the beginning of each day. There might be an argument for market centers to use this reporting event. However, the restatement of the entire order book is additional burden and doesn't fit the "event based" framework that Rule 613 put forward.

Order Restatements to rebuild the book at the beginning of the business day is another example of CAT requirements inserting new events into the business process flow, which don't exist today, just for reporting purposes. We do not believe that is the correct reporting model for CAT.

We think that the Order Restatements may solve some existing Corporate Actions scenarios (and we welcome those). Please describe how Corporate Actions will be handled in CAT. It is especially important to provide use cases.

Comments on Data Elements on Order Restatement

- **“workingPrice”** – *“The working price of the order at the time it was accepted”*. Is this price available, and relevant, across trading days?

October 10, 2017

Summary of Session 8, October 6 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.1)

This Summary is a continuation of the FIF CAT WG review of the Initial CAT Reporting Specification for Industry Members, focusing on the major concerns identified to date with the specification.

Major Concerns – Previously Reported

The following major concerns have been identified in the last 6 sessions:

1. End of Trading Day – Section 9.7
2. Timestamps - Section 3.1
3. Sequence Numbers - Section 3.1
4. Reporter ID – Section 1.3.1
5. New Events – Section 4.1
6. Missing information that is on OATS interface
7. Missing Blue Sheets data in CAT Interface
8. Complex orders with CAT-eligible securities
9. Complex orders with non-CAT eligible securities
10. Quote Messages with Equities
11. Trade Events
12. Reporting Results on Route, Modify Route, Cancel Route, Internal Route and New Quote Events
13. Reporting “intent to take an action” on Modify Route and Cancel Route Events
14. New Events added to Reporting Requirements are confusing, add complexity, with no explanation of regulatory benefit
15. New data elements are confusing, costly to provide and no explanation of regulatory benefit.
16. Explicit reporting of implicit actions generates excessive message activity, unnecessary reporting, and will likely lead to increase errors, with no underlying regulatory value.

Opportunity for correcting current regulatory reporting problems – Previously Reported

1. Standardize reporting requirements and eliminate ambiguity on handling/reporting of routed orders across Participants and Industry Members
2. CAT reporting should mimic the business processes used by the broker-dealers and Participants.

New Major Concerns – New Concerns Identified in this Session

17. **Execution Assignment Event beyond scope of Rule 613** – Requiring fills of all executions is specifically excluded in Rule 613. In addition, the proposed Execution Assignment data structure cannot accommodate the complexity of aggregated orders and multiple internal/external routes that can occur to work an order. FIF would like to better understand the regulatory objective of capturing this data, and propose working with Thesys CAT to determine mechanisms to fulfill that goal within the broker-dealer processing frameworks. This is discussed in more detail under Detailed Comments, Section 4.10.
18. **Scope of Post-trade Allocation reporting** – The specification limits the scope of Post-trade Allocation reporting to clearing firms and self-clearing firms, but does not address if reporting is required for the transfer of shares if the clearing firm or self-clearing firm does not perform the

final allocation to the beneficial owner (e.g., non-member custodial banks, DVP/RVP accounts, foreign affiliates). Thesys CAT and the regulators must verify that the scope of transactions and the data elements collected for Post-trade Allocation reporting is sufficient to allow the equivalent Blue Sheets reporting to be retired with Phase 1 of CAT. This is discussed in more detail under Detailed Comments, Section 4.14.

New Opportunity for correcting current regulatory reporting problems

None

Detailed Comments

Section 4.10 – Execution Assignment

Multiple Event Types vs One Event Type across Asset Classes

There does not seem to be any difference between Execution Assignment for equities and Execution Association for options other than the event name. Having the same event name across both asset types would seem to be a more direct and simple approach, causing less confusion.

Justification for Execution Assignments

“CAT is proposing that members should report all Execution Assignments to CAT, even those that may be considered duplicative, in order to reduce technical complexity and cost to the industry.”. FIF disagrees with this proposal to require all broker-dealers to report all fills. This represents an expansion of reporting requirements over current regulation and Rule 613. As stated in Rule 613, reporting of executions is the responsibility of the exchange. To further quote from Footnote 280 in Rule 613 - “In this regard, there is no duplicative reporting of audit trail information because each market participant is required to report only the audit trail data for the actions it has taken with respect to an order”. What is the justification for expanding the scope of reporting beyond what is specifically excluded in Rule 613?

In concept, Execution Assignments/Associations may be appropriate for Average Price allocations and aggregated orders, but reporting execution assignments on an agency basis does not make sense. There is no need for the Execution Assignment in that case, and is a clear example of duplicative reporting that Rule 613 avoided. The requirement to report all execution assignments to client orders to eliminate “coding burden” is also incorrect; most firms have already coded to the existing OATS/TRF standard, so it would be actually additional work to implement this proposed new requirement.

Execution Assignments for all fills

If Execution Assignments are required, it may be easier and more efficient, for some broker-dealers, to always report Execution Assignments for all orders. But that does not reflect the processing of all broker-dealers, for which the unnecessary reporting of all Execution Assignments would be especially burdensome. FIF recommends that Thesys CAT allow the optional reporting of all Execution Assignments while only requiring the reporting of selected Execution Assignments (e.g., average price allocations and aggregated orders). This would allow the broker-dealer to decide which reporting scenario best matches their business flow.

Execution Assignment Scope and Data Structure

FIF believes that, as currently defined and structured, the Execution Assignment event, except for simple aggregated orders, will not work. Even the example shown on p. 43, with 3 client orders aggregated into

one order which is routed to one market center, is not accurate because it only reflects a partial execution, and that there should be at least a second aggregated order and a second routed order reflecting the remainder of the customers' orders. The proposed Execution Assignment event is not designed for the complex multiple levels of aggregation of orders routed to multiple market centers over-time with algorithms on how best to assign quantities from multiple child orders back to customer orders. This is analogous to sorting out the details of a complex hub – this is a level of reporting that does not exist today, and would be very expensive to implement. This one Execution Assignment Event is trying to document the parent orders from the customer, the child orders that are aggregated, the routed orders out to the street and ultimately, the source and quantities of the eventual fills back to the parent orders. We can't envision how even to capture this information, let alone figure out how to source the information from the broker-dealer.

To further complicate the picture, there can be multiple internal routes in aggregating the order(s) and routing to different market center(s). We also cannot envision how to capture this level of many-to-many relationships.

Is there a better, more efficient method to achieve the surveillance goal without the complexity being introduced with "Execution Assignment"? One alternative proposal, could reporting of the ultimate assignments to the parent orders, with price and quantity but with none of the other "linkage" information, satisfy the surveillance goal of this event? That may be a more containable approach and something that could be implemented by the broker-dealers, as well as satisfying the reporting objective. This fill information, in combination with the street-side execution information and the daisy chain linkages would add significantly to the audit trail over today's reporting, provide the "end state" reporting of the parent order, without having to report all of the complexities of how that end state was "worked". It would allow monitoring of the parent order fills against the executions for "reasonableness". At this point, we cannot envision how to report the complex processing of the "intermediate" steps in aggregation and routing for executions.

FIF recommends several complex use cases be modeled with Execution Assignments and data captured through the daisy chain route and execution linkages to determine how most efficiently to meet whatever the surveillance goal is for Execution Assignments. FIF offers its assistance to Thesys CAT in this modeling effort, and any discussions to better understand the complexity of this processing, the difficulty in capturing information on this process, and how the ultimate objective of reporting fills can be met.

Firm Orders

What are the requirements for reporting street-side fills on firm orders? Would Execution Assignment events have to be reported for these fills? And what would be the reporting requirements when riskless principal transactions are combined with agency orders? How do Trade Events and Execution Assignment Events relate to one another?

Comments on Data Elements on Execution Assignment

- "leavesQty" How should this be applied? Is it applied to the aggregated order or the child order or the routed order?

Section 4.11 Trade Break

Only executing venue should be reporting Trade Break. Please verify that the only case when a non-ATS broker-dealer would be required to report a Trade Break is when a broker-dealer is acting as a trading or market case and busts a trade.

If a customer notified a broker-dealer to break the trade, how would the broker-dealer report that trade break: Trade Break, or Allocation to error account, or Execution Assignment?

It would be very useful to have a number of use cases, especially error scenarios, mapped out which demonstrate the reporting sequence for the Trade Breaks/Corrections and subsequent repair actions. *E.g.*, what would be the reporting requirements of trade errors that result in being reallocated to an error account?

To verify, a Trade Break that occurs beyond the normal settlement cycle should still be reported as a valid order event. Will CAT be able to handle this situation and it will not result in any reporting errors for the CAT Reporter?

Just to clarify in the specification, a Trade Break is analogous to a Trade Bust and is mutually exclusive to a Trade Correction, which is an amendment to the trade.

Comments on Data Elements for Trade Break

- “quantity” – should be conditional, not optional.
- Missing a control number (as reported to ACT or TRF) of the trade break

Section 4.12 Trade Correction

Can you verify that Trade Correction events are only going to be reportable by the broker or ATS who originally effected the Trade, using the CAT reporting definition of Trade (similar to trade breaks)? Following a Trade Correction, the broker-dealer must also report the results of the Trade Correction? *E.g.*, if Execution Assignment events are required, Execution Assignment Corrections would need to be reported by the broker-dealer?

As with other events, only the corrected data should be reported, and not all data included on the trade.

Comments on Data Elements for Trade Correction

- “traderID” – Should not be reported. Rule 613 does not require identity of individual trader within a Reporter ID firm.
- Situations do occur that a Trade Correction is itself corrected. To accommodate this case, a correction ID is needed on the Trade Correction Event.

Section 4.13 Execution Assignment Correction

Given the number of questions raised on the Execution Assignment Event, we will defer comments on the Execution Assignment Correction event until after we understand what changes will be incorporated into the Execution Assignment event.

Comments on Data Elements of Execution Assignment Correction

- Situations do occur that an Execution Assignment Correction is itself corrected. To accommodate this case, a correction ID is needed on the Execution Assignment Correction Event.

- “leavesQty” – same comments as previously noted on Execution Assignment Event.

Section 4.14 Post Trade Allocation

The specification says that all final post-trade allocation events will be reported by the Clearing Firm. Is this limiting the scope of the reporting requirements for Post-trade Allocation? Are firms that are not self-clearing not required to report Post-trade Allocations? What is the reporting obligation for DVP/RVP accounts? Or when the account of the final beneficial owner is held by a non-member custodial bank? Or a foreign affiliate? Or step-outs? Would the final broker-dealer, on the transfer of the securities to a DVP/RVP account or a non-custodial bank, report that transfer with a Post-trade Allocation report, or is no reporting required?

Although only final allocations are required to be reported (which FIF supports), there are cases when firms do not know when a “final allocation” has occurred, meaning that multiple allocation reports will be submitted, representing intermediate allocations prior to the final allocation. Can CAT handle this scenario?

As a general note, that applies to all CAT reporting, not just Allocations, Thesys CAT along with FINRA and the SEC, must ensure that the scope of transactions and the data elements included in reporting is sufficient to include all required transactions and data elements to allow the equivalent Blue Sheets reporting to be retired with Phase 1 of CAT. Blue Sheets has an “expansive” view of reporting obligations that includes many different types of transactions (*e.g.*, allocations to depository banks, corporate actions, ETF creations and redemptions, options exercise and assignments, etc.). It is expected that CAT reporting in Phase 1 is sufficient to supplant all of this reporting through Blue Sheets.

Comments on Data Elements for Post-Trade Allocation

- “allocationnote” – What is the surveillance value of this field, especially as a freeform field? What would Thesys CAT expect for a broker-dealer to record in this field?
- “clearing Number”- As mentioned on other Events, the broker-dealer may not have the DTCC Clearing Number of recipient firm, but could supply the MPID. Also, MPIDs can have multiply clearing numbers, and the broker-dealer would not have access to which clearing number this allocation should be associated.
- “instructingFirm”- The instructing firm can be a non-member or a customer, neither of which has a Reporter ID. As a required field, how should this field be populated? The “reporter” can also be the “instructingFirm”. Does CAT recognize that case? Providing the “instructingFirm” might not be as simple to retrieve. *I.e.*, the allocation instructions do not carry with it the source of the allocation instructions. So, unless this information is really required for surveillance purposes, FIF would propose eliminating this field because it would be extra cost to the broker-dealers.
- “firmDesignatedID” – should be a required, not conditional field.

Section 4.14.2 Amended Allocation Report

- “instructingFirm” – As noted above, the instructing firm can be a non-member firm or a customer, neither of which has a Reporter ID.
- “reason” – what is expected to be reported in this field? How can this field be interpreted by the regulators being it is defined as a text(255) field? At a minimum, it should be optional.
- “allocationNote” – the format of this field is different than the “allocationNote” data element specified on Post Trade Allocation Event. Here it is defined as a Name/Value pair.

- “clearingFirm” – as noted on other events, this field should allow specification of a MPID.

General Comments on Data Elements

- “definedHandlingInstructions” – This field is defined in some Events as a name/value pair and in others as a choice.

October 12, 2017

Summary of Session 9, October 9 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.1)

This Summary is a continuation of the FIF CAT WG review of the Initial CAT Reporting Specification for Industry Members, focusing on the major concerns identified to date with the specification.

Major Concerns – Previously Reported

The following major concerns have been identified in the last 6 sessions:

1. End of Trading Day – Section 9.7
2. Timestamps - Section 3.1
3. Sequence Numbers - Section 3.1
4. Reporter ID – Section 1.3.1
5. New Events – Section 4.1
6. Missing information that is on OATS interface
7. Missing Blue Sheets data in CAT Interface
8. Complex orders with CAT-eligible securities
9. Complex orders with non-CAT eligible securities
10. Quote Messages with Equities
11. Trade Events
12. Reporting Results on Route, Modify Route, Cancel Route, Internal Route and New Quote Events
13. Reporting “intent to take an action” on Modify Route and Cancel Route Events
14. New Events added to Reporting Requirements are confusing, add complexity, with no explanation of regulatory benefit
15. New data elements are confusing, costly to provide and no explanation of regulatory benefit.
16. Explicit reporting of implicit actions generates excessive message activity, unnecessary reporting, and will likely lead to increase errors, with no underlying regulatory value.
17. Execution Assignment Event beyond scope of Rule 613
18. Scope of Post-trade Allocation Reporting

Opportunity for correcting current regulatory reporting problems – Previously Reported

1. Standardize reporting requirements and eliminate ambiguity on handling/reporting of routed orders across Participants and Industry Members
2. CAT reporting should mimic the business processes used by the broker-dealers and Participants.

New Major Concerns – New Concerns Identified in this Session

None

New Opportunity for correcting current regulatory reporting problems

3. **Standardize reporting requirements and eliminate ambiguity on handling/reporting of partial cancels across Participants and Industry Members.**

Exchanges do not have a uniform method of handling partial cancels; some support use of the cancel

event while others use Order Modify. FIF recommends that the CAT audit trail could be improved through efforts to standardize reporting requirements and eliminate ambiguity across Participants and Industry Members on the handling of partial cancels. Details included in Section 5.2.3.

Detailed Comments

Reporting Model for Equities and Options

- All fields which are marked “Conditional” should describe specifically and unambiguously the conditions for which reporting is required.
- None of the events in this specification contain a conditional field that specifies “CAT Submitter”, *i.e.*, the Reporter ID of a firm reporting on behalf of another CAT Reporter.
- For events that report changed data elements for the order (*e.g.*, Order Modify, Order Accepted, Order Restatement, Modify Route and the options equivalent events) FIF requests that the Plan Processor supports two methods of reporting:
 - Only the data elements that change be required to be reported on these events, and not require all data elements as specified on the order or route be repeated on the Modify event.
 - A broker-dealer can optionally choose to report all data elements on these events, not just the changed data elements.
- The Order Modify Event and Options Order Modify should be the method for reporting changes to the order, even if the order has been routed away. Use of the Modify Route event for reflecting order modifications for routed away orders is a confusing model and we believe (in the absence of any information on error handling procedures) will complicate error corrections.
- Virtually all of the comments made for the equity events apply equally for options. Rather than repeating all of these equity comments for each option event, please refer back to the comments on the equity events. *E.g.*,
 - As noted on FIF’s comments on Equity Events, the descriptions on the data elements for “orderInstructions”, “definedHandlingInstructions”, “routingInstructions” and “routingExclusionList” are very confusing and require clarification. It is not clear what data needs to be provided for each of these data elements. The formats defined for these data elements are not consistent across event types. And the conditions for which reporting is required for these data elements are not specified. It is not clear how regulators can reasonably interpret the data provided with freeform text fields for “orderAttributes”. These comments are not repeated for the data elements discussed for each event type below. (See Section 4.2, October 6, Session 6)
 - Splitting the Order Modify event into Modify Order and Replace Order (See Section 4.5, October 6, Session 6)
 - Sequence Numbers appear on some of these events. As we indicated in our Comment Letter of September 25, FIF does not agree with the requirement to supply sequence numbers under any circumstances.
 - “results” field – FIF disagrees with reporting results on any of these events. (See October 2, Session 5 Summary, Major Concern). Reporting the results of an event requires that

subsequent events in an order lifecycle must occur before the CAT message can be created, preventing realtime processing.

- Why are MIC codes used as value fields in data elements? Reporter ID should be used.
- The specification does not address any unique reporting requirements associated with manual orders (equities and options) and floor brokers trades.

Section 4.2 Route

The OATS Technical Specification section 4.4.22 references a 'Service Bureau Scenario' where the service bureau activity is not reported (other than the Route to the street, by the originating firm). Is this a CAT reportable event?

Section 5. – Options

Section 5.1.2 New Order Event for Options

Comments on Data Elements for New Options Order Event

New Options Order Event Data Elements	Comment
primaryDeliverable	This field should not be provided by CAT Reporter; getting accurate data is problematic. This information is available via the OCC feed, or the exchange.
executingBrkrCATID	Why does the executing broker have to be specified on the New Order event? If it isn't the "reporterID" then wouldn't it be the broker to whom the order would be routed to, and that would be supplied on the Route event, not the New Order event?
giveUpCrgFirm	What is the difference between the "executingBrkrCrgFirm" and "giveUpCrgFirm"?
optionID	Request that either the optionID or the 4 elements (optionSymbol, expirationDate, putCallCode, strikePrice) can be specified, but not both. FIF does not support the requirement to report both forms of options identifier.
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
originCode	Could this information sometimes be derived from the FDI? This information would be better supplied on the Route event. It should be a conditional field, supplied if the customer provided it.
mktMkrSubAccount	Could this information sometimes be derived from the FDI? Can this field be clarified as to what value is expected to be reported? As with origin code, this information would be better supplied on the Route event. Under what conditions should this field be reported?
greekValues	Why must these values be reported? Overhead is high to provide this data. If this data must be reported, then instructions must be provided on the calculations, formulas and variables (e.g., interest rates) that must be used in deriving this value. Our understanding is that the requirement for this field is being reviewed and may be limited to only providing the data if the customer supplied the delta value or if the order attribute was required to be sent to an exchange. Please note that even delta values are calculated differently across firms.
closingOnly	Not appropriate for New Order. Should be sourced from OCC or exchange. Data not easily available to OMS. Field should only be supplied if provided by

	customer.
aggregatedOrder	For New Options Order, description doesn't indicate a Name/Value pair, only an orderID. Needs to specify quantity. (Or this field description should reference 5.1.6)
heldNotHeld	On Options Route, but not on New Options Order. Also, shouldn't this value be supported on equity New Order? There is a "not held" value in "definedHandlingInstructions". How does that value relate to this value? It might be more appropriate as a value in "definedHandlingInstructions".
attributable	On Options Route, but not on New Options Order. Also, should this value be supported on equity New Order? Can the description of this data element be expanded? It isn't clear what is expected.
price	What is the difference between price and orderPrice? "orderPrice" is only referenced on New Order and Route events.
orderPrice	
displayQty	It is a conditional field on New Order and Route but required on Order Accepted and Order Restatement. As requested with definition of this field on equities events, this field should be conditional across all events, and the conditions for which reporting would be required needs to be explicitly stated.
minQty	Missing on New Order, but on Route Event

Use Case

What would be the CAT reporting requirements for the following scenario? Firm A's trader called down a cross order to floor broker with customer on one side (unsolicited) and a market maker (solicited) on the other side. Firm A is not acting as the executing nor clearing broker for the market maker – the market maker side would be an execute and give-up to the market maker by the floor broker. Is the market maker side a reportable event for Firm A? What would be the sequence of CAT events that must be reported by Firm A? By Market Maker? By Floor Broker? There are no current Blue Sheet reporting obligations for Floor Broker give-ups.

Section 5.2.1 Option Order Routing

The specification mentions that internal routes are not included for options. For a complex options order that is tied to an equity, an internal route is required for the equity leg, but not on the options leg. We assume that this scenario does not introduce any reporting problems, given that there is no internal route for options?

We note that this message does not contain the "result" field that is included on Equity Route events as well as Options Modify events. FIF does not support the "result" field but we were wondering why it was excluded from the Route for Options - was that intended? And if so, what is the reasoning?

Comments on Data Elements on Options Route Event

See comment in Section 5.1.1

Options Order Route Data Elements	Comment
timeInForce	missing
optionID	Request that either the optionID or the 4 elements (optionSymbol, expirationDate,

optionSymbol	putCallCode, strikePrice) can be specified, but not both. FIF does not support the requirement to report both forms of options identifier.
expirationDate	
putCallCode	
strikePrice	
originCode	Same comment as on New Order
mktMkrSubAccount	Same comment as on New Order
greekValues	Same comment as on New Order
destination	Missing on Route
heldNotHeld	See comments from New Options Order Event On Options Route, but not on New Options Order Should these data elements be on equity New Order and Route?
attributable	On Options Route, but not on New Options Order Should these data elements be on equity New Order and Route? Can the description of this data element be expanded? It isn't clear what is expected.
sequenceNumber	These fields are on Equity Route. FIF does not support any of these fields, but we are highlighting the differences between similar equity and options event.
result	
resultTimestamp	

Section 5.2.2 Option Route – Modify Route Request

As we described with the Modify Route for equities, FIF does not agree that this event is needed, and in fact, complicates the reporting process. See comments provided in the October 6, Session 6 Summary, r Section 4.2.1 on Modify Route.

Comments on Data Elements on Modify Route Event

Options Order Modify Route Data Elements	Comment
timeInForce	Missing
routingInstructions	Missing- same comments as provided on equity events
definedHandlingInstructions	Missing- same comments as provided on equity events
routeExclusionList	Missing- same comments as provided on equity events
orderAttributes	Missing- same comments as provided on equity events
displayQty	Missing
minQty	Missing
algo	Missing
greekValues	Missing
optionID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
openCloseIndicator	Is this value known at Option Modify Route?
originCode	Same comment as on New Order
mktMkrSubAccount	Same comment as on New Order
Quantity	Missing
leavesQty	Missing
orderType	Missing
result	As indicated before, disagree with reporting results
resultTimeStamp	As indicated before, disagree with reporting results

initiator	Should only require designation of customer initiated request, not type of firm initiating request
heldNotHeld	Missing
attributable	Missing
sessionID	Not needed, order ID is unique
destinationType	Not needed; data available via Reporter ID definition

Section 5.2.3 Option Route – Cancel Route Request

Comments on Data Elements on Cancel Options Route Event

Cancel Options Route Data Elements	Comment
optionID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
destinationType	Not needed – can be determined from Reporter ID definition
Session	Not needed – orderID is unique
result	As reported before, disagree with reporting results on this event
resultTimestamp	As reported before, disagree with reporting results on this event
initiator	Should only require designation of customer initiated request, not type of firm initiating request
leavesQty	We do not understand the difference between these two fields, and which one should be used for which event. Could the description be expanded for these two events with scenarios demonstrating their use?
desiredLeavesQty	

Section 5.3 Options Order Accepted Event

Please see comments on Equity Order Accepted Event that this event is not needed (*see* October 6, Session 6 Summary, Section 4.3).

Comments on Data Elements for Options Order Accepted

Data Elements for Options Order Accepted	Comment
optionID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
destinationType	Not needed – can be determined from Reporter ID definition
session	Not needed – orderID is unique
receivingDeptType	Same comment as provided on equity events – the types are not well defined; suggest use of OATS values.
displayQty	Same comment as provided on equity events – is this field needed?
result	As reported before, disagree with reporting results on this event
resultTimestamp	As reported before, disagree with reporting results on this event

routeExclusionList	Missing – same comments apply as provided for equity events
reporter	Field is conditional; should be required
Origin code	Missing

Section 5.4 Internal Route

Thesys is evaluating if an Internal Route is needed for options reporting. FIF will await that analysis.

Section 5.5 Option Order Modify Event

As was indicated on the Order Modify event for equities, FIF disagrees with the approach that an Options Modify Route Event is required if the order has already been routed away. In a distributed system, an OMS may not know the routing status of an order, which is handled by a routing system. When a request is received to modify an order, the request will be initiated through OMS and should be reported as an Options Order Modify Event. The OMS should not need to alter its reporting based on the downstream status of that order.

If routing information changes as a result of an Options Order Modify Event, would a subsequent Modify Route event have to be reported? Or would Cancel Route, New Route Events have to be reported?

There is a typo in the event type name: The listing of event types shows MOOM, however the field table shows the Equity order modify code (MEOM).

Comments on Data Elements for Options Order Modify Event

Data Elements for Options Order Accepted	Comment
optionID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
destinationType	Not needed – can be determined from Reporter ID definition
session	Not needed – orderID is unique
receivingDeptType	Same comment as provided on equity events – the types are not well defined; suggest use of OATS values.
displayQty	Same comment as provided on equity events – is this field needed?
minQty	Same comment as provided on equity events – is this field needed?
result	As reported before, disagree with reporting results on this event
resultTimestamp	As reported before, disagree with reporting results on this event
routeExclusionList	Missing – same comments apply as provided for equity events
sequenceNumber	This is the first Options event where sequence number appears. As reported earlier, FIF disagrees with providing sequence numbers
routedOriginalOrderid	As reporter before, we find the descriptions of this field confusing. Can a use case be provided showing the relationship between orderid, routedOrderID, and routedOriginalOrderID?
routingInstructions	Same comments as previously provided
definedHandlingInstructions	Same comments as previously provided
routeExclusionList	Same comments as previously provided
orderAttributes	Same comments as previously provided. In the table of data elements for Option Order Modify Event, the orderAttributes data element is listed twice, with conflicting field formats, and different

	definitions.
greekValues	Missing – but we don’t agree with including this value on New Options Order
openCloseIndicator	Missing
closingOnly	Missing
side	Missing
algo	Missing
cmtaCllrgFirm	Missing
giveUpCllrgFirm	Missing
originCode	Missing

Section 5.6 Options Canceled Event

*“When a broker receives or initiates a cancellation request for an order it has already routed away, it must report **its intent to cancel** the routed order using a Cancel Route Event – not an Order Canceled event”.*

FIF previously raised concern about “intent to cancel” (see September 25 FIF comment letter to Thesys, Major Concern (See October 2, Session 5, Major Concern #2).

“When customers request a modification via a cancel/replace message, an Order Modified event – not an Order Canceled event – should be reported to CAT”.

Can this statement be explained? We did not understand the scenario being described and the reporting implications of that scenario.

Is a Modify Event used when the material terms of the order change? And would a Cancel event, followed by a New Route or New Order Event be used if anything other than material terms of the order change?

Opportunity

Each exchange handles partial cancels differently. Some allow use of a Cancel, with partial quantity specification; others allow use of Order Modify. What should be the CAT reporting of this event when this is no uniform reporting across exchanges for handling this case? As an example, an OMS may only know that the order quantity is being modified yet their FIX engine layer may translate that request into the engine specific protocol of cancel with a partial quantity. The OMS layer would submit a CAT Order Modify report but that would not match the exchange CAT Cancel report. Can CAT handle that mismatch? What should be the CAT reporting of this event when this is not uniformity across exchanges for handling this case?

This represents another opportunity for CAT to improve current regulatory reporting by imposing some uniformity across exchanges on handling of partial cancels.

Comments on Data Elements for Options Canceled Event

Data Elements for Options Canceled	Comment
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optionsID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
cancelReason	Same comment as Cancel for Equities - Can this field be better explained?
initiator	Same comment as Cancel for Equities – by Rule 613, only need to report if customer initiated cancel
allocationNote	Same comment as Post-Trade Allocation for equities. Why have this field – what is expected? Please use consistent format across event types

October 13, 2017

Summary of Session 10, October 11 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.1)

This Summary is a continuation of the FIF CAT WG review of the Initial CAT Reporting Specification for Industry Members, focusing on the major concerns identified to date with the specification.

Major Concerns – Previously Reported

The following major concerns have been identified in the last 6 sessions:

1. End of Trading Day – Section 9.7
2. Timestamps - Section 3.1
3. Sequence Numbers - Section 3.1
4. Reporter ID – Section 1.3.1
5. New Events – Section 4.1
6. Missing information that is on OATS interface
7. Missing Blue Sheets data in CAT Interface
8. Complex orders with CAT-eligible securities
9. Complex orders with non-CAT eligible securities
10. Quote Messages with Equities
11. Trade Events
12. Reporting Results on Route, Modify Route, Cancel Route, Internal Route and New Quote Events
13. Reporting “intent to take an action” on Modify Route and Cancel Route Events
14. New Events added to Reporting Requirements are confusing, add complexity, with no explanation of regulatory benefit
15. New data elements are confusing, costly to provide and no explanation of regulatory benefit.
16. Explicit reporting of implicit actions generates excessive message activity, unnecessary reporting, and will likely lead to increase errors, with no underlying regulatory value.
17. Execution Assignment Event beyond scope of Rule 613
18. Scope of Post-trade Allocation Reporting

Opportunity for correcting current regulatory reporting problems – Previously Reported

1. Standardize reporting requirements and eliminate ambiguity on handling/reporting of routed orders across Participants and Industry Members
2. CAT reporting should mimic the business processes used by the broker-dealers and Participants.
3. Standardize reporting requirements and eliminate ambiguity on handling/reporting of partial cancels across Participants and Industry Members.

New Major Concerns – New Concerns Identified in this Session

None

New Opportunity for correcting current regulatory reporting problems

None

Detailed Comments

The following sections were reviewed - Wednesday, October 11

Sections 5.7 through 5.11, and 9.7

Section 4.8 Trade

Supplying "risklessOrderID" on the Trade event will be problematic. Broker-dealers will not always know the riskless order id at the time of the trade. It would be more appropriate to specify this value on Execution Assignments. (See FINRA TRF FAQ below on this point).

(FINRA TRF FAQ -Q302.7): What time should be entered in the execution time field on a non-tape report for the offsetting leg of a riskless principal transaction?

A302.7: The time that should be entered in the execution time field on the non-tape report should be the time at which the offsetting leg of the transaction was allocated to another party.

Also, ACT reporting of riskless principal transactions supports reporting in two different ways – a firm can report either one transaction - riskless principal, or two transactions - principal and client as non tape. (see FINRA TRF FAQ – Q302.2 below). CAT should also support these models.

Q302.2: How are OTC riskless principal transactions reported to FINRA?

A302.2: Members can report OTC riskless principal transactions by submitting a single tape report to a FINRA Facility in the same manner as an agency transaction, marked with a "riskless principal" capacity indicator, excluding the mark-up or mark-down, commission-equivalent or other fee. Alternatively, members can report an OTC riskless principal transaction by submitting two (or more, as necessary) reports: (1) a tape report to reflect the initial leg of the transaction with a capacity of principal; and (2) a non-tape (regulatory or clearing-only) report to reflect the offsetting "riskless" leg of the transaction with a capacity of riskless principal. See Rules 6282(d)(3)(B), 6380A(d)(3)(B), 6380B(d)(3)(B) and 6622(d)(3)(B); NTMs 99-65 (August 1999), 99-66 (August 1999) and 00-79 (November 2000). Where the tape report for an OTC riskless principal trade incorrectly reflects a capacity of "principal," the non-tape report is required under the trade reporting rules.

We request clarification from Thesys CAT on what CAT reporting would be required with the following scenario:

A customer order was received for 1000 shares	New Order event
800 shares were executed by internal ATS	Trade event
200 shares were sent out to market as riskless principal	How is this reported? As another New Order? Or a Route? Followed by an Execution Assignment?

Section 5.7 Options Order Restatement

These comments apply equally to Order Restatement for equities.

As with the Order Restatement for equities Event, FIF disagrees with the requirement to restate all orders that persist to the next business day. FIF continues to believe that there are limited instances where this event is needed or useful – Corporate Actions being one. OATS today does not require restatements, so can Thesys CAT explain why an Order Restatement would be required with CAT?

Can Thesys CAT clarify the situations and use cases for which Options Order Restatement (and Order Restatement for equities) would be required? And what order level would be required to be restated – the original order ID or whatever is left of the order that was not filled on the previous business day? FIF would like to verify with Thesys CAT that the Execution Association reports the association back to the Parent Order, to the level reporting the customer, and not all of the intermediate orders and aggregations that occur in processing the order. Can Thesys CAT verify that this is the correct interpretation?

Comments on Data Elements for Options Order Restatement

Data Elements for Options Order Restatement	Comment
optionID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
workingPrice	Same comment as on Order Restatement for Equities - Is this price available, and relevant, across trading days?
displayQty	Why is this field required?
originalOrderID	Can this be clarified, on what is expected for this field? Some firms would not have “the most recent internal ID” at time of order restatement but would have the original order ID at time of order creation.

Section 5.8.1 – Execution Association Event

For Execution Association Event, the “orderID” field says: *“This must match the orderID on the New Order event. Or if the order was modified, this must match the orderID on the latest Order Modified event.”* What about the case when an execution related to the order prior to modification arrives after the modification event? Should the orderID then reflect the original order, or the Modified order? Our assumption is that it should be the original order ID, but would like to confirm this with Thesys CAT.

Comments on Data Elements for Execution Association

Data Elements for Execution Association	Comment
optionID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	

Section 5.11 Options Post-Trade Allocations

The comments we made on Post-Trade Allocations for equities apply equally to Post-trade Allocations for options.

Comments on Data Elements for Post-Trade Allocations for Options

Data Elements for Options Post-Trade Allocations	Comment
optionID	Same comment as on New Order
optionSymbol	
expirationDate	
putCallCode	
strikePrice	
clrgFirmNumber	Should use same data element name as Post-Trade Allocation for Equities and all others – clearingFirm.
instructingFirm	Same comment as Post-Trade Allocation for equities. Instructing Firm not always a CAT Reporter
allocationNote	Same comment as Post-Trade Allocation for equities. Why have this field – what is expected? Please use consistent format across event types

5.11.5 Amended Allocation

Comments on Data Elements on Amended Allocation for Options

All of the comments provided on Options Post-Trade Allocation Event apply equally to Amended Allocation for Options.

Data Elements for Options Amended Allocation Event	Comment
reason	Why does this field need to be reported? Why is it required? No guidance has been provided on what should be included in this free-form field. As a free-form field, it will make it very difficult for regulators to interpret this field. As a general comment, all free-form fields should have guidance on what is expected for that field.
allocationNote	Inconsistent field format across events. What is the rationale for having this field?

Section 9.7 CAT Reporting Hours

- On CAT Reporting Hours where days are mentioned defining intervals allowed for submitting and repairing records, can Thesys CAT confirm that this is intended to be business days and not calendar days
- FIF's issue on End of Trading Day ending at midnight was submitted with September 25 comment letter.
- As has been stated before by FIF, the aggressive reporting and correction cycle is a major concern for broker-dealers. There has been no indication that Thesys CAT will be providing any tools or procedures that will allow Industry Members to manage to these reporting cycles and error correction windows. These tight timeframes are being further pressured with 1) the proposal to extend the trading day until midnight which reduces the reporting window and 2) the proposed additional reporting requirements included in the Discussion Document which will

add to the time required for submission of CAT reports. Both proposed changes exacerbate the shortened windows for reporting and error correction and likely will increase the error rate because of less time to verify records before submission and less time to correct errors during the error correction window.

Data Dictionary

To reiterate our comment from the September 25 comment letter, the Data Dictionary requires significant work. There are many fields missing and inconsistent and incomplete definitions of data elements and terms. The Data Dictionary is an important tool for Industry Members in both analyzing the specification and their analysis work as they prepare for their implementations. Please ensure that this section is corrected in the next revision of the document.

Scenarios

Industry Members rely on scenarios and use cases to clarify and demonstrate how reporting requirements must be implemented. A rich portfolio of use cases that are accurate and comprehensive is an essential component of a technical specification. This area was deficient in the Discussion Document and we request that scenarios and use cases be expanded significantly in the next revision of the document. We suggest that Thesys CAT could extract the industry scenarios from the OATS specification as a starting point for building CAT scenarios. Additional use cases that highlight the new CAT reporting requirements are needed for Industry Members to better understand the CAT reporting model.

Field Level Concerns:

“capacity” - Throughout the tech spec, Thesys needs to be clear about what capacity (entering vs executing) is being referenced in each case – entering Capacity vs. ex