FINANCIAL INFORMATION FORUM

5 Hanover Square
New York, New York 10004
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212-422-8568

Via Electronic Delivery

July 16, 2018

Mr. Shane Swanson, Chief Compliance Officer
ThesysCAT, LLC
1740 Broadway
New York, NY, 10019

RE: *FIF Comments on V0.3.1 of the Industry Member Technical Specification (Dated June 6, 2018).*

Dear Mr. Swanson,

The Financial Information Forum ("FIF")[1] Consolidated Audit Trail Working Group ("FIF CAT WG") appreciates the opportunity to provide comments on V0.3.1 of the Industry Member Order Reporting Technical Specifications ("Draft Document"),[2] distributed via the Industry Member Tech Spec Working Group on June 12, 2018. This comment letter compiles the major issues, concerns and questions raised during the review sessions of this specification. Appendix A contains the detailed comments captured during each of FIF's 7 review sessions performed between June 19th and July 10th. Comments from Sessions 1 through 5 contained in Appendix A have been sent to ThesysCAT over the past few weeks.

Assessment

The FIF CAT Working Group completed an extensive review of V0.3.1 of the Draft Document including 7 review sessions, with an average of 75 participants per call. While FIF recognizes that V0.3.1 of the Technical Specification was provided to the industry for the purpose of providing feedback on the SRO Master Plan, FIF is using this opportunity to also provide feedback on this draft specification so that the comments can influence the September 14th draft specification. Until the Technical Specification contains a complete definition of the CAT interface including use cases, business scenarios, FAQs and additional guidance[3], it is impossible for the industry to fully assess the impact or adequacy of the proposed CAT reporting interface in its current form.

Given the aggressive schedule presented in the July 10th Industry Member Reporting Approach, it is critical that the Draft Technical Specification to be published on September 14th, 2018 be as close to final specification as possible, reflect the SRO proposed approach of migrating the CAT Native Interface to an OATS-like model[4] and incorporates the reduced scope of CAT reportable events in Phase 2a, and

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[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 V0.3.1, dated June 6, 2018.

[3] The mapping of OATS guidance to CAT reportable order events, to be provided to Industry Members on August 15, 2018, as well as the mapping of OATS to CAT specifications on September 14, 2018, should assist Industry Members in understanding the CAT specification and how to transition each firm's OATS interfaces to CAT.

[4] *See* Industry Member Reporting Approach Under Consideration, Dated July 10, 2018.

incorporate both JSON and CSV formats. Without the inclusion of these necessary items in the first draft specification, the implementation schedules proposed by the SROs will be at risk.

FIF recognizes that the SROs have proposed a revised Alternate CAT Implementation Plan on July 10, 2018 that, if approved, will provide Industry Members with significant schedule and reporting relief. The reporting approach in the July 10 proposal, although not reflected in this June specification, is assumed to be the "plan of record" and will be reflected in the September specification. FIF will be submitting comments on July 17th providing feedback on the revised plan in support of the new reporting approach. In addition to the changes required to this specification to support the new reporting approach, other challenges with respect to CAT reporting requirements as specified in V0.3.1 of the Technical Specification remain to be addressed. Notably, these challenges include:

Data Elements:
- *TRFControlNumber* – FIF does not believe that TRFControlNumber should be required and is requesting that this data element be removed from the Technical Specification.
- *SessionID* – As previously raised, FIF does not believe that sessionID should be a required field. There are scenarios where sessionID will not be a valid matching criterion.
- *TraderID* – FIF requests that this field be eliminated from the Technical Specification. Rule 613 specifically states that the identification of individual traders with a CAT Reporter is not necessary[5].
- *Trade Event Side Details* - Currently, it is not clear why a hierarchical structure was defined with separate tables for the side details. These are not repeating tables, so a simpler approach to flatten the details on the Trade Event should be considered.
- *Clearing Number* - Providing clearing number on a Trade is problematic. This information is typically not known at the time of a trade, since the TRFs generally handle the conversion from MPIDs to Clearing Numbers based on information maintained by them. FIF is requesting clarification on why this information is required on a trade.

CAT Operations:
FIF provided detailed comments on V0.2 of the Industry Member Technical Specification raising, numerous concerns with CAT Operational requirements as specified in the Technical Specifications.[6] Those comments were not incorporated into V0.3.1 of the Technical Specification and thus are included in Appendix A of this letter (Summary of Session 7). While FIF members believe that each of the items addressed in Appendix A should be addressed by ThesysCAT, the highest priority items are raised below:

- *File Submission* - FIF requests that the requirement to transmit a metadata file with every file transmission be eliminated. FIF believes that the metadata file should not be required for every file transmission for integrity checking. For example, FIF suggests allowing a Meta File to apply to multiple Event files or discard/make optional the need for checking Hash values and symmetric Key, allowing the remaining fields in the Meta File to be contained in the Event File header. FIF suggests that ThesysCAT and the SROs engage in a breakout session with Industry Members to develop an alternative solution.
- *SFTP Upload Process* - FIF strongly emphasizes the need for the redefinition of the file upload process. The upload process is clumsy, requiring the upload of two files into the "upload/transit"

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[5] SEC Release No. 34-67457 (October 1, 2012) SEC Rule 613 at pg 142 FN 388 ("natural persons who are employed by an entity that is an account holder, and who are authorized to trade for that account, are not considered different from the account holders, and are therefore not covered by Rule").
[6] See Letter from Ms. Janet Early to ThesysCAT, LLC, *RE: February 22, 2018 CAT Industry Member Reporting Specification, v0.2*, March 29, 2018.

directory, and then the move of the files to the "upload/complete" directory. ThesysCAT should be able to manage this process, once the transmittal of the files to the "upload/transit" directory is complete, without requiring the two-step process by the CAT Reporter.

- *Error Correction* – As previously raised, FIF requests that the tight coupling in the repair process with the originally submitted file be removed. Repairs will not always be against the originally submitted file or can span multiple files. Further, FIF recommends that each record in the originally submitted file be identified with a record identifier, and that the record identifier be the key used for repairs. This is done in OATS today. The identification of the repair record via an index in a file, as proposed by CAT, is very clumsy for processing.[7] FIF is requesting a break out session with ThesysCAT to better help the Industry understand the error correction process.
- *Failure Reports* - FIF recommends removing the limit of stopping a file scan when more than 10% of the records are in error. ThesysCAT should always complete the scan and validation of an entire file. OATS does not have that limit today. This limit may cause a broker-dealer to be late in CAT reporting because remaining records in a rejected file will not have been processed and by definition, will be considered late. And then when the file is resubmitted, those unprocessed records may have errors, which will require another cycle of repair and resubmission.
- *CAT Upload Process*: All processes related to the upload of data to CAT or receiving data from CAT by the regulators support automation of those processes, including receiving of status data.

The challenges highlighted above represent the major concerns raised by Industry Members during FIF's reviews of V0.3.1 of the Technical Specification, in addition to the proposed changes outlined in the July 10 SRO Proposed Reporting Approach. FIF believes that these challenges remain the highest priority items to be addressed prior to the publication of the September 14th Draft Specification. FIF requests that all comments included in Appendix A also be evaluated for incorporation into the September Technical Specification.

Summary
FIF has consistently supported and remains firmly committed to the success of the Consolidated Audit Trail. We recognize and appreciate that the CAT implementation milestones and proposed relief from certain Phase 2a CAT reporting requirements pursuant to the July 10th CAT Implementation Approach represent a marked improvement from the November 2016 CAT NMS Plan. FIF appreciates ThesysCAT's consideration of the issues and comments raised with respect to V0.3.1 of the Industry Member Technical Specification and offers to discuss any or all of the concerns raised in this letter at your convenience.

Sincerely,

Christopher W. Bok, Esq.
Financial Information Forum

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[7] For example, the error correction process requires that the file name of the correction file must match the file name in which the record was originally submitted. The specification further specifies that the index (line number) of the record in the original file must be referenced while submitting the correction. To fulfill this requirement, a mapping of the record and the file in which record was submitted and index of the record in the file must be maintained.

cc: Self-Regulatory Organizations; 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.

Mr. Andre Frank, President, ThesysCAT, LLC
Mr. Todd Golub, Head of Product Management, ThesysCAT, LLC

Mr. Michael Simon, Deloitte, CAT NMS Plan Operating Committee Chair, on bhalf of the CAT NMS Plan Operating Committee
Ms. Manisha Kimmel, Thomson Reuters, CAT NMS Plan Advisory Committee Chair, on behalf of the CAT NMS Plan Advisory Committee

Appendix A

June 19, 2018

Summary of Session 1, June 26 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.3.1)

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.

Detailed Comments:

1. Introduction - Section 1 – page 1:
   a. FIF would like the Plan Processor to consider optional shortnames for each of the data elements. The JSON and CSV CAT report will be lengthy without the use of shortnames, making it difficult to display, build, or modify (*e.g.* AGENCY = AGY).

2. CAT Identifiers – Section 1.3.1. – page 2:
   a. See comments for reporterIMID – Section 5.

3. Fundamental Data Types:

   a. **FIX Usage** – section 1.5 – page 3: FIX was being considered and evaluated as an interface to CAT. What is the status of that evaluation?

   b. **Time** – section 1.5 – page 5: FIF requests that a second format for the data type "time" be supported, namely, UTC or GMT time. This format would eliminate any confusion or special processing that would be required to adjust for Daylight Savings Time with Eastern Time. Recently, FINRA adopted UTC time format for execution time for FIX trade reporting.

   c. **CRD** – section 1.5 – page 7: The CRD number was referenced and defined in V0.3.1 of the tech spec, but it is not clear how the CRD number will be used in the CAT interface. FIF is requesting clarification regarding use of a CRD number.

4. Data Validation – Section 1.6 – page 7:
   a. Only syntax checking is listed as data validations to be performed by the Plan Processor. What sematic checking will be performed? *E.g.,* will a specified IMID be checked against the list of valid IMIDs published each day? Will a specified symbol be checked against the list of securities symbols which are valid for that day?

5. Reference Data: - section 2.1 – page 8:
   a. The description of how the IMID is used in the CAT interface is not explained clearly. FIF is requesting that the Plan Processor provide examples in the form of use cases to provide CAT reporters with clarification.

   b. What validation will be performed for IMID when specified on an event? E.g., will the CAT Reporter be notified if an IMID is specified but is not unique? Or if an invalid IMID is specified? Will a record be rejected if an incorrect IMID is specified?

c. What changes, if any, will be required to the IMID definition with the start of options reporting in Phase 2b?

b. **reporterIMID** – section 2.1 – page 8:

a. The identifier for the CAT Reporter originating each report is not present on every CAT report. For firms that handle submission of reports from different IMIDs, it would significantly help in the scanning, investigating, correcting of reports if the ID of the CAT Reporter was included on each CAT report, with emphasis on including on the New Order and Order Accepted reports. FIF requests that the Plan Processor support reporterIMID as an optional field on the New Order and Order Accepted Events.

b. There are other IDs that are used, other than IMIDs, to identify the CAT Reporter (*e.g.,* destinationID or routedas, both specified on the Route report). Industry members request clarification why IMID is not used in all cases where CAT Reporter needs to be identified?

b. **Firm Designated ID** – section 2.2 – page 8-9:

a. CAT Reporters will be challenged to define the correct FDID structure in Phase 2a without some definition of the customer and account infrastructure that the FDID needs to represent. This information will not be provided before the Customer Information Specification is provided (go-live for Customer Information is November 2021). The Industry requests that additional information on customer and account information be provided with Phase 2a specifications so that the appropriate FDID structure can be defined by Industry Members.

6. Equity Symbols – section 2.3 – page 9:

a. *Symbols for Preferred Securities*: Please verify that the symbology to use for preferred securities is the symbol used in the primary listed exchange, and that the symbol can be contained in the 14-character text field.

b. *Publication of equities/options exchange symbols*: FIF recommends that CAT publish each day the list of valid reportable symbols as listed on the exchanges or, for OTC, listed by FINRA, for equities including OTC starting in Phase 2a, and options, starting with Phase 2b.

7. Corporate Actions – Equities – N/A:

a. The specification discusses how Corporate Actions will be handled for options, but there is no mention of how Corporate Actions will be handled for equities. Industry members require that use cases and scenarios applicable to corporate actions be included in the specification.

Summary of Session 2, June 21 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.3.1)

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.

Detailed Comments:

1. Timestamps and Sequence Numbers - section 3.2 – page 14:

a. *Sequence Numbers*: Can the same exceptions that FINRA had granted to ATSs regarding providing sequence numbers also be extended in CAT? Can sequence numbers be optional if an ATS provides timestamps that are sufficiently granular to ensure sequencing?

b. *Timestamps*: The Manual Events subgroup is proposing alternate definitions of the eventTimestamp and manualTimestamp. Please see page 4 here.

2. NBBO - Section 3.4 - page 14:

c. Can the ATS define to CAT its standard market data feed source(s) so that it need not be reported on each CAT report? And if an alternate NBBO data source is required (due to system or network outages), and the alternate NBBO market data source be supplied via end of day reporting to CAT, versus real-time? It is unlikely that the alternate market data feed source is known by the CAT reporting engine at the time of system/network outages.

3. Foreign Entity Transactions - section 3.6 – page 16:

a. *FDI for Foreign Entities*: Providing the FDID for foreign entities on a Route Event is a new requirement and was not envisioned when Firm Designated ID was defined, where it was only required on New Order Events and Allocation Events. The FDID can be determined for the intermediate events in an order lifecycle through the daisy chain. Can the Plan Processor please explain why the FDID is needed on the Route event for foreign entities?

b. *Foreign Affiliate*: Can you please include a definition of foreign affiliate in the specification, and contrast with a foreign broker/dealer?

4. Manual Equity Order Handling – section 4.2.1 – page 17:

a. Recommend inclusion of a number of manual event scenarios in the specification. The Manual Events subgroup are working on scenarios and can provide to Thesys shortly.

5. New Order Events – section 5.1 – page 21:

a. *Client/Customer Terminology*: The term "client" and "customer" are used synonymously in the industry. FIF recommends that the specification use a different term to distinguish client/customer orders in the specification.

b. *Usage of New Order Event*: The CAT Help Desk provided the following guidance "In the case of reporting a 'wholesale order flow' that originated at a small Industry Member, Large Industry Members would not be responsible for the beginning of the lifecycle for that order, as that information will be reported by the Small Industry Members at a later date. In an 'interim time' between Large and Small Industry Member reporting, the missing lifecycle information is to be expected." FIF is requesting that this guidance be incorporated into the Industry Member

Technical Specification. Further, FIF is requesting clarification on whether all current OATS reporters will be required to report starting with Phase 2a, or only Large Industry Members. If the latter, how will OATS be retired before small Industry Members' are contributing to the CAT?

c. *Aggregated Order List* – will be discussed in a separate meeting when the list of new CAT events (*e.g.,* Order Supplement Event) will be discussed.

d. *Account Type Information* - The account type information should be available via the Firm Designated ID definition, and not required on every New Order Event. If this data element is included in Phase 2a because the FDID definition will not be introduced into CAT until 2021, then it should be noted in the specification that this data element will not be required once FDID definitions are included in CAT.

e. *Tick Size Pilot Data* - Tick Size Pilot data elements present on Order Accepted but not on the New Order Event. If they are included on the one event, then should be included on both events.

f. *ATS Order Type*: ATS order type is missing from the New Order event.

6. New Order Supplement Event – section 5.2 – page 26:

a. For very large aggregated orders (i.e. greater than 2000 orders), multiple Order Supplement Events will be needed. In addition, in circumstances that involve large aggregated orders, an Order Supplement Modify Event is needed.

b. What validation checks will be performed on the aggregated order list? (*e.g.* will the Plan Processor validate that the order ids are valid, and that the aggregated sums matches)?

c. This event will be discussed further in a subsequent meeting and the conclusions will be factored in at that time.

Summary of Session 3, June 26 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.3.1)

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.

Detail Comments:

1. Route - section 5.3 – page 27:

a. *Route Linkage*: Why are different linkage mechanisms being defined on the Route versus the linkage protocols in use today by FINRA with OATS? Have there been linkage issues that have resulted in a high percentage of mismatches that would justify changes to the linkage protocol? If not, we would suggest that the proposed mechanism is error prone.

b. *Informational Data Elements* (page 28): Three fields are identified as information only fields, not required for linkage – destinationExchange, destinationIMID, foreignDestID. Because these fields are required (depending on the identity of the destination), then we do not understand why these fields aren't used for linking. Rather, a name pair established by the sending/receiving firms are the link keys. Without more explanation or scenarios, this appears overly complex, and although it appears to provide flexibility to firms in how destinations are identified, it does not actually provide that flexibility because the "official" IDs must still be specified.

c. *Multiple Identifiers*: The use of multiple identifiers is confusing. It was not clear why use of Industry Member ID was not sufficient as the linkage field, especially because it has to be specified as an information data element anyway. An example is if the destination is an exchange, then DestinationID and DestinationExchange must be the same value. FIF suggests consideration of a simpler method of specifying this information (*e.g.* ID = XXX (specifies the identifier name); IDtype = value (where value = Exchange, IMID, uniqueID, foreign b/d). This could eliminate extraneous data elements including: routedas, destinationID, destinationIMID, desinationExchange, foreignDestFlag, foreignDestID. FIF suggests separate Text fields for DestinationID and routingAs for flexibility with how to identify sender and receiver in a session I establish with the destination.

d. *Foreign Broker-Dealer – FDID Requirement:* FIF members question why FDID is required when routing to a foreign Broker-Dealer. FIF emphasizes that the use of FDID to identify a foreign-broker dealer may be insufficient because there may not be an account for a foreign broker-dealer.

e. *Session ID:* Session ID should not be a required data element for either Industry Member to Industry Member or Industry Member to Exchange and should not be a linkage key. FIF requests that ThesysCAT please explain why this field is required. Are there unique cases where the other linkage information is insufficient to provide a complete match? For example, today, the Session ID in OATS is intended to cover the case when the same FIX Tag (routed OrderID) is sent via two different FIX connections (sessions) to the same destination. Is the requirement to include Session ID as a data element intended to cover this scenario?

f. *Handlinginstructions:* Are there data elements other than handlinginstructions that should be specified on the Route Event and are not a pass through on the Order Event? If a data element is a pass through from the Order Event, why must it be re-specified on the Route Event?

g. Capacity Data Element: FIF is requesting clarity on the definition and use cases on the applicability of the capacity data element on the Route Event.

h. Result/ResultTimestamp: As FIF previously raised, FIF objects to the result and resultTimestamp data element. These requirements represent a substantial change in reporting protocol, and conflicts with the CAT NMS Plan requirement of contemporaneous recording of data because the Route event report cannot be completed until the results of the event are known. This complicates any recording system, especially systems which are implementing real-time streaming of report data. If there is some edge case for which the regulators need Route result information, FIF suggests that the edge case(s) be identified and that firms make modifications internally. If the result and the resultTimestamp data elements represent a significant regulatory value and are required, then an alternative reporting mechanism should be considered to allow better integration into recording system processes (*e.g.* an independent Route Result Event could be defined which would allow recording of the results of a Route, once known, without holding up the recording of the Route Event itself?).

i. Unsolicited Price: FIF is requesting that the term Unsolicited Price be defined.

2. Modified Route - Section 5.3.1 - page 31:

a. The same comments regarding linkage fields and identifiers as specified for Route also apply to Cancel Route.

b. FIF would like to confirm that Modified Route and Route Cancel will not be required since they are reported by destination?

c. The same comments regarding the result and resultTimestamp data elements as specified for Route also apply to Modify Route.

d. FIF is requesting clarity regarding why the indicator field is required. FIF believes that this field type provides extraneous information.

3. Cancel Route – Section 5.3.2 – page 34:

a. The same comments regarding linkage fields and identifiers are specified for Route also apply to Cancel Route.

b. The same comment regarding the result and resultTimestamp data elements as specified for Route also apply to Cancel Route.

4. Order Accepted – Section 5.4 – Page 36 :

a. The same comments regarding linkage fields and identifiers as provided on the Route Event also apply to the Order Accepted Event.

b. FIF believes that all fields specified on the New Order Event should be provided on the Order Accepted Event. FIF also notes that the Program Trading Code and Arbitrage Code are missing.

c. FIF requests that the Participation Flag also accommodate a Tick Size Pilot Participant.

5. **Internal Route** – Section 5.5 – Page 41:

a. FIF would like clarification on why the Participation Flag is included on the Internal Route Event.

b. The description for orderID is unclear. FIF is requesting that use cases be included that demonstrate the use of this field, as well as the priorOrderID field.

c. FIF requests that another that minimizes the confusion of the term priorOrderID be considered (*e.g.* senderOrderID).

d. FIF members would like clarification on the linkage used for Internal Route. FIF is requesting that linkage requirements be better explained through use cases.

e. FIF would like clarification regarding whether pieces of an order can be routed to different desks, and if so, those requirements.

f. Reporting of manual Internal Routes may not be currently supported by some OMS products. The specification did not clearly identify what business procedures are required to capture a manual internal route.

g. FIF would like to verify if the reporting of Internal Routes is only from the receiving desk. If yes, FIF recommends that it should be specified as an "Internal Route Received."

6. Internal Route Modified – Section 5.5.2 – page 42:

a. The same comments regarding confusing identifiers specified in Internal Route also apply to Internal Route Modified (*e.g.* new, prior). FIF recommends that an alternative naming convention be used to minimize confusion.

b. FIF questions whether there should be an internal route order id separate from the main order id?

7. Internal Route Cancel – Section 5.5.3 – page 45:

a. FIF would like a better understanding of why the initiator field in included in the Internal Route Cancel?

b. What is the regulatory value of capturing cancelReason? This field is not captured today.

June 28, 2018

Summary of Session 5, June 28 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.3.1)

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

Detailed Comments:

1. Child Orders – Section 5.6 – Page 47:

   a. FIF appreciates the flexibility provided of reporting via Child Orders. However, it is recommended that additional documentation and use cases be provided to better explain why and how members would choose internal route of orders versus Child Orders for reporting.

   b. It is not clear if members would be "required" to report using one method or another.

   c. Requiring that the orderID is different from the parentOrderID is different from how some OMS systems work today, where the orderIDs would be the same. Uniqueness is provided through routedID. Working through use cases will be very important to understand how the Child Order Event can be used.

   d. All data elements that appear on the New Order Event should also be present on the Child Order Event.

   e. FIF members have specified that a Child Order Supplement Event is required.

2. Child Order Modify – section 5.6.2 – page 47:

   a. The Child Order Modify field must support a priorParentOrder ID if the parentOrderID has changed

3. Equity Scenarios – Section 9 – page 123:

   a. All examples provided use JSON. Industry members require duplicate reporting scenarios be provided in CSV.

   b. FIF is requesting that a review of the linkages specified in the examples. It appears that the scenarios cannot link with the orderIDs specified.

4. Equity Scenario – Customer Order Route to Exchange and filed on Execution Basis – section 9.1.2 – page 125:

   a. The example provided provides one broker; however, the steps include two brokers and thus, this scenario is incomplete

5. Equity Scenario – Customer Order Routed to Exchange, Fulfilled on Average Price Basis – Section 9.1.4 – page 128:

   a. FIF would like to clarify that Broker 1 does not have transparency into whether it is an average price, only Broker 2 would know the average price.

6. Equity Scenario – Customer Order Routed to Multiple Brokers, Exchange, and Filled – Section 9.1.4 – page 131:

   a. The specification provides that there is no order fulfillment; however, the provided example shows an Order Fulfillment Event. FIF would like clarification on this requirement in this scenario.

7. Order Modify – Section 5.7 – page 52:

  a. FIF is requesting a better understanding of how the Order Supplement Record is modified. Further, we are unclear what the linking mechanism is to the supplemental record. As noted earlier, there could be multiple order supplement records, so a mechanism is required to link to the correct record for modification.

  b. Industry Members require a better understanding of the mechanism required to link a Route Event to the correct Modified Order Event

  c. FIF notes that all data elements on the New Order Event that can change must be reflected on the Order Modify Event.

  d. FIF request that fields version, priorVersion be added as conditional for firms that don't change their orderID with revisions. We need to link Route and Modified Order Supplement events to the correct version of the Adjusted Order. We'd need these fields added to Order Adjusted, Route, Modified Route, New Order Supplement, and the requested Modified Order Supplement as well.

8. Order Adjusted – Section 5.7 – page 56:

  a. FIF is requesting clarity on whether this event requires that dividend changes and splits must be reported.

9. Trade – Section 5.8 – page 56:

  a. With the Trade and Order Fulfillment Events, it is imperative that many use cases and scenarios be provided to demonstrate how these events must be used. Members are having difficulty understanding the reporting requirements of these events.

10. Trade Event Side Details – section 5.11.1 – page 62:

  a. Currently, it is not clear why a hierarchical structure was defined with separate tables for the side details. These are not repeating tables, so a simpler approach to flatten the details on the Trade Event should be considered.

  b. Many firms found the different terminology of buy/sell and client/firm confusing. FIF recommends that clearer descriptions and more use cases would minimize industry confusion.

  c. *Trader ID* – Supplying identifiers of traders was raised early in DAG discussions and was specifically excluded as a requirement for CAT.

  d. *Clearing Number:* Providing clearing number on a Trade demonstrates a challenge. This information is not always available at time of a trade. FIF is requesting clarification on why this information is required on a trade.

  e. *TRF Control Number:* FIF does not believe that the TRF Control Number is needed.

  f. *Branch Sequence Number:* FIF is requesting clarification on why the branch sequence number is required on the non-media side.

  g. *SideIMID:* FIF is requesting clarification on why sideIMID is required. FIF believes that this information should be known through the daisy chain and should not be required to be specified on the trade.

  h. *Leavesqty* – Industry Members are requesting clarification on whether the leavesqty field relates to the parent or child order.

  i. *TapeTradeID* – FIF believes that this field should come off the Side Details and be put on the Trade Report because it applies to both sides. In addition, in the case of a non-media print, the term tapeTradeID is misleading.

  j. *Order ID* – The specification does not indicate that this field is required for type=REP

k. FIF is requesting that ThesysCAT split trade reports into reports that are reported to the TRF v. reports that are reported to flips (trade reporting v. bookkeeping events).

l. *Note:* FIF members are still gathering details on Trade Events and will be supplying additional comments on Trade Events.

Summary of Session 5, June 29 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.3.1)

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.

1. Principal Flip – Section 5.11.4.3 – page 64:

a. FIF is requesting more guidance and clarification on this reporting requirement in a later version of the spec. FIF members are confused regarding how examples provided can be incorporated.

2. Trade Scenarios – Section 9.2 – page 139:

a. FIF recommends that the scenarios provided in the March 23, 2018 Deep Dive Discussion on Representative and Aggregated Orders is a good starting point for providing the Industry with additional use cases.

3. Riskless Principal Flip - Section 9.2.2 – page 146:

a. FIF notes that there is a mismatch in the description and the scenario regarding buy customer order and buy Riskless Principal when the side details show sell.

4. Aggregated Order Execution Flips – section 9.2.3 – page 151:

a. FIF would like to understand why both Trade and Order Fulfillment examples are used. In step 11, the fulfillment referenced an orderID that wasn't part of the scenario.

5. Route to Foreign Broker with Fulfillment – Section 9.2.7 – page 176:

a. There is currently no fulfillment event in this scenario. In step 2, the trading session should be FOR.

b. Industry members would like to see a scenario that specifies that if the IM receives a customer order and handle internally and reports a Trade event but would send back to a customer as an average price. FIF would like clarity on what those reporting requirements entail and what constitutes a Front Office fill v. a Back Office Allocation.

6. Broker Initiated Modified of Principal Order – Section 9.3.1 – page 188:

a. FIF notes that in step 5 of the scenario, the Initiator should be FIRM (in practice, the firm is modifying the order).

7. Order Cancelled – Section 9.3.3 – page 195:

a. FIF notes that in step 4, the cancelReason should be REQ.

b. The IOC cancelReason code should be eliminated based on the most recent regulatory guidance that Cancels will not be required for IOC. The specification states that Order Expiry doesn't need to be reported, so should Expired also be removed from cancelReasonCode?

8. Trade Restatement – Section 5.12 – page 70:

a. Is an Order Restatement needed to report Corporate Actions?

b. What timestamp should be supplied to capture Trade Restatement?

c. ATS order Type is missing from this event

d. All fields specified on New Order event should be present on the Order Restatement

e. If orderID is globally unique, restatement isn't needed. But OATS had a limit for how long an order would be "remembered" in the system. Is there a similar limitation in CAT?

9. Order Fulfillment – Section 5.13 – page 73:

a. Are there any non-average price examples for which Order Fulfillment is used?

b. FIF would like clarification on whether leavesQty at the order level?

10. Trade Break – Section 5.14 – page 73:

a. FIF would like further guidance on what the circumstances are for a Manual Trade Break. Further, FIF members require clarification on what timestamp should be used for a Manual Trade Break.

b. The process outlined in the second bullet of page 74 is confusing. Industry Members need clarity on what happens if a trade is broken on the next day and if there is no average price, why an Order Fulfillment is required? For example, Broker B may not ever notify Broker A of a trade break.

c. FIF members note that there is no current TradeID in the Trade Break data elements.

d. FIF does not believe that TRFControlNumber is a required event.

e. FIF is requesting further use cases specifying how Industry members break one side of a trade, but not both sides (*e.g.* change of account number).

11. Trade Correction – Section 5.15 – page 75:

a. An Order Fulfillment is refenced in the description but is not required.

b. FIF is requesting clarity on the differences in reporting requirements for Trade Break, Trade Cancel, Trade Correction, Trade Amendment, and Corrections to Tape.

c. FIF believes that the InfoBarrierID is not needed.

d. FIF members do not believe that TraderId should be required.

e. Quantity – The description should specify Quantiy as "must."

f. FIF members do not to believe that TRFControlNum and firstTRFControlNum should be required. Further, FIF is requesting clarity on whether this is required for Trade Corrections.

July 5, 2018

Summary of Session 6, July 5 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.3.1)

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.

Detailed Comments:

1. OSI Symbol - Section 2.4.1 – page 9-10:

      a. FIF members are requesting clarification on whether the last three digits of the 21-character alphanumeric value will be implied as a decimal.

2. Corporate Actions – Section 2.4.1 – page 12:

      b. FIF is requesting clarification on the requirement of of corporate actions regarding reporting of quoting of corporate actions.

      c. FIF is asking whether Corporate Action reporting may be excluded for the first phase of CAT reporting. FIF members have expressed difficulty in reconciling updated OSI symbols, which may result in inconsistent reporting from Broker-Dealers.

3. New Option Order Event – Section 6.1.1 – page 84:

      d. *occClearingRange* – FIF members question why the occClearingRange is required on the order? FIF believes that the options origin code would include the OCC clearing range (the origin code is included on the route).

      e. *aggregatedOrders* – FIF members would like clarification on the scope of aggregated order reporting for Phase 2b.

      f. *auctionFlag*: The use of auctionFlag is unclear. FIF believes that this field requires CAT reporters to identify the originator. If the originator is the customer or firm, that requirement does not comport with current business practice as the customer rarely, if ever, requests to be submitted to an auction mechanism (*e.g.* is this requirement from the perspective of the customer or from the perspective of the Broker-Dealer handling the order).

4. Aggregated Orders – Section 6.2.1 – page 85:

      a. The same comments FIF raised with regard to Aggregated Orders for Equities (*See* sections 5.1 and 5.2) apply to options.

5. Open/Close Indicator – Section 6.1.4 – page 87:

      a. FIF members would like clarification on whether Market Makers are exempt from reporting the Open/Close indicator? FIF believes that information is already provided on the actual quote/order message itself.

6. Paired Orders – Section 6.2 – page 88:

      b.   FIF believes that the solution being considered pursuant to orderless executions within equities could be applied to Paired Orders.

7. Paired Option Order (Cross) Event – Section 6.2.1 – page 89:

      a.   *crossID* – Industry members require further clarification on the requirement/definition of crossID.

      b.   *eventTimestamp* – Is the Paired Option Order Event implying the option route? (is there a separate route message).

      c.   FIF would like clarification on the modeling of Paired Option Order in the technical specification. FIF believes that the Paired Options Order Event field can be thought of as a container that indicates that the CAT reporter has a paired order, and that every other associated event is modeled as a simple order. FIF requests further discussion with ThesysCAT to better understand the Paired Option Order Event reporting requirement.

8. Routing Option Orders – Section 6.3 – page 90:

      a.   The same comments FIF submitted regarding Routing Equites Orders also apples to Options.

9. Option Cancel Route– Section 6.3.3 – page 97:

      a.   FIF believes that the cancelquantity and cancelreason fields are missing from V0.3.1 of the Industry Member Technical Specification.

      b.   FIF requests further clarification on the use of FDI within the foreignDestID. As previously raised, FIF does not understand the utility of requiring FDI in the foreignDestID field.

10*. *Option Internal Route – Section 6.5 – page 103:

      a.   FIF is requesting clarification on the full scope and workflow of electronic options orders. This topic will be presented as part of the Deep Dive Discussion with the SROs on July 19 (Manual Orders).

Summary of Session 7, July 10 FIF CAT WG Review of Initial Industry Member CAT Reporting Specification (v0.3.1)

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.

1. File Names – Section 13.1.1 – page 242:
   a. FIF requests that the sequence number limit be expanded to at least a billion. Limiting the number of files that can be submitted to the CAT within any business day to 999,999,999 will be a problem for some firms and seems to be an artificial limitation. Many broker-dealers are planning to send smaller files to the CAT throughout the day, in a "pseudo" real-time manner. In addition, this sequence number must also accommodate error correction files. We do not believe this is a sufficient size to accommodate this type of processing. We also do not think expanding the sequence number to a larger number should place any undue cost on the Plan Processor.
   b. FIF understands the need for a number in the file name to provide a unique qualifier within each day's file submissions, but requests that the Thesys CAT dependency on the file sequence number determining the order of processing be eliminated. FIF believes this will introduce additional and unnecessary rejection of files during the ingestion process.
   c. There is a reference to Reporter IMID. Could the meaning for the term IMID (Industry Member ID) be defined in the specification?
   d. FIF would like clarification on whether if the file numbers are not reported in a sequential manner, will ThesysCAT stop processing or will ThesysCAT ignore that gap?
   e. FIF does not fully understand the full scope of the File Kind field. Does the File Kind field only apply to OrderEvents or are there additional applications of the File Kind field? (*e.g.,* once allocations are required to be reported, will File Kind also apply to allocation reporting?).
   f. FIF requests that the length of the OrderID be extended beyond the current 40-character limit to accommodate cases in which the OrderID exceeds 40 characters.

2. Metadata Files – Section 13.1.2 – page 243:
   a. FIF requests that metadata files also be supported in CSV. CSV is a valid interface protocol to CAT and it seems unreasonable to support csv yet require that json be used for metadata files.
   b. FIF requests that the requirement to identify the last file transmitted for the day be eliminated. The field "IsKindDone" indicates the last file for this file kind for the day. Broker-dealers may not know the last file for the day. Or, even if they think they know the last file, some last-minute change may arise requiring another file to be sent. We do not understand why this field is needed and do not believe it is practical for broker-dealers to support it.
      i. FIF members propose that making the IsKindDone field optional may allow for earlier processing of CAT files. Should firms elect to use the IsKindDone field, ThesysCAT may begin processing of CAT data upon receipt of the IsKindDone message. Alternatively, if that field is not used, processing will not occur until 8:00 am the following day.
   c. FIF requests that the requirement to transmit a metadata file with every file transmission be eliminated. Can ThesysCAT provide more information on why the metadata file is needed with every file transmission for integrity checking? Are there other methods that can be used, because it seems quite burdensome to require a metadata file for every report file submitted? FIF suggestions to possible solutions: 1) allow Meta File to contain information on multiple Event

files, so Industry Member may have a single Meta File that contains several Event files. This solution would provide the benefit of allowing additional files to be generated later; 2) eliminate the need for checking Hash values and symmetricKey.   If this requirement can be eliminated, then the rest of the information could be provided in a header in the Event file itself. FIF suggests allowing the Meta File to be included as an optional event, which permits those Industry Members who want Hash checking or want to use the symmetricKey/ passphrases the option of using it in their encryption.

   d. FIF believes that the hashing requirement of the encryptedByteCount is redundant and should be eliminated.
   e. FIF is requesting clarification on the definition of TradingDate. For example, with the definition of Trading Day defined as 4:15.001 pm, would all activity that follows (including early morning options trading activity) be included in the 24-hour period following the start of the trading day?

3.Data Files – Section 13.3.1 – page 244:
   a. FIF requests that the limitations that ThesysCAT is imposing on record sizes be expanded. There is a limit defined for a line to be 4095 bytes and that each CAT record must be contained on one line. Is it correct that a CAT report must be contained within a CAT record? If that assumption is correct, FIF believes this is not a reasonable limit for a CAT record, especially in the long term. Given complex order definitions, and aggregated orders and use of 255-byte free form text fields, and capture of order handling instructions, etc., that this limit could be exceeded for a CAT report. Can ThesysCAT provide justification for limiting the line size to 4095 bytes?

4. CSV Conversion – Section 13.1.3.2 – page 246:
   a. The CSV Conversion Schema previously included NewOrder under eventName but is now Trade Break. FIF members would like to understand why that change has been made.

5.Connectivity – Section 13.2 – page 246:
   a. This section is blank. When will information be provided on the connectivity requirements to CAT?

6.Transport Options – Section 13.3 – page 246:
   a. FIF requests that all data interfaces between CAT and CAT Reporters support a protocol that allows automation of that interface for upload or download of the data, including report statistics and system status.
   b. Using the same standard for both upload and report/feedback/statistics services would greatly simplify automation for industry members and will lead to more reliable implementations.
   c. RESTful APIs over a secure communications channel (*e.g.,* HTTPS), with clear success/error states and data models for inputs/outputs are an industry standard for interoperability.
   d. The API specifications should include clearly defined success/error codes and input/output data models.
   e. This will greatly simplify the automation of the interactions between CAT Reporters and CAT Processor, thus leading to more reliable implementations.

7. File Size, Encryption and Compression – Section 13.3.1 – page 249
   a. When files are uploaded, are the following checks/validations performed?
      I. Virus scanning
      II. Checking the file for malicious executable
      III. Limiting the length of file name

IV.   Limiting the interval for sending files
b. FIF requests that the 1GB file limitation for files submitted via the Web Portal be expanded, so that the Web Portal could be used as an alternate channel if a CAT Reporter was experiencing difficulties with SFTP transmissions.

8.SFTP Upload Process – Section 13.3.2 – page 250:
a. FIF strongly emphasizes the need for the redefinition of the file upload process. The upload process is clumsy, requiring the upload of two files into the "upload/transit" directory, and then the move to the "upload/complete" directory. ThesysCAT should be able to manage this process, once the transmittal of the files to the "upload/transit" directory is complete, without requiring the two-step process by the CAT Reporter.
b. In general, any transmittal or message transmission to ThesysCAT should always be accompanied with an acknowledgement of receipt by ThesysCAT.
c. There should never be a state with CAT that the CAT is not aware of the file state, even if the state is an error state. It should never be "unknown". We did not understand the statement "If files are removed by the client, the processing behavior is undefined. Files may or may not undergo processing and may or may not receive receipts".

9.CAT Feedback – Section 13.4.1 – page 250:
a. FIF recommends removing the limit of stopping a file scan when more than 10% of the records are in error. ThesysCAT should always complete the scan and validation of an entire file. This is another case of an artificial limit imposed by ThesysCAT on broker-dealer processing. OATS does not have that limit today. This limit may cause a broker-dealer to be late in CAT reporting because remaining records in a rejected file will not have been processed and by definition, will be considered late. And then when the file is resubmitted, those unprocessed records may have errors, which will require another cycle of repair and resubmission.
b. V0.3.1 of the Technical Specification includes the enumeration of Reporting Statistics that will be make available by ThesysCAT. FIF members suggest that the reference data included in these statistics be expanded to include submissions, unlinked/matched events, etc… FIF emphasizes that a more complete list of Reporting Statistics that, at minimum, mirror what OATS provides today is necessary to find and correct the CAT record. FIF requests that industry standard RESTful APIs be provided to download status reports, report statistics and system status. Further, FIF is requesting that rejected records be made available to CAT Reporters in order for Industry Members to understand which event was rejected.
c. FIF understands that error rates and calculations for error rates are the responsibility of the Operating Committee; however, we would like to register our questions:
    i.   If a record is corrected 30 days after T+1, and if that record was not originally identified as "in error", is that corrected record counted as an error against the firm?
    ii.   For mismatched data errors, which firm does the error get reported to, and which firm does it get "counted" against? When the final corrections are successfully submitted, are the errors properly correlated with the firm who caused the error?
d. When will the Web Portal API be published?
e. FIF requests that an API be provided to download the status reports and report statistics automatically, either via SFTP or the Web Portal.
f. FIF requests that industry standard RESTful APIs be provided to download status reports, report statistics and system status.

g. The API specifications should include clearly defined success/error codes and input/output data models.
h. This will greatly simplify the automation of the interactions between CAT Reporters and CAT Processor, thus leading to more reliable implementations.
i. FIF is requesting a break out session with ThesysCAT to better help the Industry understand the error correction process.

10. CAT Reporting Hours – Section 13.5 – page 251:
a. If the Plan Processor does not meet its error reporting deadline, will the error correction deadline for CAT Reporters be extended to accommodate the missed deadline? Further, FIF members request that ThesysCAT's error response deadline be specified in the Technical Specification.
b. FIF is requesting clarification on what trading day events that occur at 4:15 pm and one millisecond would be required to be reported.
c. FIF is seeking clarification on whether even with the trading day commencing at 4:15.001 pm, Industry Members may continue to report as of the current day even into the late trading hours?
d. FIF recommends that rather than begin the Trading Day at 4:15.001 pm, the Trading Day end at 4:15 pm and commence any time after 4:15 pm. This recommendation serves to account for any trading volume that occurs between 4:15 pm and 4:15.001 pm.
e. FIF requests that ThesysCAT consider allowing firms to intermingle events from multiple business days in a single file.
f. FIF requests consideration of an extended error correction cycle during the duplicative reporting period between CAT and OATS, so that both CAT and OATs have the same error correction cycle. This would both assist the error correction process during the duplicative reporting period, as well as assist Industry Members in transitioning to a more stringent error correction cycle during the first few months of Industry Member reporting.

11. Security – Section 13.6 – page 252:
a. Can additional information be provided on the multi-factor authentication that will be utilized?
b. Will CAT Reporters be required to change on-line passwords, and if yes, what will be the frequency that will be enforced?
c. Is this a classic rest API connection? Will this be between the CAT Reporter/Submitter and the Plan Processor?
    1. If yes, please provide additional information on the authentication process for the API?
    2. How is authorization performed?
    3. How is input validation performed?

12. Data Security Standards – Section 13.6.1 – page 253:
a. Can additional explanation be provided for the following statement "Upon retrieval by CAT, the CAT private key will be used to decrypt the file? Should the reporter desire to be able to decrypt the data at another time, the reporter should encrypt with both the reporter's public key, as well as the CAT public key"?
b. Can ThesysCAT specifically define the "limited access roles" which will be supported for automated access? What functions can/cannot be done via automated roles?
c. Can ThesysCAT explain how the key exchange will work?
d. What version of TLS is being used?

13. Feedback and Corrections – Section 14 – page 254:
    a.   When will the details on the programmable API be published?
    b. FIF members emphasize that performing repairs within 3 business days during the initial stage of CAT reporting will be problematic and thus, FIF is requesting the allowance of 6 business days to mirror current OATS corrections schedule for Industry Members. FIF believes that the same error repair process required pursuant to OATS and CAT reporting during the duplicative reporting stage will simply the error repair process for Industry Members, FINRA, and ThesysCAT.[8]

14. Feedback Files – Section 14.1 – page 254:
    a.   When will the Reporter Web Portal interface and screens be published?
    b.   What is the expected availability timing at each stage of processing? Can each processing stage be outlined in a table?
    c.   What does this statement mean "other stages may take significant time, meaning that feedback could be delayed"? Does this mean that the error correction cycle for the CAT Reporter may be reduced? If there is a delay in providing error correction feedback, will the deadline for CAT Reporter submission for error corrections be extended in kind?
    d.   Will CSV format for Feedback Files be provided in a later iteration of the Technical Specification?

15. File Acknowledgement Feedback – Section 14.2.1 – page 256:
    a.   What is the timeout period when waiting on a metafile?

16. Basic File Integrity Feedback – Section 14.3 – page 256:
    a.   Will ThesysCAT provide all the checks and edits it will be performing, so that Industry Members can duplicate those checks and do thorough testing before submission of the CAT report file? Could ThesysCAT provide a test package that could be run by CAT Reporters/Submitters that would replicate the tests that the Plan Processor would perform on submission of a CAT report file?

17. Order Events Files – Section 14.4 – page 258:
    a.   Much more detail is needed to understand the validations to be performed. For example, what specific linkage checks will be performed, against what keys? What matching tests will be performed, if any? If mismatches (other than linkages) will not be performed by ThesysCAT, are these tests being dropped by regulators as not being required? Without matching criteria tests, won't this degrade the quality of the data being collected?
    b.   Can a scenario be provided which demonstrates the expected procedure for correcting linkage errors, especially when spanning two firms? Exactly what information will be provided in identifying the linkage error? Will both sides of the mismatched linkage be provided to the firm identified "in error"? Will the other firm of the paired linkage be notified in any way of the linkage error? How will ThesysCAT decide which firm in a linkage error is at fault? Are both firms in a linkage error notified that the linkage was determined to be "in error", with one of the two firms to be "in fault"? If that firm determines that the other firm is at fault, does it need to notify ThesysCAT that the error was mistakenly assigned to them? Are their error statistics corrected to remove that error?

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[8] See [Letter](#) from William H. Hebert, Managing Director, FIF to Mr. Robert Errett, Deputy Secretary, SEC *RE: Proposed Rule Change Relating to Elimination and Modification of Duplicative Rules After Implementation of the Consolidated Audit Trail*, June 22, 2017 at 4.

c. What errors on records will be classified as warnings (but processing continues) and which errors will cause processing to stop?

d. As per the document: *"There may be cases where the system has a preferred method for reporting some order events but will accept other methods (especially if there is a change or transition to something new). In such cases where the preferred method is detectable, but not detrimental, a warning may be generated to inform the reporter what is happening, but the record will still be accepted and processed by the system."* This is unclear – it would be beneficial to have an example or additional details on what this refers to.

e. Please refer to the comments FIF raised regarding the recommendation of removing the limit of stopping a file scan when more than 10% of the records are in error.

18. Order Event Feedback – Section 14.4.1 – page 259:

a. "..any order that is not fully linked or terminated (executed, canceled, or flagged as routed to a foreign destination) will be flagged as an error". Can additional information, and examples, be provided on this termination process?

19. Corrections – Section 14.5 – page 260:

a. Please define the difference between a correction and a repair.

b. What exactly is the process when a correction is received beyond the error correction timeframe? Is that change stored in the database but not imbedded in the daisy chain of events for trade date? What happens if that correction affects the linkages relating to another firm?

c. Do corrections count against the error rate for the day?

20. Repair Records – Section 14.5.1 page 261:

a. FIF requests that the tight coupling in the repair process with the originally submitted file be removed. Repairs will not always be against the originally submitted file or can span multiple files.

b. FIF recommends that each record in the originally submitted file be identified with a record identifier, and that the record identifier be the key used for repairs. This is done in OATS today. The identification of the repair record via an index in a file is very clumsy for processing. While submitting repairs (Corrections/Deletions) the file name of the correction file must match the file name in which the record was originally submitted. The specification further specifies that the index (line number) of the record in the original file must be referenced while submitting the correction. To fulfill this requirement a mapping of the record and the file in which record was submitted and index of the record in the file must be maintained. This seems unnecessary.

c. FIF recommends that a file can contain records from multiple business days. For example, in today's OATS world we frequently have a scenario where a trail was missed in a file. When we receive an Order Trail from the previous day we simply combine the records with the current day processing and it is submitted to OATS. With the requirement that ThesysCAT is proposing, all records for each business days must be separately processed so that they can be written to businessDate specific file or the timestamp of each order that comes in would need to be check and a separate file created whenever a new date is encountered. ThesysCAT could easily do this processing by removing the restriction that the business date on the records within the file must match the business date in the file name.

d. FIF recommends that if an invalid record type is found in a repair file, that the invalid record be rejected but that the file is not rejected and all other repair records in that file should be processed.

e. The example specified for the repair file name does not appear to be correct (see section 12.5.1 on page 28). Based on the details in document the base name of an original file has to be **<CAT Reporter ID>_<Date>_[<Group>_]<FileKind>_<File Number>** e.g. **MYID_20170101_OrderEvents_000123** and base name for the correction for same file should be **MYID_20170101_OrderEventsCorrections_000123**. However, the example specifies: **MYID_20170101_OrderEvents_000123** (original file) and **MYID_20170101_OrderEventsCorrections_000001** (correction file name).

21. Correction Record – Section 14.5.1.2 – page 262:
   a. Will there be any accommodation for shorthand in the interface? For example, in json, for capacity, could A be specified for Agency and P for Principal? If yes, can the long and short versions of each parameter be included in the specification?

22. Testing – Section 15 – page 263:
   a. Very little information has been provided about the test environment, test tools or testing services that will be provided by ThesysCAT. When will additional details be provided about the test environment?
   b. Will ThesysCAT be supporting coordinated industry testing, including both CAT Reporters and exchanges in a planned and coordinated industry-wide testing procedure. FIF is collecting feedback on desired schedule for individual and coordinated testing on the test platform during the test period.
   c. It is imperative that both function/system test environments for CAT Reporters, as well as UAT environments have the same security procedures and infrastructure as production. What exactly is meant by "Please note that reporters should not submit highly sensitive data, such as PII data, into the testing environment"? Does this mean that CAT Reporters cannot submit production data into the test environment? This is a very normal practice; for example, to verify repairs, a production repair file will be tested in a test environment before submission to CAT –which allows for the exact data to be submitted in production to be leveraged to verify that the repairs are correct.

23. CAT Help Desk and Support – Section 16.2 – page 264:
Recommendations/Expected Actions:
   a. As mentioned earlier, FIF requests that ThesysCAT provide an automated mechanism for the retrieval and processing of reporting statistics and system status.
   b. FIF requests that MPID or Group (from the file name) be added as a filter for reporting statistics. Today, FINRA statistics can be viewed by MPID. This will allow a better level of granularity for understanding their CAT performance making adjustments/corrections for a firm.
   c. Can ThesysCAT provide the proposed time for response for Industry Member questions directed to the Help Desk?

24. New Order Event – Section 5.1 – p. 24:
   a. Can the *orderID* data element be expanded beyond 40 characters? Currently some Execution Management Systems (EMSs) allow orderIDs of at least 70 characters. Therefore, FIF recommends at least an 80-character limit.
   b. An MEOF is used for reporting average price trades back to customer, but in the case where there is an internal agency trade done by the Firm, it will also report an MEOT for that individual trade against the same OrderID. Can it be confirmed that the CAT Processor should correctly handle these two reports?

c. FIF will be raising the issue with the SROs on how the industry should proceed with the reporting of Routes in the case of aggregated orders if there is no representative order generated. FIF is requesting that ThesysCAT provide examples of aggregated orders better understand the full scope aggregated order scenarios that will be required to be reported in phase 2a. FIF is further requesting that a break-out session be scheduled with ThesysCAT to discuss potential solutions.