BEFORE THE UNITED STATES
SECURITIES AND EXCHANGE COMMISSION

In the Matter of the: Order Granting Temporary Conditional Exemptive Relief Pursuant to Section 36 of the Securities Exchange Act of 1934 (''Exchange Act'') and Rule 608(e) of Regulation NMS Under the Exchange Act, Relating to Certain Requirements of the National Market System Plan Governing the Consolidated Audit Trail	Release No. 34-90688 (Dec. 16, 2020) 85 Fed. Reg. 83634 (Dec. 22, 2020)
In the Matter of the: Order Granting Temporary Exemptive Relief, Pursuant to Section 36 of the Securities Exchange Act of 1934 (''Exchange Act'') and Rule 608(e) of Regulation NMS Under the Exchange Act, From Section 8.1.1 and Section 8.1.2 of Appendix D of the National Market System Plan Governing the Consolidated Audit Trail	Release No. 34-90689 (Dec. 16, 2020) 85 Fed. Reg. 83667 (Dec. 22, 2020)

PUBLIC APPENDIX IN SUPPORT OF MOTIONS FOR PARTIAL STAY OF ORDERS 34-90688 AND 34-90689 VOLUME 2 OF 2

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February 14, 2021

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EXHIBIT 5

December 1, 2020

VIA EMAIL (tradingandmarkets@sec.gov)

Ms. Vanessa Countryman
Secretary
Securities and Exchange Commission
100 F Street, NE
Washington, DC 20549-1090

Re: Request for Exemption from Certain Provisions of the National Market System Plan Governing the Consolidated Audit Trail Related to the Online Targeted Query Tool

Dear Ms. Countryman:

The Participants[1] in the National Market System Plan Governing the Consolidated Audit Trail ("CAT NMS Plan" or "Plan")[2] respectfully request that the Securities and Exchange Commission ("Commission" or "SEC") provide exemptive relief pursuant to the Commission's authority under Section 36 of the Securities Exchange Act of 1934 ("Exchange Act")[3] and Rule 608(e) of Regulation NMS under the Exchange Act[4] from certain requirements in the CAT NMS Plan related to the online targeted query tool ("OTQT"). Specifically, the Participants request that the Commission temporarily exempt the Participants from the requirements of: (1) Section 8.1.1 of Appendix D of the CAT NMS Plan regarding the OTQT providing regulatory users the ability to conduct targeted queries with respect to "CAT Reporter correction rate over time" ("Error Correction Time Functionality"); (2) Section 8.1.2 of Appendix D of the CAT NMS Plan regarding the OTQT returning search results within specified time periods ("Search Return Functionality"); and (3) Section 8.1.2 of Appendix D of the CAT NMS Plan regarding the OTQT

[1] The twenty-five Participants of the CAT NMS Plan are: BOX Exchange LLC; Cboe BYX Exchange, Inc., Cboe BZX Exchange, Inc., Cboe EDGA Exchange, Inc., Cboe EDGX Exchange, Inc., Cboe C2 Exchange, Inc. and Cboe Exchange, Inc.; Financial Industry Regulatory Authority, Inc.; Investors Exchange LLC; Long-Term Stock Exchange, Inc.; MEMX LLC; Miami International Securities Exchange LLC, MIAX Emerald, LLC, MIAX PEARL, LLC; NASDAQ BX, Inc., Nasdaq GEMX, LLC, Nasdaq ISE, LLC, Nasdaq MRX, LLC, NASDAQ PHLX LLC, The NASDAQ Stock Market LLC; and New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc., and NYSE National, Inc.

[2] The Limited Liability Company Agreement of Consolidated Audit Trail, LLC is the CAT NMS Plan. Unless otherwise noted, capitalized terms are used as defined in Rule 613, in the CAT NMS Plan, or in this letter.

[3] *See* 15 U.S.C. § 78mm(a)(1), which provides, in relevant part, that the "Commission, by rule, regulation, or order, may conditionally or unconditionally exempt any person, security, or transaction, or any class or classes of persons, securities, or transactions, from any provision or provisions of this title or of any rule or regulation thereunder, to the extent that such exemption is necessary or appropriate in the public interest, and is consistent with the protection of investors."

[4] 17 C.F.R. § 242.608(e), which provides that "[t]he Commission may exempt from the provisions of this section, either unconditionally or on specified terms and conditions, any self-regulatory organization, member thereof, or specified security, if the Commission determines that such exemption is consistent with the public interest, the protection of investors, the maintenance of fair and orderly markets and the removal of impediments to, and perfection of the mechanisms of, a national market system."

being able to process 300 simultaneous query requests with no performance degradation ("Simultaneous Query Functionality"). Pursuant to Section 11.6(a)(i)(B) of the Plan, each of the Error Correction Time Functionality, Search Return Functionality and Simultaneous Query Functionality must be in place by December 31, 2020 as part of the "Full Implementation of Core Equity Reporting" Financial Accountability Milestone. This request for exemptive relief amends and replaces in its entirety the request previously submitted to the Commission on November 16, 2020 regarding the Error Correction Time Functionality.[5]

The Participants request that the exemption granted by the Commission with respect to the Error Correction Time Functionality extend until April 30, 2021, to provide the Plan Processor, FINRA CAT, LLC ("FINRA CAT"), with additional time to make such query functionality available as part of the OTQT.[6] The Participants request that the exemption granted by the Commission with respect to the Search Return Functionality and the Simultaneous Query Functionality extend until July 31, 2023, as discussed further below. The Participants believe that the requested exemptions are "necessary or appropriate in the public interest, and consistent with the protection of investors,"[7] and are "consistent with the public interest, the protection of investors, the maintenance of fair and orderly markets and the removal of impediments to, and perfection of the mechanisms of, a national market system."[8]

I Error Correction Time Functionality

A. Background

Section 6.10 of the CAT NMS Plan discusses the use of CAT Data by regulators. Subsection (c) of Section 6.10 provides that, consistent with Appendix D, Functionality of the CAT System, the Plan Processor shall provide Participants and the SEC with access to all CAT Data stored in the Central Repository. Regulators are to have access to processed CAT Data through three different methods: (1) OTQT; (2) user-defined direct queries; and (3) bulk extracts.[9] Section 8.1.1 of Appendix D of the CAT NMS Plan discusses the requirements of the OTQT. Specifically, that section states:

> The online targeted query tool will provide authorized users with the ability to retrieve processed and/or validated (unlinked) data via an online query screen that includes the ability to choose from a variety of pre-defined selection criteria. Targeted queries must include date(s) and/or time range(s), as well as one or more

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5 *See* Letter from Michael Simon, Chair, CAT NMS Plan Operating Committee to Vanessa Countryman, Secretary, SEC (Nov. 16, 2020).

6 "DIVER" and "MIRS" are FINRA CAT's versions of the OTQT. Thus, for purposes of discussion in this letter, the term "OTQT" refers to "DIVER" and "MIRS."

7 15 U.S.C. § 78mm(a)(1).

8 17 C.F.R. § 242.608(e).

9 CAT NMS Plan, Section 6.10(c)(i).

> of a variety of fields, including the following: . . . CAT Reporter correction rate over time.[10]

The Participants and SEC staff currently have access to a variety of fields of processed CAT Data and/or validated (unlinked) data via the OTQT. Moreover, by December 2020 the Participants and SEC will have access to information regarding the CAT Reporter correction rate over time for compliance review purposes through the CAT Reporter Portal and/or BDSQL.[11] However, additional time is needed for FINRA CAT to provide regulators with the ability to perform targeted queries on the correction rate of CAT Reporters over time through the OTQT. FINRA CAT will add this functionality to the OTQT by April 30, 2021.

B. Request for Exemption

The Participants request temporary exemptive relief from compliance with the requirement in Section 8.1.1 of Appendix D of the CAT NMS Plan applicable to permitting authorized users to conduct targeted queries through the OTQT with respect to CAT Reporter correction rate over time. As discussed, by December 2020, the Participants and SEC will have access to information regarding the CAT Reporter correction rate over time for compliance review purposes through the CAT Reporter Portal and/or BDSQL, so providing CAT Reporter Error Rates through the OTQT is in many ways duplicative. Providing data regarding the CAT Reporter correction rate through the OTQT in April 2021 would align with the introduction of other functionality releases planned for April 2021 (*i.e.,* releases that will add data for OTQT queries related to the new equity exchange order book and volume concentration using equity exchange data). Accordingly, the OTQT will be able to perform searches with respect to CAT Reporter correction rate over time by no later than April 30, 2021.

II. Search Return Functionality and Simultaneous Query Functionality

A. Background

Section 8.1.2 of Appendix D of the CAT NMS Plan sets forth various performance requirements for OTQT searches,[12] including required timeframes to return results for various types of queries.[13] For instance, for targeted searches, the OTQT must return results within one minute for all trades and related lifecycle events for a specific Customer or CAT Reporter with

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[10] CAT NMS Plan, Appendix D, Section 8.1.1 at D-25 to D-26.

[11] The CAT Reporter Portal is a tool that allows CAT Reporters to monitor and manage data submissions to CAT. BDSQL provides the user-defined direct query functionality for the CAT.

[12] Online targeted query tool searches that include equities and options trade data only in the search criteria must meet minimum requirements, including: (1) returning results within 1 minute for all trades and related lifecycle events for a specific Customer or CAT Reporter with the ability to filter by security and time range for a specified time window up to and including an entire day; (2) returning results within 30 minutes for all trades and related lifecycle events for a specific Customer or CAT Reporter in a specified date range (maximum 1 month); and (3) returning results within 6 hours for all trades and related lifecycle events for a specific Customer or CAT Reporter in

the ability to filter by security and time range for a specified time window up to and including an entire day.[14] Among other things, targeted queries return result sets that are limited to less than one million records, and can be further restricted to processing 5,000 records for display through the OTQT.[15]

Section 8.1.2 of Appendix D of the CAT NMS Plan also sets forth certain requirements regarding the parallel processing of OTQT searches. Specifically, Section 8.1.2 of Appendix D states: "The online targeted query tool must support parallel processing of queries. At a minimum, the online targeted query tool must be able to process up to 300 simultaneous query requests with no performance degradation."[16]

B. "Data Mart" Functionality

The OTQT introduced by the Plan Processor and used by Participant regulatory staff and the SEC is based on a data mart design that allows for queries to be run efficiently against very large datasets. The data mart design has always been a part of the solution provided by FINRA CAT, and has been discussed at length by the Participants and the SEC staff since its adoption. In particular, the OTQT uses a cloud-based data mart that supports multi-day/month/year queries on any field in the CAT and can return all records to the regulatory user for further filtering and analytics. When a regulatory user submits a query, the relevant dataset is scanned to find the specific data being queried. Then, a data mart is created in the CAT environment where further filtering and analysis of the dataset can be performed to return results quickly to the user that submitted the query.[17] For example, if the user requests data for a single symbol during a specified time period on a single trade date, all data for that date and symbol (hundreds of millions of records) must be scanned to locate the specific records requested. A data mart is created to allow the user to analyze the dataset efficiently.

Once a data mart has been created, a regulatory user may perform any number of subsequent filtering and analyses with respect to such data and results are returned to it well within the timeframes set forth in Section 8.1.2 of Appendix D, including the one minute timeframe for targeted searches. With respect to complex queries, for which the CAT NMS Plan provides up to 24 hours of a request for the return of results, the OTQT returns data marts to regulatory users well before such time limits.

However, the Participants recognize that in some instances the amount of time required by the OTQT to populate a data mart is longer than the timeframes set forth in Appendix D of the CAT NMS Plan—particularly the requirement that certain search results be returned within one minute. It typically currently takes up to four minutes for queries for a single day involving equities trades and up to six minutes for options trade queries for a single day for the OTQT to

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[14] *Id.* at D-27.

[15] *See id*. (discussing targeted and complex queries).

[16] *Id.* at D-29.

[17] When using the data mart functionality, CAT Data does not leave the CAT environment.

create and return a data mart in response to targeted search requests with a required response time of one minute under Section 8.1.2 of Appendix D.[18]

The Participants believe that the data mart technology provides a superior means of assisting Participant regulatory users and the SEC in their regulatory and surveillance efforts. In developing the CAT, the Participants have focused, and continue to focus, on designing and implementing effective and useful regulatory surveillance tools. Notably, the data mart technology underlying the OTQT has been used by FINRA in its surveillance and market oversight operations for approximately five years. It has proven to be an effective and reliable surveillance tool that produces timely results for regulatory use cases.

If the Participants focused on building an OTQT that prioritized speed, the tool would necessarily be much more limited than the current OTQT and less suited for surveillance and regulatory purposes. For instance, an alternative OTQT might be constructed that returns results within the one-minute timeframe set forth in Section 8.1.2 of Appendix D. Such an alternative would be in compliance with the CAT NMS Plan, as discussed above. However, that system would necessarily entail significant limitations on the records that could be returned to a regulatory user, and the query results would therefore be of limited value. Based on their experience, the Participants do not believe that such a system would be of value to regulatory users. In light of these factors, and after careful consideration, including consulting the Plan Processor, the Participants believe that the data mart based OTQT is a much more powerful, useful and reliable regulatory surveillance tool.

The Participants and the Plan Processor have worked, and continue to work, to reduce the time that it takes to populate an OTQT data mart on a consistent basis. For instance, the Plan Processor monitors the system and looks for opportunities to enhance the performance of the OTQT. As part of this monitoring, the Plan Processor runs multiple benchmark queries each day that are designed to measure system performance given CAT Data sets and query usage, including the times to create data marts for various types of queries and responses during simultaneous querying. The results of the benchmark queries are shared with the Participants and SEC staff. Where the Plan Processor identifies areas for potential performance enhancements – whether through adding system capacity or otherwise optimizing the design or operation of the query tools – the Plan Processor discusses these items with the Participants.[19] These efforts have reduced the time required to populate data marts in OTQT. For instance, the Plan Processor introduced enhancements in 2020 that resulted in reducing the time to populate data marts in the following instances: (1) in February 2020, options orders were optimized to reduce the time to produce the data mart by a factor of three to five times; and (2) in November 2020, Industry Member equities events and options events were optimized to reduce the time to produce the data mart by a factor of eight to ten times.

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[18] Note that a request for related lifecycles makes a query complex.

[19] SEC staff observers are invited to attend meetings where these issues are discussed.

C. Request for Exemption

The Participants request temporary exemptive relief from compliance with the requirements of Section 8.1.2 of Appendix D of the CAT NMS Plan applicable to: (1) returning OTQT search results to regulatory users within the timeframes set forth in Section 8.1.2; and (2) parallel processing up to 300 simultaneous query requests with no performance degradation. The Participants request that the exemption last until July 31, 2023. During the period of the exemption, the Participants and Plan Processor will continue to assess the performance of the OTQT and look for opportunities to further reduce the time that it takes to build the data mart in response to OTQT queries on a consistent basis. The Participants and Plan Processor also will continue to share the results of such assessments with the SEC staff. Prior to the expiration of the exemption period, if necessary, the Participants either will: (1) seek a permanent exemption to the timeframes set forth in Section 8.1.2 of Appendix D or propose to amend the CAT NMS Plan to conform with the response times of the OTQT at that time; or (2) create a more limited OTQT functionality as noted above (although, for the reasons discussed above, the Participants believe, based on current technology, that this would not be an optimal solution and ultimately may not be used by Participants).

* * * * *

The Participants understand that to the extent that they avail themselves of exemptive relief from a CAT NMS Plan requirement, any exempted requirement shall not be included in the requirements for a particular Financial Accountability Milestone provided that the conditions of the exemption are satisfied.[21]

Thank you for your attention to this matter. Please contact me at (212) 229-2455 if you have any questions or comments.

Respectfully submitted,

Michael Simon
CAT NMS Plan Operating Committee Chair

cc: The Hon. Jay Clayton, Chairman
The Hon. Hester M. Peirce, Commissioner
The Hon. Elad L. Roisman, Commissioner
The Hon. Allison Herren Lee, Commissioner
The Hon. Caroline A. Crenshaw, Commissioner
Ms. Manisha Kimmel, Sr. Policy Adviser to Chairman
Mr. Brett Redfearn, Director, Division of Trading and Markets
Mr. David S. Shillman, Associate Director, Division of Trading and Markets
Mr. David Hsu, Assistant Director, Division of Trading and Markets
CAT NMS Plan Participants

21 *See* Exchange Act Release No. 88890 (May 5, 2020), 85 Fed. Reg 31322, 31335 (May 22, 2020) ("[T]he Commission has the authority to grant exemptive relief from any requirement associated with a particular Financial Accountability Milestone. The Commission believes that this ability, in particular, should alleviate the Participants' concerns regarding the potential impact of unforeseeable or reasonable delays.").

EXHIBIT 6

SECURITIES AND EXCHANGE COMMISSION
(Release No. 34-90689)

December 16, 2020

Order Granting Temporary Exemptive Relief, Pursuant to Section 36 of the Securities Exchange Act of 1934 ("Exchange Act") and Rule 608(e) of Regulation NMS under the Exchange Act, from Section 8.1.1 and Section 8.1.2 of Appendix D of the National Market System Plan Governing the Consolidated Audit Trail

I. Introduction

By letter dated December 1, 2020 ("Participant Letter"), BOX Exchange LLC, Cboe BYX Exchange, Inc., Cboe BZX Exchange, Inc., Cboe C2 Exchange, Inc., Cboe EDGA Exchange, Inc., Cboe EDGX Exchange, Inc., Cboe Exchange, Inc., Financial Industry Regulatory Authority, Inc. ("FINRA"), Investors Exchange LLC, Long-Term Stock Exchange, Inc., MEMX LLC, Miami International Securities Exchange LLC, MIAX Emerald, LLC, MIAX PEARL, LLC, NASDAQ BX, Inc., Nasdaq GEMX, LLC, Nasdaq ISE, LLC, Nasdaq MRX, LLC, NASDAQ PHLX LLC, The NASDAQ Stock Market LLC, New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc., and NYSE National, Inc. (collectively, the "Participants") request that the Securities and Exchange Commission (the "Commission"), pursuant to the Commission's authority under Section 36 of the Exchange Act[1] and Rule 608(e) of Regulation NMS under the Exchange Act,[2] grant exemptive relief from the national market system plan governing the consolidated audit trail (the "CAT NMS Plan").[3]

1 15 U.S.C. 78mm.

2 17 CFR 242.608(e).

3 The Commission approved the CAT NMS Plan, as modified, on November 15, 2016. See Securities Exchange Act Release Nos. 79318 (November 15, 2016), 81 FR 84696 (November 23, 2016) ("CAT NMS Plan Approval Order"). The CAT NMS Plan functions as the limited liability company agreement of the jointly owned limited liability

Specifically, the Participants request that the Commission provide temporary exemptive relief from certain requirements of the CAT NMS Plan that relate to the online targeted query tool ("OTQT") described in Section 6.10(c)(i) of the CAT NMS Plan.[4]

For the reasons set forth below, this Order grants the Participants' request for temporary exemptive relief from the above-described provisions of the CAT NMS Plan, subject to certain conditions.

II. Request for Relief

In their letter, the Participants explain that Section 6.10(c)(i) of the CAT NMS Plan requires the Plan Processor[5] to provide Participants and the Commission with access to all CAT Data[6] stored in the Central Repository[7] through three different methods: (1) the OTQT, (2) user-

company formed under Delaware state law through which the Participants conduct activities related to the consolidated audit trail (the "Company").

4 See id. at Appendix D, Section 8.1.1. See also Letter from Michael Simon, CAT NMS Plan Operating Committee Chair, to Vanessa Countryman, Secretary, Commission, dated December 1, 2020, available at https://catnmsplan.com/sites/default/files/2020-12/12.01.20-CAT-Exemption-Request-OTQT.pdf ("Participant Letter"). The Participants state that this exemptive relief request amends and replaces in its entirety the request previously submitted to the Commission on November 16, 2020. See id. at 2 n.5.

5 "Plan Processor" is a defined term under the CAT NMS Plan and means "the Initial Plan Processor or any other Person selected by the Operating Committee pursuant to SEC Rule 613 and Sections 4.3(b)(i) and 6.1, and with regard to the Initial Plan Processor, the Selection Plan, to perform the CAT processing functions required by SEC Rule 613 and set forth in this Agreement." See CAT NMS Plan, supra note 3, at Section 1.1.

6 "CAT Data" is a defined term under the CAT NMS Plan and means "data derived from Participant Data, Industry Member Data, SIP Data, and such other data as the Operating Committee may designate as "CAT Data" from time to time." See id.

7 "Central Repository" is a defined term under the CAT NMS Plan and means "the repository responsible for the receipt, consolidation, and retention of all information reported to the CAT pursuant to SEC Rule 613 and this Agreement." See id.

defined direct queries, and (3) and bulk extracts.[8] Sections 8.1.1 and 8.1.2 of Appendix D of the CAT NMS Plan set forth certain functionality requirements for the OTQT from which the Participants seek relief.

A. Error Correction Rate Functionality

The Participants state that the OTQT must "provide authorized users with the ability to retrieve CAT Data via an online query screen that includes the ability to choose from a variety of pre-defined selection criteria,"[9] including, among other things, the "CAT Reporter correction rate over time."[10] The Participants request temporary exemptive relief from compliance with the requirement in Section 8.1.1 of Appendix D of the CAT NMS Plan that authorized users must be able to conduct targeted queries through the OTQT with respect to the CAT Reporter correction rate over time (the "Error Correction Rate Functionality").[11] The Participants state that the Plan Processor needs additional time to incorporate the Error Correction Rate Functionality to the OTQT.[12] Specifically, the Participants believe that regulators will able to perform searches with respect to the CAT Reporter correction rate over time by April 30, 2021.[13] The Participants

8 See Participant Letter, supra note 4, at 2; see also CAT NMS Plan, supra note 3, at Section 6.10(c)(i).

9 See CAT NMS Plan, supra note 3, at 6.10(c)(i)(A).

10 See id. at Appendix D, Section 8.1.1. See also Participant Letter, supra note 4, at 2.

11 See Participant Letter, supra note 4, at 2-3. The Participants describe this functionality as "Error Correction Time Functionality," but the Commission believes that the term "Error Correction Rate Functionality" more accurately describes the functionality.

12 See Participant Letter, supra note 4, at 3.

13 See id. at 3. The Participants note that this schedule would align the release of the Error Correction Rate Functionality with other functionality releases that will add data for OTQT queries concerning "the new equity exchange order book and volume concentration using equity exchange data." See id. at 3.

therefore request that any exemptive relief granted by the Commission with respect to the Error Correction Rate Functionality extend until April 30, 2021.[14]

To support their request, the Participants state that the Participants and the Commission currently have access to "a variety of fields of processed CAT Data and/or validated (unlinked) data" via existing Plan Processor tools called DIVER and MIRS.[15] The Participants further represent that, by December 2020, the Participants and the Commission will have access to information regarding the CAT Reporter correction rate over time for "compliance review purposes" either through the CAT Reporter Portal or through another existing Plan Processor tool called BDSQL,[16] such that providing the CAT Reporter correction rate over time through the OTQT would in many ways be duplicative.[17]

B. Search Return Functionality and Simultaneous Query Functionality

The Participants state that Section 8.1.2 of Appendix D of the CAT NMS Plan sets forth various performance requirements for OTQT searches. One of these requirements sets forth timeframes in which results must be returned for various types of queries ("Search Return Functionality").[18] Another requirement set forth in Section 8.1.2 of Appendix D is that the

14 See id. at 2.

15 See id. at 3. The Participants note that "DIVER" and "MIRS" are FINRA CAT's versions of the OTQT. See id. at 2 n.6

16 "BDSQL" is the name used by FINRA to describe its proprietary user-defined direct query tool.

17 See id. at 3.

18 See id. at 3. See also CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.2 (setting out the following timeframes: (1) "within 1 minute for all trades and related lifecycle events for a specific Customer or CAT Reporter with the ability to filter by security and time range for a specified time window up to and including an entire day," (2) "within 30 minutes for all trades and related lifecycle events for a specific Customer or CAT Reporter in a specified date range (maximum 1 month)," and (3) "within 6 hours for all

OTQT must "be able to process up to 300 simultaneous query requests with no performance degradation" ("Simultaneous Query Functionality").[19]

According to the Participant Letter, the OTQT provided by the Plan Processor is based on a data mart model that "supports multi-day/month/year queries on any field in the CAT and can return all records to the regulatory user for further filtering and analytics."[20] The Participants state that this model has been used by FINRA in its surveillance and market oversight operations for approximately five years that "has proven to be an effective and reliable surveillance tool that produces timely results for regulatory use cases."[21] "[I]f the user requests data for a single symbol during a specified time period on a single trade date, all data for that date and symbol (hundreds of millions of records) must be scanned to locate the specific records requested."[22] A data mart is then created which allows a regulatory user to perform any subsequent filtering and analysis.[23] The Participants state that, once a data mart has been created, the results from any subsequent filtering and analysis are returned "well within the timeframes set forth in Section 8.1.2 of Appendix D."[24] In some instances, however, the Participants acknowledge that the

trades and related lifecycle events for a specific Customer or CAT Reporter in a specified date range (maximum 12-month duration from the most recent 24 months)").

19 See Participant Letter, supra note 4, at 4. See also CAT NMS Plan, supra note 3, at Section 8.1.2.

20 See Participant Letter, supra note 4, at 4.

21 See id. at 4-5.

22 See id. at 4.

23 See id.

24 See id. With respect to complex queries, the Participants state that the OTQT returns data marts to regulatory users "well before" the 24-hour time limit set forth in the CAT NMS Plan. See id.; see also CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.2. However, the Participants also state that "a request for related lifecycles makes a query complex." See Participant Letter, supra note 4, at 5 n.18. The Commission does not agree that a request for related lifecycles makes a query complex. See Part III infra for

amount of time required by the OTQT to populate a data mart is longer than the timeframes set forth in the CAT NMS Plan.[25] They state, for example, that "[i]t typically currently takes up to four minutes for queries for a single day involving equities trades and up to six minutes for options trade queries for a single day for the OTQT to create and return a data mart in response to targeted search requests with a required response time of one minute under Section 8.1.2 of Appendix D."[26]

The Participants therefore request temporary exemptive relief from compliance with the Search Return Functionality and the Simultaneous Query Functionality requirements of Section 8.1.2 of Appendix D of the CAT NMS Plan until July 31, 2023.[27] During the period of the exemption, the Participants assert that they will "continue to assess the performance of the OTQT and look for opportunities to further reduce the time that it takes to build the data mart in response to OTQT queries on a consistent basis."[28] In this respect, the Participants represent that they have been working with the Plan Processor to reduce the time that it takes to populate an OTQT data mart.[29] They explain that the Plan Processor runs "multiple benchmark queries each day that are designed to measure system performance given CAT Data sets and query usage, including the times to create data marts for various types of queries and responses during

further discussion of the OTQT requirements set forth in the CAT NMS Plan. In addition, and as discussed in Part III infra, the Commission believes that the timeframe for "returning results" in Section 8.1.2 of Appendix D of the CAT NMS Plan begins with the submission of the query in the OTQT and ends with the return of the results of the query to the user inclusive of related linkages.

25 See Participant Letter, supra note 4, at 4.

26 See id. at 4-5.

27 See id. at 6.

28 See id.

29 See id. at 5.

simultaneous querying," and shares its results with the Participants and the Commission to identify areas for potential performance enhancements.[30] The Participant Letter further states that such efforts have already reduced the time required to populate data marts in the OTQT.[31]

III. Discussion

As the Participants note, Sections 6.10(c) and Appendix D, Section 8.1.1 of the CAT NMS Plan require the OTQT to "provide authorized users with the ability to retrieve CAT Data via an online query screen that includes the ability to choose from a variety of pre-defined selection criteria,"[32] including, among other things, the "CAT Reporter correction rate over time" (or, the "Error Correction Rate Functionality").[33] Section 8.1.2 of Appendix D of the CAT NMS Plan further sets forth minimum performance requirements for OTQT searches that include equities and options trade data only in the search criteria, including returning results within the following timeframes: (1) "within 1 minute for all trades and related lifecycle events for a specific Customer or CAT Reporter with the ability to filter by security and time range for a specified time window up to and including an entire day"; (2) "within 30 minutes for all trades and related lifecycle events for a specific Customer or CAT Reporter in a specified date range (maximum 1 month)"; and (3) "within 6 hours for all trades and related lifecycle events for a specific Customer or CAT Reporter in a specified date range (maximum 12-month duration from the most recent 24 months)."[34]

30 See id.

31 See id.

32 See CAT NMS Plan, supra note 3, at 6.10(c)(i)(A).

33 See id. at Appendix D, Section 8.1.1.

34 See id. at Appendix D, Section 8.1.2.

The timeframe for "returning results" in Section 8.1.2 of Appendix D (i.e., the time to "return results" or the "Search Return Functionality") begins with the submission of the query in the OTQT and ends with the return of the results of the query to the user; it does not begin with the population of a data mart. "Returning results" captures the entirety of the time it takes to generate results in response to the user's initial query. If the query response time requirements for "returning results" begins at a time later than the time the query was submitted, query response times would fail to fully reflect the total time necessary for the OTQT to generate results, and display them to the user.[35] This would be inconsistent with the plain meaning of the CAT NMS Plan language concerning query response time requirements and would undermine the purpose of the performance standard.

Appendix D, Section 8.1.2 of the CAT NMS Plan sets forth requirements for "related lifecycle events" and "complex queries." "Related lifecycle events" are covered by the 1 minute, 30 minute, and 6 hour requirements in the CAT NMS Plan set forth above,[36] whereas Appendix D, Section 8.1.2 of the CAT NMS Plan separately provides that "[f]or the complex queries that either scan large volumes of data (e.g., multiple trade dates) or return large result sets (>1M records), the response time must generally be available within 24 hours of the submission of the request."[37] Under the CAT NMS Plan, therefore, queries for "related lifecycle events" are not

35 Appendix D, Section 8.1.1 requires that the OTQT "must provide a record count of the result set, the date and time the query request is submitted, and the date and time the result set is provided to the users." It also requires that the OTQT must "log submitted queries and parameters used in the query, the user ID of the submitter, the date and time of the submission, as well as the delivery of results." See id. at Appendix D, Section 8.1.1. Since the CAT NMS Plan requires the OTQT to record the date and time the query request is submitted, the query response times set forth in the CAT NMS Plan should be based on this information.

36 See, e.g., note 34 supra.

37 See CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.2.

"complex queries" and thus the 24 hour requirement does not apply. If queries including "related lifecycle events" were "complex queries," then any query that included "related lifecycle events" would be subject to the 24 hour requirement. This is not consistent with the language of the CAT NMS Plan. Rather, based on the language of the CAT NMS Plan, "related lifecycle events" are included in, and thus are subject to, the 1 minute, 30 minute, and 6 hour requirements for OTQT searches that include equities and options trade data only as search criteria. Interpreting any query that includes "related lifecycle events" as a "complex query" contradicts the presence of "related lifecycle events" in the CAT NMS Plan language setting forth the 1 minute, 30 minute, and 6 hour requirements.

Appendix D, Section 8.1.2 also requires that "[t]he online targeted query tool must be able to process up to 300 simultaneous query requests with no performance degradation" (or, the "Simultaneous Query Functionality").[38] As stated above, the timeframe for "returning results" begins with the submission of the query in the OTQT and ends with the return of the results of the query to the user. The Commission understands that the Participants have not yet determined the meaning of "performance degradation," but the Commission believes "performance degradation" on query requests should be based on the ability of the OTQT to meet the above-described timeframes set forth by Appendix D, Section 8.1.2 of the CAT NMS Plan.[39] Performance degradation is a deterioration in performance as measured according to a certain standard. The Commission believes it is reasonable to assess "performance degradation" based on a measurement of performance against the CAT NMS Plan and service level agreement

38 See CAT NMS Plan, supra note 3, at Appendix D, Section 8.1.1.

39 See, e.g., notes 34-37 and associated text supra.

("SLA") requirements,[40] because the Participants are already required to meet these standards. Thus, if the OTQT is able to process up to 300 simultaneous query requests while meeting the CAT NMS Plan and SLA requirements, there would be no "performance degradation."[41]

Section 36 of the Exchange Act grants the Commission the authority, with certain limitations, to "conditionally or unconditionally exempt any person, security, or transaction . . . from any provision or provisions of [the Exchange Act] or of any rule or regulation thereunder, to the extent that such exemption is necessary or appropriate in the public interest, and is consistent with the protection of investors."[42] Rule 608(e) of Regulation NMS under the Exchange Act authorizes the Commission to exempt, either unconditionally or on specified terms and conditions, any self-regulatory organization, member thereof, or specified security, from the provisions of the rule if the Commission determines that such exemption is consistent with the public interest, the protection of investors, the maintenance of fair and orderly markets and the removal of impediments to, and perfection of the mechanisms of, a national market system.[43]

The Commission believes that, pursuant to Section 36 of the Exchange Act, the temporary exemptive relief requested by the Participants is appropriate in the public interest and consistent with the protection of investors, and that, pursuant to Rule 608(e) under the Exchange Act, the temporary exemptive relief requested by the Participants is consistent with the public interest, the protection of investors, the maintenance of fair and orderly markets and the removal of impediments to, and the perfection of the mechanisms of, a national market system. The

40 See CAT NMS Plan, supra note 3, at Appendix D, Section 8.5 (requiring the establishment of SLAs for "query performance and response times").

41 The OTQT is required at all times to meet the CAT NMS Plan requirement to process up to 300 simultaneous query requests with no performance degradation.

42 15 U.S.C. 78mm(a)(1).

43 17 CFR 242.608(e).

OTQT is an important regulatory tool required by the CAT NMS Plan; it is one of only three access methods that regulators have to query CAT Data, and it is the only method that can be used by regulatory staff without programming experience to directly access the CAT using tools provided by the Plan Processor. Thus, it is consistent with the public interest, the protection of investors, and the maintenance of fair and orderly markets that all facets of the OTQT are implemented consistent with the CAT NMS Plan. The Commission understands that implementing the above-described functionality will require software development and architectural changes to the existing OTQT. Providing the requested temporary exemptive relief will give the Participants additional time to properly implement the above-described functionality. The Commission believes that the long-term benefits of allowing the Participants sufficient time to correctly implement these facets of the OTQT outweigh any concerns regarding the impact of delayed implementation.

The Commission also believes that providing the requested exemptive relief on the schedule proposed by the Participants is appropriate. With respect to the Error Correction Rate Functionality requirements, the Participants request that temporary exemptive relief be granted until April 30, 2021. This schedule will align the release of the Error Correction Rate Functionality with another planned functionality release,[44] while still providing a certain deadline that will encourage progress towards the implementation of the required OTQT functionality. The Commission believes that such alignment will enable the SROs to leverage planned functionality release activities – including user acceptance testing, documentation, and approvals – for the release of the Error Correction Rate Functionality. Moreover, the

[44] This release will include, among other things, industry member reporting of new equity exchange order book and volume concentration data and expanded OTQT functionality related to this data. See id. at 3.

Commission believes that granting the requested exemptive relief on the schedule proposed by the Participants would have only a limited impact on regulators' utilization of the OTQT. As stated in the Participant Letter, the Participants and the Commission currently have access to a variety of fields of processed CAT Data and/or validated (unlinked) data via the OTQT,[45] and information regarding the CAT Reporter correction rate over time will likewise be available for compliance review purposes through the CAT Reporter Portal and/or the Plan Processor's BDSQL tool by December 2020.[46]

With respect to the Search Return Functionality and the Simultaneous Query Functionality requirements, the Participants request that temporary exemptive relief be granted until July 31, 2023. The Commission believes this deadline will give the Participants and the Plan Processor sufficient time to develop the necessary systems and technology.

The Commission is also conditioning this temporary exemptive relief on the following:

First, as a condition to this exemptive relief, the Participants would be required to satisfy all other requirements of the Full Implementation of Core Equity Reporting Requirements milestone by December 31, 2020.[47]

45 See id. at 3.

46 See id. at 3. However, the Error Correction Rate Functionality is still critical, as it will facilitate a regulatory user's ability to determine the quality of CAT Data for regulatory use (versus compliance review purposes).

47 See note 13 supra. To the extent that the Participants are availing themselves of exemptive relief from a CAT NMS Plan requirement, including requirements relating to Error Correction Rate Functionality, Search Return Functionality, and Simultaneous Query Functionality, such requirement shall not be included in the requirements for the Full Implementation of Core Equity Reporting Requirements milestone, provided that the conditions of the exemption are satisfied. However, to meet the Full Implementation of Core Equity Reporting Requirements milestone, all other functionality required by Section 8.1.1 and Section 8.1.2 of Appendix D of the CAT NMS Plan must incorporate the relevant equities transaction data and be available to Participants and to the

Second, to better enable the Commission to monitor progress towards the reduction of query response times, the Participants would be required, as a condition to this exemptive relief, to perform the following benchmark queries to measure, on a monthly basis, the timeframes in which the OTQT returns results for the following types of queries: (1) all trades and related lifecycle linkages and/or events for a specific Customer or CAT Reporter with the ability to filter by security and time range for a specified time window up to and including an entire day; (2) all trades and related lifecycle linkages and/or events for a specific Customer or CAT Reporter in a specified date range (maximum 1 month); and (3) all trades and related lifecycle linkages and/or events for a specific Customer or CAT Reporter in a specified date range (maximum 12-month duration from the most recent 24 months). For each benchmark query, the Participants should provide the average, standard deviation, maximum, and minimum timeframes in which the OTQT returns results, as the Commission believes it is important to capture not only information regarding the average timeframes in which the OTQT returns results, but also information regarding the variability and consistency of the timeframes in which the OTQT returns results. In addition, for each benchmark query, the Participants should use all available CAT Data, including Participant data submitted by FINRA and national securities exchanges, data submitted by Industry Members,[48] and other data. Finally, the Participants should provide monthly reports regarding any actual queries done by regulatory users with the average, standard deviation, maximum, and minimum timeframes in which the OTQT returns results for actual queries. All of the above-described measurements should be provided to the Operating Committee on a

Commission. See CAT NMS Plan, supra note 3, at Section 1.1 ("Full Implementation of Core Equity Requirements" definition).

48 "Industry Member" is a defined term under the CAT NMS Plan and means "means a member of a national securities exchange or a member of a national securities association." See CAT NMS Plan, supra note 3, at Section 1.1.

monthly basis and should be clearly set forth as factual indicators in the Quarterly Progress Reports required by Section 6.6(c) of the CAT NMS Plan. This condition will permit the Commission and the public to track the Participants' progress towards meeting the above-described CAT NMS Plan requirements and providing regulators with an effective OTQT by the July 31, 2023 deadline.[49]

Third, to better enable the Commission to monitor their progress towards meeting the parallel processing requirements of the CAT NMS Plan, the Participants would also be required, as a condition to this exemptive relief, to measure on a monthly basis, using benchmark queries, the time it takes to provide results to users from OTQT searches that are run concurrently with either 50-100, 100-200, or 200-300 queries, and to evaluate whether such results otherwise meet current CAT NMS Plan and SLA performance requirements for targeted and complex queries. These measurements should be provided to the Operating Committee on a monthly basis and should be clearly set forth as factual indicators in the Quarterly Progress Reports required by Section 6.6(c) of the CAT NMS Plan.

IV. Conclusion

Accordingly, IT IS HEREBY ORDERED, pursuant to Section 36(a)(1) of the Exchange Act[50] and Rule 608(e) under the Exchange Act,[51] that the Commission grants the Participants' request for temporary exemptive relief, as set forth in the Participant Letter and subject to the conditions described herein, from the requirements in Section 8.1.1 of Appendix D of the CAT

49 Pursuant to Section 6.6(c)(ii) of the CAT NMS Plan, Quarterly Progress Reports must be filed with the Commission and made publicly available on each SRO's website or collectively on the CAT NMS Plan website.

50 15 U.S.C. 78mm(a)(1).

51 17 CFR 242.608(e).

NMS Plan with respect to the Error Correction Rate Functionality until April 30, 2021 and from the requirements in Section 8.1.2 of Appendix D of the CAT NMS Plan with respect to the Search Return Functionality and the Simultaneous Query Functionality until July 31, 2023.

By the Commission.

J. Matthew DeLesDernier,
Assistant Secretary

EXHIBIT 7

FAQs Last Updated: ***January 29, 2021***

A. General

A1. Has a legal entity been established to conduct the activities related to the CAT? **Updated:** ***09/25/2019***

As of August 29, 2019, the Participants conduct activities related to the CAT through Consolidated Audit Trail, LLC, a Delaware limited liability company that is jointly owned by the Participants on an equal basis. The limited liability company agreement of Consolidated Audit Trail, LLC serves as the current CAT NMS Plan.

Prior to August 29, 2019, the Participants conducted the activities related to the CAT through a different Delaware limited liability company, CAT NMS, LLC, which the Participants jointly owned on an equal basis. Prior to August 29, 2019, the limited liability company agreement of CAT NMS, LLC served as the CAT NMS Plan.

A2. How is the Consolidated Audit Trail, LLC managed? **Updated:** ***08/29/2019***

The CAT NMS Plan provides that the Consolidated Audit Trail, LLC will be managed by its Operating Committee. Each Participant appoints one member of the Operating Committee and each Participant appointee has one vote. The CAT NMS Plan sets forth certain provisions relating to the Operating Committee, including identification of those actions requiring a Majority Vote, a Supermajority Vote or a unanimous vote, and the management of conflicts of interest.

A3. Does the industry have a role in the management of the CAT? **Added:** ***03/21/2018***

The CAT NMS Plan requires the establishment of an Advisory Committee charged with advising the Participants on the implementation, operation and administration of the CAT. Under the Plan, the Advisory Committee has the right to attend Operating Committee and Subcommittee meetings (unless they are held in Executive Session) and submit its views prior to a decision by the Operating Committee. The composition of the Advisory Committee includes: (a) broker-dealers of varying sizes and types of business, including a clearing firm; (b) an individual who maintains a securities account; (c) an academic; and (d) institutional investors.

A4. Does the Consolidated Audit Trail, LLC have any officers? **Updated:** ***09/17/2019***

The CAT NMS Plan requires the Consolidated Audit Trail, LLC to appoint a Chief Information Security Officer (CISO) and Chief Compliance Officer (CCO), each of which is an employee of the Plan Processor, reporting directly to the Operating Committee and with fiduciary duties to the Consolidated Audit Trail, LLC. The CISO is David Yacono, and the CCO is Duer Meehan.

A5. When will Participants begin reporting data to the CAT? **Updated:** ***05/02/2019***

The Participants began reporting Participant Data on November 15, 2018.

A6. When will Large Industry Members begin reporting data to the CAT? **Updated:** ***04/27/2020***

Public Appendix 1389

In light of the SEC's recent **exemptive order**, there are new dates by which Large Industry Members (which are Industry Members other than Small Industry Members) are required to begin reporting to the CAT. Large Industry Members are required to begin reporting Phase 2a Industry Member Data to the CAT by June 22, 2020, and are required to begin reporting Phase 2b Industry Member Data to the CAT by July 20, 2020. However, Large Industry Members were permitted, but not required, to begin reporting Industry Member Data to the CAT as of April 20, 2020. Phase 2a Industry Member Data and Phase 2b Industry Member Data are described in detail in the **Industry Member Technical Specifications**.

A7. When will Small Industry Members begin reporting data to the CAT? **Updated: *04/27/2020***

In light of the SEC's recent **exemptive order**, there are new dates by which Small Industry Members are required to begin reporting to the CAT. There are two different dates for the commencement of CAT reporting for Small Industry Members with regard to Phase 2a Industry Member Data, depending on whether the Small Industry Member records or reports information to FINRA's Order Audit Trail System:

- Small Industry Members that are required to record or report information to FINRA's Order Audit Trail System pursuant to applicable SRO rules (referred to as "Small Industry OATS Reporters") are required to begin reporting Phase 2a Industry Member Data to the CAT by June 22, 2020.

- Small Industry Members that are not required to record or report information to FINRA's Order Audit Trail System pursuant to applicable SRO rules (referred to as "Small Industry Non-OATS Reporters") are required to begin reporting Phase 2a Industry Member Data to the CAT by December 13, 2021.

All Small Industry Members are required to begin reporting Phase 2b Industry Member Data to the CAT by December 13, 2021. However, Small Industry Members were permitted, but not required, to begin reporting Industry Member Data to the CAT as of April 20, 2020. Phase 2a Industry Member Data and Phase 2b Industry Member Data are described in detail in the **Industry Member Technical Specifications**.

A8. What is the role of the Plan Processor? **Updated: *08/29/2019***

The CAT NMS Plan describes the responsibilities of the Plan Processor for the CAT. Consolidated Audit Trail, LLC has entered into an agreement with FINRA CAT LLC obligating FINRA CAT LLC, as the Plan Processor, to perform the functions and duties contemplated by the Plan, including the management and operation of the CAT.

A9. Who is the Plan Processor for the CAT? **Updated: *04/11/2019***

FINRA CAT LLC, a subsidiary of FINRA, is the Plan Processor for the CAT.

A10. How is the cost of the CAT being funded? **Added: *03/21/2018***

Currently, the Participants are funding the CAT-related costs themselves. The CAT NMS Plan, however, contemplates a funding model in which both Participants and Industry Members contribute to the funding of the CAT. Although the Participants have filed fee filings with the SEC to impose CAT Fees on Participants and Industry Members, the Participants have withdrawn these fee filings at this time. The Participants anticipate filing revised fee filings in the near future.

A11. How does the CAT funding model set forth in the CAT NMS Plan work? **Added: *03/21/2018***

Public Appendix 1390

The CAT NMS Plan contemplates a bifurcated funding model, where costs associated with building and operating the CAT would be borne by (1) Participants and Industry Members that are Execution Venues through fixed tier fees based on market share; and (2) Industry Members (other than Execution Venue ATSs) through fixed tier fees based on message traffic.

A12. Will CAT Reporters have access to their own submitted data? **Added: *03/21/2018***

The Plan Processor will provide CAT Reporters access to their submitted data for error correction purposes only.

A13. Will SIP and OPRA data be included in the CAT? **Added: *03/21/2018***

Yes, the CAT is required to collect SIP and OPRA data. Specifically, the CAT NMS Plan requires that the CAT collect (from a Securities Information Processor ("SIP") or pursuant to an NMS Plan) and retain on a current and continuing basis, in a format compatible with the Participant Data and Industry Member Data, all data, including the following: (1) information, including the size and quote condition, on quotes, including the National Best Bid and National Best Offer for each NMS Security; (2) Last Sale Reports and transaction reports reported pursuant to an effective transaction reporting plan filed with the SEC pursuant to, and meeting the requirements of, Rules 601 and 608; (3) trading halts, Limit Up/Limit Down price bands and Limit Up/Limit Down indicators; and (4) summary data or reports described in the specifications for each of the SIPs and disseminated by the respective SIP.

A14. Will CAT tie the audit trail data to clearing data? **Added: *03/21/2018***

No, clearing data is not within the scope of SEC Rule 613 or the CAT NMS Plan.

A15. How will the SEC and Participants access the CAT Data for regulatory purposes? **Added: *03/21/2018***

The CAT NMS Plan requires the Plan Processor to provide the SEC and Participants access to the CAT for regulatory and oversight purposes and to create a method of accessing CAT Data that includes the ability to run complex searches and generate reports. The CAT NMS Plan requires regulator access by two different methods: (a) an online targeted query tool with predefined selection criteria to choose from; and (b) extractions of data via a query tool or language allowing querying of all available attributes and data sources. Appendix D of the CAT NMS Plan sets forth additional requirements concerning regulator access.

A16. What are the requirements for accessing historical CAT Data? **Added: *03/21/2018***

The CAT NMS Plan requires that the Plan Processor keep CAT Data online in an easily accessible format for six years.

A17. How many regulatory users are expected to access CAT Data? **Added: *03/21/2018***

The CAT NMS Plan requires the CAT to support a minimum of 3,000 regulatory users and at least 600 such users accessing the CAT concurrently without an unacceptable decline in performance.

A18. Will the CAT provide the regulators with access to uncorrected data for surveillance? **Added: *03/21/2018***

The CAT NMS Plan requires the Plan Processor to store and retain Raw Data submitted by CAT Reporters. Such Raw Data will be available to the SEC and Participants for regulatory purposes.

A19. Will any existing SEC or SRO reporting systems be eliminated once the CAT is operational? **Added: *03/21/2018***

The CAT NMS Plan requires the Participants to submit rule filings to eliminate or modify any rules or systems that would be redundant of the CAT. In May 2017, certain Participants filed with the SEC rule filings to eliminate or modify certain redundant rules and systems, including rule filings related to FINRA's Order Audit Trail System ("OATS") and the Electronic Blue Sheets ("EBS"). In light of the delay in the commencement of CAT reporting, these rule filings were withdrawn. Nevertheless, the Participants intend to revisit the retirement of systems filings as the reporting commencement date approaches.

A20. Will there be third-party auditing requirements to make sure the CAT is working properly? **Added: *03/21/2018***

The CAT NMS Plan requires the appointment of an appropriately qualified Independent Auditor of national recognition, subject to the approval of the Operating Committee by Supermajority Vote. Among other things, the Independent Auditor, in collaboration with the CCO, is required to create and implement an annual audit plan (subject to the approval of the Operating Committee) which shall at a minimum include a review of all Plan Processor policies, procedures and control structures.

Additionally, data centers housing CAT Systems (whether public or private) must, at a minimum, be AICPA SOC 2 certified by a qualified third-party auditor that is not an affiliate of any of the Participants or the Plan Processor. The frequency of the audit must be at least once per year.

A21. This FAQ has been retired. Please refer to FAQs A5, A6 and A7. **Updated: *05/21/2020***

A22. Can Small Industry Members that are not OATS Reporting Members ("Small Industry Non-OATs Reporters") voluntarily report to the CAT prior to December 2021? **Updated: *06/18/2019***

Yes, Small Industry Non-OATS Reporters may voluntarily choose to begin reporting prior to December 2021, the date on which Small Industry Non-OATS Reporters are required to begin reporting to the CAT. However, if a Small Industry Non-OATS Reporter begins reporting at such earlier date, (1) it must report all CAT Data required to be reported by Industry Members in accordance with the CAT Compliance Rules, the CAT NMS Plan and the Industry Member Technical Specifications, as if it were required to report such CAT Data; and (2) it may not cease to report to the CAT once it begins reporting to the CAT.

A23. What are the record retention requirements for Industry Member CAT Reporters? **Added: *11/15/2018***

According to each of the Participant's CAT compliance rules, information required to be reported to the CAT must be maintained in accordance with SEC Rule 17a-4(b). This rule states that these records must be preserved for at least three years, the first two years in an accessible place. Records are not required to be retained in an electronic format; they may be retained in a paper format. However, with respect to Business Clock synchronization logs, such logs must include synchronization results for a period of not less than five years ending on the then current date, or for the entire period for which the Industry Member has been required to comply with this requirement if less than five years.

A24. Is CAT a real-time system? **Added: *11/15/2018***

No. Although data is permitted to be transmitted to CAT at any time, including during or after market hours, subject to certain deadlines, it is not required to be submitted in real-time.

A25. Are primary market transactions subject to CAT reporting? **Updated: *01/29/2021***

No, primary market transactions, as defined in Section 1.1 of the Plan, are not subject to CAT reporting. The Participants analyzed whether to include primary market transactions in the CAT, and concluded doing so was premature and that such an analysis would benefit from actual experience with the CAT. See Discussion of the Potential Expansion of the Consolidated Audit Trail Pursuant to Section 6.11 of the CAT NMS Plan (May 15, 2017) (available at Expansion Report).

A26. Does an Industry Member have to report to the CAT orders received or originated, but not executed prior to the date an Industry Member is required to begin reporting data to the CAT? **Updated: *06/25/2020***

Orders received or originated prior to the date on which an Industry Member is required to begin reporting to the CAT and any subsequent events related to such orders, including those occurring on or after the required reporting date, are not required to be reported to the CAT. However, Industry Members may submit to the CAT events related to orders received or originated prior to the required reporting date and they will not be rejected.

If an Industry member chooses to optionally report subsequent events related to such orders, the orderKeyDate field must be populated with a date prior to the date on which the Industry Member is required to begin reporting to CAT, and the Industry Member will receive a warning that the Order Key references a date prior to CAT go-live. If the Industry Member populates the orderKeyDate field with a date on or after the date on which the Industry Member is required to begin reporting to CAT, the Industry Member will receive an error that the Order Key is not found.

If the sending firm chooses not to report the activity, but the receiving firm reports an MEOA to CAT, both parties will receive a linkage error as the CAT Plan Processor would have no way to distinguish that the original order was received by the receiving firm prior to CAT go-live. In this case, both parties that received an error should contact the FINRA CAT Help Desk. Industry Members should note that this issue will only impact CAT Reportable Events for orders received prior to the start of CAT reporting (June 22, 2020 for equities and July 20, 2020 for simple electronic options), which are routed on or after the date when interfirm linkage processing becomes effective (July 27, 2020 in Industry Test Environment and August 10, 2020 in the Production Environment).

A27. When does Industry Member testing begin? **Updated: *05/02/2019***

Industry Member testing for Phase 2a of CAT reporting is scheduled to begin in December 2019.

A28. The CAT Registration form requires that a Registered Principal be named. Must that Registered Principal have a Series 24 license? **Added: *04/29/2019***

If an Industry Member CAT Reporter employs a Series 24 Registered Principal, then that Registered Principal must be named on the CAT Registration Form. However, if an Industry Member CAT Reporter does not employ a Series 24 Registered Principal and instead employs one or more Limited Principals (e.g., Series 26), then the Industry Member CAT Reporter should name a Limited Principal on the CAT Registration form.

A29. What broker-dealers are considered Small Industry Members? **Added: *02/11/2020***

The CAT NMS Plan defines "Small Industry Members" as "an Industry Member that qualifies as a small broker-dealer as defined in SEC Rule 613." SEC Rule 613, in turn, defines "small broker-dealers" by referring to "those members that qualify as small broker-dealers as defined in §240.0-10(c) of this chapter." Rule 0-10(c) under the Exchange Act states that the term small business or small organization shall,

[w]hen used with reference to a broker or dealer, mean a broker-dealer that:

- 1. Had total capital (net worth plus subordinated liabilities) of less than $500,000 on the date in the prior fiscal year as of which its audited financial statements were prepared pursuant to § 240.17a-5(d) or, if not required to file such statements, a broker or dealer that had total capital (net worth plus subordinated liabilities) of less than $500,000 on the last business day of the preceding fiscal year (or in the time that it has been in business, if shorter); and
- 2. Is not affiliated with any person (other than a natural person) that is not a small business or small organization as defined in this section.

Rule 0-10(i) under the Exchange Act further states that

[f]or purposes of paragraph (c) of this section, a broker or dealer is affiliated with another person if:

- 1. Such broker or dealer controls, is controlled by, or is under common control with such other person; a person shall be deemed to control another person if that person has the right to vote 25 percent or more of the voting securities of such other person or is entitled to receive 25 percent or more of the net profits of such other person or is otherwise able to direct or cause the direction of the management or policies of such other person; or
- 2. Such broker or dealer introduces transactions in securities, other than registered investment company securities or interests or participations in insurance company separate accounts, to such other person, or introduces accounts of customers or other brokers or dealers, other than accounts that hold only registered investment company securities or interests or participations in insurance company separate accounts, to such other person that carries such accounts on a fully disclosed basis.

Thus, under the terms of Rule 0-10, an Industry Member that introduces securities transactions to other broker-dealers on a fully-disclosed basis would not meet the definition of a "Small Industry Member." The Participants, however, have requested that the Commission exempt broker-dealers that do not qualify as Small Industry Members solely because they satisfy Rule 0-10(i)(2) under the Exchange Act and, as a result, are deemed affiliated with an entity that is not a small business or small organization ("Introducing Industry Member") from the requirements in the CAT NMS Plan applicable to Industry Members other than Small Industry Members. Instead, if the SEC grants the exemptive request, such Introducing Industry Members would comply with the requirements in the CAT NMS Plan applicable to Small Industry Members.

A30. If a firm meets the definition of a Small Industry Member at the time its audited financial statements are prepared, but its total capital subsequently exceeds $500,000 prior to the Small Industry Member deadline of December 2021, must it immediately start reporting to CAT as a Large Industry Member? **Added: *02/11/2020***

No. A firm is a Small Industry Member for purposes of reporting to CAT if its total capital is less than $500,000 on the date on which its audited financial statements were prepared. If the firm's total capital subsequently exceeds $500,000 prior to the Small Industry Member implementation deadline of December 2021, the firm is not required to begin reporting as a Large Industry Member; rather, the firm must still comply with the Small Industry Member reporting deadline. Please see FAQ A29 for additional information on what broker-dealers are considered "Small Industry Members" for purposes of reporting to the CAT.

A31. If an Industry Member begins reporting to the CAT prior to June 22, 2020, could the Industry Member be subject to disciplinary action if its pre-June 22, 2020 CAT reporting does not fully comply with the CAT Compliance Rules? **Added: *04/27/2020***

No. Mandatory CAT reporting for Industry Members does not commence until June 22, 2020 (with regard to Phase 2a Industry Member Data) and July 20, 2020 (with regard to Phase 2b Industry Member Data), as described above in FAQ A6 and A7. The exchanges and FINRA have indicated that they will not commence enforcement of their CAT Compliance Rules with regard to Industry Member CAT reporting until these reporting compliance dates. The exchanges and FINRA, however, will continue to enforce CAT Compliance Rules other than those related to Industry Member CAT reporting prior to these reporting compliance dates. For example, while Industry Members have been required to, and will continue to be required to, synchronize their Business Clocks, Industry Members will not be required to report clock synchronization violations related to Reportable Events until the compliance dates for mandatory CAT reporting.

A32. Which version of the CAT Reporting Technical Specifications for Industry Members should Small Industry Members use to code their CAT reporting systems? **Updated: *06/16/2020***

Firms that meet the definition of a Small Industry Member and do not report to OATS have a CAT reporting obligation beginning on December 13, 2021, which is simultaneous to the commencement of Phase 2d. As such, Small Industry Members that do not report to OATS and plan to start reporting on December 13, 2021 should code their CAT reporting systems to the Phase 2d *CAT Reporting Technical Specifications for Industry Members* to be published on June 30, 2020. Small Industry Members that choose to report early must code to the version of the Technical Specifications effective at the time the Small Industry Member begins reporting.

A33. Are order events occurring prior to an IPO symbol's inclusion on the CAT Reportable Securities List reportable to CAT in Phase 2a? **Added: *07/28/2020***

No, order events occurring prior to an IPO symbol's inclusion on the CAT Reportable Securities List are not required to be reported to CAT in Phase 2a. In Phase 2a, secondary events that occur after an IPO symbol's inclusion on the CAT Reportable Securities List that are reported to CAT and are marked unlinked for parent not found will not be considered a CAT Reporting violation if at the time of the parent event, the symbol was not on the CAT Reportable Securities List.

Guidance for reporting order events occurring prior to an IPO symbol's inclusion on the CAT Reportable Securities List in Phase 2c is still under consideration.

A34. Why is there a question on the CAT Registration Form (Transaction Registration) asking for a Legal Entity Identifier (LEI)? **Added: *10/26/2020***

The CAT NMS Plan requires Industry Members to "submit to the Central Repository" information "including CRD number and LEI, if such LEI has been obtained." "Central Repository" means the repository responsible for the receipt, consolidation, and retention of all information reported to the CAT pursuant to SEC Rule 613 and this Agreement.

The CAT NMS Plan requirement does not require Industry Members to obtain an LEI, but rather to provide its LEI to the Plan Processor (FINRA CAT) if the Industry Member does have an LEI.

The collection of the Industry Member's LEI via the CAIS Registration Form and CAT Registration Form (Transaction Reporting) is separate from the reporting of customer account LEI data requirements.(For additional information pertaining to the LEI for customer accounts, see FAQs Q1 and Q4).

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B. Reporting Requirements

B1. Are market maker quotes required to be reported to the CAT? **Added: *03/21/2018***

Yes, market maker quotes are required to be reported to the CAT. Under the CAT NMS Plan, an Options Market Maker's quotes in Listed Options will be reported to the CAT by the relevant Options Exchange in lieu of reporting by the Options Market Maker. Options Market Makers will not need to separately report these quotes, although they will be required to report to the Options Exchange the time at which a quote in a Listed Option is sent to the Options Exchange (and, if applicable, the time of any subsequent quote modification and/or cancellation where such modification or cancellation is originated by the Options Market Maker). The Options Exchanges are required to report such time information to the CAT in lieu of reporting of such time information by the Options Market Markers to the CAT. Equity market makers, however, are required to report their quotes to the CAT themselves.

B2. What are the timestamp requirements for reporting information to the CAT? **Updated: *04/14/2020***

Except as otherwise provided, the CAT NMS Plan requires CAT Reporters to report CAT Data to the CAT in milliseconds. To the extent that a CAT Reporter's order handling or execution systems utilize timestamps in increments finer than milliseconds, then such CAT Reporter is required to utilize such finer increments up to nanoseconds when reporting CAT Data to the CAT. CAT Reporters that capture timestamps in increments more granular than nanoseconds are required to truncate the timestamps after the nanosecond level--and must not round up or down--for submission to CAT.

B3. Are indications of interest ("IOIs") or requests for quotes ("RFQs") reportable to the CAT? **Added: *02/13/2018***

No, neither IOIs nor RFQs are reportable to CAT, as neither falls within the definition of an "order" as set forth in the CAT NMS Plan. For CAT purposes, an IOI is a non-firm expression of trading interest that contains one or more of the following elements: security name, side, size, capacity and/or price. The CAT treatment of IOIs is consistent with FINRA's treatment of IOIs under the OATS reporting requirements. (See OATS Compliance FAQ C76 available at http://www.finra.org/industry/faq-oats-compliance-faq)

B4. Are CAT Reporters required to record and report information related to any securities other than NMS Securities and OTC Equity Securities to the CAT? **Added: *02/13/2018***

No. CAT Reporters are not required to record and report information related to non-Eligible Securities to the CAT. CAT Reporters only are required to report information related to Reportable Events in Eligible Securities – that is, NMS Securities and OTC Equity Securities. (See Section 1.1 of the CAT NMS Plan (definition of Eligible Security) available at SEC Approved CAT NMS Plan (11/15/2016))

B5. Are all Industry Members required to report NBBO information to the CAT? **Added: *02/13/2018***

No, only CAT Reporters that are ATSs are required to submit NBBO information to the CAT. Specifically, ATSs would be required to report certain NBBO information upon the receipt and execution of an order. The CAT reporting requirement for ATS NBBO information is consistent with FINRA's OATS reporting requirements for ATS NBBO information. (See FINRA Rule 4554)

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B6. Are CAT Reporters required to report to the CAT quotes received via subscriptions to receive market data from market data vendors (such as exchanges or market data aggregators)? **Added:** ***03/13/2018***

No. CAT Reporters are not required to report to the CAT quotes received via subscriptions to receive market data from market data vendors. Under Sections 6.3(d)(iii) and 6.4(d)(i) of the CAT NMS Plan, CAT Reporters are required to report certain data to the CAT "for the receipt of an order that has been routed." Although such quotes may fall within the definition of an "order" under the CAT NMS Plan (and SEC Rule 613(j)(8)) as "bids" and "offers," such quotes have not been routed to the CAT Reporter, and therefore, not subject to the reporting requirement.

B7. This FAQ has been retired. Please refer to FAQ I9. **Updated:** ***09/22/2020***

This FAQ has been retired. Please refer to FAQ I9.

B8. How should an Industry Member report timestamps to the CAT if its order handling and order execution systems use different timestamp increments? **Updated:** ***04/14/2020***

To the extent that any Industry Member's order handling or execution systems utilize timestamps in increments finer than milliseconds for a given Reportable Event, such Industry Member shall record and report that Reportable Event to the CAT with timestamps in such finer increment up to nanoseconds. To the extent that an Industry Member has order handling or execution systems that utilize timestamps with varying increments, the Industry Member shall use the timestamps associated with each relevant system and Reportable Event when reporting CAT Data to the Central Repository, provided that in all instances such timestamps meet the minimum requirement of one millisecond for non-Manual Order Events.

B9. Are all messages, as represented in order routing protocols such as FIX, required to be reported to CAT by Industry Members? **Updated:** ***05/19/2020***

No. Industry Members only are required to report the "details for each order and each Reportable Event, as applicable," as set forth in Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4 (d)(i) of the CAT NMS Plan. The definitions of "orders" and "Reportable Events" are set forth in Section 1.1 of the CAT NMS Plan. If a message in an order routing protocol does not meet the definition of an order or a Reportable Event, then details related to that message do not have to be reported to the CAT. For additional information on reporting to the CAT, please see the CAT Reporting Technical Specifications for Industry Members.

B10. How should Industry Members report transactions involving fractional shares to the CAT? **Added:** ***09/11/2018***

CAT will accept reports involving fractional shares; please refer to the Industry Member Technical Specifications for additional details.

B11. What types of products will be in scope for purposes of Industry Members reporting details of Orders and Reportable Events to the CAT? **Updated:** ***06/18/2019***

Industry Members will be required to report to the CAT details for each Order and Reportable Event involving an Eligible Security. Under the CAT NMS Plan, "Eligible Security" includes: (1) all NMS Securities, meaning "any security or class of securities for which transaction reports are collected, processed, and made available pursuant to an effective transaction reporting plan, or an effective national market system plan for reporting transactions in Listed Options"; and (2) all OTC Equity Securities, meaning "any equity security, other than an NMS Security, subject to prompt last sale reporting rules of a registered national securities association and reported to one of such association's equity trade reporting facilities." While the CAT NMS Plan does not define "prompt last sale reporting rules," the Operating Committee has determined that transactions in restricted securities (as defined by SEC Rule 144(a)(3)) are not reportable to CAT because they are not subject to prompt last sale reporting rules. However, transactions in direct participation programs (DPPs) must be reported to CAT in Phase 2c of Industry Member reporting. FINRA CAT LLC, the Plan Processor for the CAT, will publish daily lists of Eligible Securities.

B12. Are Industry Members required to report the equity leg of a complex order in Phase 2a of the revised implementation schedule? **Updated: *11/17/2020***

The reporting obligation for the equity legs of complex orders beginning in Phase 2a is as follows. If a complex order includes an equity leg and the terms and conditions of the order are contingent upon the related option trade, the equity leg must be reported using the special handling code of "OPT" starting in Phase 2a. This reporting obligation applies regardless of whether the complex order is split or not split into components.

Specifically, for a complex order that is routed or received as a complex order and not split into its constituent equity and option legs, the Industry Member must report the equity leg to the CAT in Phase 2a with the "OPT" handling code. For a complex order that is routed or received as a complex order and then split into its constituent equity and option legs and routed, the Industry Member must report the equity leg to the CAT in Phase 2a with the "OPT" handling code.

In Phases 2a and 2c, if the complex order contains a net price, Industry Members may report the receipt and route of the equity leg as either an unpriced market order or a limit order with a price of '0' in accordance with FAQ B58 so long as the *handlingInstructions* field is populated with a value of "OPT" (refer to FAQ E13 for additional information regarding the *handlingInstructions* requirements on Order Route events for the equity leg of a complex order). In Phases 2a and 2c, CAT will interpret the combination of a market order with a *handlingInstructions* value of "OPT" or a limit order with a price of '0' and a *handlingInstructions* value of "OPT" as an order with a net price. In Phase 2d, a net price will be required. Refer to the Industry Member Reporting Scenarios document for additional information.

Industry Members will be required to report any simple option leg of a complex order in Phase 2b if the complex order has been split and is being worked as individual legs. Industry Members will be required to report complex orders that include both equity and option components to the CAT in Phase 2d. These reporting obligations apply to both FINRA and non-FINRA members that are Industry Members.

B13. Are all broker-dealers that receive or originate orders in equity securities and listed options subject to the CAT reporting requirements? **Added: *11/15/2018***

Any broker-dealer that is a member of a national securities exchange or FINRA and receives, originates and/or handles orders in NMS Securities, which includes NMS stocks and Listed Options, and/or OTC Equity Securities must report to CAT. There are no exemptions for any such broker-dealer for any reason.

B14. A registered investment advisor (RIA) operates within a US registered broker-dealer BD1 (i.e., BD1 and RIA are part of the same legal entity). The RIA originates and routes orders for execution away from BD1. What are the RIA's CAT reporting obligations? **Updated: *06/04/2020***

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Because the RIA is part of the same legal entity as the US registered broker-dealer, orders received or originated by the RIA are subject to all applicable CAT reporting rules and the US registered broker-dealer must report to CAT all orders that the RIA receives or originates. If the RIA were a separate legal entity that was not a member of a US registered broker-dealer, the RIA would not have an obligation to report orders originated and routed by the RIA to the CAT (also see FAQ B55).

B15. Does the CAT NMS Plan supersede Rule 17a-3? **Added: *11/15/2018***

No. The CAT NMS Plan is independent from SEC Rule 17a-3 and does not replace or otherwise alter Rule 17a-3 or any other SEC rules.

B16. Are US registered broker-dealers that operate in a foreign country required to comply with the CAT NMS Plan, including the clock synchronization requirements? **Added: *11/15/2018***

Yes. Any broker-dealer that is a member of a national securities exchange or FINRA and receives and/or handles orders in NMS Securities, which includes NMS stocks and Listed Options, and/or OTC Equity Securities – regardless of whether they operate in a foreign country — must report to CAT and satisfy clock synchronization requirements.

B17. Is CAT data required to be maintained in a format that could be resubmitted to CAT? **Added: *11/15/2018***

No. The CAT NMS Plan does not require CAT Reporters to maintain data submitted to CAT in the CAT format. CAT Reporters are required to retain the data in a format that it could be retrieved and provided to an SRO or the SEC upon request. CAT Reporters are not required to store the data in an electronic system; it could be stored in a manual format.

B18. What are the reporting requirements for orders received or initiated by a market maker? **Added: *11/15/2018***

Market makers are subject to the same reporting requirements as any other Industry Member depending on the type of order received and how it was handled. There are no carve outs or exemptions for orders received or originated by a market maker.

B19. Is a Cancel Report required for an unexecuted IOC (Immediate or Cancel) or FOK (Fill or Kill)? **Added: *11/15/2018***

No. An IOC order, by definition, is subject to an immediate partial or full execution. Otherwise, it is automatically partially or fully cancelled. An FOK order, by definition, is subject to either an immediate execution or immediate cancellation. Therefore, it is not necessary to submit to CAT a Cancel Event for an unexecuted order with instructions to be handled as IOC or FOK.

B20. What are the CAT reporting obligations when providing sponsored access or direct market access to non-BD clients? **Added: *11/15/2018***

As a general matter, a broker-dealer is considered to be the executing broker in any transaction where its client (either a customer or broker-dealer client) is only able to effect the trade by virtue of the firm's membership with the applicable market center. Thus, if a client would not be able to effect trades without the firm's SRO membership, the firm providing the sponsored or direct market access is considered to have received an order from its client and routed it to the market center to which it provides access for the client. Accordingly, such orders must be reported to CAT by the firm providing such access.

B21. How should Exchange for Physicals ("EFP") transactions be reported to CAT? **Updated: *01/12/2021***

When an Exchange for Physical order has been received or originated, a New Order event must be reported with a *handlingInstructions* value of 'EW'. If the transaction is affected through an ATS or other crossing system, an Order Route event must be reported by the sender, and an Order Accepted event must be reported by the receiver. If the order is executed via a direct negotiation with the counterparty, the Industry Member must follow the guidance outlined in the Industry Member Scenarios Document for reporting a negotiated trade. If an EFP transaction was originated in response to solicitation, the guidance outlined under B45 would apply.

B22. What are the CAT reporting obligations when one Industry Member provides sponsored access to another Industry Member? **Added: *11/15/2018***

With respect to the Industry Members' reporting obligations, when two broker-dealers have entered into a sponsored access agreement whereby one broker-dealer sponsors the other broker-dealer into a specific market center (such as a national securities exchange) by providing use of the sponsoring broker-dealer's SRO-assigned identifier, both broker-dealers have separate and distinct CAT reporting obligations. For example, if BD A sponsors access into a national securities exchange for BD B, the CAT reporting obligation for each broker-dealer would be as follows:

Sponsored Broker-Dealer BD B (under the SRO-assigned identifier of BDBB)
New Order Event
Order Route Event indicating order was routed to BDA

Sponsoring Broker-Dealer BD A (under the SRO-assigned identifier of BDAA)
Order Accepted Event indicating the order was received from BDBB
Order Route Report indicating order was routed to a national securities exchange

The CAT reporting obligations outlined above are the same regardless of the type of connection used by the sponsored broker-dealer to access the applicable market center. For example, the CAT reporting obligations for each broker-dealer would be the same whether the sponsored broker-dealer used a direct market connection provided by the sponsoring broker-dealer, a third party service provider connection provided by the sponsoring member, or its own proprietary connection to the subject market center.

B23. A broker-dealer accepts orders in Exchange Traded Managed Fund Shares ("ETMF"), or "NextShares", as defined under Nasdaq Rule 5745. When reporting orders in ETMFs to CAT should prices be reported in the "proxy price" format or using the Net Asset Value ("NAV") established at the end of the day? **Added: *11/15/2018***

Industry Members must use the "proxy price" format established by Nasdaq, and not the final trade price, when reporting orders for ETMFs to CAT.

Added: *11/15/2018*

B24. Are the ALO (Add Liquidity Only), OPO (Opt Out of Locked Market) and STP (Self Trade Prevention) handlingInstructions required to be reported for orders not received by an ATS?

A. No. These codes apply to ATSs and are not required to be reported by non-ATSs. However, CAT will not prevent the reporting of such codes by a non-ATS.

B25. What are the CAT reporting requirements for a proprietary trading firm? **Added: *11/15/2018***

Proprietary trading firms are subject to the CAT NMS Plan and SEC Rule 613. As such, proprietary trading firms that originate orders and route them out to other market centers have an obligation to report the origination of the order as a New Order Event (MENO) and the Route of the order as a Route Event (MEOR). Additionally, such firms are required to report any other related events in accordance with the CAT Reporting Technical Specifications for Industry Members.

B26. Does a CRD Number qualify as an SRO assigned identifier that can be used as an IMID in cases where a non FINRA member does not have an SRO assigned identifier? **Added: *11/15/2018***

A. No. All CAT Reporters are required to obtain an SRO assigned identifier for the purposes of reporting IMIDs to CAT.

B27. What are the hours for reporting to CAT? **Updated: *06/18/2019***

CAT will accept files 24 hours a day, 7 days a week. Reports for events that occur during a particular Trading Day must be reported by 8:00 a.m., ET the following Trading Day or they are marked late by CAT.

B28. Are event times required to be reported in Eastern Time? **Updated: *05/19/2020***

All timestamps submitted in STRING format must be reported to CAT in Eastern Time. Timestamps submitted in UTC must not be adjusted for Eastern Time. For additional information, refer to the CAT Reporting Technical Specifications for Industry Members.

B29. How should an order be identified when the broker (as opposed to the trader) has price and time discretion? **Added: *11/15/2018***

An order submitted by a customer who gives the broker discretion as to the price and time of execution is denoted as a "Not Held" order. For CAT, the definition of a "trader" in the context of a "Not Held" order is extended to the broker.

B30. Are Cancel Reports required for expired "DAY" orders? **Updated: *06/18/2019***

No."DAY" orders that remain unexecuted at the close of a market day are assumed to be canceled and no Cancel Event is required.

B31. Are order adjustments resulting from corporate actions such as dividends and distributions required to be reported to CAT? **Added: *11/15/2018***

Adjustments to orders as the result of a corporate action are not required to be reported to CAT; however, if an order is canceled as a result of a corporate action, you must report the cancellation to CAT via a Cancel Event.

B32. How should the share quantity for an order event that involves a fractional number of shares be reported? For example, an order for 100-1/2 shares is received and worked by routing away 100 shares and executing the remaining 1/2 share as principal. **Added: *11/15/2018***

CAT allows for the reporting of fractional shares in decimal format. In this example, the share quantity for the New Order Event should be 100.5, the Order Route Event should be 100, and the share quantity on the Trade Event for the fractional principal execution should be 0.5.

B33. How should a fractional number of shares as leavesQty be reported? **Added: *11/15/2018***

If the Leaves Quantity totals a fractional number of shares, it may be reported in decimal format. For example, a Leaves Quantity of 500-1/2 shares should be reported as “500.5”.

B34. An order is received after the market close and then cancelled prior to market open the next day. What is required to be reported to CAT? **Added: *11/15/2018***

A New Order or Order Accept Event and an Order Canceled Event are required to be reported.

B35. Are proprietary orders in OTC equity securities originated in the normal course of market making activity required to be reported to CAT? **Added: *11/15/2018***

Yes. All proprietary orders originated in the normal course of market making are reportable to CAT.

B36. How should prices (including fractions) be recorded in CAT? **Added: *11/15/2018***

All prices must be in decimal format. The price fields are 18 numeric characters (including 8 decimal places). A price is not required to contain all 18 characters. In any price, no more than 9 characters can appear without a decimal and no more than 8 characters can appear after the decimal. For example, the following prices are valid: “125”, “000000125”, “000000125.00000000”. Any price that contains more than 18 characters, 9 characters before a decimal, or 8 characters after a decimal will be rejected.

B37. How should buy-ins be reported to CAT? **Updated: *11/03/2020***

Buy-ins required by SEC or SRO rules (e.g., to comply with the close out requirements of Regulation SHO or FINRA Rule 4320, or the buy-in requirement of SEA Rule 15c3-3) must be reported to CAT using the Buy-In *handlinginstructions* code (BIN).

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Buy-ins executed pursuant to Regulation SHO or applicable SRO rules (e.g., FINRA Rule 4320) must be reported by the clearing firm as a proprietary order of the clearing firm with the FDID of the clearing firm's proprietary account in which the buy-in occurred. The new order should be reported with the 'BIN' *handlingInstructions* to indicate the order represents a buy-in. If the clearing firm allocates the buy-in responsibility to a correspondent broker-dealer pursuant to Regulation SHO or applicable SRO Rules (e.g., FINRA Rule 4320(c)), the correspondent broker-dealer must report the buy-in as a proprietary order with the FDID of the correspondent firm's proprietary account in which the buy-in occurred. The new order should be reported with the 'BIN' *handlingInstructions* to indicate the order represents a buy-in.

B38. Does the requirement that broker-dealers report on actionable indications of interest pursuant to Rule 606, under the Securities Exchange Act of 1934, change what is reportable to CAT? **Updated: *06/18/2019***

No. The changes to Rule 606 do not modify what is reportable to CAT. Under the CAT, broker-dealers must determine whether trading interest falls within the definition of "order" for CAT purposes. As noted in CAT FAQB3, for CAT purposes, an IOI is a non-firm expression of trading interest that contains one or more of the following elements: security name, side, size, capacity and/or price. If trading interest is firm, that trading interest is reportable under CAT (regardless of how it is labeled).

B39. Are transfers of positions between accounts within the same legal entity reportable to CAT? **Updated: *05/05/2020***

No. Journals and other non-trading, internal position transfers between accounts within the same legal entity generally are not reportable, as they do not involve the receipt or origination of an order or a bid or offer under Rule 613(j)(8), or other Reportable Event. However, position transfers are subject to applicable SRO rules, and if an exchange rule requires a position transfer to be transacted on an exchange, orders originated to effect a transfer and related Reportable Events would be reportable to CAT. In addition, while position transfers within the same entity generally are not reportable to CAT, the origination and internal routing of an order by one part of an Industry Member to a different desk or department for subsequent handling and any related Reportable Events are reportable to CAT.

B40. CAT FAQs B3 and B38 state that IOIs, RFQs and other forms of non-firm expressions of trading interest are not reportable to CAT. What factors should a firm consider when determining whether trading interest, regardless of the label attached to it, is reportable to CAT? **Added: *07/31/2019***

Under CAT, Industry Members must determine whether trading interest falls within the definition of an "order" for CAT purposes. Specifically, CAT Reporters must consider the definition of an order under Exchange Act Rule 613(j), and any related SEC guidance. As stated in FAQs B3 and B38, non-firm expressions of trading interest that contain one or more of the following elements: security name, side, size, capacity and/or price, are not reportable to CAT. Thus, a key consideration in determining whether trading interest is reportable to CAT is whether it is firm. For example, certain trading interest, sometimes referred to as "conditional orders," available on some alternative trading systems (ATSs) must have their terms and conditions "firmed up" or otherwise confirmed by the sender before they can be executed against a potential contra-side. Such trading interest would not be reportable to CAT by either the sender or the receiving ATS until it was firmed up/confirmed by the sender. The conditional order becomes reportable once it is firmed up/confirmed and the time of receipt/origination for the sender would be the time the order was firmed up/confirmed by the sender and the time of receipt for the ATS would be the time the ATS receives the firmed up/confirmed order from the sender.

B41. How should an Industry Member report to the CAT orders filled by the Industry Member from its inventory, rather than through the generation of a proprietary order to execute against the order? **Added: *07/31/2019***

If an Industry Member receives an order and executes the order from the Industry Member's inventory in one of its proprietary accounts, in whole or in part, rather than through the generation of a proprietary order, the Industry Member will not be required to record and electronically report to the Central Repository the origination of a proprietary order pursuant to Section 6.3(d)(i) as applied to Industry Members by Section 6.4 (d)(i). Instead, when the Industry Member reports the execution of the order pursuant to Section 6.3(d)(i)(v) as applied to Industry Members by Section 6.4(d)(i), the Industry Member will record and electronically report to the Central Repository: (1) the Firm Designated ID of the proprietary account; and (2) the account type of the proprietary account. If, however, the Industry Member generates a proprietary order to execute against the order, then the Industry Member would be required to report to the CAT a new order report for the proprietary order.

B42. Are Industry Members required to report the receipt of a cancellation or modification instruction to the CAT if the order is terminal (i.e., it has already been fully executed or cancelled)? **Updated: *09/16/2020***

No. Industry Members are not required to report an Order Modification Request or Order Cancel Request event to CAT to the extent the order is terminal at the time of the request (i.e., the order has already been fully executed or cancelled) in Phase 2d. However, this activity may be required in future phases of CAT.

B43. Are verbal and manual quotes subject to the reporting requirements of Phases 2a, 2b, 2c or 2d? **Updated: *01/14/2021***

No. In accordance with the SEC's November 12, 2020 order granting a temporary conditional exemption relating to the reporting of certain on and off (including in the over-the-counter market) floor activities, Industry Member CAT Reporters are not required to report the following during Phases 2a, 2b, 2c or 2d: (1) floor broker verbal announcements of firm orders on an exchange that are otherwise reported as systematized orders; (2) market maker verbal announcements of firm quotes on an exchange trading floor; (3) telephone discussions between an Industry Member and a client that may involve firm bid and offer communications; and (4) unstructured electronic and verbal communications that are not currently captured by Industry Member order management or execution systems.

However, this verbal and manual activity will be required to be reported in future phases of CAT, as the SEC's order expires on July 31, 2023. See CAT FAQ C-7 for additional information on orders considered "manual" or "electronic" for purposes of reporting to the CAT.

B44. In what phase are bids or offers in CAT reportable securities that are provided by an Industry Member or received from another Industry Member off a national securities exchange reportable to CAT? **Updated: *01/14/2021***

The answer is divided into two sections: one section for verbal or manual bids or offers and one section for electronic bids or offers.

- 1. **Verbal and Manual Bids and Offers**: As stated in FAQ B43, pursuant to the SEC's November 12, 2020 order granting a temporary conditional exemption, verbal or manual quotes on an exchange floor or in the over-the-counter market are not reportable during Phases 2a, 2b, 2c or 2d. However, this activity will be required to be reported in future phases of CAT, as this temporary exemptive relief expires on July 31, 2023. See CAT FAQ C-7 for additional information on orders considered "manual" or "electronic" for purposes of reporting to the CAT. The CAT reporting requirements for verbal and manual quotes for later phases remains under discussion by the SROs.

- 2. **Electronic Bids and Offers**: Electronic quotes which are provided by or received in a CAT Reporter's order/quote handling or execution systems in CAT reportable securities and are provided by an Industry Member to other market participants off a national securities exchange are reportable in Phase 2d for both equities and options under these three conditions:
  - a) An equity bid or offer is displayed publicly or has been communicated (1) for listed securities to the Alternative Display Facility (ADF) operated by FINRA; or (2) for unlisted equity securities to an "inter-dealer quotation system" as defined in FINRA Rule 6420(c);

    There are a few important notes about quotes in OTC Equity Securities:
    - i. OTC Equity Securities quotes which are received by an Industry Member CAT Reporter operating an inter-dealer quotation system are reportable in Phase 2a by the operator of the inter-dealer quotation system.
    - ii. OTC Equity Securities quotes sent by an Industry Member to an inter-dealer quotation system operated by an Industry Member CAT Reporter are reportable by the Industry Member sending them in Phase 2d.
    - iii. OTC Equity Securities quotes sent by an Industry Member to a quotation venue not operated by an Industry Member CAT Reporter or SRO are reportable in Phase 2a by the Industry Member. Note that as of this writing, the Participants are not aware of the operation of any such quotation venue.

  - b) Or, an equity bid or offer which is accessible electronically by customers or other market participants and is immediately actionable for execution or routing; i.e., no further action is required by the market participant providing the quote before a trade or route can occur.
  - c) Or, a listed option bid or offer which is accessible electronically by customers or other market participants and is immediately actionable for routing to another broker-dealer or to an exchange or exchange floor for execution/representation; i.e., no further action is required by the market participant providing the quote before routing to another broker-dealer or an exchange or exchange floor can occur.

Note that as stated in FAQ B6, CAT Reporters are not required to report to the CAT quotes received via subscriptions to receive market data from market data vendors.

B45. Are electronic responses to a Request for Quote (RFQ) or other forms of solicitation responses reportable to CAT in Phase 2c (equities) and Phase 2d (options)? **Updated:** ***08/14/2020***

As stated in FAQ B44, any equity bid or offer that is accessible electronically by customers or other market participants and is immediately actionable (i.e., no further manual or electronic action is required by the responder providing the quote in order to execute or cause a trade to be executed) is reportable in Phase 2c; and any listed option bid or offer which is accessible electronically by customers or other market participants and is immediately actionable (i.e., no further action is required by the responder providing the quote in order to execute or cause a trade to be executed) is reportable in Phase 2d. Accordingly, any response to an RFQ or other form of solicitation response provided in a standard electronic format (i.e. FIX) that meets this definition would be reportable in Phase 2c for equities and Phase 2d for options.

Responses communicated in standard electronic format are reportable by both the CAT Reporter issuing the RFQ or solicitation (solicitor) and the CAT Reporter responding to the RFQ or solicitation (responder). Specifically, the solicitor must report the receipt of all responses, even those that were not ultimately selected.

It is important to note that regardless of the form (electronic or manual) of any RFQ or solicitation response, all orders received or originated as the result of such RFQ or solicitation process must be reported and must be identified as being part of an RFQ or solicitation process subject to the phasing requirements as set forth in the CAT Reporting Technical Specifications for Industry Members. For equities, both manual and electronic orders must be reported in Phase 2a. For options, simple, electronic orders must be reported in Phase 2b and all other orders, including manual, complex and paired orders, are reportable in Phase 2d.

Example 1:

A CAT Reporter issues an RFQ through a 3rd party vendor RFQ platform not operated by a broker-dealer. In response to the RFQ, multiple CAT Reporters respond by sending FIX messages directly to the requesting CAT Reporter. Upon selection of a response (either by the trader or automatically by the firm's trading system), the

FIX order from the winning bidder is executed (manually or electronically) OR is routed (manually or electronically) to another broker-dealer or exchange for execution without any further action required by the winning bidder.

The electronically provided responses are reportable by all bidders, even those that were not selected, in Phase 2c for equities and Phase 2d for options. Further, the CAT Reporter that issued the RFQ would report the receipt of all responses and a new order from the winning bidder, as well as any subsequent actions taken to process the order in Phase 2a for equities, Phase 2b for simple, electronic orders and Phase 2d for all other options orders.

Example 2:

A CAT Reporter issues an RFQ and receives several quotes in response through a 3rd party vendor RFQ platform not operated by a broker-dealer. Upon selection of a response, the CAT Reporter either:

- initiates and routes an order electronically to the winning bidder,
- the RFQ platform automatically sends a routed order to the winning bidder, or
- the winning bidder has standing instructions to create a new order acceptance once it receives a message from the RFQ platform that it has won.

Because the RFQ responses were sent through an RFQ platform and not via standard electronic format directly to the solicitor/CAT Reporter, none of the responses are reportable in 2c.

However, the origination of the new order by the solicitor/CAT Reporter, the route of that new order to the winning bidder, and the acceptance of that order by the winning bidder are all reportable events in the phase that order would otherwise become reportable. The solicitor/CAT Reporter would report the new order and route events; the winning bidder would report the order acceptance, as well as any subsequent actions taken to process the order.

Example 3

A CAT Reporter issues an RFQ through a 3rd party vendor RFQ platform not operated by a broker-dealer. In response to the RFQ, multiple CAT Reporters respond by sending FIX messages directly to the requesting CAT Reporter's OMS. Upon selection of a response, the solicitor CAT Reporter either:

- initiates and routes an order electronically to the winning bidder,
- the RFQ platform automatically sends a routed order to the winning bidder, or
- the winning bidder has standing instructions to create a new order acceptance once it receives a message from the RFQ platform that it has won.

Although the RFQ responses were sent via standard electronic format directly to the solicitor/CAT Reporter's OMS/EMS, the responses are not reportable in Phase 2c because the CAT Reporters sending the responses would be required to take additional action by accepting a separate order from the requestor before any execution can occur, and would therefore not be considered immediately actionable.

However, the origination of the new order by the solicitor/CAT Reporter, the route of that new order to the winning bidder, and the acceptance of that order by the winning bidder are all reportable events in the phase that order would otherwise become reportable. The solicitor/CAT Reporter would report the new order and route events; the winning bidder would report the order acceptance, as well as any subsequent actions taken to process the order.

Example 4

An Asset Manager (non-CAT Reporter) issues and receives several quotes in response through a 3rd party vendor RFQ platform that is not part of any CAT Reporter's OMS/EMS. Upon selection of a response, the Asset Manager either:

- sends a new order request electronically to the winning bidder,
- the RFQ platform automatically sends the new order request to the winning bidder, or
- the winning bidder has standing instructions to create a new order for this Asset Manager once it receives a message from the RFQ platform that it has won.

Because the RFQ responses were sent through an RFQ platform and not via standard electronic format directly to or from a CAT Reporter's OMS/EMS, none of the responses are reportable in Phase 2c.

However, the receipt of the order from the Asset Manager, as well as any subsequent actions taken by the winning bidder to process the order are reportable events in the phase that order would otherwise become reportable.

B46. This FAQ has been retired. Please refer to FAQ U1. **Updated: *07/17/2020***

This FAQ has been retired. Please refer to FAQ U1.

B47. Order Internal Route Modified events are not required to be reported to CAT until Phase 2c. In Phase 2a, what orderID should be populated on events subsequent to the internal route modification (e.g., MEOR, MEOT)? **Added: *03/12/2020***

In Phases 2a or 2b, events subsequent to an internal route modification may be populated with any orderID that allows the event to be linked to the order lifecycle. For example, an order that was internally routed from a sales desk to a trading desk is subsequently modified at both the sales and trading desks, and ultimately executed at the trading desk. The sales desk and trading desk maintain different orderIDs. In this example, in Phase 2a the orderID on the related Trade event may link to either the MEIR reported by the trading desk or the MEOM reported by the sales desk. In Phase 2c, the Trade event must link to the MEIM reported by the trading desk.

B48. If an Industry Member manually initiates a proprietary equities order and simultaneously enters the order into an OMS/EMS, is this considered a manual event or an electronic event? **Added: *04/08/2020***

Proprietary equities orders that are simultaneously entered into an OMS/EMS upon origination are always considered electronic.

B49. Are Industry Members that are a clearing firm required to report the booking of shares into a customer account that result from an options exercise or assignment to CAT? **Updated: *10/07/2020***

No. As noted in FAQ K4, options assignments and exercises are not orders, as defined by SEC Rule 613, and are therefore are not required to be reported to CAT. Therefore, Industry Members are also not required to report the resulting booking of shares into a customer account resulting from an options assignment or exercise. Similarly, Industry Members are not required to report the booking of shares or contracts into a customer account resulting from other non-CAT Reportable events (e.g., conversions of a convertible bond into an equity). As noted in the Industry Member Technical Reporting Specifications, Industry Members may voluntarily report clearing events to CAT that are not required as long as they are properly identified as set forth in the Industry Member Technical Reporting Specifications.

B50. Is the conversion of a convertible bond to an equity required to be reported to CAT? **Added: *05/05/2020***

A. No. Conversion of convertible bonds into the underlying equity are not orders, as defined by SEC Rule 613. Therefore, such conversions are not required to be reported to CAT.

B51. Are ETF creations and redemptions required to be reported to CAT? **Added: *05/05/2020***

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No. ETF creations and redemptions are not orders, as defined by SEC Rule 613. Therefore, ETF creations and redemptions are not required to be reported to CAT.

B52. Are American Depository Receipt (ADR) creations and cancellations required to be reported to CAT? **Added: *05/05/2020***

No. ADR creations and cancellations are not orders, as defined by SEC Rule 613. Therefore, ADR creations and cancellations are not required to be reported to CAT.

B53. Are account transfers between broker-dealers (e.g., ACATS transfers) required to be reported to CAT? **Added: *05/05/2020***

No. Transfers of securities during an account transfer between broker-dealers are not orders, as defined by SEC Rule 613. Therefore, such account transfers are not required to be reported to CAT.

B54. Do the timestamps captured in CAT have to equal the timestamps captured in OATS? For example, if a firm's system captures nanoseconds, but timestamps are reported to OATS in milliseconds, should the timestamp reported to CAT be captured in nanoseconds? **Added: *05/19/2020***

OATS reporting obligations are separate and distinct from CAT reporting obligations, and a firm's CAT reporting obligation may be different from its OATS reporting obligation. If a firm's system captures timestamps in nanoseconds, then its CAT events must be reported to nanosecond granularity, even though its OATS submission will only reflect millisecond granularity since OATS does not accept nanoseconds.

B55. A registered investment advisor (RIA) operates within a US registered broker-dealer BD1 (i.e., BD1 and RIA are part of the same legal entity). The RIA has customers/clients with accounts that are custodied at BD2 and the RIA is an authorized trader on these accounts. When the RIA originates orders in the customer/client accounts at BD2, what are the CAT reporting obligations for BD1 and BD2? **Added: *06/02/2020***

Since the RIA is placing the order directly in the customer account at BD2, BD2 is required to report a New Order event ("MENO") with a Firm Designated ID ("FDID") that represents the customer/client account number. BD2 is also required to report any subsequent actions taken on the order (e.g., executing, routing, canceling, etc.). BD1 does not have an order in this scenario and therefore does not have a CAT reporting obligation.

B56. What steps should Industry Members take in the event of an organizational change such as a merger, acquisition, or succession? **Added: *06/02/2020***

Industry Members undergoing an organizational change should contact FINRA CAT, LLC to ensure that proper registrations, entitlements and reporting relationships are established in CAT, so that there are no interruptions in the Industry Member's ability to report to CAT upon the completion of the transaction. Industry Members undergoing organizational changes should also pay particular attention to open limit orders established prior to the completion of any transaction. If the predecessor firm has open limit orders on its books that will be executed or otherwise resolved under the successor firm, the successor firm must populate the originatingIMID field on any events related to a New Order or Order Accept Event originated by the

predecessor with the CATReporterIMID of the predecessor firm to support linkage. Industry Members undergoing an organizational change as described above may notify the FINRA CAT Helpdesk at 888-696-3348 or help@finracat.com prior to the completion of the transaction.

B57. How should the orderType and handlingInstructions fields be populated on the receipt/origination or route of Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders?

Updated: *11/17/2020*

The *orderType* field for orders received/originated or routed as Stop orders must be populated as 'MKT', and the *orderType* field for orders received/originated or routed as Stop Limit orders must be populated as 'LMT'. The following chart contains a description and usage examples for the *handlingInstructions* required for Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders. If the stop price is known (the stop price in these examples is $1.00), then the handling instruction of STOP denotes the stop price and requires a numeric value representing the stop price (e.g., STOP=1.00). In instances where there is a Stop order, but the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue, then the Industry Members may populate a *handlingInstructions* value of 'STOPF' (See FAQ B67).

Type of Stop Order	Description	*orderType*	*handlingInstructions** (2a and 2c)
Stop	An order that is triggered by the last sale price at which point the stopped order becomes a market order.	MKT	STOP=1.00
Stop Limit	An order that is triggered by the last sale price at which point the stopped order becomes a limit order.	LMT	STOP=1.00
Stop on Quote	An order that is triggered by a quotation at which point the stopped order becomes a market order.	MKT	STOP=1.00 and SOQ
Stop Limit on Quote	An order that is triggered by a quotation at which point the stopped order becomes a limit order.	LMT	STOP=1.00 and SLQ
Trailing Stop	An order that allows the stop price to increase (or decrease) by a predetermined amount or formula (e.g., a specified dollar amount, a percentage of the market price, or some other predetermined criteria) as the market price of the security advances (or declines). Once triggered, stopped order becomes a market order.	MKT	TS
Trailing Stop Limit	An order that allows the stop price to increase (or decrease) by a predetermined amount or formula (e.g., a specified dollar amount, a percentage of the market price, or some other predetermined criteria) as the market price of the security advances (or declines). Once triggered, stopped order becomes a limit order.	LMT	TS

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* If the stop price is not known at the time of order receipt or origination or receipt, Industry Members must populate a *handlingInstructions* value of STOPF instead of STOP. All additional required *handlingInstructions* values outlined above (i.e., SLQ, SOQ) would also be required to be reported in conjunction with STOPF. See FAQ B67 for additional information.

See also:

- See FAQ B66 regarding when the Order Effective event/Option Order Effective event (MEOE/MOOE) is required to be reported to CAT.
- See FAQ B59 for information related to the reporting requirements when a Stop, Stop Limit, Stop on Quote, or Stop Limit on Quote order is triggered.
- See FAQ B60 regarding which party has the obligation to report the Order Effective event/Option Order Effective event (MEOE/MOOE) to CAT.
- See FAQ B61 for information on reporting requirements for Stop Stock orders.
- See FAQ B62 for information related to the reporting requirements for Trailing Stop and Trailing Stop Limit orders.
- See FAQ B67 for information related to Stop orders when the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue.

B58. How should the orderType field be populated for orders that are not market orders, but are not received/originated or routed with a specific limit price? **Added: *07/01/2020***

If an order is received/originated or routed without a specific limit price but includes *handlingInstructions* that may include certain pricing criteria, such as a 'PEG' or options related order, the *orderType* field may be populated as either 'MKT', or 'LMT' with a price of '0'. The 'PEG' or other instruction must be included in the *handlingInstructions* field on the event. If an order is not a market order but is received or originated without a specific limit price and does not have *handlingInstructions* that include pricing criteria, such as an order that is originated to represent multiple customer orders but does not have a set limit price, the orderType field must be populated as 'LMT' and the price must be '0'.

This guidance does not apply to Stop or Stop Limit orders - refer to FAQ B57 for additional information on the *orderType* field for Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders.

B59. What are the reporting requirements when a Stop, Stop Limit, Stop on Quote, or Stop Limit on Quote order is triggered? **Updated: *11/17/2020***

In Phase 2a (equities) and Phase 2b (options), Industry Members are required to report a New Order event or New Option Order event (MENO or MONO) representing receipt or origination of the order with applicable *handlingInstructions*, as well as any subsequent actions taken on the order (i.e., executing, routing away or canceling).

Beginning in Phase 2c (equities) and Phase 2d (options), in addition to reporting the receipt or origination of the order with applicable *handlingInstructions*, Industry Members will be required to report an Order Effective event or Option Order Effective event (MEOE or MOOE) when all underlying conditions of an order (i.e., the Stop) are met such that the order becomes and remains effective until it is fully executed or cancelled. Refer to the Industry Member Reporting Scenarios document for additional information.

See also:

- See FAQ B57 regarding how the *orderType* and *handlingInstructions* fields must be populated for Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders.
- See FAQ B60 regarding which party has the obligation to report the Order Effective event/Option Order Effective event (MEOE/MOOE) to CAT.
- See FAQ B61 for information on reporting requirements for Stop Stock orders.
- See FAQ B62 for information related to the reporting requirements for Trailing Stop and Trailing Stop Limit orders.
- See FAQ B67 for information related to Stop orders when the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue.

B60. What party has the obligation to report the Order Effective event/Option Order Effective event (MEOE/MOOE) to CAT when all underlying conditions are met such that the order become and remain effective?

Updated: *11/17/2020*

Beginning in Phase 2c (equities) and Phase 2d (options), the party that is holding the order at the time the order or all underlying conditions are met such that the order becomes and remains effective until it is fully executed or cancelled has the obligation to report to CAT the Order Effective event or Option Order Effective event (MEOE or MOOE). Refer to the Industry Member Reporting Scenarios document for additional information.

See also:

- See FAQ B57 regarding how the *orderType* and *handlingInstructions* fields must be populated for Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders.
- See FAQ B59 for information related to the reporting requirements when a Stop, Stop Limit, Stop on Quote, or Stop Limit on Quote order is triggered.
- See FAQ B62 for information related to the reporting requirements for Trailing Stop and Trailing Stop Limit orders.
- See FAQ B67 for information related to Stop orders when the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue.

B61. What are the CAT reporting requirements for Stop Stock orders?

Added: *07/01/2020*

In Phase 2a, Industry Members are required to report a New Order event (MENO) with a *handlingInstructions* value of 'SW' (Stop Stock Transaction) indicating that the transaction resulted from an order for which a member and another party agreed that the order will be executed at stop stock price or better. The 'SW' *handlingInstructions* must be paired with a numeric value representing the agreed upon stop stock price (e.g., SW=35.00). The Industry Member would also be required to report any subsequent actions taken on the order (e.g., executing, routing away or canceling).

Starting in Phase 2c, Industry Members will still be required to report the 'SW' *handlingInstructions* paired with the stop stock price (e.g., $35.00); however, for Stop Stock orders where the entire shares quantity of the order is not being stopped, then the *handlingInstructions* field must also be populated with a value of 'SWQ' paired with the quantity of shares being stopped (e.g., SWQ=100). When a *handlingInstructions* value of 'SWQ' is populated, the value of 'SW' paired with the stop stock price must also be populated, otherwise the record will reject for invalid *handlingInstructions*.

Refer to the Industry Member Reporting Scenarios document for additional information.

B62. What are the CAT reporting requirements for Trailing Stop orders?

Updated: *11/17/2020*

For CAT reporting purposes, a Trailing Stop order allows the stop price to increase (or decrease) by a predetermined amount or formula (e.g., a specified dollar amount, a percentage of the market price, or some other predetermined criteria) as the market price of the security advances (or declines). Once the Trailing Stop price is triggered, the sell (or buy) order becomes either an executable market order or a limit order (e.g., a Trailing Stop Limit order).

In Phase 2a/2b, Industry Members are required to report a New Order event or New Option Order event (MENO or MONO) with a *handlingInstructions* value of 'TS' (Trailing Stop) representing receipt or origination of the Trailing Stop order. When the market price hits or goes through the highest (or lowest) calculated Trailing Stop Price, Industry Members are also required to report an Order Modified event or Option Order Modified event (MEOM or MOOM) with applicable updates to the *price* field. The MEOM/MOOM must not have a *handlingInstructions* value of 'TS' since the underlying condition of the order was triggered and the order is no

longer a Trailing Stop order. Industry Members are not required to report additional MEOM/MOOM events each time the predetermined amount or formula is recalculated. The Industry Member is also required to report any subsequent actions taken on the order (e.g., executing, routing away or canceling).

In Phase 2c (equities) and Phase 2d (options), Industry Members will still be required to report a New Order event or New Option Order event (MENO or MONO) with a *handlingInstructions* value of 'TS' representing receipt or origination of the Trailing Stop order. Industry Members will also be required to report an Order Effective event or Option Order Effective event (MEOE or MOOE) when all underlying conditions (i.e., the Trailing Stop) are met and the order becomes and remains effective instead of an MEOM/MOOM (as required in Phase 2a/Phase 2b). The triggerPrice field on the MEOE/MOOE event must be populated at the highest (or lowest) calculated trailing stop price. Refer to the Industry Member Reporting Scenarios document for additional information.

See also:

- See FAQ B57 regarding how the *orderType* and *handlingInstructions* fields must be populated for Trailing Stop and Trailing Stop Limit orders.
- See FAQ B60 regarding which party has the obligation to report the Order Effective event/Option Order Effective event (MEOE/MOOE) to CAT.
- See FAQ B63 for information on how the initiator field should be populated if an Industry Member modifies or cancels an order based on implicit customer instructions communicated with the order.

B63. How should the initiator field be populated if an Industry Member modifies or cancels an order based on implicit customer instructions communicated with the order, such as with certain ATS order types, as well as for actions initiated by the Industry Member unilaterally as a direct result of customer modifications or cancellations?

Updated: ***01/12/2021***

In an Order Modified and Cancel/Replace event (MEOM), the *initiator* field indicates who initiated the order modification. In an Order Cancelled event (MEOC), the *initiator* field indicates who initiated the order cancellation. If an implicit, unsolicited modification or cancellation action is taken by an Industry Member based on inferred customer instructions (e.g., Industry Member cancels an order associated with a particular ATS Order Type that articulates an expiry time), then the *initiator* field must be populated with a value of 'F' (Initiated by the firm).

Similarly, for actions initiated by the Industry Member unilaterally as a direct result of customer modifications or cancellations, such the cancellation of a representative order following the customer's cancellation of the associated client order held at the firm, or the modification of an Internal Route following the customer's modification of the associated client order held at the firm, then the *initiator* field must likewise be populated with a value of 'F' (Initiated by the firm).

- For example, a customer requests that Industry Member Broker 1 cancel an order for which Broker 1 had previously generated an associated representative order. While the Order Cancelled event (MEOC) associated with the client order held at Broker 1 would be denoted with 'C' (as the cancellation was initiated by the customer), the cancellation of the corresponding representative order by Broker 1 would be denoted with 'F', as the cancellation was initiated by the Industry Member.

The same guidance applies for Trailing Stop and Trailing Stop Limit orders routed between Industry Members in Phase 2a. For example, Industry Member Broker 1 originates a Trailing Stop order, which is then routed to and accepted by Market Maker 2. Market Maker 2 monitors the market conditions and is holding the order at the time the market price hits or goes through the highest (or lowest) calculated Trailing Stop Price, at which point Market Maker 2 unilaterally routes the order to an exchange for execution based on the implicit instructions communicated with the Trailing Stop order upon receipt. In this example, Market Maker 2 reports the triggering event in Phase 2a via an MEOM event, with the *initiator* flag populated with 'F', and the *receiverIMID*, *senderIMID*, *senderType*, *routedOrderID* left blank, as Broker 1 did not communicate modification instructions to Market Maker 2 at the time of trigger. Note, reporting requirements for Trailing Stop orders change in Phase 2c (see FAQ B62).

Added: ***08/12/2020***

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B64. If executions against an order are tracked throughout the day but a single average price fill is provided to the client after the order is completed or at the end of the day, are fulfillments required throughout the day with a fulfillment amendment requirement with each new execution?

No. A single Order Fulfillment reflecting the final average price fill to the client order is required. A Fulfillment Amendment would only be appropriate if the fill to the client was changed after the final fulfillment had been provided to the client. Some systems may provide intraday transparency to the progress of executing an order as informal information that is not considered by the firm to be 'final' fulfillments, and these should not be reported to CAT as fulfillments and fulfillment amendments.

B65. This FAQ was moved. See FAQ E31. **Updated: *10/13/2020***

This FAQ was moved. See FAQ E31.

B66. When is the Order Effective event/Option Order Effective event (MEOE/MOOE) required to be reported to CAT? **Updated: *11/24/2020***

Beginning Phase 2c (equities) and Phase 2d (options), the Order Effective event/Option Order Effective event (MEOE/MOOE) is required to be reported to CAT when all underlying conditions of an order are met such that the order becomes and remains effective until it is fully executed or cancelled. Examples of orders requiring the MEOE/MOOE event include:

- Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders.
- Conditional Orders wherein an order is contingent on the execution of another order.
- Orders contingent on the occurrence of a market condition (e.g., once symbol ABCD trades X# of shares, the order becomes executable).

In all of the above examples, one and only one MEOE/MOOE would be reported by the Industry Member holding the order at the time all underlying conditions are met (i.e., the stop).

The MEOE/MOOE should ***not*** be used in instances when an order has conditions that can become activated and inactivated multiple times throughout the day. Examples of the types of orders where the MEOE/MOOE should not be used include:

- Orders originated or generated utilizing a specific trading algorithm that may cause it to move in and out of specific conditions or parameters. FINRA Rule 1220(b)(4)(a) defines Trading Algorithmic Strategy as "an automated system that generates or routes orders (or order-related messages) but shall not include an automated system that solely routes orders received in their entirety to a market center."
- In orders with spread conditions. For example, an Industry Member receives or originates Order A to purchase 200,000 shares of XYZ with the instructions that the order only be acted upon when the market price of security XYZ is within a $10.00 spread from the price of security ABC.

In both of the above examples, Industry Members would not report an MEOE/MOOE event.

See also:

- See FAQ B57 regarding how the *orderType* and *handlingInstructions* fields must be populated for Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders.
- See FAQ B59 for information related to the reporting requirements when a Stop, Stop Limit, Stop on Quote, or Stop Limit on Quote order is triggered.
- See FAQ B60 regarding which party has the obligation to report the Order Effective event/Option Order Effective event (MEOE/MOOE) to CAT.
- See FAQ B62 for information related to the reporting requirements for Trailing Stop and Trailing Stop Limit orders.
- See FAQ B67 for information related to Stop orders when the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue.

- See FAQ D26 regarding 'CND' and 'CMC' *handlingInstructions*.

B67. FAQ B57 provides guidance on how the handlingInstructions field should be populated on the receipt/origination or route of Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders. In instances where it is known that the order is a Stop order, but the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue, then how should the Stop be reported in the handlingInstructions?

Added: ***11/17/2020***

B57 and the Stop Orders section of Industry Member Technical Specifications note that the handling instruction of 'STOP' denotes the stop price and requires a numeric value representing the stop price (e.g., STOP=1.00). In instances where it is known that the order is a stop order, but the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue, Industry Members may populate a *handlingInstructions* value of 'STOPF'.

Starting in Phase 2c (equities) and 2d (options), in scenarios where the trigger price was not explicitly captured in the *handlingInstructions* field on the related new order or in order accepted events (e.g. Stop Formula, Trailing Stop), then the triggerPrice field must be populated on the Order Effective event/Option Order Effective event (MEOE or MOOE) to reflect the stop price.

Example 1:
Conditional Order A is originated by Industry Member Broker 1 specifying that a stop price be calculated only after Order B is executed. In this example, Broker 1 reports a New Order event (MENO) event with the 'STOPF' and 'CND' *handlingInstructions* values. Broker 2 is holding the order at the time all underlying conditions of the order (Order B being executed and then the triggering of the Stop) are met, at which point Broker 1 would report an MEOE event with the stop price in the *triggerPrice* field.

Example 2:
A stop order is originated by Industry Member Broker 1 and routed to Industry Member Broker 2 with instructions communicated that the stop price be set at Ask-5 (Ask minus $5.00). Broker 1 relies on Broker 2 to calculate the stop price. Upon order acceptance, Broker 2 uses its market data feeds to determine that $5.00 from the current market price of the security is $10.00. In this example, Broker 1 reports a New Order event (MENO) event with the 'STOPF' *handlingInstructions* value, and Broker 2 would report an Order Accepted event (MEOA) with the stop price determined by Broker 2 upon acceptance of the order (e.g., STOP=10.00). Broker 2 is holding the order at the time the stop was triggered and (starting in Phase 2c) reports the MEOE event. Since the stop price was captured on the MEOA event, the MEOE event does not require a *triggerPrice*.

See also:

- See FAQ B57 regarding how the *orderType* and *handlingInstructions* fields must be populated for Stop, Stop Limit, Stop on Quote, Stop Limit on Quote, Trailing Stop, and Trailing Stop Limit orders.
- See FAQ B59 for information related to the reporting requirements when a Stop, Stop Limit, Stop on Quote, or Stop Limit on Quote order is triggered.
- See FAQ B60 regarding which party has the obligation to report the Order Effective event/Option Order Effective event (MEOE/MOOE) to CAT.
- See FAQ B62 for information related to the reporting requirements for Trailing Stop and Trailing Stop Limit orders.
- See FAQ B66 regarding when the Order Effective event/Option Order Effective event (MEOE/MOOE) is required to be reported to CAT.
- See FAQ B67 for information related to Stop orders when the exact stop price is unknown because it is either based on an underlying condition or will be determined by the destination venue.
- See FAQ D26 regarding 'CND' and 'CMC' *handlingInstructions*.

Added: ***12/01/2020***

B68. If an Industry Member uses the same account for both market making and non-market making proprietary activity, what accountHolderType should be used when reporting to CAT?

If an Industry Member uses the same account for both market making and non-market making proprietary activity, the *accountHolderType* must be populated on an order-by-order basis. Orders meeting the definition of market making activity pursuant to FAQ C5 should be reported with the *accountHolderType* of 'O'. All other orders must be reported with the *accountHolderType* of 'P'.

B69. How should the price and eventTimestamp fields be populated on a New Order event (MENO)/ Order Accepted event (MEOA) for a trade priced at the Net Asset Value (NAV) if the price is not known until after 4:15:00 pm ET on the date of origination/receipt? **Updated: *01/26/2021***

For NAVs with no offset, if the calculated NAV price is not known until after 4:15:00 pm ET on the date of origination/receipt, the MENO/MEOA should be marked as a market order or limit order with a price of '0' and *handlingInstructions* of 'NAV.' For NAVs with an offset, the MENO/MEOA should also be marked with the *handlingInstructions* of 'OFF'. The *eventTimestamp* on the MENO/MEOA should reflect the date and time that the terms and conditions of the order (with the exception of the calculated NAV) were recorded in the firm's books and records.

The MENO/MEOA must be reported to CAT by 8 am ET on T+1, where T represents the CAT Trading Day that the order was originated/received.

For guidance on reporting price on order events in ETMFs or "NextShares," see FAQ B23.

B70. How should the price and eventTimestamp fields be populated on a Trade Event (MEOT) for a trade priced at the Net Asset Value (NAV)? **Updated: *01/26/2021***

For NAVs, the *eventTimestamp* on the MEOT should reflect the date and time of execution of the trade at the calculated NAV and should match the date and time of execution reported in the trade report submitted to the FINRA trade reporting facility. The price should be the calculated NAV.

The MEOT must be reported to CAT by 8 am ET on T+1, where T represents the CAT Trading Day that the order was executed. For example, if the NAV is determined after 4:15:00 pm ET on Monday and the order is executed at that time, the MEOT must be reported to CAT by 8 am ET on Wednesday.

C. Definitions

C1. How has the Operating Committee defined "Trading Day"? **Added: *10/30/2018***

The Operating Committee has determined that "Trading Day" shall have the following meaning for all Eligible Securities. For Participant CAT Reporters the Trading Day is defined as beginning after midnight on one trade date and ending at midnight the next trade date. For Industry Member CAT Reporters, Trading Day is defined as beginning immediately after 4:15:00 p.m. and no fractions of a second Eastern Time on one trade date and ending at exactly 4:15:00 p.m. and no fractions of a second Eastern Time on the next trade date.

C2. What is the definition of "foreign broker-dealer" for purposes of populating the destination type field for Industry Member reporting? **Updated: *09/11/2019***

For purposes of reporting to the CAT, the Participants have adopted the definition of "foreign broker-dealer" as set forth in SEC Rule 15a-6(b)(3). In particular, SEC Rule 15a-6(b)(3) states: "The term foreign broker or dealer shall mean any non-U.S. resident person (including any U.S. person engaged in business as a broker or dealer entirely outside the United States, except as otherwise permitted by this rule) that is not an office or branch of, or a natural person associated with, a registered broker or dealer, whose securities activities, if conducted in the United States, would be described by the definition of 'broker' or 'dealer' in sections 3(a)(4) or 3(a)(5) of the [Securities Exchange Act of 1934]."

C3. What is the definition of institution for purposes of the Account Type Code value of "A" Institution? **Added: *11/15/2018***

For purposes of CAT Account Type Code, "institution" has the same meaning as the term "institutional account," as defined in FINRA Rule 4512(c).

C4. The affiliateFlag requires the designation of an affiliate. How should CAT Reporters determine who is an "affiliate" for these purposes **Updated: *06/18/2019***

For purposes of the affiliateFlag, an "affiliate" of the firm would include a person or entity that (i) directly or indirectly controls the firm, (ii) is controlled by the firm, or (iii) is under common control with the firm. Employees of the firm would not be considered "affiliates" for purposes of CAT.

C5. When should the value "O" (Market Making) be used for accountHolder Type? **Updated: *06/18/2019***

For CAT reporting purposes, the accountHolderType value of market maker (value "O") is used to identify orders originated by registered market makers or firms displaying quotes in an IDQS in their market making account. The value of "O" is not limited to activity only on the exchange where a market maker is registered. It should be used for any order originated by a market maker in its market making account for a security in which it is registered, regardless of where the order is ultimately routed or executed.

It is not intended to identify all forms of market making under various rules, such as short sales rules, Volker, etc. Further, it is not intended to identify all trading in any proprietary account that may be used for market making activity, including hedging activity in securities for which a firm is not a registered market maker or block positioning in securities for which the firm is not a registered market maker.

Because options market making is currently defined and identified through use of the OCC clearing range, a separate CAT reporting guideline for the use of the accountHolderType of "O" for options orders has been mandated.

Specifically:

For CAT reporting purposes only, the accountHolderType value "O" (Market Making) should be used as follows:

Equities: The value "O" should be used for any order originated in an Industry Member's market making account in a security for which the Industry Member is registered as a market maker, designated market maker, lead market maker or similar capacity on a national securities exchange or in which the Industry Member displays quotations on an IDQS in an unlisted stock.

Options: The value "O" should be used for any order originated in an account of the Industry Member that clears in the OCC clearing range of "M".

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C6. What is the definition of a "cabinet" order for purposes of the "orderType" field for Exchange-listed options in the CAT Reporting Technical Specifications for Industry Members? **Updated:** ***10/14/2019***

The "orderType" field when used in reference to Exchange-listed options in the CAT Reporting Technical Specifications for Industry Members provides that the type of order being submitted may be, for example, a market, limit or cabinet order. For purposes of the "orderType" field, a "cabinet" order designation would be applicable for an order that is represented on/routed to a given Options Exchange as a cabinet order under the rules of that Options Exchange. See, for example, Cboe Options Rule 5.85(h) for cabinet orders represented on/routed to the Cboe Options Exchange.

C7. Are orders received or routed via instant message (IM) or email considered "manual" or "electronic" for purposes of reporting to the CAT? **Added:** ***07/17/2019***

Orders received or routed outside of an electronic order handling or execution system, such as via telephone, IM or email, are considered to be manual for purposes of reporting to the CAT. For purposes of reporting to CAT, electronic receipt of an order refers to the initial receipt of an order by an Industry Member directly into an electronic system for further routing and execution. Electronic routing of an order refers to the routing of an order directly from a firm's electronic system to the routing destination.

Please note that the above general definition of electronic order is broader than the Phase 2b options electronic order definition that states that an order must be received in a standard format (e.g., FIX) directly into an order handling or execution system. The general definition includes all electronically received orders, such as an order entered online by a customer that is captured directly into an electronic order handling and execution system, and not just those received in a standard format. See also CAT FAQs G1 to G4 regarding manual orders.

D. Order Receipt

D1. This FAQ has been moved to section I. Foreign Securities, as FAQ I8. **Updated:** ***01/07/2020***

D2. Are Industry Members required to report the receipt of an order to the CAT if the Industry Member rejects the order? **Added:** ***04/18/2018***

If the Industry Member receives an order, the Industry Member must report the receipt of the order to the CAT. The details that must be reported for the receipt of an order are set forth in Sections 6.3(d)(i) (for the original receipt of an order) and 6.3(d)(iii) (for the receipt of an order that has been routed) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan.

D3. How would an Industry Member determine the time of order receipt? **Added:** ***04/18/2018***

If an Industry Member receives an order, the Industry Member must report the time of order receipt pursuant to Sections 6.3(d)(i) (for the original receipt of an order) and 6.3(d)(iii) (for the receipt of an order that has been routed) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan. The time of order receipt for Sections 6.3(d)(i)(E) and 6.3(d)(iii)(C) is the time that the Industry Member receives the order.

D4. A registered representative of BD A, an Industry Member CAT Reporter, creates an order for 10,000 shares that he later plans to allocate to 10 customer accounts for which he has trading discretion. What are the CAT reporting obligations for BD A for the 10,000 share order created by the registered representative?

Updated: ***04/07/2020***

In Phase 2a, BD A will be required to report a single 10,000 share order with the time of receipt being the time the registered representative creates the order and that includes the Firm Designated ID (FDID) of the account that the shares will be held in until the registered representative determines the allocations to the 10 individual customer accounts. In Phase 2c, the firm performing the allocation will be required to report Post-Trade Allocation events for each allocation to the individual customer accounts that includes the FDID for each individual customer account.

D5. BD A, an Industry Member CAT Reporter receives 10 separate and distinct customer orders that together total 10,000 shares. A registered representative of BD A sends a single 10,000 share order to the trading desk. What are the CAT reporting obligations for BD A?

Updated: ***06/18/2019***

BDA would be required to report each of the individual customer orders.Since the registered representative did not have discretion in the accounts, but instead received orders for these accounts, each order must be reported separately; therefore, you would be required to send 10 New Order Events to CAT. Additionally, BD A must report a separate New Order Event for the aggregated 10,000 share order created to represent the 10 customer orders.

D6. Should accounts belonging to family members of an employee of an Industry Member CAT Reporter be reported with the accountHolderType Code "E"?

Updated: ***06/18/2019***

No. accountHolderType "E" should only be used for orders received for employee accounts, not for accounts of employees' family members.

D7. Should accountHolderType Code "E" be used for orders received from former or retired employees or employees of other broker-dealers?

Updated: ***06/18/2019***

No. accountHolderType "E" should only be used for orders received for accounts of a broker-dealer's current employees, not for orders received for the accounts of former or retired employees or employees of any other broker-dealer.

D8. Should accountHolderType "E" be used if a registered representative has discretion over a customer account?

Updated: ***06/18/2019***

No. The accountHolderType represents the type of beneficial owner of the account and, since the employee is not a beneficial owner, the accountHolderType "E" would not be appropriate. If the beneficial owner of the account was an institution, for example, an accountHolderType "A" (Institutional Customer) should be used even if an employee of the firm has discretion over the account.

Added: ***11/15/2018***

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D9. For orders received electronically from another CAT Reporter, must the the Routed Order ID reported to CAT by the receiving CAT Reporter be in the exact format as which it was received from the sending CAT Reporter?

Yes. Routed Order IDs must be reported in the same format in which they were received or the audit trail will be broken. For instance, if CAT Reporter A routes an order with a Routed Order ID of AB_0001, the receiving CAT Reporter must also report a Routed Order ID of AB_0001. In this instance, a Routed Order ID of AB001, AB_001 or anything other than the exact format of the original Routed Order ID will cause the audit trail to break and the Route Event will be marked as Unlinked.

D10. How should orders received with instructions from the customer to buy as much stock as possible for a specific dollar amount (e.g., $1,000) over the course of the day (commonly referred to as "cash" orders) be reported to CAT? **Updated:** ***06/18/2019***

These orders should be reported to CAT with a handling instruction of "CNH" denoting Cash Not Held. Additionally, they must be reported to CAT with a share quantity equal to the number of shares that could be purchased with the specified dollar amount based on the best available market at the time of order receipt. For example, if an Industry Member receives a cash order for $1,000 when the best available market is $20, then the Industry Member must report a share quantity of 50 in the New Order Event or Order Accepted Event. Industry Members need not submit an Order Modification Event to reflect a change in share quantity due to market fluctuations during the life of the order. However, if a customer changes the dollar amount, then an Order Modification Event must be submitted to reflect that change.

D11. What is the purpose of the tradingSession field? **Added:** ***11/15/2018***

The tradingSession field identifies the specific market session(s) during which an order is eligible to trade either based on instructions received by the Industry Member from its customer or based on communication by the Industry Member to the customer on when the order will be eligible for execution. The tradingSession field will be used in surveillance patterns to identify when orders may be eligible for execution.

D12. An Industry Member receives an order with instructions to execute the order as agent or riskless principal during regular market hours. The Industry Member accumulates shares during regular market hours but does not execute the customer order until after the close at an average price of the shares accumulated during regular market hours. What should be populated in the tradingSession field on the New Order or Order Accepted Event? **Added:** ***11/15/2018***

Since the customer instructions were to acquire shares during regular market hours and the order is executed as agent or riskless principal at the same price that the Industry Member accumulated the shares during regular market hours, the order should be reported with a tradingSession value of "REG".

D13. An Industry Member receives an order with instructions to execute the order on a net basis. No specific instruction is given with respect to which trading session the order is eligible to be executed. The Industry Member accumulates shares during regular market hours but does not execute the customer order until after the close at a net price which is reported to the tape. What should be populated in the tradingSession field on the New Order or Order Accepted Event? **Added:** ***11/15/2018***

Since the Industry Member executed the trade on a net basis, the tradingSession field should be based on when the net trade can be executed. If the execution can take place either during regular market hours or in the after hours session, the tradingSession field should be populated with "REGPOST".

D14. An Industry Member receives an order with instructions to execute during regular market hours. However, when the regular trading session expires, the order is not complete and the customer instructs the Industry Member to finish the order. What should be populated in the tradingSession field on the New Order or Order Accepted Event in this instance?

Updated: ***11/15/2018***

Since the original order was received with instructions to trade only during regular market hours, the tradingSession field must be populated with "REG". If the Industry Member records the subsequent instruction to complete the order as an order modification on its books and records, an Order Modified Event with the tradingSession of "POST" for the remaining share quantity must be reported. If the Industry Member does not record a modification to the order on its books and records, then no Order Modified Event is required.

D15. If the handlingInstructions reported with an order contains instructions that reflect the order is only eligible to be traded at the time it is received, such as "Fill or Kill", or implies the time the order is eligible, such as "Market on Open", is the tradingSession field still required to be populated?

Updated: ***05/19/2020***

Yes. The tradingSession field must be populated on all orders. However, if because of the specific nature of the handling instruction (e.g., Fill or Kill), the customer does not provide further information on the trading sessions in which the order may trade, it would be acceptable for the tradingSession field to be populated with "ALL" since no specific Trading Session was communicated by the customer to the Industry Member. This guidance to use the code of "ALL" includes scenarios where the handling instructions received with the order dictate the trading session in which order is eligible to trade, such as "Market on Open", but where no other specific instructions regarding the trading session were received from the customer.

D16. If a firm does not receive specific instructions from its customer as to which session an order may trade, and the firm does not otherwise communicate to the customer that the order will only be traded during specific market sessions, what should be populated in the tradingSession field?

Added: ***11/15/2018***

In instances where an Industry Member does not receive specific instructions from its customer as to which session an order may trade, and the Industry Member does not otherwise communicate to the customer that the order will only be traded during specific market sessions, but, there is an understanding between the Industry Member and customer that the order is eligible to trade in a particular session(s), the tradingSession field must be populated with the code representing the specific trading session(s) in which the order is eligible to trade. For example, if an Industry Member receives orders from a particular customer or client with the understanding that orders will only be executed during regular market hours, the tradingSession field should be populated with "REG".

D17. How should the tradingSession field be populated for orders that are received with instructions that they are only to be executed on a foreign market?

Added: ***11/15/2018***

If an Industry Member receives an order for a security that is dually listed with specific instructions that the order is to be executed on the foreign market, then the Industry Member should populate the tradingSession field with the code "FOR" (to be executed only on a Foreign Market). It is important to note that the FOR value

may only be used in instances where the order can only be executed on the foreign market. If it is possible that the order could be executed in the US, then the tradingSession field should be populated with the Trading Session value that reflects the sessions during which the order is eligible to trade in the US.

D18. Is the tradingSession field required to be populated for proprietary orders originated by the firm and where no customer instruction is received? **Added:** ***11/15/2018***

Yes. The tradingSession field must be populated on all orders, including proprietary orders originated by the Industry Member. If an Industry Member's trading system does not generate specific instructions with respect to when the order is eligible to trade, the code "ALL" should be used.

D19. How should the timeInForce field be populated for "Fill or Kill" orders that contain a limit price? **Added:** ***11/15/2018***

"Fill or Kill" orders with limit prices should have the timeInForce field populated with "DAY".

D20. Why is there not an allowable value of unknown (U) for the accountHolderType Code field on New Order Events (MENO)? **Updated:** ***06/18/2019***

The accountHolderType field is only available on the New Order Event which reflects receipt of a Customer order or origination of an order by the Industry Member. Since the type of beneficial owner for orders received from a customer or originated by the Industry Member is known, "U" (Unknown) is not an allowed value.

D21. What accountHolderType value should be used if the beneficial owner of an account for which an order is received is an employee but the account also meets the definition of an institutional account? **Updated:** ***06/18/2019***

If an order is placed by an employee of the Industry Member and the account also meets the definition of an institutional account according to FINRA Rule 4512(c), then the Industry Member must use the accountHolderType value of ("E") on the related CAT New Order Event to identify that the beneficial owner of the account is an employee of the Industry Member.

D22. What is the purpose of the infoBarrierID field and how should it be used? **Added:** ***11/15/2018***

The infoBarrierID field allows firms to uniquely identify on an order-by-order basis each information barrier that meets the criteria of the "no-knowledge" exception for certain proprietary trading activity under FINRA Rule 5320. By identifying specific information barriers that are in place with respect to individual orders, both customer and proprietary, Industry Members will provide CAT with information that can be used when conducting reviews of compliance with FINRA Rule 5320. Specifically, on all events for orders received or originated at a desk or department with an information barrier in place, Industry Members must populate the infoBarrierID with the value assigned by the Industry Member to the specific information barrier in instances where the firm is claiming the "no-knowledge" exception. The use of this field allows each customer and proprietary order to be identified with a particular information barrier.

For example, if an Industry Member has two or more separate desks or departments that share a single information barrier, orders received or originated at these separate desks or departments may be reported to CAT with the same unique infoBarrierID. If, alternatively, an Industry Member has separate desks or

departments that are not within the same information barrier, orders received or originated at these desks or departments would be reported to CAT with different Information Barrier IDs. Finally, if an order is received or originated within an Industry Member that has no information barriers in place, those orders must be reported to CAT with the inforBarrierID field left blank. To the extent that Industry Members populate the infoBarrierID field, the use of values must remain consistent. Therefore, once used, a value may not be reassigned to identify a different information barrier.

Reporting Scenarios

Scenario #1 – Desks or Departments Sharing an Information Barrier
• Example: Firm A has a customer facing desk (Desk 1) and a proprietary desk (Desk 2) within the same information barrier that the firm has named "AB12". Desk 1 receives an order from a customer and Desk 2 originates a proprietary order. The CAT reporting would be as follows:

Desk 1: MENO from customer	infoBarrierID: AB12
Desk 2: MENO proprietary order	infoBarrierID: AB12

Scenario #2 – Desks or Departments Separated by Information Barriers
• Example: Firm A has a customer facing desk (Desk 1) that is within an information barrier the firm has named "U89T" and a proprietary desk (Desk 2) that is within an information barrier the firm has named "4RYH". Desk 1 receives an order from a customer and Desk 2 originates a proprietary order. The CAT reporting would be as follows:

Desk 1: MENO from customer	infoBarrierID: U89T
Desk 2: MENO proprietary order	infoBarrierID: 4RYH

Scenario #3 – Desks or Departments with No Information Barriers Example:
• Example: Firm A has a customer facing desk (Desk 1) and a proprietary desk (Desk 2), neither of which have information barriers in place. Desk 1 receives an order from a customer and Desk 2 originates a proprietary order. The CAT reporting would be as follows:

Desk 1: MENO from customer	infoBarrierID: Blank
Desk 2: MENO proprietary order	infoBarrierID: Blank

D23. How should the accountHolderType be populated for orders received from an Investment Advisor or money manager exercising discretion over client accounts? Should the accountHolderType represent the status of the IA/money manager or the status of the IA/money manager's client?

Updated: ***09/03/2019***

The accountHolderType should always reflect the beneficial owner of the account. For example, if an order is received from a registered Investment Advisor ("RIA") and the account is held in the RIA's name, including DVP/RVP and omnibus accounts, the account would be considered "institutional" (as defined under FINRA Rule 4512(c)), and the order should be reported to CAT with an accountHolderType of "A" (Institutional Customer) to reflect the status of the RIA.

If an order is received from an RIA and the account is held in the client's name or in the RIA's name for the benefit of a disclosed client, the account would not be considered institutional (as defined in FINRA Rule 4512 (c)), and the order should be reported to CAT with an accountHolderType of "I" (Individual Customer) to reflect

the status of the client, unless the client itself qualifies as "institutional" under FINRA Rule 4512(c). If the client qualifies as "institutional" under FINRA Rule 4512(c), then the order should be reported to CAT with an accountHolderType of "A" (Institutional Customer).

D24. What value should be populated in the deptType field for orders in which a broker-dealer is providing direct market access to customers that are not broker-dealers? **Updated: *11/04/2020***

Firms providing direct market access to non-broker-dealer customers must populate the *deptType* field with the value of 'DMA' (Direct Market Access). The value of Sponsored Access ('SA') is only used for market access orders involving another broker-dealer.

D25. How should the accountHolderType field be populated in relation to NYSE Account Type Indicators? **Updated: *06/18/2019***

The Exchange ATI values are separate and distinct from the accountHolderType values. The ATI values required to be submitted to the Exchange primarily are used to identify whether an Exchange member is entering an order into Exchange systems for its account or the account of some other entity, while the CAT accountHolderType values are used to identify the type of account originating an order. CAT captures capacity and other information in fields separate and distinct from the accountHolderType. Consequently, the Exchange ATI values will have no impact on a firm's population of the accountHolderType in CAT.
The below chart that reflects the most common combinations of Exchange ATIs and CAT accountHolderType.

Capacity of Firm	**CAT**	**Exchange**
Firm routing to the Exchange for the account of the member	accountHolderType Code: "O", "P", "V", or "X"	ATI: "P", "Q" or "R"
Firm acting as agent on behalf of its own customer	accountHolderType Code: "I", "A", "V", or "E"	ATI: "A"
Firm acting as agent for the customer of another Broker/Dealer	accountHolderType Code: "I", "A", "V", "E"	ATI: "A"
Firm acting as agent for the proprietary account of another Broker/Dealer	accountHolderType Code: "O", "P"	ATI: "A"

D26. What is the difference between 'CND' and 'CMC' handlingInstructions? **Updated: *01/26/2021***

The 'CND' *handlingInstructions* value indicates that an order is contingent on the execution of another order. The 'CMC' *handlingInstructions* value indicates that an order is contingent on the occurrence of a market condition (e.g., once symbol ABCD trades X# of shares, the order becomes executable). Industry Members may populate both values if applicable to the order.

The time of receipt for such orders is the date and time the Industry Member determines it has an order and records such in its books and records. Beginning in Phase 2c (equities) and 2d (options), Industry Members populating 'CMC' and/or 'CND' in their CAT events will be required to report an Order Effective event or Option Order Effective event (MEOE or MOOE) when all underlying conditions are met such that the order becomes and remains effective until it is fully executed or cancelled. The *triggerPrice* field is not required for orders conditioned on the occurrence of a market condition and/or contingent on the execution of another order.

The 'OET' (Order Effective Time) *handlingInstructions* value has been removed and will not be incorporated in the Phase 2c (equities) and Phase 2d (options) CAT Reporting Technical Specifications for Industry Members.

See also:

- See FAQ B60 regarding which party has the obligation to report the Order Effective event (MEOE) to CAT.
- See FAQ B66 regarding when the Order Effective event/Option Order Effective event (MEOE/MOOE) is required to be reported to CAT.

D27. Are firms that provide sponsored access/direct market access required to report handling instructions on their new orders for handling instructions not intended for the sponsored access/direct market access provider but for the destination market center?

Added: ***12/23/2019***

An Industry Member providing sponsored access or direct market access must populate the deptType on its New Order or Order Accept event with SA (sponsored access) or DMA (direct market access) as prescribed in the Technical Reporting Specifications to indicate the Industry Member was acting as an SA or DMA provider and no other handling instructions are required to be reported on the New Order or Order Accept event. An Industry Member CAT Reporter being sponsored would be required to report relevant handling instructions on its CAT New Order or Order Accept event in Phases 2a and 2b, and on its Order Route event in Phases 2c and 2d, to the Industry Member providing the sponsored access as well. The receiving market center would report all relevant handling instructions received from the sponsored party on its Order Accept event to CAT. Reporting of specific handling instructions on new order events and order route events by SA and DMA providers will be evaluated by regulators during Phases 2a and 2b and may become reportable in Phase 2d for both equities and options.

D28. This FAQ has been retired. Please refer to FAQ B58.

Updated: ***07/01/2020***

This FAQ has been retired. Please refer to FAQ B58.

D29. How should Industry Members populate handling instructions for orders received or originated with instructions to work the order using a trading algorithm?

Updated: ***10/21/2020***

In Phase 2a, if an order is received or originated with instructions to work the order using a Trading Algorithm as defined by FINRA Rule 1220(b)(4)(a), a *handlingInstructions* value of "ALG" should be populated on the New Order or Order Accepted event submitted to CAT along with any additional relevant *handlingInstructions*. For example, customer orders received with a counterparty restriction instruction and instructions to work using a trading algorithm should be reported to CAT using *handlingInstructions* values of "CPR" and "ALG." Additionally, customer orders received with instructions to execute at TWAP or VWAP would be considered instructions to work the order using a trading algorithm and therefore any orders received with these instructions should be reported to CAT using a *handlingInstructions* value of "ALG." Firms should note that more granular *handlingInstructions* values may be required in future phases of CAT.

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In Phase 2c, Industry Members will be required to populate the "ALG" *handlingInstructions* value on Order Route events for orders that were sent to another broker-dealer with instructions to handle the order using a specific trading algo. The "ALG" *handlingInstructions* value must not be used on routes that are sent by an algo. The same guidance for Order Route events outlined above applies to the "ALGMod" *handlinginstructions* value. Specifically that the "ALGMod" value should not be used on routes that are sent resulting from the use of a different trading algorithm or a change in the settings of the algorithm.

Example 1: Broker 1 receives a customer order with instructions to handle the order using a specific proprietary algo. Broker 1 then sends the order through its algo, and the algo routes the orders to the street. In this example, Broker 1 is required to report "ALG" on its MENO from the customer. "ALG" must not be populated on the routes made by the algo.

Example 2: Broker 1 receives a customer order with instructions to handle the order using a specific algo at another broker-dealer. Broker 1 routes the order to Broker 2, who sends the order through its algo. In this example, Broker 1 is required to report "ALG" on its MENO and MEOR (in Phase 2c) to Broker 2. Broker 2 is required to report "ALG" on its MENO. "ALG" must not be populated on the MEORs for the routes made by the algo.

Example 3: Broker 1 receives a Not-Held customer order. The trader uses discretion and determines to route the order through a specific proprietary algo. "ALG" must not be populated on the MENO in this scenario, since the order was not received with the instruction to handle the order via an algo. "ALG" must not be populated on the MEORs for the routes made by the algo.

Example 4: Broker 1 receives a Not-Held customer order. The trader uses discretion and determines to route the order to a specific algo at another broker-dealer. Broker 1 routes the order to Broker 2, who sends the order through its algo. "ALG" must not be populated on Broker 1's MENO in this scenario, since the order was not received with the instruction to handle the order via an algo. "ALG" must be populated on Broker 1's MEOR and Broker 2's MEOA, as the instruction to handle the order using a specific algo was applied and passed by the trader who had discretion over the order. "ALG" must not be populated for the routes made by the algo.

D30. Are the material terms of an order that are communicated via default or implicit handling instructions, such as instructions that are defaulted at a port or connection level, required to be reported to CAT? **Updated: *10/26/2020***

Yes, for each order, the "material terms of the order" (as that term is defined in SEC Rule 613(j)(7)), including those material terms that may be defaulted at a port or connection level, must be reported to CAT. This includes implicit or default instructions agreed to between the Industry Member and its customer or client that are material terms.

Under SEC Rule 613(j)(7) "material terms of the order" includes, but is not limited to, "the NMS security symbol; security type; price (if applicable); size (displayed and non-displayed); side (buy/sell); order type; if a sell order, whether the order is long, short, short exempt; open/close indicator; time in force (if applicable); if the order is for a listed option, option type (put/call), option symbol or root symbol, underlying symbol, strike price, expiration date, and open/close; and any special handling instructions."

D31. What accountHolderType value should be used if the beneficial owner of an account is a non-broker-dealer foreign affiliate or non-reporting foreign broker-dealer, but the beneficial owner also meets the definition of another accountHolderType value (e.g., institution)? **Added: *02/25/2020***

If the beneficial owner of an account is a non-broker-dealer foreign affiliate or non-reporting foreign broker-dealer, then the Industry Member must use the accountHolderType value of ("F") on the CAT New Order event even if the beneficial owner also meets the definition of another accountHolderType value.

D32. How is tradingSession "ALL" defined? **Added: *06/02/2020***

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The "ALL" *tradingSession* means that the order can trade in any available session at the venue where it is sent. For example, if an exchange only has REG *tradingSession*, the order may be reported with a *tradingSession* of "REG" or "ALL". If an exchange has multiple sessions, and the order is not allowed to trade in all sessions based on a customer instruction or understanding, then the specific trading sessions in which the order is allowed to participate must be identified.

D33. How should the tradingSession field be populated for option orders? **Added: *06/02/2020***

Most options orders are currently only eligible to trade during regular market hours sessions (generally from 9:30 am to 4:00 pm or 4:15 pm Eastern Time) on the options exchanges and, as a result, the tradingSession field must be populated with "REG" (Regular Only) or "ALL" (All Sessions). Note that option orders eligible to trade during a regular market hours session's opening or closing rotation must also be populated with "REG" or "ALL." (See also FAQ D32.)

An exception to the general requirement above applies for certain options that are eligible to trade on the Cboe Exchange, Inc. during extended global market hours sessions (generally from 3:00 am to 9:15 am Eastern Time) and/or regular market hours sessions. For those orders in those options, the tradingSession field must be populated with:

- "PRE" (Pre-Market Only), for orders only eligible to trade during extended global market hours;
- "REG" (Regular Only), for orders only eligible to trade during regular market hours; or
- "PREREG" (Pre-Market and Regular) or "ALL" (All Sessions), for orders eligible to trade during extended global market hours and regular market hours.

Other values for the tradingSession field identified in the specifications (FOR, REGPOST, POST and PREPOST) are not applicable to options orders.

D34. FAQ D30 states that material terms of an order that are communicated via default or implicit handling instructions, such as instructions that are defaulted at a port or connection level, are required to be reported to CAT. How must such instructions, including standing instructions, firm-wide defaults, or port- or connection-level defaults, be reported? **Added: *10/26/2020***

As a general rule, the party who applies the default or implicit handling instruction to the order is required to report any material terms in that instruction to CAT.

Some examples:

- If an Industry Member explicitly sets or configures their system to default and send specific instructions are applied when it routes an order, then material terms contained in those instructions are reportable by the sending firm on the Order Route Event (MEOR / MOOR).
- If standing or default instructions are maintained and applied by a receiving party (another Industry Member, ATS or Exchange) when the order is received, then material terms contained in those instructions are reportable by the receiving party on the Order Accepted Event (MEOA / MOOA).
- If the standing or default instructions are maintained and applied by an Industry Member, ATS or Exchange at the time of some other reportable event, then the material terms contained in those instructions are reportable by the party applying the instruction.

Note that the materials terms of an order associated with a given CAT reportable event are reported in the applicable field (e.g., prices are reported in the '*price*' field, and special handling instructions are generally reported in the '*handlingInstructions*' field unless another field applies).

Some examples:

- If an Industry Member routes an order and sets a default instruction of "STP" on all outbound orders, the Industry Member would be required to report this instruction (which is a material term) to CAT on its Order Route beginning in Phase 2c. However, if the sending firm does not explicitly include the instruction on the route to the receiving firm, but it is implicitly assumed by the receiving firm when the order is accepted (based on standing agreement, port level settings, etc.), then the receiving firm's MEOA/MOOA would require the "STP" *handlingInstructions*.
- If an Industry Member has an agreement with a customer, such that all orders from that customer should be treated as "NH" or defaulted to "WRK", the Industry Member must include the "NH" or "WRK" *handlingInstructions* on the MENO/MONO or MEOA/MOOA event. This is effective in Phase 2a (equities) / 2b (options).
- If an Exchange cancels all of an Industry Member's pending orders based on a technical disconnect parameter (e.g., loss of heartbeat over a period of time), whether the parameter is set by the Exchange unilaterally or by the Exchange based on instructions from the Industry Member, then the Exchange's Order Canceled Event would note the special cancel instructions (in the *cancelReason* field).

D35. How should Industry Members populate the 'SMT' handlingInstructions value? **Added: *11/17/2020***

The 'SMT' *handlingInstructions* value is only applicable to Order Route events (MEOR/MOOR) and is used to indicate that an order is routed out via a Smart Router. While *handlingInstructions* are not required on Order Route events until Phase 2c (equities) and Phase 2d (options), this value may optionally be populated on Order Route events in Phase 2a (equities) and Phase 2b (options).

Industry Member Broker-Dealers must not populate the 'SMT' *handlingInstructions* value on New Order events (MENO/MONO) or Order Accepted events (MEOA/MOOA) when an order is originated or received with instructions to use a specific Smart Router, and must not populate the 'SMT' *handlingInstructions* value on Order Route events (MEOR/MOOR) when an order is routed to another Broker-Dealer with instructions to use a specific Smart Router, as the 'SMT' value is only intended to identify Order Route events sent by a Smart Router.

D36. Should the handingInstructions value of 'CSC' (Contingent on a Spread Condition) be reported to CAT if an order is being worked by an algorithm that may utilize strategies that work the order in a way similar to a spread condition? **Added: *12/15/2020***

No, the *handlingInstructions* value of 'CSC' (Contingent on Spread Condition), introduced in the November 2020 Industry Member Technical Specifications, must not be reported on the New Order or Order Accepted events submitted to CAT if such spread conditions are associated with a particular algorithm. For example, if an order is received with instructions to work the order using a specific trading algorithm, and the algorithm works the order in a way similar to a spread condition, then these instructions must be reported to CAT using a *handlingInstructions* value of 'ALG' rather than 'CSC'. The Industry Member must not report both 'ALG' and 'CSC' *handlingInstructions* in this example, as it would be erroneous reporting.

Firms should note that more granular *handlingInstructions* values may be required in future phases of CAT. See also:

- See FAQ B66 regarding when the Order Effective event/Option Order Effective event (MEOE/MOOE) is required to be reported to CAT.
- See FAQ D29 regarding how Industry Members should populate handling instructions for orders received or originated with instructions to work the order using a trading algorithm.

E. Order Routing and Execution

E1. When an order is routed internally at an Industry Member, Section 6.3(d)(ii)(F) of the CAT NMS Plan ("routing of an order"), as applied by Section 6.4 of the CAT NMS Plan, requires the reporting of the identity and nature of the department or desk to which the order is routed. What is considered "routed internally"?

Added: ***02/13/2018***

For purposes of Section 6.3(d)(ii) of the CAT NMS Plan, an order is considered to have been routed internally at the Industry Member when the Industry Member originates or receives an order and then subsequently transmits that order to another desk or department within the Industry Member. A desk or department is interpreted as a place or system within the Industry Member where an order can be executed, either automatically or with the assistance of traders. Examples of a desk or department include an agency desk, sales desk or arbitrage desk. The Industry Member, however, is not required to report information regarding an order's movement between two systems within the same desk or department as an internal route. The CAT reporting requirements for internal routes within an Industry Member are consistent with FINRA's OATS reporting requirements for internal routes within a broker-dealer. (See OATS Technical Reporting Specifications (Jan. 20, 2017), Section 4.2.2 (Transmittal to a Desk or Department within a Firm), Section 4.4.5 (Partial Desk Transmittal and Subsequent Execution), Section 4.4.6 (Desk Transmittal to another Desk or Department and Subsequent Execution and Routing), Section 4.4.15 (Single Desk Usage of Multiple Order Handling Systems), and Section 4.4.17 (Multiple Desk Usage of Multiple Order Handing Systems) available at http://www.finra.org/sites/default/files/TechSpec_012017.pdf)

E2. Are Industry Members required to report to the CAT the routing of an order if the routed order is rejected by the Industry Member or Participant to which the order is routed?

Updated: ***08/27/2020***

Yes, if the Industry Member routes an order to another Industry Member or a Participant, the Industry Member must report the routing of the order to the CAT. The details that must be reported for the routing of an order are set forth in Section 6.3(d)(ii) of the CAT NMS Plan, as applied to Industry Members by Section 6.4 (d)(i) of the CAT NMS Plan. While all routes are required to be reported to CAT, Order Route events for orders that were rejected by the Industry Member or Participant to which the order was routed are not required to be reported in Phases 2a (equity) or 2b (options).

Beginning in Phases 2c (equity) and 2d (options), Industry Members will be required to report an Order Route event with the *routeRejectedFlag* populated as 'true.' Additionally, an Order Route Supplement Event may be used in Phase 2c or 2d to populate the *routeRejectedFlag* if the route rejection is not known at the time of submission of the original Order Route event.

If an Industry Member chooses to optionally report an Order Route event for a rejected route early in Phases 2a or 2b, the *routeRejectedFlag* must be populated as 'true'. As with all data reported to the CAT, Phase 2c or 2d activity voluntarily reported in Phase 2a or 2b must be timely, accurate and complete and will be included in the firm's error rate. Any Order Route event representing a rejected route that is optionally reported in Phase 2a or 2b with a *routeRejectedFlag* of 'false' will result in an unlinked event that must be corrected and resubmitted accordingly.

E3. BD A, an Industry Member CAT Reporter, receives a customer order for 10,000 shares and subsequently routes 2,000 shares of the order to Exchange A, another CAT Reporter. BD A's trader or trading system subsequently modifies the price of the 2,000 share order routed to Exchange A. Is BD A required to report the modification of the 2,000 share order routed to Exchange A?

Updated: ***07/01/2020***

In Phase 2a, firm modifications of a previously routed order are not required to be reported to CAT if the destination to which the order was routed is a CAT Reporter. As a result, in the given example, the modification of the 2,000 share order sent to Exchange A would not be reportable by BD A, but would be reported to CAT by Exchange A. If the order had been routed to a foreign destination or other destination that is not a CAT Reporter, BD A would be required to report the modification to CAT.

Beginning in Phase 2d, these modifications, as well as cancellations of a route initiated by the firm, and not the

client, must be reported to CAT.

E4. Are orders routed using ACES Pass-Thru considered manual or electronic? **Added:** ***11/15/2018***

Orders entered directly into a Nasdaq Workstation would be considered manual. If the orders are routed into ACES Pass-Thru via an electronic order handling system, the orders would be considered electronic and a Routed Order ID must be passed through via the Branch/Sequence Number field in ACES.

E5. This FAQ has been retired. Please refer to FAQ E2. **Updated:** ***08/27/2020***

This FAQ has been retired. Please refer to FAQ E2.

E6. If a .RA transaction represents an event that is CAT reportable is the transaction report submitted to a FINRA trade reporting system with a .RA modifier required to be matched to the related CAT Trade Event? **Added:** ***11/15/2018***

Yes. Members are required to link the .RA transaction report submitted to a FINRA trade reporting facility to the related CAT Trade Event. Industry Members should reference the CAT Reporting Technical Specifications for Industry Members for the applicable matching criteria.

E7. Executed orders that exceed 100 million shares must be reported to the ORF in two or more transaction reports because the OTC Trade Reporting Facility (ORF) will not accept trades that exceed 99,999,999 shares. Can a single CAT Trade Event be matched to more than one ORF trade report? **Added:** ***11/15/2018***

Yes. The CAT Trade linkage process will allow a single Trade Event to match to more than one trade report provided that the execution time, tapeTradeID, MPID and issue symbol on all related trade reports are identical to those reported on the CAT Trade Event.

E8. This FAQ has been retired. Please refer to FAQ B57. **Updated:** ***07/01/2020***

This FAQ has been retired. Please refer to FAQ B57.

E9. This FAQ has been retired. Please refer to FAQ B58. **Updated:** ***07/01/2020***

This FAQ has been retired. Please refer to FAQ B58.

E10. Can an order be marked as Short Exempt in the shortSaleExptIndfield on the CAT Route Event if the order was reported as a regular short sale on the related New Order Event? **Added:** ***11/15/2018***

Yes. If an Industry Member receives a Short Sale order prior to the triggering of a circuit breaker, the Industry Member would populate the side field with "short" (Short Sale). If, at the time the order is routed, a circuit breaker is triggered, the order may be marked "short exempt" consistent with SEC Rule 201, and the shortSaleExptInd on the related CAT Order Route Event must be marked as "true."

E11. At 8:30:00:000 a.m., BD1 receives a market-on-open customer order and guarantees the opening price. At 9:30:00.000 a.m., the market opens, and, at 9:35:00.000 a.m., BD1 receives the opening price information and executes the trade. What execution time should be used in the CAT Trade Event and related trade report?

Added: ***11/15/2018***

A. The time of execution of 9:35:00.000 a.m. must be reflected on both the trade report and the related CAT Trade Event in the eventTimestamp field. The reference time of 9:30:00.000 a.m. must be included in the trade report in the Trade Modifier 4 Time Field and is not required to be reported to CAT. The reference time will be obtained from the trade report.

E12. At 8:30:00 a.m., Member BD1 executes a customer order at the 4:00:00 p.m. closing price from the previous day. What execution time should be used in the CAT Trade Event and related trade report?

Added: ***11/15/2018***

Because the trade was executed on a different day from the reference price, the actual time of execution must be reflected in the eventTimestamp field on the CAT Trade Event and in the Execution Time field on the trade report for both OTC equity securities and NMS stocks. Please refer to TR FAQs 408.3, 408.4 and 408.5 for more information on the trade reporting requirements for PRP trades.

E13. Is a firm that routes an order away from the firm for execution required to report routing instructions (e.g., specific order types and terms and conditions used for the order when sending to an exchange) to CAT in the handlingInstructions field on the CAT Order Route Event?

Updated: ***01/28/2020***

A. Yes. In CAT, routing instructions must be reported by the routing firm in Phase 2c. If the routing instructions are the same as the instructions received by the firm, then the firm may populate the handlingInstructions field with the value "RAR" (Routed as Received).

The only exception to this requirement is the "OPT" handling instruction, which must be populated on Order Route events representing the equity leg of a complex option with a net price beginning in Phase 2a. Refer to FAQ B12 for additional information.

E14. Firm A routes an order to Firm B with instructions to send the order to another member or exchange for execution with specific terms and conditions that the executing venue must follow. Must Firm B report the terms and conditions intended for the executing venue as handling instructions on Firm B's CAT Order Accepted Event in the handlingInstructions field?

Updated: ***06/18/2019***

Yes. Firm B must report the instructions it received from Firm A as to how Firm B was instructed to handle the order. In this example, Firm A instructed Firm B to route the order directly to the executing venue. The terms and conditions given to the executing venue are required to be reported to CAT using the values available in the handlingInstructions field in the CAT Reporting Technical Specification for Industry Members. The

handlingInstructions on an Order Route Event are not required to be reported until Phase 2c. Note exchange specific values are not used, but rather an allowed value that most closely reflects the specific instruction sent to the exchange.

E15. Are executions of orders routed as agent to an exchange or another CAT Reporter required to be reported by the routing firm? **Added: *11/15/2018***

Orders that are routed as agent to another CAT Reporter (either an exchange or Industry Member) and executed by the receiving party do not require the submission of a Trade Event or Order Fulfillment by the routing firm unless the order was routed to a foreign venue which does not report to CAT. If the order was worked via a representative order, however, where the representative order was routed away instead of the underlying customer order, an Order Fulfillment Event would be required. See Appendix C of the Technical Specifications for more information on the reporting requirements for representative orders.

E16. A firm performs multiple functions on the same desk or within the same department, such as program trading and non-program trading. Is an Internal Route Event required for orders sent between traders that perform those separate functions? **Added: *11/15/2018***

If separate and distinct functions are performed within the same desk or department of a firm, an Internal Route Event may be required if an order is passed between traders who perform different functions. For example, an order would be considered to have been transferred to another department for CAT reporting purposes, if it were transferred between functions that the firm considers to be independent aggregation units for purposes of SEC Regulation SHO (See SEC Rule 200(f)).

E17. When a firm has multiple functions performed on the same desk or within the same department, how does the firm determine which receivingDeskType to use in the CAT Internal Route Event for orders received by such multi-function desks? **Added: *11/15/2018***

If an order is transmitted to a desk that performs multiple functions, the firm should populate the receivingDeskType with the code that identifies the function for which the specific order was routed to the desk. For example, if a program trading order is routed to a desk that engages in arbitrage activities as well as program trading, the CAT Internal Route Event should include a receivingDeskType of "PT" to indicate the order was transmitted to the program trading function on the desk.

E18. Should baskets submitted to NYSE's Crossing Session II be reported to CAT as an Order Route event or a Trade Event? **Added: *11/15/2018***

Members that have either facilitated a basket trade or crossed two customers' baskets and submitted the information to NYSE's Crossing Session II, should report these transactions to CAT as a Trade Event. The event timestamp reported to CAT should be the time the member crossed or facilitated the basket and not the acknowledgment time received back from NYSE. Further, the Trade event must contain the marketCenterID of "N" to designate the New York Stock Exchange and the tapeTradeID should be populated with "NYSE CS2" to denote the transaction was reported to the Crossing Session II.

E19. When a broker-dealer routes an order to an Industry Member, the routing broker-dealer may not include the special handling details associated with the original customer order as received by the routing broker-dealer. Are these original special handling details expected to be reported by subsequent Industry Members to which the order is routed? **Added: *11/15/2018***

No. Each Industry Member is only required to report the order information that was received by that Industry Member. Thus, for an order received from another broker-dealer, the receiving Industry Member is only required to report the special handling instructions that are sent by the sending broker-dealer to the receiving Industry Member.

E20. What are the CAT reporting requirements when a trade that was reported to a TRF is cancelled? **Added: *11/15/2018***

If a trade is reported to both CAT and a TRF/ADF/ORF, and later cancelled in the TRF/ADF/ORF, the cancellation is not required to also be reported to CAT. CAT will obtain the cancellation information from the TRF/ADF/ORF.

E21. If a trade is corrected in a TRF, what must be reported to CAT? **Added: *11/15/2018***

If the original trade was reported to CAT and correctly linked to the original TRF report, no further CAT reports are required for the correction. CAT will obtain that information from the TRF data. If, however, any part of the order prior to the execution was reported to CAT incorrectly, those corrections must be submitted to CAT.

E22. If a trade is reported on an "as of "basis to the TRF, what are the CAT reporting requirements? **Added: *11/15/2018***

If the required CAT order events, including the New Order and Trade Event were not previously reported to CAT, they must be reported and will be marked late. The late reported CAT Trade Event must link to the "as of" trade report submitted to the TRF. If the CAT Trade Event was reported on time, it would have been marked as unlinked since there was no related trade report available for linking. After processing, the unlinked CAT Trade Event will be marked as corrected provided it could be linked to the "as of" TRF report.

E23. Is the TRF reported Branch/Sequence Number or FINRA Compliance Number required to be unique within an IMID (e.g. MPID) within a day? **Added: *11/15/2018***

No. However, the tapeTradeID reported in the CAT Trade Event must precisely match the Branch/Sequence Number or FINRA Compliance Number reported to a TRF (including spaces and capitalization).

E24. Can the TRF reported Branch/Sequence Number or FINRA Compliance Number contain a space? **Updated: *06/18/2019***

Yes. This number can contain any ASCII characters, except the specified file delimiters. The tapeTradeID contained in the CAT Trade event must the exact same as that contained in the TRF Report, including preceding zeros or spaces.

E25. When should the cancelFlag field be set to true on the Trade event ("MEOT")? **Updated: *06/11/2019***

On a MEOT event, the only instance where the cancelFlag may be set to true is when a trade is cancelled because the trade report is rejected by the TRF/ORF or ADF. For all instances where a trade is reported to, and accepted by, the TRF/ORF or ADF, including those that are cancelled or busted in the trade reporting data, the cancelFlag must be set to false.

E26. Does Section 6.3(d)(ii) of the CAT NMS Plan, which sets forth the reporting requirements with regard to the "routing of an order," apply to both internal and external routes? **Added:** ***08/13/2019***

Yes. Section 6.3(d)(ii) of the CAT NMS Plan applies to both internal and external routes. Specifically, when Section 6.3(d)(ii) refers to "the routing of an order," it includes routing orders internally within an Industry Member and routing orders by an Industry Member externally to an exchange or another broker-dealer. FAQ E.1 describes in more detail the types of internal routes that must be reported to the CAT.

E27. How should the affiliateFlag be populated when routing an order between IMIDs belonging to the same broker-dealer? **Updated:** ***08/13/2019***

The affiliateFlag should be populated as 'true' when routing an order between IMIDs belonging to the same broker-dealer.

E28. Exchange origin code is required to be reported on CAT Order Route events when routing orders to an options exchange. However, it is not required by all options exchange protocols for certain market maker orders. In these cases, with what should Industry Members populate the exchOriginCode field on the Options Order Route Event? **Added:** ***02/11/2020***

The exchOriginCode field is a required text field on the CAT Options Order Route Event ("MOOR" event) and CAT will reject the record if the field is not populated. In instances where the market maker sends a market maker order through an options exchange protocol that does not require an exchange origin code, Industry Members must populate the exchOriginCode with "MM."

E29. Pursuant to the SEC's Exemptive Order dated June 11, 2020, instead of requiring Industry Members to record and report to CAT a cancelled trade indicator for trades that are cancelled, FINRA Facility Data submitted to the Central Repository by FINRA would be the source of the cancelled trade indicator. How should Industry Members report trade cancellations and corrections to CAT? **Updated:** ***01/12/2021***

The CAT reporting requirements depend on what reporting error(s) the Industry Member made as well as whether the FINRA Facility allows a trade report to be corrected without cancelling the original trade report. The different FINRA Facilities have different functionality with regards to correcting and cancelling trade reports. For more information on reporting cancellations, corrections, and reversals to the TRF/ADF/ORF, see Section 311 of FINRA's Trade Reporting FAQs.

Below are descriptions and CAT reporting requirement for four different trade cancellation and correction scenarios.

Scenario 1: An Industry Member executes a trade for 1,000 shares and correctly reports the MEOT to CAT for 1,000 shares but incorrectly reports the trade to a FINRA Facility for 100 shares. The FINRA Facility allows for corrections of trade reports without cancelling the original trade report and links the corrected trade report by reference to the original trade report. The Industry Member corrects the trade report to 1,000 shares without cancelling the original trade report and the Compliance ID or FINRA Control Number on the corrected trade report remains the same as the Compliance ID or FINRA Control Number on the original trade report.

In this scenario, the Industry Member is only required to report a single MEOT linking to the original trade report because the data in the MEOT was correct and it will link to the original trade report which will link by reference to the new trade report.

Scenario 2: An Industry Member executes a trade for 1,000 shares and correctly reports the MEOT to CAT for 1,000 shares but incorrectly reports the trade to a FINRA Facility for 100 shares. The FINRA Facility does not allow for corrections of trade reports so the Industry Member must cancel the original trade report and enter a new one. The Industry Member enters the same Branch Sequence Number on the corrected trade report as was on the original (cancelled) trade report.

In this scenario, the Industry Member is only required to report a single MEOT because the data in the MEOT was correct and it will link to both the original (cancelled) trade report and the new trade report via the tapeTradeID/Branch Sequence Number since the Industry Member entered the same Branch Sequence Number on the corrected trade report as was on the original (cancelled) trade report.

Scenario 3: At 10 am, an Industry Member executes a trade at 9.99 and reports the MEOT to CAT with a price of 9.99. At 10:01 am, the Industry Member then realizes that the trade should have been executed at 9.98 so it cancels the original trade report and enters a new trade report at 9.98 and execution time of 10:01 am.

In this scenario, the Industry Member is required to report two MEOTs- one linking to the original (cancelled) trade report and a second linking to the new trade report. Otherwise, the Industry Member will receive trade linkage errors.

Scenario 4: An Industry Member executes a trade for 1,000 shares but incorrectly reports the MEOT to CAT for 100 shares and incorrectly reports the trade to a FINRA Facility for 100 shares. The FINRA Facility allows for corrections of trade reports without cancelling the original trade report and links the corrected trade report by reference to the original trade report. The Industry Member corrects the trade report to 1,000 shares without cancelling the original trade report and the Compliance ID or FINRA Control Number on the corrected trade report remains the same as the Compliance ID or FINRA Control Number on the original trade report.

In this scenario, the Industry Member is required to link the MEOT for 100 shares to the original trade report for 100 shares and then submit a correction (actionType= 'COR') of the MEOT to correct the share quantity to 1,000 shares. The 'COR' MEOT will link to both the original trade report and the corrected trade report via the tapeTradeID/Compliance ID or FINRA Control Number since the Industry Member entered the same Branch Sequence Number on the corrected trade report as was on the original (cancelled) trade report.

E30. Pursuant to the SEC's Exemptive Order dated June 11, 2020, instead of requiring Industry Members to record and report to CAT a cancelled trade indicator for trades that are cancelled, FINRA Facility Data submitted to the Central Repository by FINRA would be the source of the cancelled trade indicator. Does this apply if the trade is reversed in the FINRA Facility on a subsequent day?

Added: ***07/28/2020***

Yes. FINRA rules and FINRA Facility system validations require that firms refer to the original trade report in the report of the reversal by including the control number assigned to the original report by the FINRA Facility and the original report date. Because the reversal is linked by reference to the original trade, the Industry Member is not required to report the reversal to CAT by deleting the original MEOT. The FINRA Facility Data reported to CAT by FINRA will be the source of the reversal. After the reversal, if a new trade is reported to the FINRA Facility, a new MEOT would be required and must include a new tapeTradeID, irrespective of whether the execution date on the new trade report is the same as the original trade.

For more information on reporting cancellations, corrections, and reversals to the TRF/ADF/ORF, see Section 311 of FINRA's Trade Reporting FAQs.

E31. If an Industry Member routes an order to another Industry Member or exchange and it is rejected because a data element was malformed and the message was unable to be read or parsed, is the Industry Member required to report the related order events to CAT

Added: ***10/06/2020***

given that they might reject (for example, for a malformed symbol or optionID that is not on the CAT Reportable Equity/Options Securities Symbol Master list)?

No, order events for order messages that cannot be read or parsed by the destination venue are not required to be reported to CAT by the sender or receiver.

F. Representative Orders

F1. What is a representative order? **Updated:** ***12/13/2019***

A representative order is defined as an order originated in a firm owned or controlled account, including principal, agency average price and omnibus accounts, by an Industry Member for the purpose of working one or more customer or client orders. For example, if an Industry Member receives five customer or client orders in the same symbol, the Industry Member may aggregate those orders into a single aggregated order to be routed from a firm owned or controlled account for execution. Upon receipt of the execution in the firm owned or controlled account, the firm would fill the five customer or client orders from the firm owned or controlled account. Another example of a representative order is a principal order that is originated by an Industry Member and routed to the street, and upon execution, the customer or client order is then executed on a principal basis, either riskless or otherwise. See Section 2.3 of the CAT Industry Member Reporting Scenarios document for specific examples of how representative orders are reported.

F2. When an order is executed on a riskless principal basis and reported to a TRF using the alternative method of trade reporting, is the non-media riskless principal TRF report required to be linked to the related CAT Order Fulfillment Event? **Added:** ***11/15/2018***

A. No. Unlike OATS, the CAT Order Fulfillment report is not required to be linked to any related non-media riskless principal regulatory report. Because the street side order and any related media reported trades are linked to the related customer orders in CAT (subject to the phased implementation schedule), linkage of the CAT Order Fulfillment Report to the related non-media TRF report is not required.

F3. How does a CAT Reporter determine the manner in which an agency order filled on an average price basis should be reported? More specifically, when should an Order Fulfillment (as reflected in Scenario 2.3.4 Fill of a Single Customer Order on an Average Price Basis in the CAT Industry Member Reporting Scenarios document) be used instead of Route Reports? **Updated:** ***10/06/2020***

If an Industry Member's order handling and/or reporting system does not allow for a route to be directly associated with the customer order or child order (with the same Order ID) and instead must generate/report a route from a separate order (with a different Order ID) created by the Industry Member for the purpose of working the customer order, then an Order Fulfillment should be used as described in Scenario 2.3.4 Fill of a Single Customer Order on an Average Price Basis in the CAT Industry Member Reporting Scenarios document.

More simply put, if an Industry Member is able to report the route directly linked to the customer order, the Industry Member should report Order Route events in accordance with Scenario 2.1.6. If the Industry Member is unable to report Order Route events, the Industry Member must report a representative order in accordance with Scenario 2.3.4.

Added: ***11/15/2018***

F4. BD A receives orders from four separate customers totaling 10,000 shares, all with instructions to handle as agent. BD A sends one larger order, properly marked as agency, to a Participant exchange or another market center in an attempt to obtain an execution for these four orders. BDA holds the individual customer orders and never gives up control of these orders to any other broker-dealer or market center. Upon receipt of an execution of the larger order, the shares are recorded in my firm's agency allocation account. Subsequently, BDA allocates the shares from the agency allocation account to the individual customer accounts based upon a predetermined allocation methodology. How should these orders and related executions be reported to CAT?

In this scenario, the Industry Member must report four New Order Events to reflect the receipt of each customer order and an individual Order Fulfillment Event to show the fill of each customer order. Additionally, the Industry Member must report a New Order Event to reflect the aggregated representative order and any related Route Events. In Phase 2c, the street side representative order must be linked to the individual customer orders.

F5. Are Industry Members required to link a Representative Order with the underlying order(s) for the Representative Order? **Added: *10/08/2019***

Yes, Industry Members are required to link a Representative Order with the underlying orders that they represent. Specifically, Industry Members are required to record and report to the Central Repository: (1) for original receipt or origination of a Representative Order, the CAT-Order-ID(s) and quantities of the underlying order(s), and whether linkage to the underlying order(s) is required, and (2) if the Representative Order is modified or cancelled, the CAT-Order-ID(s) and quantities of the underlying order(s). While all Representative Orders must be reported beginning in Phase 2a, the linkage requirements to the underlying orders will be phased in as described in the Industry Member Technical Specifications.

F6. Are there any exceptions to the requirement to link Representative Orders with the underlying order(s)? **Added: *10/08/2019***

As stated in FAQ F5, Industry Members are required to link a Representative Order with the underlying orders that they represent. There are limited instances where linkage is required at the client fill level rather than the order level using the Firm Designated ID ("FDID") of the firm owned or controlled account from which the customer order was filled. Specifically, for orders that are originated in different systems that are not linked in an Industry Member's systems, such as a customer order originated in an Order Management System ("OMS") and represented by a principal order originated in an Execution Management System ("EMS") that is not linked to the OMS, Industry Members are required to link the fill of the customer order to the FDID of the firm owned or controlled account that was used to originate and execute the Representative Order. Further, such Representative Orders must be reported to CAT with an indicator reflecting the order is eligible for customer fills from an unlinked system. Appendix C of the Industry Member Technical Specifications provides details of the required linkages in these workflows. Industry Members should note that explicit linkage at the order level in these workflows may be required in future phases of CAT reporting.

The only Representative Order workflow in which linkage is not required at either the order level or the fill level is that in which a firm receives a client order, guarantees an execution price (e.g., GVWAP) and then originates proprietary orders in an effort to work the client order. Because the client order may not ultimately be filled from the proprietary order(s) if the guaranteed price is not achieved, direct linkage is not required. Although direct linkage is not required to the client fill, the proprietary orders originated to work the client order must be marked as a Representative Order and designated as part of a price guarantee scenario. Appendix C of the Industry Member Technical Specifications provides the specific reporting requirements for price guarantee scenarios.

F7. What is the difference between order level linkage and fulfillment level linkage on a representative order? **Added:** ***04/07/2020***

In representative order scenarios, the representativeInd field in a New Order event indicates the type of representative order being reported, and whether order level linkage is required. Order level linkage is specified through the aggregatedOrders field of the representative order's New Order event, which identifies each related customer New Order event that is being represented. Fulfillment level linkage is identified through the fulfillmentLinkType field, which indicates the type of fulfillment and whether linkage is required. Fulfillment level linkage is specified through the firmDetails field in an Order Fulfillment event, and identifies the related representative order from which the fill was obtained.

Order level linkage does not determine fulfillment level linkage. A representative order may have order level linkage without fulfillment level linkage (e.g., unexecuted order), and may have fulfillment level linkage without order level linkage (e.g., a customer order filled from a pre-existing principal order such as a manning execution, or in the case of a disconnected OMS/EMS where linkage is not possible). A representative order may also have both order and fulfillment level linkage with different values populated in the representativeInd and fulfillmentLinkType fields (e.g., the firm order originated to represent the order was not the order that was ultimately used to fill the customer order). Refer to Appendix C of the IM Technical Specifications for additional information.

G. Manual Orders

G1. Is a CAT Reporter required to report two separate timestamps for Manual Order Events? **Added:** ***02/13/2018***

Yes, a CAT Reporter is required to report two separate timestamps for Manual Order Events that are entered into an electronic system. If an order is received manually and then later entered into an electronic system for further handling and execution, the CAT Reporter must report both the manual receipt time and the Electronic Capture Time. Specifically, CAT Reporters are required to record and report: (1) the time of a Manual Order Event in increments up to and including one second; and (2) the time when a Manual Order Event has been captured electronically in an order handling and execution system of the Participant or Industry Member ("Electronic Capture Time") in milliseconds. (See Section 6.8 of the CAT NMS Plan available at SEC Approved CAT NMS Plan (11/15/2016))

G2. Are orders received via the telephone and then manually entered into a clearing firm's system considered electronic? **Added:** ***11/15/2018***

No. Orders received manually by an Industry Member, such as via the telephone, and then entered by the Industry Member into its clearing firm's system are considered manual orders received by the correspondent and routed electronically to the clearing firm. As such, the correspondent Industry member would report a New Order with the manualFlag set to True and an Order Route Event with the manualFlag set to False. The clearing firm would report an Order Accept Event with the manualFlag set to False.

G3. What does the manualFlag field represent? **Added:** ***11/15/2018***

The manualFlag field identifies if an order was received manually or electronically. If the manualFlag is set to True, then the eventTimestamp may be reported in second granularity. If the manualFlag is set to False, then the event timestamp must be reported to at least the millisecond granularity. Additionally, if an event is

received manually and then captured electronically, then the manualFlag must be set to True, the eventTimestamp populated with the time of receipt and the electronicTimestamp field must be populated with the time the order was electronically captured.

G4. If a broker receives a telephone call from a customer who places an order for 100 shares of ABC while on the phone, and the broker simultaneously enters the order into his/her firm's order handling and execution system as the broker receives the order from the customer over the phone, does the firm need to report to the CAT both a manual receipt time and an Electronic Capture Time?

Added: ***01/17/2019***

Yes. In this scenario, the manual time of order receipt and the Electronic Capture Time are the same because the Industry Member broker has entered the order into his/her firm's order handling and execution system simultaneously with the receipt of the order. The Industry Member is required to report both the manual time of order receipt and the Electronic Capture Time, and the same timestamp should be reported in both fields in milliseconds.

If, however, there is a delay between the time the Industry Member broker receives the order on the telephone and the time in which the broker enters the order into his/her firm's order handling and execution system, then the Industry Member must report two distinct timestamps, one for the manual time of order receipt and one for the Electronic Capture Time, as described above in FAQ G.1.

H. ATS

H1. If an Industry Member holds a peg order, is the Industry Member required to report to the CAT a modification to the peg order every time the market moves?

Updated: ***03/24/2020***

Each time an Industry Member reprices a peg order based on a market move (e.g., when there is a change in the national best bid or offer or the best bid or offer on a particular exchange, as applicable based on the terms of the order), the Industry Member must report a price modification of the peg order to the CAT pursuant to Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan, if the price is modified. If the Industry Member does not reprice a peg order when the market moves, the Industry Member does not need to report a modification of the peg order to the CAT since the order was not modified by either the customer or the Industry Member. For example, for both displayed and non-displayed alternative trading systems (ATSs), if an ATS's matching engine reprices a peg order when the market moves, the price modification must be reported to the CAT. If a matching engine does not reprice a peg order when the market moves, there is no requirement to report a price modification to the CAT.

Example 1: A display ATS receives a buy order with a primary peg instruction and a limit price of $10. The current market is 9.98 and accordingly, the order is displayed at 9.98. The NBB subsequently moves to 9.99. The ATS reprices the order and re-displays it at 9.99. The re-pricing of this order must be reported to CAT by the ATS.

Example 2: An ATS receives a buy order with a primary peg instruction and a limit price of $10. The order is not displayable or routable and the ATS has no sell orders that are eligible to trade with the buy order. The NBB subsequently moves to 9.99 and the ATS receives no other sell orders that are eligible to trade with the buy order. The ATS takes no action on the open buy order when the NBB moves to 9.99, therefore there is no CAT reportable event.

Example 3: An ATS receives a buy order with mid-point peg instruction when the NBBO is 9.85 x 10. The order is not displayable or routable and the ATS has no sell orders that are eligible to trade with the buy order. The NBBO subsequently moves to 9.90 x 10. The ATS then receives a market order to sell that is eligible to trade with the buy order and the two orders are crossed at 9.95. Because the ATS did not re-price the buy order prior to executing it, there is no CAT reportable event required to reflect a price modification of the buy order to 9.95.

H2. Must a FINRA member ATS use its ATS MPID to report ATS activity to CAT? **Added:** ***11/15/2018***

Yes. FINRA member ATSs must use the ATS MPID when reporting ATS activity to CAT.

H3. What should be populated in the "nbboTimestamp" fields on the New Order, Order Accept, Child Order, Child Order Modified, Order Modified, Order Adjusted and Trade Events for ATSs? **Updated:** ***06/18/2019***

The nbboTimestamp field should be populated with the time that the ATS referenced, or "looked up" the existing reference price.

Example:

A sell order is received by an ATS at 10:00:00:007. The ATS must then identify the NBBO in effect to determine if the order is marketable. The relevant times are as follows:
9:57:47.768 NBBO becomes 10 bid, 10.02 offer 1×1 9:58:23.324 NBBO is updated to 10 bid, 10.02 offer 5 x1 10:00:01.490
NBBO is updated to 10.01 bid, 10.03 offer 1 x 1
ATS Order Receipt Time: 10:00:00:007 ATS looks up existing NBBO: 10:00:00.008
The ATS should report a timestamp of 10:00:00.008 in the nbboTimestamp field and an NBBO in effect at time of order receipt of 10 bid, 10.02 offer. The size is not required to be reported but is optional.

H4. A firm operates a display ATS that only publishes periodic snapshots of aggregate quotes based on a pre-determined frequency (e.g., every X milliseconds). The aggregate quote published only reflects open interest at the time of the snapshot. Consequently, there may be orders that have been received, executed, canceled, or repriced as the result of a change in NBBO (or other relevant reference price), but no aggregate quote will be published until the time of the next snapshot. Is the ATS required to generate and report order display modifications under these circumstances? **Added:** ***11/15/2018***

For purposes of FINRA Rule 4554, because display is not on an order by order basis, an ATS that only displays aggregate level pricing information at pre-determined intervals of time is not required to report order display modifications to CAT.

H5. An ATS receives an IOC order and prior to obtaining any applicable reference price necessary to process the order, the ATS determines there is no contra side interest available for execution. Consequently, the ATS immediately cancels the order back to the subscriber without ever determining an applicable reference price. What should the ATS populate in the NBBO (or other applicable reference price) information fields? **Added:** ***11/15/2018***

Because the order was cancelled before the ATS referenced the NBBO (or other applicable reference price), there would be no such information to report. Therefore, the ATS should populate the nbboSource field with “NA”.

H6. How should an ATS report NBBO (or other relevant reference price) information if the NBBO is invalid or one sided at the time the ATS referenced the NBBO (or other relevant reference price)? **Added:** ***11/15/2018***

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One sided or invalid prices should be reflected as zero. The time the ATS referenced the NBBO (or other relevant reference price) and NBBO source must still be reported.

H7. Is the handlingInstructions field required to be populated by ATSs when the atsOrder Type includes a condition that is also an allowable handlingInstruction value, such as Add Liquidity Only? **Added: *11/15/2018***

If the ATSs' Order Type encompasses the handling instruction, then the handlingInstructions field would not be required. For example, if ATS 1 has an Order Type that is NBBO midpoint peg, add liquidity only, then the handling instruction of Add Liquidity Only ("ALO") would not be necessary since the Order Type includes the add liquidity only restriction.

I. Foreign Securities

I1. Are orders in foreign securities reportable? **Updated: *08/27/2020***

The origination or receipt of an order involving any security that meets the definition of an NMS security pursuant to SEC Rule 600 must be reported to the CAT, regardless of where the order is ultimately executed. This includes any NMS security that is also listed on a foreign exchange ("dually listed"). If the order is sent to a foreign market for execution, the CAT Reporter is required to report the relevant Reportable Events for the order (e.g., origination or receipt of the order and the routing of the order to the foreign market). All prices must be converted into U.S. dollars based on the conversion rate applicable at the time of the transaction.

Orders in foreign securities that are OTC Equity Securities are required to be reported to the CAT where the resulting execution is subject to transaction reporting under FINRA Rule 6622. Pursuant to FINRA Rule 6622(g), the following transactions in foreign securities that are OTC Equity Securities are *not* reportable: (1) the transaction is executed on and reported to a foreign securities exchange; or (2) the transaction is executed over-the-counter in a foreign country and reported to the regulator of securities markets of that country. CAT reportable orders in foreign securities that are OTC Equity Securities must be reported to CAT using the US symbol, and all prices must be converted into U.S. dollars based on the conversion rate applicable at the time of the transaction.

The CAT reporting requirement for foreign securities is consistent with FINRA's OATS reporting requirements for foreign securities. (See OATS OTC FAQs for Foreign Equity Securities Traded in the US and Foreign Equity Securities available at http://www.finra.org/industry/faq-oats-otc-faq;
and OATS for all NMS Stocks FAQ 6 available at http://www.finra.org/industry/faq-oats-all-nms-stocks-faq)

I2. If a firm receives an order in a foreign security that is an OTC Equity Security and routes the order to another broker-dealer who then executes the order in the US, what is the reporting obligation of the routing firm? **Updated: *09/02/2020***

Because the resulting execution of the order was subject to transaction reporting under FINRA Rule 6622, both the routing firm and the firm ultimately executing the order have a CAT reporting obligation, and must report the order to CAT using the US Symbol and the price in US Dollars.

If, by the end of the CAT Trading day, the Industry Member does not know the market of execution, or if the destination venue has not informed the broker-dealer of the market of execution, the Industry Member will have an obligation to report all order events for that order to CAT. Refer to FAQ I4 for additional guidance if the market of execution is not known by the end of the CAT Trading day.

I3. If an order in a foreign security that is an OTC Equity Security is broken up and executed across multiple markets, i.e., part of the order is executed in the US and part of the order is executed and reported in the foreign market, what are the CAT reporting obligations?

Updated: ***08/27/2020***

Orders received for foreign securities that are OTC Equity Securities must be reported if any resulting executions are subject to transaction reporting under FINRA Rule 6622. CAT reportable orders for foreign securities that are OTC Equity Securities must be reported to CAT using the US symbol and price in US dollars.

In this example, part of the order is executed over-the-counter in the US by the Industry Member and is therefore subject to transaction reporting under FINRA Rule 6622, and the other part of the order is executed and reported in the foreign market and therefore not subject to transaction reporting under FINRA Rule 6622. Thus, the firm would have an obligation to record and report a New Order event reflecting the receipt of the order, an Order Route event for each component sent abroad, an Order Fulfillment event for the portion executed and reported abroad, and a Trade event for each component executed by the Industry Member in the US.

Refer to FAQ I4 for additional guidance if the market of execution is not known by the end of the CAT Trading day.

I4. If an order is received under the US symbol of a foreign security that is an OTC Equity Security, and the market of execution is not known by the end of the CAT Trading day, does the firm have a CAT reporting obligation?

Updated: ***09/02/2020***

Yes. As stated in FAQ I1, orders received for foreign securities that are OTC Equity Securities must be reported if any resulting executions are subject to transaction reporting under FINRA Rule 6622. If an order is received in the US symbol and the market of execution is not known by the end of the CAT Trading day on which the order was received, all events for the order must be reported to CAT.

For example, if a firm receives an order in a foreign security that is an OTC Equity Security that is routed to a foreign market, and the order is not executed before the time the firm is required to report to CAT (i.e. the firm does not know if there will ultimately be a transaction reporting requirement under FINRA Rule 6622), then the firm should submit the New Order event and Order Route event to CAT. If the order is later fully or partially executed and reported in a foreign market, since an Order Route event was previously reported to CAT, the firm would submit an Order Fulfillment event indicating that the order was filled on the foreign market, as applicable.

Refer to FAQ I6 for guidance on orders that can only be executed and reported in a foreign market.

I5. What are an Industry Member's CAT reporting obligations when a US symbol is not available on the day an order is received and executed? For example, an order is received and executed on Monday at which time a symbol is requested. The symbol, however, is not issued until Wednesday.

Added: ***11/15/2018***

Industry Members receiving orders in foreign equity securities without a US symbol for which they have a trade reporting obligation must: 1) promptly request a symbol; and 2) comply with the CAT recording requirements under the Plan. Once a symbol becomes available, the Industry Member must report the trade to FINRA pursuant to FINRA Rule 6622 and report all applicable information to CAT in accordance with the Plan. Data submitted to CAT with an Event Timestamp prior to the symbol issuance date will not be marked late. Industry Members may, however, be asked to demonstrate that a symbol was promptly requested upon execution of the trade.

I6. If an order is received under the US symbol of a foreign security that is an OTC Equity Security, and the customer directs that the order only be executed in a foreign market, is this type of directed order required to be reported if the order is not executed by the end of the CAT Trading day? **Updated:** ***08/27/2020***

No. If the terms of the directed order require the firm to execute the order in a foreign market, and the firm knows that the order will be executed and reported in the foreign market (and thus not subject to transaction reporting under FINRA Rule 6622), the firm would not be required to report to CAT any events related to that order.

I7. If an order is received under the US symbol of a foreign security that is an OTC equity security and the firm decides to send the order to a foreign market to be executed and reported, but the order ultimately gets executed in the US, does the firm have a CAT reporting obligation? **Updated:** ***08/27/2020***

If the firm has decided to send the order to a foreign market to be executed and reported (and thus there would be no transaction reporting requirement under FINRA Rule 6622), the firm would not be required to report to CAT any events related to that order. However, if, for any reason, the order is ultimately executed in the US (and thus subject to transaction reporting under FINRA Rule 6622), the firm would be required to submit all CAT reportable events related to that order with the original time of order receipt as the eventTimestamp. CAT will mark these events late. Firms that display a pattern or practice of reporting orders late may be subject to formal review for potential violations of the CAT Rules.

I8. If a non-US broker-dealer routes an order to a US broker-dealer, how is the US broker-dealer required to report the receipt of the order to the CAT? **Added:** ***01/07/2020***

The receiving US broker-dealer is required to report the receipt of an order from a non-US broker-dealer in the same way as it would report the receipt of an order from a Customer. Specifically, the receiving US broker-dealer would report the receipt of this order as the original receipt of the order from the non-US broker-dealer, and the receiving US broker-dealer would report the Firm Designated ID of the Customer, which is the non-US broker-dealer. The US broker-dealer would not report the ultimate customer of the non-US broker-dealer.

I9. If a Reportable Event is priced in a non-U.S. dollar currency, how will such prices be reported to the CAT? **Added:** ***09/22/2020***

If a Reportable Event is priced in a non-U.S. dollar currency, CAT Reporters are required to convert such prices into U.S. dollars based on the conversion rate applicable at the time that the Reportable Event occurred and report the prices in US dollars to the CAT. Although a specific conversion methodology is not prescribed, any methodology must be applied consistently by the Industry Member. The treatment of prices in non-U.S. dollar currencies is consistent with FINRA's treatment of such prices under OATS reporting requirements (See Compliance FAQ C71 available at: http://www.finra.org/industry/faq-oats-compliance-faq).

I10. When must the senderType field be populated with a value of 'O'? **Added:** ***01/26/2021***

The *senderType* field on an Order Accepted event (MEOA) must only be populated with a value of 'O' when the receiving party is voluntarily reporting an order in the OTC Equity symbol of a foreign security that was not required to be reported to CAT because it was executed outside the U.S. Any Order Accepted event that was

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required to be reported to CAT and received from another Industry Member must be populated with a *senderType* value of 'F'. The *senderType* value of 'O' must not be used as a default for all orders in foreign equity securities that are routed between Industry Members; it should only be used in the manner described above. Refer to the Industry Member Scenarios Document for further details.

I11. When must the destinationType field be populated with a value of 'O'? **Added: *01/26/2021***

The *destinationType* field on an Order Route event (MEOR) must only be populated with a value of 'O' when an order for the OTC Equity symbol of a foreign security is routed between Industry Members and the routing party does not provide instructions on where the order should be executed and does not know if the receiving party will have a reporting obligation. If an order in the OTC Equity symbol of a foreign security is not eligible to be executed outside the United States, then the *destinationType* value of 'F' must be used. The *destinationType* value of 'O' must not be used as a default for all orders in foreign equity securities that are routed between Industry Members; it should only be used in the manner described above. Refer to the Industry Member Scenarios Document for further details.

J. OTC Equity Securities

J1. Are quotations in OTC Equity Securities that are sent by an Industry Member to foreign exchanges reportable to CAT? **Updated: *06/18/2019***

Quotations in OTC equity securities sent to foreign exchanges are required to be reported only in those instances where a resulting execution is subject to the transaction reporting requirements in FINRA Rule 6622. The requirements of FINRA Rule 6622 do not apply to transactions in foreign equity securities that are not NMS Stocks provided that: (1) the transaction is executed on and reported to a foreign securities exchange; or (2) the transaction is executed over the counter in a foreign country and is reported to the regulator of securities markets in that country.

J2. What are the CAT reporting responsibilities with respect to OTC Link messages? **Updated: *11/03/2020***

Pursuant to Section 6.3(d) of the CAT NMS Plan ("Plan"), as applied to Industry Members by Section 6.4(d) of the Plan, Industry Members must report certain details to the CAT for each order and reportable event. These requirements are applied to Industry Members via each Plan Participant's CAT Compliance Rules.

"Order," as used in the Plan and the CAT Compliance Rules, is defined by SEC Rule 613(j)(8) to include "[a]ny order received by a member of a national securities exchange or national securities association from any person; [a]ny order originated by a member of a national securities exchange or national securities association; or [a]ny bid or offer." SEC Rule 300 more specifically defines "order" as "any firm indication of a willingness to buy or sell a security, as either principal or agent, including any bid or offer quotation, market order, limit order, or other priced order." Note that neither indications of interest ("IOIs") nor requests for quotes ("RFQs") fall within the definition of an order. See, e.g., CAT FAQs B3 and B38. A "reportable event" is defined by SEC Rule 613(j)(9) to "include, but not be limited to, the original receipt or origination, modification, cancellation, routing, and execution (in whole or in part) of an order, and receipt of a routed order."

Messages sent through OTC Link ATS constitute "orders," as defined above, for purposes of CAT reporting obligations to the extent such messages represent a "firm indication of a willingness to buy or sell a security." OTC Link ATS and the OTC Link ATS broker-dealer subscribers are required to report all applicable CAT reportable events relating to such orders, both executed and unexecuted.

As set forth in Table 1 (Industry Specifications Phased Approach) of the Industry Member Technical Specifications (see, e.g., Phase 2a spec version 2.2.1 r7, dated 9/9/2020), all OTC Link messages are reportable as orders, tentatively scheduled for Phase 2d, but no later than July 2022. Detailed reporting scenarios will be forthcoming.

J3. What are the reporting obligations for OTC Link messages directed by an OTC Link ATS subscriber to a Global OTC quote displayed on the OTC Link ATS? **Updated: *01/08/2021***

OTC Link trade messages directed by an OTC Link ATS subscriber to OTC Link ATS in response to a Global OTC quote meet the definition of an order. Because an immediately actionable order is sent to Global OTC as the result of an OTC Link message, the OTC Link ATS subscriber must report the order and route, even if the order is not ultimately executed. Under the Industry Member CAT Reporter phasing schedule, OTC Link ATS subscribers would have an obligation to report to CAT a New Order event and Order Route event for each OTC Link trade message directed by the OTC Link ATS subscriber to OTC Link ATS in response to a Global OTC quote, both executed and unexecuted, beginning in Phase 2a.

However, the Participants are aware that not all Industry Members fully understood that OTC Link trade messages directed by the OTC Link ATS subscriber to OTC Link ATS in response to a Global OTC quote constitute orders (and not negotiations). Given this, the Participants are deferring until Phase 2c the obligation for OTC Link ATS subscribers to report these messages as set forth above. In other words, in Phase 2a, Industry Members can either:

-Report OTC Link trade messages that they direct to OTC Link ATS in response to a Global OTC quote to CAT as negotiated trades. If an OTC Link trade message directed by an OTC Link ATS subscriber to OTC Link ATS in response to a Global OTC quote results in an execution, the OTC Link ATS subscriber would report a New Order event and a Trade event to CAT. While this may generate interfirm linkage errors beginning in October 2020, Industry Members will not be expected to correct such errors, and the such errors will not be considered for Industry Member compliance purposes.
-An Industry Member would have the option – but would not be required to – report a New Order event and Order Route event for these messages in Phase 2a.

Beginning in Phase 2c, OTC Link ATS subscribers must report a New Order event and Order Route event to CAT for all OTC Link trade messages that they direct to OTC Link ATS in response to a Global OTC quote, both executed and unexecuted. Further, the Order Route event must indicate a route to OTC Link ATS and contain the *handlingInstructions* value 'J3'. Global OTC would have an obligation to report an Order Accepted event indicating receipt from OTC Link ATS for each trade message received. Further, the *handlingInstructions* value on the Order Accepted event must contain the value 'J3'. Since OTC Link ATS does not have a CAT reporting obligation in Phase 2c, the 'J3' *handlingstructions* value is designed to prevent interfirm linkage errors in Phase 2c. Beginning in Phase 2d, OTC Link ATS will report receipt of the order from its subscriber and the route to Global OTC. Thus, in Phase 2d, the *handlingInstructions* value 'J3' will no longer be required and will be removed as an allowable value.

Please refer to the Phase 2c Industry Member Reporting Scenarios for additional details.

Orders submitted directly to Global OTC by Global OTC subscribers are reportable as all other orders commencing in Phase 2a.

K. Options

K1. Will Options Clearing Corporation (OCC) data be included in the CAT? **Added: *03/21/2018***

OCC data regarding symbology and corporate actions will be included in the CAT.

K2. What Industry Member Data will be reportable to the CAT during Phase 2b of the revised implementation schedule? **Added: *10/17/2018***

During Phase 2b of the revised implementation schedule, Industry Members will be required to report to the CAT Industry Member Data related to Eligible Securities that are options and that is related to Simple Electronic Option Orders, excluding Electronic Paired Option Orders. "Simple Electronic Option Orders" mean orders to buy or sell a single option that are not related to or dependent on any other transaction for pricing or timing of execution that are either received or routed electronically by an Industry Member CAT Reporter. "Electronic Paired Option Orders" mean electronic option orders that contain both the buy and sell side that is routed to another Industry Member or exchange for crossing and/or price improvement as a single transaction on an exchange. Further, the events related to Simple Electronic Option Orders subject to reporting in Phase 2b are limited to those events which involve electronic receipt of an order, or electronic routing of an order. Electronic receipt of an order is defined as the initial receipt of an order by an Industry Member in electronic form in standard format directly into an order handling or execution system. Electronic routing of an order is the routing of an order via electronic medium in standard format from one Industry Member's order handling or execution system to an exchange or another Industry Member.

K3. Are responses to auctions reportable in phase 2b? **Added: *10/30/2018***

Yes. Responses to auctions of simple orders and paired simple orders are reportable in phase 2b. The order must be reported with a handling instruction of "AucResp" and the Auction ID must be reported in a name/value pair.

K4. Are options assignments required to be reported to CAT? **Updated: *06/18/2019***

No. Options assignments (the exercise of options contracts) are not orders, as defined by by SEC Rule 613. Therefore, options assignments are not required to be reported to CAT.

K5. Is the OPT handling instruction appropriate for buy/writes or option exercises and assignments? **Added: *11/15/2018***

In Phases 2a, 2b and 2c the OPT handling instruction is to be used in instances involving a combination trade in which the cash leg is the second leg of the transaction and the terms and conditions of the cash order are contingent upon the related option trade. In other words, the "OPT" code is appropriate when the price or size of a cash order is contingent upon a related option trade. The code is not intended to be used in conjunction with option exercises or assignments, which do not constitute CAT Reportable Events. The code would only be appropriate for a buy/write if, as explained above, the terms and conditions of the cash order were contingent upon the related option transaction. The reporting requirements of this scenario will change in Phase 2d.

K6. When an Industry Member receives a simple electronic order in Listed Options and solicits interest in the execution of the order, is the solicitation and the responses to the solicitation reportable in Phase 2b? **Updated: *09/10/2019***

Suppose that an Industry Member receives a simple electronic order for a Listed Option. The Industry Member then engages in a solicitation process to identify a contra party to pair the order against for execution on an exchange, and one or more market participants respond to the solicitation of interest. The Industry Member selects one or more of the responding market participants' order(s) to execute against the original order, and sends a paired order(s) to an exchange for execution. The Industry Member that received the original simple electronic order must report the receipt of the simple electronic order in Phase 2b. The Industry Members providing responses to the solicitation of interest do not have any reporting requirements in Phase 2b. In phase 2b, the Industry Member soliciting interest must report any simple electronic order received as the result of the solicitation process that is selected and sent on for execution using a handlingInstructions value of 'SR' (Solicitation Response). The routing of the paired order to the exchange would not be reportable until Phase 2d. However, if the original and contra-side solicited orders are routed to the exchange as unpaired, simple electronic orders, route events must be reported for each of the orders in Phase 2b. Potential Phase 2d reporting requirements for Industry Members providing responses to solicitations are currently under consideration by the Participants.

K7. This FAQ has been moved to section K. Options, as FAQ K8. **Updated: *01/28/2020***

K8. When an Industry Member receives a complex order including an equity leg and solicits interest in the execution of the order, is the equity leg component of the solicitation and the responses to the solicitation reportable in Phase 2a? **Updated: *12/18/2020***

Suppose that an Industry Member receives a complex order including an equity leg. The Industry Member then engages in a solicitation process to identify a contra party to pair the order against, and one or more market participants respond to the solicitation of interest. The Industry Member selects one or more of the responding market participants' order(s) to execute against the original order, and sends a paired order(s) to an exchange for execution. The Industry Member that received the original complex order must report the receipt of the equity leg component of the complex order in Phase 2a with a *handlingInstructions* value of 'OPT'. The Industry Members providing responses to the solicitation of interest do not have any reporting requirements in Phase 2a/2b. In phase 2a, the Industry Member soliciting interest must report any equity leg received as the result of the solicitation process that is selected and sent on for execution using *handlingInstructions* values 'SR' (Solicitation Response) and 'OPT'. The routing of the options legs of the complex order to the exchange would not be reportable until Phase 2d. However, the routing of the equity leg to the exchange or another Industry Member is reportable in Phase 2a.

Industry Members must report all responses to solicitation to CAT beginning in Phase 2c. Refer to FAQ B45 and the Phase 2c Industry Member Reporting Scenarios document for additional information.

K9. When sending orders to CAT, are Options Market Makers required to mark such orders with an open or close indicator? **Added: *12/10/2019***

Options Market Makers generally are not required to report open/close indicators on orders represented on/sent to an exchange. The CAT NMS Plan states that the open/close indicator does not need to be reported to CAT as part of the material terms of an order for Options Market Maker quotations. However, if exchange rules require an options market maker to include an open/close indicator when submitting orders to the exchange, options makers should submit the indicator for their orders to CAT as well.

K10. Does the exemption for Options Market Maker quotes apply to orders that function as quotes? **Updated: *12/14/2020***

Section 6.4(d)(iii) of the CAT NMS Plan, which describes the exemption for Options Market Maker quotes, states that "[w]ith respect to the reporting obligations of an Options Market Maker with regard to its quotes in Listed Options, Reportable Events required pursuant to Section 6.3(d)(ii) and (iv) shall be reported to the Central Repository by an Options Exchange in lieu of the reporting of such information by the Options Market

Maker." Section 6.4(d)(iii) also requires that, pursuant to the Compliance Rules of the Options Exchanges, Options Market Makers are required to report to an Options Exchange the time at which a quote in a Listed Option is sent to the Options Exchange (including any applicable quote modifications and/or cancellation time when such modification or cancellation is originated by the Options Market Maker). Such time information shall be reported to the Central Repository by the Options Exchange in lieu of reporting by the Options Market Maker.

The Options Market Maker exemption set forth in Section 6.4(d)(iii) applies to Options Market Maker quotes. Each Options Exchange determines which messages from Options Market Makers are subject to this provision pursuant to its rules. For additional information regarding the messages that each Options Exchange will report to the CAT on behalf of Options Market Makers and applicable protocols, please see: Options Exchange Protocols- December 2020 . To the extent that the messages an Options Exchange will report on behalf of Options Market Makers include order messages that functions as quotes, the Options Exchange will file a proposed rule change with the SEC to amend its rulebook to define which order messages (as opposed to quote messages) Options Market Makers will not need to separately report to CAT. As noted in the exemption for Options Market Maker quotes, Options Market Makers will be required to report to an Options Exchange the time at which an order that functions as a quote in a Listed Option is sent to the Options Exchange (including any applicable order modifications and/or cancellation time when such modification or cancellation is originated by the Options Market Maker). Such time information shall be reported to the Central Repository by the Options Exchange in lieu of reporting by the Options Market Maker.

K11. Can an Industry Member choose to report manual option events in Phase 2b, though they are not required until Phase 2d? **Added: *02/11/2020***

Yes. While manual options events are not required until Phase 2d, Industry Members may choose to report their manual options activity to CAT in Phase 2b. Industry Members may choose to report all of their manual options order activity, or may choose to report manual options activity on an order-by-order or system-by-system basis. However, as with all data reported to the CAT manual options activity voluntarily reported in Phase 2b must be timely, accurate and complete. Further, the prior/next unlinked fields must not be populated on reported orders events within the same intrafirm lifecycle immediately preceding or following a voluntarily submitted manual option event. Manual options activity reported in Phase 2b will be included in the firm's error rate. Additionally, any rejected or unlinked manual options events must be corrected and resubmitted accordingly.

K12. The concept of selling long or short is not applicable to options. How should the side field be populated on options events for a sell order? **Added: *03/12/2020***

In Phase 2b, the Industry Member may populate any of the side values applicable to sell orders (i.e., SL, SS, SX). A new value applicable to options sell orders will be added for Phase 2d.

K13. If an Industry Member manually initiates a proprietary order and simultaneously enters the order into an OMS/EMS, is this considered a manual event or an electronic event? **Added: *03/12/2020***

Proprietary orders that are simultaneously entered into an OMS/EMS upon origination are always considered electronic. However, in Phase 2b it will be acceptable to report such events as either manual or electronic. Therefore, if an Industry Member has interpreted proprietary options orders manually entered into an OMS/EMS as manual events for Phase 2b, it will be acceptable to treat such events as manual in Phase 2b. Accordingly, if a proprietary order is routed electronically and the Order Route event is reported in Phase 2b, the priorUnlinked flag must be populated. Beginning in Phase 2d, proprietary orders manually initiated and simultaneously entered into an OMS/EMS must be reported to CAT as electronic events.

Public Appendix 1447

K14. Is it appropriate to use the OPT handling instruction when an equity order does not become executable until a related option trade has been executed, but is not part of a complex order such as a buy/write? **Added:** ***11/03/2020***

Orders that are not part of a complex (multi-leg) order, but are contingent on the execution of another order must be reported with a *handlingInstructions* value of 'CND' populated on the New Order event. This guidance applies for contingent orders involving just equities, just options or both equities and options.

This scenario is different from the 'OPT' handling instruction which must be used to report the equity leg of a multi-leg order involving an option in Phase 2a, where the price or size of a cash order is contingent upon a related option trade, such as a buy/write. The reporting requirements of 'OPT' use will change in Phase 2d when such orders must be reported as a multi-leg order.

L. Equity Floor Brokers

L1. How should orders sent to a Floor Broker on the New York Stock Exchange, NYSE American LLC or NYSE Arca, Inc. be reported to CAT? **Updated:** ***04/11/2019***

As described in the CAT Industry Member Technical Specification ("Tech Spec") document published by FINRA CAT LLC, certain events that occur within systems used by Floor Brokers on the NYSE's equities or options floors are required to be reported to CAT pursuant to SEC Rule 613(c)(7). Generally, Floor Brokers on both the equities and options trading floors receive orders from one of several sources and such orders are processed via an order management system ("OMS") before they are entered into an exchange for execution. For example, Floor Brokers may receive an order from within their own firm, which has electronically routed the order from one of its internal systems into the Floor Broker's OMS. For CAT reporting purposes, that transfer of an order from the firm's own internal system to that firm's Floor Broker OMS on the floor of the NYSE is likely CAT reportable as an intra-firm transfer/internal route as described in the Tech Specs and required by Rule 613(c)(7)(ii)(F) and Rule 613(c)(7)(iii). In another scenario, Floor Brokers may receive an order from an outside source and enter it into the firm's Floor Broker OMS. In this scenario, the Floor Broker must record and report the time of the order receipt as described in SEC Rule 613(c)(7)(i)(E), Appendix C at section A(1)(a)(iii) of the CAT NMS Plan and also described in the Tech Specs.

After a Floor Broker receives the order and the order is in the Floor Broker's OMS, the Floor Broker determines how to represent their order. A Floor Broker may, for example: 1) send the order back to the source if routed directly to the Floor Broker's OMS by another desk within the Floor Broker's firm; 2) electronically send the order directly to an exchange system for execution; 3) electronically route the order to a third-party provider that determines where to route the order (to an exchange or other execution venue); or 4) orally represent and then execute the order on the floor. Each of these scenarios may include events that trigger an obligation to report to CAT.

In the first three scenarios, electronically routing an order from the Floor Broker's OMS to another of the Floor Broker firm's internal systems, to an exchange, or to a third-party provider constitutes a CAT-reportable event pursuant to Rule 613(c)(7)(ii). For the fourth scenario, if the Floor Broker orally represents an order on the trading floor, no reportable events are occurring until an execution is reported. The execution triggers a CAT-reporting obligation for the Floor Broker, who is responsible for reporting the time of order execution pursuant to SEC Rule 613(c)(7)(v) and as described in the Tech Spec. The time of execution as required by Rule 613(c)(7)(v)(C) is the time at which the Trading Official (options floors) releases the order to the Floor Broker for reporting to the exchange, or is the time at which the DMM (equities floor) reports the matched trade to the exchange. The Floor Broker is responsible for reporting each CAT-reportable event required by Rule 613, although a Floor Broker may arrange for the exchange to report on the Floor Broker's behalf. The Floor Broker should contact NYSE Member Services to ensure reporting by the industry member reporting deadlines.

M. Firm Designated ID

Public Appendix 1448

M1. What is a Firm Designated ID ("FDID")? **Added:** ***08/15/2018***

FDID is defined in Section 1.1 of the CAT NMS Plan as "a unique identifier for each trading account designated by Industry Members for purposes of providing data to the Central Repository, where each such identifier is unique among all identifiers from any given Industry Member for each business date."

Under the CAT NMS Plan broker-dealers are required to report the FDID on each new order submitted to the Central Repository and the Central Repository will associate specific customers and their Customer IDs with individual order events based on the reported FDID. Given the purpose of the FDID under the CAT NMS Plan, it is important that this identifier be consistent across each business day of a broker-dealer.

M2. Can actual account numbers be used as the FDID when submitting data to CAT? **Updated:** ***01/17/2019***

The use of an actual account number as the FDID is prohibited to ensure the capture of sensitive data in CAT is minimized when its inclusion is not required to achieve the objectives of CAT. Specifically, the Operating Committee has determined that Industry Members must not assign as an FDID a customer's account number or any other number associated with the customer's account that could be used to effect a transaction in the account. Acceptable FDIDs may include, without limitation, a newly created unique identifier or an internal only identifier used by a broker-dealer that cannot be used to effect a transaction. Industry Members also may employ a masking methodology that would mask the actual account number prior to submission to CAT so that it could still be used by CAT to identify a single trading account within the Industry Member, but the identifier provided to CAT could not be used to effect a transaction in the account. See also FAQs M9 and M10 for additional information on masking.

M3. Can FDIDs change each Trading Day? **Added:** ***08/15/2018***

No. Unless a new account or entity identifier is assigned to a client or customer, each FDID must be unique and persistent for each trading account on any given business day so that a single account may be tracked across time within a single broker-dealer. For example, if an Industry Member assigns a new account or entity identifier to a client or customer for any reason, such as due to a merger, acquisition or some other corporate action, then a new FDID may be created to identify the new account identifier/entity identifier in use at the Industry Member for the entity.

M4. Which FDID must be provided in scenarios involving managed accounts where an order may be placed in a master account with subaccount allocations made at a later time? **Added:** ***08/15/2018***

The account or entity identifier used to place the order must be reported. In scenarios where a master/top account or entity identifier is used to place an order, the FDID representing the master/top account or entity identifier should be reported to CAT. In such scenarios, the FDID represents the master/top account or entity that is authorized to place orders for one or more legal entities or customers.

M5. Which FDID must be provided for firm owned or controlled accounts? **Added:** ***08/15/2018***

The FDID representing the account identifier used by the firm for the specific firm owned or controlled account in which the order was originated should be reported to CAT. For example, firms must specify whether an account used for a Reportable Event was a market making account, other proprietary trading account, agency allocation account or error account.

Public Appendix 1449

M6. If an Industry Member CAT Reporter uses multiple reporting vendors, should the FDID be reported by each vendor submitting new order events on behalf of the Industry Member CAT Reporter? **Added:** ***08/15/2018***

Yes. CAT allows multiple vendors to submit data on behalf of a single Industry Member CAT Reporter. Each vendor reporting new order type events on behalf of an Industry Member CAT Reporter would have to provide the FDID as required. An Industry Member CAT Reporter must ensure that the same FDID is used by all vendors submitting Reportable Events to CAT involving the same unique trading account at the Industry Member. It would not be acceptable for different vendors to use different FDIDs to represent the same unique trading account.

M7. How will regulators use the FDID? **Updated:** ***05/21/2020***

Before the reporting of Customer Account Information and Customer Identifying Information begins in July 2022 regulatory users of the CAT will use FDIDs to identify whether the same account is trading within a single broker-dealer. After the reporting of Customer Account Information and Customer Identifying Information begins, FDIDs will be used to link accounts to specific customers, including mapping accounts with common ownership (for instance, where a customer is associated with more than one FDID).

M8. When will Industry Members be required to report the FDID to the CAT? **Updated:** ***05/21/2020***

Industry Members (other than Small Industry Members) and Small Industry Members that are required to record and report information to FINRA's Order Audit Trail System pursuant to applicable SRO rules ("Small Industry OATS Reporters") must report FDIDs for the original receipt or origination of an order that is required to be reported in Phase 2a to the CAT beginning on June 22, 2020. Small Industry Members that are not OATS Reporters must report the FDID when they begin submitting data to CAT on December 13, 2021.

M9. CAT FAQ M2 prohibits use of a customer account number as the FDID. Does this apply to proprietary accounts of an Industry Member? **Added:** ***01/17/2019***

No. Each Industry Member must make its own determination whether it believes it is necessary to mask the actual account number for any proprietary account of the firm when reporting the FDID to CAT.

M10. CAT FAQ M2 states acceptable FDIDs may include, without limitation, a newly created unique identifier or an internal only identifier used by a broker-dealer that cannot be used to effect a transaction. Are there prescribed methodologies for masking account numbers? **Added:** ***01/17/2019***

No. The Plan Participants are not prescribing any specific methodology that must be used to mask or otherwise transform account numbers for the purposes of reporting FDIDs to CAT. Each Industry Member must, however, ensure the methodology used to mask or otherwise transform an account number does not result in a newly created unique identifier or an internal only identifier that can be used to effect a transaction or would not constitute "Customer Account Information" as defined in the CAT NMS Plan.

M11. Is the use of a Relationship ID to populate the FDID if the account structure is not available at the time of order receipt limited to only institutions? **Added:** ***06/18/2019***

No. If the trading account structure of an individual customer is not available when a new order is first received, as with an institutional client in the same circumstances, the Industry Member may populate the FDID with an identifier used by the firm to represent the individual customer's trading relationship with the Industry Member ("Relationship ID"). Please note that the Participants will make any filings with the SEC, as necessary, to reflect this guidance.

M12. Where can I find additional information regarding the Firm Designated Identifier ("FDID")? **Updated: *09/17/2019***

Additional information regarding the FDID may be found here and here.

M13. Does a Firm Designated ID apply to a trading account or to a Customer? Certain provisions in the CAT NMS Plan refer to Firm Designated IDs for Customers. **Added: *08/13/2019***

A Firm Designated ID applies to a trading account, not to a Customer. Specifically, a Firm Designated ID is defined in Section 1.1 of the CAT NMS Plan, in relevant part, as "a unique identifier for each trading account designated by Industry Members for purposes of providing data to the Central Repository." The Operating Committee recognizes that certain provisions of the CAT NMS Plan use phrases similar to "Firm Designated ID for each Customer." For example, Section 6.3(d)(i)(A) of the CAT NMS Plan refers to "Firm Designated ID(s) for each Customer," and Section 6.4(d)(ii)(C) of the CAT NMS Plan refers to "the Firm Designated ID for the relevant Customer." Notwithstanding this phraseology, the Firm Designated ID applies to a trading account, not to a Customer.

M14. If an Industry Member does not have an account number available to its order handling and/or execution system at the time of order receipt, what should be reported as the Firm Designated ID (FDID)? **Added: *02/11/2020***

In certain scenarios (e.g., institutional, managed accounts), the trading account structure may not be available when a new order is first received from a client and instead, only an identifier representing the client's trading relationship is available. In these limited instances, the Industry Member may populate the FDID with an identifier used by the firm to represent the client's trading relationship with the Industry Member ("Relationship ID") instead of an account number.

An example of such an identifier could be as follows:

- Big Fund Manager is known in Industry Member A's systems as "BFM1."
- When an order is placed by Big Fund Manager, the order is tagged to BFM1.
- Industry Member A could use BFM1 (masked version) as the FDID when reporting a new order from Big Fund Manager instead of the account numbers to which executed shares/contracts will be allocated at a later time via a booking or other system.

M15. What should be reported as the Firm Designated ID ("FDID") when an employee of the Industry Member is exercising discretion over multiple client accounts and creates an aggregated order for which a trading account number of the Industry Member is not available at the time of order origination? **Added: *03/12/2020***

When an employee of the Industry Member is exercising discretion over multiple client accounts and creates an aggregated order for which a trading account number of the Industry Member is not available at the time of order origination, the FDID can be populated by the Entity ID instead of the identifier for an account number. An Entity ID is an identifier of the Industry Member that represents the firm discretionary relationship with the client rather than a firm trading account.

An example of the use of an Entity ID as an FDID would be when Industry Member 1 has an employee that is a registered representative that has discretion over several client accounts held at Industry Member 1. The registered representative places an order that he will later allocate to individual client accounts. At the time the order is placed, the trading system only knows it is a representative of Industry Member 1 and it does not have a specific trading account that could be used for FDID reporting. Therefore, Industry Member 1 could report "IM1," its Entity ID, as the FDID with the new order.

N. Third Party Reporting

N1. Can CAT Reporting Agents report CAT Data to the CAT on behalf of an Industry Member without the Industry Member's consent? **Added:** ***10/17/2018***

No, a CAT Reporting Agent may not report CAT Data to the CAT on behalf of an Industry Member without the Industry Member's consent. As required in the CAT Compliance Rules, an Industry Member may enter into an agreement with a CAT Reporting Agent pursuant to which the CAT Reporting Agent agrees to fulfill the obligations of such Industry Member under the CAT Compliance Rules. Any such agreement is required to be evidenced in writing and the agreement must specify the respective functions and responsibilities of each party to the agreement that are required to effect full compliance with the requirements of the CAT Compliance Rules. Such agreement should include the date on which the CAT Reporting Agent should commence reporting to the CAT on behalf of the Industry Member. In addition, to begin reporting to the CAT, the Industry Member and the CAT Reporting Agent must complete the onboarding process with the Plan Processor. Notwithstanding the existence of an agreement with a CAT Reporting Agent, an Industry Member remains primarily responsible for compliance with the CAT reporting requirements.

N2. If one or more third parties (e.g., clearing firms) is used by an Industry Member to report data to CAT, who does the compliance obligation belong to if the third-party reporter is also a CAT Reporter? **Added:** ***11/15/2018***

Each Industry Member is responsible for the timeliness, accuracy and completeness of the data it is required to report to CAT regardless of who transmits the data to the CAT. Therefore, even if an Industry Member uses another CAT Reporter to report data on its behalf, the Industry Member remains fully responsible for the timeliness, accuracy and completeness of the data. Each Industry Member must have written procedures in place to ensure that the information reported by or on its behalf is timely, accurate, and complete.

N3. May an Industry Member use more than one third party to transmit data on its behalf to CAT? **Added:** ***11/15/2018***

Yes. More than one third party may transmit order events to CAT on behalf of a single Industry Member. Industry Members are responsible for ensuring that all required information is submitted to CAT via the third parties, and that the third parties do not send duplicate information to CAT.

N4. Are there any scenarios where an Industry Member can assume another CAT Reporter will report an order to CAT on its behalf absent any specific reporting agreement between the two CAT Reporters? **Added:** ***11/15/2018***

No. There are no scenarios where one CAT Reporter has an obligation to report orders on behalf of another Industry Member that uses its systems to route or execute orders. An agreement to use any third party for reporting to CAT must be agreed to by the two parties, evidenced in writing, and retained by both parties to the agreement. The agreement must specify the respective functions and responsibilities of each party. An Industry Member cannot assume that any third party will perform reporting on its behalf.

N5. Are Industry Members that report to CAT using a third-party vendor that submits reportable data to the CAT using a private line connection required to transmit their CAT reportable data to the third party vendor via a private line connection? **Added:** ***07/31/2019***

No. The connectivity standards in the CAT NMS Plan (i.e., Section 4.1.1 of Appendix D) only apply to connections directly into the CAT infrastructure. Although the connectivity standards in the CAT NMS Plan would not apply in this scenario, broker-dealers are encouraged to consider industry practices for connectivity designed to mitigate security and other risks.

N6. If an Industry Member introducing firm uses a third party service bureau's system, such as an Order Management System, provided by its clearing firm and the third party service bureau transmits data to CAT on behalf of the introducing firm, must there be a reporting agreement between the introducing firm and third party vendor? **Added:** ***04/07/2020***

Yes, Industry Members must have individual reporting agreements with each firm or service bureau transmitting data to CAT on the Industry Member's behalf. A reporting agreement between the Industry Member clearing firm and third party service bureau in this instance would not apply to the introducing Industry Member firm.

N7. If a firm uses a third party CAT Reporting Agent to submit data on its behalf, can the firm satisfy its CAT recordkeeping obligations by having the third party retain the data and provide it upon request? **Added:** ***08/12/2020***

Each Industry Member is responsible for complying with applicable CAT requirements, including those related to recordkeeping and record retention, set forth in the CAT Compliance Rules. Outsourcing a function to a vendor or other third party does not relieve the Industry Member of its ultimate responsibility for compliance with the CAT Compliance Rules or other applicable securities laws, rules or regulations (e.g., SEC Rule 17a-4). To the extent that an Industry Member seeks to rely on its third party CAT Reporting Agent to maintain and preserve records on its behalf, the Industry Member must take steps reasonably designed to ensure that its CAT Reporting Agent is capable of performing these functions consistent with the CAT Compliance Rules and other applicable securities laws, rules or regulations.

O. Technical Requirements

O1. What are the mechanisms for reporting to CAT? **Updated:** ***04/11/2019***

Public Appendix 1453

FINRA CAT LLC provides two mechanisms for submitting files: SFTP via a private network, and the Web via Reporter Web Portal. These mechanisms are described in the CAT Reporting Technical Specifications for Industry Members.

O2. What access methods are available to Industry Members to report to CAT? **Updated:** ***06/24/2019***

CAT supports network access for reporting order events via Private Lines (i.e., wan circuits and cross connects) and Remote Client VPN connections. FINRA CAT LLC will organize Private Lines connectivity options with Industry Members through the use of a Managed network Service Provider (MNSP). For Industry Members who require Private Line connections, Industry Members will be responsible for procuring access from an approved (MNSP) to authenticate and submit SFTP data uploads. The Reporter Portal will also be available over the MNSP connection(s). Alternatively the Industry Members may access the Reporter Portal via a browser based Remote Client VPN connection that will also be made available to Industry Members. All Industry Members must have access to the SFTP and CAT Reporter Portal in order to report and receive information about file and record rejections, statistics about order reporting, and announcements. In order to use SFTP and CAT Reporter Portal, Industry Members must register with CAT prior to the beginning of Phase 2a. If an Industry Member is using one or more third parties for reporting, it must work closely with those organizations in the CAT testing environment to resolve any issues before it begins reporting to the CAT production environment. More details regarding the MNSP and VPN access methods will be published in July once the MNSP vendor(s) is selected. For additional information, refer to the CAT Reporting Technical Specifications for Industry Members.

O3. Will FINRA CAT LLC provide some type of software/workstation for Industry Members to transmit the required order data? **Updated:** ***04/11/2019***

Yes, FINRA CAT LLC provides a CAT Reporter Portal that allows Industry Members to upload small files, as well as manually type and transmit the required order data. (This is only appropriate for Industry Members that will submit fewer than 500 order reports per day.) There are no other plans to provide Industry Members with software or a workstation to transmit the required data.

O4. If a clearing firm enters into agreements with each of its correspondents to transmit data to CAT on behalf of the correspondents, is a separate Reporter ID required for each correspondent? **Updated:** ***06/18/2019***

Yes. Clearing firms that enter into agreements with their correspondents to transmit data to CAT on behalf of their correspondents are required to use each correspondent's unique CAT Reporter IMID.

O5. Can order events for more than one CAT Reporter be submitted to CAT in a single file? **Updated:** ***06/18/2019***

No. A file may contain records for only one CAT Reporter IMID.

O6. Are back-up circuits required for reporting to CAT via SFTP? **Added:** ***11/15/2018***

There is no requirement to install a back-up circuit. Several different scenarios may apply, as follows:
If a broker-dealer experiences a short-term outage, for instance an internal network goes down during the day and the broker-dealer is unable to transmit before the deadline, the broker-dealer should note the outage in its books and records and transmit as soon as possible. In addition, it is recommended that a case be opened with the CAT Help Desk so that there is a record of the outage.

Public Appendix 1454

O7. Where can information on obtaining entitlement to CAT be found? **Added:** ***06/18/2019***

Information on CAT Entitlement, will be published in an Industry Member Onboarding User Guide on www.catnmsplan.com.

O8. What are the Web addresses used to transfer CAT data? **Added:** ***11/15/2018***

It is currently under development, and will be provided once available.

O9. Where can information on obtaining access to the private network for reporting to CAT be found? **Updated:** ***06/18/2019***

Information regarding connectivity and the registration process will be provided in the Industry Member Onboarding User Guide.

O10. Can files be sent to CAT using SFTP via the Internet? **Added:** ***11/15/2018***

CAT supports network access for reporting order events via VPN or direct connections. Once connected, files can be submitted via SFTP.

O11. Who do I contact if I need to change the configuration of my connection to the private network? **Updated:** ***06/18/2019***

If you need technical assistance, contact the CAT Helpdesk at 1-888-696-3348.

O12. Can records submitted via the CAT Web Portal be saved? **Added:** ***11/15/2018***

Functionality to save a copy of records submitted via the CAT Reporter Portal is anticipated. Further details will be provided in Reporter Portal User Guide.

O13. Where can the status of the CAT system be found? **Added:** ***11/15/2018***

The CAT System status and other announcements will be presented on the Reporter Portal.

O14. Can a CAT Reporter share its CAT connectivity with other affiliated CAT Reporters or affiliated CAT Reporting Agents? **Added:** ***02/25/2020***

Yes. A CAT Reporter may share its CAT connectivity (e.g., Industry Member or Plan Participant connectivity to FINRA CAT, such as private line, AWS PrivateLink, CAT Secure Reporting Gateway) with one or more affiliated CAT Reporters ("Affiliated CAT Reporter(s)") and/or affiliated CAT Reporting Agents ("Affiliated CAT Reporting Agent(s)").

Each Affiliated CAT Reporter can use the shared connectivity to report on its own behalf directly to the CAT. Similarly, each Affiliated CAT Reporting Agent can use the shared connectivity to report on behalf of others to the CAT. Each CAT Reporting Agent, or CAT Reporter submitting machine to machine on its own behalf, will need to establish its own FINRA CAT Secure File Transfer Protocol ("SFTP") Account.

Each CAT Reporter is ultimately responsible for satisfying its obligations to report to the CAT. Each CAT Reporter and CAT Reporting Agent also must have executed any required documentation, such as the CAT Reporter Agreement and/or CAT Reporting Agent Agreement, as applicable.

The Participants intend to modify the CAT Connectivity Guide to make clear that sharing of CAT connectivity as described above is permitted.

P. Feedback and Error Correction

P1. How can a CAT Reporter obtain information about its reporting metrics, including linkage statistics? **Added: *11/15/2018***

Each CAT Reporter's reporting metrics, including linkage statistics, will be available via the CAT Reporter Portal and via Feedback files.

P2. What will happen if order information is submitted for a security that is not CAT reportable? **Added: *11/15/2018***

Order Events for non-Eligible Securities will be rejected by CAT.

P3. If one record in a file is rejected, will the whole file be rejected? **Added: *11/15/2018***

No. Files are only rejected for errors in the basic file integrity checks. If an individual record is unacceptable, only that record will be rejected and require repair. See Section 7 in the CAT Reporting Technical Specifications for Industry Members for additional information on Feedback and Corrections.

P4. When will rejections be available? **Updated: *06/18/2019***

Feedback, including acknowledgements and rejections, will be generated from each stage of processing. Order Events feedback will be provided as soon as the processing of each stage is completed. All feedback, including rejections, for files submitted by 8AM T+1 will be available no later than noon on T+1, where T is the CAT Trading Day. From a timing perspective, intra-firm processing occurs prior to inter-firm. More detailed information on timing of feedback is available in Section 7 of the CAT Reporting Technical Specifications for Industry Members.

P5. What are the mechanisms for an Industry Member to correct a rejected order event? **Added: *11/15/2018***

There are multiple ways to repair a rejected order event. The first way is to regenerate the repaired record, and package it in a repair file, and submit the new file and related metadata file to CAT. Events from different calendar days may not be commingled in one file. Industry Members may also use the CAT provided rejectFile, which pre-populates original rejected records, to repair a rejected order event. A third option is to make the repair via the Reporter Portal.

P6. Can previously accepted records be corrected? **Updated:** ***07/01/2020***

Industry Members must submit a firm-initiated correction to CAT (actionType 'COR') for an order event record that has already been submitted to CAT and been accepted by the system only if they discover a mistake, such as a data entry error. Corrections must never be used to reflect a change requested by a customer. For example, if an order quantity is mistakenly reported to CAT as 100 rather than 1,000, the Industry Member must correct the error via a correction record. However, if the customer requests that an order quantity be changed from 100 to 1,000 shares, the Industry Member must instead submit an Order Modified event. Correction records submitted to CAT after 8am on T+3, where T is the CAT Trading Day, will be marked as late.

The above guidance does not apply to Customer-Initiated Account Correction scenarios, where an Industry Member must submit a correction and populate a handlingInstructions value of 'CAC' to indicate that the customer initiated an account change prior to allocation. Refer to the CAT Industry Member Reporting Scenarios for additional information on this scenario.

P7. Can previously accepted records be deleted? **Added:** ***11/15/2018***

Industry Members should submit a self-identified deletion to CAT only if they discover that an order event record was mistakenly sent to CAT and accepted. For example, if an Industry Member mistakenly reports that an order was canceled when it was actually executed, a deletion should be submitted for the Order Canceled Report. Deletions transmitted to CAT after 8am on T+3, where T is the CAT Trading Day, will be marked as late.

P8. For what reasons are files rejected by CAT? **Updated:** ***06/18/2019***

CAT files may be rejected if metadata files cannot be decrypted or if the metadata files do not meet the properties of the corresponding data file. Additional information on file feedback may be found in Sections 7 and Appendix E of the CAT Reporting Technical Specifications for Industry Members.

P9. For what reasons are records rejected by CAT? **Updated:** ***06/18/2019***

Individual records will be rejected if they do not meet the specific data type formats as laid out in the CAT Reporting Technical Specifications for Industry Members. Additional information on file feedback may be found in Sections 7 and Appendix E of the CAT Reporting Technical Specifications for Industry Members.

P10. What is the deadline for correcting a rejected file? **Added:** ***11/15/2018***

All rejected files must be corrected and resubmitted by 8 a.m. T+3.

Added: ***11/15/2018***

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P11. Does CAT reject secondary events if the parent is not present? For example, if an Order Route is submitted and passes format validations, but the related New Order Event is not reported or rejected, will the Order Route automatically be rejected?

No. The CAT system processes and validates each report individually and will not reject secondary events such as an Order Route because the related primary event was not reported. However, these instances may be flagged as Unlinked.

P12. Can accepted data be viewed in CAT? **Updated:** ***06/18/2019***

No. Data that was submitted to and accepted by CAT cannot be viewed by the CAT Reporter. However, the feedback file does provide counts of records contained within each file so that firms can identify the number of events in an accepted or rejected file and/or whether an accepted file contains zero records. The CAT Reporter Portal and feedback files allow for the viewing of file status, reporting statistics, and rejected or unlinked events.

P13. If a GTC limit order is executed several months after receipt of the order, will CAT reject the Trade Event? **Added:** ***11/15/2018***

No. Limit orders with a Time in Force code of "GTC" or "GTD" are maintained in CAT for six years. Any order report related to one of these limit orders can be reported to CAT within that time period.

P14. If a cancellation of an order is received after it has been executed, and an Industry Member submits an Order Canceled Event to CAT, will it be rejected? **Added:** ***11/15/2018***

No. The Order Canceled Event will not be rejected from CAT.

P15. What is the criteria for determining if a Reportable Event report is late and therefore, marked as such in a CAT Reporter's reporting statistics? **Added:** ***11/15/2018***

The reporting of data will be considered late if it is not reported by the deadlines established in the CAT NMS Plan. For example, Industry Members must report (1) Recorded Industry Member Data, as defined in the CAT NMS Plan, to the CAT by 8:00 a.m. ET on the Trading Day following the day the Industry Member records such data, and (2) Received Industry Member Data, as defined in the CAT NMS Plan, to the CAT by 8:00am ET on the Trading Day following the day the Industry Member receives such Received Industry Member Data. If the such data is not reported in accordance with those deadlines, it will be considered late.

P16. What is the T+3 error correction timeframe based on (e.g., submission date, original error date, etc.)? Example: if an order event is submitted on T and is rejected on that day, then corrected on T+1 but the correction on T+1 fails, is the event on T considered "corrected" or does the T+1 rejection need to be addressed and, if so, when? **Added:** ***03/12/2019***

Pursuant to the Participants' CAT compliance rules and the CAT NMS Plan, all error corrections must be made by 8 am on T+3, where T is the Trading Day of the Reportable Event, otherwise they will be marked as late. In the example, all rejections, including the second rejection on T+1 and any subsequent rejections, must be corrected and submitted by 8 am on T+3. Industry Members must correct all errors regardless of when they occur.

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Q. Customer and Account Information

Q1. What customer information must Industry Members report to the CAT? **Added: *03/21/2018***

The CAT NMS Plan currently requires Industry Members to provide Firm Designated IDs, Customer Account Information and Customer Identifying Information to the CAT.

As set forth in the CAT NMS Plan, a Firm Designated ID is a unique identifier for each trading account designated by Industry Members for purposes of providing data to the CAT, where each such identifier is unique among all identifiers from any given Industry Member for each business date.

Customer Account Information includes, but is not limited to:

- Account number (except in certain circumstances);
- Account type;
- Customer type;
- Date account opened; and
- Large Trader identifier, if applicable.

Customer Identifying Information means information of sufficient detail to identify a Customer, including, but not limited to, (a) with respect to individuals: name, address, date of birth, individual tax payer identification number ("ITIN")/social security number ("SSN"), individual's role in the account (e.g., primary holder, joint holder, guardian, trustee, person with the power of attorney); and (b) with respect to legal entities: name, address, Employer Identification Number ("EIN")/Legal Entity Identifier ("LEI") or other comparable common entity identifier, if applicable; provided, however, an Industry Member that has an LEI for a Customer must submit that Customer's LEI in addition to other information of sufficient detail to identify a Customer.

In light of security concerns, however, the Operating Committee is analyzing alternative approaches to providing Customer information.

Q2. Are CAT Reporters required to report Customer-IDs to the CAT? **Added: *03/21/2018***

No, the Participants obtained exemptive relief from the requirement in Rule 613 for a CAT Reporter to report the Customer-ID(s) for each Customer. Instead, the CAT NMS Plan requires Industry Members to report only the Firm Designated ID for each new order submitted to the CAT, rather than the Customer-ID, and the Plan Processor would associate the specific Customers and their Customer-IDs with individual order events based on the reported Firm Designated ID. The Firm Designated ID is a unique identifier for each trading account designated by Industry Members for purposes of providing data to the CAT, where each such identifier is unique among all identifiers from any given Industry Member for each business date.

Q3. When must Industry Members submit Customer Account Information and Customer Identifying Information to the CAT? **Updated: *09/16/2020***

The reporting of Customer Identifying Information and Customer Account Information consists of two phases, an earlier phase in which Industry Members must report to the CAT certain account information regarding account holders with a Large Trader Identification (LTID) number or an Unidentified Large Trader Identification (ULTID) number pursuant to SEC Rule 13h-1 (collectively called "LTID Account Information"), and a later phase that requires Industry Members to report all Customer Identifying Information and Customer Account Information. Specifically, each Industry Member must report Customer information according to the following milestones:

First Phase - Limited LTID Account Information Reporting

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April 26, 2021| Industry Members that are required to begin reporting to CAT in Phases 2a, 2b and 2c must report LTID Account Information for Active Accounts that have associated LTIDs or ULTIDs by April 26, 2021. The specific reporting requirements and guidance for such reporting are set forth in the CAT Reporting Customer and Account Information Technical Specifications for Industry Members.

December 13, 2021| Industry Members must report LTID Account Information related to all remaining Active Accounts (Phase 2d) by December 13, 2021.

Note that all Industry Members may begin submitting LTID Account Information to the CAT CAIS Testing Environment on August 24, 2020 and to the CAT Production Environment on December 14, 2020.

Second Phase - Full Customer & Account Reporting

July 11, 2022| All Industry Members must report to the CAT a full set of Customer Account Information and Customer Identifying Information for all Active Accounts in Phase 2e, which is by July 11, 2022. The specific reporting requirements and guidance for Industry Members will be provided in the first draft of the Full Customer and Account Information System ("CAIS") Technical Specification, which is scheduled to be published later in 2020.

Following each milestone, each Industry Member must submit to the CAT any updates, additions or other changes to the Customer information on a daily basis for all Active Accounts subject to reporting. In addition, on a periodic basis, each Industry Member will be required to submit to the CAT a complete set of all required Customer information.

Q4. Are Industry Members required to report a Legal Entity Identifier (LEI) for their Customers to the CAT? **Updated:** ***10/26/2020***

An Industry Member is required to report an LEI for a Customer that is a legal entity to the CAT if the Industry Member has an LEI for a Customer. The CAT NMS Plan does not require a Customer to obtain an LEI if it does not have one, it does not require a Customer to provide an LEI to an Industry Member; and it does not require the Industry Member to request an LEI of its Customer.

The LEI information associated with Customer information is separate from the collection of the Industry Member's LEI via the CAIS Registration Form and CAT Registration Form (Transaction Reporting). For additional information pertaining to LEI and Industry Members, see FAQs A34 and Q38.

Q5. What is the definition of customer under the CAT NMS Plan? Who is the customer for purposes of the CAT: the end customer, the introducing broker or the clearing broker? **Added:** ***03/21/2018***

The CAT NMS Plan defines a "Customer" as (a) the account holder(s) of the account at a registered broker-dealer originating the order; and (b) any person from whom the broker-dealer is authorized to accept trading instructions for such account, if different from the account holder(s). This is the same definition as set forth in Rule 613(j)(3).

Updated: ***09/16/2020***

Q6. Are Industry Members required to report large trader identifiers ("LTIDs") to the CAT and, if so, when?

Industry Members are required to obtain and report LTIDs to CAT for Firm Designated IDs (FDID) with Reportable Events that must be reported to CAT in Phase 2c (equities) and Phase 2d (options). This applies to both existing FDIDs and new FDIDs established after the Phase 2c and 2d implementation dates. Each Industry Member must determine how to obtain the LTID for each FDID – to the extent that an LTID exists – in order to report this information to CAT. This means that CAT imposes new recording and reporting obligations on some Industry Members with respect to obtaining LTIDs to meet their CAT reporting obligations. Some Industry Members may have to change current onboarding activities to ensure an LTID is obtained and recorded for any account with Reportable Events.

Large Industry Members must obtain and report LTIDs to CAT by April 26, 2021 for Phase 2c and December 13, 2021 for Phase 2d. Small Industry Members must obtain and report LTIDs to CAT by December 13, 2021 for both Phase 2c and Phase 2d.

Q7. Is an Industry Member required to provide social security numbers, dates of birth and account numbers as a part of the Customer Identifying Information and Customer Account Information? **Added: *05/15/2020***

Industry Members must not provide social security numbers or dates of birth for individuals, nor account numbers for customer accounts to the CAT. In light of security concerns raised with regard to the maintenance of Customer information in the CAT, the SEC granted exemptive relief on March 17, 2020 that would eliminate the requirement to report these three data elements [See Approval Order]. Instead of these three elements, Industry Members will be required to report to the CAT a transformed value for social security number and year of birth for individuals, and a Firm Designated ID for each account, for which actual customer account numbers may not be used.

Q8. May Industry Members provide Customer Account Information on all of their accounts, not just Active Accounts or those Active Accounts in scope for a given phase of reporting? **Added: *05/15/2020***

Yes, Industry Members may provide Customer Account Information on all of their accounts, not just Active Accounts or those Active Accounts in scope for a given phase of reporting. If an Industry Member voluntarily provides such account reporting, the Industry Member is still subject to timely, accurate and complete reporting requirements. As noted in FAQ Q7, Industry Members must not provide social security numbers, dates of birth and account numbers to the CAT.

Q9. What is an Unidentified Large Trader ID (ULTID) and are all Industry Members required to report ULTIDs to CAT CAIS? **Added: *05/19/2020***

As described in the Customer and Account (LTID) Technical Specifications, in the scenario a CAT Reporter that is a clearing firm or self-clearing firm determines a person (which includes both natural persons and legal entities under Section 13(h)(8)(E) of the Exchange Act) would qualify as a large trader, but the firm has not yet been provided with an LTID by the person, the clearing firm or self-clearing firm is required to assign an ULTID to the person until such time as the person provides their LTID. Any CAT Reporter that is a clearing firm or self-clearing firm with an obligation to assign an ULTID under the large trader rule is required to report any assigned ULTIDs associated to their FDIDs as part of their customer and account reporting. CAT Reporters that are not clearing firms or self-clearing firms and do not have an obligation to assign ULTIDs are not required to report ULTIDs to CAT as they will have no such number to report.

Added: *05/19/2020*

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Q10. Is the ltidEffectiveDate the date when the LTID was assigned by the SEC or the date that the clearing firm was provided the LTID?

The ltidEffectiveDate in this scenario is the date the Industry Member was provided the LTID and it was associated with the account.

Q11. What is the ltidEndDate? **Added:** ***05/19/2020***

The ltidEndDate is the date the Industry Member became aware that the LTID or ULTID was no longer associated with the FDID.

Q12. Are regulators expecting complete accuracy with respect to the ltidEndReason? **Added:** ***05/19/2020***

Industry Members should make an effort to obtain an accurate reason as to why the LTID or ULTID is no longer associated to the FDID.

Q13. How should an Industry Member populate the ltidEffectiveDate if it did not record the date on which the LTID or ULTID became associated to the FDID within its systems? **Updated:** ***10/29/2020***

Industry Members must record in their systems the date that an LTID or ULTID becomes associated with an FDID ("LTID Effective Date"). Some Industry Members may have to change current onboarding activities to ensure this information is obtained and recorded.

If an Industry Member has not recorded the LTID Effective Date, they may use the go-live date as the ltidEffectiveDate until the go-live date. Starting on the go-live date, Industry Members must record and report an accurate LTID Effective Date.

For information on the relevant go-live dates, see FAQ Q3.

Q14. If an Industry Member erroneously ends an LTID to FDID association and needs to reestablish it, what should the ltidEffectiveDate be? **Added:** ***05/19/2020***

If an LTID to FDID association is ended erroneously and must be reestablished, the Industry Member should populate the ltidEffectiveDate with the original LTID Effective Date- not the date that the record reestablishing the association is submitted to CAT CAIS.

Q15. If an Industry Member ends an LTID to FDID association for a legitimate reason (such as the customer no longer qualified as a large trader), and later is required to reestablish it, what should the ltidEffectiveDate be? **Added:** ***05/19/2020***

If an LTID to FDID association is ended for a legitimate reason and must be reestablished, the Industry Member should populate the ltidEffectiveDate with the date on which the LTID or ULTID became re-associated to the FDID within the CAT Reporter's system- not the original LTID Effective Date.

Q16. Can an Industry Member submit the same CAIS record every business day? Or should the Industry Member submit only a delta record? For example, if a record is submitted on T **Added:** ***05/19/2020***

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and nothing changes, can the same record be submitted on T+1, T+2, etc.? Or should the Industry Member only resubmit the record if a required data element changes?

Industry Members may resubmit the same record each business day but are not required to. If an Industry Member resubmits an identical record to one that already exists in CAT CAIS, CAT CAIS will overwrite the previous record with the new record with the same information. Once a record has been received by CAT CAIS, Industry Members are only required to submit changes or corrections to required data elements.

Q17. Are Industry Members required to report LTIDs for dormant or inactive accounts? For example, an Industry Member has a customer that qualifies as a Large Trader but that customer has not had any account activity for several months. **Added: *05/19/2020***

Industry Members are only required to report LTIDs for active accounts. That is, accounts for which there is CAT reportable activity.

Q18. When are account movements between broker-dealers (e.g., merger/acquisition) required to be linked in CAIS? **Added: *08/12/2020***

Account movements must be linked in CAIS beginning in Phase 2e (full CAIS July 2022).

Q19. When will full account refreshes be required? **Added: *08/12/2020***

Periodic full account refreshes will be required beginning in Phase 2e (full CAIS July 2022).

Q20. When is an LTID considered to be reportable into CAIS? **Added: *08/27/2020***

Concurrent with Phase 2c (April 26th 2021), LTIDs or ULTIDs associated with FDIDs must be reported in the LTID phase of CAIS ("CAIS LTID") when BOTH of the following conditions are met:

- a. The FDID has an associated LTID or ULTID; AND
- b. The FDID is reported in equity and/or option events to CAT as of April 26, 2021. CAT Reportable Events requiring an FDID include:
  - i. New Order, Trade and Order Fulfillment events (MENO, MENOS, MONO, MONOS, MENQ, MEOT, MEOTS, MEOF)
  - ii. Equity Allocation events (MEPA, MEAA)

Concurrent with Phase 2d (December 13, 2021), any additional LTIDs or ULTIDs associated with FDIDs that have events reportable to CAT as of and including Phase 2d must also be reported to CAT in the CAIS LTID phase using the same conditions as above, with the addition of Option Allocation events (MOPA, MOAA).

NOTE: All firms satisfying the above criteria, including introducing and non-self clearing executing brokers, are required in the CAIS LTID phase.

For more guidance regarding an LTID or ULTID being associated with an account, contact the SEC or see the SEC's Large Trader Rule FAQs at https://www.sec.gov/divisions/marketreg/large-trader-faqs.htm.

Added: *08/27/2020*

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Q21. What are the deadlines for reporting in the CAIS LTID phase after the first Reportable Event in the account with an associated LITD or ULTID occurs?

The general rule is that accounts (FDIDs) with associated LTIDs or UTLIDs must be reported to CAIS by 8:00 a.m. Eastern on the day after the first Reportable Event for the account (FDID) occurs. For example,

- a. If the first Reportable Event for the account occurred before 4:15 p.m. on T, then the account must be reported by 8:00 a.m. on T+1.
- b. If the first Reportable Event for the account occurred after 4:15 p.m. on T, then the account must be reported by 8:00 a.m. on T+2.
- c. If the first Reportable Event for the account occurred after 4:15 on T+1, such as an allocation amendment, then the account must be reported by 8:00 a.m. on T+3.

Accounts not reported within these timeframes will not be marked late by the Plan Processor but will be subject to review by the applicable SRO.

See Use Cases for further clarification.

Q22. If an account does not have an account holder or authorized trader with an LTID or ULTID, but has other individuals or entities with an LTID or ULTID that may have some other relationship to the account, must that account be reported in the LTID phase of CAIS? **Added: *08/27/2020***

Yes. If an LTID or ULTID is associated with an account, it must be reported to CAIS in the LTID phase. For more guidance regarding an LTID or ULTID being associated with and account, contact the SEC or see the SEC's Large Trader Rule FAQs. See https://www.sec.gov/divisions/marketreg/large-trader-faqs.htm

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Q23. Do introducing and non-self-clearing executing brokers have CAIS LTID reporting obligations? **Added: *08/27/2020***

Yes. If an introducing broker or non-self-clearing executing broker has Reportable Events for an account with associated LTIDs or ULTIDs, they must report such accounts to CAIS LTID as described in FAQ Q20.

Q24. Do Reporting Agents need to certify separately from the BDs they are supporting? **Added: *08/27/2020***

Yes. See Section 7 (Certify Testing Completion) in the Industry Member CAIS Onboarding Guide.

Q25. If my firm is a broker-dealer (CRD) that uses a Reporting Agent to report into CAT CAIS, does my firm need to certify separately if we have CAIS-reportable activity? **Added: *08/27/2020***

Yes, all broker-dealers will be required to be certified in order to gain access to the CAIS Production environment. The certification may be supported by their Reporting Agent. See Section 7 (Certify Testing Completion) in the Industry Member CAIS Onboarding Guide.

Q26. What actions does a Reporting Agent need to take to certify the broker-dealers (CRDs) it will be reporting on behalf of? **Added: *08/27/2020***

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Reporting Agent should aggregate the number of accounts with associated LTIDs across all of its broker-dealers (CRDs) it is reporting for. The certification requirements will apply against the aggregate totals of CAIS-reportable accounts with the added requirement that at least one record from every broker-dealer (CRD) that is reportable is included in the certification. Please see the Industry Member CAIS Onboarding Guide for more information.

Q27. When will CAIS LTID open for Production, and what happens after that date? **Added: *08/27/2020***

CAIS LTID will open for Production on December 14, 2020. Once a CAT Reporter is certified, it will be enabled to submit into Production. Any data submitted into Production, even before the April 26, 2021 mandatory reporting date, will be considered "live" data and any changes to the reportable attributes of that account must be reported. Certified Reporters can begin to "stage" their CAIS LTID data into Production however they wish between December 14, 2020 and April 26, 2021. Please see the Industry Member CAIS Onboarding Guide for more information.

Q28. What is expected to be in CAIS LTID on April 26, 2021, when mandatory reporting starts? **Added: *08/27/2020***

Beginning April 26, 2021, CAT Reporters will be required to report into CAIS LTID all FDIDs with associated LTIDs or ULTIDs with Reportable Activity on or after April 26, 2021. Firms may choose to report accounts without associated LTIDs or ULTIDs, but there is no requirement to do so until the full CAIS go-live in July 2022.

Q29. Do proprietary trading firms that do not handle customer orders have an obligation to report to CAT CAIS? **Added: *08/27/2020***

Yes. Proprietary trading firms must submit account information related to their own accounts to the CAT CAIS system. If the proprietary trading firm is itself a Large Trader, it is required to report its own accounts beginning with the LTID phase of CAIS if it has Reportable Activity.

Q30. Where can I find more information on the SEC Large Trader Requirements? **Added: *08/27/2020***

More information can be found at the SEC's Large Trader Requirements FAQs. See https://www.sec.gov/divisions/marketreg/large-trader-faqs.htm.

Q31. When introducing brokers and executing brokers use a separate clearing broker for the accounts of their clients, what are the responsibilities for LTID reporting? **Updated: *09/09/2020***

Introducing and executing brokers are responsible for reporting the LTID information for the accounts of their clients, where they have reported New Order Events of that client to CAT and the account has an LTID. For introducing and executing brokers who are self-reporting to CAT, clearing brokers should provide LTID information to those introducing and executing brokers to facilitate the timely and accurate reporting of such information. For introducing and executing brokers who are not self-reporting to CAT, the clearing broker or any other CAT reporting agent might be engaged to report on their behalf.

Q32. Can production data be used in the CAT CAIS Test environment? **Added: *09/22/2020***

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Yes, Production data may be submitted to the CAIS Test environment. Optionally, data submitted to the CAIS Test environment can be obfuscated; however it is not required. For more information on testing in the CAT CAIS Test environment, see Section 7 of the CAT CAIS Specifications.

For information on Production Readiness testing and data requirements for the Transaction Portal, see the Industry Member Onboarding Guide.

Q33. May an Industry Member leverage a previously established Reporting Relationship for CAIS? For example, if an Industry Member has already authorized a submitter to report transaction data to CAT, must that Industry Member also authorize the same submitter to report data to CAIS? **Added: *09/22/2020***

Because all CAIS data is maintained separately from transaction data for data security reasons, Industry Members are required to establish separate Reporting Relationships for CAIS. It is acceptable to have relationships with the same party for both CAT transaction data and CAIS; however they are separate relationships and will need to be separately established. CAT CAIS Reporting Relationships must be established to authorize another CAT Reporting Agent to submit on a firm's behalf. Relationships must be established prior to any data submissions to the CAT CAIS Reporter Portal.

Firms transmitting data on their own behalf are not required to establish a relationship for themselves.

Q34. Where can I find a list of the LTIDs? **Added: *09/22/2020***

LTID identifiers are issued by the SEC. These are not publicly available.

Q35. Where can Industry Members find information regarding production readiness testing requirements for CAT CAIS? **Added: *09/22/2020***

The requirements are detailed in the CAT CAIS Industry Member Onboarding Guide.

Q36. Is there a record limit for files submitted to CAT CAIS through SFTP? **Added: *09/22/2020***

There is no record limit for files submitted to CAT CAIS through SFTP. However, files submitted through SFTP are limited to a maximum uncompressed size of 100GB. Files sizes <= 1GB are recommended as feedback will be returned faster. For more information, see CAIS Technical Specification section 5.1.3 – Data File Submission. Note that the file size recommendations for CAT CAIS are different from the file size recommendations for CAT Transaction reporting.

Q37. How do the CAT reporting requirements for Large Trader IDs (LTIDs) and Legal Entity Identifiers (LEIs) differ? **Added: *09/22/2020***

As explained in FAQs Q6 and Q31, CAT Reporters are required to obtain and report LTIDs to CAT, including introducing brokers and executing brokers that use separate clearing brokers. In contrast, Legal Entity Identifiers (LEIs) are not required to be disclosed to a broker-dealer, nor is a broker-dealer required to obtain an LEI from its customers. Further, there are no obligations imposed by SEC Rule 613 or the CAT NMS Plan to obtain an LEI from a customer for purposes of reporting it to CAT. Therefore, LEIs are only required to be reported to CAT if the CAT Reporter has otherwise obtained an LEI for a particular customer.

Q38. Why is there a question on the CAT CAIS Registration Form asking for a Legal Entity Identifier (LEI)? **Added:** ***10/26/2020***

The CAT NMS Plan requires Industry Members to "submit to the Central Repository" information "including CRD number and LEI, if such LEI has been obtained." "Central Repository" means the repository responsible for the receipt, consolidation, and retention of all information reported to the CAT pursuant to SEC Rule 613 and this Agreement.

The CAT NMS Plan requirement does not require Industry Members to obtain an LEI, but rather to provide its LEI to the Plan Processor (FINRA CAT) if the Industry Member does have an LEI. The collection of the Industry Member's LEI via the CAIS Registration Form and CAT Registration Form (Transaction Reporting) are separate from the reporting of customer account LEI data requirements. (For additional information pertaining to the LEI for customer accounts, see FAQs Q1 and Q4).

R. Clock Synchronization

R1. What are the CAT clock synchronization standards for CAT Reporters? **Added:** ***03/21/2018***

The CAT NMS Plan requires Industry Members to synchronize their Business Clocks at a minimum to within 50 milliseconds of the time maintained by the National Institute of Standards (NIST), with the exception of Business Clocks used solely for Manual Order Events or the time of allocation on Allocation Reports, which must be synchronized to within one second of the NIST clock.

The CAT NMS Plan requires Participants to synchronize their Business Clocks at a minimum to within 100 microseconds of the time maintained by the NIST, consistent with industry standards, with the exception of Business Clocks used solely for Manual Order Events, which must be synchronized to within one second of the NIST clock.

R2. If I am an agency broker-dealer and I send my orders through a third-party service provider's system (e.g., Bloomberg), what clock synchronization compliance obligations do I have with regard to the third-party service provider's clocks and my own clocks? Do I need to do anything with regard to the internal systems (e.g., internal PCs or servers) or clocks within my own firm to satisfy the clock synchronization requirements? **Updated:** ***10/24/2019***

An Industry Member must satisfy the CAT clock synchronization requirements for all of its Business Clocks. Business Clocks are defined as clocks used to record the date and time of any Reportable Event required to be reported under SEC Rule 613. If an Industry Member relies on a third-party service provider's clocks, including, but not limited to, third-party service providers that are registered broker-dealers, to record the date and time of any of the Industry Member's Reportable Events required to be reported under SEC Rule 613, such clocks are considered to be the Industry Member's Business Clocks for purposes of the CAT clock synchronization requirements. Accordingly, the Industry Member has the ultimate responsibility for ensuring that such Business Clocks satisfy the CAT clock synchronization requirements. Industry Members also must satisfy the documentation, certification and violation reporting requirements related to clock synchronization as set forth in the Compliance Rule with regard to such third-party service providers' clocks.

Industry Members will need to obtain information regarding clock synchronization procedures from their third-party service providers to satisfy these requirements. The amount of information an Industry Member must obtain from a third-party vendor may depend on whether the vendor is itself a registered broker-dealer. Industry Members would be expected to obtain at least the information specified below to satisfy the clock synchronization requirements provided in the Participants' common CAT clock synchronization rule, although Industry Members may employ their own reasonable arrangements with their vendors to demonstrate

compliance. Third-party vendors are encouraged to provide this information to Industry Members to facilitate compliance. Industry Members also would be expected to document in their own procedures the steps they take to perform this oversight of their vendors with respect to clock synchronization.

If its vendor is not a registered broker-dealer, an Industry Member should:

- On a reasonable periodic basis, receive and review the vendor's clock synchronization procedures and copies of sample logs for consistency with the requirements of paragraphs (a) and (b) of the clock synchronization rule.
  - Specifically, an Industry Member should confirm that its vendor's procedures apply the correct clock synchronization standard, call for Business Clocks to be synchronized every business day before market open to ensure that timestamps for Reportable Events are accurate, provide for re-synchronization throughout the day as necessary, and provide for sufficient log creation, retention, and accessibility (consistent with FAQ R.6 below).
  - An Industry Member should also periodically review copies of sample logs for verification
- Receive an attestation or comparable written assurance to provide the Industry Member a sufficient basis to complete the certification required by paragraph (c) of the clock synchronization rule.
  - Specifically, the attestation or comparable written assurance should communicate to the Industry Member that the vendor complied with paragraph (a) of the clock synchronization rule by synchronizing its Business Clocks to the correct clock synchronization standard and maintaining such synchronization. This attestation or comparable written assurance could use the same language that is used on the certification form that each Industry Member must execute annually.
- Receive alerts from its vendor so that it can report violations as required by paragraph (d) of the clock synchronization rule, once violation reporting thresholds are in effect.

If its vendor is a registered broker-dealer, an Industry Member should:

- Receive a copy of the certification that the vendor completed as required by paragraph (c) of the clock synchronization rule.
- Receive a supplemental attestation concerning the vendor's compliance with the documentation requirements in paragraph (b) and, once violation reporting thresholds are in effect, the violation reporting requirements in paragraph (d).
  - An Industry Member that receives such an attestation from its vendor would not itself need to submit violation reports that would be duplicative of reports submitted by its vendor.
  - The supplemental attestation may be provided at the same time the vendor provides a copy of its yearly certification required by paragraph (c).

In addition, to the extent that the Industry Member has any Business Clocks other than those of the third-party service provider, then the Industry Member must satisfy the CAT clock synchronization requirements, as well as the documentation, certification and violation reporting requirements related to clock synchronization set forth in the Compliance Rule, with regard to those Business Clocks.

R3. Does the CAT NMS Plan allow Industry Members to continue to write the time on order tickets or are Industry Members required to purchase mechanical time clocks? **Added: *11/15/2018***

The CAT NMS Plan does not disallow the use of manually written timestamps provided the clock referenced is synchronized properly.

R4. When during the day should clocks be synchronized? **Added: *11/15/2018***

Computer system and mechanical clocks must be synchronized every business day before market open. To maintain clock synchronization, clocks should be checked against the NIST atomic clock and re-synchronized, if necessary, throughout the day. Industry Members must document and maintain their clock synchronization procedures.

R5. What clock synchronization procedures are required to comply with the CAT NMS Plan? **Updated:** ***06/18/2019***

All Industry Members that have Business Clocks that are subject to the clock synchronization requirements must document and maintain their synchronization procedures and keep a log of the times when they synchronize their Business Clocks and the results of the synchronization process. The Participants expect that each Industry Member will synchronize its Business Clocks every business day before market open, and check synchronization at pre-determined intervals throughout the business day, to reasonably ensure that Business Clocks maintain synchronization. The Participants also expect that each Industry Member's synchronization log will document whenever a Business Clock fails to be within the applicable tolerance of the time maintained by NIST.

R6. Must broker-dealers maintain a log of the times clocks are synchronized? **Updated:** ***10/24/2019***

Yes. Firms required to synchronize their clocks according to the CAT NMS Plan should keep a log of the times when they synchronize their clocks and the results of the synchronization process. This log should include notice of any time the clock drifts more than allowed by the CAT NMS Plan. Logs must be maintained consistent with the five-year retention period in paragraph (b) of the Participants' common clock synchronization rule and accessible to the firm or made available by the firm in response to a regulatory request on a reasonably prompt basis whether maintained and preserved on site or by a third party.

S. Security

S1. What steps are being taken to ensure that the CAT is secure given heightened cybersecurity concerns? **Added:** ***03/21/2018***

The CAT NMS Plan requires the Plan Processor, subject to the oversight of the Operating Committee, to develop a comprehensive information security program that addresses the security and confidentiality of all information accessible from the CAT and the operational risks associated with accessing the CAT. Appendix D of the CAT NMS Plan sets forth minimum data security requirements for the CAT that the Plan Processor must meet. In addition, as required by the Plan, the Plan Processor has designated a Chief Information Security Officer (CISO), who is responsible for, among other things, creating and enforcing appropriate policies, procedures, and control structures regarding data security.

S2. Will the CAT be required to satisfy the requirements of Reg SCI? **Added:** ***03/21/2018***

Yes, the CAT is considered an SCI System and it must be operated in compliance with the requirements in Reg SCI applicable to an SCI System. In addition, the CAT NMS Plan requires the Technical Specifications to satisfy all applicable regulations regarding database security including provisions of Reg SCI.

S3. How will CAT ensure the security of the data? **Added:** ***11/15/2018***

The CAT utilizes several security mechanisms to keep data secure both in transit and at rest, including requiring User IDs and passwords and multi-factor authentication when accessing SFTP and Web Portal and SSL PGP, OpenPGP and GPG encryption.
CAT Submitters that transmit files on behalf of other firms will be allowed to view status files, rejected feedback files, and statistics for all files that they submitted. Industry Members that submit through third-party entities will be allowed to only access their own status files, rejected records, and statistics.

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S4. What is the CAT? **Added: *03/12/2020***

The Consolidated Audit Trail, or "CAT," is being developed by the national securities exchanges – BOX Exchange LLC, Cboe BYX Exchange, Inc., Cboe BZX Exchange, Inc., Cboe EDGA Exchange, Inc., Cboe EDGX Exchange, Inc., Cboe C2 Exchange, Inc., Cboe Exchange, Inc., Investors' Exchange LLC, Long-Term Stock Exchange, Inc., Miami International Securities Exchange LLC, MIAX Emerald, LLC, MIAX PEARL, LLC, NASDAQ BX, Inc., Nasdaq GEMX, LLC, Nasdaq ISE, LLC, Nasdaq MRX, LLC, NASDAQ PHLX LLC, The NASDAQ Stock Market LLC, New York Stock Exchange LLC, NYSE American LLC, NYSE Arca, Inc., NYSE Chicago, Inc. and NYSE National, Inc. – and the Financial Industry Regulatory Authority ("FINRA"), a national securities association (collectively, the "Participants"), pursuant to SEC Rule 613. Consolidated Audit Trail, LLC ("CATLLC") is the entity organized by the Participants to create, implement and maintain the CAT. Broker-dealers (called "Industry Members" under the CAT NMS Plan), exchanges and FINRA will be required to submit customer, order and trade information in "NMS Securities" (i.e., exchange listed stocks and options) and "OTC Equity Securities" (i.e., over-the-counter stocks), across all markets to the CAT Central Repository. The system is designed to permit the SEC and Participants to more effectively and efficiently regulate the securities markets.

S5. What type of information is in the CAT? **Added: *03/12/2020***

The CAT Central Repository will contain customer order and trade event information for orders in NMS Securities and OTC Equity Securities, from the time of order creation through routing, cancellation, modification or execution in a single, consolidated source. The Plan Processor selected by the Participants to develop and operate the CAT will process this data to derive "CAT Data," which means data derived from Participant Data (e.g., order and trade data from the exchanges and FINRA), Industry Member Data (e.g., order, trade and Customer Account Information and Customer Identifying Information from broker-dealers), SIP Data (e.g., data relating to orders and executions from certain market data vendors) and such other data as the Participants may designate as "CAT Data."

S6. What is Customer Account Information and Customer Identifying Information? **Added: *03/12/2020***

Pursuant to the CAT NMS Plan, Customer Account Information generally includes, account number, account type, customer type, date account opened, and large trader identifier (if applicable). Customer Identifying Information means information of sufficient detail to identify a customer. The CAT NMS Plan currently requires that if the customer is an individual, the Customer Identifying Information includes the individual's name, address, date of birth, individual tax payer identification number/social security number, and individual's role in the account (e.g., primary holder, joint holder, guardian, trustee person with the power of attorney). If the customer is a legal entity, the Customer Identifying Information includes the legal entity's name, address, Employer Identification Number/Legal Entity Identifier ("LEI") or other comparable common entity identifier (if applicable), provided, however, that an Industry Member that has an LEI for a customer must submit the customer's LEI in addition to other information of sufficient detail to identify a customer. As discussed below in FAQ S7, the Participants requested an exemption from the SEC from certain provisions of the CAT NMS Plan so that social security numbers/taxpayer identification numbers, dates of birth and account numbers of individual customers would not be reported to the CAT Central Repository.

S7. How does the CAT protect social security numbers? **Added: *03/12/2020***

The Participants requested an exemption from the SEC from certain provisions of the CAT NMS Plan so that social security numbers/taxpayer identification numbers for natural persons would not be reported to the CAT. If the exemption is granted, the Plan Processor will generate a unique CAT Customer ID ("CCID") using a strategy developed in collaboration with Industry Members. The CCID strategy uses a two-phase transformation that avoids the receipt or retention of social security numbers or individual taxpayer identification numbers in the CAT. Industry Members will not receive the generated CCID. The resultant CCID and an associated Firm Designated ID ("FDID") will be stored by the Plan Processor for further processing. As

noted above, the Participants requested an exemption from the SEC from certain provisions of the CAT NMS Plan so that the dates of birth and account numbers of individual customers would not be reported to the CAT Central Repository. Instead of reporting dates of birth and account numbers for individuals, Industry Members would report to the CAT years of birth and FDIDs for accounts for individuals.

S8. Who has access to CAT Data? **Added: *03/12/2020***

Only authorized regulatory users from the Participants and the SEC will have permission to access CAT Data via the CAT System. And, only a subset of those authorized regulatory users will have permission to access and view Customer Account Information and Customer Identifying Information, which is stored and handled separately from the order and trade data. Participants' authorized regulatory users must execute a Safeguard of Information Affidavit prior to access, which provides, among other things, that authorized regulatory users must maintain the confidentiality and security of CAT Data and only use CAT Data for regulatory purposes. In addition, a CAT Security Awareness Training Course is made available to all authorized regulatory users by the Plan Processor; Participants' authorized regulatory users are required to complete the training prior to accessing CAT Data.

S9. How can CAT Data be used? **Added: *03/12/2020***

The CAT NMS Plan states that the Plan Processor must provide Participants' regulatory staff and the SEC with access to all CAT Data for regulatory purposes only. The CAT NMS Plan also states that Participants' regulatory staff and the SEC will access CAT Data to perform functions, including economic analyses, market structure analyses, market surveillance, investigations, and examinations. Under the CAT NMS Plan, Participants are required to implement effective information barriers between their regulatory and non-regulatory staff with regard to access and use of CAT Data stored in the Central Repository, and Participants may not use CAT Data for commercial purposes. However, the CAT NMS Plan provides that a Participant will be permitted to use the data that it reports to the CAT System for any lawful purpose, including commercial purposes (e.g., to develop new order types).

S10. How do the Plan Processor and Participants protect CAT Data? **Added: *03/12/2020***

CATLLC has retained a Plan Processor to develop and operate the CAT System, and both the Plan Processor and the Participants have policies and procedures for the security and confidentiality of information submitted to the CAT System and access to the information in the CAT Central Repository by Participants.

The Plan Processor security program for the CAT Central Repository is aligned with NIST SP800-53 – the Security and Privacy Controls for Federal Information Systems and Organizations – and undergoes regular third-party audits. In addition, the Plan Processor is required to subject the CAT Central Repository to regular penetration testing and code reviews by a qualified third-party security assessor.

CAT Data in the CAT Central Repository is only accessible by Participants and the SEC via private connectivity lines, with their users subject to multi-factor authentication. Monitoring augmented by behavioral analytics is used to detect and respond to attempts to access CAT Data or use the CAT System in an unauthorized manner. In addition, Participant information security policies and procedures require information barriers between regulatory and non-regulatory staff of the Participants with regard to access to and use of CAT Data, a mechanism to confirm the identity of persons permitted to use CAT Data, and a comprehensive information security program. The CAT Chief Information Security Officer also evaluates if the Participants have information security policies comparable to those of the Plan Processor.

Industry Members – who may only submit and correct data sent to the CAT Central Repository – are required to submit data either via private lines, AWS PrivateLink or the CAT Secure Reporting Gateway; unlike Participants and the SEC, Industry Members are not permitted to query CAT Data. Further, the Industry

Member Reporting (data ingestion) subsystem is architecturally separate from the CAT query subsystems and the underlying CAT Central Repository. The Industry Member Reporting subsystem is designed such that the reporter is not able to read data from the CAT Central Repository.

S11. What happens if there is unauthorized access to CAT Data? **Added: *03/12/2020***

CATLLC's actions in the event of unauthorized access to CAT Data will depend on the circumstances. If CATLLC becomes aware of actual (or potential) unauthorized access to CAT Data, CATLLC, working with the Plan Processor, will take all reasonable steps to investigate the incident, mitigate potential harm from the unauthorized access and protect the integrity of the CAT System. CATLLC also will report unauthorized access to law enforcement, the SEC and other authorities as required or as it deems appropriate. CATLLC will notify other parties of unauthorized access to CAT Data where required by law and as it otherwise deems appropriate. CAT LLC will maintain insurance that is required by law. Additionally, the Plan Processor maintains certain insurance.

T. Production Readiness Testing

T1. Where can Industry Members find information regarding production readiness testing requirements? **Added: *01/14/2020***

The requirements are detailed in the Industry Member Onboarding Guide.

T2. How will Industry Members that use multiple CAT Reporting Agents ("CRA") be certified for production? **Added: *01/14/2020***

Industry Members may use multiple CRAs to submit data to CAT. For production readiness testing, each of the Industry Member's CRAs must submit its portion of a full day of production data to the Test Environment; it does not have to be on the same processing date or for the same trade date. However, an Industry Member will not be granted access to Production until all CRAs have reported and the Industry Member achieves a combined error rate of less than 10% across all CRA submissions.

T3. If the production readiness submission has an error rate exceeding 10%, can the data be corrected and resubmitted for a subsequent certification attempt? **Added: *01/14/2020***

No. The Industry Member should contact the FINRA CAT Helpdesk to declare a subsequent day for which it will submit a production readiness test.

T4. Is production readiness testing available after June 8, 2020? **Updated: *05/21/2020***

Yes. Industry Members are required to complete production readiness testing for Phase 2a reporting by June 8, 2020. This deadline, which was previously April 6, 2020, was extended in light of the SEC's exemptive order, which moved the date by which Industry Members must begin reporting Phase 2a data from April 20, 2020 to June 22, 2020. Notwithstanding the June 8, 2020 deadline, because Industry Members must successfully complete production readiness testing before being granted access to the production environment, production readiness testing will remain available after June 8, 2020.

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T5. If an Industry Member successfully certifies for Phase 2a equity submissions, must it recertify for Phase 2b options submissions? **Added: *01/14/2020***

No. Industry Members that have successfully completed their production readiness certification for Phase 2a equities do not have to recertify before submitting production options data.

T6. By what date must Industry Members that only handle orders in options complete production readiness testing? **Updated: *05/21/2020***

Phase 2b production readiness testing for Industry Members not submitting equities data in Phase 2a must be completed by July 6, 2020. This deadline, which was previously May 4, 2020, was extended in light of the SEC's exemptive order, which moved the date by which Industry Members must begin reporting Phase 2b data from May 18, 2020 to July 20, 2020. Notwithstanding the July 6, 2020 deadline, because Industry Members must successfully complete production readiness testing before being granted access to the production environment, production readiness testing will remain available after July 6, 2020.

U. Allocations

U1. The newOrderFDID field in the Post-Trade Allocation Event (MEPA) and Amended Allocation Event (MEAA) is described as "The FDID of the related New Order event, if available in the booking system." What does "if available in the booking system" mean? **Added: *07/17/2020***

For Phase 2c, "if available in the booking system" means that the FDID is either directly available in the booking system, or can be made available through a simple reference data lookup, or can be readily accessed by the booking system through an existing system integration. For example, if the FDID is directly stored or can be directly queried by the booking system, the *newOrderFDID* field should be populated. In contrast, if, in order to supply the FDID, a new system integration would be required or if new data element(s) were required in the booking record, then the *newOrderFDID* field would not be required to be populated. It should also be noted that requirements for populating this field may be expanded in future phases of CAT.

U2. What is an Allocation Report and who is required to report it? **Updated: *10/07/2020***

The CAT NMS Plan defines an Allocation Report as "a report made to the Central Repository by an Industry Member that identifies the Firm Designated ID for any account(s), including subaccount(s), to which executed shares are allocated". This includes the booking of shares/contracts into the same account for which an order was originally placed, and the booking of shares/contracts into an account based on allocation instructions (e.g., subaccount allocations).

Allocation Reports are reported to CAT via the Post-Trade Allocation (MEPA) and Option Post-Trade Allocation events (MOPA). The CAT reporting obligation for allocation events belongs to the firm performing the allocation, which is generally the clearing or self-clearing firm processing the allocation.

U3. When an order is placed directly in a customer account, is the firmDesignatedID (FDID) in the New Order event (MENO) or New Option Order event (MONO) required to be the same as the firmDesignatedID in the Post-Trade Allocation event (MEPA) or Option Post-Trade Allocation event (MOPA)? **Added: *07/17/2020***

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The answer depends on whether the Industry Member is self-clearing, and therefore responsible for reporting both the new order events and the allocation events involving the same FDID assigned by the self-clearing firm. For Industry Members that are self-clearing, the FDID on the MENO/MONO must be the same as the FDID on the MEPA/MOPA when an order is placed directly into the customer account. In this scenario, the *newOrderFDID* field must be populated on the Industry Member's MEPA/MOPA event, and would be the same as the value populated in the *firmDesignatedID* field.

For Industry Members that are not self-clearing, the FDID on the MENO/MONO, which is assigned by the correspondent firm, may be different from the FDID on the MEPA/MOPA, which is assigned by the clearing firm. If the clearing firm knows the FDID assigned by the correspondent firm that was reported on the MENO/MONO, the clearing firm must populate it in the *newOrderFDID* field on the clearing firm's MEPA/MOPA event

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U4. If the firmDesignatedID (FDID) in the New Order event (MENO) or New Option Order event (MONO) is not required to be the same as the firmDesignatedID in the Post-Trade Allocation event (MEPA) or Option Post-Trade Allocation event (MOPA), how will the events be linked?

Added: *07/17/2020*

Allocation events are not required to be linked to particular orders or executions.

U5. Are allocations to a firm owned or controlled account required to be reported? For example, a registered representative of a self-clearing broker-dealer exercises discretion over multiple retail customer accounts and originates a single aggregated order that will be allocated to the specific customer accounts post trade. Shares are booked to a firm average price account until the sub-account allocations are made to the individual customer accounts.

Added: *07/17/2020*

Allocations to firm owned or controlled accounts are not required to be reported but may optionally be reported. If an Industry Member chooses to report such an allocation, it must populate the *firmDesignatedID* field with the FDID of the firm owned or controlled account. Additionally, the *allocationType* field must be populated with the value, 'FRM'.

U6. Are allocations to DVP accounts required to be reported? For example, an institution places an order with an executing broker-dealer and gives instructions to DVP the shares to two different custodial broker-dealers.

Added: *07/17/2020*

Yes, allocations to DVP accounts are required to be reported by the executing broker-dealer or clearing firm of the executing broker-dealer if the executing broker is not self-clearing. The *firmDesignatedID* field must be populated with the FDID of the DVP account. Additionally, the *allocationType* field must be populated with the value, 'DVP'; and the *DVPCustodianID* field must be populated as described in the CAT Reporting Technical Specifications for Industry Members.

U7. Can a fully disclosed introducing broker-dealer and its clearing firm use the same firmDesignatedID (FDID) for New Order events (MENO)/New Option Order events (MONO) and Post-Trade Allocation event (MEPA)/Option Post-Trade Allocation event (MOPA)?

Added: *07/17/2020*

The clearing firm may know the introducing broker-dealer's FDIDs, in which case the *firmDesignatedID* in the introducing broker-dealer's MENO/MONO may be the same as the *firmDesignatedID* in the clearing firm's MEPA/MOPA. In this scenario, the clearing firm would also be required to populate the *correspondentCRD* and *newOrderFDID* fields.

Further, the clearing firm may report the introducing broker-dealer's customer and account information to CAT on behalf of the introducing broker-dealer. However, since both Industry Members have a separate CAT reporting obligation involving the FDID, each Industry Member must separately register the FDID under their CAT IMID.

Note that it is not required that the clearing firm know the introducing broker-dealer's FDIDs in which case the *firmDesignatedID* in the introducing broker-dealer's MENO/MONO would not be the same as the *firmDesignatedID* in the clearing firm's MEPA/MOPA. In this scenario, the clearing firm would also be required to populate the *correspondentCRD* field.

U8. Are allocations to a registered investment advisor (RIA)/money manager's average price account required to be reported even if the shares are only held there temporarily before being allocated to individual customer accounts? For example, an RIA manages two client accounts at a self-clearing firm. The RIA places a single order in its account that will be later allocated between the two customer accounts. The shares are booked to an average price account designated for the RIA at the self-clearing firm until the RIA provides subaccount allocation instructions and the allocations are made to the individual customer accounts.

Added: ***07/17/2020***

Yes, all allocations to customer accounts are required to be reported even if the shares are only held there temporarily. In this scenario, the self-clearing firm would have to report the allocation to the RIA's average price account as well as the subaccount allocations to the individual customer accounts.

U9. What value should be used to populate the eventTimestamp in the Post-Trade Allocation event (MEPA) or Option Post-Trade Allocation event (MOPA)?

Added: ***07/17/2020***

The *eventTimestamp* on an Allocation event should reflect the date and time in which the shares or contracts allocated are booked into the client's account. For firms that have multiple "booking times" that are captured in their backend system, this is the booking time that reflects the placement of shares or contracts into the customer account.

U10. Are Clearing Member Trade Assignments ("CMTAs") required to be reported to CAT?

Added: ***07/17/2020***

No. CMTAs are not allocations, as defined by SEC Rule 613. Therefore, CMTAs are not required to be reported to CAT.

U11. My firm's allocations typically occur around 10 pm ET. Is my firm required to report the Post-Trade Allocation events (MEPA) and Option Post-Trade Allocation events (MOPA) by 8 am the next day?

Added: ***07/17/2020***

No, allocation events are required to be submitted to CAT by 8 am ET on the next "CAT Trading Day." "CAT Trading Day" is defined as beginning immediately after 4:15:00 pm and no fractions of a second Eastern Time on one trade date and ending at exactly 4:15:00 pm and no fractions of a second Eastern Time on the next

trading date. For example, an allocation performed at 10 pm ET on Monday (part of Tuesday's CAT Trading Day) would have to be reported by 8:00 am on the next CAT Trading Day, which would be by 8:00 am on Wednesday. For more information and examples of reporting deadlines, please refer to the Reporting Deadline Examples in the CAT Reporting Technical Specifications for Industry Members.

U12. In a scenario where Firm A has an omnibus clearing relationship with Firm B, which Industry Member has the responsibility for allocation reporting? **Added: *07/17/2020***

The CAT reporting obligation for the allocation belongs to Firm A because it knows the customer and performs the allocation.

U13. Which Industry Member has the responsibility for allocation reporting in a piggy back clearing scenario? **Updated: *08/27/2020***

When the piggyback firm is fully disclosed, the clearing firm has the obligation to report the allocation. The *correspondentCRD* field should be populated with the CRD Number of the introducing firm that has the relationship with the customer. For example, Firm A piggybacks on Firm B's clearing relationship with Clearing Firm C. In this case, the clearing firm should populate the *correspondentCRD* field with Firm A's CRD Number.

U14. When must an Amended Allocation event (MEAA) be reported? **Added: *08/27/2020***

If an allocation is updated such that a CAT reportable attribute is changed after the shares/contracts have been booked in a client account, then an Amended Allocation event (MEAA) must be reported to CAT reflecting the corrected details of the allocation. Changes that do not impact CAT reportable attributes are not required to be reported to CAT as Amended Allocation events. For example, an allocation is booked to an account at 5:15 pm. Subsequently, at 6:30 pm, the clearing firm updates a CAT reportable attribute. In this scenario, the original booking at 5:15 pm must be reported as a Post-Trade Allocation event (MEPA) and the update to the booking at 6:30 pm must be reported to CAT as an Amended Allocation event.

U15. Are Allocation Reports required to be reported for both purchases and sales? **Added: *08/27/2020***

Yes. An Allocation Report is required when executed shares/contracts are allocated to an account when the account is purchasing shares (shares are placed in account) and when the account is selling shares (shares are delivered from the account). Designation of a purchase or sale is reported as the "side" of the allocation.

U16. Are accounts maintained by a clearing firm that are owned or controlled by another broker-dealer considered "client" accounts for purposes of reporting Allocation Reports to CAT? For example, shares are booked into the average price account of an Introducing Broker (IB) dealer before the IB provides allocation instructions to the final customer accounts. Is the booking of shares into the IB owned or controlled average price account required to be reported as an Allocation by the clearing firm to CAT? **Updated: *10/07/2020***

No, allocations to any account owned or controlled by a broker-dealer are not required to be reported to CAT as Post-Trade Allocation (MEPA) or Option Post-Trade Allocation (MOPA) events. Allocations to an account owned or controlled by a broker-dealer may be voluntarily reported to CAT but must be identified as a BD account as prescribed in the technical specifications. Note that average price accounts designated for exclusively for a specific customer (not a broker-dealer) are always considered customer accounts.

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U17. Are changes to CAT reportable attributes of an allocation after the original booking of shares/contracts that occur post-settlement required to be reported to CAT as an Amended Allocation event (MEAA)? **Added: *09/22/2020***

Changes to CAT reportable attributes of an allocation after the original booking of shares/contracts are required to be reported to CAT as either an Amended Allocation event (MEAA) or the cancellation of a Post-Trade Allocation event (MEPA) followed by a new Post-Trade Allocation event regardless if they occur pre-settlement or post-settlement.

U18. Are Industry Members required to report Amended Allocation events (MEAA) for allocations which occurred before the date an Industry Member is required to report allocation events to CAT? **Added: *09/22/2020***

If the trade date of the allocation is prior to the mandatory reporting date for allocations (Phase 2c for equities and Phase 2d for options), then any amendments made to the allocation after the applicable CAT allocations reporting go-live date are not required to be reported to CAT.

U19. How should the DVPCustodianID field in the Post-Trade Allocation event (MEPA) be populated when an allocation involves a foreign entity for which a DTC number is known? **Added: *09/22/2020***

The *DVPCustodianID f*ield in the Post-Trade Allocation event (MEPA) should accurately reflect the settlement instructions on the account (not the entity) to which shares are placed or from which shares are delivered at settlement. A Depository Trust Company (DTC) number should be reported if the account where the shares are allocated will settle the transaction via DTC. If there is no DTC Number associated with the account, or the shares will settle via a foreign settlement mechanism (e.g., Euroclear), then the value of 'FOREIGN' should be used.

U20. When converting the price of a non-US dollar currency for the purpose of reporting a CAT Allocation event, is it acceptable to use the end of day conversion rate? **Added: *09/22/2020***

Yes, it would be acceptable to use an end of day currency conversion rate.

U21. Is the side value 'SX' (Short Sale Exempt) required to be reported on Post-Trade Allocation/Option Post-Trade Allocation (MEPA/MOPA) events? **Added: *10/06/2020***

If the side value 'SX' is available in the Industry Member's booking system, then it should be reported on the MEPA/MOPA. If it is not available in the booking system, then the side value 'SS' should be reported on the MEPA/MOPA.

U22. What are the requirements for clearing firms to report allocations to average price accounts of an Introducing Broker that may be exclusively for a specific client of the Introducing Broker? **Added: *10/06/2020***

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If the average price account is held in the name of a specific client of the Introducing Broker or is associated in the clearing firm's systems with a specific client of the Introducing Broker, then allocations to the average price account must be reported to CAT. If the average price account is held in the name of the Introducing Broker and is not associated in the clearing firm's system with a specific client of the Introducing Broker, then allocations to the average price account are not required to be reported to CAT.

U23. What does the term "booking" mean in relation to the reporting of CAT allocation events? **Updated: *01/04/2021***

The term "booking" is the recording of the details related to shares/contracts owed to or delivering out of an account to the firm's books and records. "Original Booking" is the first reasonably available time details of shares/contracts owed to or delivering out of an account are recorded to a firm's books and records. Due to diverse post-trade processing models (e.g., batch, intraday, and real-time processing), firms should use the first reasonably available original booking time to reflect the *eventTimestamp* on a Post-Trade Allocation event/Option Post-Trade Allocation (MEPA/MOPA). Changes to CAT reportable attributes of an allocation after the original booking of shares/contracts are required to be reported to CAT as either an Allocation Amendment event or the cancellation of a Post-Trade Allocation event followed by a new Post-Trade Allocation event regardless if they occur pre-settlement or post-settlement. (also see FAQ U14)

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EXHIBIT 8

FIRM'S GUIDE TO THE CONSOLIDATED AUDIT TRAIL (CAT)

August 20, 2019

Version 1.1

sifma

Deloitte.

Public Appendix 1480

The information in this Guide was prepared by Deloitte & Touche LLP (Deloitte) as commissioned by SIFMA.

The content of this guide leverages the information provided by the CAT NMS, LCC website CATNMSplan.com. This guide is ***not*** *intended to replace, supersede or interpret the information published by CAT NMS, LLC. The guide is intended to communicate an awareness of the Consolidated Audit Trail (CAT) and an overview of the* ***related regulatory requirements****.*

SIFMA and/or Deloitte makes no representation or warranty to the accuracy of the information as this Guide is not a complete representation of all the CAT requirements. A complete listing of requirements, technical specifications, scenarios, frequently asked questions (FAQs) and timelines can be found on CATNMSplan.com.

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Preface: How to use this Guide

This Guide provides an overview of the Consolidated Audit Trail (CAT) and a summary of considerations for Industry Members (Firms) as they prepare to report to the CAT. For purposes of this document, Firms are specifically those who are Industry Members of the Securities Industry and Financial Markets Association (SIFMA). This document has been divided into multiple sections to assist Firms in understanding the various CAT topics and its potential impacts. It starts with an overview of the scope, products, transaction types, types of Firms, reporting and error correction requirements under Rule 613, followed by implementation timelines for Firms. It also describes the technical specifications for reportable events and fields and provides an awareness of the guidance that is publicly available to Firms on CATNMSplan.com, which includes reporting scenarios and Frequently Asked Questions (FAQs).

The later chapters of the Guide elaborate on potential impacts that Rule 613 has on Firms, and considerations in their implementation, including sourcing data, various reporting models, the use of vendors in the reporting process, technology architecture, and additional considerations such as registration and testing. The Guide describes considerations for control frameworks and governance models that may assist in the enhancement of data quality by enabling the monitoring of end-to-end processes, exception management, and data sources. The Guide provides an overview of testing considerations and industry testing requirements by Firms before receiving clearance to report to the CAT. A checklist of readiness considerations is also provided in both list and free form formats. Potential challenges associated with readiness and reporting are described, including data, regulatory, operational and technology challenges as well as disaster recovery and contingency plans the Firms should consider. The Guide closes with details about the path forward, the focus areas and next steps with respect to the CAT reporting timeline.

This Guide is intended to help Firms understand CAT reporting requirements as they work to comply with the *Consolidated Audit Trail* (CAT) regulations. For Introducing Firms that may ***not*** have reported to the Order Audit Trail System (OATS), shaded boxes have been highlighted to reiterate Introducing Firm considerations.

Client and account information considerations are not included as part of this Guide due to the fact that these terms have not yet been defined by CAT NMS LLC and plans for their inclusion in CAT reporting have not yet been finalized or approved.

This Guide provides an overview of the CAT regulation and provides considerations for implementation; however, **it is not a replacement for the regulatory requirements as communicated on CATNMSplan.com and as defined within the technical specifications, reporting scenarios, and FAQs.** *Additionally, the Plan Processor, has published guidance related to CAT Reporting, including an onboarding guide and connectivity supplement. Firms should monitor CATNMSplan.com for further details regarding these and future document releases.*

Firms should monitor CATNMSplan.com for further updates and announcements.

1.0 Executive Summary

I. Background on Rule 613, Plan Processor and CAT NMS LLC

The United States (US) Securities and Exchange Commission (SEC) adopted SEC Rule 613 (Rule 613) in 2012 to create the Consolidated Audit Trail (CAT) intended to allow regulators to monitor activity in National Market System (NMS) securities throughout the US markets. In November 2016, the SEC approved the CAT NMS Plan, which was submitted by the Self-Regulatory Organizations (SROs). The CAT NMS Plan outlines a broad framework for the creation, implementation, and maintenance of the CAT.

Jointly formed by the SROs, CAT NMS LLC was jointly formed by the SROs to coordinate and collectively select a Plan Processor, thus making the CAT a "facility" of each SRO. The selected Plan Processor is responsible for performing the processing functions required under Rule 613 and the CAT NMS Plan. The Operating Committee of CAT NMS LLC, a governing body composed of representatives of the SROs, oversees the operation of the CAT. On a functional level, CAT will collect information on quotes, orders, routes, and trade execution for exchange-listed equities and options throughout the US NMS, including related events such as cancellations, modifications and acceptances of an order or route.

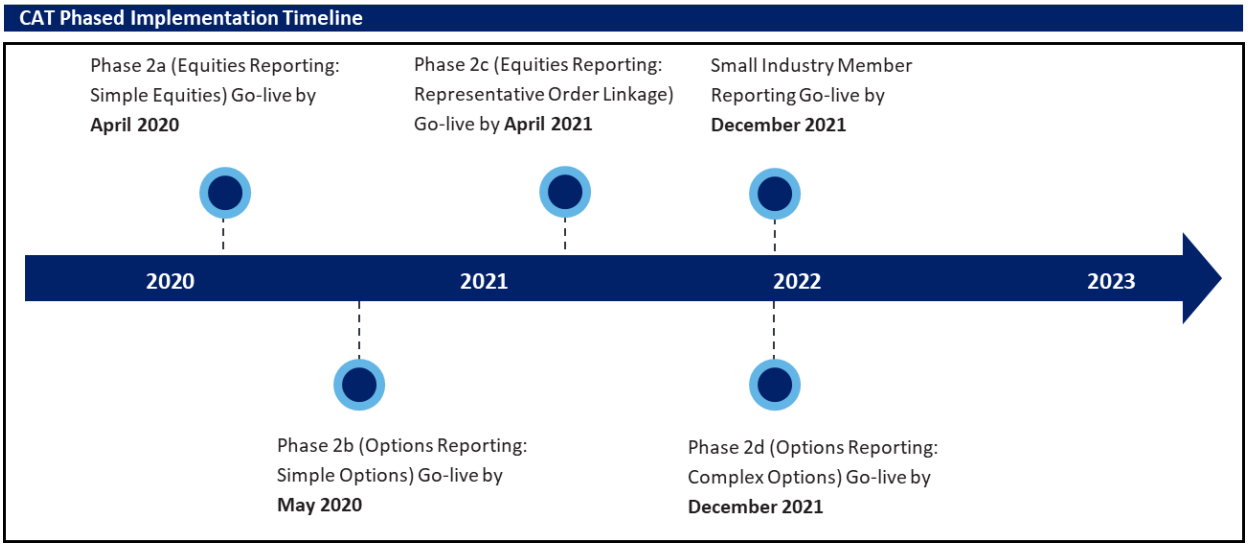
II. Impact to Firms, Product Scope and Timelines

The CAT applies to all US exchanges and Firms, including Alternative Trading Systems (ATSs), registered with an SRO and unlike the Order Audit Trail System (OATS), **there are no broker-dealer exemptions** from reporting requirements. Any broker-dealer that is a member of a national securities exchange or Financial Industry Regulatory Authority (FINRA) and handles orders **must report to CAT**. Eligible securities include NMS stocks, listed options, and over-the-counter (OTC) equity securities.

Firms need to report market transaction data (Reportable Events) to the CAT in a format(s) specified by the Plan Processor, approved by the Operating Committee and compliant with Rule 613. Scope and timelines are further discussed in section 3 of this Guide.

These events cover the end-to-end lifecycle of a trade, including but not limited to, quotes, original receipts or originations of an order, modifications, cancellations, routing, receipts of a routed order execution (in whole or in part), and ultimately order allocations. As indicated in this Guide and elaborated on CATNMSplan.com, these events will be reportable in different phases in the CAT implementation timeline, starting in April 2020, as shown in Figure 1.0.1.

Figure 1.0.1: Phased Implementation Timeline



Additionally, CAT has different timelines for the implementation of the phases indicated in Figure 1.0.1 for large Firms and small Firms. Specific implementation dates and definitions of Firm size will be discussed in detail in section 4 of this Guide. Later scheduled phases include allocations and customer information, but details regarding implementation have not been finalized and published at the time of writing of this Guide.

III. Reportable events, scenarios & fields (in excess of OATS), Error corrections and FAQs

The **Industry Member Technical Specifications** for equities and simple option (Phases 2a and 2b), provides an overview to the requirements of reporting to CAT by Firms. It provides detailed information about data elements, data types, order events and file formats for the in-scope products that are required to be reported. It also describes how Firms must submit files to CAT, including access instructions, network and transport options, error corrections and testing requirements.

A separate companion document to the Industry Member Technical Specifications is also available on CATNMSplan.com, titled **CAT Industry Member Reporting Scenarios,** which contains reporting scenario examples and can be used to determine how event types and field values should be applied while reporting various order handling and execution scenarios for equities and simple options.

Section 5 of this Guide provides an overview of the Industry Members Technical Specifications and the CAT Industry Member Reporting Scenarios documents. Firms should refer to these documents, as well as the FAQs, published on CATNMSplan.com, to gain an understanding of the approved and up-to-date reporting requirements for CAT.

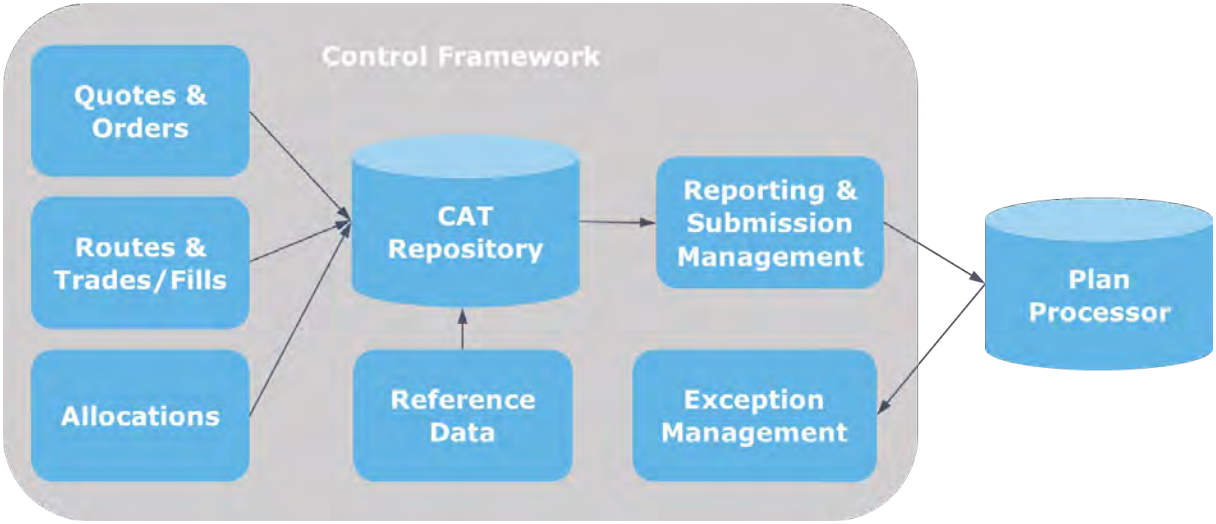
Firms should understand that **CAT is more than an evolution of FINRA's OATS.** CAT will include a substantial number of additional requirements, such as options data, allocations, and customer data that are not considered within the current OATS requirements. CAT has a shorter error correction window than OATS. Errors must be corrected within three trading days (T+3) of the Reportable Event. Introducing

Firms will also have greater reporting obligations under CAT as compared to OATS. A summarized comparison between CAT and OATS reporting requirements is presented in section 5.9 of this Guide.

IV. Operational considerations including architecture, vendors, controls and governance, connectivity and testing

The CAT reporting requirements may necessitate Firms to evaluate their current policies and procedures, reporting architecture, controls framework and/or governance models to confirm timely and correct data reporting. Firms should consider assessing data sources, mapping their data to the technical specifications of CAT, identifying and addressing potential gaps and remediating any observed data anomalies. Source data would flow through several steps, including enrichment, validation controls, and submission formatting for CAT reporting. There are several considerations such as using a centralized or federated model, buying or building in-house solutions, utilizing the services of a vendor or any combination of these factors. Data and technical architecture considerations are discussed in section 6 of this Guide.

Figure 1.0.2: Components of a Conceptual Architecture



Operational processes including CAT submission management and exception management, will also be important components of a sustainable solution. The aggregation and transmission of CAT data also introduces several security considerations since CAT requires that data be protected at rest and in transit. Firms that are making changes to their systems and operations for CAT, will need to plan ahead to meet the industry timelines. Connectivity over private lines will be available in October 2019 and CAT Secure Reporting Gateway in November 2019. Industry testing of CAT submissions begins in **December 2019**. Firms should consider performing internal testing of their systems and processes for CAT Reporting in preparation for the industry go-live timelines.

To maintain CAT compliance over time, an effective control framework and governance model that can monitor the timeliness, accuracy and completeness of CAT submissions and error corrections, as well as manage changes to the business, products, systems and regulations that may impact a Firm's CAT reporting solution(s) should be considered. Service providers within a Firm's CAT solution may also

introduce some risks to be managed. Governance models and controls frameworks are discussed in section 7 of this Guide.

V. Other considerations

In addition to the CAT reporting requirements and considerations for implementing CAT reporting solutions, Firms should consider technological, regulatory and operational challenges that may arise in the preparation and data reporting stages of CAT reporting. New data types such as the Firm Designated ID (FDID) and products such as options may require greater attention as they are not currently reported to OATS. Firms who are also OATS Reporters, should also consider the challenges in parallel reporting to OATS and CAT, as the retirement plan for OATS is not yet final.

From an operational perspective, registration for CAT will require Firms to identify Principal, Primary, and Secondary contact individuals as well as the CAT Reporter (Firm or CAT Reporting Agent if applicable). These terms will be defined and expanded upon later in this Guide. Firms should consider whether their business continuity, disaster recovery and contingency plans need to be (re)assessed and adjusted to perform in conjunction with CAT requirements and in accordance to Firm specific capabilities. Additionally, Firms may want to consider the potential advantages and disadvantages of client account holder notifications indicating that. Firms should assess if there are any incremental responsibilities, in relation to applicable laws and regulations, beyond those included in current client account agreements which would extend to CAT. It should be noted that at the time of writing this Guide, CAT does not have an additional regulatory requirement for client communications.

Technology challenges include integrity and consistency of the data as it flows through internal systems as well as vendor platforms. Regulatory challenges include supporting parallel reporting regimes (e.g. OATS, Blue Sheets) alongside CAT, as well as being prepared for regulators to have an increased understanding of Firms' markets activities and responding to regulator inquiries about their CAT submissions.

Firms should consider their current capabilities in relation to CAT readiness and in light of operational, technological and regulatory challenges, including but not limited to those identified in this Guide. Section 8.10 includes a checklist that Firms could leverage to perform an assessment to understand their CAT readiness status.

Finally, Firms should make sure that they comply with immediate requirements for CAT, including registration with the Plan Processor, meeting clock synchronization requirements, and preparing for connectivity testing in Q3 2019.

2.0 Introduction

2.1 Background on the CAT (SEC Rule 613)

Rule 613 was established by the SEC on July 11, 2012 after the 2010 "Flash Crash," which saw the Dow Jones Industrial Average Index (DJIA) reduce in value by approximately 9% in a matter of minutes. In response to the high market volatility, and the difficulty in determining the cause of the Flash Crash, the SEC adopted Rule 613 in 2012 to create the CAT, intended to allow regulators to monitor activity in NMS securities throughout the US markets. Rule 613 outlines a broad framework for the creation, implementation, and maintenance of the CAT, including minimum standards for adherence to the framework, as established by the SEC.

The CAT collects information on a variety of market events, including but not limited to, quotes, orders, routes, and trade executions for all exchange-listed equities and options throughout the NMS. Additionally, the CAT will track related events such as cancellations, modifications and order or route acceptances. The development and implementation of the CAT on an industry-wide basis, represents an evolution in maintaining the integrity of the financial and capital markets.

2.2 What is the NMS Plan?

In September 2014, the SROs submitted the CAT NMS Plan to the SEC, describing how the SROs would implement and maintain the CAT. The SROs created and jointly own CAT NMS LLC, which was formed by the SROs to arrange for and oversee the creation, implementation and maintenance of the CAT as required under Rule 613. The SEC published the amended CAT NMS Plan in May 2016 and requested public comments; later approving the CAT NMS Plan on November 15, 2016.

2.3 Role of CAT NMS, LLC

Under Rule 613, each member of a national securities exchange or national securities association is required to comply with all the provisions of the CAT NMS Plan. The CAT NMS Plan requires each SRO to adopt rules requiring its members to comply with Rule 613 and the CAT NMS Plan, and to enforce compliance by its members in accordance with these governing regulations. Accordingly, each SRO has adopted rules requiring its members to comply with Rule 613 and the CAT NMS Plan.

With respect to governance of the CAT, each SRO is permitted to appoint one member of the Operating Committee and each SRO appointee is entitled to one vote. The CAT NMS Plan sets forth certain provisions relating to the Operating Committee, including identification of those actions requiring a majority vote, a supermajority vote or a unanimous vote, and the management of conflicts of interest. Additionally, the Operating Committee oversees the operation of the CAT and has the responsibility of oversight the Plan Processor, an entity that performs the processing functions required by Rule 613 and the Plan.

3.0 Overview of CAT Scope and Requirements

3.1 Introduction

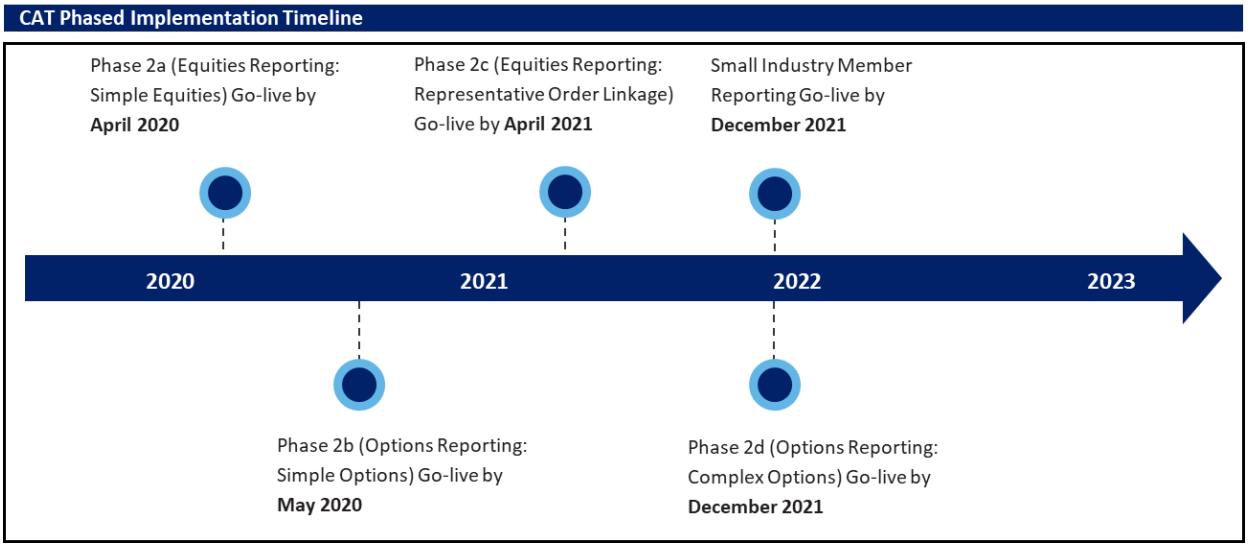
The provisions set forth in Rule 613 apply to all US equities and options exchanges and broker-dealers (including ATSs) registered with an SRO. **Under CAT, there are no exceptions from Rule 613 reporting requirements.** Any broker-dealer that is a member of a national securities exchange or FINRA and receives, originates and/or handles orders in NMS Securities, which includes NMS stocks and Listed Options, and/or OTC Equity Securities must report to CAT.

Firms are required to report market transaction data to the CAT in a format or formats specified by the Plan Processor. Formats for reporting are defined in the technical specifications, scenarios and FAQs that are published on CATNMSplan.com.

Reportable Events cover the end-to-end lifecycle of a trade, including but not limited to, quotes, the original receipt or origination of an order, modification, cancellation, routing, receipt of a routed order execution (in whole or in part). The allocation of an order will be reportable in a later phase in the CAT implementation timeline.

CAT Reporting will be implemented in a phased-manner for Firms.

Figure 3.1.1: CAT Implementation Timeline



Additional phases, that increase the scope of CAT reportable data and events, are currently under consideration by the Operating Committee. At the time of writing this Guide, client allocations and customer information have not yet been defined and have not been included in this Guide. Regardless, CAT implementation is scheduled in different phases for large and small Firms. Specific implementation dates and definitions of Firm size will be discussed in detail in the following sections.

3.2 Type and Size of Member Firms

Firms **will be** impacted differently by the CAT reporting requirements, based upon their business type and the type(s) of reportable activity they conduct.

Types of Firms

An Industry Member (also defined as Firm or Firms in this document) is a member of a national securities exchange or a member of a national securities association. Any broker-dealer that is a member of a national securities exchange or FINRA and handles orders in NMS Securities, which includes NMS stocks and listed Options, and OTC equity securities must report to CAT.

Firms can be:

1. **Executing Firm:** Broker or dealer that processes a buy or sell order on behalf of a client or another Firm. Executing Firms have a clear reporting responsibility for the orders they handle, routing of the orders and ultimate execution.

2. **Introducing Firm:** Broker or dealer that interacts with customers but may not execute trades on behalf of customers. Introducing Firms will have a regulatory obligation to report any quotes, new orders, routes and any cancels or amendments to those events.

3. **Clearing Firm:** Broker or dealer that not only handles orders to buy/sell securities, but also maintains custody of securities and other assets. The act of clearing (including step-ins and step-outs) is not reportable, however, if handling orders or providing execution services, a clearing member will have an obligation to report those events. If the clearing member provides reporting services to their correspondent or Introducing Firms, then the roles and responsibilities should be clearly defined for that operating model. If the Clearing Firm is reporting on behalf of another Firm, that the outsourcing Firm may designate the Clearing Firm as the CAT reporting source on their registration.

Size of Firms

For CAT reporting, there are different timelines for **small and large Firms**. The SEC defines a **small Firm** as a broker or dealer that (a) had total capital (net worth plus subordinated liabilities) of less than $500,000 on the date in the prior fiscal year as of which its audited financial statements were prepared pursuant to SEC Act of 1934 article 240.17a-5(d) or, if not required to file such statements, a broker or dealer that had total capital (net worth plus subordinated liabilities) of less than $500,000 on the last business day of the preceding fiscal year (or in the time that it has been in business, if shorter); and (b) is not affiliated with any person (other than a natural person) that is not a small business or small organization as defined in SEC Rule 0-10.

Firms that do not fall into the above category are considered ***large Firms according to the regulation****.* **Unless otherwise noted, the timelines described in this Guide apply to large Firms.**

3.3 Products in Scope

Eligible Securities

Firms will be required to report to the CAT reportable events involving an eligible security. Under the CAT NMS Plan, "eligible security" includes equities and options with the following definitions[1]:

> (1) all **NMS Securities**, meaning "any security or class of securities for which transaction reports are collected, processed, and made available pursuant to an effective transaction reporting plan, or an effective national market system plan for reporting transactions in Listed Options"; and
>
> (2) all **OTC Equity Securities**, meaning "any equity security, other than an NMS Security, subject to prompt last sale reporting rules of a registered national securities association and reported to one of such association's equity trade reporting facilities."

For eligible securities, the types of events that will need to be reported will include:

- All **proprietary orders,** including market maker orders
- All **street side representative orders** (both agency and proprietary)
- **Electronic listed quotes** (NMS stocks) sent to an exchange or the Alternative Display Facility (ADF) (assumes exempted relief request for verbal quotes)
- **Unlisted quotes** (OTC Equity Securities) received by a broker-dealer operating an inter-dealer quotation system (e.g., Global OTC, OTC Link)
- **Unlisted quotes that meet the definition of bid or offer** under the Plan sent by a broker-dealer to a quotation venue not operated by an SRO or broker-dealer
- **"Simple Electronic Option Orders:"** orders to buy or sell a single option that are not related to or dependent on any other transaction for pricing or timing of execution that are either received or routed electronically by an Industry Member CAT Reporter
- **"Electronic Paired Option Orders:"** electronic option orders that contain both the buy and sell side that is routed to another Industry Member or exchange for crossing and/or price improvement as a single transaction on an exchange. Further, the events related to Simple Electronic Option Orders subject to reporting in Phase 2b are limited to those events which involve electronic receipt of an order, or electronic routing of an order
- **Electronic receipt of an order:** the initial receipt of an order by an Industry Member in electronic

[1] DEFINITIONS, LIMITED LIABILITY COMPANY AGREEMENT OF CAT NMS, LLC. https://www.catnmsplan.com/wp-content/uploads/2018/01/CAT-NMS-Plan-Current-as-of-1.10.18.pdf

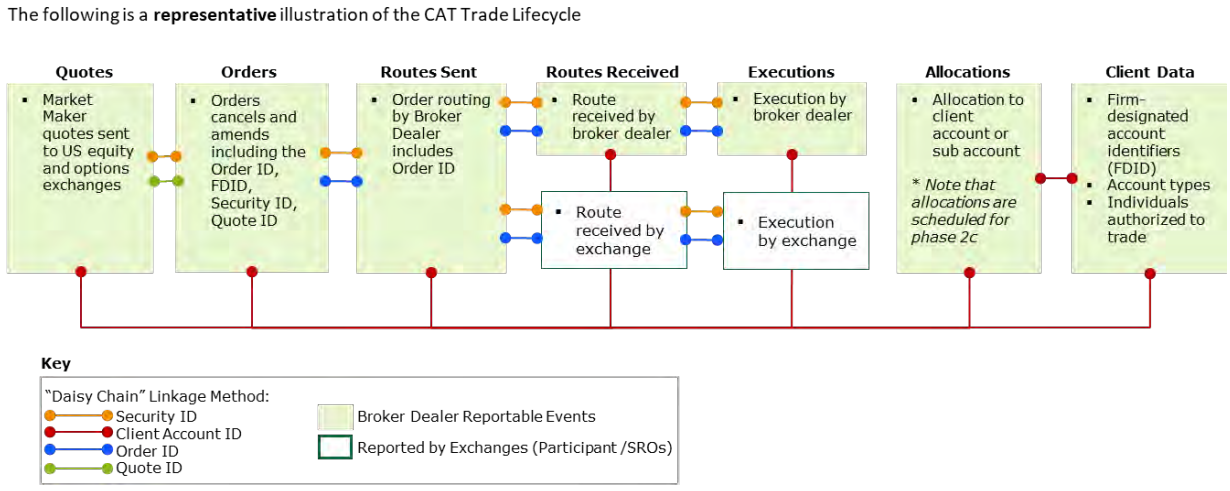
form in standard format directly into an order handling or execution system

- **Electronic routing of an order:** the routing of an order via electronic medium in standard format from one Industry Member's order handling or execution system to an exchange or another Industry Member

3.4 Trade Lifecycle Events and Linkage

The Plan Processor will use the "daisy chain approach" to link and create the order lifecycle. A series of unique identifiers, assigned to each event handled by CAT Reporters, are linked together by the central repository and assigned a single CAT-generated CAT-Order-ID that is associated with each individual order event and used to link the order lifecycle events.

Figure 3.4.1: CAT Trade Life Cycle Event and Linkage



Within the trade lifecycle, a reportable event includes, but is not limited to, a quote, order, modification, cancellation, route, and acceptance of a routed order, execution (in whole or in part) and allocation of an order.

There are certain reportable data elements which are used to link related events. These data elements include:

1. Event IDs (including quote ID and order ID)
2. Account Firm Designated ID (FDID); and
3. Trade specific information (including security and time stamp)

Details on reportable events and data elements for equities and single leg options transactions will be further described in Section 5 of this Guide.

3.5 Data Process and Timing

The CAT NMS Plan requires Firms to record order, quote, fulfillment and trade events. Real-time reporting to CAT is not required. Data may be bulk uploaded all at once prior to the reporting deadlines or may be submitted in batches with associated uploads throughout the day.

The CAT NMS Plan requires certain reportable events, outlined later in this Guide and in the Industry Member Technical Specification document, to have timestamps in milliseconds. To the extent that a CAT Reporter's order handling or execution systems utilize timestamps in increments finer than milliseconds (e.g. microseconds), such a CAT Reporter is required to utilize such finer increments when reporting CAT data to the CAT.

Reportable Events for a Trading Day are required to be reported to CAT by 8:00 AM Eastern Standard Time (EST) on the next Trading Day (T+1)[2]. Error corrections are due by T+3, which is a substantial change from current OATS requirements of T+5.

Figure 3.5.1: Data Reporting and Submission

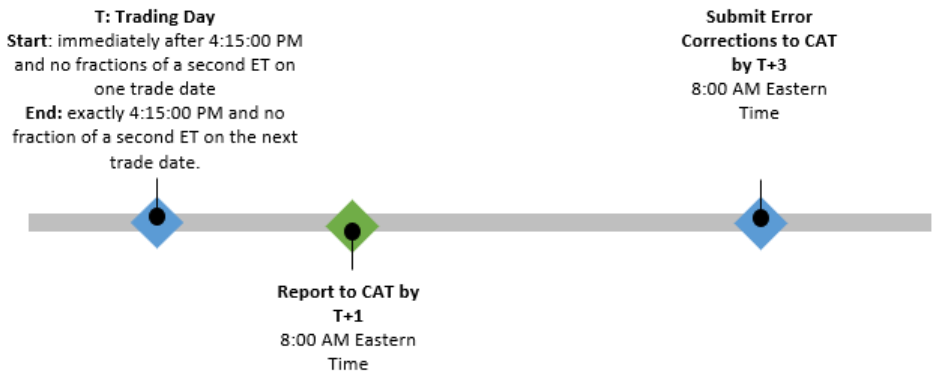


Table 3.5.1: Examples for Error Correction Timelines

No.	T (Reportable Event is Executed on):	T+1	T+3
1	Monday, 4:00 PM EST	Tuesday, 8:00 AM EST	Thursday, 8:00 AM EST

[2] Trading day is defined per section 6.4.1 in the Technical Specifications on CATNMSplan.com as: "Trading Day for Industry Members is defined as: Start: immediately after 4:15:00 PM and no fractions of a second Eastern Time on one trade date End: exactly 4:15:00 PM and no fraction of a second Eastern Time on the next trade date (T=Trading Day, a defined term).

No.	T (Reportable Event is Executed on):	T+1	T+3
2	Monday, 4:20 PM EST	Wednesday, 8:00 AM EST	Friday, 8:00 AM EST

Trading Day (T) for Industry Members is defined as[3]

- **Start**: immediately after 4:15:00 PM EST and no fractions of a second on one trade date
- **End:** exactly 4:15:00 PM EST and no fraction of a second on the next trade date

The Trading Day is used to determine the reporting deadline of CAT events, including when error repairs and Firm-initiated corrections are due. Weekends or any day that all equities or options national securities exchanges are closed are not considered a Trading Day. CAT accepts submissions 24 hours per day, 7 days per week, other than during announced scheduled maintenance. Reports received after the deadline **will be considered late.**

Introducing Firm Consideration:
Firms will need to report events that occurred during a particular Trading Day anytime between the time the event occurred and the reporting deadline, which is 8:00 AM EST on the next Trading Day. Any report that is received after the deadline will be considered late.

Error Corrections

Errors under CAT, as defined for the purposes of this Guide, include, but are not limited to, file integrity errors, mandatory data element errors, syntax errors and linkage errors communicated to Firms through the CAT Reporter Portal and the Secure File Transfer Protocol (SFTP), which the Plan Processor has referred to as CAT File Transfer.

Errors must be repaired prior to 8:00 AM EST on T+3 (CAT Trading Day of event + three Trading Days). Repairs received after the repair deadline will be considered late. Firms must correct errors regardless of when they occur (i.e. Firms must still correct errors even after the correction deadline). Additional details as well as the latest version of Error Correction timelines can be found in the Industry Member Technical Specifications at CATNMSplan.com. The staged implementation of CAT may impact the timing of error correction as additional error type validations by the Plan Processor are performed. For further considerations on Error correction processes and implementation impact, refer to Guide section 5.4.

[3] Appendix D: CAT Date Definitions and Reporting Guidelines, Industry Member Technical Specifications. https://www.CATNMSplan.com/technical-specifications/index.html

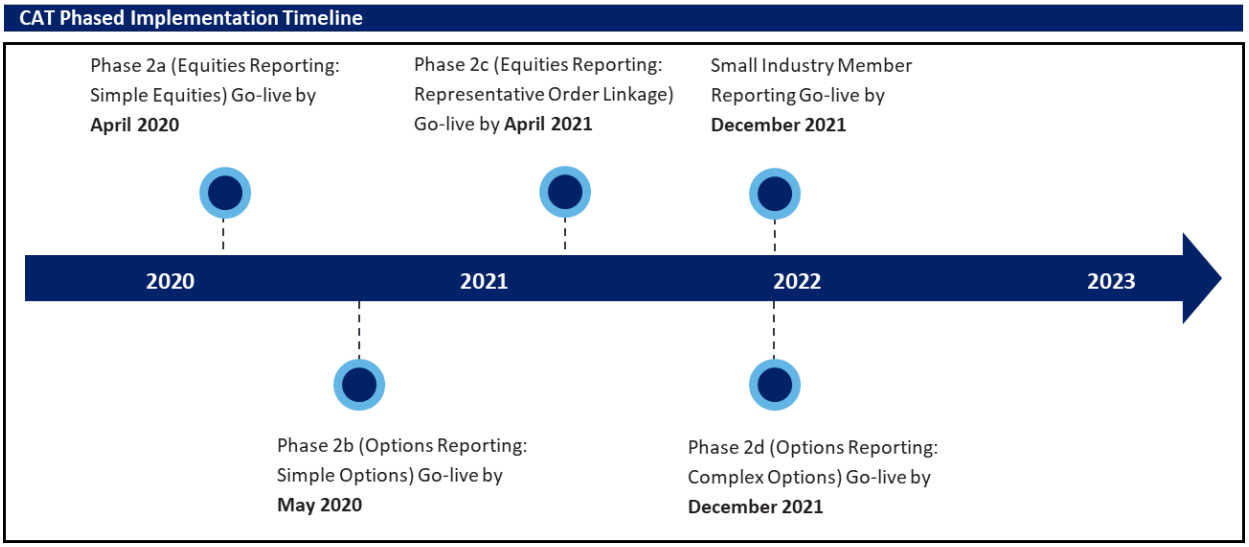
4.0 CAT Industry Member Implementation Timelines

4.1 Introduction

The reporting of order and trade data to the CAT will be carried out in a **phased manner**. At the time of writing this Guide, the SROs have defined the first four phases of Industry Member reporting. Industry testing begins in December 2019, with simple equity reporting (Phase 2a), commencing in **April 2020 for large Firms**, followed by simple options (Phase 2b), representative orders (Phase 2c), and finally complex options (Phase 2d). **Small Firm** reporting will commence in **December 2021**. It is noted that small Firms have the option to ***voluntarily*** begin reporting prior to the scheduled December 2021 go-live date.

Refer to the CAT NMS Timeline for the latest version of the Implementation Timeline.

Figure 4.1.1: CAT Phased Implementation Timeline



Technical Specifications Publication Timeline

The technical specifications for Phases 2a and 2b were published on April 29, 2019 with the latest version available on CATNMSplan.com.

The dates for the release of the technical specifications for Phases 2c, 2d, and Customer & Account were released in April 2019. The dates are specified in Table 4.1.1.

Table 4.1.1: Date of Release for Technical Specifications

Date		
Phase 2c	Phase 2c: Representative Order Linkages	**January 2020**
Phase 2d	Phase 2d: Manual Options Order, Complex Orders and Options Allocations	**January 2020**
Customer and Account Information	Customer & Account	**January 2021**

4.2 CAT Implementation Phases and Stages

CAT Implementation is going to occur in a phased manner. As defined in the Industry Member Technical Specifications on CATNMSplan.com, the currently published phases will consist of the following:

Table 4.2.1: CAT Implementation Phases[4]

Phase 2a ***Equities Part 1*** ***4/20/2020***	• All events and scenarios covered by OATS • All proprietary orders including market maker orders • Firm Designated IDs • All street side representative orders (both agency and proprietary) • Linkage is required between the representative street side order and the order being represented when the representative order was originated specifically to represent a single order (received either from a customer or another broker-dealer) and there is: 1) an existing direct electronic link in the Firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the Firm's system • Quotes in NMS stocks sent to a national securities exchange or facility of a national securities association *assumes exemptive relief request or Plan amendment for verbal quotes • Unlisted quotes (OTC Equity Securities) received by a broker-dealer operating an inter-dealer quotation system (e.g., Global OTC, OTC Link) *see above comment on verbal quotes • Unlisted quotes that meet the definition of bid or offer under the Plan sent by a broker-dealer to a quotation venue not operated by an SRO or broker-dealer *see above comment on verbal quotes • Electronic capture time for manual orders • OATS guidance regarding Firm modifications to previously routed orders (as outlined in OATS FAQ C35[5]) applies to CAT

[4] Table 1: Industry Specifications Phased Approach: Industry Member Technical Specifications. https://www.CATNMSplan.com/technical-specifications/index.html

[5] C35. Many of our customer orders are routed to an ECN. Although the orders are market orders, they are required to contain a limit price. Our trader modifies the limit price on the orders, as market conditions require, to obtain the best price for the customer. In a fast-moving market, the trader may modify the order many times over a short period. Are we required to submit an OATS report for each of these modifications? OATS Compliance FAQs. https://www.finra.org/industry/faq-oats-compliance-faq

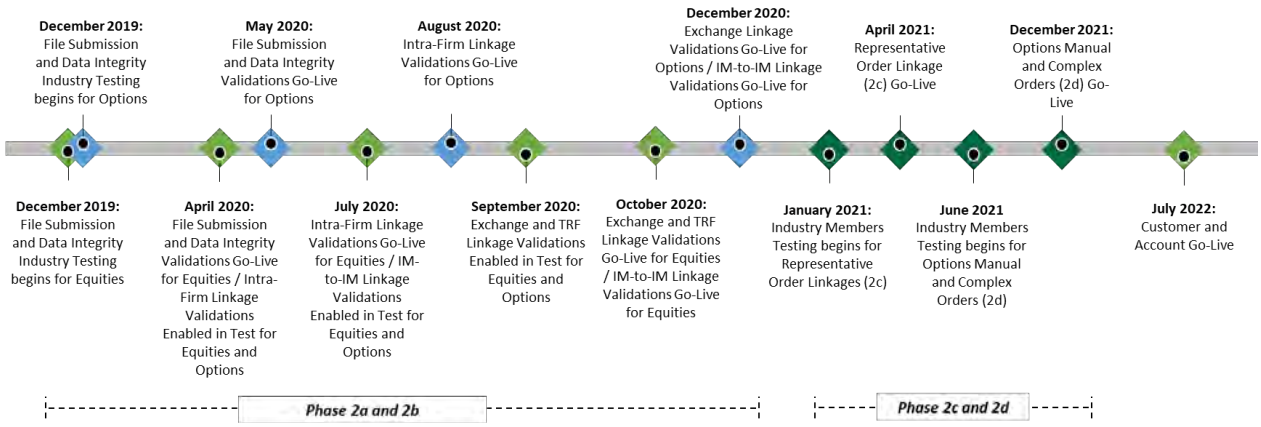
Phase 2b ***Options Part 1*** ***5/18/2020***	• Simple options electronic orders, excluding electronic paired orders
Phase 2c ***Equities Part 2*** ***4/2021***	• Linkages to the customer order(s) being represented for all representative order scenarios, including agency average price, net trading, aggregated orders, OMSEMS scenarios • Sub-account allocations • Rejected External Routes with flag indicating route was not accepted by receiving destination • Internal Route modifications and cancels • Unlisted quotes sent to an inter-dealer quotation system operated by a CAT Reporter • Revisit application of OATS guidance to CAT for Firm modifications to previously routed orders (as outlined in OATS FAQ C35) • Special Handling instructions on Route Reports (limited to a defined set of values) • Quote ID on Trade Events • Order Effective Time for orders that are received by an Industry Member and do not become effective until a later time
Phase 2d ***Options Part 2*** ***12/2021***	• Simple options manual orders • Electronic and manual paired orders • All complex orders with linkage to all CAT-reportable legs

The timelines for these phases are described in the following sections.

4.3 Large Firm Implementation Timelines

Large Firm industry testing for Phase 2a is anticipated to commence in December 2019, with the first go-live date planned for April 2020. To gain access to the production environment, Firms are required to successfully submit a file for testing. Summary of the timeline for each phase for large Firms is shown in Figure 4.3.1.

Figure 4.3.1: Timeline for Large Firms



The implementation plan for large Firms includes submission of all data, including all linkage keys, beginning in April 2020 with data integrity and linkage validation introduced incrementally, beginning with basic data integrity checks and then enabling the various linkage validations in stages. Timelines for both testing and production in each Phase for large Firms are as follows:

Table 4.3.1: Phase 2a – Equities

		Date
Phase 2a: Equity	***1. File Submission & Data Integrity checks***	
	Industry Testing: Start submission of data into test environment and gather feedback on data integrity checks. *There is no requirement for mandated participation; However, Firms will be required to submit a file successfully to test prior to being given access to Production*	**December 2019**
	Mandatory production submission*:* Perform all data integrity checks *Firms will be required to submit all Phase 2a data everyday by 8 am EST T+1 and correct all rejected data by 8 am on T+3*	**April 2020**
	2. Intra-Firm Linkage	
	Industry Testing: Gather feedback on Intra-Firm linkage *Test requirements are still under discussion*	**April 2020**
	Mandatory production submission: Add Intra-Firm linkage *Firms will be required to correct all Intra-Firm linkage errors by 8 am EST on T+3*	**July 2020**
	3. Industry Member-to-Industry Member Linkage (Inter-Firm Linkage)	
	Industry Testing: Gather feedback on Industry Member-to-Industry Member linkage *Coordinated industry testing – specific plans are in development*	**July 2020**
	Mandatory production submission: Add Industry Member-to-Industry Member linkage checks *Firms will be required to correct all Firm to Firm linkage errors by 8 am EST on T+3*	**October 2020**
	4. Exchange and TRF Linkage	
	Industry Testing: Gather feedback on exchange and Trade Reporting Facility (TRF) linkage *Coordinated industry testing – specific plans are in development*	**September 2020**
	Mandatory production submission: Add Exchange and TRF linkage checks *Firms will be required to correct all exchange linkage errors by 8 am EST on T+3*	**October 2020**

Table 4.3.2: Phase 2b – Options

	Date	
Phase 2b: Options	***1. File Submission & Data Integrity checks***	
	Industry Testing: Start submission of data into test environment and gather feedback on data integrity checks *There is no requirement for mandated participation; However, Firms will be required to submit a file successfully to test prior to being given access to Prod*	**December 2019**
	Mandatory production submission*:* Perform all data integrity checks *Firms will be required to submit all Phase 2b data everyday by 8 am EST T+1 and correct all rejected data by 8 am on T+3*	**May 2020**
	2. Intra-Firm Linkage	
	Industry Testing: Gather feedback on Intra-Firm linkage *Test requirements are still under discussion*	**April 2020**
	Mandatory production submission: Add Intra-Firm linkage checks *Firms will be required to correct all Intra-Firm linkage errors by 8 am EST on T+3*	**August 2020**
	3. Industry Member-to-Industry Member Linkage (Inter-Firm Linkage)	
	Industry Testing: Gather feedback on Industry Member-to-Industry Member linkage *Coordinated industry testing – specific plans are in development*	**July 2020**
	Mandatory production submission: Add Industry Member-to-Industry Member linkage checks *Firms will be required to correct all Firm to Firm linkage errors by 8 am EST on T+3*	**December 2020**
	4. Exchange and TRF Linkage	
	Industry Testing: Gather feedback on exchange and TRF linkage *Coordinated industry testing – specific plans are in development*	**September 2020**
	Mandatory production submission: Add Exchange linkage checks for go-live of all 2b functionality *Firms will be required to correct all exchange linkage errors by 8 am EST on T+3*	**December 2020**

For the following phases, additional milestones have not been published:

Table 4.3.3: Phase 2c - Representative Order Linkages

Date		
Phase 2c: Representative Order Linkages	***Representative Order Linkages***	
	Industry Testing: Start submission of data into test environment and gather feedback on data integrity checks	**January 2021**
	Mandatory production submission for representative order linkages	**April 2021**

Table 4.3.4: Phase 2d - Manual Options Orders, Complex Orders and Options Allocations

Date		
Phase 2d: Manual Options Orders, Complex Orders and Options Allocations	***Manual Options Orders, Complex Orders and Options Allocations***	
	Industry Testing: Start submission of data into test environment and gather feedback on data integrity checks	**June 2021**
	Mandatory production submission for Manual Options Orders, Complex Orders and Options Allocations	**December 2021**

The CAT NMS Plan defines a Manual Order Event as a "non-electronic communication of order-related information for which CAT Reporters must record and report the time of the event." Complex Options may include an equity component and multiple options components (e.g., buy-write, straddle, strangle, ratio spread, butterfly and qualified contingent transactions).

Table 4.3.5: Reporting of Customer and Account Information

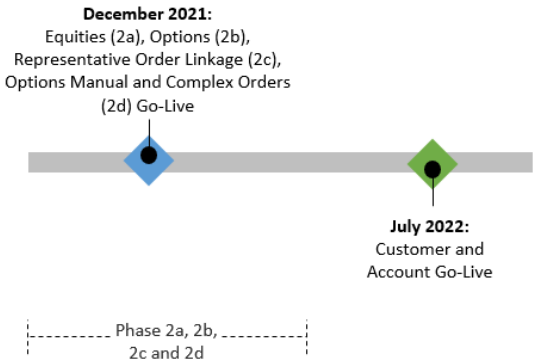
Date		
Customer and Account Information	***Customer and Account Information***	
	Industry Testing: Start submission of data into test environment and gather feedback on data integrity checks	**January 2022**
	Mandatory production submission for Customer and Account information	**July 2022**

4.4 Small Firm Implementation Timelines

For small Firms, each phase will go live into production approximately one year after the go-live dates for large Firms. A Small Firm is a Firm that qualifies as a small broker-dealer as defined in SEC Rule 613 and which satisfies the criteria listed above.

All phases - simple equity reporting (Phase 2a), simple options (Phase 2b), representative order linkages (Phase 2c), and finally complex options (Phase 2d) - are expected to commence in December 2021, while Customer and Account Information should be live by July 2022.

Figure 4.4.1: Timeline for Small Firms



Per ***CAT FAQ A22***[6]***,*** small Firms may voluntarily choose to begin reporting prior to December 2021. However, if a small Firm begins reporting at such earlier date, (1) it must report all CAT Data required to be reported by Firms in accordance with the CAT Compliance Rules, the CAT NMS Plan and the Industry Member Technical Specifications, as if it were required to report such CAT Data; and (2) it may not cease reporting to the CAT once it begins.

The details of the timeline for Small Firms are shown in the table below:

Table 4.4.1: Small Firm Timeline

Date		
Phase 2a: Equities	All 2a functionality for File Submission, Data Integrity, and Linkages must be live in production one year after the reporting goes give for large Firms	**December 2021**
Phase 2b: Options	All 2b functionality for File Submission, Data Integrity, and Linkages must be live in production approximately one year after the reporting goes live for large Firms	**December 2021**

[6] A22 Can Small Industry Members that are not OATS Reporting Members (Small Industry Non-OATs Reporters) voluntarily report to the CAT prior to December 2021? CAT General FAQs. https://www.catnmsplan.com/faq/index.html#faqGen

Date		
Phase 2c: Representative Order Linkages	All 2c functionality for Representative Orders Linkages must be live in production	**December 2021**
Phase 2d: Manual Options Orders, Complex Orders and Options Allocations	All 2d functionality for Manual Options Orders, Complex Orders and Options Allocations must be live in production approximately one year after the reporting goes live for large Firms	**December 2021**
Customer and Account Information	All functionality for Customer and Account Information must be live in production at the same time as reporting goes live for large Firms	**July 2022**

5.0 Understanding the Technical Specifications for Equities and Options

5.1 Introduction

For the purposes of this Guide, this section is intended to provide an overview of the Industry Member Technical Specifications for reporting of equities and options, as per the provisions of Rule 613. As outlined in Rule 613, Firms will have to report market transaction data in accordance to the format(s) specified by the Plan Processor and approved by the Operating Committee and as indicated in the Industry Member Technical Specifications available on CATNMSplan.com. At the time of writing this Guide, only Phase 2a and Phase 2b Technical Specifications have been approved and provided to Firms.

The published technical specifications document presents data elements, data types and order events for the in-scope products that are required to be reported by Firms. The Technical Specifications are essential for a Firm to build its reporting infrastructure to prepare for go-live.

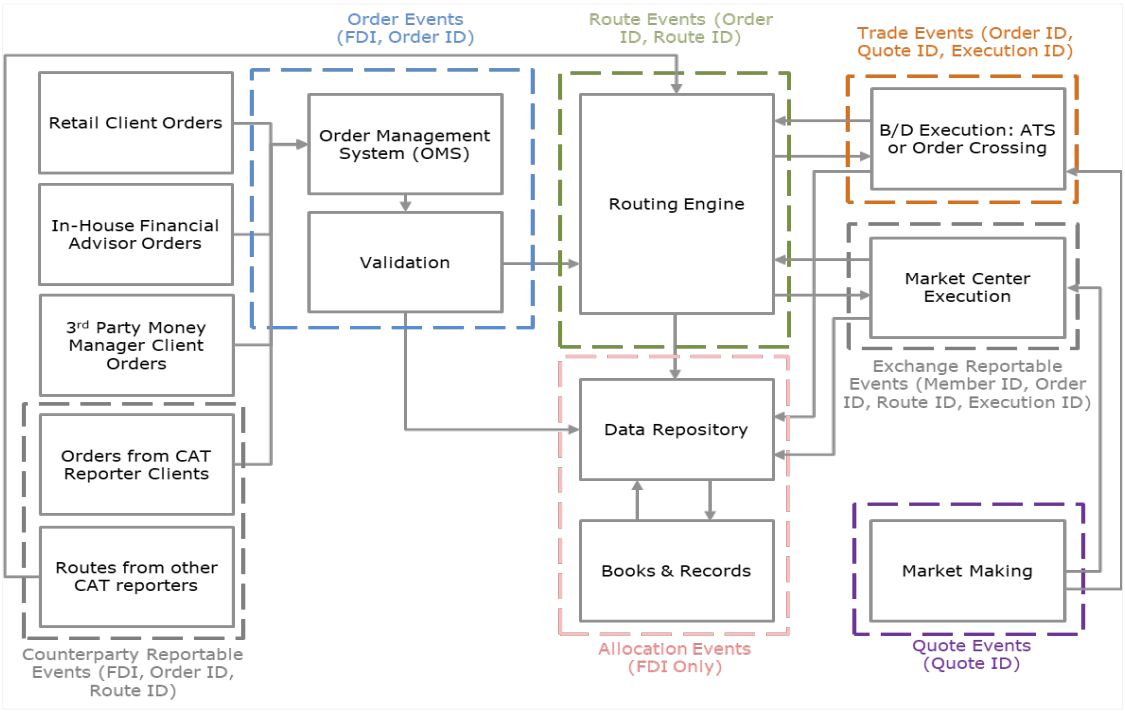
A separate companion document containing detailed reporting scenario examples and titled **CAT Industry Member Reporting Scenarios** is available on CATNMSplan.com and should be used as a guide for determining how the event types and field values laid out in this document must be applied when reporting various order handling and execution scenarios for both equities and options.

5.2 Reportable Events and Fields

Reportable Events

Reportable Events include, but are not limited to, the original receipt or origination, modification, cancellation, routing, execution (in whole or in part) and allocation of an order, quotations, and receipt of a routed order. The below figure illustrates the CAT Reportable Events that constitute a trade lifecycle order flow. The reportable events for equities are described in Table 5.2.1 and the reportable events for single leg option transactions are described in Table 5.2.2.

Figure 5.2.1: CAT Reportable events that constitute a trade lifecycle order flow



The reportable events for eligible securities in equities are listed in the Table 5.2.1. This includes events related to manual equity orders, which are reportable in Phase 2a.

Table 5.2.1: Equity Events[7]

No.	Event	Description
1	New Order Event	Reported when an Industry Member originates an order, receives a customer order, originates a bunched, representative or proprietary order, or receives an order from a non-reporting foreign entity
2	New Order Supplement Event	Supplement to the New Order event, used when the New Order event exceeds the maximum length allowed, or when the orders being represented are not captured in the New Order Event
3	Order Route Event	Reported when an Industry Member routes an order to another broker dealer, exchange or Alternative Trading System (ATS)
4	Order Modify Route	Deferred – event not required for Phase 2a. SROs will evaluate need for a modified route event after reviewing Phase 2a data and include event in Phase 2c, if necessary

[7] Table 8: Equity Events: Industry Member Technical Specifications. https://www.CATNMSplan.com/technical-specifications/index.html

No.	Event	Description
5	Order Cancel Route	Deferred – event not required for Phase 2a. SROs will evaluate need for a cancelled route event after reviewing Phase 2a data and include event in Phase 2c, if necessary
6	Order Accepted	Reported when an Industry Member, including an Alternative Trading System, accepts a routed order that originated at another broker dealer
7	Order Internal Route Accepted	Reported when an order moves within an Industry Member to another desk or other department
8	Order Internal Route Modified	Reported when an Order Internal Route Accepted was modified (*Deferred – event not required for Phase 2a*)
9	Order Internal Route Cancelled	Reported when an Order Internal Route Accepted was cancelled (*Deferred – event not required for Phase 2a*)
10	Child Order	Reported when an order is sliced within the desk or department it is being worked, and is assigned a new order identifier
11	Child Order Modified	Reported when a Child Order is modified
12	Child Order Cancelled	Reported when a Child Order is cancelled
13	Order Modified	Reported when changes to the Material Terms of an order are made, or an order is cancel/replaced
14	Order Modified Supplement Event	Supplement to the Order Modified event, used when the Order Modified event exceeds the maximum length allowed, or when the orders being represented are not captured in the Order Modified Event
15	Order Adjusted	Used to report simple order modifications, including changes to the price or quantity of the order
16	Order Cancelled	Reported when an Industry Member fully or partially cancels an order
17	New Quote	Reported when quotations on equity Eligible Securities sent to a quote display facility or quote driven Alternative Trading System, or a quote sent to a customer or broker dealer that resulted in a trade
18	Quote Received	Reported when a quote is received by an Industry Member
19	Quote Cancelled	Reported when a quote is cancelled
20	Trade Event	Reported by the executing venue where the trade occurred, with details associated with each side of the trade
21	Trade Supplement Event	Reported when there is more than one order associated with one side of a trade
22	Order Fulfillment	Reported when the execution of a customer/client order is not required to be reported for public dissemination. The event includes details associated with the client/customer side and Firm side
23	Order Fulfillment Amendment	Reports the amendment of a previously reported fulfilment, including the full restatement of the event with applicable changes represented

No.	Event	Description
24	Post Trade Allocation	Reported when executed shares are allocated to end customer accounts during post-trade processing (*Deferred – event not required for Phase 2a*)
25	Amended Allocation	Reported when an amendment occurs to a previously reported post trade allocation (*Deferred – event not required for Phase 2a*)

For purposes of clarity, the Order Route event, Trade event, Order Fulfillment event, and Quote event are elaborated below.

a) Order Route Events

The Order Route event is required to be reported by a Firm to CAT when an order is routed in full or in part, to another Firm, to foreign Firms and to exchanges. The Order Route event is also required when an order is routed between two Industry Member Identifier (IMIDs) that are attributed to the same legal entity. Order handling instructions that are sent by the routing Firm to the receiving destination, are to be reported in the *handlingInstructions* CAT field using a standardized list of handling instructions and codes.

These handling instructions are not required to be reported on the Order Route event until Phase 2c. For additional details on Order Route event, refer to **Order Route** in the latest version of the **Industry Member Technical Specifications** document.

Introducing Firm Consideration:

- ***Introducing Firms will need to report Order Route events (quote, order, route) when it enters orders into its Clearing Firm's systems for order execution from a proprietary account, or for routing orders via algorithms provided by the Clearing Firm's systems***
- ***Order Route events will need to be reported even when orders are directed to an exchange for execution using Clearing Firm's systems***
- ***When accessing a Clearing Firm system for direct market access reporting responsibilities lies with the Introducing Firm (including execution event)***

b) Trade events

These events include the Trade Event (MEOT) and the Trade Supplement Event (MEOTS). Trade events are reported when an Industry Member is the executing venue for a trade and is required to report the trade for public dissemination purposes. Trade events are two-sided, and contain information on both sides of the trade, with the exception of negotiated trades and internalized trades.

Details of each side of a trade are reported using a list of fields that are collectively named as Trade Side Details. For additional details on Trade events, refer to **Trade** in the latest version of the **Industry Member Technical Specifications** document.

c) Order Fulfillment events

These events include the Order Fulfillment Events (MEOF) and the Order Fulfillment Amendments Event (MEFA). Order Fulfillment Event is used to report the execution of a customer/client orders that are not required to be reported for public dissemination purposes. The customer/client details and the Firm side details will be captured in an Order Fulfillment Event. Order Fulfillment Amendment Event is used to report an amendment to a previously reported fulfillment. In an amendment scenario, even though some of the data elements may remain unchanged, a Firm would need to capture the entire state of the amended fulfillment in an Order Fulfillment Amendment Event.

The Order Fulfillment event is used to report the execution of a customer/client order that is not required to be reported for public dissemination purposes. They are required in scenarios where a representative order is used to facilitate the execution of the customer or client order and/or when an order is routed to a foreign market and the resulting foreign execution is not captured by CAT.

For additional details on Order Fulfillment Events, refer to **Section 4.13 Order Fulfillment** in the latest version of the **Industry Member Technical Specifications** document.

d) Quote events

This includes New Quotes (MENQ), Quote Received (MEQR) and Quote Cancelled (MEQC) events. In Phase 2a, the following quotations must be reported:

1. Quotes in NMS Securities sent to an exchange or the ADF. Quotes in NMS Securities sent to an exchange must be reported using the New Order and Route Events.

2. Quotes in OTC Equity Securities received by an Industry Member CAT Reporter operating an inter-dealer quotation system.

3. Quotes in OTC Equity Securities that meet the definition of bid or offer under the CAT NMS Plan sent by a broker-dealer to a quotation venue not operated by a CAT Reporter.

Quotes are reported when received by a Firm. Quotes cancelled are reported when as cancelled. If a quote is cancelled that was sent by an ATS or a Firm, then both the sender of the quote and the entity that accepted the quote must report Quote Cancelled events.

For additional details on the events related to equities, refer to **Equity Events** in the latest version of **Industry Member Technical Specifications** on CATNMSplan.com.

This section lists the Reportable Events for single leg option transactions. This includes events related to Simple Electronic Option Orders (excluding Electronic Paired Option Orders), which are reportable in Phase 2b.

Table 5.2.2: Single Leg Option Events[8]

No.	Event	Description
1	New Option Order	Event used to report new option orders to CAT
2	Option Order Supplement	Supplement to the New Option Order event, used when the New Option Order event exceeds the maximum length allowed, or when the orders being combined are not captured in the New Order Event. Also used for instances when the *priorUnlinked* or *nextUnlinked* flags are unknown at the time of order receipt
3	Paired Option Order	Event used to report a cross of an agency/initiating order and contra side order(s) for single-leg option orders (*Deferred – event not required for Phase 2b*)
4	Option Order Route	Reported to CAT by an Industry Member that has routed an option order to another Industry Member or an exchange
5	Option Order Modify Route	Deferred – event not required for Phase 2b. SROs will evaluate need for a modified route event after reviewing Phase 2b data and include event in Phase 2d, if necessary
6	Option Order Cancel Route	Deferred – event not required for Phase 2b. SROs will evaluate need for a cancelled route event after reviewing Phase 2b data and include event in Phase 2d, if necessary
7	Option Order Accepted	Reported when an Industry Member accepts a single-leg option order routed from another Industry Member or an exchange
8	Option Order Internal Route Accepted	Reported when an order is internally routed from where it was accepted or originated to another desk or other internal destination
9	Option Order Internal Route Modified	Reported when an Industry Member modifies an internal route (*Deferred – event not required for Phase 2b*)
10	Option Order Internal Route Cancelled	Reported when an Industry Member cancels an internal route. (*Deferred – event not required for Phase 2b*)
11	Child Option Order	Reported to represent instances when an order is sliced within the desk or department it is being worked and is assigned a new order identifier
12	Child Option Order Modified	Reported when a Child Option Order is modified
13	Child Option Order Cancelled	Reported when a Child Option Order is cancelled
14	Option Order Modified	Reported when changes to the Material Terms of an order are made, or an order is cancel/replaced
15	Option Order Modified Supplement	Used for certain aggregated orders in addition to the Option Order Modified event (*Deferred – event not required for Phase 2b*)

[8] Table 32: Summary of Option Event: Industry Member Technical Specifications. https://www.catnmsplan.com/technical-specifications/index.html

No.	Event	Description
16	Option Order Adjusted	Used to report simple order modifications, including changes to the price or quantity of the order
17	Option Order Cancelled	Reported when an order is fully or partially cancelled
18	Option Order Fulfilment	Reports the fill of a customer order in a combined option order scenario
19	Option Order Fulfilment Amendment	Reports how an order fulfillment was amended
20	Option Post-Trade Allocation	Reports how option positions (executed contracts) are allocated to end customer accounts and sub-accounts by Clearing Firms during post-trade processing (*Deferred – event not required for Phase 2b*)
21	Option Post-Trade Amended Allocation	Reports an amendment to a previously reported allocation (*Deferred – event not required for Phase 2b*)

For additional details on the events related to options, refer to **Single Leg Option Events** in the latest version of **Industry Member Technical Specifications** on CATNMSplan.com.

Reportable Data Elements

Firms are required to use specific data elements while reporting order events to the CAT system. These data elements are included in CAT events and/or metadata files and they facilitate data management functions within the CAT system. In the Technical Specifications, Data elements will be notated with the abbreviation R, C, O or A to represent whether it is required, conditional, optional or applicable for ATSs only. This codification will appear in the last column of each table describing an event in the technical specifications and serve as input for CAT data validations for the identification of errors from required data elements that are missing.

Data elements that are reportable to CAT are outlined below.

a) **Identifiers Data** – Data elements which capture identifiers (IDs); (Table 5.2.3)

b) **Trade Specific Data** – Data elements that capture data about the trade; (Table 5.2.4)

c) **Customer Specific Data** – Data elements that capture data about the customer or client *(Customer specific identifiers are still under discussion and only the customer account FDID is clearly defined as described in chapter 5.6 of this Guide)*

Table 5.2.3: Identifiers

No.	Data Element	Data Element Description
1	CAT Reporter IMID	An SRO assigned identifier that is used to identify an Industry Member whose data is submitted to CAT

No.	Data Element	Data Element Description
2	CAT Submitter ID	A unique identifier that is used to identify an entity that is authorized to submit data to CAT on behalf of an Industry Member
3	Order ID	A unique identifier that is assigned by the Firm and is used to represent an order in CAT Reportable Events
4	Firm ROE ID	An internal identifier that is assigned by the Industry Member to uniquely represent a record in CAT
5	Error ROE ID	An identifier assigned by the CAT system to uniquely identify an error record. This identifier will be provided to Firms as a part of error feedback from CAT
6	Industry Member Identifier (IMID)	An identifier which is assigned by an SRO to any of its members and that is used in scenarios where an Industry Member must refer to themselves or another Industry Member in an event. IMIDs include FINRA MPIDs, Nasdaq MPIDs, NYSE Mnemonics, CBOE User Acronyms, and CHX Acronyms
7	Firm Designated ID (FDID)	An identifier assigned by the Industry Member to uniquely represent trading accounts. FDID is designated only for the purpose of CAT reporting and must be unique across time and must be common across all vendors an Industry Member uses to report new orders to CAT for the same trading account

Table 5.2.4: Trade Specific Data Elements

No.	Data Element	Data Element Description
1	Timestamps	Order handling data must be recorded and reported with timestamps of milliseconds or finer granularity
2	Order Types	A standardized list of order types is defined for the purposes of CAT reporting
3	Order Handling Instructions	Special handling instructions are reported using a standardized list based on common exchange order types and codes. Order handling instructions qualify the pricing, quantity, execution timing, or execution method of an order
4	Equity Symbols	Firms must use the symbology of the primary listing exchange for reporting events related to listed equity eligible securities and must use FINRA OTC symbology for reporting events related to OTC Equity Securities. This symbology information is provided in the 'CAT Reportable Equity Securities Symbol Master', which is a list of all NMS stocks and CAT-reportable OTC equity securities representing the current trading day. This equity symbol master list will be published on CATNMSplan.com
5	Option Symbols	Standard option symbols established across exchanges as the result of the Option Symbology Initiative (OSI) must be used for reporting any single-leg listed options to CAT. The options symbol master list will be published on CATNMSplan.com

No.	Data Element	Data Element Description
6	Flex Percent Option Symbols	FLEX Percent options can only be uniquely identified using the OSI once their deterministic prices are known. When reporting the *optionID*[9] for a FLEX Percent option, Firms must append "%" to the beginning of the standard OSI symbol
7	Corporate Actions	CAT will receive information daily about corporate actions and symbol updates from various sources equity and options listing exchanges and, publish daily symbol master files to the Firms. These symbol master files will be available on CATNMSplan.com
8	Options Intraday Listing and Delisting	CAT accommodates intraday listing of options by exchanges, for which Firms must report the OSI (Option Symbology Initiative) symbol as the *optionID* field

Clock Synchronization Requirement[10]

Timestamping is one of the required data elements for each order event and must be correctly reported by Firms at predefined levels of granularity. To comply with Clock Synchronization requirements and correctly record the Timestamp fields for order events, Firms are required to synchronize Business Clocks, at a minimum, to within 50 milliseconds of the time maintained by the National Institute of Standards and Technology (NIST) and to maintain such synchronization. Business clocks that are solely used for manual CAT events or for the time of allocation on Allocation Reports must be synchronized, at a minimum, to within a one second tolerance.

The tolerance includes:

- The difference between the NIST standard and a time provider's clock;
- Transmission delay from the source; and
- The amount of drift in the Participant's clock

To confirm the accuracy of timestamps for Reportable Events, Firms should document and maintain their synchronization procedures for Business Clocks and keep a log of the time when they synchronize their Business Clocks as well as the results of the synchronization process. This log must include notice of any time a Business Clock drifts more than the applicable tolerances specified above.

The log must include results for a period of not less than five years ending on the then current date, or for the entire period for which the Industry Member has been required to comply with this Rule if less than five years. Firms also have to certify their compliance with these clock synchronization requirements and report violations according to the requirements that will be established by the Operating Committee. Firm

[9] *optionID* is a CAT reportable text field on option events and represents the 21-character OSI Symbol of an option.
[10] See FINRA Regulatory Notice 1709 dated March 15, 2017

may use any time provider and technology for clock synchronization as long as the Business Clocks are in compliance with the accuracy requirement.

Introducing Firm Consideration:

- ***Firms will need to report all orders captured in an electronic system with timestamps of milliseconds or finer granularity***
- ***For an order that is received manually and then later entered into an electronic system for further handling and execution, Firms will need to report both the manual receipt time and the Electronic Capture Time[11]***

Data Formats for File Submissions

Firms can submit Industry Member Data to the CAT system using either the JavaScript Object Notation (JSON) or the Comma Separated Values (CSV) file formats. It is to be noted that no JSON-CSV conversion is expected from Firms. Firms can either submit records in JSON format or in CSV format.

A JSON schema file is made available to Firms to support their submission of data files to the CAT system. The file describes each JSON data type with their required representation formats and contains a mapping that defines the JSON positions in a CSV representation. The latest version of the JSON schema file is available on CATNMSplan.com.

File submissions to the CAT system have specific sets of requirements with respect to uniqueness of file names, file size and file compression. For guidance on these requirements, refer to **Submission Process** in the latest version of the Industry Member Technical Specifications document.

5.3 Industry Member Reporting Scenarios

The Industry Member Technical Specifications document is accompanied by a separate companion document that provides examples of specific reporting scenarios, intended to practically illustrate CAT reporting. It is titled 'CAT Industry Member Reporting Scenarios' and is published on CATNMSplan.com. This document can be used as a guide for determining how the event types and field values can be applied when reporting various order handling and execution scenarios for both equities and options.

The Industry Member Reporting Scenarios document is periodically updated to provide additional clarification and to address Firms' questions on the Technical Specifications.

Some examples from the Industry Member Reporting Scenarios document are presented here. Examples include scenarios for Introducing Firms to illustrate the reportable events they will need to report to the

[11] CAT FAQ G.1: Is a CAT Reporter required to report two separate timestamps for Manual Order Events? https://www.CATNMSplan.com/faq/index.html#faqManOrd

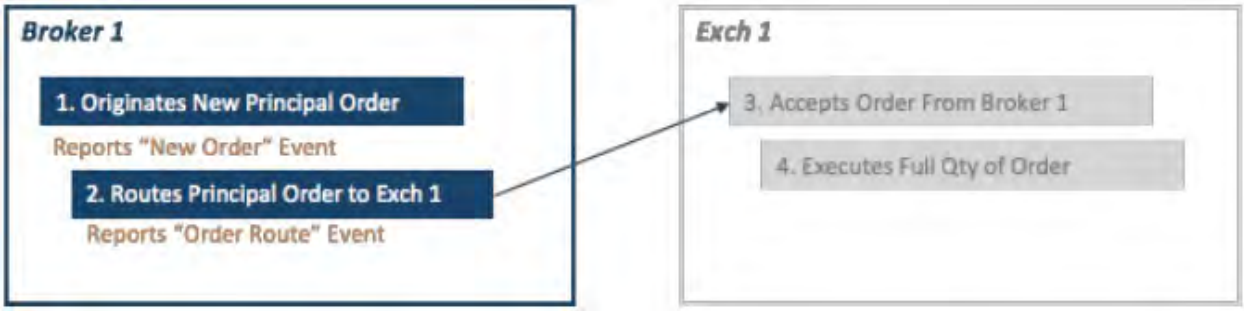
CAT, as well as the interaction with the Clearing Firm and what events they report. These scenarios are based on version 2.1 of the scenarios document — Firms should refer to the source document before relying on these scenarios to ensure there have been no changes.

Example 1: New Principal Order Routed to an Exchange and Executed

This scenario is scenario 2.1.1 in the Industry Member Routing Scenarios version 2.1 document.

It illustrates the CAT reporting requirements when an Industry Member originates a new principal order, routes the order to an exchange, and the order is executed on the exchange.

Figure 5.3.1: Example 1 Scenario



Industry Member Broker 1 is required to report:

- The origination of a principal order (New Order event)
- The route to an exchange (Order Route event)

The execution will be reported by the exchange.

Table 5.3.1: Example 1 Scenario

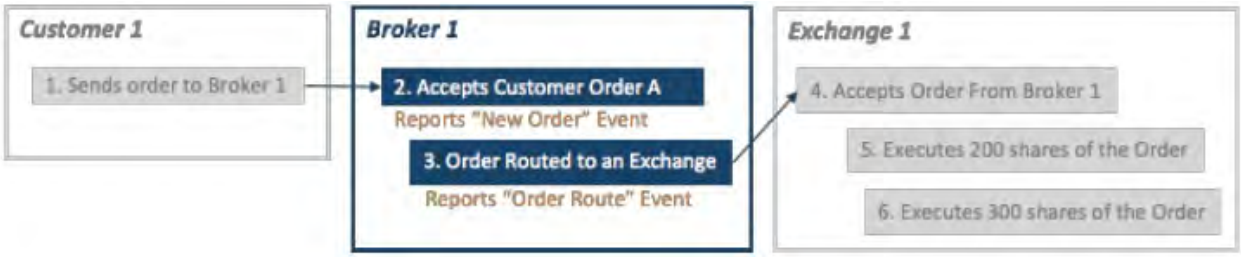
#	Step	Reported Event
1	Broker 1 originates a New Order	Broker 1 reports a **New Order event.** Type = MENO
2	Broker 1 routes the order to Exchange 1 (Exch 1)	Broker 1 reports an **Order Route event.** Type = MEOR
3	Exch 1 accepts the order from Broker 1	Exch 1 reports a **Participant Order Accepted event** (refer to the Participant Technical Specifications for further information on SRO reporting obligations).
4	Exch 1 executes the full quantity of the order	Exch 1 reports a **Participant Trade event.**

Example 2: Customer Order Routed to an Exchange as Agent

This scenario is scenario 2.1.2 in the Industry Member Routing Scenarios version 2.1 document.

This scenario illustrates the CAT reporting requirements when an Industry Member routes a customer order to an exchange on an agency basis.

Figure 5.3.2: Example 2 Scenario



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to the exchange (Order Route event)

In this scenario, since the execution is passed back directly to the customer, **no Order Fulfillment event is required to be reported.**

Table 5.3.2: Example 2 Scenario

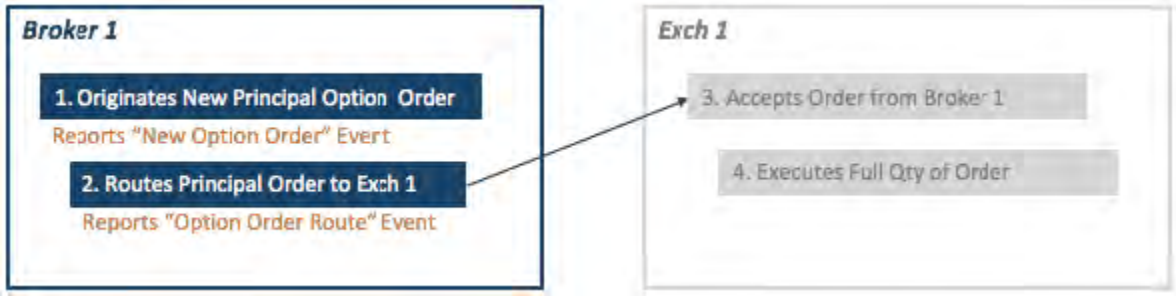
#	Step	Reported Event
1	Customer sends a Buy order to Broker 1	NA
2	Broker 1 accepts the customer order	Broker 1 reports a **New Order event.** Type = MENO
3	Broker 1 routes the order to exchange EXCH1	Broker 1 (IMID = FRMA) reports an **Order Route event.** Type = MEOR
4	The Exchange accepts the order from Broker 1	EXCH1 reports a **Participant Order Accepted event.**
5	The Exchange executes a partial quantity (200) of the order	EXCH1 reports a **Participant Trade Event.**
6	The Exchange executes a partial quantity (300) of the order	EXCH1 reports a **Participant Trade Event.**

Example 3: New Principal Option Order Routed to Exchange and Executed

This scenario is scenario 3.1.1 in the Industry Member Routing Scenarios version 2.1 document.

This scenario illustrates the CAT reporting requirements when an Industry Member originates a new principal option order electronically, and electronically routes the order to an exchange where it is executed.

Figure 5.3.3: Example 3 Scenario



Industry Member Broker 1 is required to report:

- The origination of a principal option order (New Option Order event)
- The route to an exchange (Option Order Route event)

Table 5.3.3: Example 3 Scenario

#	Step	Reported Event
1	Broker 1 originates an order from its proprietary account	Broker 1 reports a **New Option Order event.** Type = MONO
2	Broker 1 routes the option order to Exchange 1 (Exch 1)	Broker 1 reports an **Option Order Route event.** Type = MOOR
3	Exch 1 accepts the option order from Broker 1	Exchange reports a Participant **Simple Option Order Accepted event.**
4	Exch 1 executes the full quantity of the option order	Exchange reports a Participant **Simple Option Trade event.**

Example 4: Order Routed and Executed via a Clearing Firm

This scenario is scenario 2.12.1 in the Industry Member Routing Scenarios version 2.1 document.

This example illustrates the CAT reporting requirements when an Introducing Firm enters a customer order into a Clearing Firm's system, and the Clearing Firm executes the order from a proprietary account. Both the Introducing Firm and Clearing Firm are Firms.

Figure 5.3.4: Example 4 Scenario

Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the Clearing Firm (Order Route event)

The Clearing Firm is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

Table 5.3.4: Example 4 Scenario

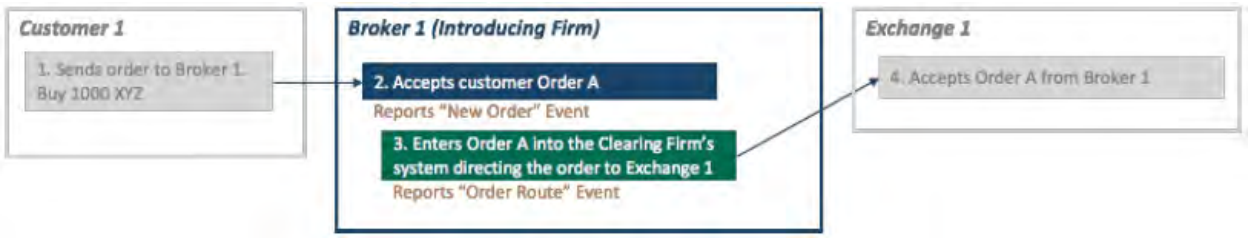
#	Step	Reported Event
1	Customer sends the order to Broker 1	NA
2	Broker 1 accepts the customer order	Broker 1 reports a **New Order event.** Type = MENO
3	Broker 1 routes the order to the Clearing Firm	Broker 1 reports an **Order Route event**. Type = MEOR
4	The Clearing Firm accepts the order from Broker 1	Clearing Firm reports an **Order Accepted event.** Type = MEOA
5	The Clearing Firm executes the order	Clearing Firm reports a **Trade event.** Type = MEOT

Example 5: Direct Order Routing via a Clearing Firm's System

This scenario is scenario 2.12.2 in the Industry Member Routing Scenarios version 2.1 document.

This scenario illustrates the CAT reporting requirement when an Introducing Firm receives a customer order and, using its Clearing Firm's system, directs the order to an exchange for execution. The Clearing Firm does not participate in any order routing or handling instructions, but only provides the technology to the Introducing Firm to route the order.

Figure 5.3.5: Example 5 Scenario



Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Exchange 1 (Order Route event)

The Clearing Firm does not have CAT reporting obligations in this scenario. The exchange follows CAT reporting guidelines as outlined in the CAT Reporting Technical Specifications for Plan Participants, which is published on CATNMSplan.com.

Table 5.3.5: Example 5 Scenario

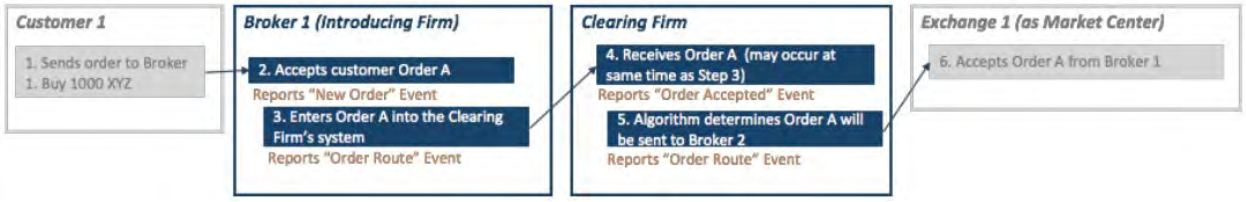
#	Step	Reported Event
1	Customer sends an order to Broker 1	NA
2	Broker 1 accepts the order from the customer	Broker 1 (IMID = FRMA) reports a **New Order event.** Type = MENO
3	Through the Clearing Firm's system, Broker 1 enters and directs the order to Exchange 1	Broker 1 reports an **Order Route event.** Type = MEOR
4	Exchange 1 accepts the order from Broker 1	Exchange 1 (EXCH1) reports a **Participant Order Accepted event.**

Example 6: Order Routing via an Algorithm Provided by the Clearing Firm

This scenario is scenario 2.12.3 in the Industry Member Routing Scenarios version 2.1 document.

This scenario illustrates the CAT reporting requirements when an Introducing Firm receives a customer order and enters it into a Clearing Firm's system. The Clearing Firm's system automatically determines the routing destination based on pre-defined criteria developed by the Clearing Firm. The Clearing Firm makes the determination as to where the order is routed. The Introducing Firm does not direct the order. Both the Introducing Firm and the Clearing Firm are Firms.

Figure 5.3.6: Example 6 Scenario



Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the Clearing Firm (Order Route event)

The Clearing Firm is required to report:

- The receipt for the order from the Introducing Firm (Order Accepted event)
- The route of the order to Exchange 1 (Order Route event)

The exchange follows CAT reporting guidelines as outlined in the CAT Reporting Technical Specifications for Plan Participants, which can be found at this CATNMSplan.com.

Table 5.3.6: Example 6 Scenario

#	Step	Reported Event
1	Customer sends an order to Broker 1	NA
2	Broker 1, as the Introducing Firm, accepts the order from the customer	Broker 1 (IMID = FRMA) reports a **New Order event.** Type = MENO
3	Broker 1 enters the order into the Clearing Firm's system	Broker 1 reports an **Order Route event.** Type = MEOR
4	The Clearing Firm accepts the order routed from Broker 1	Clearing Firm (FRMB) reports an **Order Accepted event.** Type = MEOA
5	The Clearing Firm's system algorithm determines to route the order out to Exchange 1	Clearing Firm (FRMB) reports an **Order Route event.** Type = MEOR
6	Exchange 1 receives the order from Clearing Firm	Exchange 1 (EXCH1) reports the **Participant Order Accepted event.**

5.4 Summary of Error Correction

SEC Rule 613(e)(6) requires prompt correction of data reported to the CAT system. The Plan Processor is required to identify errors on CAT file submissions that do not pass the defined validation checks and conformance to the Data Quality Governance requirements. "Errors" are defined as CAT reporting errors identified by the Plan Processor and which have been communicated back to a CAT Reporter and/or Data Submitter, in the case that the data has been submitted to the Central Repository on behalf of a CAT Reporter. Errors must be correctly re-reported within the specified T+3 timeframe.

Firm submissions to the CAT system will be processed in four steps and different validation errors are identified by the CAT system in each of these steps. These error types are summarized in table 5.4.1.

Table 5.4.1: Types of Errors

Processing Sequence	Processing Step	Errors / Feedback
1	File Acknowledgement	File Submission Error
2	File Integrity	File Integrity Error
3	Data Ingestion	Data Errors including syntax and semantic errors
		Corrections Feedback for Ingestion Errors
4	Linkage Discovery	Linkage errors including duplicates, out of sequence and linkage errors
		Corrections Feedback for Linkage Errors

Any rejections of submitted records or errors identified on accepted submissions would be communicated to reporting Firms using five types of feedback. These feedbacks will be transmitted to Firms using an SFTP server and/or be displayed on the CAT Reporter Portal. Functionality of Reporter Portal is not yet finalized.

The five types of feedback are tabulated in Table 5.4.2.

Table 5.4.2: Types of Feedback

Feedback	Feedback Source	Description
File Status	SFTP and the CAT Reporter Portal	Indicates the acceptance or associated errors with a Metadata and/or Data files
Reporting Statistics	CAT Reporter Portal	Provides the daily summary statistics representing reporting activity and errors for prior submission and CAT Trading days. Error Rate is also included
Error Feedback	SFTP and the CAT Reporter Portal	Indicates errors found during Processing, including Rejections, Out of Sequence, and Unlinked events

Corrections Feedback	CAT Reporter Portal	Provides information for the repair status of all Corrections. When an error has been corrected, the updated status will be reflected
System Status and Announcements	CAT Reporter Portal	Provides the status of CAT Processing, with a distinction for instances when a processing delay or issue is occurring. Additionally, announcements related to system maintenance and upcoming changes will be presented

For detailed guidance on validation errors and feedback, refer to **Section 7 – Feedback and Corrections** in the latest version of Industry Member Technical Specifications document.

Types of Error Corrections

All CAT submissions that fail validation checks and receive Error feedback, are required to be repaired and resubmitted by the reporting Firm. A Firm can also submit corrections on its previously submitted records if it determines that errors were contained in the reportable events.

The types of correction scenarios that will be supported by the CAT system are summarized in Table 5.4.3:

Table 5.4.3: Types of Error Corrections

Type of Error Correction	Description
Repair CAT Errors	Supports the repair of events for which a CAT Error was provided to CAT Reporter/Submitter in feedback
Firm Initiated Corrections	Supports the correction of events for which there is no associated CAT error feedback. This correction also applies when a Firm repairs an error without submitting an *errorROEID*
Record Deletions	Supports the deletion of a single event to remove erroneous events which did or did not result in a CAT Error
File Deletion	Supports the deletion of all events within a single file, including all respective CAT errors for those events
Same Day Corrections	Supports the reporting of corrections that may occur on the same CAT processing date as the original submission

Feedback, including acknowledgements and rejections, will be generated from each step of the CAT processing by the Plan Processor. Order Events feedback will be provided as soon as the processing of

each step is completed. All feedback, including rejections, for files submitted by 8:00 AM EST T+1 will be available no later than noon on T+1, where T is the CAT Trading Day. From a timing perspective, intra-Firm processing occurs prior to inter-Firm processing (refer to section 5.4.1 of this Guide for a summary of error correction.

It should be noted that there is no audit trail or ability to download data after submission.

For detailed guidance on reporting of error corrections, refer to **Section 7 – Feedback and Corrections** in the latest version of Industry Member Technical Specifications on CATNMSplan.com.

Introducing Firm Consideration:

- ***Error Correction reporting process will need daily operational monitoring of all feedback from CAT either through SFTP transmissions or through the web interfaces of the CAT Reporter Portal***
- ***Introducing Firms will need to plan for the capability to access the CAT Reporter Portal to process corrections***

5.5 Interpretive FAQs

FAQs have been published on CATNMSplan.com in order to help Firms in developing their CAT reporting systems in accordance with the Technical Specifications. Within the FAQs, there are some which are considered "interpretive" and thus answers have been provided to reduce ambiguity from the point of view of CAT NMS LLC. **It is strongly recommended that Firms read the FAQs to understand the interpretations and implications of the CAT requirements.**

The general topic areas that are outlined within the FAQs are as follows:

A. General

B. Reporting Requirements

C. Definitions

D. Order Receipt

E. Order Routing & Execution

F. Representative Orders

G. Manual Orders

H. ATS

I. Foreign Securities

J. OTC Equity Securities

K. Options

L. Equity Floor Brokers

M. Firm Designated ID

N. Third Party Reporting

O. Technical Requirements

P. Feedback & Error Correcting

Q. Customer & Account Information

R. Clock Synchronization

S. Security

5.6 Account Information

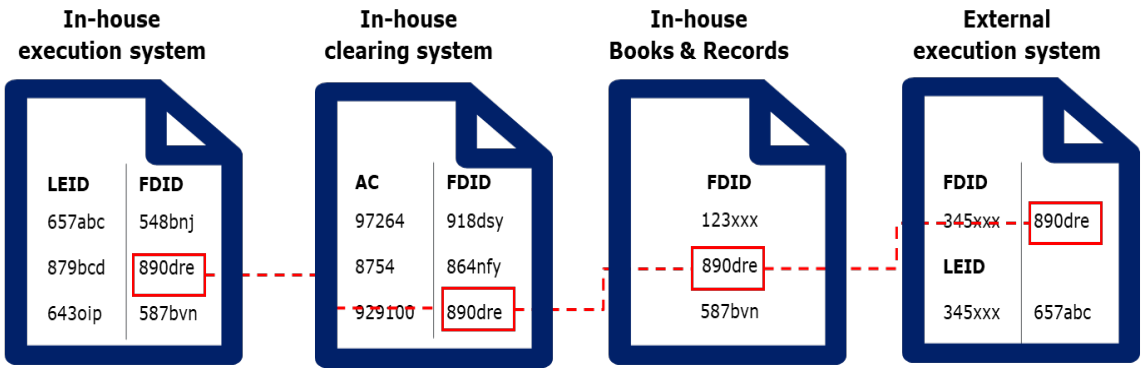
Firm Designated IDs (FDIDs)

FDID is defined in Section 1.1 of the CAT NMS Plan as "a unique identifier for each trading account designated by Firms for purposes of providing data to the Central Repository, where each such identifier is unique among all identifiers from any given Industry Member for each business date."

Trading accounts are represented by the Firm Designated ID (FDID) in the CAT. Firms must assign a single FDID to each trading account that is unique across all vendors that the Industry Member may use to report new orders to CAT. Under the CAT NMS Plan Firms are required to report the FDID on each new order submitted to the central repository. Given the purpose of the FDID under the CAT NMS Plan, it is important that this identifier be consistent across each business day of a broker-dealer.

Thus, Firms are required to assign a single FDID to each trading account and it must be unique across all vendors a Firm may use to report data to CAT. For example, if a Firm uses multiple vendors for reporting to CAT, each vendor must report any activity from the same trading account using the same FDID. FDIDs are also required to remain unique across time. Consistency is needed in the application of FDIDs across all of Firm's systems. Figure 5.6.1 illustrates an example for the application of FDIDs across systems.

Figure 5.6.1: Application of FDIDs



The reporting obligations associated with FDIDs can present a set of complexities for Firms. Some of these potential challenges that are involved with FDIDs are listed below.

- *Implementation:* The generation of a unique identifier for each trading account used to place an order is required. The usage of an actual account number as FDID is prohibited per ***CAT FAQ M2***[12] in the FAQ on CATNMSplan.com, unless the account is an internal firm account and not a client account, in which case the account number is permissible. New data fields may possibly be required to facilitate the reporting of FDIDs by Firms

- *Coordination*: Introducing Firms that use multiple Clearing Firms may need to ensure the consistency of FDID across the order/trade lifecycle. This may pose a challenge since coordination amongst Introducing and Clearing Firms is essential to ensure the desired consistency

- *Maintenance:* FDIDs must remain unique across time. If a Firm recycles account numbers, they cannot recycle the FDID for a different customer. Appropriate governance and controls are necessary to ensure that the master data for FDID is protected, including controls covering data integrity, access and change management, data transmission and security over the mapping to customer accounts

- *Impact to Vendor Systems:* Vendors could add the FDID to the CAT report, or Vendors could increase the data fields of their system to incorporate FDID. This consideration may be dependent on the type of vendor and services they provide

Introducing Firm Consideration:
Introducing Firms will need to assign a unique identifier as the FDID for each trading account and ensure its uniqueness across vendors and systems (including Order Management Systems and Execution Management Systems), to fulfill CAT reporting. Firms may not use the actual account number of a customer account as the FDID.

Account Classification

Reporting of order transactions in CAT will require Firms to populate the *accountHolderType* field under Reportable Events. The reporting specifications for this field will require a Firm to identify the beneficial owner of each account in which an order was received or originated. This may require Firms to classify all trading accounts into CAT reportable institutional customer accounts, employee accounts, foreign accounts, market making accounts and other CAT specified account types. Firm account maintenance may need to be revisited in preparation of Phase 2a in CAT reporting.

[12] Can actual account numbers be used as the FDID when submitting data to CAT? CAT Firm Designated ID FAQs . https://www.catnmsplan.com/faq/index.html#faqFDID

Trader Identifier

The identification of authorized traders on an account is required per the CAT NMS Plan; however, it is not currently in the technical specifications of reportable events. It may be implemented as an attribute of an account as part of customer reference data. Firms should monitor CATNMSplan.com for further updates on this requirement.

5.7 Trade Linkages

Reportable Events in CAT will be linked together by the Plan Processor using a "daisy chain" approach. In order for the Plan Processor to be able to link these records, Firms must provide certain linkage keys in their reporting. Critically, these linkage keys will need to be consistent from record to record so that each step in the daisy chain can be linked. The following is the set of linkage keys, as identified in Industry Member Technical Specifications, that connects CAT events within a Firm and across Firms.

Table 5.7.1: Linkage Keys[13]

Linkage Key	Description	Fields
Order Keys		
Order Key	Links together the events of the same order, within an Industry Member. For example, Order Key links an Order Accepted event to a subsequent Order Route event.	• *orderKeyDate* • *CATReporterIMID* • *symbol (or optionID)* • *orderID*
Prior Order Key	Links modifications to the original order. For example, Prior Order Key links an Order Modified event to the previous Order Accepted event.	• *priorOrderKeyDate* • *CATReporterIMID* • *symbol (or optionID)* • *priorOrderID*
Parent Order Key	Links Child (Option) Order events and (Option) Order Internal Route Accepted events to the related parent order event. For example, links an Order Internal Route Accepted event to a parent New Order event.	• *parentOrderKeyDate* • *CATReporterIMID* • *symbol (or optionID)* • *parentOrderID*
Manual Order Key	Links an order event representing a duplicative electronic message to the previously reported order event representing the original manual order. Optional in Phase 2a.	• *manualOrderKeyDate* • *CATReporterIMID* • *symbol (or optionID)* • *manualOrderID*

[13] Table 5: Linkage Keys: Industry Member Technical Specifications. https://www.CATNMSplan.com/technical-specifications/index.html

Linkage Key	Description	Fields
Trade and Fulfillment Keys		
Trade Key	Links Trade events to related Trade Supplement events.	• *tradeKeyDate* • *CATReporterIMID* • *symbol* • *tradeID*
Fulfillment Key	Links CAT Order Fulfillment events to a related Fulfillment Amendment event if the *fulfillmentID* remains the same.	• *fillKeyDate* • *CATReporterIMID* • *symbol (or optionID)* • *fulfillmentID*
Prior Fulfillment Key	Links an Order Fulfillment event to a related Order Fulfillment Amendment event if a new *fulfillmentID* is assigned.	• *priorFillKeyDate* • *CATReporterIMID* • *symbol (or optionID)* • *priorFulfillmentID*
TRF Linkage Key	Links the Trade event reported by the Industry Member to the related tape report in the Trade Reporting Facility (TRF)/ Alternative Display Facility (ADF)/ OTC Reporting Facility (ORF).	• *eventTimestamp* • *CATReporterIMID* • *symbol* • *tapeTradeID*
Quote Keys		
Quote Key	Links New Quote events reported by the Industry Member to related order or quote events. For example, links a New Quote event to a related Trade event. In Phase 2a, Quote Key is not applicable to New Order events, Order Modified events, and Trade events. In Phase 2a, Quote Key is only applicable on New Quote events and Quote Cancelled events in scenarios where an Industry Member is required to report the related events to CAT.	• *quoteKeyDate* • *CATReporterIMID* • *symbol* • *quoteID*
Prior Quote Key	Links a quote event being modified to the previous quote event if a new Quote ID is assigned. In Phase 2a, Quote Key is only applicable on New Quote and Quote Cancelled events in scenarios where an Industry Member is required to report the related events to CAT.	• *priorQuoteKeyDate* • *CATReporterIMID* • *symbol* • *priorQuoteID*
Options Keys		
Complex Order Key	Complex Order key is not applicable until Phase 2d and will be defined in subsequent publications of the Industry Member Technical Specifications document.	

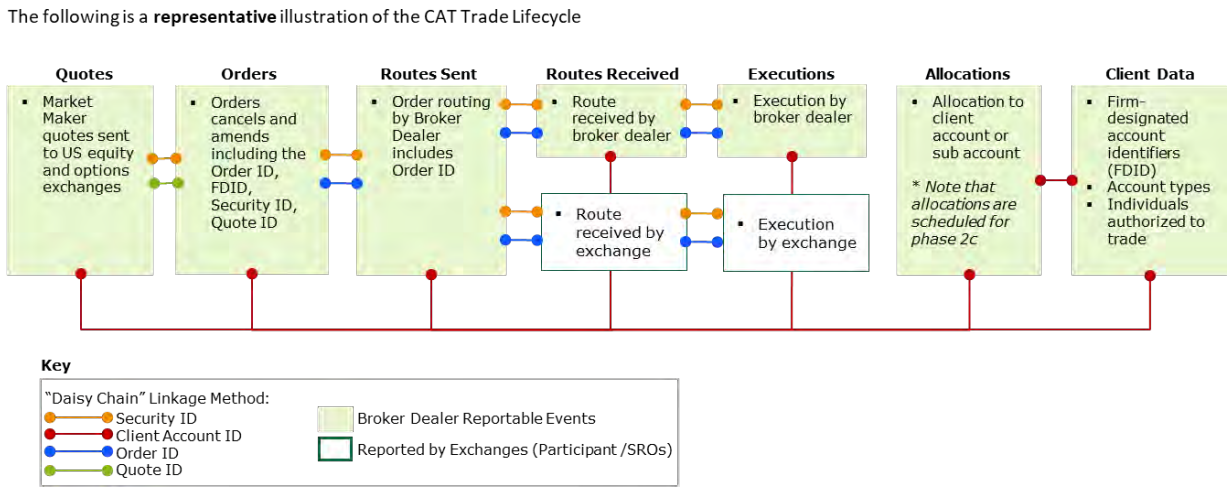
Linkage Key	Description	Fields
Route Linkage Keys		
Route Linkage Key	Links the CAT events reported by the Industry Member routing an order away and the Industry Member accepting the order.	*Refer to **Summary of Route and TRF Linkage Keys** in the latest version of Industry Member Technical Specifications on CATNMSplan.com, for detailed descriptions.*
Quote Route Key	Links quote events reported by an Industry Member routing a quote to an Interdealer Quotation System (IDQS) and the IDQS receiving the quote. Not applicable in Phase 2a.	*Refer to **Summary of Route and TRF Linkage Keys** in the latest version of Industry Member Technical Specifications on CATNMSplan.com, for detailed descriptions.*

Firms may need to assess and adjust their order management and execution management systems to incorporate the requirements for trade data linkages:

- *External Linkages:* CAT specifications will require Firms to link all reportable events with the usage of certain linkage keys that will connect order events within an Industry Member and across Firms and Exchanges. Capabilities may need to be developed to ensure that the data elements for linkage fields between Route and Order accepted events are consistent
- *Internal Linkages*: Developing the ability to internally link trade data, across technology systems and processes, from order through to allocation is a fundamental capability for CAT readiness. Developing this solution can have long term strategic benefits as it can reduce the eventual burden on CAT specific reporting processes

The following diagram illustrates the linkage between trade lifecycle events.

Figure 5.7.1: Linkage between Trade Lifecycle Events



5.8 Security Requirements for Encryption and Authentication

The CAT NMS Plan requires CAT data to be encrypted at rest and in-transit with industry standard practices such as Secure Sockets Layer (SSL) or Transport Layer Security (TLS) encryption methods, including data archives.

a) *Encryption (In-transit data)*: Firms may send and obtain data to/from the CAT system using SFTP or the CAT Reporter Portal. Firms are required to use TLS-based encryption method with minimum version 1.2, for any connection to the CAT Reporter Portal. Intrinsic encryption capabilities of SFTP are to be leveraged for SFTP transmissions of Industry Member Data. AES256 encryption protocol will be supported by the CAT system and support for other encryption protocols is under evaluation.

b) *Encryption (At-rest data)*: The CAT system will be built on Amazon Web Services (AWS) and all data will be encrypted at rest using the AWS Key Management Service (KMS). Native AWS encryption features will be used to encrypt data upon receipt by the CAT system and no action is required by an Industry Member.

In accordance with the CAT NMS Plan, multi-factor authentication is required for any access or login to the CAT Reporter Portal and the SFTP services provided by CAT.

a) *Authentication for CAT Reporter Portal*: Two-factor authentication is specified for access to the CAT Reporter Portal. The first factor comprises of the usage of username and password. The second factor is expected to be via push notification to an app installed on the user's mobile device. Periodic rotation of passwords would be required

b) *Authentication for SFTP service:* Two-factor authentication is also specified for the SFTP service. The first authentication factor will be username and password. The second factor is yet to be specified in the Industry Member Technical Specifications

Additional details on multi-factor authentication are expected to be provided in the Industry Member Onboarding User Guide or in the latest version of the Industry Member Technical Specifications document.

It can also be noted that there are security benefits tied to FINRA CAT, LLC being the Plan Processor. FINRA CAT, LLC is an SCI entity[14] and will be required to comply with Regulation SCI obligations such as annual Business Continuity and Disaster Recovery (BC/DR) plan testing, monitoring and reporting of SCI events, annual review of compliance with Regulation SCI and ensuring adequate levels of capacity, integrity, resiliency, availability, security, internal controls and testing, that are consistent with industry standards.

[14] The U.S. Securities and Exchange Commission's Regulation Systems Compliance and Integrity or Regulation SCI, applies to "SCI entities," a term which includes self-regulatory organizations (SROs), including stock and options exchanges, registered clearing agencies, FINRA and the MSRB, alternative trading systems (ATSs), that trade NMS and non-NMS stocks exceeding specified volume thresholds, disseminators of consolidated market data (plan processors"), and certain exempt clearing agencies. See *Regulation Systems Compliance and Integrity,* https://www.sec.gov/rules/final/2014/34-73639.pdf

For additional considerations related to security, refer to section 6.6 of this Guide.

5.9 Comparison Between OATS and CAT

The Consolidated Audit Trail is more than an evolution of FINRA's Order Audit Trail System (OATS). CAT includes substantial additional requirements, including new events, options data, allocations, linkage. Options reporting is a significant change for Firms as they implement solutions to generate the reports for the options quotes, orders, and executions. Under Rule 613, market makers will be required to submit quotation activity in addition to execution information. This may be substantial for options markets, where quote activity away from the national best can be measured in millions for some Firms. The shorter error correction window under CAT is also a significant change for Firms that may require additional operational and technical capabilities to meet the T+3 due date for error corrections.

There will be a period of parallel reporting to both OATS and CAT. CAT will need to accumulate information before a retirement of OATS can be initiated as described in section 10.1 of this Guide on the Path Forward. Firm's should also consider the accuracy and integrity of data across duplicative reporting requirements.

To assist Firms with the implementation of the Consolidated Audit Trail (CAT), FINRA and the Exchange SROs have prepared a mapping table to demonstrate how current FINRA OATS FAQs map to CAT requirements. Detailed mapping is provided for each set of OATS FAQs on CATNMSplan.com.

Table 5.9.1[15] captures select differences in the scope of OATS and the requirements as per Rule 613:

Table 5.9.1: Difference between OATS and CAT

No.	Item	OATS	CAT
1	Options	Not Required	Required
2	OTC equities	Required	Required
3	Link the audit trail execution reports for buy and sell orders to the public trade report	Required	Not required

[15] Gap Analysis: https://CATNMSplan.com/wp-content/uploads/2018/02/updated_oats_cat_gap_analysis.pdf

No.	Item	OATS	CAT
4	Timestamp granularity	At least to seconds	At least to milliseconds
5	Market maker proprietary order submission	Not Required	Required
6	Customer information	Not Required	Required
7	Error correction timeline	Reject repair window is within 5 business days of final rejection delivery (R+5)	3 business days from the date the trade was executed (T+3)**
8	Exemptions for manual orders of certain broker-dealers/Firms	In scope	Not in scope
9	Exclusions from definition of Reporting Member Firms	In scope	Not in scope
10	Sub-account allocations	Not in scope	Required (Phase 2c)

** Per CAT FAQ P16[16] all errors must be corrected by T+3 which is a substantial change relative to OATS

Introducing Firm Consideration:
In Phase 2a, Introducing Firms will be responsible for reporting routes, modifications, and cancellations in line with OATS guidance[17].

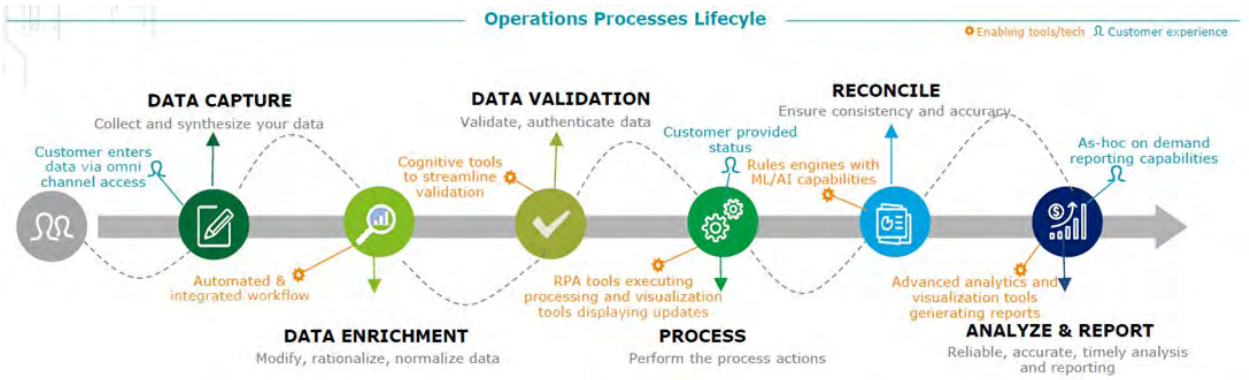
[16] P16 What is the T+3 error correction timeframe based on (e.g., submission date, original error date, etc.)? Example: if an order event is submitted on T and is rejected on that day, then corrected on T+1 but the correction on T+1 fails, is the event on T considered "corrected" or does the T+1 rejection need to be addressed and, if so, when? CAT Feedback and Error Corrections FAQs.
https://www.catnmsplan.com/faq/index.html#faqFBErrCorr
[17] Section 2.5.2. Reporting Responsibilities of Sender/Receiver: Industry Member Technical Specifications.
https://www.CATNMSplan.com/technical-specifications/index.html

6.0 Data and Tech Architecture

6.1 Introduction

This section provides considerations for Firms, related to the conceptual technology architecture. Specific technologies will not be addressed in detail, but conceptual considerations for reporting Firms will be discussed. This section will also introduce the various reporting models and conceptual components of an architecture that Firms may implement and the considerations for each type of model. Each step in the Operations Process Lifecycle should be covered in the CAT solution architecture.

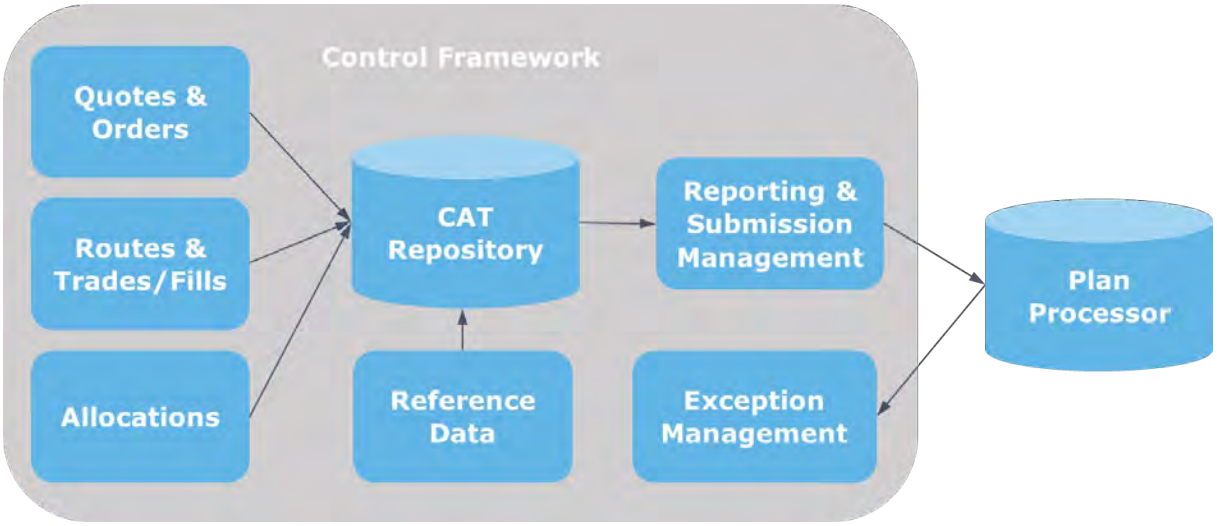
Figure 6.1.1: Steps in the Operations Lifecyle



Goals of the architecture should be made clear from project inception. For example, some questions that Firms should consider are whether the architecture should include data management, data quality, as well as CAT reporting models; and whether automated workflow should be considered for report submission and error handling. Additional questions to address in the design phase include the potential for additional users and consumers of the data, including the Firm's Supervision, and ability for a Firm to respond to ad-hoc regulatory requests once Regulators begin their supervisory functions using CAT data.

A conceptual architecture may form the basis for a specific implementation by Firms depending on the variety of data sources given a Firm's order management, routing and execution platforms, reference data sources, and the Firm's approach to centralized or decentralized reporting. The following diagram depicts the components that should be considered in the conceptual architecture.

Figure 6.1.2: Components of a Conceptual Architecture



6.2 Architecture

As Firms consider their architecture for CAT, they should consider whether CAT could be a catalyst to review their system portfolio. Firms should assess their data sources, map the Firm's data to the technical specifications for CAT reporting, identify and address potential data inconsistencies, and seek to remediate any observed data anomalies across trade and customer data.

Firms may consider utilizing a centralized data warehouse or data lake as a repository for CAT data and a reporting engine to generate the CAT formatted reports for submission. This engine could reduce the need to manage disparate systems for reporting, reduce the footprint of the error handling component, and provide an ability to provide data in a standardized format for other uses. From an error handling perspective, the architecture should also consider the need to link errors to relevant order and client ID information and maintain correction details for audit/traceability. Considerations should be given to support an operational need in responding to regulator inquiries about the reported CAT data, including clarifications or customer identification.

The following diagram is a representation of a potential Firm's architecture to identify types of data and subcomponents with a table of descriptions for each of the components.

Figure 6.2.1: Subcomponents of a Conceptual Architecture

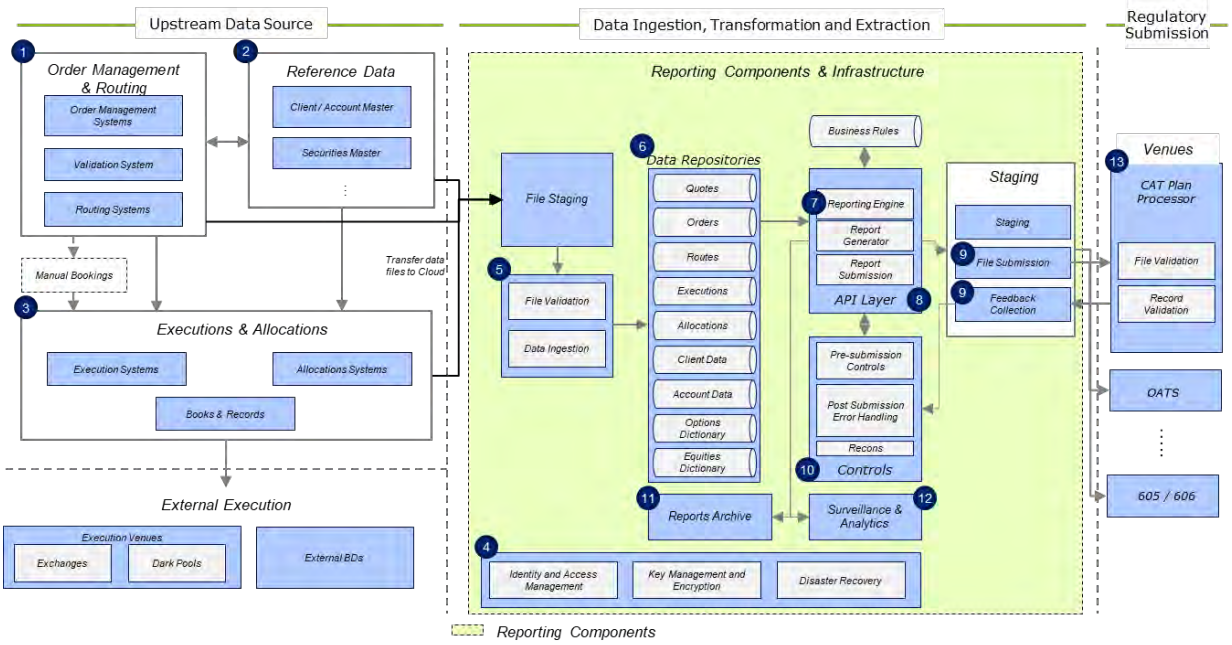


Figure 6.2.1 – Component Description	
1	**Order Management & Routing:** Capture and compare material order & originating customer information, including those from external order entry systems, capture Account IDs, and adhere to Clock synchronization/ timestamp requirements for reportable events
2	**Reference Data:** Address client data quality issues/challenges, and build mechanisms to source Client and Securities (Equities & Options) data to be used for reporting
3	**Execution & Allocation:** Link both sides of internal executions (both Firm side and counterparty side), initiate version control for trade correction & modification, link original orders to executions
4	**Reporting components & Infrastructure:** Create re-usable reporting components which can be used by multiple regulatory reporting applications and provision appropriate infrastructure (storage, compute & network) to manage necessary environments like Dev, Test, UAT and PROD
5	**File Validation and Ingestion:** Perform validation on files received from on-premise and ingest validated records into data warehouse

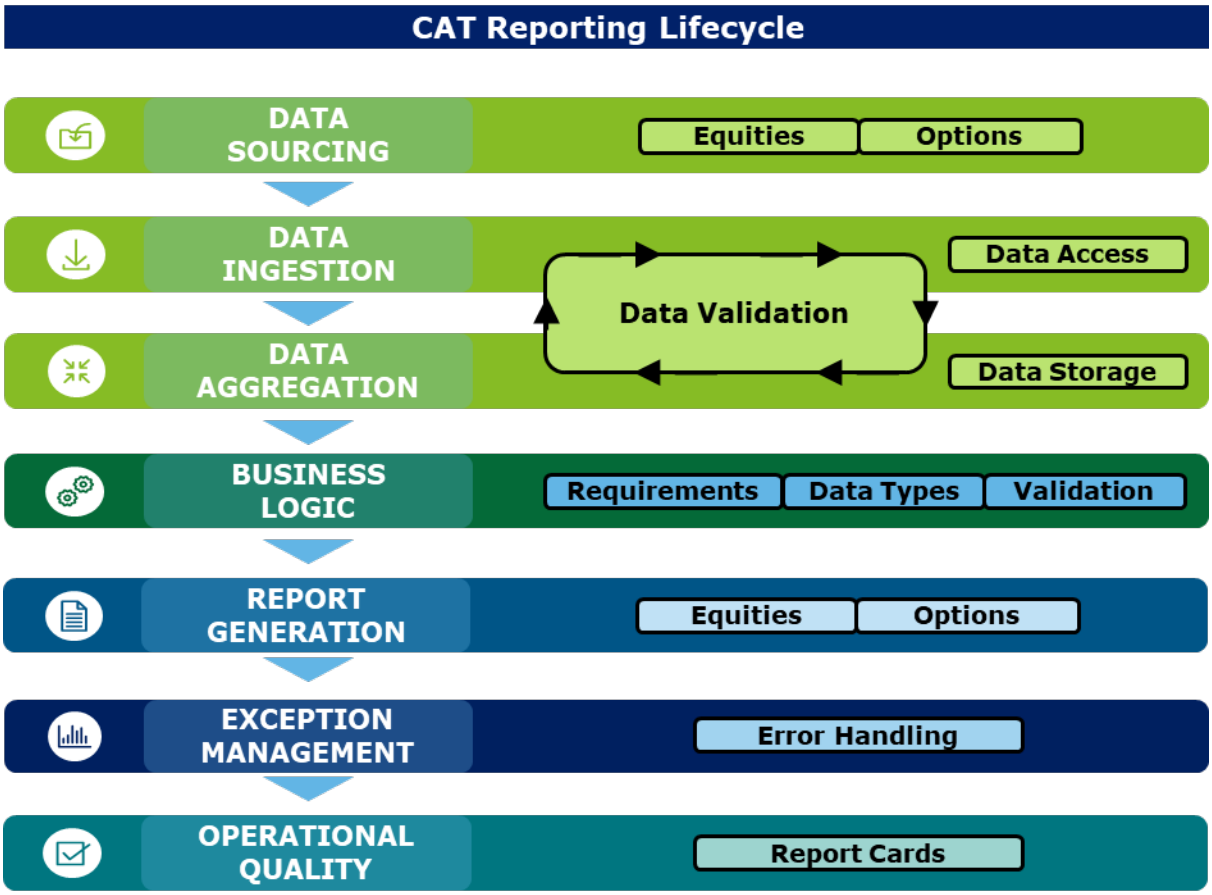
	Figure 6.2.1 – Component Description
6	**Data Repositories:** Provision data stores for reportable events, customer and reference data, build relationships between data attributes such as customer and accounts, and provide ability to integrate with other components such as Rules Engine
7	**Reporting Engine:** Source required transactions, customer and reference data and generate reports, including capabilities to cleanse, profile, enrich and govern data to be used for CAT reporting
8	**API Layer:** Provision APIs to integrate with data stores, reporting engine, reporting operations and CAT Plan Processor functions
9	**File Submission and Feedback Collection:** Create a framework to submit files to Plan Processor and collect feedback files from Plan Processor
10	**Controls & Error Handling:** Provision reporting operations tools to reconcile and validate reports pre-submission, as well as handle exceptions and error rejects, assess root cause, generate business reports, and build mechanisms to reconcile and address gaps
11	**Reports Archive:** Build archives and audit logs to retain reports in a standard format for a period of not less than five years, and build audit logs of authorized user, process & system activities, access of customer information, and submission of reports
12	**Surveillance and Analytics:** Provision capabilities to enable internal surveillance and analytics capabilities that utilize data from CAT Client and Transactions Repositories
13	**Regulatory Submission:** Post extraction, submit the generated reports in standard file formats (JSON and/or CSV) via SFTP or the CAT Reporter Portal, to the CAT Plan Processor. Functionality of Reporter Portal is not yet finalized.

6.3 Data Sourcing

A foundational element of preparing for CAT readiness is sourcing and standardizing data that will be required to create CAT submissions, including understanding the products, booking models of the data sources and enrichment of source data. Once the data has been inventoried, an assessment of the standardization of the data and measure of data quality can be made. Firms may then look to proactively remediate any potential data issues ahead of CAT reporting.

As an initial step, Firms should consider the relevant systems within their organization which will be used to source the data required for CAT Reporting. Data will have to be aggregated and validated to generate reports for transactions that are in scope for CAT Reporting, while ensuring correctness of the data submitted. If errors are identified by CAT, these would need to be corrected and resubmitted in the given timeframe. The following diagram shows an illustrative CAT Reporting Lifecycle that Firms may follow.

Figure 6.3.1: CAT Reporting Lifecycle



Identification of Data Sources – Determining the relevant sources for data origination for each of the lines of business, booking models and in-scope products is likely to be a large part of any CAT program. This would also include the schedule to source the data in time for the T+1 reporting. It is noted that sourcing of data will impact the completeness and accuracy of CAT reporting, including the basis for any control framework, such as source reconciliations.

Normalization and Enrichment of Data – Source data may be in different formats and levels of enrichment depending on a Firm's trading platform(s). Once data has been extracted from the source systems, it may need to be standardized and enriched with reference data to have normalized data that is ready to be formatted and submitted to CAT.

Formatting Data for CAT Submission – CAT will accept two kinds of text-based files: JSON and CSV. To support JSON and CSV submissions, CAT has published a JSON schema file on the CAT public website that describes each data type with required representation formats and a mapping that defines the position in a CSV representation. All data submitted to CAT will be validated based on the defined data type of each item, including proper formatting and range checking. Firms will have to develop processes to pull

and convert data from normalized sources into the final format for CAT, and to develop controls to ensure the completeness and accuracy of the data in the submission files.

6.4 Reporting Models

Firms will need to design and implement a reporting model for CAT Reporting whether in-house or outsourced or a combination thereof. A reporting model could have a centralized data repository to source data, such centralization would provide a single point of organization and accountability for CAT reporting. Reporting model could also be decentralized due to individual business units with disparate systems/vendors for reporting to CAT. Firms may buy or build the technological systems required for CAT reporting. Firms could also choose to outsource reporting to a Submitter or use any combination of these models.

There are several combinations of functionality to consider when designing the CAT reporting model. How a Firm will choose one or more of the solutions will impact the operations and controls they will need to implement as well as the timing of report submission and error corrections. The conceptual architecture components may be a combination of vendor supported or in-house solutions. The following aspects will impact a Firm's CAT solution.

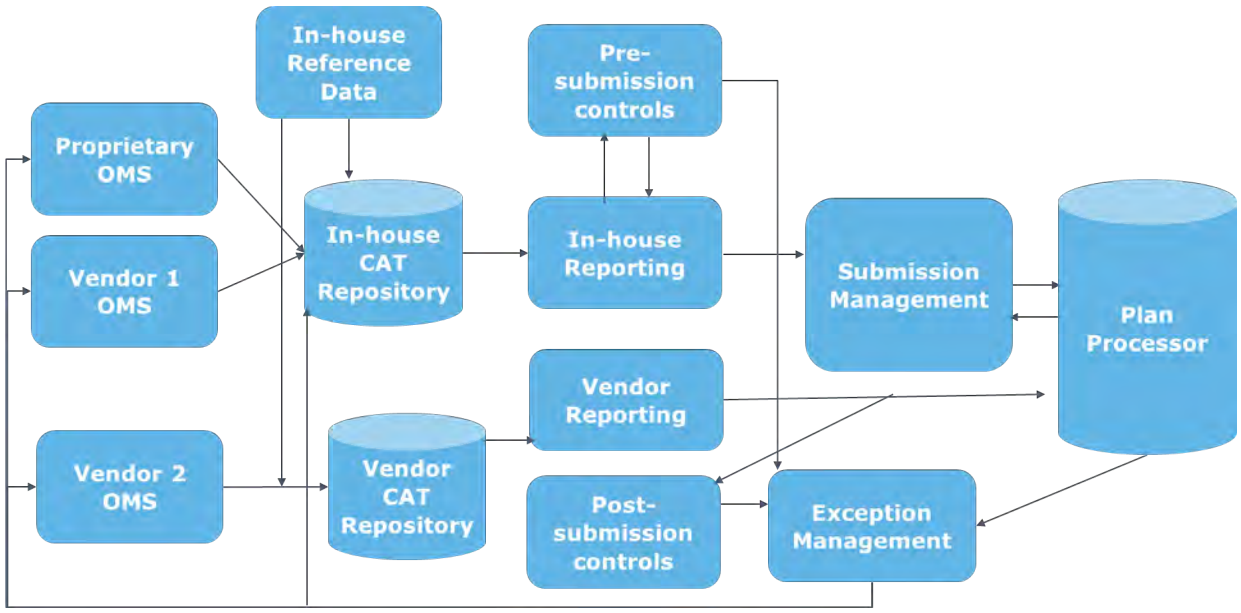
1. **Centralized vs. Decentralized:** Firms may choose to centralize the aggregation of source data for translation, enrichment or to have decentralized reporting. There are many benefits to aggregation of data, including enhanced controls and ability to serve additional consumers; however, Firms will need to weigh that in comparison to their vendor strategy and the cost of building, maintaining and securing the data as well as the time to process and report.

2. **Buy or Build:** Firms may consider a self-reporting approach, including a data-lake approach. The benefits of additional controls and other non-CAT uses of the data may lead Firms to invest in their own technologies. Smaller Firms that are already reliant on vendor solutions may choose not to undertake a large-scale implementation.

3. **Insource or Outsource:** Firms may choose to report on their own by implementing an in-house reporting solution(s), or to outsource the report submission to a CAT Reporter. A Firm may also enter into an agreement with a CAT Reporting Agent (Submitter or CRA) pursuant to which the CAT Reporting Agent agrees to fulfill the obligations of such a Firm under the CAT Compliance Rules. Any such agreement is required to be evidenced in writing and the agreement must specify the respective functions and responsibilities of each party to the agreement that are required to effect full compliance with the requirements of the CAT Rules. Such agreement should include the date on which the Submitter should commence reporting to the CAT on behalf of the Industry Member. In addition, to begin reporting to the CAT, the Firm and the Submitter must complete the onboarding process with the Plan Processor. The Firm is responsible for compliance with the CAT reporting requirements regardless of the existence of an agreement with a Submitter. Firms may also choose to use a combination of Firm reporting and vendor reporting for certain trade flows, though this will present its own complexities and risks associated with reconciling two different reporting models.

The following figure illustrates a reporting model that has a combination of in-house and vendor reporting. It also includes integration of the various reporting models with a Firm's exception management and reference data. Additional complexities to the following reporting model would include the potential for multiple parties to be involved in the reporting of events across the trade lifecycle. For example, the trade order may be originated by one Firm, routed by another Firm/vendor and executed by a third Firm, each Firm with separate reporting obligations.

Figure 6.4.1: Illustrative Complex Reporting Model



There are several considerations when using vendors to support CAT reporting since the Firms will retain the regulatory reporting obligation, even if the vendor is reporting on a Firm's behalf. Potential issues with data quality, timeliness, and error corrections should be considered when determining the roles and responsibilities for CAT reporting operations. Some considerations include:

- To the extent that Order Management Systems (OMS) vendors or Clearing Firms are reporting on behalf of introducing or executing brokers, they should clearly define the responsibilities for regulatory reporting since the introducing and executing brokers will retain the regulatory obligation for CAT reporting. Updates to each of the customer clearing agreements should be completed in advance of CAT reporting to provide clarity on roles and responsibilities

- Roles and responsibilities for exception management and error corrections should be clearly defined given the operating model that is implemented. Factors such as pre-submission validations, triage of exceptions and any attempt to repair errors from FINRA CAT by a vendor will be necessary to determine the exception management processes

- Clearing Firms or other CAT reporting vendors that will be reporting on behalf of a correspondent Firm should determine the requirements for data that should be provided by the correspondent Firm to effectively meet the CAT reporting requirements. These data requirements may be in

excess of the information that is currently provided

- Clearing Firms or other CAT reporting vendors that are reporting on behalf of a Firm should also determine the extent of validations that will be performed over the Firms trade data and any notification and error correction protocols necessary. For example, if a trade event would knowingly fail CAT validations, should it be submitted or held in a queue until it can be repaired?
- Firms that are using vendors for reporting should also be aware of the vendors data requirements, validation rules, and controls to monitor the submitted data that did not get reported to CAT due to any failed validations, business rules or incomplete submissions
- Clearing Firms that are not reporting on a Firm's behalf will need to consider the Service Level Agreements (SLAs) and processing times to provide the Firms the data they will need to report timely to the CAT. Formatting and enrichment of the data should also be determined to ensure the information is provided in an agreed-upon state

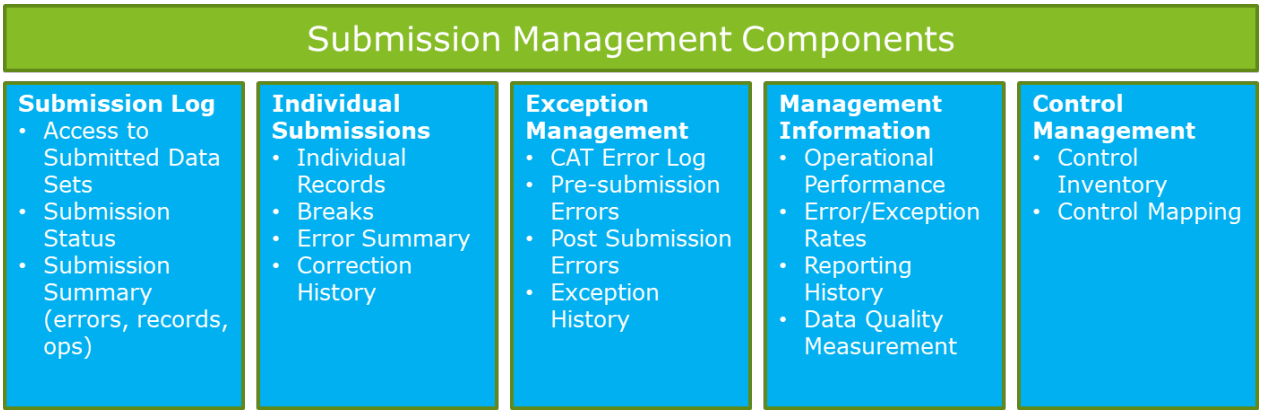
Types of Vendor solutions that may impact a Firm's CAT reporting model may include:

- Vendors platforms in order management, trading and execution, clearing and settlement, and reference data may offer various reporting solutions for CAT
- Data aggregators that offer to collect data from various sources and aggregate for CAT reporting. Vendor trading platforms may also provide aggregation services to report their platform data as well as offer sourcing and normalization for other external data to consolidate for CAT reporting
- Data and report validation solutions that may be rules-based or embedded in other vendor platforms offer a control function over the data.
- Specific technology solutions for formatting and submission of CAT Reports or other supportive technologies such as workflow tools for exception management

Submission Management is another important operational component of the Firms reporting model/architecture. Firms should consider the capabilities to track submission and generate metrics of CAT reporting.

Submission management components are illustrated in the diagram below.

Figure 6.4.2: CAT Submission Management



Supporting Technologies

Some fundamental technologies can be considered by Firms to build the data framework for CAT reporting.

a) *Databases*: A master or reference database should be considered for Firms that implement a centralized model for reportable events and elements such as Firm Designated Identifier (FDID) for trading accounts, CAT Submitter ID for reporting agents and Order Identifiers. As the CAT system will be a native cloud architecture solution, Firms may consider the benefits of adopting cloud-based database solutions.

b) *Workflow Systems*: Workflow systems could be leveraged for automating operational processes, including submission, exception, and change management as well as control framework to assist Firms in executing these operational requirements.

c) *Security and Controls*: In preparation for CAT reporting, Firms will possibly be making changes to their data and technical infrastructure to capture and report CAT required data. Account related information such as FDID will be transmitted through different Firm's workflow systems and possibly through vendor systems. Appropriate encryption technology will need to be implemented to ensure that all client and account data is protected. Risk platform strategies and cybersecurity controls should be considered by Firms.

d) *Data Visualization tools*: Data visualization tools may support the reporting of performance and data quality metrics to the control group and the Governance function to effectively support their decisions.

e) *Cloud Model:* A cloud solution is an option for Firms in their data aggregation and reporting strategy. This solution may be an accelerator for Firms who need to achieve CAT compliance and should be considered as part of their conceptual architecture and overall technology and cloud strategy.

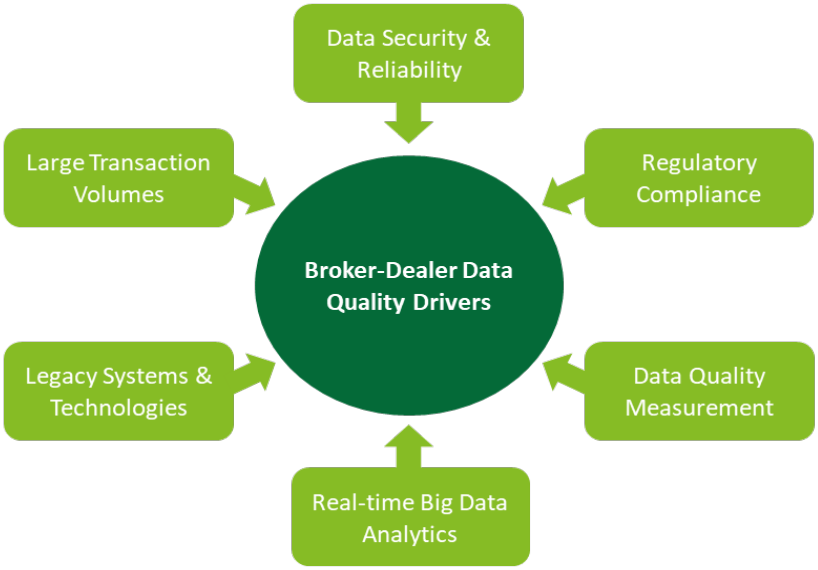
f) *Forward-Looking Technology:* Technology processes and digital enablers should be forward looking to increase efficiency and capacity and to reduce risk of errors from manual procedures.

Such technologies may include Robotic Process Automation (RPA) and Machine Learning. The processing of data could potentially allow for technology-enabled, straight-through processing to source the data for CAT reporting. Intelligent monitoring of data processing using technologies such as machine learning can provide early warnings into issues with accuracy, completeness and timeliness of the data.

6.5 Data Management

Data Quality: Data quality and management are the foundation capabilities for any regulatory reporting model, and Firms will have to focus on building out a sustainable and effective control model to ensure the quality of the data contained in their CAT reports. There are several validation points in the trade data flow, including source systems, normalized repositories, pre-submission reports and post submission reports. Data mining solutions may also be run to find anomalies that may indicate other issues exist in the source data, enrichment or normalization processes.

Figure 6.5.1: CAT Data Quality Drivers



Record Retention: According to each of the Participant's CAT compliance rules, information required to be reported to the CAT must be maintained in accordance with SEC Rule 17a-4(b). This rule states that these records must be preserved for at least three years, the first two years in an accessible place. Records are not required to be retained in an electronic format; they may be retained in a paper format. However, with respect to Business Clock synchronization, logs must include synchronization results for a period of not less than five years ending on the then current date, or for the entire period for which the Industry Member has been required to comply with this requirement if less than five years. SEC Rule 17a-4 also allows for a Firm to have a lesser retention period for reported information if the Firm has the ability to reproduce the submission upon request from the regulator. Firms may face technical challenges in

implementing such a capability in the need to retain the data in historical format with the values as of the point in time of the order or trade. Firms will also need to consider the availability of prior submissions to support Exception Management and Error correction as well as being able to respond to regulatory inquiries about prior submitted data. Another consideration for Firms will be the need to keep any error corrections on the CAT Reporter Portal consistent with a Firm's book and records and their archives.

Scalability and Sustainability: The CAT technical infrastructure will need to be scalable and sustainable, with the ability to adapt to new requirements and operate within a rigorous processing and controlled environment. This is of particular importance given that the most complicated reporting for many Firms—allocations, complex options, and customer data—will be reported in later stages. Firms must design with the end in mind so that they are not stuck with a solution that works now but cannot support the later stages.

6.6 Data Security

As Firms build CAT reporting systems, they should develop an understanding of how information flows across CAT architecture. Such an understanding allows the determination of how in-transit data is protected through the data transmission process as well as amongst and between systems and repositories. Once an understanding has been established, Firms should amend and/or adapt data controls policies and policies, as necessary, in alignment with industry best-practices as well as regulatory requirements.

The following factors should be considered when developing an understanding of data security as it pertains to CAT reporting:

- **Internal Data:** Appropriate policy access controls, and/or data encryption mechanisms to ensure internal data transmission, including to a central data repository/data lake or other repository, is protected and only available on a need to know basis. This should incorporate accesses to data for report production, error handling and corrections processes, which may include data remediation
- **External Data:** Controls should be established to ensure only required and appropriate data is reported to the Plan Processor or service providers, including methods for identifying breaches of data and defining required procedures if data leakages do occur. Lists of required and non-required data fields should be maintained and segregated
- **Error Handling:** Specific consideration should be given in relation to the error handling and corrections processes, where certain staff may be required to access information to address remediation. In this case, sufficient auditability, such as "break glass" access and monitoring should be applied to ensure that data access is both appropriate and justified
- **Central Data Repository:** The establishment of a central data repository creates a new centralized risk for Firms. Considerations should be given towards the control environment around such a repository
- **Data Breaches:** As part of the Control Framework implementation for CAT, Firms should ensure that controls are setup to detect and monitor any data breaches, including both internal and external data incidents. Such controls may include firewall scanning, but should also include

additional controls, such as whether any non-required data has been provided to service providers or the Plan Processor. Additionally, defined procedures should be incorporated that are aligned to existing policies and standards to ensure that incidents are reported and actioned in a proportionate and risk-based manner, and any external declarations are made where required

- **Determining Access to Data:** Definitions should be required for which roles (e.g. Regulatory Operations reporting team(s)) will require access to data for critical path reporting, and which users may require access for the error handling and corrections process. Additionally, appropriate detective controls should be put in place to monitor when users have accessed any data, including required justification for such access, and spot check reviews should be made to review the appropriateness of these justifications
- **Security and Data Handling Training:** Sufficient training and awareness should be required across all staff that are part of the CAT submission processes to ensure awareness of security procedures and data handling. Proactive implementation of training, prior to users access to data, should be aligned with, and may be accompanied by existing security awareness training. Staff members should receive periodic reminders and training to reiterate associated risks of breaches and material changes to procedures
- **Legacy Systems:** Systems that are being used or repurposed for CAT reporting should undergo testing and assurance that process integrity, protection of data transmission and storage meets and/or exceeds required levels of protection. This applies to both internally and externally sourced data
- **Data Transmission**: For details on secure connection and transmission of data into the Central Repository, refer to section 8.3 for further details
- **Vendor Security**: Consideration should be given to how information is transmitted and stored by vendors, refer to section 8.7 for further details
- **Record Retention**: Firms must make sure they meet the preservation and maintenance of electronic communication records, as per the integrity/availability requirements of SEC Rule 17a-4(f) and FINRA Rule 6890. Firms also must make sure that proper security controls are in place to protect such records. refer to section 6.5 for further details

7.0 Governance and Controls

7.1 Introduction

New reporting requirements as part of CAT implementation are likely to require Firms to evaluate their current governance models to determine that reported data is complete and accurate. As part of this evaluation, Firms should consider both the governance model and the controls framework to determine the level of oversight of data reporting. An effective governance model would consist of the primary stakeholders in the CAT reporting process within a respective Firm's management. The control framework would generate information, such as metrics and performance data which can help to inform and improve the governance model.

Working together, the governance model and controls framework, could balance business, technology and regulatory changes while monitoring the data quality for complete and accurate reporting. It also provides support for a Firm's technology solution to maintain the data repository for reporting solutions with reporting performance indicators and an application of an end-to-end control framework covering the multiple CAT reporting requirements. Business changes may include trading flexibility and expansion of trading products.

7.2 Governance Model

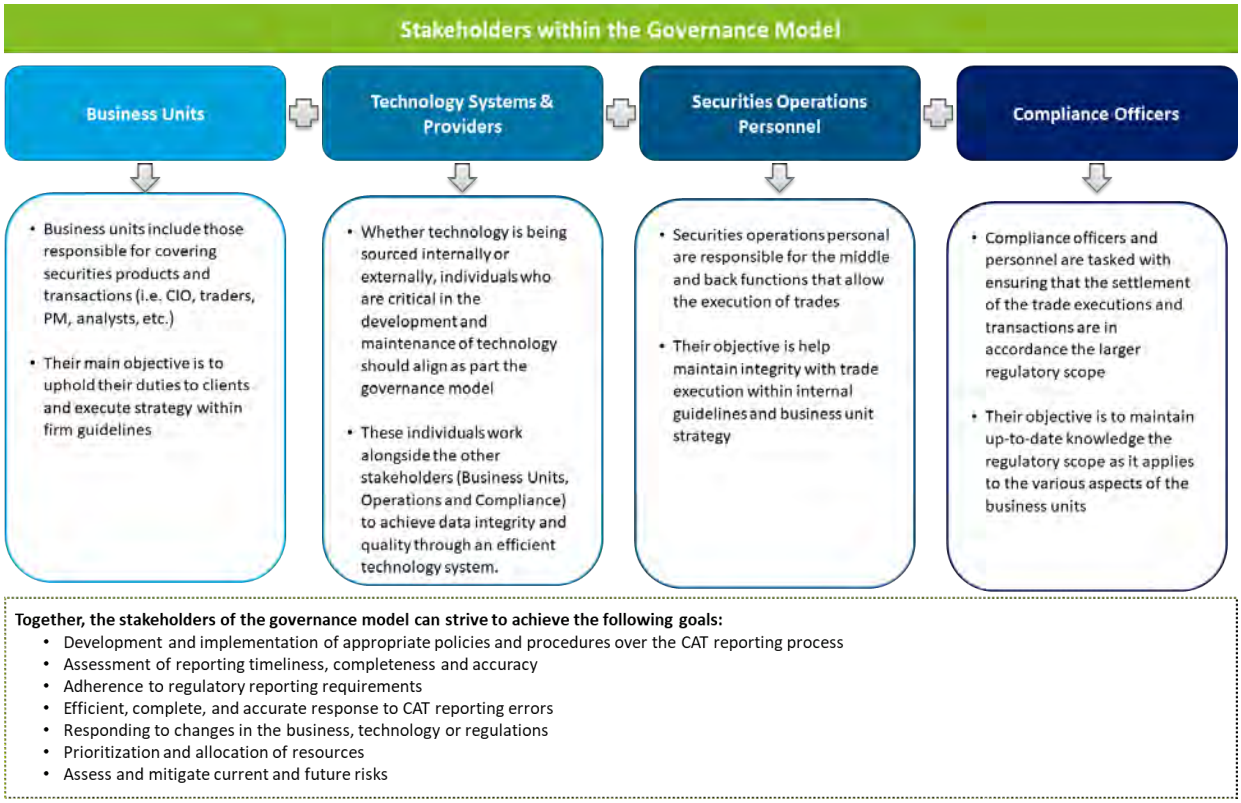
The governance model with respect to the CAT Reporting Lifecycle does not differ significantly from those which applies to other aspects of the Firm. The model should consist of strong policies and procedures, stakeholder management, and should be targeted at achieving the model's end-goal of reporting complete and accurate information to the CAT.

The governance model should consider a variety of source data to effectively evaluate and potentially enhance CAT reporting. Additionally, the governance model should be both forward looking and past-reflecting, as it considers how to adapt and address complexities due to regulatory changes, technological developments, and general evolution within the securities industry.

The governance body for CAT should include representation from each of the stakeholder groups. The main stakeholders include:

- Business Units covering the in-scope products such as Equity and Option trading
- Operations
- Technology
- Compliance

Figure 7.2.1: CAT Governance Model Stakeholders



The goals for the governance function may include:

- Development and implementation of appropriate policies and procedures over the CAT reporting process
- Assessment of reporting timeliness, completeness and accuracy
- Adherence to regulatory reporting requirements
- Efficient, complete, and accurate response to CAT reporting errors
- Responding to changes in the business, technology or regulations
- Prioritization and allocation of resources
- Assess and mitigate current and future risks

Metrics and Information for Governance

The inputs that can be used by the governance function to effectively achieve their goals can be sourced from a variety of parties. Of these include the stakeholders listed in Figure 7.2.1, as well as the monitoring metrics from the Control Framework. Other sources include regulatory and governmental bodies,

employees and staff, as well as technology providers. Metrics and information may include but is not limited to the following:

- CAT Reporting Submission metrics (timeliness and volume)
    - Volume of records submitted by CAT Event type
    - Volume trends and comparisons to average
    - Trending of timeliness statistics
- Control Framework/Monitoring Metrics (e.g. exceptions, level of data quality, error data)
    - Volume and historical trending of the number of CAT errors
    - Pre and post CAT error correction acceptance % rates
    - Exceptions by business product / source system
    - Exceptions by validation point (see 7.4.1 for the various points at which exceptions can be generated)
- Change management metrics (business, product, and system changes)
- Regulatory changes as approved by the authorized regulatory body
- Developments in technology both directly and indirectly related to CAT reporting processes
- Industry and competitor trends and benchmarks in developing CAT reporting systems

While these are examples of sources for input data for the governance framework, there are many other that can be considered, and Firms should work to establish responsible parties for reporting and monitoring the data that is received from these sources.

Policies and Procedures

Firms will likely require changes and enhancements to existing policies and procedures to meet the CAT reporting regulatory requirements and to mitigate some of the operational, compliance, legal, and reputational risks associated with the implementation of the CAT. Updates to the procedures should include CAT reporting processes, exception management, and control processes. Additional controls may be required for customer account maintenance and data transmission. Firms could prepare their systems and inventory their controls to ensure that they can provide accurate and complete data to the CAT.

A review of the Firm's current policy controls, procedures, and system limitations would be beneficial to determine how much additional work and funding is necessary to meet the demands of the CAT and manage associated risks. Firms may assess their current policies, procedures and controls and define new ones necessary in connection with anticipated processes, systems, and infrastructure that may be deployed. An overarching control framework formalizing the existing and new controls across the dimensions of system, product, technology, process and people would be beneficial.

Implementation of strong data security and privacy policies and procedures, covering internal data processing and external data transmissions, may be of particular importance from a legal and reputational risk perspective. Firms may consider setting up controls to detect and monitor data breaches, including both internal and external data incidents.

Consideration for Governance Model

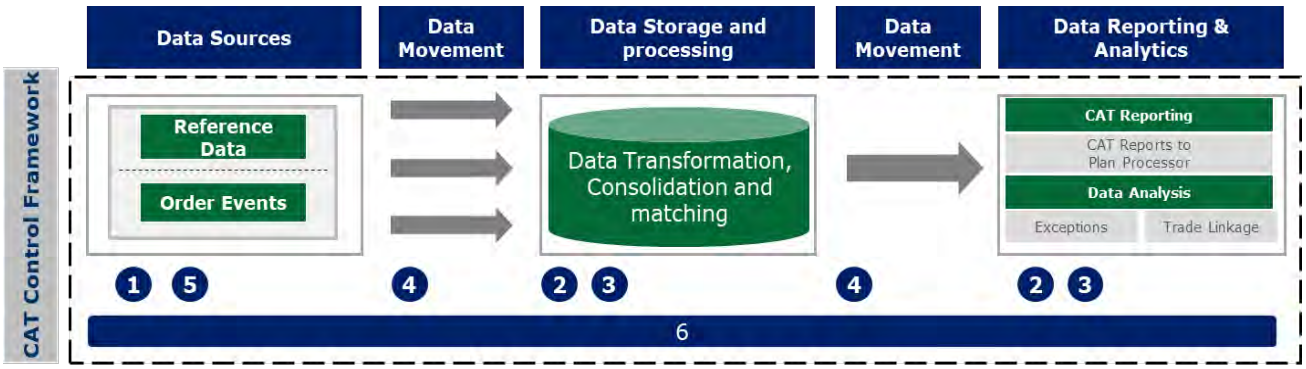
The governance model could include the following components:

- Monitoring of daily synchronization of all business clocks
- Monitoring of information provided in the CAT Reporting Statistics from the CAT Reporter Portal)
    - Files have been accepted by the CAT
    - Rejected files and repairs to rejected files
    - Late reports
    - Error rates
- Monitoring of communication from the Plan Processor on system maintenance and upcoming changes
- Periodic review of control framework information for:
    - All reportable events are submitted to CAT
    - Data fields contain accurate information
    - Data is properly reported against the Firm's IMID
- Oversight of business and technology changes such as:
    - New products added
    - New systems added
    - Changes to upstream systems
    - Business and regulatory changes
- Oversight of service providers (if applicable):
    - CAT Reporting Agent and Third-Party Reporting Agent effectiveness
    - Adherence to Service Level Agreements (SLAs)
    - Control assessment results (e.g. SSAE16)

7.3 Control Framework

The objective of the Control Framework is to enable oversight over the CAT reporting completeness and accuracy supported by metrics. The following landscape outlines the various control domains that should be considered for CAT reporting.

Figure 7.3.1: CAT Control Domains Landscape

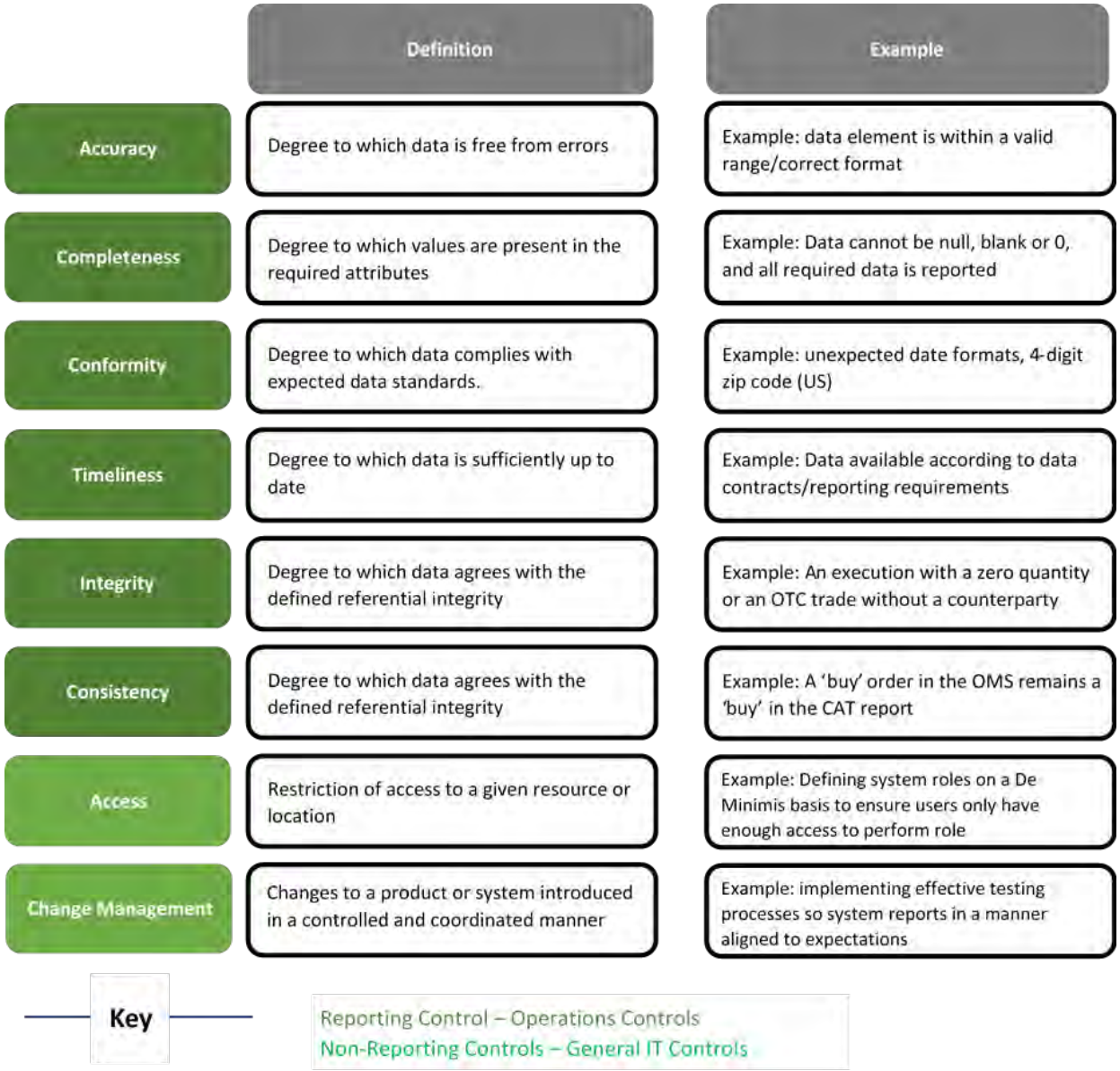


#	Control Type	Example
1	**Front End**	Automated configurable logic to limit user input values, or procedures governing user inputs
2	**Business Rules**	Logical conditions on data quality defined by business knowledge/rule requirements to identify data anomalies
3	**Reconciliation**	Data reconciliation from source to interim repository and cross system comparison for completeness and consistency
4	**Batch Monitoring**	Automated controls to monitor the completeness and accuracy of data movements during transfer
5	**Substantive Volume**	Retrospective comparison for expected total value and volume of trading for given a period
6	**General IT**	Access Control: restricting the users with access to confidential data to only those who require access for reporting or analysis Change Control: Integrating CAT reporting impact analysis to all system development and changes for trade cycle process

Considerations for Monitoring Activities as Part of The Controls Framework

Monitoring of the CAT Reporting process by Firms will help to ensure that correct and timely data is being submitted at all stages to CAT. CAT Reporting may be monitored to measure the effectiveness of policies and procedures adopted by the Firm. A control framework may be applied at each stage of the CAT Reporting Lifecycle such as sourcing of data, report validation, data quality and submission. An effective control framework will be able to detect and prevent errors in CAT Reporting. The following diagram outlines considerations that should be taken into effect when implementing the CAT control framework.

Figure 7.3.2: CAT Control Framework Considerations



- ***Source Data Validation***
    - Controls to check whether eligible securities trades are included in trade reporting
    - Controls to check trade data is pulled only once from source to aggregation point
    - Controls to catch any data anomalies to investigate root causes
    - Controls to check whether Submitter data to be reported has consistent FDID applied
    - Data Validation Errors: The rate and type of data validation errors at each point in the process may be an indicator of effectiveness of the processing or potentially upstream

issues. For example, accounts that are invalid or Security identifiers that cannot be populated may fail validations, but may be an indicator to another root issue either in source data or enrichment processes

- ***Report Validation***
    - Controls to ensure all expected data is included
    - Controls to check report format is aligned to the technical specifications
    - Monitoring controls to ensure non-reportable data is not included the final submitted report
- ***Data Quality Control***
    - Preventative controls such as policies, procedures and standards for data governance and management to enable high quality data
    - Data dictionaries in place for all in-house and vendor systems
    - Accepted Records: Pure volumes and comparison to historical average may be an indicator to the completeness and capacity. Firms may also calculate a percentage of submitted records that were accepted for each trade date or daily average for dates included in the requested range (such as 180 days), and the percentage after all corrections and replacements have been processed. This may be calculated in a ratio such as Accepted Records / Original Submitted Records x 100. This ratio may be a relevant measure to the Industry success rates and 95% target threshold for initial acceptance and 98% post error correction.
- ***Completeness Validation***
    - Reconciliation of CAT submissions to source data
- ***Accuracy and Performance Metrics***
    - Reported element values are consistent with source data
    - Reported element values are valid business rules for reported data
- ***Pre-submission controls***
    - Firms could consider development of pre-submission controls, where CAT submissions are validated prior to delivery to the Plan Processor, including linkage and customer data. Such validations can provide for the earliest possible identification of linkage errors and may minimize unexpected errors further down the line. This can have additional benefits as well, such as enabling Firms to use the data for internal surveillance and visibility into how orders are moving between systems and desks for specific customers which could help Firms in better surveying trading activity.
- ***Post-submission controls***
    - Firms could consider developing post-submission controls and have procedure in place to handle errors that have been reported. Errors that are identified and sent to Firms by the

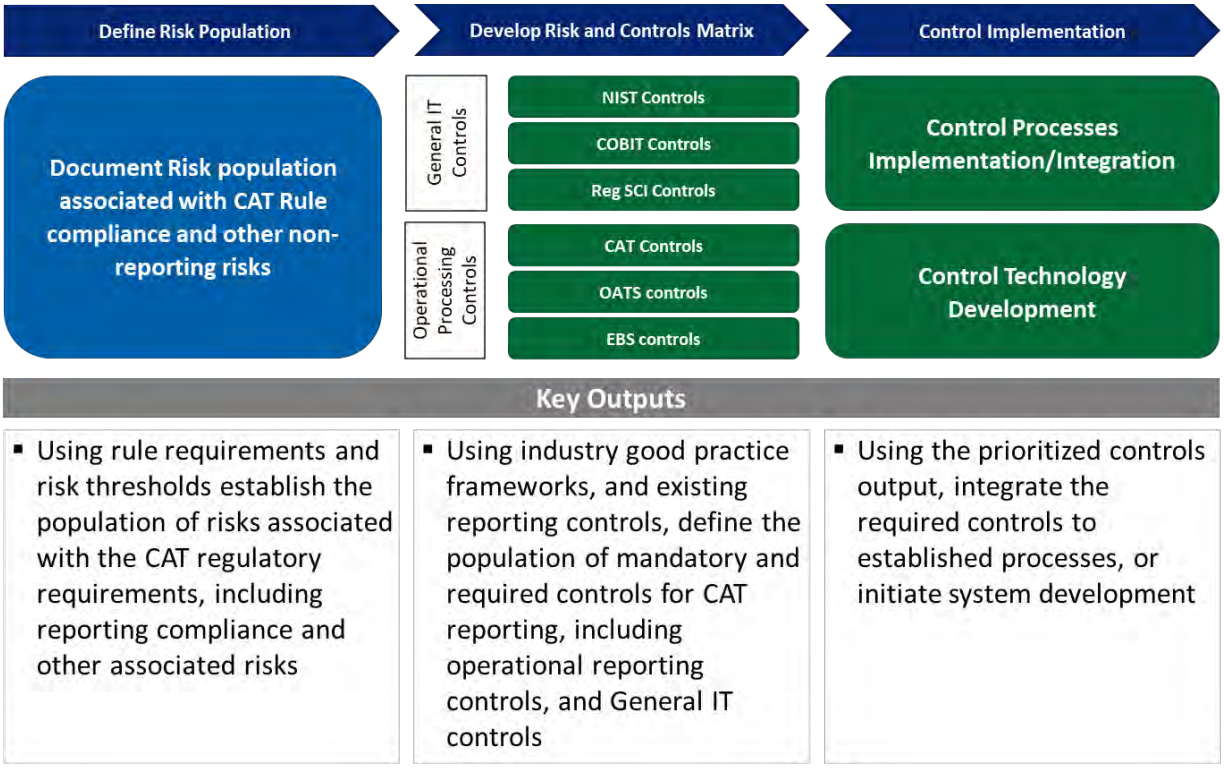
CAT, must be repaired prior to 8:00 AM EST on T+3 (CAT Trading Day of event + three Trading Days). With such aggressive timelines for error corrections, Firms should consider having procedures in place to repair all errors within this timeframe. Firms should also consider the process for submission of self-identified corrections to CAT.

- Corrections: The rate of corrections is also a meaningful metric for governance functions and one of the target metrics for the industry. The percentage of the corrections performed against the total records submitted may be calculated as (Corrected Records / Original Submitted Records) x 100
- Accepted Linkage Records: The percentage of ingested order event records, that were accepted during the linkage stage for each trade date or daily average for dates included in the requested range (such as 180 days), after all corrections and replacements have been processed (i.e. Linked Records / Ingested Records) x 100
- Timeliness: The percentage of number of files submitted on time and the extent of lateness in hours may be an important metric particularly with respect to the SLAs established within a Firm, with Vendors, and ultimately for CAT compliance

Prioritization and Phasing to Implement Controls Framework

In developing the CAT control framework, consideration should be made to prioritizing controls implementation that are mandatory for regulatory compliance and those controls related to high levels of risk in processing (e.g. transformational data controls/ data privacy).

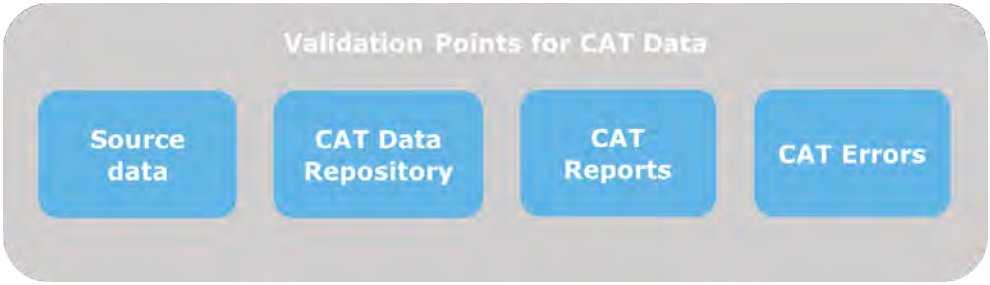
Figure 7.3.3: Control Framework Implementation Prioritization



7.4 Exceptions Management

Exception identification and correction management processes may be essential for an effective and timely management of CAT. The definition of a CAT Error and the error correction timelines are described in Section 5.4 of this Guide. Firms should consider that error corrections and resubmissions should reconcile with their books and records. Exceptions may be identified at several points in the data sourcing and reporting lifecycle from source system validations, CAT data repository validations, pre-submission validations, and post-validations by the Firm or Plan Processor that are reported back to the Firm. Early identification of exceptions from the validation points illustrated below may assist Firms to meet the CAT Error correction timelines.

Figure 7.4.1: Sources of Exceptions and Validations



An Exception Management program should be supported by appropriate workflow and case management systems that allows categorization of correction types (e.g., invalid FDID/ Customer IDs, linkage breaks, and format/ syntax issues), tracking of corrections through responsible parties, and requisite sign-offs. Furthermore, a detailed tracking of error types and root causes may be maintained to help flag trouble spots and remediate errors. Firms will also need to consider how they will maintain log of errors and corrections.

To meet the error correction timeline, Firms should consider establishing an error-handling process in place to ensure the data quality is validated through the various systems within the Firm and repairs are applied to the CAT data and source data for consistency with books and records.

- Capabilities may include upgrading and/or developing an operational and technology processes for efficient exception handling, communications and escalation mechanisms for errors in CAT reporting. Error correction events may be captured and linked in front-, middle, and back-office processes and systems for accurate re-reporting to the CAT by the T+3 deadline. An appropriate workflow would assist in streamlining the error handling process

- As part of the readiness work, Firms should identify risks in current processes and assess the need for controls for error detections and reconciliations. Projections of the volume and type of corrections may inform estimate efforts and resources needed to comply with data submission timeframe and proposed error correction timeline. Following this analysis stage, Firms may develop and implement new processes and operationalize the front-, middle-, and back-office changes to minimize the data errors and corrections

- For Firms that are leveraging a vendor reporting solutions, consideration should be given to the regulatory requirements to be able to access and repair their data. As detailed in the Reporting model section of this Guide, the agreement with the reporting vendors should clearly define roles and responsibilities about validating the data and responding to errors. Firms will retain the regulatory obligation for CAT reporting and error correction even if a vendor solution is implemented, so access to the CAT systems will be necessary for Firms to view their report cards and exceptions to allow for timely repairs and resolution

Firms should consider the capabilities within Exception Management for correcting data in upstream systems and data repositories. When Vendor systems are used in order management, routing and execution, Firms will need to consider how to manage those exceptions and make corrections in vendor systems. Firms should also consider how to keep the Firms' book and records in line with CAT data. Refer to Figure 6.4.1 for Exception Management processes within the reporting model.

8.0 Reporter Readiness

8.1 Introduction

CAT represents a shift in how regulators will oversee the securities markets and trading activities. Timely planning can help Firms seize broader strategic opportunities presented by CAT. Firms may need to build a detailed roadmap to implement the various changes required to comply with the new CAT regulations, including organizational and infrastructural changes.

This upcoming chapter aims to provide practical next steps for Firms to prepare to report for CAT. These sections will focus on areas such as:

- *Registration:* Firms will be required to be registered with the Plan Processor, FINRA CAT, LLC. The registration is applicable for all CAT Reporters, the scope of which is much wider than that of OATS
- *Internal Testing*: Firms need to perform internal testing to ensure they are prepared for reporting. Firms would need to consider various dimensions in developing the test plans. Internal testing would be followed by Industry Testing
- *Industry Testing:* The first Industry Member testing window opens in December 2019, prior to the production environment go-live in April 2020. Phase 2a/2b testing timelines are distributed from December 2019 to September 2020. Firms would be required to plan their development builds to meet industry test dates
- *Vendor Risk Management:* Firms leveraging a vendor should apply enhanced oversight including due-diligence, to ensure that the vendor can comply with the CAT requirements
- *Business Continuity:* Firms may need to update their Business Continuity Plans and Disaster Recovery (BCP/DR) policies due to CAT Reporting

8.2 Registration

CAT reporters must register with FINRA CAT, LLC, the Plan Processor. The type of Firms that must register include:

1) any member of a national securities exchange or national securities association that handles orders or quotes in NMS equity securities, OTC equity securities, or listed options; and
2) any CAT Reporting Agent (Submitter) that is or will be authorized to submit data to the CAT on behalf of an Industry Member
3) as defined in the FINRA CAT Member Onboarding Guide, Third-Party Reporting Agents (TPRA) will be those entities that are authorized "to view data submitted on behalf of a CAT Reporting IMID by another Submitter"

As previously noted, **CAT does not provide for any Firm to be excluded or exempted from the CAT reporting obligation**.

Introducing Firm Consideration:
Introducing Firms will need to register to begin reporting to CAT. If a Firm is authorizing a Third Party Reporting Agent to report on its behalf, it will need to name that vendor on the CAT Registration Form.

CAT registration opened on **March 18, 2019** and were **due by June 27, 2019,** but the registration remains open for any Firms that have not yet registered, including new Firms.

The official CAT registration form can be referred to at www.CATNMSplan.com/registration/index.html. The form is intended to be submitted online via the aforementioned link.

The registration form will capture information such as:

- Company information
- CAT registered principal
- CAT report source (self-reporting or vendor)
- Preferred connectivity type for self-reporting Firms
- Types of securities traded
- Reporting phase
- Type of Firms (small or large)
- CAT reporting default IMID

CAT registration involves the designation of a Registered Principal who should be an individual who is aware of the Firm's overall business and the regulatory obligations of the business units. The Registered Principal will be responsible and accountable for the Firm's CAT reporting obligations. An employed FINRA Series 24 person is required to be named as the CAT Registered Principal. However, if a Firm does not employ a Series 24 Registered Principal and instead employs one or more Limited Principals (e.g., Series 26), then the Firm should name a Limited Principal on the CAT Registration form (CAT FAQ A28[18]).

[18] A28 The CAT Registration form requires that a Registered Principal be named. Must that Registered Principal have a Series 24 license? CAT General FAQ. https://www.catnmsplan.com/faq/index.html#faqGen

It should be noted that CAT User account administration is the responsibility of the Firm. As such, the Firm will need to designate a Super Account Administrator that will be responsible for creating users for the CAT Reporting Portal or SFTP.

Submitters may be part of a Firm's CAT Reporting model as described in Chapter 6 of this Guide. CAT Technical Specifications define the identification of the "Submitter" in the metadata on the files reported to CAT. If a Firm is authorizing a Submitter, both the Firm and the Submitter are required to complete CAT registration. Firms will need to enter Relationships into the CAT Reporter Portal for any submitters for TPRAs. Self-reporting Firms are required to mention their preferred connectivity type (SFTP or CAT Reporter Portal) on the CAT Registration form. Firms that are using Submitters, will need to access CAT feedback via the CAT Reporter Portal and select this option as their preferred connectivity type. Up-to-date connectivity requirements are defined by the Plan Processor in the FINRA CAT Connectivity Supplement available on CATNMSplan.com.

Once the CAT registration form is submitted, Firms will be required to complete additional steps in order to gain access to the CAT. Firms should defer to the FINRA CAT Member Onboarding Guide for these steps as well as additional information regarding access to the CAT. Additionally, Firms are encouraged to reach out to the FINRA CAT Helpdesk at help@finracat.com for any questions on CAT registrations or the FINRA CAT Member Onboarding Guide.

Firm's should also consider any changes to their registration information, including any changes to the business for in-scope products, legal entity changes, personnel changes impacting the CAT designate, and the plans to use a vendor for CAT submissions.

Comparison Between OATS and CAT Registration

Firms that are also OATS reporters, may be familiar with the basics of CAT registration. That said, there are some differences between OATS and CAT registration requirements. These can be noted in Table 8.2.1.

Table 8.2.1: Difference between OATS and CAT Registration

Area of Difference	OATS	CAT
Who Should Register?	OATS registration is limited to only FINRA, NASDAQ, and NASDAQ BX members that receive and/or handle orders for OATS reportable securities	CAT registration applies to **all members** of a national securities exchange or national securities association that handle orders or quotes in NMS equity securities, OTC equity securities, or listed options.
Exemptive Relief	OATS rules contain provisions that allow Firms to request an exemption from OATS reporting obligations for manual orders, in certain circumstances.	CAT Rules **do not have** provisions that **relieve** any Firm from its CAT reporting obligations.

Registration Process	A defined set of steps is required for a Firm to complete its OATS registration. Creation of a reporting mechanism is a pre-requisite step to OATS registration. An initial step of OATS registration is the submission of a request to designate the Super Account Administrator (SAA) by completing the 'Designating/Updating a Super Account Administrator (SAA)' form.	The first step of CAT registration involves the completion and online submission of the one-page registration form on the CAT NMS website. Additional steps for CAT registration will be communicated in the near future, on CATNMSplan.com.

8.3 Connectivity

Firms and CAT Reporting Agents (Submitters or CRAs as defined by the Plan Processor) will be required to use a secured connection. Firms and Submitters will be able to interface with the CAT system using SFTP or the CAT Reporter Portal. SFTP will require a secure connection through private lines provided by a managed network service provider (MNSP) or Amazon Web Services (AWS) PrivateLink. CAT Reporter Portal connectivity will require the CAT Secure Reporting Gateway (SRG), private lines or AWS PrivateLink. The CAT Reporter Portal will be limited to the 100,000 records and provides reporting statistics, including account statistics and other features. Firms will have the ability to designate a primary and/or back up connection for their file transfer.

a) ***Private Lines***: Private line connectivity must be provided by a managed network service provider (MNSP), such as CenturyLink, to establish redundant private lines into the CAT system. Depending on the MNSP and services selected, a range of bandwidths may be available. Connectivity for private lines will be available **October 2019.**

b) ***AWS PrivateLink:*** Cloud-to-cloud connection may be established using AWS PrivateLink. This enables communication from a Firm's AWS VPC to the Plan Processor's VPC without pass through a public network.

c) ***CAT SRG***: The CAT SRG allows end users to access the CAT Reporter Portal via a web browser, using a secured multi-factor authentication (MFA) to establish an encrypted session. Firms and Submitters that use public lines will have to meet data connectivity and encryption specifications outlined in the CAT NMS Plan for accessing the CAT Reporter Portal via the CAT SRG. Firms should note that the CAT SRG does not limit the choice of Internet Service Providers. Access to the CAT SRG will begin in November 2019.

Introducing Firm Consideration:
Introducing Firms will need to select a connectivity option(s) and quickly implement solutions, once the vendor details are released to be ready for Industry Testing in December 2019.

Connectivity specifications have been provided by the Plan Processor in the CAT NMS Plan and in the FINRA CAT Connectivity Supplement that is available on CATNMSplan.com. Firms should refer to these

documents as well as reach out to the FINRA CAT Helpdesk regarding questions on the connectivity specifications and regarding the Connectivity Supplement.

8.4 Internal Testing

To support effective and efficient industry testing, Firms should consider completing **internal testing** of their CAT reporting solution(s) **prior to the start of industry testing**.

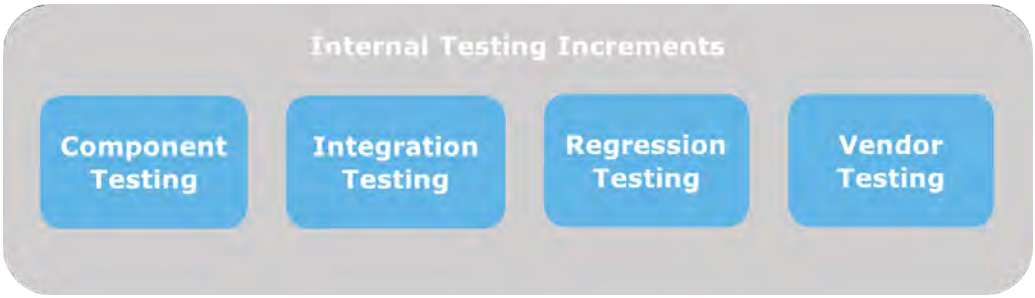
Timelines for testing should consider the dates for Industry testing and stage the internal testing to meet those targets. Industry testing will occur in stages to allow for incremental testing of Plan Processor functionality. For large Firms, Industry testing begins in December 2019. The following lists milestones for the CAT industry testing environment:

- Phase 2a and 2b: File Submission and Data Integrity – December 2019
- Phase 2a and 2b: Intra-Firm Linkage – April 2020
- Phase 2a and 2b: Inter-Firm Linkage – July 2020
- Phase 2a and 2b: Exchange Linkage – September 2020
- Phase 2c: Representative Order Linkages – January 2021
- Phase 2d: Options Manual and Complex Orders – June 2021

Depending on a Firm's CAT solution, internal testing may plan to cover each of the functions of the system across the conceptual architecture and each aspect of the technology solution such as source data changes, data transmission, scheduling, and validations. Firms should consider testing of the process components such as submission management, exception management, and governance. Compliance testing of the solution may also be considered for Firms to understand their regulatory compliance with CAT.

Testing may be performed in incremental waves to allow for focused testing as components are implemented, then to integrate those components into an end-to end test that will determine if there are any other impacts to existing systems through regression testing, and ultimately to include vendor integration, if applicable. The appropriate test environments should also be considered as Firms plan for the waves of incremental testing. The figure below outlines proposed internal testing increments.

Figure 8.4.1: Internal Testing Increments



While developing internal test plans, Firms should also consider whether creation of any representative test data is required, as well as test data volumes for capacity and performance testing. The dimensions that Firms may consider for developing test plans are in Table 8.4.1.

Table 8.4.1: Dimensions for Internal Plans and Test Data

Dimension	Summary of Dimension
Business Model	The various data sources and booking models that generate the reportable events under a variety of scenarios, trade venues, counterparties, corrections, revisions and other factors should be considered for sufficient coverage of the variety of data, events and sources. As business models might be supported by vendor systems considerations should be given to testing of such systems
Product Type	Trade records of various securities across product types, including equities and options, could provide sufficient coverage to determine whether there are any issues with product specific data elements. Considerations should be given to testing product reference data, including corporate actions
Volumes	Sufficient volumes of test data may support a Firm's readiness for production-level performance and considerations for peak periods or peak event types may be included in the test data plans
Positive and negative testing	Firms may consider including exceptions in their test data to trigger validations and exception management solutions
Test period	Firms should consider the testing duration and sequential periods of testing to cover the Trade lifecycle that spans trade dates in whole or in part

Firms levering Reporting Vendors should develop a strategy for conducing internal testing with those vendors, including obtaining confirmation that those vendors have gone through sufficient internal and industry testing.

Another dimension to consider for internal testing is alignment with Business Continuity Planning (BCP) scenarios such as delay in processing data/files and different outage scenarios such as upstream system or connectivity outages.

8.5 Industry Testing

The testing timelines are different for Large and Small Firms. Timelines for Small Firms have not yet been published.

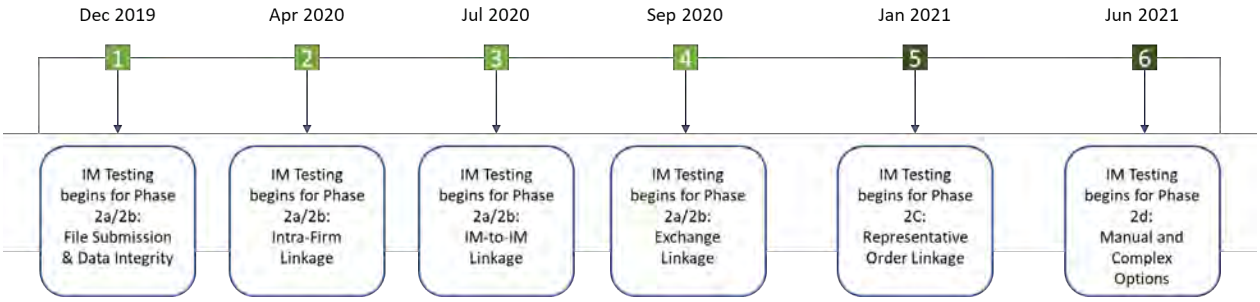
Timelines for Large Firms

Functionality for testing of Phases 2a and 2b will be made available in four sub-phases, starting with simple file submission and data integrity checks in December 2019 and ending with coordinated-industry testing for exchange and TRF linkage, in September 2020.

It is expected that Firms will be required to perform a minimum level of testing prior to being allowed to submit data into production (i.e. a certification), though details of this process have not been published by the Plan Processor.

Industry testing will be conducted in increments as new functionality is released to the testing environment. Firms can expect that the Plan Processor will publish more details and test plans for test phases as the test phases get closer. Incremental functionality within testing will be conducted by the Plan Processor while Firms are required to submit data, assess feedback from the Plan Processor and validate reported CAT Errors. Test phases for Phases 2a and 2b are shown in Figure 8.5.1.

Figure 8.5.1: Test Phases for 2a and 2b



1. **File Submission and Data Integrity:** Firms will need to successfully submit data to the test environment to obtain access to the production environment. This test environment would incorporate basic data integrity validations such as the rejection of a record (e.g., invalid format, invalid symbol, invalid IMID, etc.)

2. **Intra-Firm Linkage:** These validations will be enabled in the test environment in April 2020. Intra-Firm linkage validations will include only those validations that are within a single Firm or IMID. The final test requirements for this reporting event are still under SRO discussion

3. **Industry Member-to-Industry Member Linkage (Inter-Firm Linkage):** This will test linkage between multiple Firms. These validations will be enabled in the test environment in July 2020. Specific testing plans and requirements for coordinated industry testing are still under SRO discussion

4. **Exchange and TRF Linkage:** This will test linkage of reported activity back to exchange or TRF activity. These validations will be enabled in the test environment in September 2020. Specific testing plans and requirements for coordinated industry testing are still under SRO discussion

5. **Representative Order Linkages for Equities:** Details are still pending

6. **Options Manual and Complex Orders:** Details are still pending

8.6 Client Account Holder Notification

Firms may want to consider potential client account holder notifications, to inform clients that their information will be submitted to CAT. Firms should assess if there is any incremental responsibility beyond the current statements in client account agreement in relation to compliance with laws and regulations which would extend to CAT. CAT does not have an additional regulatory requirement for client communications at this time, so Firm's will need to consider the pros and cons of such communications. Firms should consider whether they should disclose to their clients the additional data that they will be disclosing to CAT and the regulators. The decisions on what and when to communicate to clients may have implications for the communication policies and procedures and privacy notification requirements

Due to the increased amount of client data reporting into CAT, clients may have concerns regarding the dissemination of personal account and transaction data, *despite* being a regulatory requirement. Firms may deploy different approaches for notifying customers and include:

1) **Choosing to incrementally update and/or revise their internal policies in alignment with CAT reporting requirements; or**

2) **Choosing to delay modifications to client account holder notifications until full implementation of CAT reporting has been achieved through both equities and options**

Irrespective of the approach taken Firms should consider the impact to Financial Advisor call centers and customer service centers with questions regarding adjustments. Regardless of the timeline, Firms should communicate these regulatory requirements to existing and prospective clients as well as provide assurances of client information communication security.

Throughout the CAT implementation timeline, Firms should review their front office policies and amend them to incorporate new requirements under CAT. Below are some of the considerations associated with and potential methods to enhance client account holder notifications as it pertains to CAT reporting implementation.

Considerations:

- **Revisiting frequency of notifications**: Firms will need to determine the frequency of CAT notifications. Choosing to notify client early may result in multiple updates and /or notifications to customers

- **Implementation of piecemeal vs. wholesale changes:** For those Firms who already notified clients about reporting into OATS or Blue Sheets, changes to notifications, with respect to CAT reporting, may not require significant time, resources or modifications to existing systems, depending on the Firms' internal processes. However, Firms who provide less or minimal notification to clients regarding regulatory reporting requirements may need to develop systems and/or policies and procedures to notify clients about these new reporting systems. In this case, some Firms may opt to implement these systems or changes over the course of the 3-4 year timeline in which both equity and options are phased into CAT reporting, rather than continuously adjusting notifications as phases progress

- **Preparedness for client questions to call center:** Firms should plan for an increase in questions and inquiries around CAT customer notification and a process for responding should be established. This can include coming up with a list of types of questions expected and pre-determined answers, or creating a list of FAQs and responses for clients

- **Confidential information concerns:** Firms should consider types of communication and assurance around information security that will be shared with the clients

8.7 Vendor Risk Management

When leveraging CAT reporting vendors, vendor risk management should be considered, especially since Firms will retain the regulatory obligation and the fact that CAT will contain confidential customer information along with detailed transaction data. Firms are responsible for the timeliness, accuracy and completeness of the data that they report to CAT regardless of who transmits the data to the CAT. Therefore, even if a Firm uses another CAT Reporter to report data on its behalf, the Firm remains fully responsible for the timeliness, accuracy and completeness of the data. Hence, Firms should develop relationships with their vendors to proactively gain assurances regarding the level of control over their CAT reportable information.

While considering the potential outsourcing of any CAT-related functions to vendors, Firms may want to outweigh the pros and cons surrounding this decision. It may be advisable to have a comprehensive plan for identifying uncertainties and legal liabilities regarding the hiring of vendors for CAT reporting, and measures in place for consistent monitoring of vendor performance.

Challenges:

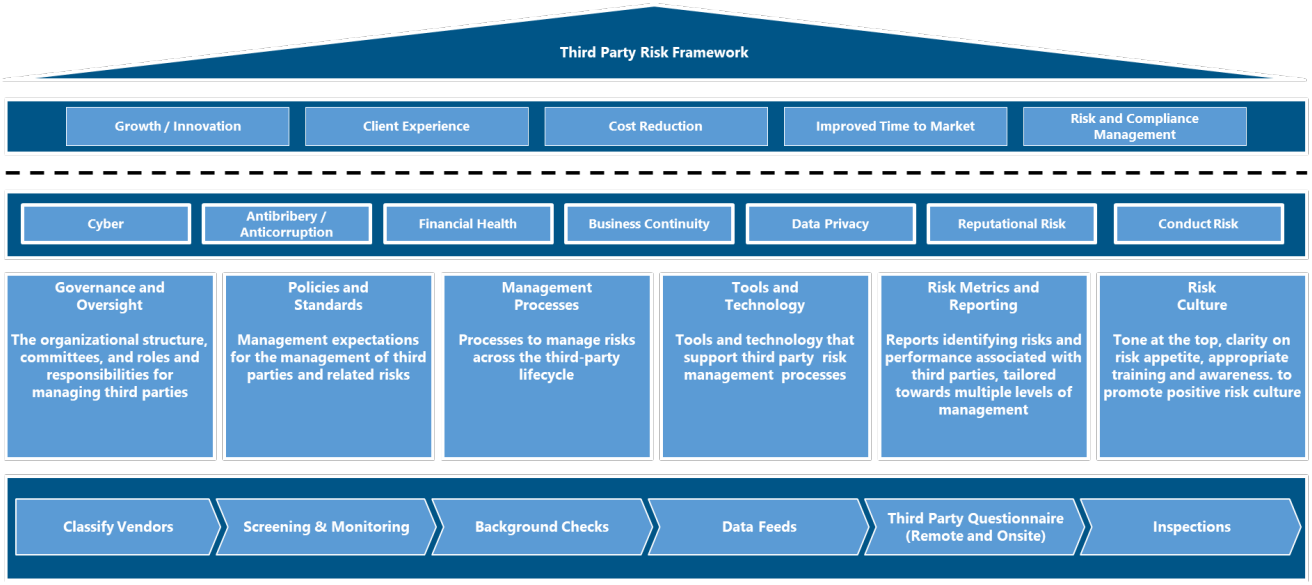
- **Confidential information concerns:** where information is stored in vendor systems and concerns confidential information, Firms should proactively gain assurances regarding the level of control around such information, including access, and cyber security controls and notification requirements of any data breach, including but not limited to confidential customer information

- **Firm Designated IDs presents complexities:** CAT specifications require Firms to generate a unique identifier (FDID) for each trading account. Firms must assign a single FDID to each trading account. This FDID also must be unique across all vendors that the Industry Member may use to report to CAT. This adds complexity when Firms have multiple systems or vendor platforms as each would be required to report the same unique FDID for the trading account

Potential Methods to Manage Vendor Risks:

- Establish or leverage a vendor risk framework on which the program will be designed and built. Such framework will assist in understanding the inherent risks stemming from the CAT vendors such as cyber risks, resiliency, performance, and data integrity. Figure 8.7.1 provides a broad view of such construct and operating model components

Figure 8.7.1: Foundational Third-Party Risk Framework



Additional considerations in managing vendors should include:

- Establish vendor inventory management which links into each CAT vendor risk log, governance, policies, and procedures. This should also include oversight into vendor resiliency and continuous monitoring of vendors with respect to confidential data
- Perform scheduled and spot-check reviews that include a structured agenda covering policies, procedures, leakage escalation processes, relevant mitigating controls, on-going operational issues, open items, security, access, performance reports and SLA metrics
- Seek assurance reports related to specific high-risk data
- Develop controls to check consistency of FDID application for data to be reported

- Assess benefits, risks, and downstream affects to other systems necessary to integrate a vendor reporting solution
- Consider maintaining data dictionaries for in-house and vendor systems
- Update and/or establish vendor agreements which include established service level agreements (SLAs) and clear roles and responsibilities over CAT reporting and handling
- Where applicable, review vendor selection which include pre-contract checks and adequate contractual language
- Validate that vendors are integrated into broader business continuity plans and tests are conducted on a periodic basis

8.8 Vendor's Considerations in Providing CAT Reporting Services

A Vendor may act as a CAT submitter on behalf of any Firm. Vendors will need to consider the requirements they will have of their customers to provide timely and accurate data, the validations that they will perform, the communication of status. Clear roles and responsibilities should be documented, and operations and systems tested.

Such agreement between Vendor and Firm is required to be evidenced in writing and the agreement must specify the respective functions and responsibilities of each party to the agreement that are required to effect full compliance with the requirements of the CAT Compliance Rules. Such agreement should include the date on which the Submitter should commence reporting to the CAT on behalf of the Industry Member. In addition, to begin reporting to the CAT, the Industry Member and the Submitter must complete the onboarding process with the Plan Processor. Notwithstanding the existence of an agreement with a Submitter, an Industry Member maintains primary responsibility for compliance with the CAT reporting requirements.

Clearing Firms as CAT submitters

If clearing Firms are reporting on behalf of introducing and executing brokers, they should contractually define their responsibilities for regulatory reporting since the introducing and executing brokers will retain the regulatory obligation for CAT reporting. As noted above roles and responsibilities for exception management and error corrections will need to be clearly defined. Updates to the customer Clearing Agreements should be completed in advance of CAT reporting.

Clearing Firms that are reporting on behalf of a correspondent Firm will need to determine data requirements which are in excess of the information needs for clearing services, to effectively meet the CAT reporting requirements. Further, they should also determine the extent of validations that will be performed over the Firms trade data and any notification and error correction protocols necessary.

Clearing Firms that are not reporting on behalf of a Firm will need to consider the SLAs and processing times to provide the Firms the data they will need to report timely to the CAT. Formatting and enrichment of the data should also be determined to ensure the information is provided in an agreed-upon state.

8.9 Business Continuity Plans, Disaster Recovery and Contingency Planning

Firms will need to consider whether their Business Continuity Plans and Disaster Recovery (BCP/DR) have been appropriately updated and tested to include CAT reporting. This will include making sure that Firms are able to submit and correct records to the CAT despite system interruptions they may face. CAT reporting and correction timelines will remain in effect regardless of whether a Firm is having technical issues. Firms should also conduct regular testing of their CAT BCP/DR plans.

Potential Considerations when developing or updating the BCP/DR Plans:

- The Business Continuity Plan (BCP) should be aligned with applicable industry standards (e.g. NIST 800-34)
- Individual system level BCP/DR guides should be developed for each CAT reporting component in scope
- A Disaster Recovery Guide should be maintained by the Business Continuity Management function to define the set of activities intended to ensure that critical business functions will continue to operate despite serious incidents or disasters, or will be recovered to an operational state within a reasonable period of time
- Training, awareness and communication related to CAT BCP should be developed and executed or built into the existing BCP training, awareness and communication programs
- Firms should test their ability to operate their backup and recovery facilities by performing functional and performance testing of its BCP/DR periodically. This will assist Firms to test and update their plans and also check if the recovery teams are aware of their roles and responsibilities. Validation of the various types of plans can be performed by either conducting: (i) plan walkthroughs, (ii) tabletop exercises, (iii) integrated tests with both business and technology involved, of a single element or component, or (iv) war gaming exercises or mock disasters to simulate an actual disruption
- Firms should assess where their current BCP/DR and emergency response plans address geospatial information about facilities, business partners, service providers and vendors

In addition to business connectivity and disaster recovery, Firms should develop contingency plans for technological and vendor outages to ensure continuation of CAT reporting. Potential outages with respect to technology and vendors may include, but are not limited to:

- Connectivity outage
- Vendor outage
- Plan Processor outage
- Trading platform outage

- Reporting platform outage

8.10 BAU/CAT Readiness Checklist

The following checklist provides a list of questions in a survey format to allow Firms to measure their CAT readiness. Responses may be "yes", "no", "in progress" or "not applicable" to the survey format. An additional checklist that allows for free-form responses to the questions as a way for Firms to document how they are preparing for CAT is available in Appendix 1 of this document.

1. **Scope and Registration**

   - ☐ Have you determined whether you are a large or small Industry Member? (refer to definition in Section 3.2)
   - ☐ Do you understand the obligations for using a vendor as a CAT Reporter?
   - ☐ Have you registered with FINRA CAT LLC?
   - ☐ Have you established a program for CAT reporting?
   - ☐ For non-OATS reporters – have you considered the impact of CAT on your people, process and technology?

2. **Data and Events**

   - ☐ Have you identified your quote, order, routing, and execution data sources?
   - ☐ Have you identified your reference data sources?
   - ☐ Have you mapped your events to the CAT reportable event types?
   - ☐ Have you mapped your source data fields to the CAT reporting requirements?
   - ☐ Have you identified your data remediation work, internally or with vendors?
   - ☐ Have you completed any data remediation work?
   - ☐ Have you defined the method for generating the FDID?
   - ☐ Have you established a plan to build linkages between reporting events?

3. **Operations**

   - ☐ Have you defined a schedule to meet submission deadlines for CAT reportable events?
   - ☐ Have you defined a schedule to meet the CAT error correction deadline?

- ☐ Have you built operating procedures for Submission Management?
- ☐ Have you built operating procedures for Exception Management (error handling)?
- ☐ Are you going to notify your customers that their data will be reported to the CAT?

4. Technology

- ☐ Have you documented your CAT technology architecture?
- ☐ Have you documented your CAT reporting model(s)?
- ☐ Have you documented your CAT Test plans?
- ☐ Have you identified a connectivity solution for data submission?
- ☐ Have you identified the connectivity requirements for the CAT Reporter Portal (authentication certificates)?
- ☐ Have you determined the data retention requirements?

5. Governance

- ☐ Have you identified all internal functions impacted by CAT?
- ☐ Have you established a governance structure and identified accountable management for CAT reporting?
- ☐ Do you have defined metrics for governance reporting and management reports?
- ☐ Have you designed a control framework?
- ☐ Have you established pre-submission validation controls?
- ☐ Have you updated Compliance Policies and Supervisory Procedures for CAT?

6. Vendors

- ☐ Have you selected one or more vendors for CAT Reporting?
- ☐ Have you notified the Vendor of your intention to have them report on your behalf?
- ☐ Have you identified all the Vendor data validations and client control considerations?
- ☐ Have you confirmed the Vendor's readiness for Industry testing participation?
- ☐ Have you established a vendor oversight program?

7. Security and Business Continuity

- ☐ Have you developed a Cyber Security Plan?
- ☐ Have you developed Business Continuity and Disaster Recovery plans?

- ☐ Have you developed a plan to address data security and encryption if CAT data at rest and in transit?

9.0 Summary of Challenges, Risks, and Other Considerations

9.1 Introduction

CAT reporting will have multiple implications for Firms. Firms would need to assess the impact the CAT will have on their operations, technology, staff, governance and regulatory compliance. The CAT may provide potential opportunities to Firms to enhance their broader business operations in surveillance, data analytics, and client-relationship management. It is anticipated that innovations in technology would be a disruptor in the way data and reporting is going to be managed in future for the CAT.

Some of the potential challenges faced by the Firms would be in the areas of data readiness, regulatory compliance, operations, and technology capabilities. This section will explain these challenges and some potential solutions which the Firms may consider for overcoming these issues. Timely consideration of these challenges and actions may help Firms prepare for compliance with CAT.

9.2 Data Readiness Challenges

In preparation for the daily reporting of large volumes of data to CAT, Firms should assess their current data readiness capabilities such as data sourcing, data quality, data validation and overall data governance to identify gaps and take remedial actions for enhancement. There are several challenges which the Firms should consider.

Some potential challenges include:

- **Data management constraints:** Trade data submissions need to comply with a specific reporting format. Part of the challenge is an absence of adequate data governance—in terms of effective governance structure, standard policies and procedures, clear business management ownership, assigned data stewards, quality monitoring, and data lineage tools. Silo-ed systems and technology shortcomings also make the task of integrating and reconciling data between the various systems feeding trade data more problematic. In addition, the change in timestamp requirement for orders and events to milliseconds, calls for a reassessment of systems, that can only report in seconds
- **Firm Designated IDs (FDIDs) present complexities:** CAT require Firms to generate a unique identifier for each trading account used to place the order, notably restricting the use of an actual account number or any other identifier that could be used to influence a transaction in the account. Additionally, the FDID is required to be unique across the Firm, adding further complexity where Firms have multiple systems or vendor platforms
- **Trade data linkage challenges:** CAT specifications will require Firms to link all reportable events with the usage of linkage keys that will connect order events within an Industry Member and across Firms and Exchanges. This will essentially mean Firms have to develop capabilities to ensure data elements

for linkage fields between Route and Order accepted events are the same

- **Firms leveraging vendor systems**: Firms using Vendor OMS systems and/or CAT reporting vendor solutions may face situations where vendors may provide CAT records/files different formats. Self-reporting Firms that use multiple OMS/EMS may need a process to convert between formats to normalize the data

Potential solutions for consideration:

- Firms should assess data management and reporting capabilities and implement enhanced data architecture to meet CAT reporting requirements
- Firms should plan and invest in enhancing their legacy systems
- Firms should consider enhanced data governance capabilities
- Key performance indicators (KPIs)/key risk indicators (KRIs) should be defined to track data improvements (quality improvements, issue reductions) and to improve integrity across systems
- Firms should improve data sourcing processes with enhanced data security, data archival, and data recovery capabilities to drive compliance efficiently
- Firms should create uniform data with common references that can be easily linked across the trade lifecycle
- RPA, cognitive technologies, and big data analytics solutions should be considered for automating routine data processes. This would help in efficiently addressing the challenges around data quality and reduce the likelihood of regulatory scrutiny and fines

9.3 Regulatory Compliance Challenges

As discussed in this document, CAT presents regulatory compliance challenges in two dimensions: not only must Firms report to and comply with CAT, but Firms must also continue to comply with a number of regulatory reports such as OATS, EBS, MiFID. While it is expected that some of these reporting obligations may change or reduce due to CAT, there will be overlap for some period of time that Firms must contend with.

Some potential challenges for Firms include:

- Understanding the scope and potential impact of CAT Reporting
- Establishing consistency of reporting across the different regulatory reporting regimes (i.e. ensuring a consistent view of a Firm's activity across reporting regimes)
- Understanding the potential implications of CAT non-compliance, including possible inspections and fines
- Developing the capabilities to timely response to regulatory inquires

- Enhancing internal surveillances—given that regulators will now have a much broader picture of Firm activity, Firms may wish to proactively improve their internal surveillances to ensure their picture of their activity is at least as good as their regulator's

Potential solutions for consideration:

- Enhanced training procedures and communication protocols to educate personnel on the CAT requirements and the individual's responsibility in meeting those requirements
- Implement updated controls, reporting tools, and supervisory procedures for the ongoing monitoring of the accuracy, timeliness, completeness and consistency of data submission to the CAT and other regulatory reports
- Incorporating the impact of CAT to the monitoring and oversight responsibilities of the Chief Compliance Officer, Chief Risk Officer, and internal audit functions
- Developing capabilities to timely source prior submissions

9.4 Operational Challenges

CAT reporting may lead to changes in business processes, such as customer onboarding procedures and customer data maintenance. At a minimum, Firms may have to develop new procedures, define new processes, identify resources, and expand their infrastructure to process and retain data for CAT compliance. As CAT introduces new reporting products and operational processes Firms should begin to identify impact to their current operations.

The level of staff resourcing requirements for Firms in readiness for CAT is likely to be dependent on the portfolio of traded products for each Firm. Considerations may include:

- Volume and Complexity of Trading Activity and Firm services, including:
    - If a Firm's business includes Listed Options or Complex Orders
    - Prime Brokerage or Market Making functions
    - If the Firm is also service provider for other Firms such as clearing and reporting
- Which regulatory reporting requirements are in scope for the Firm and the use of vendors
- Functionality of current reporting technology, including the utilization of automated workflows and emerging technology in report production, controls and error handling process
- Establishment of an integrated and risk-based control framework, including proactive controls ahead of report submission

Some potential challenges include:

- Limited reporting experience with certain activities and events, especially options

- Ability to handle ad hoc regulator inquiries about past data submissions
- Ability to establish supervisory procedures to monitor CAT Reporting
- Ability to implement operational processes for submission and exception management
- Training and awareness of operational personnel on CAT requirements
- Ability to respond to error correction accurately and timely

Firms should begin to identify how their current operations will be impacted by the CAT requirements, including technology platforms and reporting procedures.

Potential solutions for consideration:

- Identify the business units or specific stakeholder subgroups that are responsible for CAT reporting tasks
- Assess the current staffing of these business units and specific stakeholder subgroups in relation to the entire body of work necessary to successfully meet CAT reporting requirements
- Document potential weaknesses in the current staffing infrastructure that may need to be updated to comply with new regulatory requirements and enhance efficiency, capacity and reduce errors. This may include converting human resources to technological capabilities, staffing alternatives, and outsource/vendor solutions
- Compare the alternatives and develop an actionable plan to build capabilities to execute according to regulatory requirements, respond to regulator inquiries post go-live, and build research capabilities for past submissions and to handle ad-hoc requests

Below is an ***illustrative*** example of a matrix that a Firm may develop in order to assess their current staffing in comparison to the projected staffing necessary for CAT, as well as the potential cost estimates. Information and estimates are for illustration purposes only and **do not reflect any particular firm or CAT requirements.**

Figure 9.4.1: Full-Time Equivalent Matrix

	Business (i.e. Wealth Management; Investment Bank)			Technology
	Governance	Business Unit(s)	Operations	In-house & Vendor Solutions
Current (FTE)[1]	5.6	4.2	2.7	7
Current ($)[2]	2.04M	1.53M	0.985M	3.55M[3]
Target (FTE)	6.1	3.9	2.8	9
Target ($)	2.23M	1.42M	0.985M	4.79M[4]
Difference (FTE)	+0.5	-0.3	+0.1	+2
Difference ($)	0.19M	-0.11M	-	1.24M

Target Total	FTE	$
Business	12.8	4.64M
Technology	9	1.24M

1. This matrix assumes rates for FTEs are $1000 per day across both business and technology.
2. Amounts are annualized on a 365 day year (i.e. FTE * 1000 * 365)
3. This amount includes a $1M technology infrastructure amount
4. This amount includes a $1.5M technology infrastructure amount

9.5 Technology Challenges

CAT implementation is likely to have a substantial impact on Firms' technology infrastructure. The requirements will also likely necessitate changes to systems and data processing, transmission, and reporting tools.

For day-to-day operations of CAT reporting, control framework, and exception management, Firms should consider the use of technologies and digital enablers to increase efficiency, capacity, and reduce risk of errors from manual procedures.

Some potential challenges include:

- The time stamp requirement for orders and other relevant reportable events, which is defined to at least milliseconds
- Understanding the dependencies on source systems, external systems or vendors and confirm gaps in reporting procedures or issues of data integrity
- Ability to generate and manage FDID
- Scalability and flexibility of the current system architecture
- Ability to generate reports for option quotes, orders, and execution
- Ability to submit quotation informational in addition to execution data timely and accurately

Potential solutions for consideration:

- Review dependencies on external systems or vendors and confirm gaps in reporting procedures or issues of data integrity
- Consider the scalability and flexibility of the current system architecture
- Enhance or build systems to store CAT data and generate the reports including options quotes, orders, executions and error corrections
- Leverage Robotic Process Automation (RPA) to capture and interpret existing information to automate transaction processing, data manipulation, and communication
- Explore using Machine Learning, to intelligently facilitate linkages and match trades throughout their lifecycle to proactively identify data breaks, errors and unallocated trades
- Assist in the execution of controls, as well as provide the necessary data for workflow management, and visualization for effective governance, through advanced analytics
- Integrate advanced data visualization tools and dashboards into technology infrastructure to enable easy processing, analyzing, and communication of data

9.6 Post Go-Live Considerations

Periodic technology enhancements will need to support established processes, data submission standards and other industry dependencies. The systems and data architecture must meet the processing, retention and access requirements as well as expand to meet future capacity and functional capabilities.

Some potential challenges include:

- Maintaining system and data integrity over time
- Periodic review and update to CAT reporting governance and policies

Potential solutions for consideration:

- Develop governance to respond to future reporting changes

10.0 Path Forward, Focus Areas and Next Steps

CAT reporting requirements are much more comprehensive and detailed than OATS. The CAT reporting system, the day-to-day operations of the CAT reporting, control framework, and exception management should be strategically designed and implemented. Firms should consider a future state of operations that can leverage technologies and digital enablers to increase efficiency, capacity and reduce risk of errors.

The next steps that Firms may focus on, are outlined in table 10.0.1.

Table 10.0.1 Focus Areas and Next Steps

Focus Areas	Next Steps
People	• Identify the stakeholders for CAT implementation • Define internal organization's roles and responsibilities for CAT reporting • Identify additional staffing needs
Process	• Design the control framework for CAT internal systems • Build operational capabilities to meeting CAT requirements • Update policies and procedures for CAT compliance
Technology infrastructure	• Build technology architecture using proprietary in-house systems and/or vendor solutions • Adopt forward looking technology solutions
Data infrastructure	• Assess existing data management and reporting capabilities • Revise data management policies and data governance procedures
Regulatory updates	• Monitor the continually changing regulatory reporting requirements • Consolidate the efforts for multiple reporting regulations and overlapping data reporting requirements

Retirement of OATS

CAT Reporters who are also OATS Reporters should be cognizant of the fact that OATS will eventually be retired. However, prior to sunsetting OATS, the CAT would need sufficient data to ensure that regulators can adequately conduct surveillance and investigations of Firms. Hence, it is anticipated that CAT reporters who are also OATS reporters would have to report both OATS and the CAT for a period of time. OATS will be retired after the error rates reach an acceptable level.

According to a proposed rule change[10] filed by FINRA with the SEC, to eliminate OATS, "*To ensure the CAT's accuracy and reliability, FINRA is proposing that, before OATS could be retired, the CAT would generally need to achieve a sustained error rate for Industry Member reporting in each of the categories below for a period of at least 180 days of 5% or lower, measured on a pre-correction or as-submitted basis and 2% or lower on a post-correction basis (measured at T+5). FINRA is proposing to measure the 5% pre-correction and 2% post-correction thresholds by averaging the error rate across the period, not require a 5% pre-correction and 2% post-correction maximum each day for 180 consecutive days. FINRA believes that measuring each of the thresholds over the course of 180 days will ensure that the CAT consistently meets minimum accuracy and reliability thresholds for Industry Member reporting while also ensuring that single-day measurements do not unduly affect the overall measurements".*

The retirement plan for OATS is not final and details are subject to change once a final plan is approved and published.

Certain considerations for CAT reporters who are also OATS reporters:

- Probable parallel reporting to OATS and CAT until all Firms reporting to OATS are successfully reporting to the CAT
- Consider sunsetting OATS and OATS Vendors, if any, while maintaining books and record
- If OATS reporting is currently handled by a clearing Firm or OMS/EMS vendor, understand how their new service, if they plan to expand, affects the Firm. If the Firm uses an OATS reporting vendor, assess if they will provide a CAT service.
- Apply consistent account identifiers across applications as this is necessary for accurate CAT reporting
- Assess CAT processing alternatives including whether CAT reporting can be consolidated with other services

Considerations for the retirement of OATS include:

- **Covered Securities**: The CAT NMS Plan includes OTC Equity Securities in the securities that must initially be reported to CAT in order to include these securities that are currently reported to OATS
- **Dual Reporting**: CAT Reporters that are also OATS Reporters will have to report to both CAT and OATS until FINRA can integrate CAT data with OATS data in such a manner that allows it to meet its regulatory obligations
- **Three-Year CAT Implementation Schedule**: OATS can be eliminated only after all Firms currently reporting to OATS are successfully reporting information to CAT

[10] Self-Regulatory Organizations; Financial Industry Regulatory Authority, Inc.; Notice of Filing of Proposed Rule Change To Eliminate Requirements That Will Be Duplicative of CAT. https://www.federalregister.gov/documents/2017/06/01/2017-11359/self-regulatory-organizations-financial-industry-regulatory-authority-inc-notice-of-filing-of

For those Firms that have never reported to OATS and are subject to CAT, the immediate task is to understand impending compliance dates and reporting alternatives. CAT provides a number of opportunities to centrally manage the Firm's data, perform more-focused internal surveillance, and may reduce the burden of response to regulatory inquiries which collectively can serve to potentially reduce the Firm's cost associated with regulatory reporting and data management.

Appendix

Below is a version of the BAU/CAT Readiness checklist provided in section 8.10 to assist Firms in understanding their level of CAT readiness and potential steps or actions that are necessary to achieve successful CAT reporting.

1	Scope and Registration	Answer	Date of Response	Description	Reference
1a	Have you determined whether you are a large or small Industry Member?	Yes, No, In-progress, not applicable	mm/dd/yyyy	ex. We have calculated our total capital as $nnn which is in excess of the $500,000 threshold for a Small Industry Member	w.p. n.n.n
1b	Do you understand the obligations for using a vendor as a CAT reporter?				
1c	Have you registered with FINRA CAT LLC?				
1d	Have you established a program for CAT reporting?				
1e	What preparations have you made for implementation of a program for CAT reporting?				
1f	For non-OATS reporters – have you considered the impact of CAT on your people, process and technology?				
2	**Data and Events**	**Answer**	**Date of Response**	**Description**	**Reference**
2a	Have you identified your quote, order, routing, and execution data sources?				
2b	Have you identified your reference data sources?				
2c	Have you mapped your events to the CAT reportable event types?				
2d	Have you mapped your source data fields to the CAT reporting requirements?				
2e	Have you identified your data remediation work, internally or with vendors?				
2f	Have you completed any data remediation work?				
2g	Have you defined the method for generating the FDID?				
2h	Have you established a plan to build linkages between reporting events?				

3	Operations	Answer	Date of Response	Description	Reference
3a	Have you defined a schedule to meet submission deadlines for CAT reportable events?				
3b	Have you defined a schedule to meet the CAT error correction deadline?				
3c	Have you built operating procedures for Submission Management?				
3d	Have you built operating procedures for Exception Management (error handling)?				
3e	Are you going to notify your customers that their data will be reported to the CAT?				
4	**Technology**	**Answer**	**Date of Response**	**Description**	**Reference**
4a	Have you documented your CAT technology architecture?				
4b	Have you documented your CAT reporting model(s)?				
4c	Have you documented your CAT Test plans?				
4d	Have you identified a connectivity solution for data submission?				
4e	Have you identified the connectivity requirements for the CAT Reporter Portal (authentication certificates)?				
4f	Have you determined the data retention requirements?				
5	**Governance**	**Answer**	**Date of Response**	**Description**	**Reference**
5a	Have you identified all internal functions impacted by CAT?				
5b	Have you established a governance structure and identified accountable management for CAT reporting?				
5c	Do you have defined metrics for governance reporting and management reports?				
5d	Have you designed a control framework?				
5e	Have you established pre-submission validation controls?				
5f	Have you updated Compliance Policies and Supervisory Procedures for CAT?				

6	Vendors	Answer	Date of Response	Description	Reference
6a	Have you selected one or more vendors for CAT Reporting?				
6b	Have you notified the Vendor of your intention to have them report on your behalf?				
6c	Have you identified all the Vendor data validations and client control considerations?				
6d	Have you confirmed the Vendor's readiness for Industry testing participation?				
6e	Have you established a vendor oversight program?				
7	**Security and Business Continuity**	**Answer**	**Date of Response**	**Description**	**Reference**
7a	Have you developed a Cyber Security Plan?				
7b	Have you developed Business Continuity and Disaster Recovery plans?				
7c	Have you developed a plan to address data security and encryption if CAT data at rest and in transit?				

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Public Appendix 1583

EXHIBIT 9

CAT Industry Member Reporting Scenarios

2/5/2021

Version 2.12

Public Appendix 1585

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Executive Summary

This document is a companion document to the CAT Reporting Technical Specifications for Industry Members ("Technical Specifications") and is provided to assist Industry Members in implementing the reporting requirements laid out in the Technical Specifications. This document illustrates the specific reporting requirements for a variety of order handling execution scenarios for both equities and options Eligible Securities (as defined in the CAT NMS Plan). The scenarios illustrate the reporting requirements for Phases 2a and 2b. Refer to the Phase 2c and Phase 2d Industry Member Reporting Scenarios Documents for Phase 2c and Phase 2d reporting requirements and additional scenarios relevant to Phases 2c and 2d.

The reporting scenarios are presented in a separate document from the Technical Specifications to provide the greatest flexibility in the ability to modify or add scenarios as new questions are presented and trading practices evolve. It is expected that changes and additions will be necessary for reporting scenarios with greater frequency than changes to the Technical Specifications that would be required when record format, field value changes, etc., occur. By maintaining a separate reporting scenarios document, reporting scenarios may be clarified or added without the need for a new version of the Technical Specifications.

This document contains interpretive guidance for Industry Member CAT Reporters with respect to how the Technical Specifications must be implemented. As such, any changes to this document are subject to the same review and approval process by the Operating Committee, pursuant to the CAT NMS Plan, as the Technical Specifications.

This document represents a phased approach to industry reporting. Please note that a proposed amendment to the CAT NMS Plan will be filed with the Securities and Exchange Commission ("Commission") to reflect the phased approach for the Industry Member CAT reporting described in the Technical Specifications. The proposed amendment will be subject to the approval of the Commission.

Version	Date	Author	Description
1.0	10/30/2018	Thesys CAT	Initial Publication
1.01	2/22/19	CAT NMS, LLC	Re-publish v1.0 (as v1.01) to reflect transition from Thesys CAT
1.1 DRAFT 1	2/28/19	CAT NMS, LLC	Made conforming changes with v1.1 of the IM Technical Specifications Order Events Document Removed options representative order scenarios (previously scenarios 3.2.1 and 3.5.3) Updated Scenario 2.4.5 with new FAQ number Updated Scenario 2.6.6 to reflect an exchange route in Step 3
1.1 DRAFT 2	3/29/2019	CAT NMS, LLC	Moved existing ATS Scenarios to Section 2.6 Moved existing OTC Scenarios to Section 2.7

Version	Date	Author	Description
			Added Scenarios 2.6.1, 2.6.4, 2.6.5, 2.7.2, 2.7.3, and 3.2.2 Removed scenario 2.2.5 Changed Scenario 2.7.1 (previously 2.2.4) Updated Scenario 2.2.1 description to remove reference to Step 10 Updated Scenario 2.3.1 description to reflect Riskless Principal capacity Updated Scenario 2.4.4 to remove handlingInstructions SMT in Steps 3 and 4 Updated Scenario 2.8.2 (previously 2.6.2) to reflect a route form Broker 1 in Step 3 Updated Scenario 2.6.2 (previously Scenario 2.2.3) to reflect the correct leaves quantity in Step 9 Updated Scenario 2.6.3 (Previously 2.4.5) to remove Display ATS from the title Updated Scenario 2.6.6 (previously Scenario 2.4.6) to reflect the correct quantity in Step 6
2.0	4/29/2019	CAT NMS, LLC	Made conforming changes with V1.1 of the IM Technical Specifications Order Events Document Added New Section 4 Added Scenarios 2.1.6, 2.4.6 and 2.8.3 Changed scenario 2.8.2 (Previously 2.6.2) Removed Scenario 3.2.1 Updated Scenario 2.6.1 to reflect multiple modifications Created Section 2.4 for Representative Order scenarios Created Section 2.5 for Internal Route scenarios Created Section 2.10 for Electronic Duplicate scenarios Created Section 2.11 for Child Order scenarios Created Section 2.12 for Clearing Firm scenarios Created Section 3.5 for Option Internal Route and Child Order scenarios Created Section 3.6 for Complex Option Order scenarios Re-aligned existing scenarios within new and existing sections Updated Capacity in scenario 2.13.2 (previously 2.8.10) Corrected JSON and CSV examples in Section 2.12 (previously section 2.9) Corrected errors within the document
2.1	6/24/2019	CAT NMS, LLC	Made conforming changes with V2.2 of the IM Technical Specifications Corrected errors within the document Added and Updated Hyperlinks Added new Section 4 for Error Account Scenarios Added new Section 5 for FDID Scenarios Added new Section 2.9 for Foreign Scenarios Added Scenarios 2.2.3, 2.3.3, 2.3.8 Removed Section 2.3 for Order Fulfillment Scenarios

Version	Date	Author	Description
			Moved scenario 2.3.1 to 2.9.1 Changed Scenario 2.3.2 and moved to 2.13.5 Changed Scenario 2.3.6 (Previously 2.4.5) Updated requirements for Scenarios 2.10.2 and 2.10.3 Clarified requirements for Scenario 2.1.5
2.2	7/31/19	CAT NMS, LLC	Corrected errors within the document Added Scenarios 2.5.8, 2.5.9, 2.6.3, 2.6.5, 2.6.6, 2.6.7, 4.1.4, 4.1.5, 4.1.7, and 5.1.2 Updated Scenarios 2.5.1 and 2.6.2 Re-Named Scenario 2.6.4 (Previously 2.6.3) Clarified guidance in Scenario 2.2.2 Clarified guidance in Scenario 5.1.1
2.3	8/30/19	Consolidated Audit Trail, LLC	Made conforming changes with V2.2.1 of the IM Technical Specifications Added Section 2.12 for Proprietary Order Scenarios Added Scenarios 2.3.9, 2.3.10, 2.4.6 and 2.4.7 Corrected errors within the document Corrected guidance in Scenario 2.3.6 Updated Requirements for Scenario 2.8.3 Updated Requirements for Scenario 2.6.7 Clarified requirements for Scenario 2.3.5 Clarified requirements for Scenario 2.9.3
2.4	10/11/19	Consolidated Audit Trail, LLC	Corrected errors within the document Added Section 2.14 for NYSE Floor Broker Scenarios Clarified requirements for Scenarios 2.3.1, 2.4.6, 2.4.7, 2.9.1, 2.9.2, 2.9.3 and 2.12.1.
2.5	2/12/2019	Consolidated Audit Trail, LLC	Corrected errors within the document Added clarification to Introduction. Added additional clarification to section 2.11 regarding Child Orders. Added Scenarios 2.2.4, 2.6.8, 2.8.4, 2.8.5, 2.12.3. Added new Section 7 for Floor Broker scenarios, moved section 2.14 to Section 7.1, and added section 7.2 for CBOE Floor Broker Scenarios. Changed Section 2.14 to Fractional Share Scenarios. Moved Scenario 2.15.2 to 2.14.5. Clarified requirements in Scenario 2.15.3 (Previously 2.15.4).
2.6	6/30/20	Consolidated Audit Trail, LLC	Added Section 2.15 for Stop Order Scenarios Updated Phase 2c and 2d requirements in Section 2.8.
2.7	8/11/20	Consolidated Audit Trail, LLC	Updated IMID fields to reflect prefix requirement. Added Sections 2.16 and 3.7 for RFQ and Solicitation Response Scenarios Added Scenarios 2.11.3 – 2.11.5 (Conforming changes with v3.0 and 3.1) Added Scenario 5.1.3, corrected graphic in Scenario 5.1.2 (Conforming changes with v3.2)

Version	Date	Author	Description
			Updated Scenario 2.8.3 (Conforming changes with v3.1) Clarified reporting requirements in scenario 2.9.1 (Conforming changes with v3.2)
2.8	9/1/20	Consolidated Audit Trail, LLC	Updated requirements for Scenario 2.6.7 Divided Section 6 into Sections 6.1 and 6.2 Added Scenarios 6.2.3 – 6.2.5 for "Named" Errors
2.9	11/6/20	Consolidated Audit Trail, LLC	Added Scenario 2.16.5 and Scenario 3.7.3 for RFQ and solicitation responses Added Scenarios 2.9.4 and 2.9.5 for orders in OTC equity symbol of foreign securities Updated requirements for Scenario 2.12.2 Clarified requirements for RFQ scenarios Updated steps in Scenario 2.16.2 Clarified description in Scenario 2.15.4 Clarified additional guidance in Scenario 2.3.2 Added reference to Scenario 2.1.6 in Scenario 2.3.4. Corrected description in Scenario 2.10.1 Clarified guidance in Scenario 2.17.3 Clarified guidance in Scenario 2.7.4 Updated requirements for Scenario 2.15.3 Corrected errors in Scenario 2.9.1
2.10	12/4/20	Consolidated Audit Trail, LLC	Added Scenarios 2.15.5 and 2.15.6 Changed Scenario 2.15.3 Clarified guidance in Scenario 2.3.5
2.11	1/8/21	Consolidated Audit Trail, LLC	Added new scenario 2.16.6 (2a only) Retired Scenarios 2.16.1 – 2.16.5 (2a only) Retired Scenarios 3.7.1-3.7.2 (2b only) Updated Scenario 2.4.6 to be in line with Scenario 2.4.7
2.12	2/5/21	Consolidated Audit Trail, LLC	Changed requirements for Scenario 3.7.3 Corrected Scenario 2.2.3 (conforming changes with v 3.9)

1. Introduction

This document is organized by product, and then within each product, by general handling scenario, such as order receipt and routing, order execution, etc.

For each scenario, a description of the scenario along with a diagram is provided and then is followed by specific Event Reports illustrating the correct values to be populated for each field. All examples are illustrative and do not identify all applicable fields.

2. Equity Scenarios and Examples

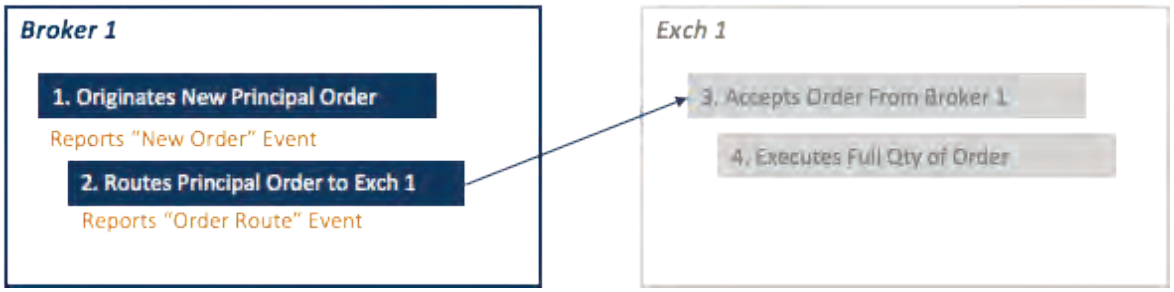
This section illustrates sample equity reporting scenarios. Each scenario will include a brief description including the reportable CAT events, a flow chart, and step-by-step reporting responsibilities. Refer to Section 4 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.1. Order Route Scenarios

This section illustrates the CAT reporting requirements when an order is received or originated, and is subsequently routed away from the firm for execution. Refer to Section 4.3 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.1.1. New Principal Order Routed to an Exchange and Executed

This scenario illustrates the CAT reporting requirements when an Industry Member originates a new principal order, routes the order to an exchange, and the order is executed on the exchange.



Industry Member Broker 1 is required to report:

- The origination of a principal order (New Order event)
- The route to an exchange (Order Route event)

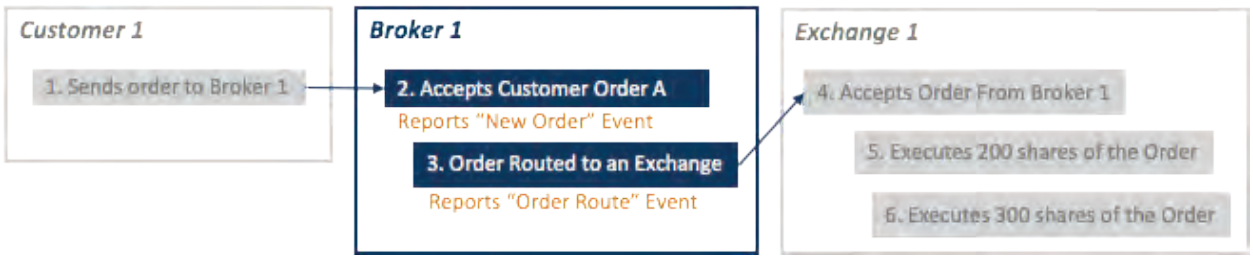
The execution will be reported by the exchange.

#	Step	Reported Event	Comments
1	Broker 1 originates a New Order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT	

#	Step	Reported Event	Comments
		timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PRO001 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes the order to Exch 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	Since Broker 1 is routing to a national securities exchange, *session* must be populated. The *senderIMID* field must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.
3	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
4	Exch 1 executes the full quantity of the order	*Exch 1 reports a Participant **Trade event***	

2.1.2. Customer Order Routed to an Exchange as Agent

This scenario illustrates the CAT reporting requirements when an Industry Member routes a customer order to an exchange on an agency basis.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to the exchange (Order Route event)

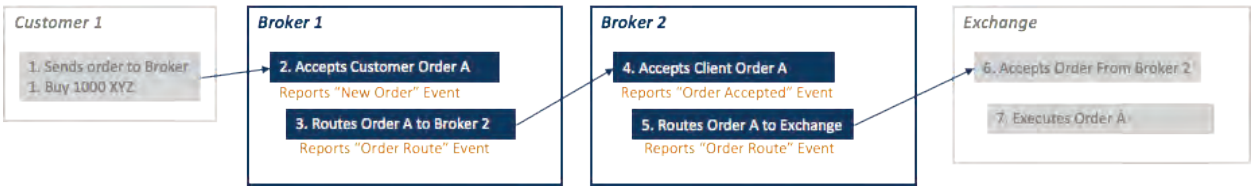
In this scenario, since the execution is passed back directly to the customer, no Order Fulfillment event is required to be reported.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to exchange EXCH1	Broker 1 (IMID = FRMA) reports an ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000	Since Broker 1 is routing to a national securities exchange, *session* must be populated. In phase 2c, since the values in the *handlingInstructions* field have not changed from the New Order to the

#	Step	Reported Event	Comments
		orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	Order Route, Broker 1 may use a value of "RAR" in the *handlingInstructions* field to indicate the order was "routed as received". Alternatively, firms have the option to re-state all *handlingInstructions* values. The *senderIMID* field must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.
4	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	
5	The Exchange executes a partial quantity (200) of the order	*EXCH1 reports a Participant* ***Trade event***	
6	The Exchange executes a partial quantity (300) of the order	*EXCH1 reports a Participant* ***Trade event***	

2.1.3. Order Routed between Two Industry Members and Subsequently Executed on an Exchange

This scenario illustrates the CAT reporting requirements when an order is routed from one Industry Member to another prior to execution on an Exchange.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The route of Broker 1's order to the exchange (Order Route event)

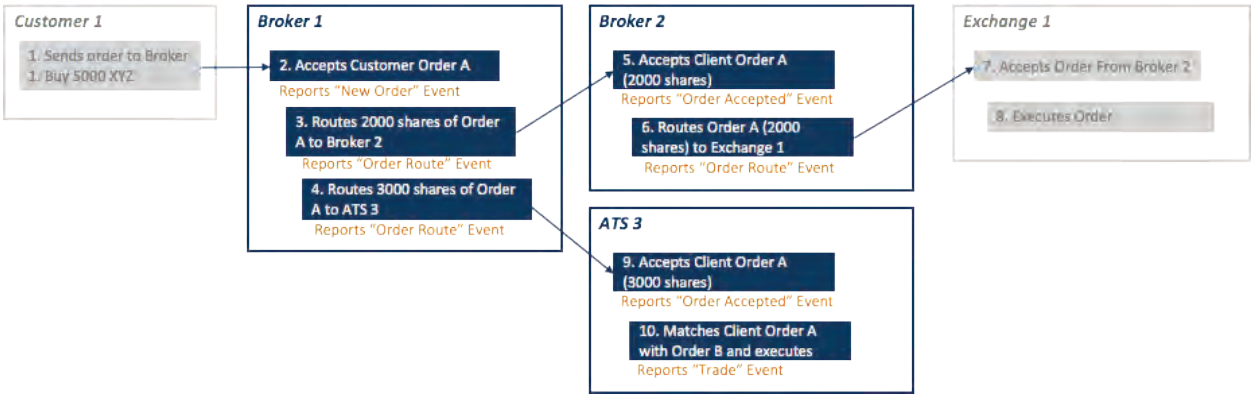
#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153030.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153031.234556 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: AO222 side: B price: 10.00 quantity: 1000	Both the *senderIMID* and *destination* fields must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153031.323556 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: AO222 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	Both the *senderIMID* and *receiverIMID* fields must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.
5	Broker 2 routes the order to exchange EXCH1	Broker 2 reports an ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153031.324556 manualFlag: false senderIMID: 456:FRMB destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: Es6:AA side: B price: 10.00	Since Broker 2 is routing the order to a national securities exchange, *session* must be populated. The *senderIMID* field must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.

#	Step	Reported Event	Comments
		quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
6	The Exchange accepts the order from Broker 2	*EXCH1 reports a Participant* ***Order Accepted event***	
7	The Exchange executes the order	*EXCH1 reports a Participant* ***Trade event***	

2.1.4. Order Routed to Multiple Destinations and Filled

This scenario illustrates the CAT reporting requirements when a customer order is routed to multiple destinations. In this scenario, the order is partially routed to another Industry Member followed by an exchange, and is partially routed to an ATS.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route to Broker 2 (Order Route event)
- The route to ATS 3 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The route to Exchange 1 (Order Route event)

Industry Member ATS 3 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The matching and execution of Broker 1's order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS002 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: ABO4561 side: B price: 10.00 quantity: 2000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	Both the *senderIMID* and *destination* fields must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.

#	Step	Reported Event	Comments
4	Broker 1 routes the order to ATS 3	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000.0000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: 987:ATSC destinationType: F routedOrderID: ACO4562 side: B price: 10.00 quantity: 3000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	Both the *senderIMID* and *destination* fields must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.
5	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O21234 symbol: XYZ eventTimestamp: 20180417T153035.334556 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: ABO4561 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 2000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA	Both the *senderIMID* and *receiverIMID* fields must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.

#	Step	Reported Event	Comments
		custDspIntrFlag: false	
6	Broker 2 routes the order to Exchange 1	*Broker 2 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O21234 symbol: XYZ eventTimestamp: 20180417T153035.334656 manualFlag: false senderIMID: 456:FRMB destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 2000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	Since Broker 2 is routing the order to a national securities exchange, *session* must be populated. The *senderIMID* field must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.
7	Exchange 1 accepts the order from Broker 2	*EXCH1 reports a Participant **Order Accepted event***	
8	Exchange 1 executes the order	*EXCH1 reports a Participant **Trade event***	
9	ATS 3 accepts the order from Broker 1	*ATS 3 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O31235 symbol: XYZ eventTimestamp: 20180417T153035.334557 manualFlag: false receiverIMID: 987:ATSC senderIMID: 123:FRMA senderType: F routedOrderID: ACO4562 affiliateFlag: false deptType: A side: B	Both the *senderIMID* and *receiverIMID* fields must be populated using the format <CRD>:<IMID> as described in the IM Technical Specifications in order to manage IMID conflicts.

#	Step	Reported Event	Comments
		price: 10.00 quantity: 3000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 10987 atsDisplayInd: N displayPrice: 0 workingPrice: 10.02 displayQty: 0 atsOrderType: Fb nbbPrice: 9.99 nboPrice:10.02 nbboSource: S nbboTimestamp: 20180417T153035.334527	
10	ATS 3 matches Broker 1's order with a sell order (ID: 21945)	*ATS 3 reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: T4562111 symbol: XYZ eventTimestamp: 20180417T153035.334657 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 3000 price: 10.00 capacity: A tapeTradeID: TP12345 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O31235 side: B sellDetails: orderKeyDate: 20180417T000000 orderID: 21945 side: SL seqNum: 12007 nbbPrice: 10.00	

#	Step	Reported Event	Comments
		nboPrice: 10.02 nbboSource: S nbboTimestamp: 20180417T153035.334457	

2.1.5. Order Routed from an Exchange through a Routing Broker

This scenario illustrates the CAT reporting requirements when an exchange routes an order through its affiliated Industry Member routing broker to another exchange.

Industry Member Broker 1 is required to report:

- The receipt of the order from Exchange 1 (Order Accepted event)
- The route of the order to Exchange 2 (Order Route event)

Exchange 1 is required to report the following as outlined in the CAT Reporting Technical Specifications for Plan Participants:

- The route of the order to its routing broker (Participant Route event)
- The fill of the routed order (Participant Fill event)

Exchange 2 is required to report the following as outlined in the CAT Reporting Technical Specifications for Plan Participants:

- The receipt of the order from Broker 1 (Participant Order Accepted event)
- Matching and execution of Broker 1's order (Participant Trade event)

In the event that Broker 1 routes the order to another broker-dealer as opposed to an exchange, Broker 1 would report an Order Accepted event and Order Route event as outlined above, with the Order Route event reflecting a route to another broker-dealer. The broker-dealer receiving the order from Broker 1 would report an Order Accepted event, along with any subsequent actions on the order.

#	Step	Reported Event	Comments
1	Exchange 1 routes an order to its routing broker, Broker 1.	*Exchange 1 reports a Participant* ***Route event***	

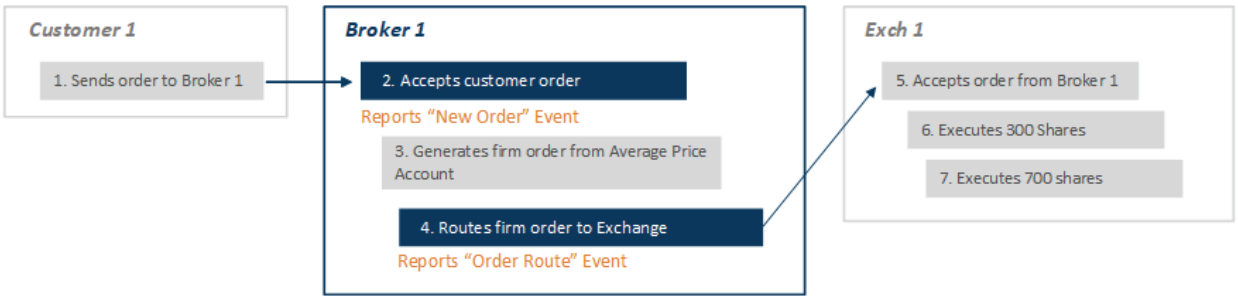
#	Step	Reported Event	Comments
2	Broker 1 accepts the order from Exchange 1	*Broker 1 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.234456 manualFlag: false receiverIMID: 123:FIRM1 senderIMID: Exch1 senderType: E routedOrderID: S2O12345 affiliateFlag: true deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA custDspIntrFlag: false	
3	Broker 1 routes the order to Exchange 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.234456 manualFlag: false senderIMID: 123:FIRM1 destination: Exch2 destinationType: E routedOrderID: S9O12345 session: 1109 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false	Since Broker 1 is routing the order to a national securities exchange, *session* must be populated.

#	Step	Reported Event	Comments
		isoInd: NA	
4	Exchange 2 receives the order from Broker 1	*Exchange 2 reports a Participant* ***Order Accepted event***	
5	Exchange 2 crosses Broker 1's order	*Exchange 2 reports a Participant* ***Trade event***	
6	Exchange 1 receives the fill	*Exchange 1 reports a Participant* ***Fill Event***	

2.1.6. Customer Order Facilitated via a Firm Agency Account Where a Route can be Directly Associated with the Customer Order

This scenario illustrates the CAT reporting requirements when an Industry Member facilitates a single customer order via a firm agency account, commonly referred to as an "agency flip" scenario.

In this example, the Industry Member receives a customer order and then generates a firm order in its agency account, which is sent to the market. In this instance, the Industry Member's order handling and/or reporting system allows the route sent to the street to be directly associated with the customer order. Since the firm's system maintains the direct association between the customer order and the actions taken to facilitate that order, the firm is not required to report a separate representative order.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order from its agency account (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	

#	Step	Reported Event	Comments
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a firm order	*N/A*	Since the Industry Member's system maintains a direct association between the customer order and the route sent to the street on behalf of the customer, a representative order is not required.
4	Broker 1 routes the order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180417T153036.234556 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 1000 orderType: LMT	

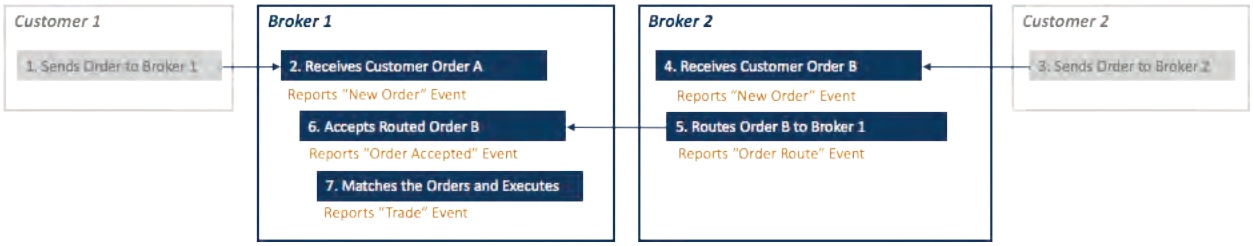
#	Step	Reported Event	Comments
		timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
5	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	
6	The Exchange partially executes the order (300 shares)	*EXCH1 reports a Participant* ***Trade event***	
7	The Exchange executes the remainder of the order (700 shares)	*EXCH1 reports a Participant* ***Trade event***	

2.2. Trade Scenarios

This section illustrates the CAT reporting requirements when the execution of a customer/client order is required to be reported for public dissemination purposes, and the use a Trade event is required. Refer to Section 4.12 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.2.1. Agency Order Cross

This scenario illustrates the CAT reporting requirements when an Industry Member matches a Customer Buy order with a Sell order received from another Industry Member.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The receipt of the order from Broker 2 (Order Accepted event)
- The matching and execution of both orders (Trade event)

Industry Member Broker 2 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 1 (Order Route event)

Broker 1's customer order was fully executed, while Broker 2's customer order was partially executed.

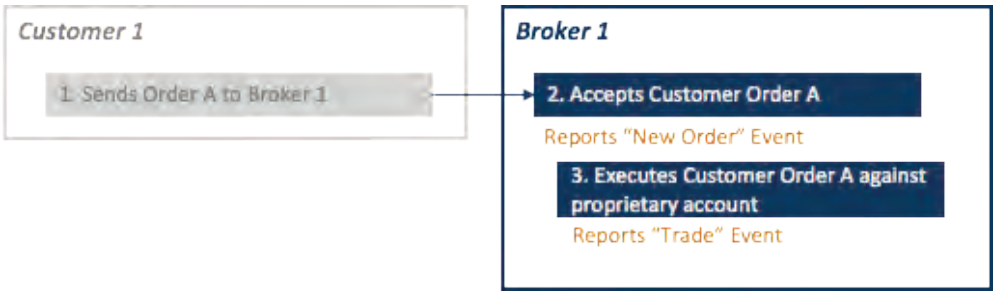
#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1.	*NA*	
2	Broker 1 receives the Buy order from the customer	*Broker 1 (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer sends a Sell order to Broker 2	*NA*	
4	Broker 2 receives the Sell order from the customer	*Broker 2 (IMID=ABCD) reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O555 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: SL price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC555 accountHolderType: A	

#	Step	Reported Event	Comments
		affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
5	Broker 2 routes the Sell order to Broker 1	*Broker 2 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O555 symbol: XYZ eventTimestamp: 20170801T143031.134456 manualFlag: false senderIMID: 123:ABCD destination: 456:FRMA destinationType: F routedOrderID: ABCDXYZ555 side: SL price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
6	Broker 1 receives the order from Broker 2	*Broker 1 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O12347 symbol: XYZ eventTimestamp: 20170801T143031.234456 manualFlag: false receiverIMID: 456:FRMA senderIMID: 123:ABCD senderType: F routedOrderID: ABCDXYZ555 affiliateFlag: false deptType: A side: SL price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801	

#	Step	Reported Event	Comments
		tradingSession: REG isoInd: NA custDspIntrFlag: false	
7	Broker 1 matches and crossed the Buy and Sell orders	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ124 symbol: XYZ eventTimestamp: 20170801T143031.253456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 300 price: 10.01 capacity: A tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: O12347 side: SL	

2.2.2. Internalized Trade against Proprietary Account

This scenario illustrates the CAT reporting requirements when an Industry Member executes a customer order against its own proprietary account, and does not generate a new order to facilitate the execution of the customer order.



Industry Member Broker 1 is required to report:

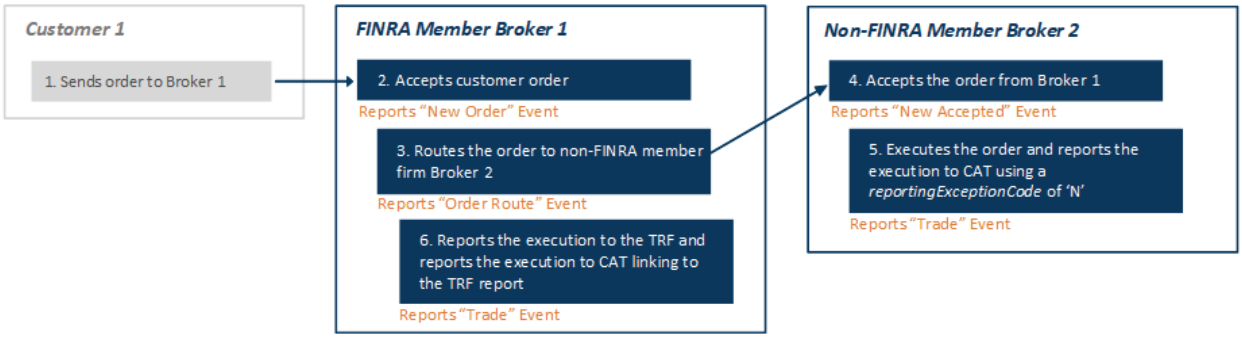
- The receipt of the customer order (New Order event)
- The execution of the customer order against its proprietary account (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 executes the order against its own proprietary account	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180416T153035.253456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 500 price: 10.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate:	The *buyDetails* reflect the details of customer order O12345. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		20180416T000000 orderID: O12345 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	

2.2.3. Order is Routed to and Executed by a Non-FINRA Member Firm, but the Routing FINRA Member Firm Must Report the Trade to the TRF

This scenario illustrates the CAT reporting requirements when a FINRA member firm receives an order and routes the order to a non-FINRA member firm, who executes the order. In this scenario, both parties will be required to report the order to CAT. Although the non-FINRA member firm executed the trade, the FINRA member has an obligation to report the trade to the TRF. In the TRF report, the FINRA member firm will be identified as the executing firm on the trade report with a blank contra, and the non-FINRA member will be unable to link to the trade report.



FINRA Member Broker 1 is required to report:

- The receipt of the order (New Order event)
- The route of the order to non-FINRA Member Broker 2 (Order Route event)
- The execution of the order (one-sided Trade event linking to the TRF report with a *sideDetailsInd* of 'BUY')

Non-FINRA Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event with a *reportingExceptionCode* of 'N')

FINRA member Broker 1 is required to report the execution to CAT using a Trade event with linkage to the TRF report. Broker 1 is only required to report its own side of the execution in the Trade event side

details. The *sideDetailsInd* field must be populated with a value of 'BUY', indicating that the Trade event is one sided, and that only the *buyDetails* will be populated.

Non-FINRA member Broker 2 is required to report the execution to CAT using a Trade event with a *reportingExceptionCode* of 'N' indicating that linkage to the related trade report is not available, as the Trade was executed by a non-FINRA member and reported to the TRF by the FINRA member counterparty.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to FINRA Member Broker 1.	*NA*	
2	Broker 1 receives the Buy order from the customer	*Broker 1 (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the Buy order to non-FINRA Member affiliate Broker 2	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.134456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB	

#	Step	Reported Event	Comments
		destinationType: F routedOrderID: ABCDXYZ555 side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Broker 2 receives the order from Broker 1	*Broker 2 (IMID=FRMB) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O12347 symbol: XYZ eventTimestamp: 20170801T143031.234456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: ABCDXYZ555 affiliateFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 2 executes the order and reports a one-sided Trade event	*Broker 2 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ124 symbol: XYZ eventTimestamp: 20170801T143031.253456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 300	Since Broker 2 is not a FINRA member, Broker 1 has an obligation to report the trade to the TRF. Therefore, Broker 2 is unable to link its Trade event to the related TRF report. The *tapeTradeID* and *marketCenterID* fields must be blank, and the *reportingExceptionCode* field must be populated with a value of 'N'.

#	Step	Reported Event	Comments
		price: 10.01 capacity: P tapeTradeID: marketCenterID: sideDetailsInd: SELL buyDetails: firmDesignatedID: PROP123 accountHolderType: P side: B sellDetails: orderKeyDate: 20170801T000000 orderID: O12347 side: SL reportingExceptionCode: N	In this scenario, Broker 2 is required to report a two sided trade event showing that the order received from Broker 1 was executed in its proprietary account.
6	Broker 1 reports the trade to the TRF and reports a one-sided Trade event	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ125 symbol: XYZ eventTimestamp: 20170801T143031.253456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 300 price: 10.01 capacity: A tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: BUY buyDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B	Since Broker 1 reported the trade to the TRF, Broker 1 must populate all relevant fields required to link to the related trade report. In this scenario, Broker 1 is only required to report its own side in the Trade event side details. The *sideDetailsInd* field must be populated with a value of 'BUY' indicating that only the *buyDetails* are populated.

2.2.4. Industry Member Acting in a Mixed Capacity

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order and handles the order in a mixed capacity. In this scenario, the Industry Member receives a customer order for 1,000 shares, routes 500 shares as agent to an exchange for execution, and executes the remainder from a proprietary account.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (MENO)
- The partial route of the customer order to an exchange (MEOR)
- The execution of the remainder of the order from a proprietary account (MEOT)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes a portion of the order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180416T153037.234456 manualFlag: false senderIMID: 123:BRK1 destination: EXCH1 destinationType: E routedOrderID: ABCDXYZ555 session: SESS1 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	
4	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	
5	The Exchange executes the order	*EXCH1 reports a Participant* ***Trade event***	
4	Broker 1 executes the remainder of the customer order against its own proprietary account	*Broker 1 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180416T153037.534456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 500 price: 10.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180416T000000 orderID: O12345 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	The *buyDetails* reflect the details of customer order O12345. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

2.3. Representative Order Scenarios

This section illustrates the CAT reporting requirements when an Industry Member generates a representative order in a firm account to facilitate a single customer order. Refer to Sections 2.5 and 2.8.4 for additional representative order scenarios. Refer to Appendix C of the CAT Reporting Technical Specifications for Industry Members and Section F of the CAT FAQs regarding Representative Orders for additional information.

2.3.1. Fill of a Single Customer Order on a Riskless Principal Basis

This scenario illustrates the CAT reporting requirements when an Industry Member fills a customer order on a Riskless Principal basis. In this example, Industry Member Broker 1 generates a representative order to facilitate the execution of a customer order, and routes the order to an exchange for execution.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of a representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- The fill of the customer order on a Riskless Principal basis (Order Fulfillment Event)

In phase 2a, explicit linkage between the customer order and the representative order is required, since the representative order was originated specifically to represent a single customer order and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system.

#	Step	Reported Event	Comments
1	The customer sends an order to Broker 1	N/A	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event***	

#	Step	Reported Event	Comments
		type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C12345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C0005 accountHolderType: P affiliateFlag: false aggregatedOrders: O12345@20170801T000000@@ negotiatedTradeFlag: false representativeInd: Y	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.

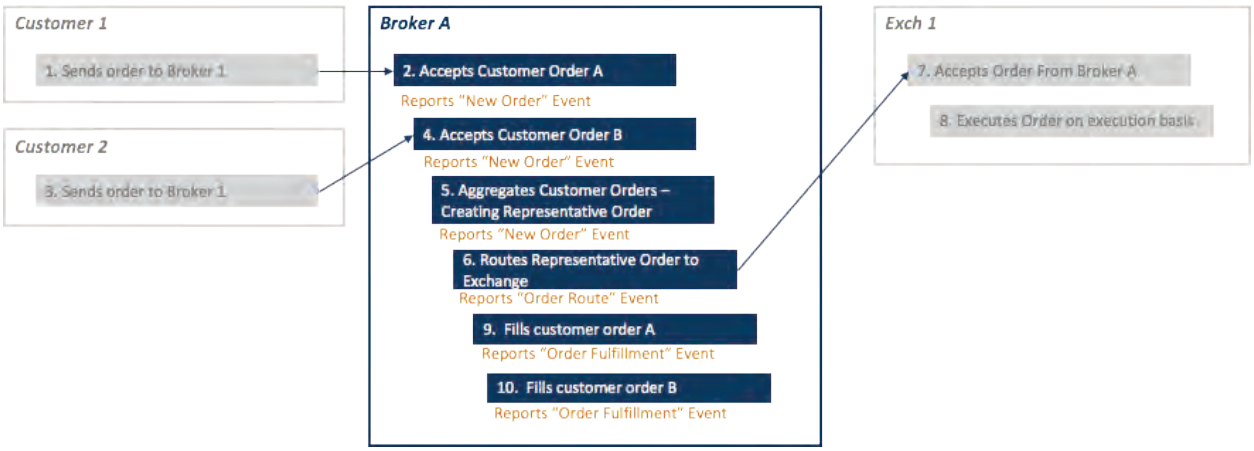
#	Step	Reported Event	Comments
4	Broker 1 routes the representative order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12350 session: 1109 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
5	Exchange 1 accepts the order	*Exchange 1 reports a Participant **Order Accepted event***	
6	Exchange 1 matches and crosses the order	*Exchange 1 reports a Participant **Trade event***	
7	Broker 1 fills the customer order on a Riskless Principal basis	*Broker 1 reports an **Order Fulfillment event*** Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: Y quantity: 500 price: 10.00 capacity: R clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails:	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required. Although the firm's representative order was a buy order, the *side* field in the *firmDetails* must be populated with a value of 'SL' to indicate that the firm sold shares to the customer.

#	Step	Reported Event	Comments
		orderKeyDate: 20170801T000000 orderID: O12350 side: SL	

2.3.2. Fill of Multiple Customer Orders on a Riskless Principal Basis

This scenario illustrates the CAT reporting requirements when an Industry Member generates a proprietary order to facilitate the execution of more than one customer order on a Riskless Principal basis.

In this scenario, Industry Member Broker A receives two customer orders to buy XYZ at 10.01, and generates a single representative order that will be used to facilitate the execution of these two customer orders. The representative order is routed to an exchange where it is executed. Upon execution of the representative order, the Industry Member fills each of the customer orders on a Riskless Principal basis.



Industry Member Broker A is required to report:

- The receipt of each customer order (New Order events)
- The generation of a representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- The fill of each customer order on a Riskless Principal basis (Order Fulfillment events)

The execution of the representative order is reported by the exchange.

Since the representative order was generated to represent more than one customer order, explicit linkage between the representative order and the customer orders is not required until Phase 2c.

The guidance outlined in this scenario would also apply when an Industry Member combines multiple customer orders into an aggregated or combined order that is not a "representative proprietary" order.

#	Step	Reported Event	Comments
1	Customers 1 sends a Buy order to Broker A	*NA*	
2	Broker A receives the Buy order from Customer 1	*Broker A reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer 2 sends a Buy order to Broker A	*NA*	
4	Broker A receives the Buy order from Customer 2	*Broker A reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.723456 manualFlag: false deptType: A side: B price: 10.01 quantity: 700 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C456 accountHolderType: A	

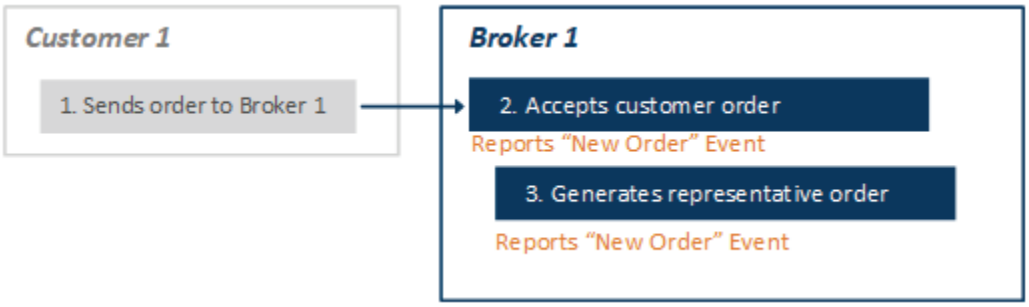
#	Step	Reported Event	Comments
		affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
5	Broker A generates a representative order	*Broker A reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 1200 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP123 accountHolderType: P affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YF	The *representativeInd* field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. The *aggregatedOrders* field is not required to be populated until Phase 2c.
6	Broker A routes the representative order to an exchange for execution	*Broker A reports an **Order Route event*** type: MEOR orderKeyDate: orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.623456 manualFlag: false senderIMID: 123:BRKA destination: EXCH1 destinationType: E routedOrderID: S12O555 session: 1112 side: B price: 10.01 quantity: 1200	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
7	The exchange receives the order from Broker A	*Exchange 1 reports a **Participant Order Accepted event***	
8	Execution of the order occurs on the exchange	*Exchange 1 reports a **Participant Trade event***	
9, 10	Broker A fills each individual customer order on a Riskless Principal basis	*Broker A reports an **Order Fulfillment event (1 of 2)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55501 symbol: XYZ eventTimestamp: 20170801T143040.123456 manualFlag: false quantity: 500 price: 10.01 capacity: R fulfillmentLinkType: YF clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B *Broker A reports an **Order Fulfillment event (2 of 2)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55502 symbol: XYZ eventTimestamp: 20170801T143040.323456 manualFlag: false quantity: 700 price: 10.01 capacity: R fulfillmentLinkType: YF clientDetails: orderKeyDate: 20170801T000000	The *fulfillmentLinkType* field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. *firmDetails* are not required until Phase 2c.

#	Step	Reported Event	Comments
		orderID: O12350 side: B	

2.3.3. Single Customer Order Handled on a Riskless Principal Basis Where No Execution Occurs

This scenario illustrates the CAT reporting requirements when an Industry Member handles a customer order on a Riskless Principal basis, but the order is ultimately not filled. In this example, Industry Member Broker 1 generates a representative order to facilitate the execution of a customer order, but no further action occurs on the order due to market conditions.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of a representative order (New Order event)

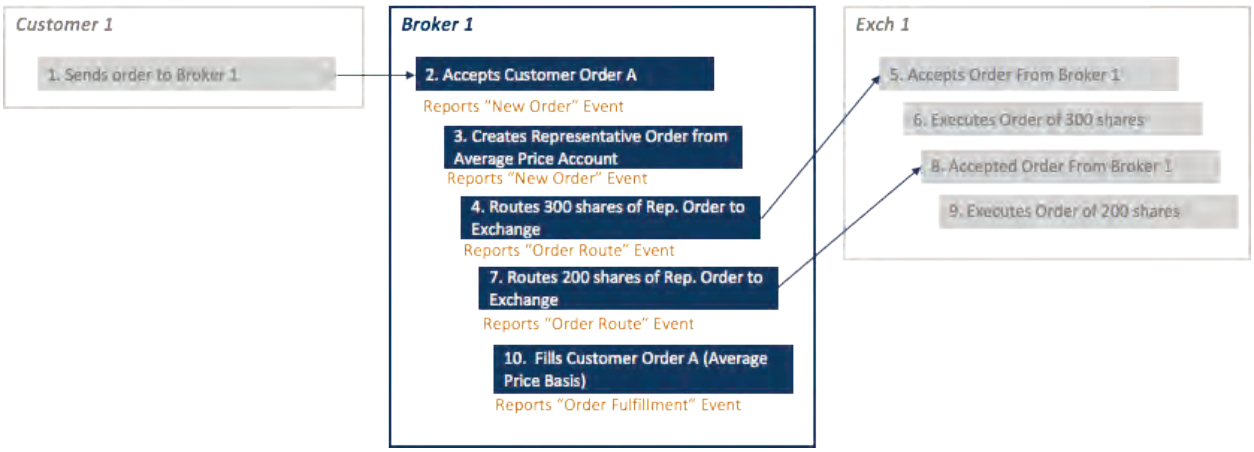
In phase 2a, explicit linkage between the customer order and the representative order is required, since the representative order was originated specifically to represent a single customer order and there is an existing direct electronic link in the firm's system between the order being represented and the representative order. While there are no executions on this order in this scenario, any potential executions would have been immediately and automatically applied.

#	Step	Reported Event	Comments
1	The customer sends an order to Broker 1	N/A	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C12345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C0005 accountHolderType: P affiliateFlag: false aggregatedOrders: O12345@20170801T000000@@ negotiatedTradeFlag: false representativeInd: Y	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.

2.3.4. Fill of a Single Customer Order on an Average Price Basis

This scenario illustrates the CAT reporting requirements when an Industry Member works a customer order through an average price account and generates one or more representative orders that are routed to an exchange. The Industry Member then fills the customer order on an average price basis.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of a representative order in an average price account (New Order event)
- Each route of the representative order (Order Route events)
- The fill of the customer order at an average price (Order Fulfillment event)

Since the customer order was filled at an average price, explicit linkage between the representative order and the customer order is not required until Phase 2c.

Refer to Scenario 2.1.6 for guidance on reporting requirements when an Industry Member facilitates a single customer order via a firm agency account, commonly referred to as an "agency flip" scenario.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B	

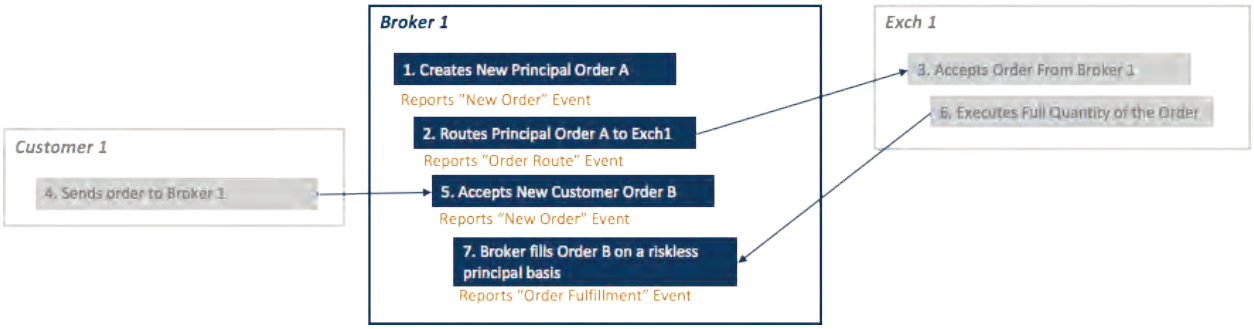
#	Step	Reported Event	Comments
		price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order from its average price account	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: R04826 symbol: XYZ eventTimestamp: 20180417T153035.534456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: AVG0123 accountHolderType: V affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YF	The *representativeInd* field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. The *aggregatedOrders* field is not required to be populated until Phase 2c.
4	Broker 1 routes 300 shares of the representative order to exchange EXCH1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: R04826 symbol: XYZ eventTimestamp: 20180417T153036.234556 manualFlag: false senderIMID: 123:FRMA destination: EXCH1	

#	Step	Reported Event	Comments
		destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 300 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
5	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant **Order Accepted event***	
6	The Exchange executes the order	*EXCH1 reports a Participant **Trade event***	
7	Broker 1 routes 200 shares of the representative order to exchange EXCH1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: R04826 symbol: XYZ eventTimestamp: 20180417T153036.234566 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZ0888 session: s5 side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
8	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant **Order Accepted event***	
9	The Exchange executes a partial quantity (200) of the order	*EXCH1 reports a Participant **Trade event***	
10	Broker 1 fills the customer order from its	Broker 1 reports an ***Order Fulfillment event***	The *fulfillmentLinkType* field must be populated with a value of 'YF' to

#	Step	Reported Event	Comments
	average price account	type: MEOF fillKeyDate: 20180417T000000 fulfillmentID: AABB1231 symbol: XYZ eventTimestamp: 20180417T153037.326456 manualFlag: false fulfillmentLinkType: YF quantity: 500 price: 10.00 capacity: A clientDetails: orderKeyDate: 20180417T000000 orderID: O12345 side: B	indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. *firmDetails* are not required until Phase 2c.

2.3.5. Fill of a Single Customer Order from a Pre-Existing Principal Order

This scenario illustrates the CAT reporting requirements when an Industry Member fills a single customer order from a pre-existing principal order as a result of a Manning Obligation. In this scenario, the Industry Member originates a new principal order and routes it to an exchange. Before the principal order is executed, the Industry Member receives a customer order. Upon execution of the principal order, the Industry Member fills the customer order on a Riskless Principal basis.



Industry Member Broker 1 is required to report:

- The origination of the principal order (New Order event)
- The route of the principal order to an exchange (Order Route event)
- The receipt of the customer order (New Order event)
- The fill of the customer order on a Riskless Principal basis (Order Fulfillment event)

In phase 2a, explicit linkage between the customer order and the principal order is required when the customer order is filled from a pre-existing principal order.

#	Step	Reported Event	Comments
1	Broker 1 originates a new principal order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PRO001 accountHolderType: P aggregatedOrders: affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	The *representativeInd* field must be populated with a value of 'N' to indicate that this was not a representative order, as the principal order was not generated to facilitate the execution of a customer order. The *aggregatedOrders* field must not be populated. If the order generated by Broker 1 had been generated in a proprietary account where it was eligible to receive customer fills, the Industry Member would be able to populate a *representativeInd* value of "YE" in this step without receiving a rejection in CAT.
2	Broker 1 routes the principal order to Exch 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG	

#	Step	Reported Event	Comments
		affiliateFlag: false isoInd: NA	
3	Exch 1 accepts the principal order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
4	Customer sends an order to Broker 1	*NA*	
5	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: false deptType: T side: B price: 10.00 quantity: 800 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
6	Exch 1 executes the full quantity of the principal order	*Exch 1 reports a Participant **Trade event***	
7	Broker 1 executes the customer order on a Riskless Principal basis with the shares acquired from the pre-existing principal order	*Broker 1 reports an **Order Fulfillment event*** type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FXYZ111 symbol: XYZ eventTimestamp: 20180501T153035.653456 manualFlag: false fulfillmentLinkType: YP quantity: 800 price: 10.00 capacity: R	The *fulfillmentLinkType* field must be populated with a value of 'YP' to indicate that the customer order is being filled from a pre-existing principal order, and that explicit linkage is required in Phase 2a. *firmDetails* are required. If the customer order was executed from a firm account and reported as a media trade report to the TRF, Broker 1 would be required to report an MEOT in this step.

#	Step	Reported Event	Comments
		clientDetails: orderKeyDate: 20180501T000000 orderID: O34567 side: B firmDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: SL	

2.3.6. Customer Order is Received and Filled on a Net Basis

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order and generates a representative order to facilitate the execution of the customer order. The Industry Member routes the representative order to an exchange for execution, then sells the shares to the customer at a different price than it purchased the shares on the exchange. This scenario is commonly referred to as 'net trading'.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of the representative order (New Order event)
- The route of the representative order to an exchange (Order Route event)
- The execution of the customer order at a net price (Order Trade event)

In this scenario, since the customer order is executed at a price different than what Broker 1 received on the exchange, Broker 1 has an obligation to submit a media trade report for public dissemination purposes. Therefore, Broker 1 would be required to report an Order Trade event representing the outcome of the customer order as opposed to an Order Fulfillment event.

Since resulting executions are not immediately and automatically applied to the represented order in the firm's system, explicit linkage between the representative order and the customer orders is not required until Phase 2c.

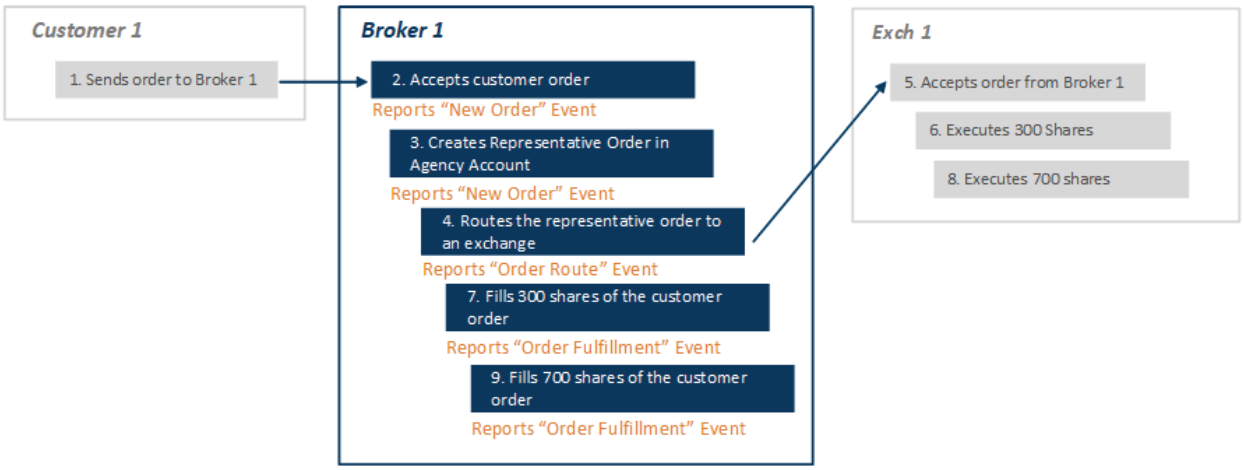
#	Step	Reported Event	Comments
1	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 originates a proprietary order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153036.234456 manualFlag: false deptType: T side: B price: 9.97 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PRO001 accountHolderType: P aggregatedOrders: affiliateFlag: false	The *representativeInd* field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. The *aggregatedOrders* field is not required to be populated until Phase 2c.

#	Step	Reported Event	Comments
		negotiatedTradeFlag: false representativeInd: YF	
3	Broker 1 routes the proprietary order to Exch 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153036.234556 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 9.97 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Exch 1 accepts the proprietary order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
5	Exch 1 executes the order	*Exch 1 reports a Participant **Trade event***	
6	Broker 1 satisfies the original customer order at a price of 9.99	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180501T153038.234556 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1,000 price: 9.99 capacity: P tapeTradeID: TRF123	The *buyDetails* reflect the details of customer order O34567. The *sellDetails* reflect the details of representative order O12345.

#	Step	Reported Event	Comments
		marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180501T000000 orderID: O34567 side: B sellDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: SL	

2.3.7. Fill of a Single Customer Order with Multiple Executions Print for Print

This scenario illustrates the CAT reporting requirements when an Industry Member generates a representative order in its agency account to facilitate a single customer order. The representative order is routed out to the market and receives multiple fills, which are passed back to the customer's account on a print for print basis.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of the representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- Each print for print fill of the customer order (Order Fulfillment event)

In phase 2a, explicit linkage between the customer order and the representative order is required, since the representative order was originated specifically to represent a single customer order and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system.

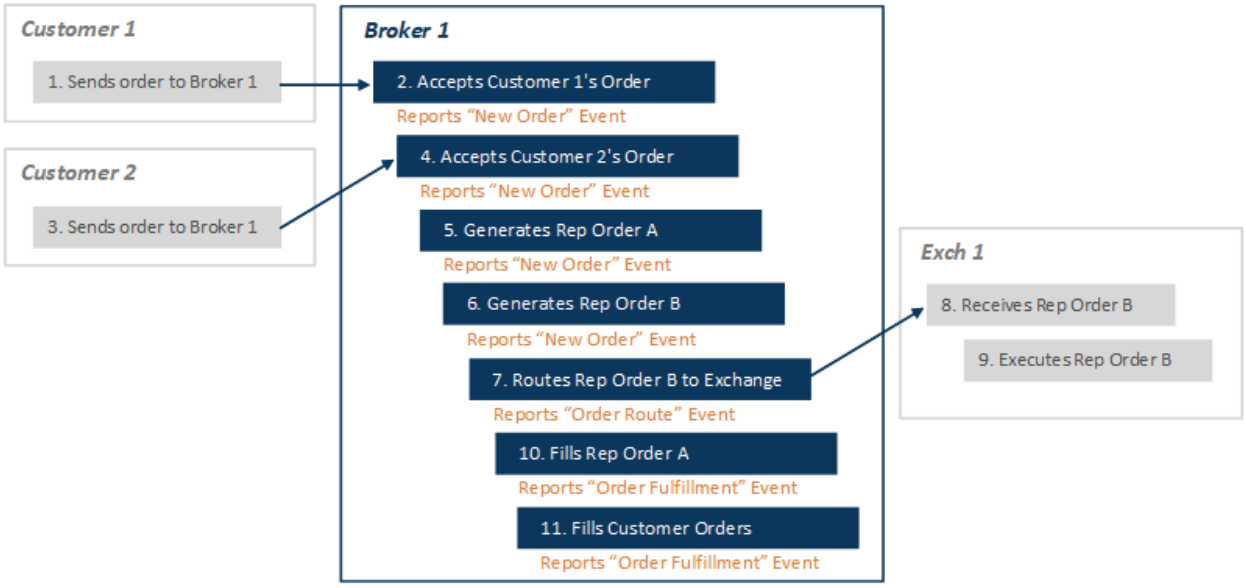
#	Step	Reported Event	Comments
1	The customer sends an order to Broker 1	N/A	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C12345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.

#	Step	Reported Event	Comments
		timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C0005 accountHolderType: V affiliateFlag: false aggregatedOrders: O12345@20170801T000000@@ negotiatedTradeFlag: false representativeInd: Y	
4	Broker 1 routes the representative order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12350 session: 1109 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
5	Exchange 1 accepts the order	*Exchange 1 reports a Participant **Order Accepted event***	
6	Exchange 1 partially executes the order (300 shares)	*Exchange 1 reports a Participant **Trade event***	
7	Broker 1 fills the customer order print for print	*Broker 1 reports an **Order Fulfillment event*** Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12350 symbol: XYZ	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. firmDetails are required.

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: Y quantity: 300 price: 10.00 capacity: A clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: SL	
8	Exchange 1 executes the remainder of the order (700 shares)	*Exchange 1 reports a Participant* ***Trade event***	
9	Broker 1 fills the customer order print for print	*Broker 1 reports an* ***Order Fulfillment event*** Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12360 symbol: XYZ eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: Y quantity: 700 price: 10.00 capacity: A clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: SL	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required.

2.3.8. Firm Generates a Representative Order to Facilitate the Execution of another Representative Order

This scenario illustrates the CAT reporting requirements when an Industry Member generates a representative order to facilitate the execution of another representative order. In this scenario, the Industry Member receives two customer orders, and generates a single representative order (Representative Order A) in its agency average price account that will be used to facilitate the execution of these two customer orders. The Industry Member then generates a second representative order (Representative Order B) to facilitate the execution of the original representative order on a Riskless Principal basis.



Industry Member Broker 1 is required to report:

- The receipt of each customer order (New Order events)
- The generation of Representative Orders A and B (New Order events)
- The route of Representative Order B to an exchange (Order Route event)
- The fill of Representative Order A on a Riskless Principal basis (Order Fulfillment event)
- The fill of each customer order from its agency average price account (Order Fulfillment events)

The execution of Representative Order B is reported by the exchange.

Since Representative Order A was generated to represent more than one customer order, explicit linkage between Representative Order A and the customer orders is not required until Phase 2c.

In phase 2a, explicit linkage between Representative Order A and Representative Order B is required, since Representative Order B was originated specifically to represent a single order and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the

representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system.

This reporting scenario is applicable when a firm's system generates two separate and distinct representative orders. This reporting scenario is not applicable if the firm's system only generates one representative order, combining steps 5 and 6. If the two representative orders are generated by different desks or departments within the firm, an Order Internal Route Accepted event is required.

#	Step	Reported Event	Comments
1	Customers 1 sends a Buy order to Broker 1	*NA*	
2	Broker 1 receives the Buy order from Customer 1	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer 2 sends a Buy order to Broker 1	*NA*	
4	Broker 1 receives the Buy order from Customer 2	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.723456 manualFlag: false deptType: A	

#	Step	Reported Event	Comments
		side: B price: 10.01 quantity: 700 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C456 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
5	Broker 1 generates Representative Order A in an agency average price account	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: AVGO555 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 1200 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: AVG123 accountHolderType: V affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YF	The *representativeInd* field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. The *aggregatedOrders* field is not required to be populated until Phase 2c.
6	Broker 1 generates Representative Order B	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: RPO556 symbol: XYZ eventTimestamp: 20170801T143031.723456 manualFlag: false	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.

#	Step	Reported Event	Comments
		deptType: A side: B price: 10.01 quantity: 1200 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP123 accountHolderType: P affiliateFlag: false aggregatedOrders: AVGO555@20170801T000000@@ negotiatedTradeFlag: false representativeInd: Y	
7	Broker 1 routes Representative Order B to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: RPO556 symbol: XYZ eventTimestamp: 20170801T143031.723456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12350 session: 1109 side: B price: 10.01 quantity: 1200 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
8	Exchange 1 accepts the order	*Exchange 1 reports a Participant **Order Accepted event***	
9	Exchange 1 matches and crosses the order	*Exchange 1 reports a Participant **Trade event***	
10	Broker 1 fills Representative Order A on a Riskless Principal	*Broker 1 reports an **Order Fulfillment event***	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a

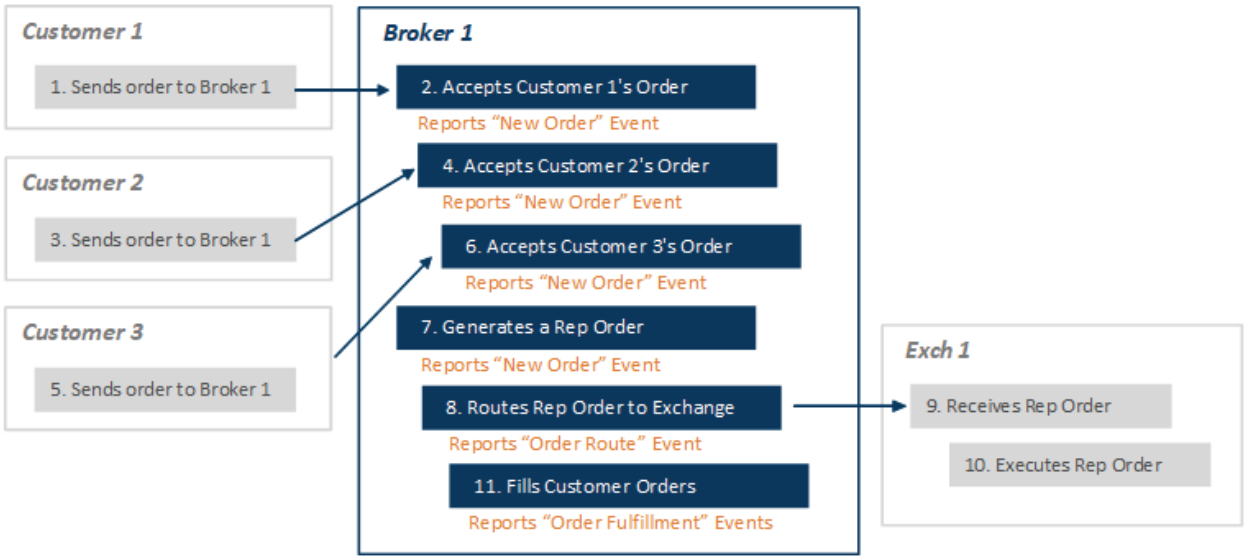
#	Step	Reported Event	Comments
	basis	Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: Y quantity: 1200 price: 10.01 capacity: R clientDetails: orderKeyDate: 20170801T000000 orderID: AVGO555 side: B firmDetails: orderKeyDate: 20170801T000000 orderID: RPO556 side: SL	representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required.
11	Broker 1 fills Customer 1's order from its average price account	*Broker 1 reports an* ***Order Fulfillment event*** Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12360 symbol: XYZ eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: YF quantity: 500 price: 10.01 capacity: R clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B	The *fulfillmentLinkType* field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. *firmDetails* are not required.
12	Broker 1 fills Customer 2's order from its average price account	*Broker 1 reports an* ***Order Fulfillment event*** Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12370	The *fulfillmentLinkType* field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. *firmDetails* are not required.

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: YF quantity: 700 price: 10.01 capacity: R clientDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: B	

2.3.9. Fill of Multiple Customer Orders at an Average Price Using an Unlinked OMS/EMS

This scenario illustrates the CAT reporting requirements when an Industry Member fills customer orders at an average price, but a direct electronic link does not exist between its OMS and EMS. In this example, Industry Member Broker 1 receives three customer orders in its OMS, and generates a representative order to facilitate the execution of the customer orders in its EMS. The representative order is further routed to an exchange for execution, where it receives multiple fills. The Industry Member manually assigns fills to the customer orders in its OMS at an average price of the fills received on the exchange.

In this scenario, direct electronic linkage does not exist between the customer orders and the representative order because direct electronic linkage does not exist between the firm's OMS and EMS.



Industry Member Broker 1 is required to report:

- The receipt of each customer order (New Order events)
- The generation of a representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- The fill of each customer at an average price (Order Fulfillment event)

In this scenario, explicit linkage between the customer orders and the representative order is not required, since there is no direct electronic link in the firm's system between the orders being represented and the representative order. However, CAT requires that the orders be marked with the relevant *representativeInd* or *fulfillmentLinkType* value of "YE" to indicate that each order was eligible for customer fills via an unlinked system.

The Industry Member must populate a *representativeInd* value of "YE" on its New Order event reflecting the origination of the representative order. When a *representativeInd* value of "YE" is populated, the *aggregatedOrders* field must be blank.

The Industry Member must populate a *fulfillmentLinkType* value of "YE" on its Order Fulfillment events reflecting the fill of each customer order. In Phase 2a, when a *fulfillmentLinkType* value of "YE" is populated, *firmDetails* are not required. In Phase 2c, when a *fulfillmentLinkType* value of "YE" is populated, the *firmDetails* must be populated with the *accountHolderType* and the FDID of the firm account from which the order was filled, and the *orderID* and *orderKeyDate* fields in the *firmDetails* must be blank.

Refer to Appendix C of the CAT Reporting Technical Specifications for Industry Members for additional information on use of the value "YE".

#	Step	Reported Event	Comments
1	Customer 1 sends a Buy order to Broker 1	*NA*	
2	Broker 1 receives the Buy order from Customer 1	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	

#	Step	Reported Event	Comments
		custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer 2 sends a Buy order to Broker 1	*NA*	
4	Broker 1 receives the Buy order from Customer 2	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.723456 manualFlag: false deptType: A side: B price: 10.01 quantity: 700 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C456 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
5	Customer 3 sends a Buy order to Broker 1	*NA*	
6	Broker 1 receives the Buy order from Customer 3	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12355 symbol: XYZ eventTimestamp: 20170801T143030.923456 manualFlag: false deptType: A side: B price: 10.01	

#	Step	Reported Event	Comments
		quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C789 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
7	Broker 1 generates a representative order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.323456 manualFlag: false electronicTimestamp: deptType: A side: B price: 10.01 quantity: 1500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP123 accountHolderType: V affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YE	Although Broker 1 is manually entering the order into its EMS, the origination of a proprietary order in a firm system is always considered electronic regardless if it is entered by a trader or computer generated. The *representativeInd* field must be populated with a value of 'YE' to indicate that the order is a representative order, and that explicit linkage between the customer orders and the representative order does not exist. The *aggregatedOrders* field must be blank.
8	Broker 1 routes the representative order to an exchange for execution	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.623456 manualFlag: false	

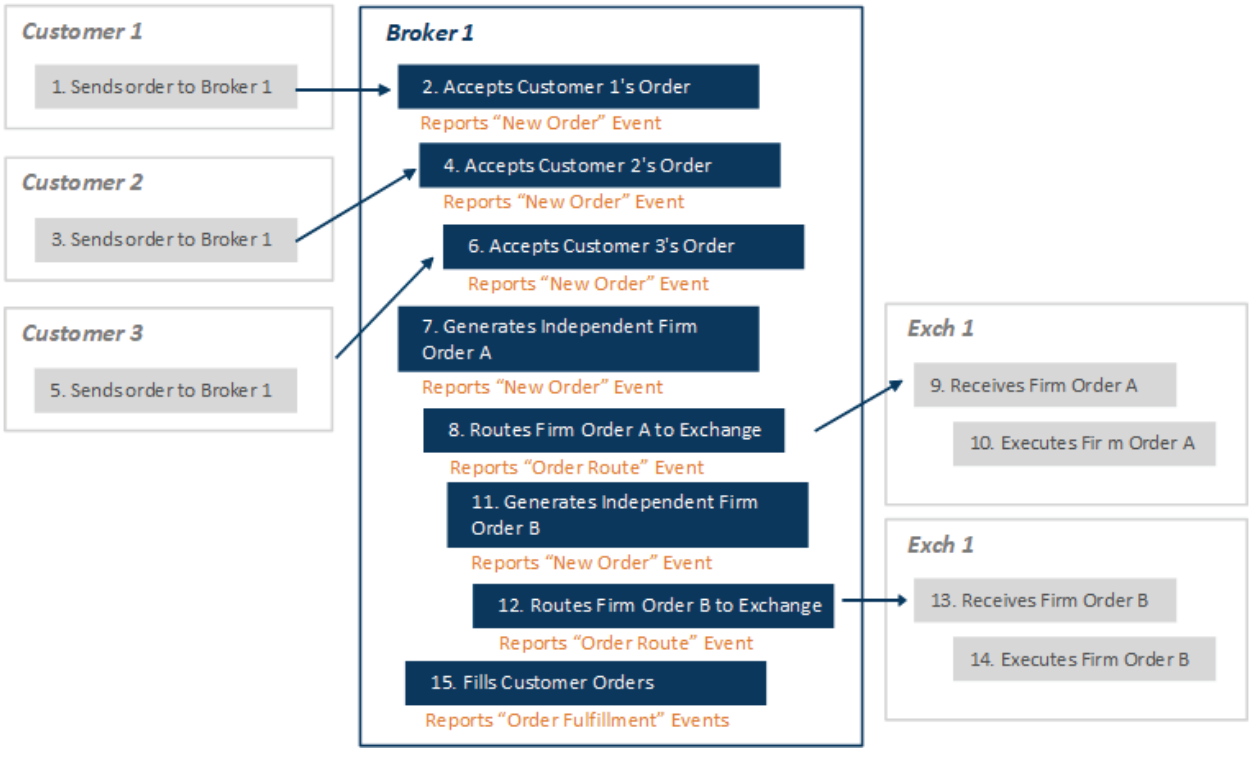
#	Step	Reported Event	Comments
		senderIMID: 123:BRKA destination: EXCH1 destinationType: E routedOrderID: S12O555 session: 1112 side: B price: 10.01 quantity: 1500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA	
9	The exchange receives the order from Broker 1	*Exchange 1 reports a* ***Participant Order Accepted event***	
10	Executions of the order occur on the exchange	*Exchange 1 reports* ***Participant Trade events***	
11	Broker 1 fills each individual customer order at an average price	*Broker 1 reports an* ***Order Fulfillment event (1 of 3)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55501 symbol: XYZ eventTimestamp: 20170801T143040.123456 manualFlag: true electronicTimestamp: 20170801T143040.123456 quantity: 500 price: 10.01 capacity: A fulfillmentLinkType: YE clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails: side: firmDesignatedID: accountHolderType:	Since Broker 1 is manually filling the customer orders in its OMS, the order could be considered either manual or electronic. If the fulfillment is reported as a manual event, the *eventTimestamp* and the *electronicTimestamp* fields must be populated with the same timestamp. The *fulfillmentLinkType* field must be populated with a value of 'YE' to indicate that the order is a representative order, and that explicit linkage between the customer orders and the representative order does not exist. *firmDetails* are not required until Phase 2c. In Phase 2c, Broker 1 must populate the *firmDetails* with the *accountHolderType* and the FDID of the account from which the order was filled.

		*Broker 1 reports an **Order Fulfillment event (2 of 3)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55502 symbol: XYZ eventTimestamp: 20170801T143040.323456 manualFlag: true electronicTimestamp: 20170801T143040.323456 quantity: 700 price: 10.01 capacity: A fulfillmentLinkType: YE clientDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: B firmDetails: side: firmDesignatedID: accountHolderType: *Broker 1 reports an **Order Fulfillment event (3 of 3)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55502 symbol: XYZ eventTimestamp: 20170801T143040.523456 manualFlag: true electronicTimestamp: 20170801T143040.523456 quantity: 300 price: 10.01 capacity: A fulfillmentLinkType: YE clientDetails: orderKeyDate: 20170801T000000 orderID: O12355 side: B firmDetails:	

#	Step	Reported Event	Comments
		side: firmDesignatedID: accountHolderType:	

2.3.10. Fill of Multiple Customer Orders at an Average Price from an Existing Position

This scenario illustrates the CAT reporting requirements when an Industry Member fills customer orders at an average price via a work flow whereby individual orders are filled after a position has been established and no direct link exists in the firm's system between any single customer order and any single representative order. In this example, Industry Member Broker 1 receives three customer orders. The Industry Member generates two independent orders, from which part or all of the position at the weighted average cost may be given to the customer. The firm orders are further routed to an exchange for execution, and as the firm orders are filled, a position is established in a firm owned or controlled account. The customer orders are ultimately filled from the firm's resulting position at the weighted average cost.



Industry Member Broker 1 is required to report:

- The receipt of each customer order (New Order events)
- The generation of each firm order (New Order event)

- The route of each firm order to the exchange (Order Route event)
- The fill of each customer order at an average price (Order Fulfillment event)

In this scenario, explicit linkage between the customer orders and the firm order is not required, since there is no direct electronic link in the firm's system, as the customer orders were filled from an existing position. However, CAT requires that the orders be marked with the relevant *representativeInd* or *fulfillmentLinkType* value of "YE" to indicate that each order was eligible for customer fills.

The Industry Member must populate a *representativeInd* value of "YE" on its New Order event reflecting the origination of the firm order, since part or all of the order may be used to fill customer orders. When a *representativeInd* value of "YE" is populated, the *aggregatedOrders* field must be blank.

The Industry Member must populate a *fulfillmentLinkType* value of "YE" on its Order Fulfillment events reflecting the fill of each customer order. In Phase 2a, when a *fulfillmentLinkType* value of "YE" is populated, *firmDetails* are not required. In Phase 2c, when a *fulfillmentLinkType* value of "YE" is populated, the *firmDetails* must be populated with the *accountHolderType* and the FDID of the firm account from which the order was filled, and the *orderID* and *orderKeyDate* fields in the *firmDetails* must be blank.

Refer to Appendix C of the CAT Reporting Technical Specifications for Industry Members for additional information on use of the value "YE".

#	Step	Reported Event	Comments
1	Customer 1 sends a Buy order to Broker 1	*NA*	
2	Broker 1 receives the Buy order from Customer 1	*Broker 1 reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false	

#	Step	Reported Event	Comments
		negotiatedTradeFlag: false representativeInd: N	
3	Customer 2 sends a Buy order to Broker 1	*NA*	
4	Broker 1 receives the Buy order from Customer 2	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.723456 manualFlag: false deptType: A side: B price: 10.01 quantity: 700 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C456 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
5	Customer 3 sends a Buy order to Broker 1	*NA*	
6	Broker 1 receives the Buy order from Customer 3	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12355 symbol: XYZ eventTimestamp: 20170801T143030.923456 manualFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	

#	Step	Reported Event	Comments
		custDspIntrFlag: false firmDesignatedID: C789 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
7	Broker 1 generates an independent firm order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false electronicTimestamp: deptType: A side: B price: 10.01 quantity: 600 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP123 accountHolderType: V affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YE	Although Broker 1 is manually entering the order into its EMS, the origination of a proprietary order in a firm system is always considered electronic regardless if it is entered by a trader or computer generated. The *representativeInd* field must be populated with a value of 'YE' to indicate that the order is a representative order, and that explicit linkage between the customer orders and the representative order does not exist. The *aggregatedOrders* field must be blank. If the firm's systems allow for direct linkage between the customer orders and the firm's proprietary order, the Industry Member would be able to populate a *representativeInd* value of "Y" in this step without receiving a rejection in CAT.
8	Broker 1 routes the firm order to an exchange for execution	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.623456 manualFlag: false senderIMID: 123:BRKA destination: EXCH1 destinationType: E routedOrderID: S12O555	

#	Step	Reported Event	Comments
		session: 1112 side: B price: 10.01 quantity: 600 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA	
9	The exchange receives the order from Broker 1	*Exchange 1 reports a **Participant Order Accepted event***	
10	Execution of the order occurs on the exchange	*Exchange 1 reports a **Participant Trade event***	
11	Broker 1 generates an independent firm order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false electronicTimestamp: deptType: A side: B price: 10.01 quantity: 900 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP123 accountHolderType: V affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YE	Although Broker 1 is manually entering the order into its EMS, the origination of a proprietary order in a firm system is always considered electronic regardless if it is entered by a trader or computer generated. The *representativeInd* field must be populated with a value of 'YE' to indicate that the order is a representative order, and that explicit linkage between the customer orders and the representative order does not exist. The *aggregatedOrders* field must be blank. If the firm's systems allow for direct linkage between the customer orders and the firm's proprietary order, the Industry Member would be able to populate a *representativeInd* value of "Y" in this step without receiving a rejection in CAT.
12	Broker 1 routes the firm order to an exchange for execution	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: orderID: RPO555 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143035.623456 manualFlag: false senderIMID: 123:BRKA destination: EXCH1 destinationType: E routedOrderID: S12O560 session: 1112 side: B price: 10.01 quantity: 900 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA	
13	The exchange receives the order from Broker 1	*Exchange 1 reports a **Participant Order Accepted event***	
14	Execution of the order occurs on the exchange	*Exchange 1 reports a **Participant Trade event***	
15	Broker 1 fills each individual customer order at the weighted average cost in a Riskless Principal capacity	*Broker 1 reports an **Order Fulfillment event (1 of 3)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55501 symbol: XYZ eventTimestamp: 20170801T143040.123456 manualFlag: true electronicTimestamp: 20170801T143040.123456 quantity: 500 price: 10.01 capacity: R fulfillmentLinkType: YE clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails: side: firmDesignatedID: accountHolderType:	Since Broker 1 is manually filling the customer orders in its OMS, the order could be considered either manual or electronic. If the fulfillment is reported as a manual event, the *eventTimestamp* and the *electronicTimestamp* fields must be populated with the same timestamp. The *fulfillmentLinkType* field must be populated with a value of 'YE' to indicate that the order is a representative order, and that explicit linkage between the customer orders and the representative order does not exist. *firmDetails* are not required until Phase 2c. In Phase 2c, Broker 1 must populate the *firmDetails* with the *accountHolderType* and the FDID of the account from which the order was filled.

		*Broker 1 reports an **Order Fulfillment event (2 of 3)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55502 symbol: XYZ eventTimestamp: 20170801T143040.323456 manualFlag: true electronicTimestamp: 20170801T143040.323456 quantity: 700 price: 10.01 capacity: R fulfillmentLinkType: YE clientDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: B firmDetails: side: firmDesignatedID: accountHolderType: *Broker 1 reports an **Order Fulfillment event (3 of 3)*** type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO55502 symbol: XYZ eventTimestamp: 20170801T143040.523456 manualFlag: true electronicTimestamp: 20170801T143040.523456 quantity: 300 price: 10.01 capacity: R fulfillmentLinkType: YE clientDetails: orderKeyDate: 20170801T000000 orderID: O12355 side: B firmDetails:	

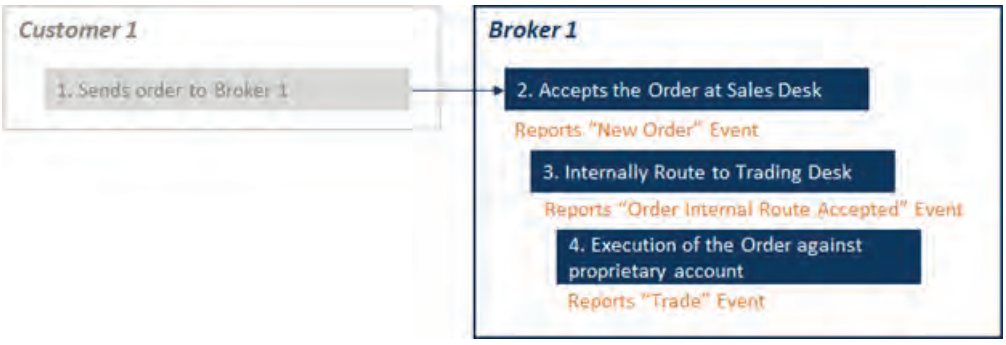
#	Step	Reported Event	Comments
		side: firmDesignatedID: accountHolderType:	

2.4. Internal Route Scenarios

This section illustrates the CAT reporting requirements when an order is passed to a different department or desk within a *CATReporterIMID*. Refer to Section 4.5 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.4.1. Customer Order Internally Routed to another Desk and Subsequently Executed Against a Firm Proprietary Account

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the Sales Desk to the Trading Desk, and the order is subsequently executed against a firm proprietary account. The Sales Desk and Trading Desk are separated by information barriers.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The internal route from the Sales Desk to the Trading Desk (Order Internal Route Accepted event)
- The principal execution (Trade event)

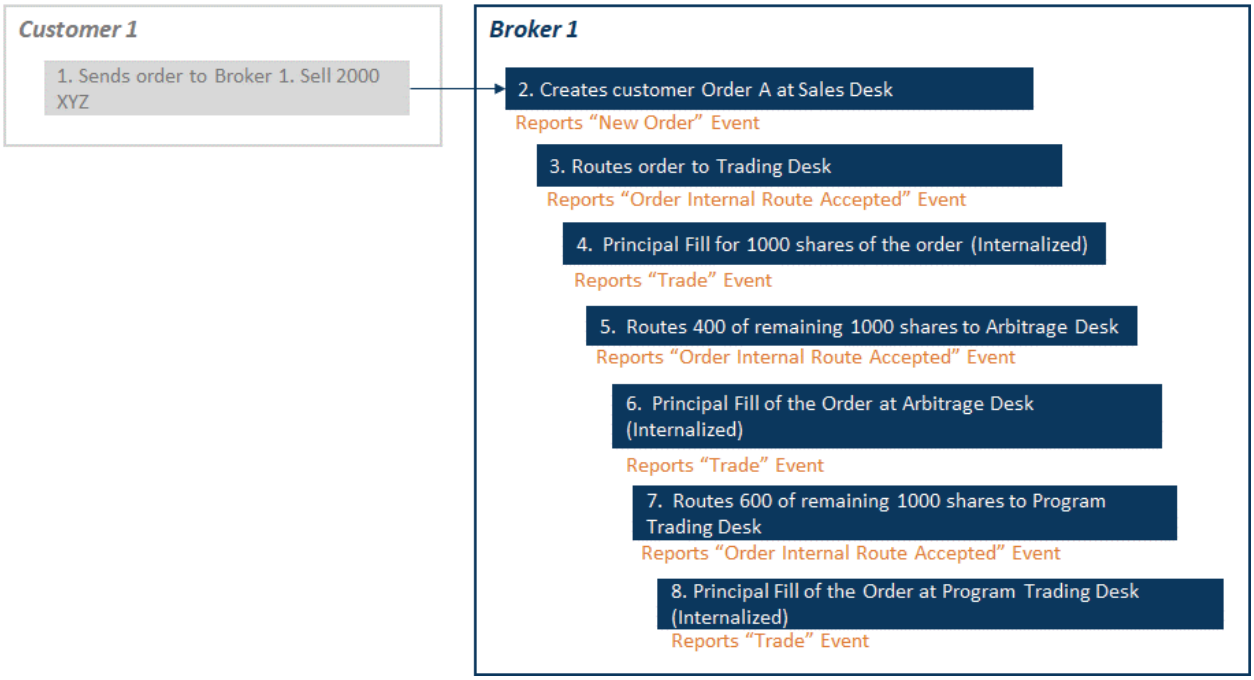
#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 (IMID = BRKA) reports a* ***New Order event*** type: MENO	

#	Step	Reported Event	Comments
		orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O side: B price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false infoBarrierID: AB12 negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 internally routes the order from the Sales Desk to the Trading Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O12345 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T infoBarrierID: CD34 side: B price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	The Trading Desk, upon receipt of the internal route, assigns a new Order Key with *orderID* O999. The Parent Order Key with *orderID* O12345 must be populated in the *parentOrderID* field. The Parent Order Key links the Order Internal Route Accepted event with the New Order event.
4	The Trading Desk fills the customer on a Principal basis	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000	For this Trade event, the *buyDetails* reflect the details of customer order O999. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was

#	Step	Reported Event	Comments
		tradeID: TO999 symbol: XYZ eventTimestamp: 20170801T143035.123456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 500 price: 10.01 capacity: P tapeTradeID: TRF9090 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O999 side: B sellDetails: side: SL firmDesignatedID: P123 accountHolderType: P	filled.

2.4.2. Customer Order Internally Routed to Multiple Desks and Subsequently Executed

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the Sales Desk to multiple desks within the Industry Member. Each destination desk subsequently fills the order against a firm proprietary account.



Industry Member Broker 1 is required to report the following for each desk:

- At the Sales Desk
  - The receipt of the customer order (New Order event)
- At the Trading Desk
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
  - The principal execution (Trade event)
- At the Arbitrage Desk
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
  - The principal execution (Trade event)
- At the Program Trading Desk
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
  - The principal execution (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Sell order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at the Sales Desk	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O11111 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O side: SL price: 10.02 quantity: 2000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C5678 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 internally routes the order from the Sales Desk to the Trading Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O11111 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T side: SL price: 10.02 quantity: 2000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	The Trading Desk, upon receipt of the internal route, assigns a new Order Key with *orderID* O9996. The Parent Order Key with *orderID* O11111 must be populated in the *parentOrderID* field. The Parent Order Key links the Order Internal Route Accepted event with the New Order event.
4	The Trading Desk partially fills order O9996 on a Principal basis	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO9996 symbol: XYZ eventTimestamp: 20170801T143035.123456 manualFlag: false	For this Trade event, the *sellDetails* reflect the details of customer order O9996. The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		cancelFlag: false cancelTimestamp: quantity: 1000 price: 10.02 capacity: P tapeTradeID: T9996 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: PROP246 accountHolderType: P sellDetails: orderKeyDate: 20170801T000000 orderID: O9996 side: SL	
5	Broker 1 internally routes 400 of the remaining 1000 shares from the Sales Desk to the arbitrage desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O9997 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O11111 eventTimestamp: 20170801T143036.123456 manualFlag: false deptType: T receivingDeskType: AR side: SL price: 10.02 quantity: 400 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	The arbitrage desk, upon receipt of the internal route, assigns a new Order Key with *orderID* O9997. The Parent Order Key with *orderID* O11111 must be populated in the *parentOrderID* field. The Parent Order Key links the Order Internal Route Accepted event with the parent New Order event.
6	The arbitrage desk fills order O9997 on a Principal basis.	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO9997 symbol: XYZ eventTimestamp: 20170801T143037:122234	For this Trade event, the *sellDetails* reflect the details of customer order O9997. The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		cancelFlag: false cancelTimestamp: manualFlag: false quantity: 400 price: 10.02 capacity: P tapeTradeID: T9997 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: PROP321 accountHolderType: P sellDetails: orderKeyDate: 20170801T000000 orderID: O9997 side: SL	
7	Broker 1 internally routes the 600 remaining shares from the Sales Desk to the Program Trading Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O1118 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O11111 eventTimestamp: 20170801T143038.123456 manualFlag: false deptType: T receivingDeskType: PT side: SL price: 10.02 quantity: 600 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	The Program Trading Desk, upon receipt of the internal route, assigns a new Order Key with *orderID* O1118. The Parent Order Key with *orderID* O11111 must be populated in the *parentOrderID* field. The Parent Order Key links the Order Internal Route Accepted event with the parent New Order event.
8	The Program Trading Desk fills order O1118 on a Principal basis	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO99981 symbol: XYZ	For this Trade event, the *sellDetails* reflect the details of customer order O1118. The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143038:125566 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 600 price: 10.02 capacity: P tapeTradeID: T9998 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: PROP555 accountHolderType: P sellDetails: orderKeyDate: 20170801T000000 orderID: O1118 side: SL	

2.4.3. Internal Route and Execution, Leaves Quantity Routed Externally

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes an order to another desk where it is partially executed. The remainder of the order is routed to another Industry Member for execution.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
- The partial execution of the customer order (Trade event)
- The route of the remaining shares to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- Receipt of the order from Broker 1 (Order Accepted event)
- The execution of Broker 1's order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at the Sales Desk	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O side: B price: 10.01 quantity: 5000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C0001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 internally routes the order from the Sales Desk to the Trading Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: T12333 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O34567 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T side: B	The Trading Desk, upon receipt of the internal route, assigns a new order ID T12333 to the order. This ID will be used to refer to the order in the subsequent trade event. The order ID from the New Order event, O34567, must be populated in the *parentOrderID* field. The *parentOrderID* links the Order Internal Route Accepted event with the New Order event.

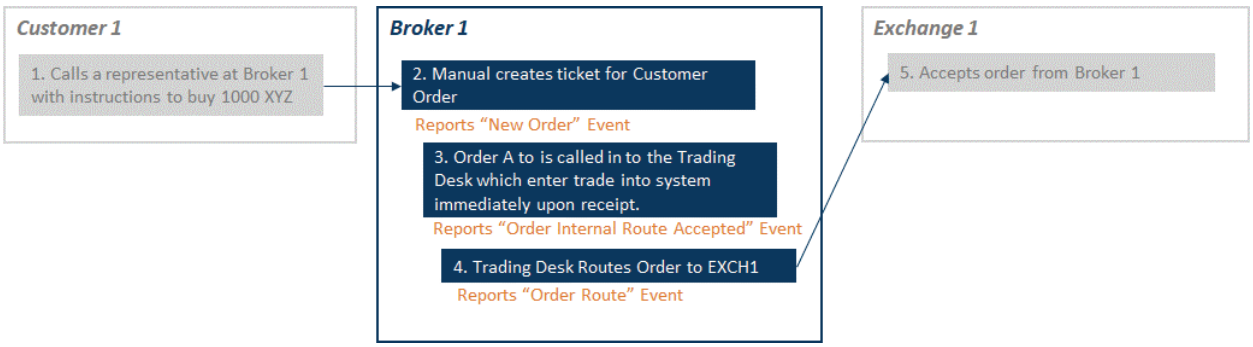
#	Step	Reported Event	Comments
		price: 10.01 quantity: 5000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	
4	The Trading Desk partially executes the order on a principal basis	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO9123 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 4000 price: 10.01 capacity: P tapeTradeID: TRF1234 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20170801T000000 orderID: T12333 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	For this Trade event, the *buyDetails* reflect the details of customer order T12333. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.
5	Broker 1 routes the leaves quantity to Broker 2	Broker 1 reports an ***Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: T12333 symbol: XYZ eventTimestamp: 20170801T143033.123456 manualFlag: false senderIMID: 123:BRKA destination: 456:FIRMB destinationType: F routedOrderID: FA12333 side: B	

#	Step	Reported Event	Comments
		price: 10.01 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
6	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20170801T000000 orderID: B12345 symbol: XYZ eventTimestamp: 20170801T143033.523456 manualFlag: false receiverIMID: 456:FIRMB senderIMID: 123:BRKA senderType: F routedOrderID: FA12333 affiliateFlag: false deptType: T side: B price: 10.01 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA custDspIntrFlag: false	
7	Broker 2 matches and executes Broker 1's buy order B12345 against sell order C45678	*Broker 2 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ001 symbol: XYZ eventTimestamp: 20170801T143034.253456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1000 price: 10.01 capacity: A tapeTradeID: TRF123	

#	Step	Reported Event	Comments
		marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20170801T000000 orderID: B12345 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: C45678 side: SL	

2.4.4. Order Received and Routed Manually, Electronically Captured at Subsequent Desk

This scenario illustrates the CAT reporting requirements when an order is received manually at a branch, then manually routed to the Trading Desk. Upon receipt, the Trading Desk immediately enters the order into an electronic order management system for further handling.



Industry Member Broker 1 is required to report:

- The manual receipt of the customer order (a New Order event)
- The manual receipt and subsequent electronic entry of the internal route from the branch (Order Internal Route Accepted event)
- The electronic route of the order to the exchange (Order Route event)

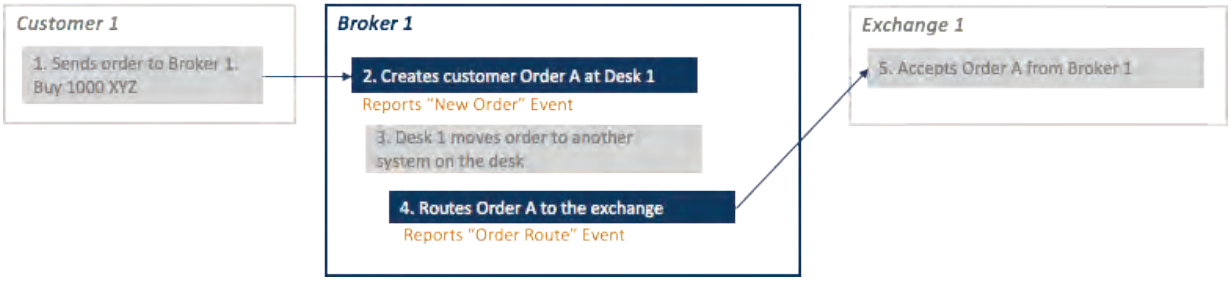
Industry Members are required to report both an *eventTimestamp* and an *electronicTimestamp* for orders that are received manually and subsequently entered into an electronic system. If the order was received and systematized simultaneously, the values for the *eventTimestamp* and the *electronicTimestamp* must be the same. If the order is not systematized, an *electronicTimestamp* is not required. Refer to CAT FAQ G4 for additional information.

#	Step	Reported Event	Comments
1	Customer calls an order to Broker 1	*NA*	
2	The branch receives the customer order and manually creates an order ticket	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O24680 symbol: XYZ eventTimestamp: 20180417T153015.00 manualFlag: true electronicTimestamp: deptType: O side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: FDID00234 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	The *eventTimestamp* on the New Order event must capture the time at which the customer called Broker 1 in step 1 (with granularity to at least seconds). *electronicTimestamp* is not required, since the order was never systematized by Broker 1 at the branch.
3	The branch calls the order into the Trading Desk, which enters the order into an electronic system immediately upon receipt	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20180417T000000 orderID: O24680 symbol: XYZ eventTimestamp: 20180417T153016.112345 manualFlag: true electronicTimestamp: 20180417T153016.112345 deptType: T receivingDeskType: T	The Trading Desk does not assign a new *orderID* to the Order Internal Route Accepted event. Since the Trading Desk received the order manually and subsequently entered the order into an electronic system, the Trading Desk is required to report both an *eventTimestamp* and an *electronicTimestamp.* However, since the Trading Desk simultaneously received and entered the order, the *eventTimestamp* and

#	Step	Reported Event	Comments
		side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG	*electronicTimestamp* must reflect the same value.
4	The order is routed to EXCH1	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O24680 symbol: XYZ eventTimestamp: 20180417T153016.112545 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH1 destinationType: E routedOrderID: RTO24680 session: s18 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
5	EXCH1 accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	

2.4.5. Industry Member Utilizes Multiple Systems at One Desk

This scenario illustrates the CAT reporting requirements when an Industry Member has multiple trading systems utilized at a single desk. In this scenario, the desk transfers the order into another internal application used within the desk in order to route the order to an exchange. Since the desk handling the order does not change, the Industry Member is not required to report movement of an order between two systems within the same desk or department.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to the exchange (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at Desk 1	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Desk 1 transmits the order to a different internal system	*NA*	
4	Desk 1 routes the order to the exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000	

#	Step	Reported Event	Comments
		orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.334456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: RT23456 session: s2 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
5	Exchange 1 accepts order from Broker 1	*NA*	

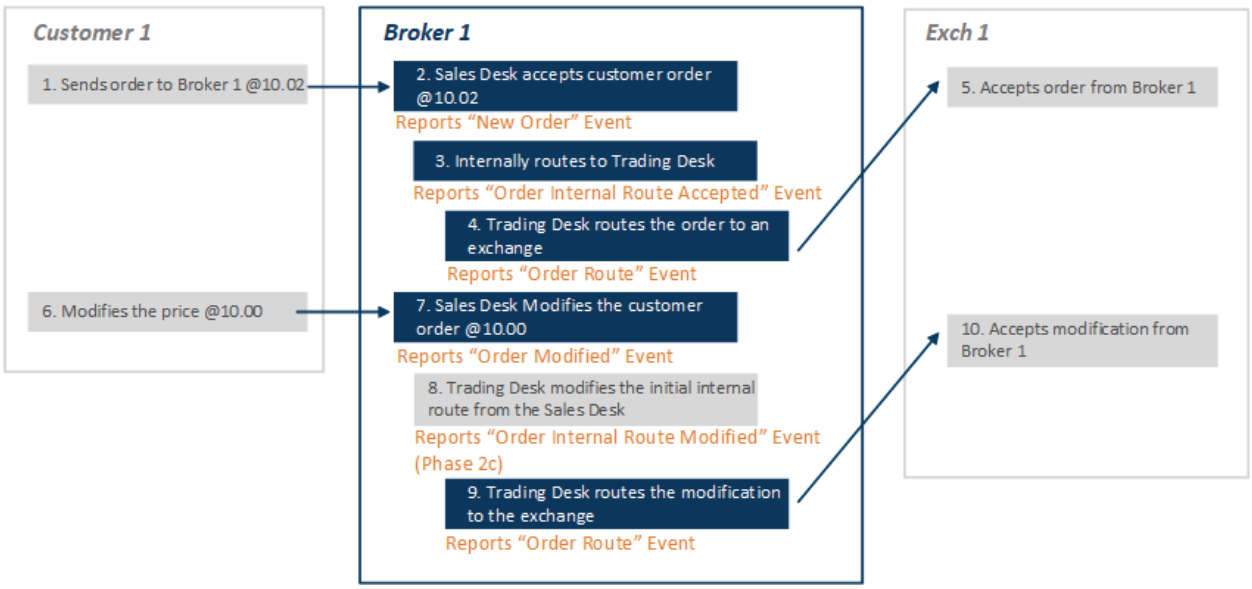
2.4.6. Order Internally Routed to another Desk and Subsequently Modified by a Customer

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the Sales Desk to the Trading Desk, and the order is subsequently modified by the customer. In this scenario, the Sales Desk receives an order from a customer and routes the order to the Trading Desk, where the order is further routed to an exchange for execution. The customer subsequently sends an instruction to modify the price of the order. The Sales Desk modifies the customer order per the customer instruction, cancels the existing internal route to the Trading Desk, and sends a new internal route to the Trading Desk. The Trading Desk receives the new internal route from the Sales Desk, and further routes the modification to the exchange.

The reporting of this scenario depends on whether the Sales Desk modifies the parent order or cancels the internal route as described in the two options below.

Option 1:

In Option 1, the Sales Desk maintains the same *orderID* and modifies the internal route that was sent to the Trading Desk. In this scenario, the Trading Desk will be required to report an Order Internal Route Modified event reflecting the modification of the internal route received from the Sales Desk in Phase 2c.



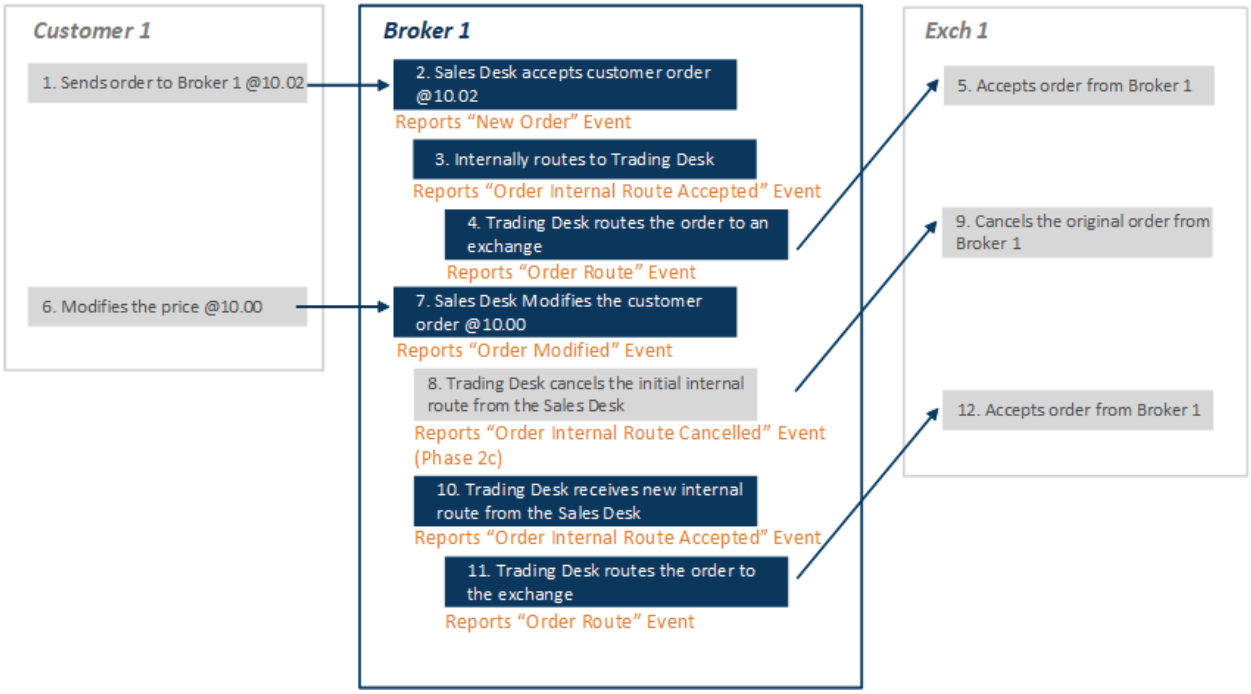
Industry Member Broker 1 is required to report the following for each desk in Phase 2a:

- At the Sales Desk
  - The receipt of the customer order (New Order event)
  - The modification of the customer order (Order Modified event where the Sales Desk maintains the same *orderID*)
- At the Trading Desk
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
  - The route of the order to the exchange (Order Route event)
  - The route of the modification to the exchange (Order Route event)

Option 2:

In Option 2, the Sales Desk assigns a new *orderID* and sends a new internal route to the Trading Desk. In this scenario, the Trading Desk will be required to report an Order Internal Route Cancelled event

reflecting the cancellation of the initial internal route received from the Sales Desk in Phase 2c.



Industry Member Broker 1 is required to report the following for each desk in Phase 2a:

- At the Sales Desk
  - The receipt of the customer order (New Order event)
  - The modification of the customer order (Order Modified event where the Sales Desk assigns a new *orderID*)
- At the Trading Desk
  - The receipt of each internal route from the Sales Desk (Order Internal Route Accepted event)
  - The route of each order to the exchange (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends a Sell order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at the Sales Desk	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O side: SL price: 10.02	If the Sales Desk creates a child order, the Sales Desk would also report a Child Order event.

#	Step	Reported Event	Comments
		quantity: 2000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C5678 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 internally routes the order from the Sales Desk to the Trading Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O11111 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T side: SL price: 10.02 quantity: 2000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	The Trading Desk, upon receipt of the internal route, assigns a new Order Key with *orderID* O9996. The Parent Order Key with *orderID* O11111 must be populated in the *parentOrderID* field. The Parent Order Key links the Order Internal Route Accepted event with the New Order event.
4	The Trading Desk routes the order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12350 session: 1109 side: SL price: 10.02 quantity: 2000 orderType: LMT	

#	Step	Reported Event		Comments
		timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA		
5	Exchange 1 accepts the order	*Exchange 1 reports a Participant* ***Order Accepted event***		
6	Customer modifies the price of the order	*NA*		
7	Sales Desk modifies the price of the order per the customer's instruction	***Option 1*** *Broker 1 reports an* ***Order Modified event*** *with the same orderID* type: MEOM orderKeyDate: 20170801T000000 orderID: O11111 symbol: XYZ priorOrderKeyDate: priorOrderID: eventTimestamp: 20170801T143035.123456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: SL price: 10.00 quantity: 2000 leavesQty: 2000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false	***Option 2*** *Broker 1 reports an* ***Order Modified event*** *with a new orderID* type: MEOM orderKeyDate: 20170801T000000 orderID: OM11111 symbol: XYZ priorOrderKeyDate: 20170801T000000 priorOrderID: O11111 eventTimestamp: 20170801T143035.123456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: SL price: 10.00 quantity: 2000 leavesQty: 2000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false	Since only the limit price was modified a MEOJ event could have alternatively been reported. If the Sales Desk creates a child order, the Sales Desk would also report a Child Order event.
8	The Sales Desk informs the Trading Desk of the change in price.	*NA*		In Phase 2a, the Sales Desk is not required to report the cancellation or modification of the internal route to the Trading Desk, as route cancellations and

#	Step	Reported Event		Comments
				modifications are not CAT reportable events.
9	Trading Desk modifies the order per the Sales Desk's instructions	***Option 1*** *Broker 1 reports an* ***Order Internal Route Modified*** *event in Phase 2c*	***Option 2*** *Broker 1 reports an* ***Order Internal Route Cancelled event*** *in Phase 2c* *Broker 1 reports an* ***Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O9998 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: OM11111 eventTimestamp: 20170801T143035.623456 manualFlag: false deptType: T receivingDeskType: T side: SL price: 10.00 quantity: 2000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	In Option 1, since the Sales Desk did not assign a new *orderID,* the Trading Desk will be required to report an Order Internal Route Modified event in Phase 2c reflecting the modification received from the Sales Desk. In Option 2, since the Sales Desk assigned a new *orderID*, the Trading Desk will be required to report the receipt of a new internal route. In Phase 2c, the Trading Desk will be required to report an Order Internal Route Cancelled event reflecting the cancellation received from the Sales Desk.
10	Trading Desk routes the order/modification to the exchange	***Option 1*** *Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ eventTimestamp: 20170801T143035.623456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1	***Option 2*** *Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O9998 symbol: XYZ eventTimestamp: 20170801T143035.623456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1	In Option 1, Broker 1 reports the route of the modification received from the Sales Desk by the Trading Desk. In Option 2, Broker 1 reports the route of the new order received from the Sales Desk by the Trading Desk.

#	Step	Reported Event		Comments
		destinationType: E routedOrderID: S9O12360 session: 1109 side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	destinationType: E routedOrderID: S9O12360 session: 1109 side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
11	Exchange 1 receives the instructions from the Trading Desk	***Option 1*** *Exchange 1 reports a Participant* ***Order Modified event***	***Option 2*** *Exchange 1 reports a Participant* ***Order Cancelled event*** *and* ***Order Accepted event***	In Option 1, the exchange reports that it received the modification from the Trading Desk. In Option 2, the exchange reports that it received the cancellation of the original order from the Trading Desk, followed by the receipt of a new order.

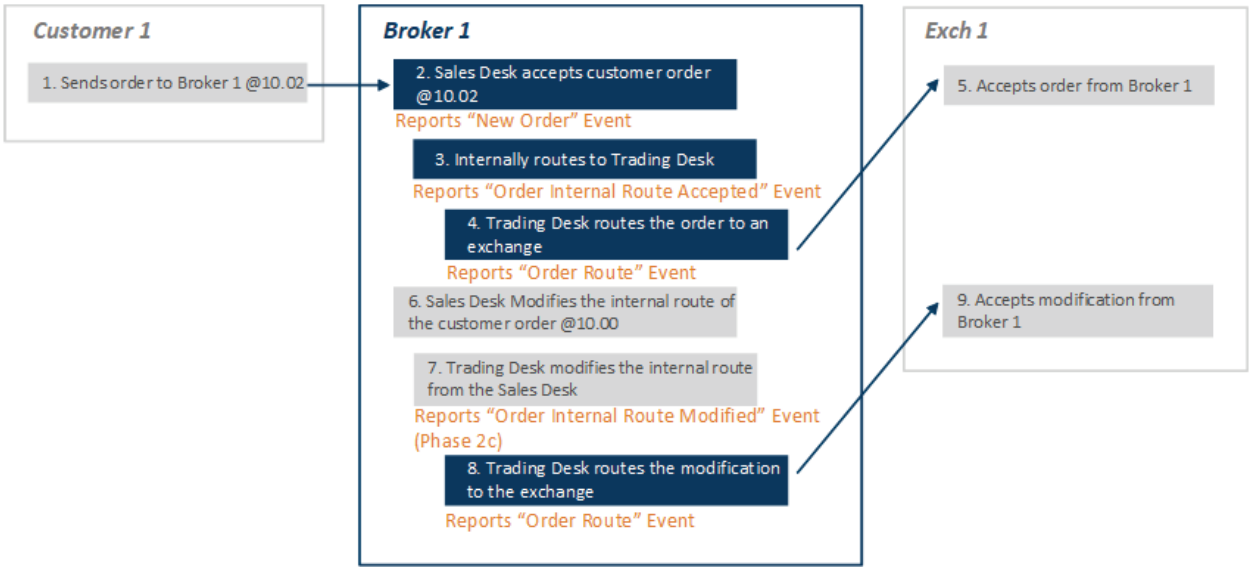
2.4.7. Order Internally Routed to another Desk and Subsequently Modified by the Firm

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the Sales Desk to the Trading Desk, and the order is subsequently modified by the Sales Desk. In this scenario, the Sales Desk receives an order from a customer and routes the order to the Trading Desk, where the order is further routed to an exchange for execution. The Sales Desk subsequently modifies the price of the internal route to the Trading Desk. The Trading Desk receives the price modification from the Sales Desk, and further routes the modification to the exchange.

The reporting of this scenario depends on whether the Sales Desk modifies the parent order or cancels the internal route as described in the two options below.

Option 1:

In Option 1, the Sales Desk is not required to report the modification of the internal route, as modifications at the route level are not reportable to CAT. In this scenario, the Trading Desk will be required to report an Order Internal Route Modified event reflecting the receipt of the internal route modification from the Sales Desk in Phase 2c.

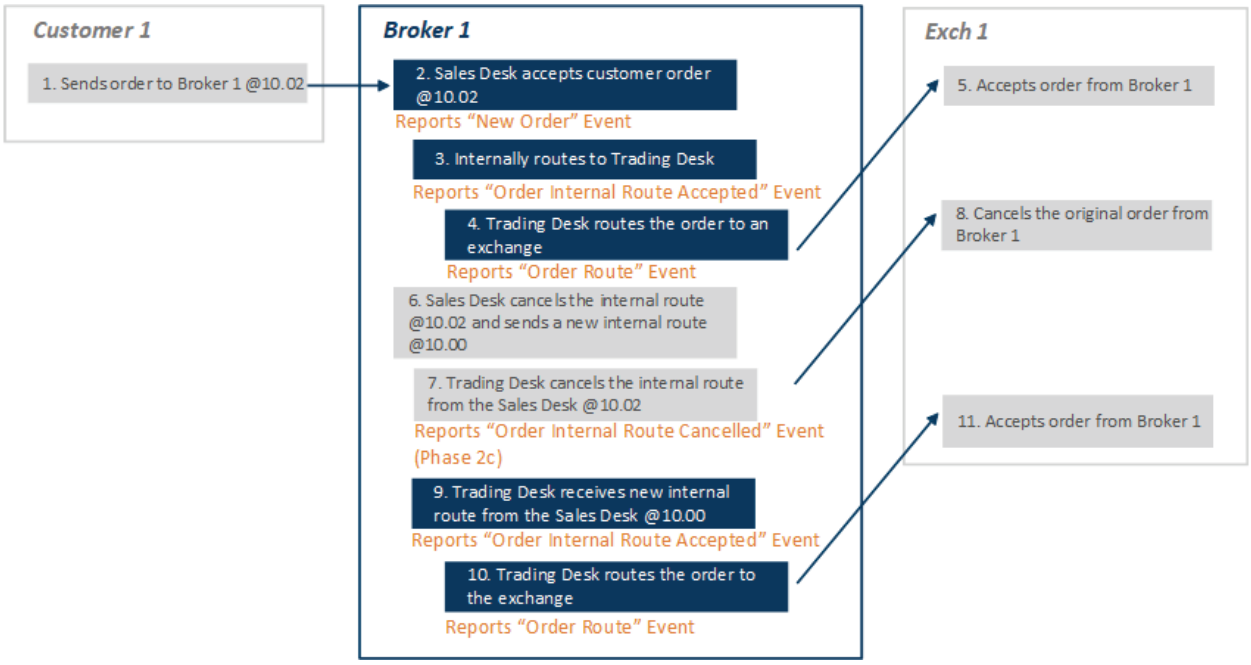


Industry Member Broker 1 is required to report the following for each desk:

- At the Sales Desk
  - The receipt of the customer order (New Order event)
- At the Trading Desk
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
  - The route of the order to the exchange (Order Route event)
  - The route of the modification to the exchange (Order Route event)

Option 2:

In Option 2, the Sales Desk is not required to report the modification of the internal route, as modifications at the route level are not reportable to CAT. In this scenario, the Trading Desk will be required to report an Order Internal Route Cancelled event reflecting the receipt of the initial internal route cancellation from the Sales Desk in Phase 2c.



Industry Member Broker 1 is required to report the following for each desk:

- At the Sales Desk
  - The receipt of the customer order (New Order event)
- At the Trading Desk
  - The receipt of the initial internal route from the Sales Desk (Order Internal Route Accepted event)
  - The route of the order to the exchange (Order Route event)
  - The receipt of a second internal route from the Sales Desk (Order Internal Route Accepted event)
  - The route of the order to the exchange (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends a Sell order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at the Sales Desk	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O	

#	Step	Reported Event	Comments
		side: SL price: 10.02 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG handlingInstructions: NH custDspIntrFlag: false firmDesignatedID: C5678 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Sales Desk routes the order to the Trading Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O11111 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T side: SL price: 10.02 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	The Trading Desk, upon receipt of the internal route, assigns a new Order Key with *orderID* O9996. The Parent Order Key with *orderID* O11111 must be populated in the *parentOrderID* field. The Parent Order Key links the Order Internal Route Accepted event with the New Order event.
4	Trading Desk routes the order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12350 session: 1109 side: SL	

#	Step	Reported Event		Comments
		price: 10.02 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA		
5	Exchange 1 accepts the order	*Exchange 1 reports a Participant* ***Order Accepted event***		
6	Sales Desk modifies the price of the internal route	*NA*		The Sales Desk is not required to report the modification or cancellation of a route to CAT in Phase 2a.
7	Trading Desk modifies the order per the Sales Desk's instructions	***Option 1*** *Broker 1 reports an* ***Order Internal Route Modified*** *event in Phase 2c*	***Option 2*** *Broker 1 reports an* ***Order Internal Route Cancelled event*** *in Phase 2c* *Broker 1 reports an* ***Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20170801T000000 orderID: O9998 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O11111 eventTimestamp: 20170801T143035.123456 manualFlag: false deptType: T receivingDeskType: T side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	In Option 1, since the Trading desk received a modification of the internal route, the Trading Desk will be required to report an Order Internal Route Modified event in Phase 2c reflecting a modification to the internal route. In Option 2, since the Sales Desk cancelled the original internal route and sent a new internal route at a different price, the Trading Desk will be required to report the receipt of a new internal route. In Phase 2c, the Trading Desk will be required to report an Order Internal Route Cancelled event reflecting the receipt of the internal cancellation.
8	Trading Desk routes the order/modification	***Option 1***	***Option 2***	In Option 1, Broker 1 reports the route of the modification received

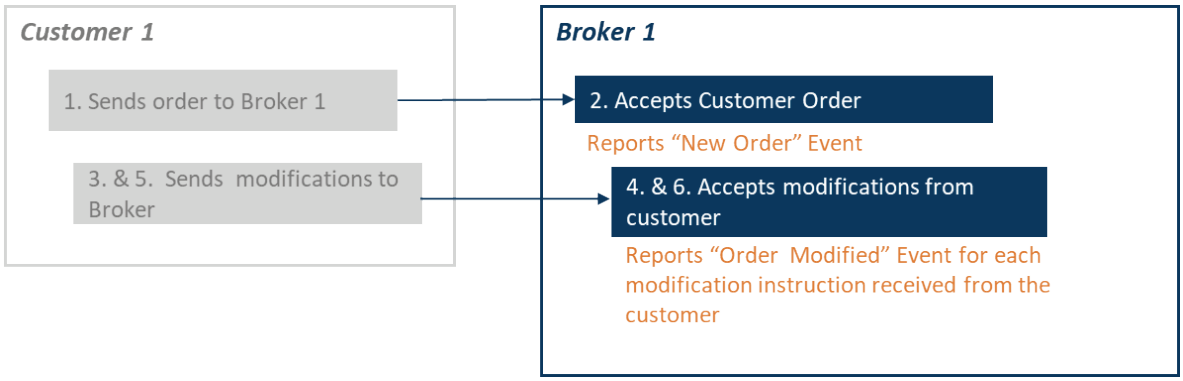
#	Step	Reported Event		Comments
	to the exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ eventTimestamp: 20170801T143035.623456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12360 session: 1109 side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O9998 symbol: XYZ eventTimestamp: 20170801T143035.623456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12360 session: 1109 side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	from the Sales Desk by the Trading Desk. In Option 2, Broker 1 reports the route of the new order received from the Sales Desk by the Trading Desk.
9	Exchange 1 receives the instructions from the Trading Desk	***Option 1*** *Exchange 1 reports a Participant **Order Modified event***	***Option 2*** *Exchange 1 reports a Participant **Order Cancelled event** and **Order Accepted event***	In Option 1, the exchange reports that it received the modification from the Trading Desk. In Option 2, the exchange reports that it received the cancellation of the original order from the Trading Desk, followed by the receipt of a new order.

2.5. Order Modification Scenarios

This section illustrates the CAT reporting requirements when the Material Terms of an order have been changed, or when an order is cancel/replaced. Refer to Section 4.7 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.5.1. Customer Order and Modifications

This scenario illustrates the CAT reporting requirements when a customer places an order with an Industry Member and modifies the order multiple times.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The customer modifications (Order Modified event for each modification instruction)

Based on its order handling practices, the Industry Member may choose to assign a new Order Key to its Order Modified events by assigning a new *orderID*. The steps shown below illustrate how Order Modified events must be reported in scenarios where a new Order Key is assigned (Option 1), and in scenarios where a new Order Key is not assigned (Option 2).

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: IN004	

#	Step	Reported Event		Comments
		accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N		
3	Customer sends the modification request to the Broker 1	*NA*		
4	The customer order is modified at the firm	***OPTION 1*** *Broker 1 reports an* ***Order Modified event*** *using a new Order Key* type: MEOM orderKeyDate: 20180417T000000 orderID: OM12322 symbol: XYZ priorOrderKeyDate: 20180417T0000000 priorOrderID: O12321 eventTimestamp: 20180417T143035.236456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false	***OPTION 2*** *Broker 1 reports an* ***Order Modified event*** *using the same Order Key* type: MEOM orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ priorOrderKeyDate: priorOrderID: eventTimestamp: 20180417T143035.236456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false	If a new Order Key is assigned, the Prior Order Key with *orderID* O12321 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the New Order event. If no new Order Key is assigned, the Prior Order Key fields must be left blank, and the Order Modified event will be linked to the New Order event using the Order Key. Since the modification was received from a non-CAT reporting customer, the *receiverIMID, senderIMID*, *senderType,* and *routedOrderID* fields are not required. Note that, since the change to the order was only to the limit price, an MEOJ event could have alternatively been used to report the customer order modification.
5	Customer sends another modification request to the Broker 1	*NA*		
6	The customer order is modified at the firm	***OPTION 1***	***OPTION 2***	If a new Order Key is assigned, the Prior Order Key with *orderID*

#	Step	Reported Event		Comments
		*Broker 1 reports an **Order Modified event** using a new Order Key* type: MEOM orderKeyDate: 20180417T000000 orderID: OM12323 symbol: XYZ priorOrderKeyDate: 20180417T0000000 priorOrderID: OM12322 eventTimestamp: 20180417T143041.046151 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.01 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false	*Broker 1 reports an **Order Modified event** using the same Order Key* type: MEOM orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ priorOrderKeyDate: priorOrderID: eventTimestamp: 20180417T143041.046151 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.01 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false	OM12322 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the previous Order Modified event. If no new Order Key is assigned, the Prior Order Key fields must be left blank, and the Order Modified event will be linked to the New Order event using the Order Key. Note that, since the change to the order was only to the limit price, an MEOJ event could have alternatively been used to report the customer order modification.

2.5.2. Customer Initiated Modification of an Order Previously Routed to an Exchange

This scenario illustrates the CAT reporting requirements when a customer initiates a modification on an order that the Industry Member had previously routed to an exchange.

Industry Member Broker 1 is required to report:

- The receipt of customer order (New Order event)
- The route to the exchange (Order Route event)
- The customer modification (Order Modified event)
- The route of the modification to the exchange (Order Route event)

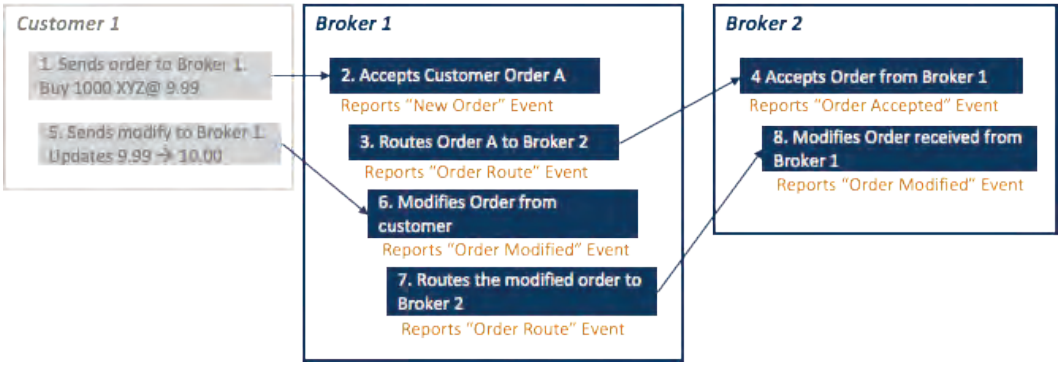
#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to EXCH1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.236456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: RTAO12321	

#	Step	Reported Event	Comments
		session: s6 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
4	EXCH1 accepts the order from Broker 1	*Exchange 1 reports a Participant* ***Order Accepted event***	
5	Customer initiates the modification	*NA*	
6	Broker 1 modifies the customer order per the customer's instructions	*Broker 1 reports an* ***Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: OM12322 symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O12321 eventTimestamp: 20180417T143031.236456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* OM12322. The Prior Order Key with *orderID* O12321 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received from a non-CAT reporting customer, the *receiverIMID, senderIMID*, *senderType,* and *routedOrderID* fields are not required
7	Broker 1 routes the modification to EXCH1	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: OM12322 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180417T143031.254456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: RTAO555 session: s6 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
8	EXCH1 updates the order	*Exchange 1 reports a Participant* ***Order Modified event***	

2.5.3. Customer Initiated Modification of Order Previously Routed to another Industry Member

This scenario illustrates the CAT reporting requirements when a customer initiates a modification on an order that was previously routed to another Industry Member.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)
- The customer modification (Order Modified event)
- The route of the modification to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The modification from Broker 1 (Order Modified event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234556 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: AO222 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417	

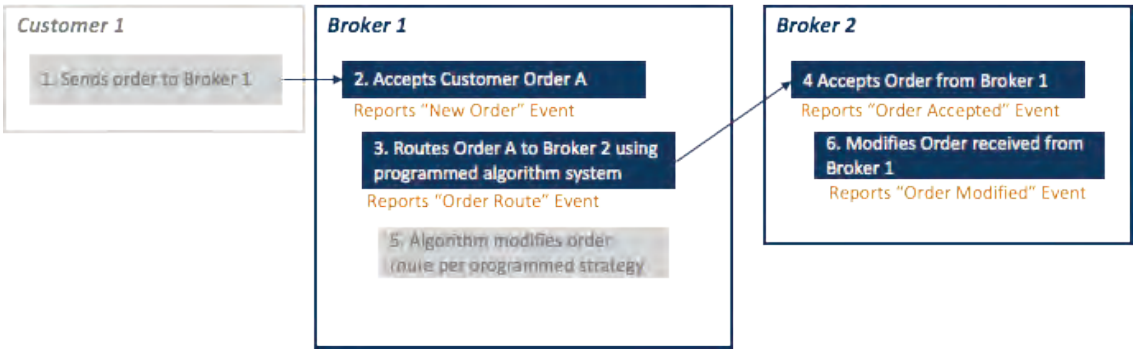
#	Step	Reported Event	Comments
		tradingSession: REG affiliateFlag: false isoInd: NA	
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143035.323556 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: AO222 affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Customer initiates the modification	*NA*	Customer amends order to price of $10.00
6	Broker 1 modifies the order per the customer's instructions	*Broker 1 reports an **Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O23456M symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O23456 eventTimestamp: 20180417T143042.224333 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID:	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* O23456M. The Prior Order Key with *orderID* O23456 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received from a non-CAT reporting customer, the *receiverIMID, senderIMID*, *senderType,* and *routedOrderID* fields are not required.

#	Step	Reported Event	Comments
		initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
7	Broker 1 routes the modification to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456M symbol: XYZ eventTimestamp: 20180417T143042.234333 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: MAO222 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
8	Broker 2 modifies the order per the customer's instructions	*Broker 2 reports an **Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O34567M symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O34567 eventTimestamp: 20180417T143045.524333 manualFlag: false receiverIMID: 456:FRMB	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* O34567M. The Prior Order Key with *orderID* O34567 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the Order Accepted event.

#	Step	Reported Event	Comments
		senderIMID: 123:FRMA senderType: F routedOrderID: MAO222 initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	

2.5.4. System Driven Modification of Previously Routed Order

This scenario illustrates the CAT reporting requirements when an Industry Member uses a trading algorithm[1], which modifies an order that was previously routed to another Industry Member. In this scenario, since the order modification was initiated by the trading algorithm and not by the original customer, the routing Industry Member Broker 1 does not need to report the modification to CAT, as the modification is captured by the receiving Industry Member Broker 2.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)

[1] Trading Algorithm is defined in Appendix F of the CAT Reporting Technical Specifications for Industry Members ("Technical Specifications")

- The modification from Broker 1 (Order Modified event)

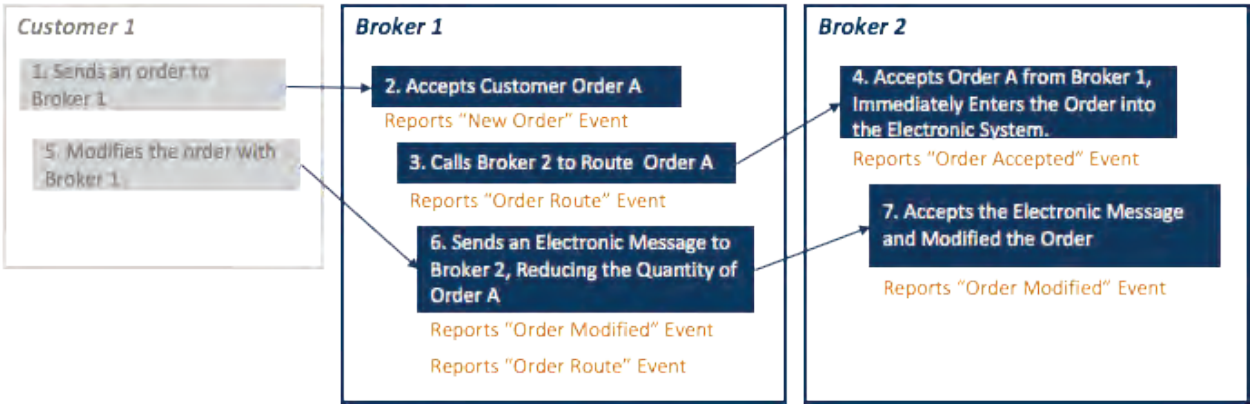
#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PR001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes 500 shares of the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234556 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: AO222 side: B price: 9.98 quantity: 500 orderType: LMT timeInForce: GTT =20180417T143036.000000	In Phase 2c, Broker 1 will be required to populate ‘SMT’ in the *handlingInstructions* field to indicate that the order was routed out by a Smart Router.

#	Step	Reported Event	Comments
		tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143035.323556 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: AO222 affiliateFlag: false deptType: A side: B price: 9.98 quantity: 500 orderType: LMT timeInForce: GTT=20180417T143036.000000 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 1's trading algorithm reduces the quantity to 300 shares	*NA*	
6	Broker 2 modifies the order per Broker 1's instruction	*Broker 2 reports an **Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O34567M symbol: XYZ priorOrderKeyDate: 20170417T000000 priorOrderID: O34567 eventTimestamp: 20180417T143035.524333 manualFlag: false receiverIMID: 456:FRMB	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* O34567M. The Prior Order Key with *orderID* O34567 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the Order Accepted event.

#	Step	Reported Event	Comments
		senderIMID: 123:FRMA senderType: F routedOrderID: AO223 initiator: C side: B price: 9.98 quantity: 300 leavesQty: 300 orderType: LMT timeInForce: GTT=20180417T143036.000000 tradingSession: REG isoInd: NA custDspIntrFlag: false	

2.5.5. Manual Route, Followed by an Electronic Modification

This scenario illustrates Phase 2a reporting requirements when an Industry Member routes an order manually, then sends an electronic message to modify the Material Terms of the order.



Industry Member Broker 1 is required to report:

- The electronic receipt of the customer order (New Order event)
- The manual route of the order to Broker 2 (Order Route event)
- The electronic customer modification (Order Modified event)
- The electronic route of the modification order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The manual receipt of the route from Broker 1 (Order Accepted event)
- The electronic modification from Broker 1 (Order Modified event)

Industry Members are required to report both an *eventTimestamp* and an *electronicTimestamp* for orders that are received manually and subsequently entered into an electronic system. If the order was received and systematized simultaneously, the values for the *eventTimestamp* and the *electronicTimestamp* must be the same. If the order is not systematized, an *electronicTimestamp* is not required. Refer to CAT FAQ G4 for additional information.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 calls Broker 2 to route the order	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143058 manualFlag: true electronicTimestamp: senderIMID: 123:BRK1 destination: 456:BRK2 destinationType: F routedOrderID:	The *eventTimestamp* on the Order Route event must capture the time at which Broker 1 called Broker 2 in step 2 (with granularity to at least seconds). *electronicTimestamp* is not required, since the route was never systematized by Broker 1. *routedOrderID* is not required on orders routed manually.

#	Step	Reported Event	Comments
		side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Broker 2 receives the order and immediately enters the order into an electronic system.	*Broker 2 reports an* ***Order Accepted event*** Type: MEOA orderKeyDate: 20180417T000000 orderID: B2O908 symbol: XYZ eventTimestamp: 20180417T143059.123456 manualFlag: true electronicTimestamp: 20180417T143059.123456 receiverIMID: 456:BRK2 senderIMID: 123:BRK1 senderType: F affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	Since Broker 2 received the order manually and subsequently entered the order into an electronic system, Broker 2 is required to report both an *eventTimestamp* and an *electronicTimestamp.* However, since Broker 2 simultaneously received and entered the order, the *eventTimestamp* and *electronicTimestamp* must reflect the same value.
5	Customer initiates the modification to reduce the order quantity.	NA	
6	Broker 1 electronically modifies the order per the customer's instructions, and routes the modification electronically to Broker 2	*Broker 1 reports an* ***Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O34567M symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O23456	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* O34567M. The Prior Order Key with *orderID* O23456 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received from a non-CAT reporting customer, the *receiverIMID, senderIMID*,

#	Step	Reported Event	Comments
		eventTimestamp: 20180417T143110.123456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 900 leavesQty: 900 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false *Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567M symbol: XYZ eventTimestamp: 20180417T143110.129456 manualFlag: false senderIMID: 123:BRK1 destination: 456:BRK2 destinationType: F routedOrderID: RTO34567 side: B price: 9.99 quantity: 900 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	*senderType,* and *routedOrderID* fields are not required.
7	Broker 2 modifies the order per the customer's instructions.	*Broker 2 reports an **Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O99101 symbol: XYZ	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* O99101. The Prior Order Key with *orderID* B2O908 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the Order Accepted event.

#	Step	Reported Event	Comments
		priorOrderKeyDate: 20180417T000000 priorOrderID: B2O908 eventTimestamp: 20180417T143110.140456 manualFlag: false receiverIMID: 456:BRK2 senderIMID: 123:BRK1 senderType: F routedOrderID: RTO34567 initiator: C price: 9.99 quantity: 900 leavesQty: 900 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	

2.5.6. Order Routing via Smart Router Provided by another Industry Member

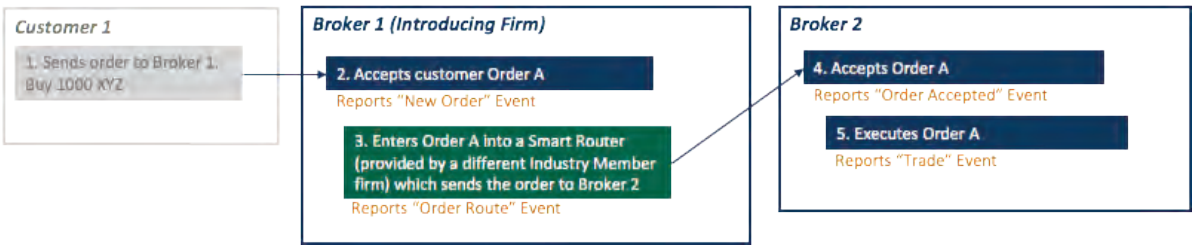
This scenario illustrates the CAT reporting requirements when an introducing firm receives a customer order and enters it directly to a Smart Router provided by another Industry Member. The Smart Router provided by the Industry Member does not need to report to CAT when all of the following conditions apply:

1) The Industry Member providing the order routing system has no discretion over the order once it is entered into the Industry Member's order-routing system. The order routing destination ("Destination Market Center") must either be directed by the originating Industry Member or be subject to the pre-determined algorithm of the routing system agreed to by the originating Industry Member. The Industry Member providing the order routing system would have no involvement relating to the routing of the order, other than providing the routing mechanism.

2) The originating Industry Member must have established a relationship with the Destination Market Center, including meeting any and all applicable requirements to route orders to that destination. The originating Industry Member understands that the Industry Member providing the order routing system has no involvement with respect to the order in any way, except for providing a routing mechanism. No pre-established relationship between the Industry Member providing the order routing system and the Destination Market Center would be necessary for the originating Industry Member to access the routing destination.

3) The Destination Market Center views the order as coming directly from the originating Industry Member, not the Industry Member providing the order routing system, for all purposes, but not limited to, CAT reporting, trade reporting, applicable fees, etc.

4) The originating Industry Member, rather than the member providing the order routing system, identifies itself as the routing firm for purposes for the SEC Rule 606 (formerly SEC Rule 11Ac1-6).



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order through a Smart Router (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

The Industry Member providing the order routing system is not required to report to CAT.

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	*NA*	
2	Broker 1 (as the introducing firm) accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T151018.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417	

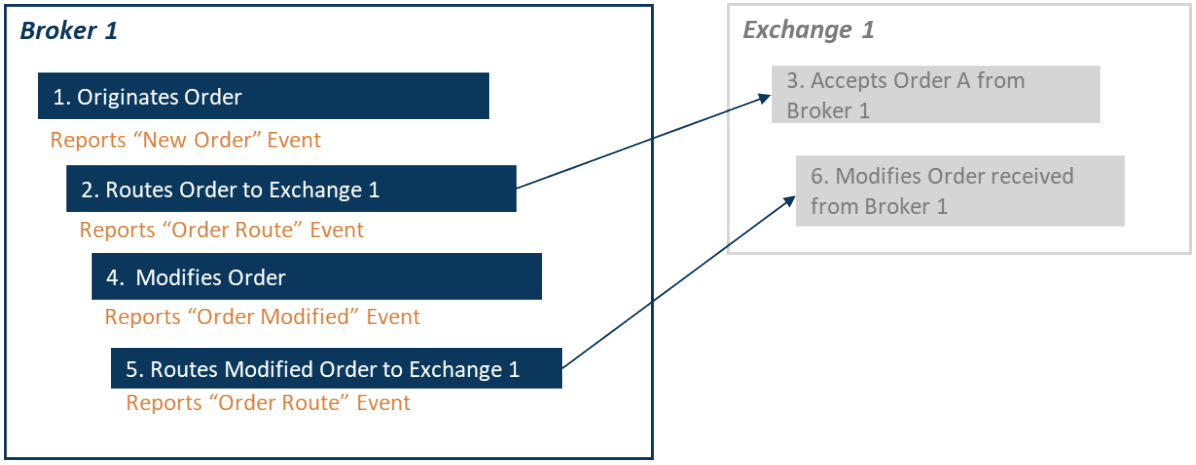
#	Step	Reported Event	Comments
		tradingSession: REG custDspIntrFlag: false firmDesignatedID: FDID358 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 enters the order into the smart router	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T151018.125456 manualFlag: false senderIMID: 123:BRKR1 destination: 456:BRKR2 destinationType: F routedOrderID: SR1112 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	In Phase 2c, Broker 1 will be required to populate 'SMT' in the *handlingInstructions* field to indicate that the order was routed out by a Smart Router.
4	Broker 2 accepts the order from Broker 1 via the smart router	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: B26789 symbol: XYZ eventTimestamp: 20180417T151018.155456 manualFlag: false receiverIMID: 456:BRKR2 senderIMID: 123:BRKR1 senderType: F routedOrderID: SR1112 affiliateFlag: false deptType: T	

#	Step	Reported Event	Comments
		side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 2 matches Broker 1's order with sell order B2O1234 and executes	*Broker 2 reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TB21567 symbol: XYZ eventTimestamp: 20180417T151018.255456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1000 price: 10.00 capacity: A tapeTradeID: TRFB12321 sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: B26789 side: B sellDetails: orderKeyDate: 20180417T000000 orderID: B2O1234 side: SL	

2.5.7. Modification to an Order Previously Routed to an Exchange that requires the use of the Original Routed Order ID

This scenario illustrates CAT reporting requirements when an Industry Member routes an order to an exchange that requires the use of the original Routed Order ID for a modification to an order that was previously routed to that exchange. This scenario is only applicable to orders modified and resent to exchanges with a requirement to reuse the Routed Order ID. In these instances, the routing firm must designate on the Order Route event that the Routed Order ID is duplicated.

This reporting scenario applies to orders originated by the firm as well as orders received from customers and from other Industry Members. The example documented in this scenario represents an order originated by the firm.



Industry Member Broker 1 is required to report:

- The origination of a principal order (New Order event)
- The route to an exchange (Order Route event)
- The order modification (Order Modified event)
- The route of the modification to the exchange (Order Route event)

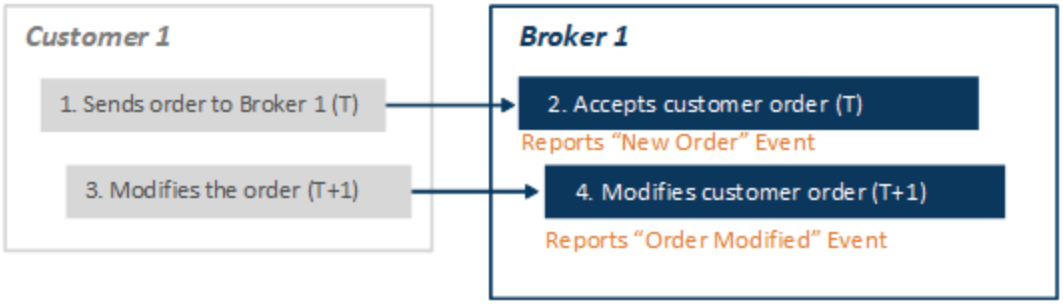
#	Step	Reported Event	Comments
1	Broker 1 originates order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O2500-0 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP55 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false	

#	Step	Reported Event	Comments
		representativeInd: N	
2	Broker 1 routes the order to EXCH1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O2500-0 symbol: XYZ eventTimestamp: 20180417T143030.236456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: ROID-001 session: s6 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA dupROIDCond: false	Since Broker 1 is routing the order to a national securities exchange, *session* must be populated.
3	EXCH1 accepts the order from Broker 1	*Exchange 1 reports a Participant **Order Accepted event***	
4	Broker 1 modifies the order	*Broker 1 reports an **Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O2500-1 symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O2500-0 eventTimestamp: 20180417T143031.236456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: F side: B	Broker 1 modifies the order and assigns a new Order Key with *orderID* O2500-1. The Prior Order Key with *orderID* O2500-0 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the New Order event.

#	Step	Reported Event	Comments
		price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false representativeInd: N	
5	Broker 1 routes the modification to EXCH1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O2500-1 symbol: XYZ eventTimestamp: 20180417T143031.254456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: ROID-001 session: s6 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA dupROIDCond: true	Since Broker 1 is routing to an exchange which requires the reuse of the original Routed Order ID: • The *routedOrderID* is populated with the same value as what was originally sent to the exchange • The *dupROIDCond* field is set to true. When true, CAT will allow the duplicated Route Linkage Key.
6	EXCH1 updates order	*Exchange 1 reports a Participant **Order Modified event***	

2.5.8. Modification of a Multi-day Order

This scenario illustrates the CAT reporting requirements when a customer places an order with an Industry Member and modifies the order on a subsequent day.



Industry Member Broker 1 is required to report:

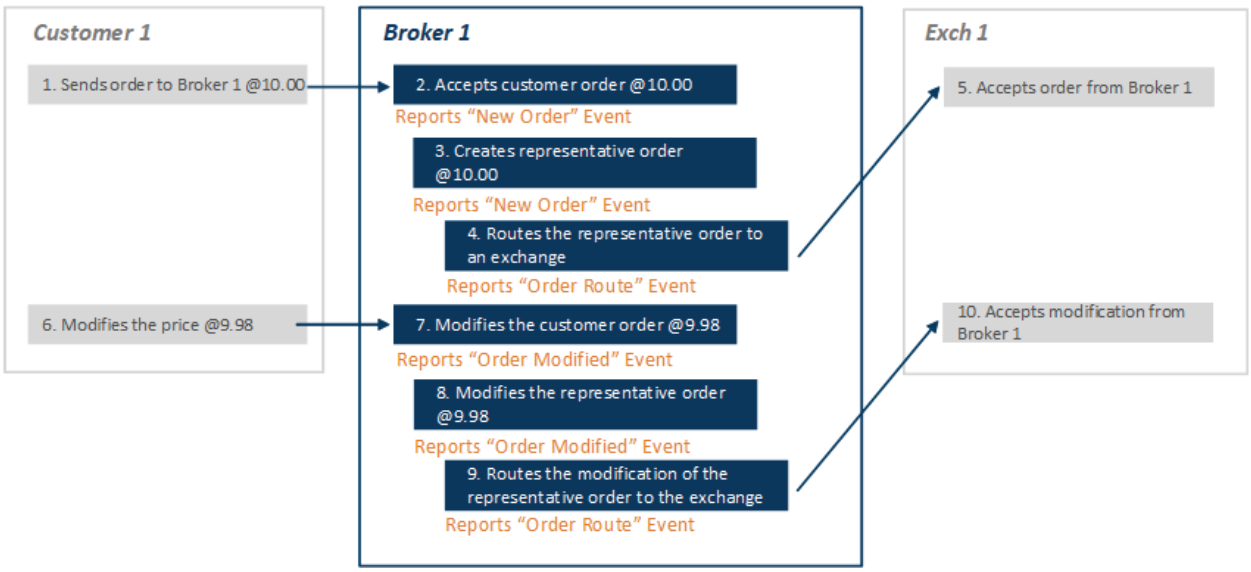
- The receipt of the customer order on T (New Order event)
- The customer modification on T+1 (Order Modified event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: GTC tradingSession: REG custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer sends the modification request to the Broker 1 on T+1	*NA*	
4	The customer order is modified at the firm on T+1	*Broker 1 reports an **Order Modified event*** type: MEOM	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* OM12322. The Prior Order Key with *orderID*

#	Step	Reported Event	Comments
		orderKeyDate: 20180418T000000 orderID: OM12322 symbol: XYZ priorOrderKeyDate: 20180417T0000000 priorOrderID: O12321 eventTimestamp: 20180418T143035.236456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: GTC tradingSession: REG custDspIntrFlag: false representativeInd: N	O12321 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the New Order event. The *orderKeyDate* reflects the date and time that the new Order Key was assigned on T+1. The *priorOrderKeyDate* reflects the date and time that the Prior Order Key was assigned on T. Since the modification was received from a non-CAT reporting customer, the *receiverIMID, senderIMID*, *senderType,* and *routedOrderID* fields are not required.

2.5.9. Modification of a Customer Order Resulting in a Modification to the Corresponding Representative Order

This scenario illustrates the CAT reporting requirements when a customer modifies an order, which results in a modification to the corresponding representative order. In this example, Industry Member Broker 1 generates a representative order to facilitate the execution of a customer order, and routes the order to an exchange for execution. The customer subsequently modifies the limit price on its order, and Broker 1 updates the limit price on its corresponding representative order.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of a representative order (New Order event)
- The route of the representative order to an exchange (Order Route event)
- The receipt of the customer Modification (Order Modified event)
- The modification of the representative order (Order Modified Event)
- The route of the modification to the exchange (Order Route event)

In phase 2a, explicit linkage between the customer order and the representative order is required, since the representative order was originated specifically to represent a single customer order and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system.

#	Step	Reported Event	Comments
1	The customer sends an order to Broker 1	N/A	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false	

#	Step	Reported Event	Comments
		deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C12345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C0005 accountHolderType: P affiliateFlag: false aggregatedOrders: O12345@20170801T000000@@ negotiatedTradeFlag: false representativeInd: Y	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.
4	Broker 1 routes the representative order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143031.123456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12350 session: 1109 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
5	Exchange 1 accepts the order	*Exchange 1 reports a Participant* ***Order Accepted event***	
6	Customer sends a request to the Broker 1 to modify the limit price	*NA*	
7	Broker 1 modifies the limit price on the customer order per the customer instruction	*Broker 1 reports an* ***Order Modified event*** type: MEOM orderKeyDate: 20170801T000000 orderID: OM12345 symbol: XYZ priorOrderKeyDate: 20170801T000000 priorOrderID: O12345 eventTimestamp: 20170801T143035.123456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 9.98 quantity: 500 leavesQty: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false	

#	Step	Reported Event	Comments
		representativeInd: N	
8	Broker 1 modifies the limit price on the corresponding representative order	*Broker 1 reports an **Order Modified event*** type: MEOM orderKeyDate: 20170801T000000 orderID: OM12350 symbol: XYZ priorOrderKeyDate: 20170801T000000 priorOrderID: O12350 eventTimestamp: 20170801T143035.523456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: F side: B price: 9.98 quantity: 500 leavesQty: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false aggregatedOrders: OM12345@20170801T000000@@ representativeInd: Y	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated, and must reflect the change in *orderID* of the related customer order.
9	Broker 1 routes the modification of the representative order to the exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: OM12350 symbol: XYZ eventTimestamp: 20170801T143035.823456 manualFlag: false senderIMID: 123:BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12360 session: 1109 side: B	

#	Step	Reported Event	Comments
		price: 9.98 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
10	Exchange 1 accepts the modification	*Exchange 1 reports a Participant* ***Order Modified event***	

2.6. Cancellation Scenarios

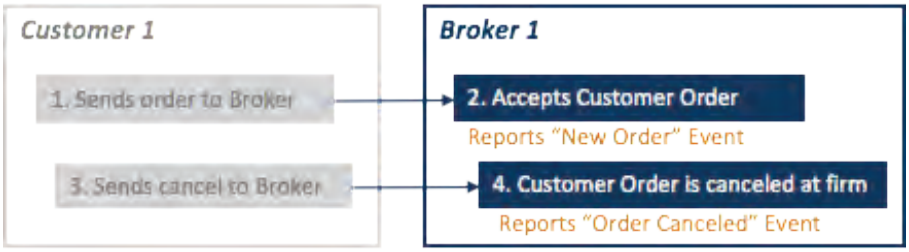
This section illustrates the CAT reporting requirements when an order is fully or partially cancelled. Refer to Section 4.10 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.6.1. Full cancellation of a Customer Order

This scenario illustrates the CAT reporting requirements when a customer cancels an order placed with an Industry Member on the same day that it was created.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The customer cancellation (Order Cancelled event)



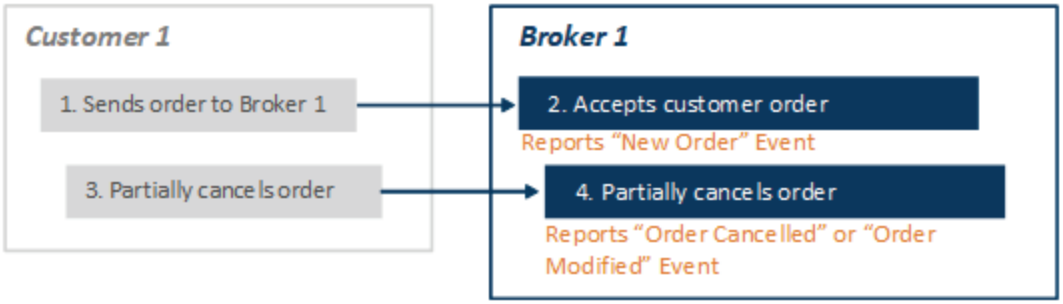
For illustration purposes, actions taken by the Broker between the receipt of the original order and the customer cancellation are not included.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a* ***New Order event*** type: MENO	

#	Step	Reported Event	Comments
		orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer sends the cancel instruction to Broker 1	*NA*	
4	Broker 1 cancels the customer order	*Broker 1 reports an* ***Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.323556 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: C	

2.6.2. Partial Cancellation of an Order

The following scenario illustrates the CAT reporting requirements when a customer partially cancels an order placed with an Industry Member on the same day that it was created. The Industry Member may report the partial cancellation using either an Order Cancelled event or an Order Modified event.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The customer's partial cancellation (Order Cancelled or Order Modified event)

Based on its order handling practices, the Industry Member may choose to report this activity to CAT using either an Order Cancelled event or an Order Modified event. The steps shown below illustrate this activity must be reported in scenarios where an Order Cancelled event is reported (Option 1), and in scenarios where an Order Modified event is reported (Option 2).

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUS004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer partially cancels	*NA*	

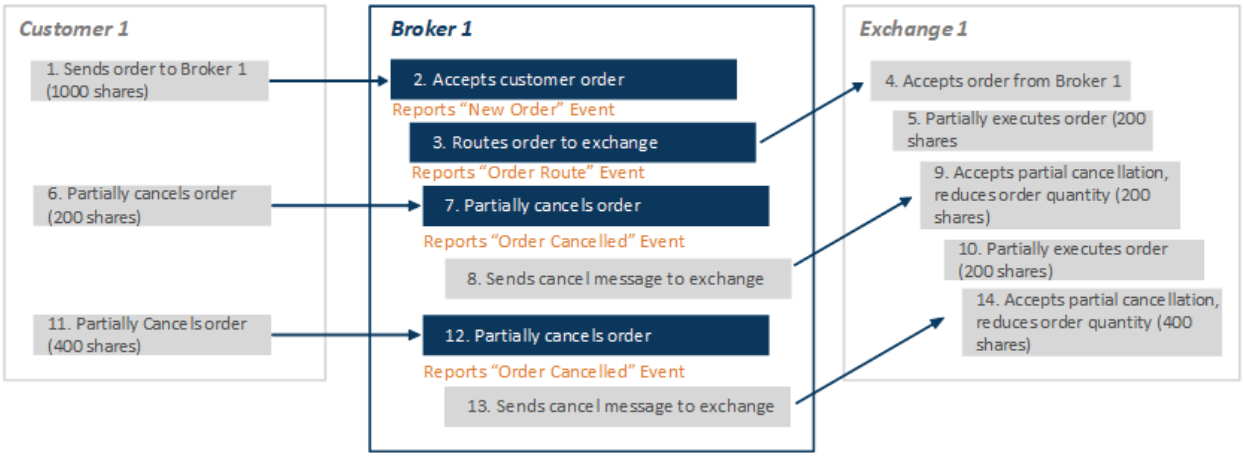
#	Step	Reported Event		Comments
	initial order			
4	Broker 1 partially cancels the order per the customer's instruction	***OPTION 1*** *Broker 1 reports an* ***Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180417T153036.123456 manualFlag: false cancelQty: 400 leavesQty: 600 initiator: C	***OPTION 2*** *Broker 1 reports an* ***Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O12345 symbol: XYZ priorOrderID: O12345 priorOrderKeyDate: 20180417T000000 eventTimestamp: 20180417T153038.234456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 600 leavesQty: 600 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false representativeInd: N	

2.6.3. Partial Cancellation of a Partially Executed Order

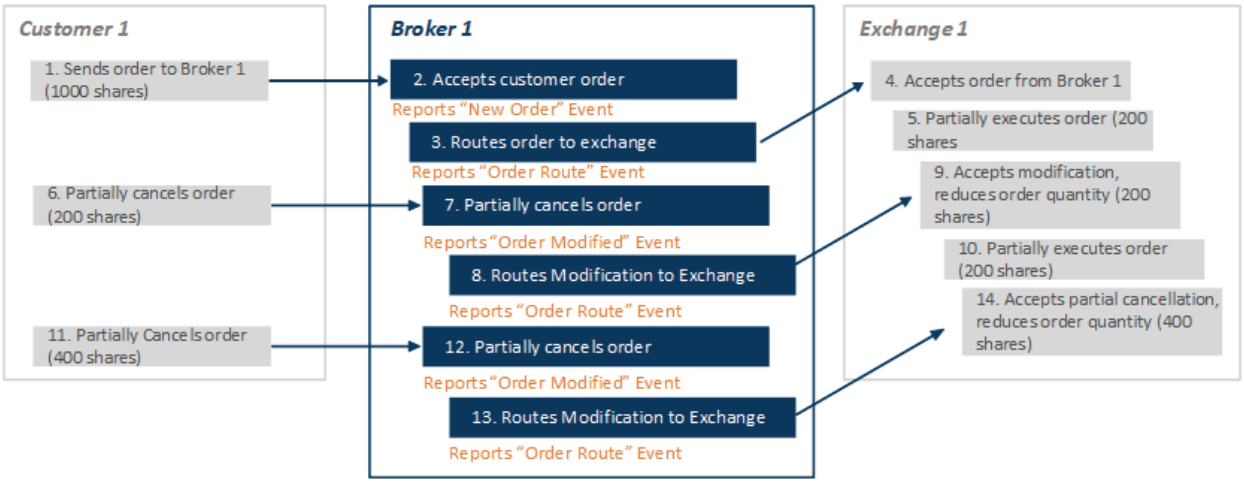
The following scenario illustrates the CAT reporting requirements when a customer reduces the shares quantity on an order that has been partially executed. The Industry Member may choose to report the partial cancellation using either an Order Cancelled event or an Order Modified event based on its order handling practices.

In this scenario, Industry Member Broker 1 receives a customer order for 1,000 shares, and routes the order to an exchange for execution. Broker 1 receives a partial execution of 200 shares on the exchange, then receives an instruction from the customer to reduce the shares quantity by 200 shares. Broker 1 receives another partial execution for 200 shares, then receives an instruction from the customer to reduce the quantity of the order to 400 shares, leaving the customer order as fully executed.

Reporting Option 1 (Order Cancelled events):



Reporting Option 2 (Order Modified events):



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route to the exchange (Order Route event)
- Each of the customer's partial cancellations using one of the following options:
  - Option 1: Order Cancelled events
  - Option 2: Order Modified and Order Route events

Based on its order handling practices, the Industry Member may choose to report this activity using Order Cancelled events or Order Modified events. The steps shown below illustrate this activity must be reported in scenarios where an Order Cancelled event is reported (Option 1), and in scenarios where an Order Modified event is reported (Option 2).

#	Step	Reported Event	Comments
1	Customer sends	*NA*	

#	Step	Reported Event	Comments
	the order to Broker 1		
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUS004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153035.534456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: S5 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Exch 1 accepts	*Exch 1 reports a Participant **Order Accepted event***	

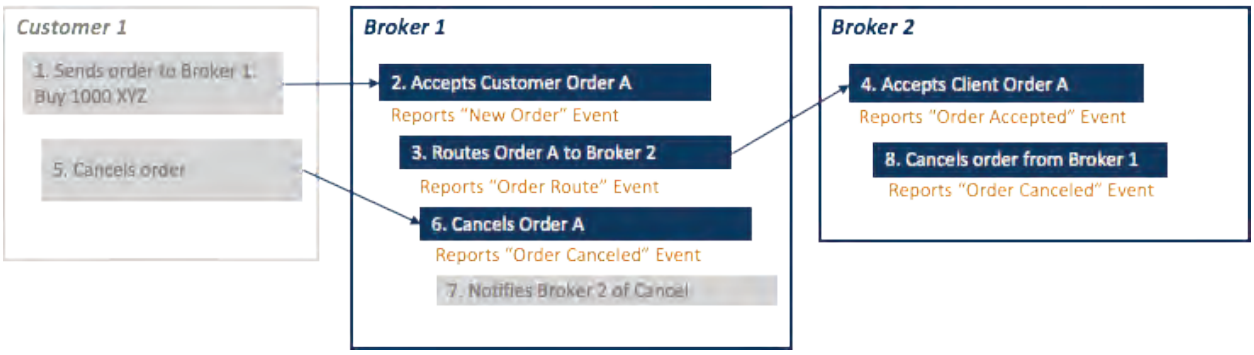
#	Step	Reported Event		Comments
	the order from Broker 1			
5	Exch 1 executes 200 shares of the order	*Exch 1 reports a Participant* ***Trade event***		
6	Customer reduces the quantity of the order by 200 shares	*NA*		
7	Broker 1 reduces the quantity of the order by 200 shares per the customer's instruction	***OPTION 1*** *Broker 1 reports an* ***Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153036.123456 manualFlag: false cancelQty: 200 leavesQty: 600 initiator: C	***OPTION 2*** *Broker 1 reports an* ***Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ priorOrderKeyDate: priorOrderID: eventTimestamp: 20180417T153036.534456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 800 leavesQty: 600 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false representativeInd: N	The *leavesQty* should reflect that the original order for 1,000 shares was partially executed by 200 shares and then reduced by 200 shares, leaving 600 shares open on the order. In this example, Broker 1 maintains the same orderID throughout the entire order.
8	Broker 1 instructs the exchange to reduce the shares quantity of the order	***OPTION 1*** *NA*	***OPTION 2*** *Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O45678	When reporting this activity to CAT using Option 1, Broker 1 is not required to report that a cancel message was sent to the exchange. When reporting this activity to CAT using

#	Step	Reported Event		Comments
			symbol: XYZ eventTimestamp: 20180417T153036.834456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO558 session: S5 side: B price: 10.00 quantity: 800 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	Option 2, Broker 1 must report the route of the modification to the exchange.
9	Exch 1 accepts the instruction to reduce the shares quantity from Broker 1	*Exch 1 reports a Participant* ***Order Cancelled event***	*Exch 1 reports a Participant* ***Order Modified event***	
10	Exch 1 executes 200 shares of the order	*Exch 1 reports a Participant* ***Trade event***		
11	Customer reduces the quantity of the order by 400 shares	*NA*		
12	Broker 1 reduces the quantity of the order by 400 shares per the customer's instruction	***OPTION 1*** *Broker 1 reports an* ***Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153037.123456 manualFlag: false cancelQty: 400 leavesQty: 0 initiator: C	***OPTION 2*** *Broker 1 reports an* ***Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ priorOrderKeyDate: priorOrderID: eventTimestamp: 20180417T153037.534456 manualFlag: false receiverIMID: senderIMID:	The *leavesQty* should reflect that after the previous reduction leaving 600 shares open, the order was partially executed by 200 shares then reduced by 400 shares, leaving no shares open on the order.

#	Step	Reported Event		Comments
			senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 400 leavesQty: 0 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false representativeInd: N	
13	Broker 1 instructs the exchange to reduce the shares quantity of the order	***OPTION 1*** *NA*	***OPTION 2*** *Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153037.834456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO560 session: S5 side: B price: 10.00 quantity: 400 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
14	Exch 1 accepts the instruction to reduce the shares quantity from Broker 1	*Exch 1 reports a Participant* ***Order Cancelled event***	*Exch 1 reports a Participant* ***Order Modified event***	

2.6.4. Industry Member Cancels an Order Previously Routed to Another Industry Member

This scenario illustrates the CAT reporting requirements when a customer cancels an order that was previously routed to another Industry Member.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to Broker 2 (Order Route event)
- The customer cancellation of the order (Order Cancelled event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The cancellation of the order (Order Cancelled event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1.	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG	

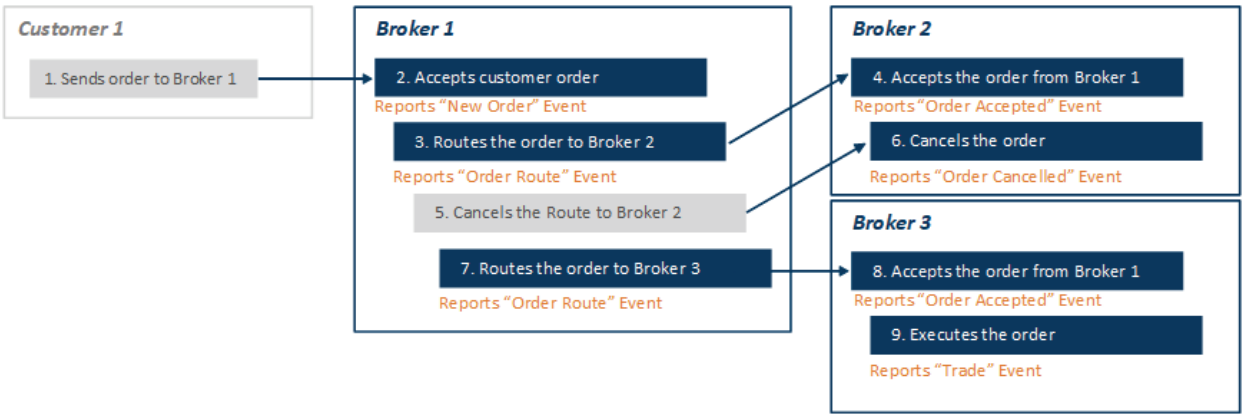
#	Step	Reported Event	Comments
		custDspIntrFlag: false firmDesignatedID: CUS1234 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ eventTimestamp: 20180417T150335.244456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: RO56575XYZ side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: OB12345 symbol: XYZ eventTimestamp: 20180417T150335.344456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: RO56575XYZ affiliateFlag: false deptType: T side: B price: 10.00	

#	Step	Reported Event	Comments
		quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Customer cancels the order	*NA*	
6	Broker 1 cancels the order per the customer's instruction	*Broker 1 reports an **Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ eventTimestamp: 20180417T150336.123456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: C	
7	Broker 1 notifies Broker 2 that the order was cancelled	*NA*	
8	Broker 2 cancels the order per the customer's instruction	*Broker 2 reports an **Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: OB12345 symbol: XYZ eventTimestamp: 20180417T150336.423456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: C	

2.6.5. Industry Member Cancels a Route to Another Industry Member

This scenario illustrates the CAT reporting requirements when an Industry Member cancels a route that was sent to another Industry Member. In this scenario, Industry Member Broker 1 routes an order to

Industry Member Broker 2. Broker 1 then cancels the route that was sent to Broker 2 and routes the order to Broker 3 where the order is executed.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to Broker 2 (Order Route event)
- The route of the customer order to Broker 3 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The cancellation of Broker 1's order (Order Cancelled event)

Industry Member Broker 3 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of Broker 1's order (Trade event)

Although Broker 1 cancelled the route that was sent to Broker 2, the customer order remained open in Broker 1's books and records, and the order was further routed to Broker 3. Therefore, Broker 1 is not required to report the cancellation of the route that was sent to Broker 2. This guidance would also apply if Broker 1 routed the order to an exchange as opposed to another broker-dealer. Since the order in Broker 2's books and records is fully cancelled, Broker 2 is required to report the cancellation of the order to CAT.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000	

#	Step	Reported Event	Comments
		orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: XYZO555 session: side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA	

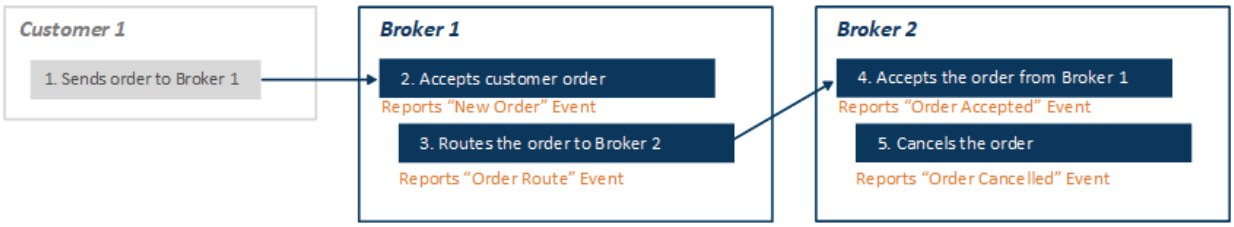
#	Step	Reported Event	Comments
		orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143035.634456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 1 cancels the route to Broker 2	*NA*	Since the customer order is still open in Broker 1's books and records, Broker 1 is not required to report the cancellation of the route to Broker 2.
6	Broker 2 acknowledges the cancellation from Broker 1 and cancels the order.	*Broker 2 reports an **Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143036.334456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: C	
7	Broker 1 routes the order to Broker 3	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036.534456	

#	Step	Reported Event	Comments
		manualFlag: false senderIMID: 123:FRMA destination: 789:FRMC destinationType: F routedOrderID: XYZO560 session: side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
8	Broker 3 accepts the order from Broker 1	*Broker 3 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O6789 symbol: XYZ eventTimestamp: 20180417T143036.634456 manualFlag: false receiverIMID: 789:FRMC senderIMID: 123:FRMA senderType: F routedOrderID: XYZO560 affiliateFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
9	Broker 3 executes the order	*Broker 3 reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ124 symbol: XYZ	The *buyDetails* reflect the details of customer order O6789. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		eventTimestamp: 20180417T143037.234456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1000 price: 9.99 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O6789 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	

2.6.6. Firm Initiated Cancellation of a Customer Order

This scenario illustrates the CAT reporting requirements when an Industry Member cancels an order received from another Industry Member. In this scenario, Industry Member Broker 1 routes an order to Industry Member Broker 2. Broker 2 later cancels the order that it received from Broker 1 due to market conditions.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The cancellation of Broker 1's order (Order Cancelled event)

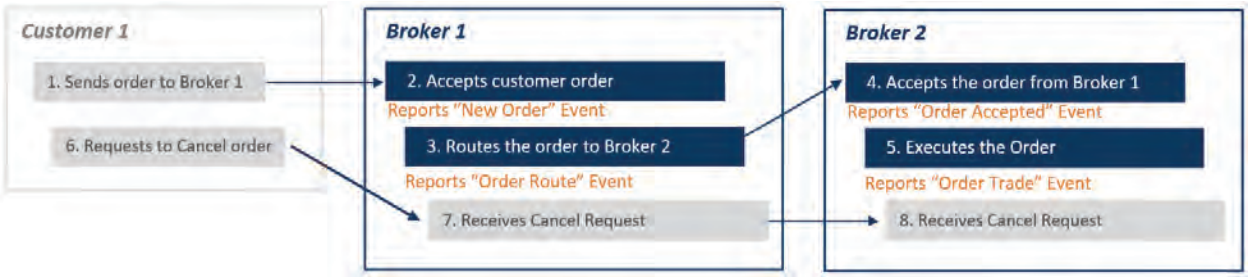
Since the cancellation was initiated by Broker 2, Broker 1 is not required to report an Order Cancelled event to CAT.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: XYZO555 session: side: B price: 9.99 quantity: 1000 orderType: LMT	

#	Step	Reported Event	Comments
		timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143036.234456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 2 cancels the customer order	*Broker 2 reports an **Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143038.234456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: F	

2.6.7. Customer Requests to Cancel an Order that has Already Been Fully Executed

This scenario illustrates the CAT reporting requirements when an Industry Member attempts to cancel an order that has already been fully executed. In this scenario, Industry Member Broker 1 receives a customer order, and routes the order to Broker 2 for execution. The customer cancels the order, but the order was fully executed several milliseconds before the cancellation was initiated by the customer.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of Broker 1's order (Trade event)

In accordance with CAT FAQ B42, Broker 1 and Broker 2 are not required to report an Order Cancel Request event in Phase 2d, since the request was received after the order was fully executed. However, this activity may be required in future phases of CAT. If Broker 1 or Broker 2 choose to optionally report an Order Cancel Request event, it will not be rejected by CAT in accordance with CAT FAQ P14.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B	

#	Step	Reported Event	Comments
		price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: XYZO555 session: side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143035.634456 manualFlag: false receiverIMID: 456:FRMB	

#	Step	Reported Event	Comments
		senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 2 executes the order	*Broker 2 reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ124 symbol: XYZ eventTimestamp: 20180417T143037.234456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1000 price: 9.99 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O34567 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	The *buyDetails* reflect the details of customer order O34567. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.
6	Customer instructs Broker 1 to cancel the order several milliseconds after the order has been executed	*NA*	Broker 1 is not required to report an Order Cancel Request event since the order has already been fully executed.
7	Broker 2 receives the	*NA*	Broker 2 is not required to report an

#	Step	Reported Event	Comments
	cancellation instruction from Broker 1		Order Cancel Request event since the order has already been fully executed.

2.6.8. Unsolicited Cancellation of a Customer Order by an Exchange

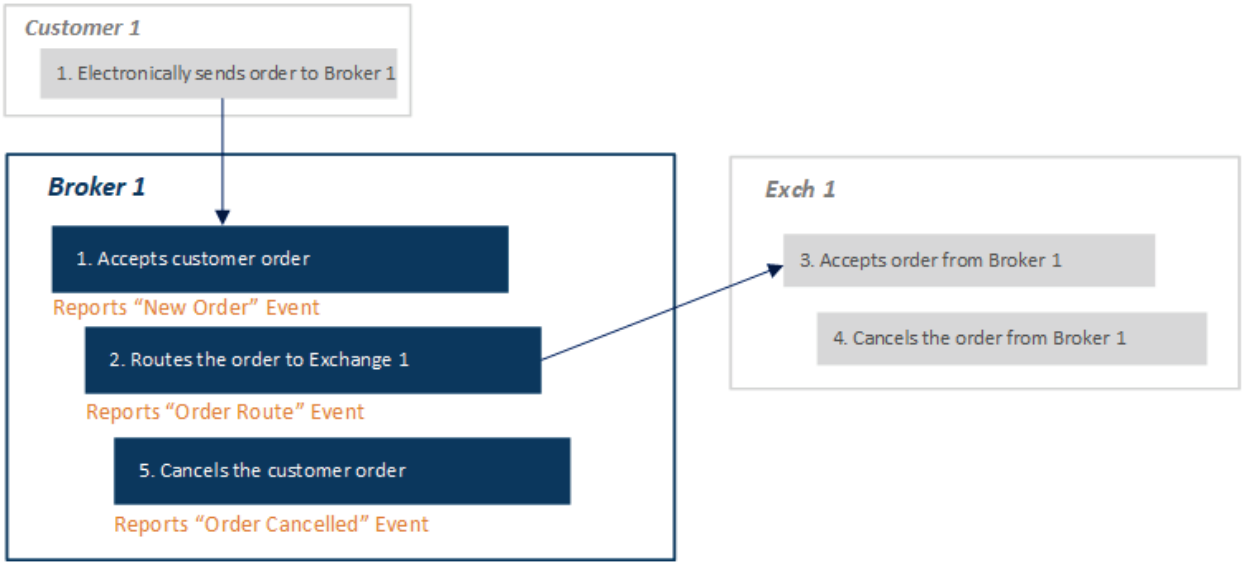
This scenario illustrates the CAT reporting requirements when an Industry Member routes a customer order to an exchange, and the exchange cancels the order without receiving an explicit cancel request. In this scenario, Industry Member Broker 1 receives a customer order, and routes the order to an exchange for execution. The exchange accepts the order, then cancels the order without receiving an explicit cancel request. Note that there is a distinction from implicit cancels, such as IOC orders or DFD messages. In these cases, Industry Members are not required to report a cancellation because it is implied by the circumstances.

The reporting requirements in this scenario depend on the actions taken by Broker 1 upon receipt of the unsolicited cancellation from the exchange. Broker 1 is not required to report the unsolicited cancellation by the exchange. However, Broker 1 is required to report any action that it takes on the order as a result of the unsolicited cancellation, including a cancellation of the order on its own books and records, as outlined in Option 1.

If the order remains open on Broker 1's books and records after receipt of the unsolicited cancellation, Broker 1 must report any subsequent action on the order, such as a route to another venue, as outlined in Option 2.

Option 1

Upon cancellation by the exchange, Broker 1 cancels the order on its books and records.



Industry Member Broker 1 is required to report:

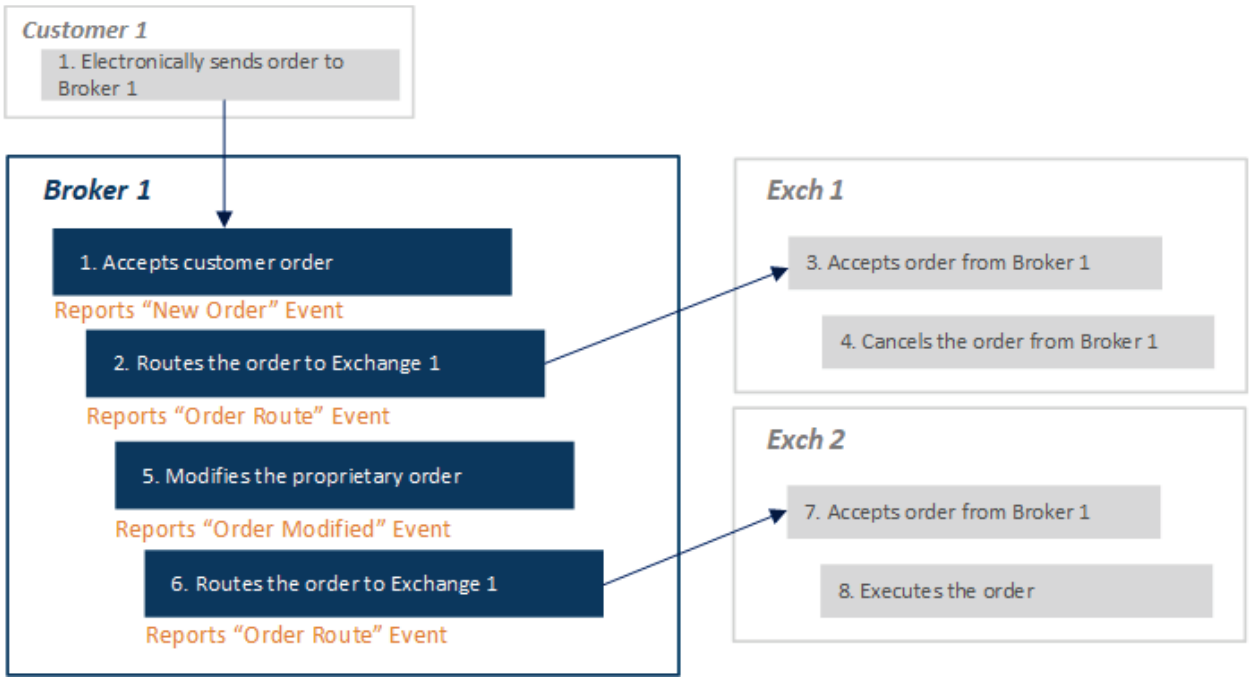
- The receipt of the customer order (New Order event)
- The route of the customer order to the exchange (Order Route event)
- The cancellation of the customer order (Order Cancelled event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to the exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: SESS-1	

#	Step	Reported Event	Comments
		side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant* ***Order Accepted event***	
5	Exch 1 cancels the order	*Exch 1 reports a Participant* ***Order Cancelled event***	
6	Broker 1 cancels the customer order	*Broker 1 reports an* ***Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036.534456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: F	Since Broker 1 made the determination to cancel the customer order upon receipt of the cancellation from the exchange, the *initiator* field should be populated with a value of "F".

Option 2:

Upon cancellation by the exchange, Broker 1 routes the order to another venue.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Exchange 1 (Order Route event)
- The route of the order to Exchange 2 (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001	

#	Step	Reported Event	Comments
		accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Exchange 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: SESS-1 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
5	Exch 1 cancels the order	*Exch 1 reports a Participant **Order Cancelled event***	
6	Broker 1 routes the order to Exchange 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036.534456 manualFlag: false senderIMID: 123:FRMA destination: EXCH2 destinationType: E routedOrderID: XYZO560	

#	Step	Reported Event	Comments
		session: SESS-5 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
7	Exch 2 accepts the order from Broker 1	*Exch 2 reports a Participant **Order Accepted event***	
8	Exch 2 executes the order	*Exch 2 reports a Participant **Trade event***	

2.7. ATS Reporting Scenarios

This section illustrates the CAT reporting requirements for ATSs. Refer to Section 3.1 of the CAT Reporting Technical Specifications for Industry Members and Section H of the CAT FAQs regarding ATSs for additional information.

2.7.1. ATS Cross with One Order on Each Side

This scenario illustrates the CAT reporting requirements when a firm's ATS receives two Industry Member subscriber orders and crosses them.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the customer order (New Order event)

- The route of the order to the ATS (Order Route event)

Industry Member ATS A is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The receipt of the order from Broker 2 (Order Accepted event)
- The Cross of Broker 1's order with Broker 2's order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a BUY order to Broker 1.	*NA*	
2	Broker 1 receives the BUY order from the customer	*Broker 1 (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the BUY order to ATS A	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false senderIMID: 123:FRMA destination: 456:ATSA destinationType: F routedOrderID: ABCDXYZ555	

#	Step	Reported Event	Comments
		side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	
4	ATS A accepts the buy order routed from Broker 1	*ATS A (IMID = ATSA) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O88855 symbol: XYZ eventTimestamp: 20170801T143032.523456 manualFlag: false receiverIMID: 456:ATSA senderIMID: 123:FRMA senderType: F routedOrderID: ABCDXYZ555 affiliateFlag: false deptType: ATS side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1240 atsDisplayInd: N displayPrice: 0 workingPrice: 10.01 displayQty: 0 atsOrderType: P2 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20170801T143032.523456	
5	Customer sends a SELL order to Broker 2	*NA*	

#	Step	Reported Event	Comments
6	Broker 2 receives the SELL order from the customer	*Broker 2 (IMID=FRMB) reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O555 symbol: XYZ eventTimestamp: 20170801T143031.523456 manualFlag: false deptType: A side: SL price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC555 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
7	Broker 2 routes the SELL order to ATS A	*Broker 2 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O555 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false senderIMID: 123:FRMB destination: 456:ATSA destinationType: F routedOrderID: ABCDXYZ556 side: SL price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
8	ATS A accepts the SELL order routed from Broker 2	*ATS A (IMID = ATSA) reports an **Order Accepted event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O88856 symbol: XYZ eventTimestamp: 20170801T143032.523456 manualFlag: false receiverIMID: 456:ATSA senderIMID: 123:FRMB senderType: F routedOrderID: ABCDXYZ556 affiliateFlag: false deptType: ATS side: SL price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1260 atsDisplayInd: N displayPrice: 0 workingPrice: 10.01 displayQty: 0 atsOrderType: P2 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20170801T143032.523456	
9	ATS A performs the cross, and the orders are executed.	*ATS A reports a **Trade event** with O88855 and O88856 on the sides* type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20170801T143033.523456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 300	The MEOT reported by ATSA must link to the related media trade report through the *tapeTradeID* field. ATSA is **not** required to link to any non-media trade reports.

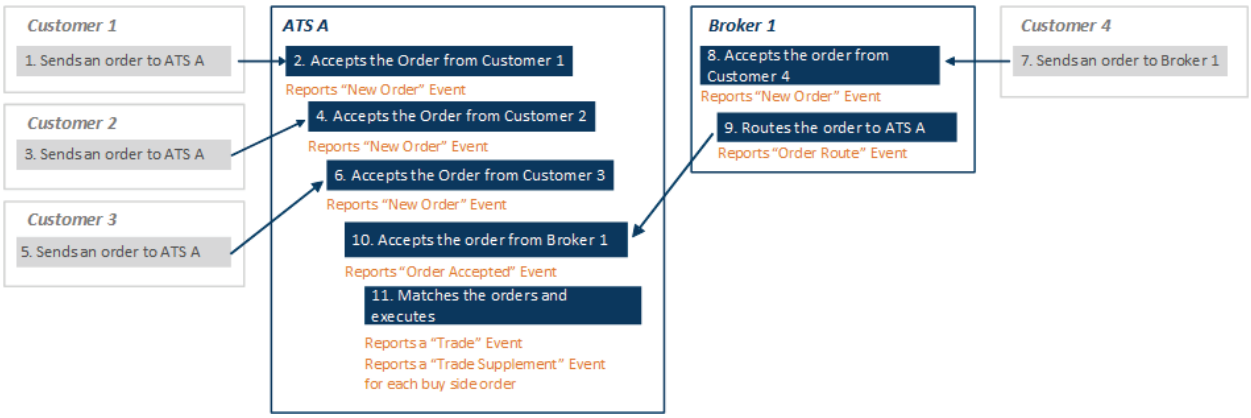
#	Step	Reported Event	Comments
		price: 10.01 capacity: A tapeTradeID: BRSEQ8000 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O88855 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: O88856 side: SL seqNum: 1271 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20170801T143033.523456	

2.7.2. ATS Cross with Multiple Orders on One Side

This scenario illustrates the CAT reporting requirements when an ATS matches as agent the orders of multiple customers on one side with the order of one customer on the other side. If the matches occur in a single execution or a "single event" (e.g., with the press of a button or pursuant to an automated execution algorithm), and the transaction is reported to the tape as a single transaction (e.g., a single cross), the ATS must report an MEOT event, followed by subsequent MEOTS events.

Sequential executions, even those occurring very close in time, would not be considered a single event and must be reported as separate MEOTs.

This scenario illustrates reporting requirements when using an MEOTS event.



Industry Member Broker 1 is required to report:

- The receipt of Customer 4's order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A is required to report:

- The receipt of Customer 1's order (New Order event)
- The receipt of Customer 2's order (New Order event)
- The receipt of Customer 3's order (New Order event)
- The receipt of Broker 1's order (Order Accepted event)
- Matching of Broker 1's order with Customer 1's Order, Customer 2's Order and Customer 3's Order, and execution (Trade event)
- Side Details of Customer 1's Order (Trade Supplement Event)
- Side Details of Customer 2's Order (Trade Supplement Event)
- Side Details of Customer 3's Order (Trade Supplement Event)

#	Step	Reported Event	Comments
1	Customer 1 sends a Buy order to ATS A	*NA*	
2	ATS A accepts the customer order	*ATS A reports a* ***New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 500	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1201 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 9.99 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.234455	
3	Customer 2 sends a Buy order to ATS A	*NA*	
4	ATS A accepts the customer order	*ATS A reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O123999 symbol: XYZ eventTimestamp: 20180416T153035.334456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 300 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS567 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1235 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0	

#	Step	Reported Event	Comments
		atsOrderType: P1 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.334454	
5	Customer 3 sends a Buy order to ATS A	*NA*	
6	ATS A accepts the customer order	*ATS A reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12500 symbol: XYZ eventTimestamp: 20180416T153035.334456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 400 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS789 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1236 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.334454	
7	Customer 4 sends a Sell order to Broker 1	*NA*	
8	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO	

#	Step	Reported Event	Comments
		orderKeyDate: 20180416T000000 orderID: O8000 symbol: XYZ eventTimestamp: 20180416T153036.334456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST-IN200 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false	
9	Broker 1 routes the order to ATS A	*Broker 1 (IMID = BRKA) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: O8000 symbol: XYZ eventTimestamp: 20180416T153036.500456 manualFlag: false senderIMID: 123:BRKA destination: 456:ATSA destinationType: F routedOrderID: ATSAXYZ8000 side: SL price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	
10	ATS A accepts the order routed from Broker 1	*ATS A (IMID = ATSA) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180416T000000 orderID: O88855 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180416T153036.544456 manualFlag: false receiverIMID: 456:ATSA senderIMID: 123:BRKA senderType: F routedOrderID: ATSAXYZ8000 affiliateFlag: false deptType: ATS side: SL price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1240 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P2 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.444454	
11	ATS A matches Broker 1's order with Customer 1's order, Customer 2's Order and Customer 3's Order, and executes.	*ATS A reports a **Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1200 price: 10.00 capacity: A tapeTradeID: BRSEQ9000 marketCenterID: DN sideDetailsInd: NA sellDetails: orderID: O88855 orderKeyDate:	Since there was only one order on the sell side, ATSA would only populate the *sellDetails* in its MEOT. A separate MEOTS will be reported for every order related to the buy side of the trade.

#	Step	Reported Event	Comments
		20180416T000000 side: SL seqNum: 1241 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20180416T153037.494450	
12	ATS A reports a Trade Supplement event with the side details of Customer 1's order	*ATS A reports a **Trade Supplement event** with side details for orderID O12345* type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 buyDetails: orderID: O12345 orderKeyDate: 20180416T000000 side: B quantity: 500	
13	ATS A reports a Trade Supplement event with the side details of Customer 2's order	*ATS A reports a **Trade Supplement event** with side details for orderID O123999* type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 buyDetails: orderID: O123999 orderKeyDate: 20180416T000000 side: B quantity: 300	
14	ATS A reports a Trade Supplement event with the side details of Customer 3's order	*ATS A reports a **Trade Supplement event** with side details for orderID O12500* type: MEOTS tradeKeyDate: 20180416T000000	

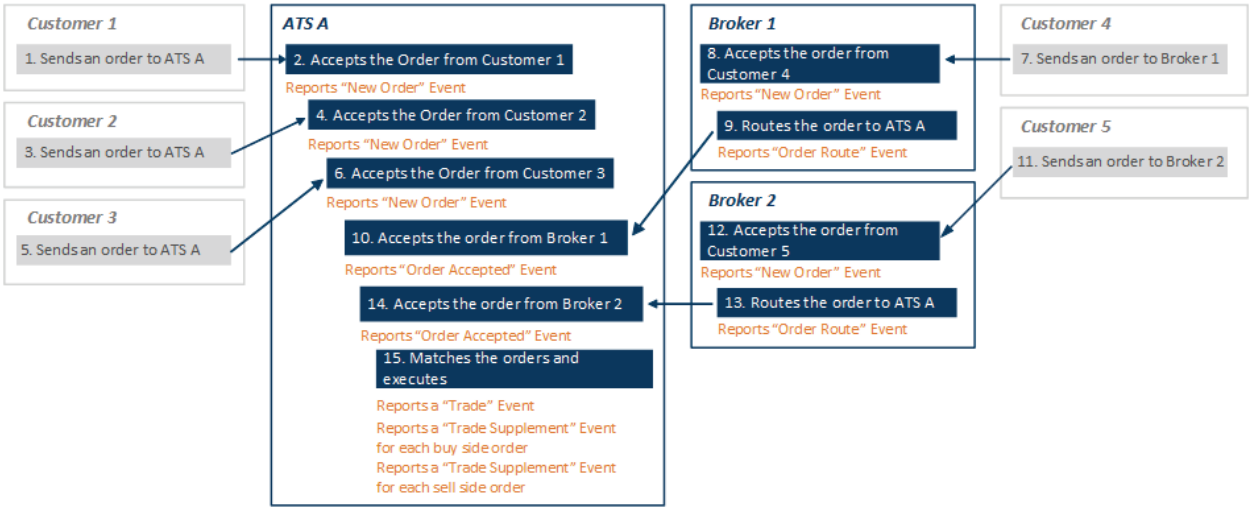
#	Step	Reported Event	Comments
		tradeID: TXYZ100 eventTimestamp: 20180416T153037.494456 buyDetails: orderID: O12500 orderKeyDate: 20180416T000000 side: B quantity: 400	

2.7.3. ATS Cross with Multiple Orders on Each Side

This scenario illustrates the CAT reporting requirements when an ATS matches as agent the orders of multiple customers on one side with the orders of multiple customers on the other side. If the matches occur in a single execution or a "single event" (e.g., with the press of a button or pursuant to an automated execution algorithm), and the transaction is reported to the tape as a single transaction (e.g., a single cross), the ATS must report an MEOT event, followed by subsequent MEOTS events.

Sequential executions, even those occurring very close in time, would not be considered a single event and must be reported as a separate MEOT.

This scenario illustrates reporting requirements when using an MEOTS event.



Industry Member Broker 1 is required to report:

- The receipt of Customer 4's order (New Order event)
- The route of the order to the ATS (Order Route events)

Industry Member Broker 2 is required to report:

- The receipt of Customer 5's order (New Order event)
- The route of the order to the ATS (Order Route events)

Industry Member ATS A is required to report:

- The receipt of Customer 1's order (New Order event)
- The receipt of Customer 2's order (New Order event)
- The receipt of Customer 3's order (New Order event)
- The receipt of Broker 1's order (Order Accepted event)
- The receipt of Broker 2's order (Order Accepted event)
- Matching of Broker 1's order and Broker 2's order with Customer 1's Order, Customer 2's Order and Customer 3's Order, and execution (Trade event)
- Side Details of Customer 1's Order (Trade Supplement Event)
- Side Details of Customer 2's Order (Trade Supplement Event)
- Side Details of Customer 3's Order (Trade Supplement Event)
- Side Details of Broker 1's Order (Trade Supplement Event)
- Side Details of Broker 2's Order (Trade Supplement Event)

#	Step	Reported Event	Comments
1	Customer 1 sends a Buy order to ATS A	*NA*	
2	ATS A accepts the customer order	*ATS A reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1201	

#	Step	Reported Event	Comments
		atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 9.99 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.234455	
3	Customer 2 sends a Buy order to ATS A	*NA*	
4	ATS A accepts the customer order	*ATS A reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O123999 symbol: XYZ eventTimestamp: 20180416T153035.334456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 300 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS567 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1235 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.334454	
5	Customer 3 sends a Buy order to ATS A	*NA*	

#	Step	Reported Event	Comments
6	ATS A accepts the customer order	*ATS A reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12500 symbol: XYZ eventTimestamp: 20180416T153035.334456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 400 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS789 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1236 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.334454	
7	Customer 4 sends a Sell order to Broker 1	*NA*	
8	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O8000 symbol: XYZ eventTimestamp: 20180416T153036.334456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 1000	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST-IN200 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false	
9	Broker 1 routes the order to ATS A	*Broker 1 (IMID = BRKA) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: O8000 symbol: XYZ eventTimestamp: 20180416T153036.500456 manualFlag: false senderIMID: 123:BRKA destination: 456:ATSA destinationType: F routedOrderID: ATSAXYZ8000 side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	
10	ATS A accepts the order routed from Broker 1	*ATS A (IMID = ATSA) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180416T000000 orderID: O88855 symbol: XYZ eventTimestamp: 20180416T153036.544456 manualFlag: false receiverIMID: 456:ATSA senderIMID: 123:BRKA senderType: F routedOrderID: ATSAXYZ8000 affiliateFlag: false deptType: ATS side: SL	

#	Step	Reported Event	Comments
		price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1240 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P2 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.444454	
11	Customer 5 sends a Sell order to Broker 2	*NA*	
12	Broker 2 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O8005 symbol: XYZ eventTimestamp: 20180416T153036.334456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST-IN300 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false	
13	Broker 2 routes the order to ATS A	*Broker 2 (IMID = BRKB) reports an **Order Route event*** type: MEOR orderKeyDate: 20180416T000000	

#	Step	Reported Event	Comments
		orderID: O8005 symbol: XYZ eventTimestamp: 20180416T153036.500456 manualFlag: false senderIMID: 897:BRKB destination: 456:ATSA destinationType: F routedOrderID: ATSAXYZ8000 side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	
14	ATS A accepts the order routed from Broker 2	*ATS A (IMID = ATSA) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180416T000000 orderID: O88856 symbol: XYZ eventTimestamp: 20180416T153036.544456 manualFlag: false receiverIMID: 456:ATSA senderIMID: 987:BRKB senderType: F routedOrderID: ATSAXYZ8000 affiliateFlag: false deptType: ATS side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1241 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P2 nbbPrice: 10.00	

#	Step	Reported Event	Comments
		nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.444454	
15	ATS A matches Broker 1's order and Broker 2's order with Customer 1's order, Customer 2's Order and Customer 3's Order, and executes.	*ATS A reports a **Trade event*** type: MEOT tradeKeyDate: 20180416T00000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1200 price: 10.00 capacity: A tapeTradeID: BRSEQ9000 marketCenterID: DN sideDetailsInd: NA seqNum: 1242 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20180416T153037.494456	Since there was more than one order on both the buy side and the sell side, the side details for all related orders will be captured in separate MEOTS events.
16	ATS A reports a Trade Supplement event with the side details of Customer 1's order	*ATS A reports a **Trade Supplement event** with side details for orderID O12345* type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 buyDetails: orderID: O12345 orderKeyDate: 20180416T000000 side: B quantity: 500	
17	ATS A reports a Trade Supplement event with the side details of	*ATS A reports a **Trade Supplement event** with side details for orderID O123999*	

#	Step	Reported Event	Comments
	Customer 2's order	type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 buyDetails: orderID: O123999 orderKeyDate: 20180416T153035.334456 side: B quantity: 300	
18	ATS A reports a Trade Supplement event with the side details of Customer 3's order	*ATS A reports a **Trade Supplement event** with side details for orderID O12500* type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 buyDetails: orderID: O12500 orderKeyDate: 20180416T000000 side: B quantity: 400	
19	ATS A reports a Trade Supplement event with the side details of Broker 1's order	*ATS A reports a **Trade Supplement event** with side details for orderID O88855* type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 sellDetails: orderID: O88855 orderKeyDate: 20180416T000000 side: SL quantity: 1000	

#	Step	Reported Event	Comments
20	ATS A reports a Trade Supplement event with the side details of Broker 2's order	*ATS A reports a **Trade Supplement event** with side details for orderID O88856* type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 sellDetails: orderID: O88856 orderKeyDate: 20180416T000000 side: SL quantity: 200	

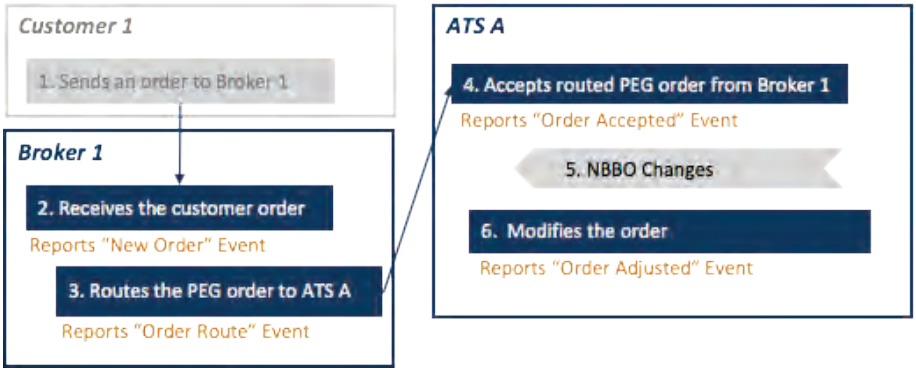
2.7.4. Order Modification of a PEG Order

This scenario illustrates how an Order Adjusted Event is reported when either a display ATS or a non-display ATS reprices a peg order.

In accordance with CAT FAQ H1, each time an Industry Member reprices a peg order based on a market move (i.e., when there is a change in the national best bid or offer or the best bid or offer on a particular exchange, as applicable based on the terms of the order), the Industry Member must report a price modification of the peg order to the CAT pursuant to Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan, if the price is modified.

If the Industry Member does not reprice a peg order when the market moves, the Industry Member does not need to report a modification of the peg order to the CAT since the order was not modified by either the customer or the Industry Member. For example, for both displayed and non-displayed alternative trading systems (ATSs), if an ATS's matching engine reprices a peg order when the market moves, the price modification must be reported to the CAT. If a matching engine does not reprice a peg order when the market moves, there is no requirement to report a price modification to the CAT.

In this scenario, Industry Member Broker 1 routes a customer midpoint PEG order to ATS A. ATS A gives the order a working price upon receipt. Then the NBBO changes while the order stays open on the book. The ATS reprices the order, which must be reported to CAT.



Industry Member Broker 1 is required to report:

- The receipt of customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A is required to report:

- The receipt of the PEG order from Broker 1 (Order Accepted event)
- The modification of the price due to NBBO changes (Order Adjusted Event)

Since only a price change is being reported, ATS A is required to represent the current state of all price fields in its Order Adjusted event. The quantity fields are not required.

#	Step	Reported Event	Comments
1	Customer sends a PEG order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order Event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG handlingInstructions: M custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A	

#	Step	Reported Event	Comments
		affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the PEG order to ATS A	*Broker 1 reports an **Order Route Event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false senderIMID: 123:BRK1 destination: 987:ATSA destinationType: F routedOrderID: S12O12345 side: Buy price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	In Phase 2c, Broker 1 will be required to populate a value of 'M' in the *handlingInstructions* field on its Order Route event.
4	The ATS accepts the order from Broker 1	*ATS A reports an **Order Accepted Event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false receiverIMID: 987:ATSA senderIMID: 123:BRK1 senderType: F routedOrderID: S12O12345 affiliateFlag: false deptType: ATS side: B price: 10.10 quantity: 500 orderType: LMT	Upon receipt of the order, the ATS assigns a working price based on the market condition. The ATS must capture the NBBO, the source of NBBO, as well as a timestamp indicating the time that the NBBO was captured.

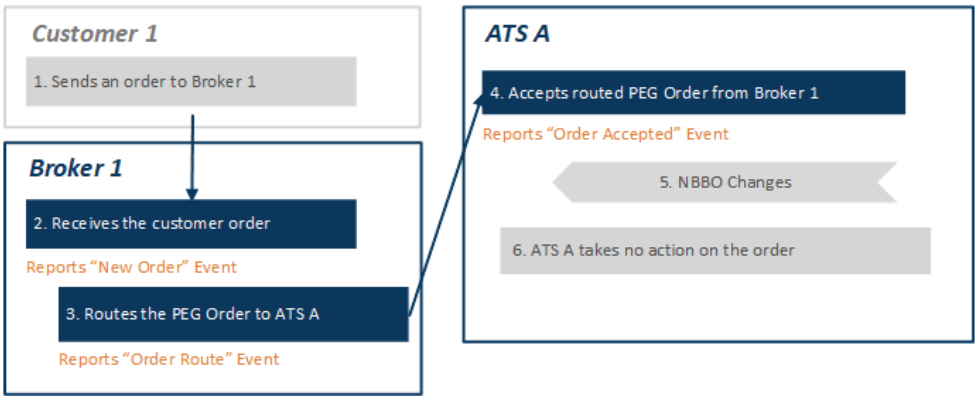
#	Step	Reported Event	Comments
		timeInForce: DAY=20170801 tradingSession: REG isoInd: NA handlingInstructions: M custDspIntrFlag: false seqNum: 1008 atsDisplayInd: N displayPrice: 0 workingPrice: 10.07 displayQty: 0 atsOrderType: MPEG nbbPrice: 10.05 nbbQty: 500 nboPrice: 10.09 nboQty: 300 nbboSource: S nbboTimestamp: 20170801T143031.123456	
5	The NBBO changes	*NA*	The NBBO changed to 10.05 X 10.08
6	The ATS reprices the working price of the order	*The ATS reports an **Order Adjusted Event*** type: MEOJ orderKeyDate: 20170801T000000 orderID: O1001 symbol: XYZ priorOrderKeyDate: 20170801T000000 priorOrderID: O999 eventTimestamp: 20170801T143031.623456 manualFlag: false initiator: F price: 10.10 seqNum: 1200 atsDisplayInd: N displayPrice: 0 workingPrice: 10.065 nbbPrice: 10.05 nboPrice: 10.08 nbboSource: S nbboTimestamp: 20170801T143031.603456	The ATS must use the Order Adjusted event for price adjustments as the result of an action by its matching engine. In this example, the ATS assigns a new Order Key with *orderID* O1001 when the order is adjusted. The *orderKeyDate* must be populated with the date that the new Order Key was assigned. The Prior Order Key with *orderID* O999 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Adjusted event with the Order Accepted event. Since only a price change is being reported, ATSA is required to represent the current state of all price fields. The quantity fields are not required. The initiator flag is populated with a value of 'F', as the firm modified the order based on an implicit customer instruction. Refer to CAT FAQ B63 for additional information.

2.7.5. Receipt of PEG Order, Followed by Change in NBBO with No Modification on the Order

In accordance with CAT FAQ H1, each time an Industry Member reprices a peg order based on a market move (i.e., when there is a change in the national best bid or offer or the best bid or offer on a particular exchange, as applicable based on the terms of the order), the Industry Member must report a price modification of the peg order to the CAT pursuant to Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan, if the price is modified.

If the Industry Member does not reprice a peg order when the market moves, the Industry Member does not need to report a modification of the peg order to the CAT since the order was not modified by either the customer or the Industry Member. For example, for both displayed and non-displayed alternative trading systems (ATSs), if an ATS's matching engine reprices a peg order when the market moves, the price modification must be reported to the CAT. If a matching engine does not reprice a peg order when the market moves, there is no requirement to report a price modification to the CAT.

In this scenario, an ATS receives a buy order with a primary peg instruction and a limit price of $10. The order is not displayable or routable and the ATS has no sell orders that are eligible to trade with the buy order. The NBB subsequently moves to 9.99 and the ATS receives no other sell orders that are eligible to trade with the buy order. The ATS takes no action on the open buy order when the NBB moves to 9.99, therefore there is no CAT reportable event.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A report:

- The receipt of the PEG order from Broker 1 (Order Accepted Event)

#	Step	Reported Event	Comments
1	Customer sends a PEG order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order Event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG handlingInstructions: R custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the PEG order to ATS A	*Broker 1 reports an **Order Route Event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false senderIMID: 123:BRK1 destination: 987:ATSA destinationType: F routedOrderID: S12O12345 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false	In Phase 2c, BRK1 will be required to populate a value of 'M' in the *handlingInstructions* field on its Order Route event.

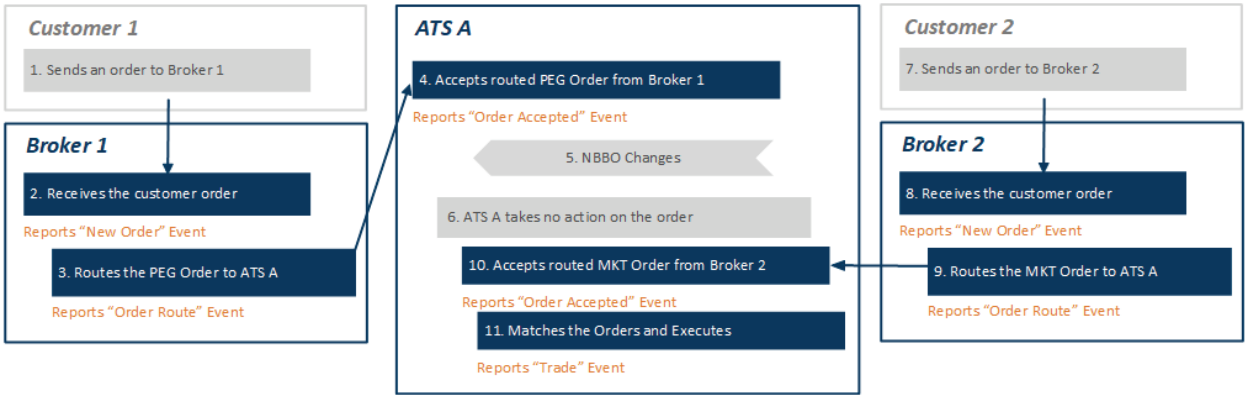
#	Step	Reported Event	Comments
		isoInd: NA handlingInstructions:	
4	The ATS accepts the routed order from Broker 1	*ATS A reports an **Order Accepted Event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false receiverIMID: 987:ATSA senderIMID: 123:BRK1 senderType: F routedOrderID: S12O12345 affiliateFlag: false deptType: ATS side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA handlingInstructions: M custDspIntrFlag: false seqNum: 1008 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: PPEG nbbPrice: 9.98 nbbQty: 500 nboPrice: 10.02 nboQty: 300 nbboSource: S nbboTimestamp: 20170801T143031.123456	Upon receipt of the order, the ATS assigns a working price based on the market condition. The ATS must capture the NBBO, the source of NBBO, as well as a timestamp indicating the time that the NBBO was captured.
5	The NBBO changes	NA	The NBBO changes to 9.99 x 10.03
6	The ATS does not re-price the order	NA	Since the ATS did not re-price the order, an MEOJ is not required.

2.7.6. Crossing of PEG Order after a Change in NBBO with No Modification on the Order

In accordance with CAT FAQ H1, each time an Industry Member reprices a peg order based on a market move (i.e., when there is a change in the national best bid or offer or the best bid or offer on a particular exchange, as applicable based on the terms of the order), the Industry Member must report a price modification of the peg order to the CAT pursuant to Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan, if the price is modified.

If the Industry Member does not reprice a peg order when the market moves, the Industry Member does not need to report a modification of the peg order to the CAT since the order was not modified by either the customer or the Industry Member. For example, for both displayed and non-displayed alternative trading systems (ATSs), if an ATS's matching engine reprices a peg order when the market moves, the price modification must be reported to the CAT. If a matching engine does not reprice a peg order when the market moves, there is no requirement to report a price modification to the CAT.

In this scenario, An ATS receives a buy order with mid-point peg instruction when the NBBO is 9.85 x 10. The order is not displayable or routable and the ATS has no sell orders that are eligible to trade with the buy order. The NBBO subsequently moves to 9.90 x 10. The ATS then receives a market order to sell that is eligible to trade with the buy order and the two orders are crossed at 9.95. Because the ATS did not re-price the buy order prior to executing it, there is no CAT reportable event required to reflect a price modification of the buy order to 9.95.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A must report:

- The receipt of the PEG order from Broker 1 (Order Accepted event)
- The receipt of the Market order from Broker 2 (Order Accepted event)
- The Cross of Broker 1's order with Broker 2's order (Trade event)

#	Step	Reported Event	Comments
1	Customer 1 sends a PEG order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order Event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG handlingInstructions: M custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the PEG order to ATS A	*Broker 1 reports an **Order Route Event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false senderIMID: 123:BRK1 destination: 987:ATSA destinationType: F routedOrderID: S12O12345	In Phase 2c, BRK1 will be required to populate a value of 'M' in the *handlingInstructions* field on its Order Route event.

#	Step	Reported Event	Comments
		side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	The ATS accepts the routed order from Broker 1	*ATS A reports an **Order Accepted Event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false receiverIMID: 987:ATSA senderIMID: 123:BRK1 senderType: F routedOrderID: S12O12345 affiliateFlag: false deptType: ATS side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA handlingInstructions: M custDspIntrFlag: false seqNum: 1008 atsDisplayInd: N displayPrice: 0 workingPrice: 9.95 displayQty: 0 atsOrderType: MPEG nbbPrice: 9.85 nbbQty: 500 nboPrice: 10.00 nboQty: 300 nbboSource: S nbboTimestamp: 20170801T143031.123456	Upon receipt of the order, the ATS assigns a working price based on the market condition. The ATS must capture the NBBO, the source of NBBO, as well as a timestamp indicating the time that the NBBO was captured.

#	Step	Reported Event	Comments
5	The NBBO changes	*NA*	The NBBO changed to 9.90 X 10.00
6	The ATS does not re-price the order	*NA*	Since the ATS did not re-price the order, an MEOJ is not required.
7	Customer 2 sends a PEG order to Broker 2	*NA*	
8	Broker 2 accepts the customer order	*Broker 2 reports a **New Order Event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false deptType: A side: SL quantity: 500 orderType: MKT timeInForce: DAY=20170801 tradingSession: REG custDspIntrFlag: false firmDesignatedID: C124 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
9	Broker 2 routes the MKT order to ATS A	*Broker 2 reports an **Order Route Event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20170801T143032.623456 manualFlag: false senderIMID: 456:BRK2 destination: 987:ATSA destinationType: F routedOrderID: S12O12346 side: SL quantity: 500 orderType: MKT timeInForce: DAY=20170801	

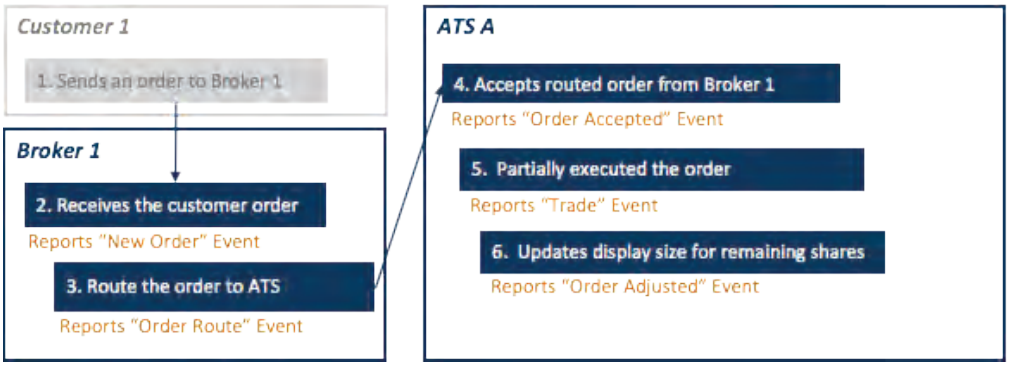
#	Step	Reported Event	Comments
		tradingSession: REG affiliateFlag: false isoInd: NA	
10	The ATS accepts the routed order from Broker 2	*ATS A reports an **Order Accepted Event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O9910 symbol: XYZ eventTimestamp: 20170801T143033.123456 manualFlag: false receiverIMID: 987:ATSA senderIMID: 456:BRK2 senderType: F routedOrderID: S12O12346 affiliateFlag: false deptType: ATS side: SL quantity: 500 orderType: MKT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1058 atsDisplayInd: N displayPrice: 0 workingPrice: 0 displayQty: 0 atsOrderType: MKT nbbPrice: 9.90 nbbQty: 500 nboPrice: 10.00 nboQty: 300 nbboSource: S nbboTimestamp: 20170801T143033.123456	
11	ATS A matched and crossed the Buy and Sell orders	*ATS A reports a **Trade event*** type: MEOT tradeID: TXYZ124 tradeKeyDate: 20170801T000000 symbol: XYZ	In this Trade Event, the Buy side details reflect the customer order O999, and the Sell side details reflect the routed order O9910

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143033.523456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 500 price: 9.95 capacity: A tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O999 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: O9910 side: SL	

2.7.7. Display Modifications of a Display ATS

Display modifications can be reported to CAT using the Order Adjusted event. This scenario illustrates the CAT reporting requirements when an order is partially executed on an ATS, and as a result the display size of the order changes. In this scenario, an order is routed to an ATS for execution.

This example illustrates the display modification reporting, and does not reflect subsequent order handling.



Industry Member Broker 1 is required to report:

- Receipt of the customer order (New Order event)

- The route of the order to ATS A (Order Route event)

Industry Member ATS A is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The partial execution of the order (Trade event)
- The update to the display size post execution (Order Adjusted event)

Since only a quantity change is being reported, ATSA is required to represent the current state of all quantity fields in its Order Adjusted event. The price fields are not required.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1 with a display quantity of 1000	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 10000 minQty: 100 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG handlingInstructions: RSV|DISQ=1000 custDspIntrFlag: true firmDesignatedID: CUS999 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	The order was received from the customer with a display quantity instruction, which is represented in the h*andlingInstructions* field with a Name/Value pair of 'DISQ=1000'.
3	Broker 1 routes the order to ATS A	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O34567	In Phase 2c, Broker 1 will be required to populate a value of 'RSV' and a Name/Value Pair of "DISQ=1000" in the *handlingInstructions* field on its Order Route event.

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20170801T143030.323456 manualFlag: false senderIMID: 123:BRKR1 destination: 987:ATSA destinationType: F routedOrderID: RTO34567 side: B price: 10.00 quantity: 10000 minQty: 100 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	ATS accepts the order from Broker 1	*ATS A reports an **Order Accepted event*** type: MEOA orderKeyDate: 20170801T000000 orderID: O27272 symbol: XYZ eventTimestamp: 20170801T143030.343456 manualFlag: false receiverIMID: 987:ATSA senderIMID: 123:BRKR1 senderType: F routedOrderID: RTO34567 affiliateFlag: false deptType: ATS side: B price: 10.00 quantity: 10000 minQty: 100 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG isoInd: NA handlingInstructions: RSV|DISQ=1000 custDspIntrFlag: false seqNum: 15019 atsDisplayInd: Y	

#	Step	Reported Event	Comments
		displayPrice: 10.00 workingPrice: 10.00 displayQty: 1000 atsOrderType: RSVA nbbPrice: 9.96 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20170801T143030.343456	
5	ATS partially executes the order	*ATS A reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO555 symbol: XYZ eventTimestamp: 20170801T143030.543456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 800 price: 10.00 capacity: A tapeTradeID: TTI23456 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O27272 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: O54321 side: SL seqNum: 15201 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20170801T143030.543455	
6	ATS updates the order with new display size	*ATS A reports an **Order Adjusted event*** type: MEOJ	The ATS must use the Order Adjusted event for price adjustments as the result of an action by its matching engine.

#	Step	Reported Event	Comments
		orderKeyDate: 20170801T000000 orderID: O27273 symbol: XYZ priorOrderKeyDate: 20170801T000000 priorOrderID: O27272 eventTimestamp: 20170801T143030.543856 manualFlag: false initiator: F quantity: 10000 minQty: 100 leavesQty: 9200 seqNum: 15285 atsDisplayInd: Y displayQuantity: 200 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20170801T143030.543855	In this example, the ATS assigns a new Order Key with *orderID* O27273 when the order is adjusted. The *orderKeyDate* must be populated with the date that the new Order Key was assigned. The Prior Order Key with *orderID* O27272 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Adjusted event with the Order Accepted event. Since only a quantity change is being reported, ATSA is required to represent the current state of all quantity fields. The price fields are not required.

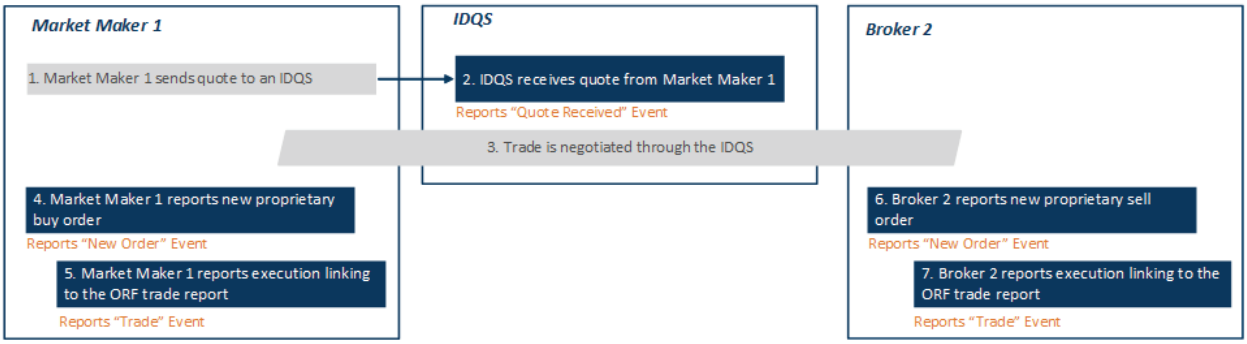
2.8. OTC Reporting Scenarios

This section illustrates the CAT reporting requirements for OTC securities. Refer to Section J of the CAT FAQs regarding OTC Securities for additional information.

2.8.1. Trade Negotiated through an Inter-Dealer Quotation System

This scenario illustrates the CAT reporting requirements when a Market Maker executes an order as the result of a negotiation with another Industry Member through an inter-dealer quotation system ("IDQS").

In this scenario, Market Maker 1 is quoting symbol XYZ on an IDQS to buy 1000 shares at 1.15. IDQS participant and Industry Member Broker 2 sends a message through the inter-dealer quotation system to Market Maker 1 and begins a negotiation. Broker 2 ultimately accepts a counter offer from Market Maker 1 and executes the trade (3,000 shares at 1.14), and reports the trade to the ORF.



Industry Member Market Maker 1 is required to report the following in phase 2a:

- A proprietary new buy order for 3,000 shares (New Order event)
- An execution linking to the ORF trade report (Trade event)

Industry Member Broker 2 must report the following in phase 2a:

- A new proprietary sell order for 3,000 shares (New Order event)
- An execution linking to the ORF trade report (Trade event)

The Industry Member IDQS will be required to report the following in phase 2a:

- The receipt of Market Maker 1's quote (Quote Received event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *sideDetailsInd* fields present and marked properly. Both Trade events reported by Marker Maker 1 and Broker 2 must link to the same ORF report.

In phase 2c, Market Maker 1 and Broker 2 will both be required to populate the *quoteID* in their MEOT events linking to the MEQR event reported by the IDQS. In phase 2d, Market Maker 1 will be required to report an MENQ reflecting the quote that was sent to the IDQS. The negotiation between Market Maker 1 and Broker 2 is not reportable to CAT in phases 2a/2b/2c.

#	Step	Reported Event	Comments
1	Market Maker 1 sends a quote to the IDQS	*NA*	In phase 2d, Market Marker 1 will be required to report a New Quote event. The *quoteID* for this MENQ would be Q1234 in phase 2d.
2	The IDQS receives the quote from Market Maker 1	*IDQS (IMID = IDQS) reports a* ***Quote Received event*** type: MEQR quoteKeyDate: 20180501T000000 quoteID: Q6789	In Phase 2d, the IDQS will be required to link the Quote Received event to the New Quote event reported by Market Maker 1 through the *receivedQuoteID* field.

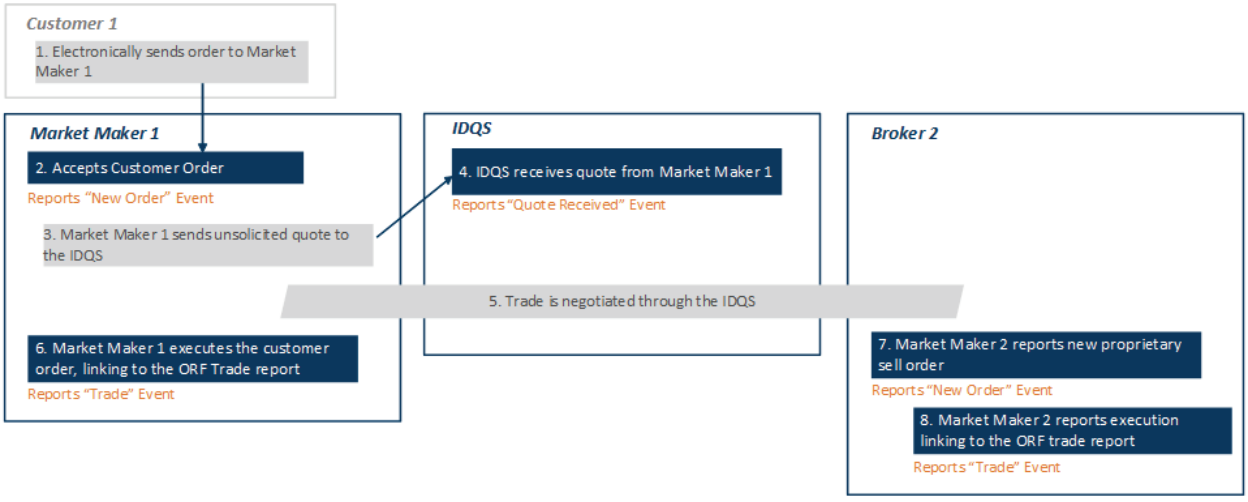
#	Step	Reported Event	Comments
		symbol: XYZ receivedQuoteID: eventTimestamp: 20180501T153035.234456 receiverIMID: 123:IDQS senderIMID: 456:MMA onlyOneQuoteFlag: false bidPrice: 1.15 bidQty: 1000 mpStatusCode: open unsolicitedInd: B quoteWantedInd:	
3	The trade is negotiated between Market Maker 1 and Broker 2	*NA*	Negotiations are not reportable to CAT in phases 2a/2b/2c.
4	Market Maker 1 generates a new proprietary order	*Market Maker 1 (IMID = MMA) reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP1 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
5	Market Maker 1 reports the execution	*Market Maker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ	The *sideDetailsInd* must be marked as BUY. Side details are not required for the contra-side (sell side) In phase 2c, MMA will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.

#	Step	Reported Event	Comments
		eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: O sideDetailsInd: BUY buyDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: B	
6	Broker 2 generates a new proprietary order	*Broker 2 (IMID = BRKB) reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
7	Broker 2 reports the execution	*Broker 2 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR124	The sideDetailsInd must be marked as SELL. Side details are not required for the contra-side (buy side).

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: O sideDetailsInd: SELL sellDetails: orderKeyDate: 20180501T000000 orderID: O12346 side: SL	In phase 2c, BRK2 will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.

2.8.2. Customer Order Executed as the result of a Negotiation through an Inter-Dealer Quotation System

This scenario illustrates the CAT reporting requirements when a Market Maker receives a customer order then submits an unsolicited displayed (bid) quote to an inter-dealer quotation system ("IDQS"), and the order is executed as the result of a negotiation.



Industry Member Market Maker 1 is required to report the following in phase 2a:

- The receipt of the customer order (New Order event)

- The execution of the customer order linking to the ORF trade report (Trade event)

Industry Member Broker 2 must report the following to CAT in phase 2a:

- A new proprietary sell order (New Order event)
- An execution linking to the ORF trade report (Trade event)

The Industry Member IDQS will be required to report the following to CAT for phase 2a:

- The receipt of Market Maker 1's quote (Quote Received event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *sideDetailsInd* fields present and marked properly. Both Trade events reported by Marker Maker 1 and Broker 2 must link to the same ORF report.

In Phase 2c, Market Maker 1 and Broker 2 will both be required to populate the *quoteID* in their MEOT events linking to the MEQR event reported by the IDQS.

In Phase 2d, Market Maker 1 will be required to report an MENQ reflecting the quote that was sent to the IDQS. The negotiation between Market Maker 1 and Broker 2 is not reportable to CAT in Phases 2a/2b/2c.

#	Step	Reported Event	Comments
1	Customer 1 sends an order to Market Maker 1	*NA*	
2	Market Maker 1 receives the order from Customer 1	*Market Maker 1 (IMID = MMA) reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153034.234456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Market Maker 1 sends a quote to the IDQS	*NA*	Market Maker 1 will be required to report a New Quote event in Phase 2d. The *quoteID* for this MENQ would be Q1234 in phase 2d.
4	The IDQS receives a quote from Market Maker 1	*IDQS (IMID = IDQS) reports a* ***Quote Received event*** type: MEQR quoteKeyDate: 20180501T000000 quoteID: Q6789 symbol: XYZ receivedQuoteID: eventTimestamp: 20180501T153035.534456 receiverIMID: 123:IDQS senderIMID: 456:MMA onlyOneQuoteFlag: false bidPrice: 1.14 bidQty: 3000 mpStatusCode: open unsolicitedInd: B quoteWantedInd:	In Phase 2d, the IDQS will be required to link the Quote Received event to the New Quote event reported by Market Maker 1 through the *receivedQuoteID* field.
5	A trade is negotiated between Market Maker 1 and Broker 2 through the IDQS	*NA*	
6	Market Maker 1 reports the execution	*Market Maker 1 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: A tapeTradeID: ORF1234 marketCenterID: O sideDetailsInd: BUY	The *sideDetailsInd* must be marked as BUY. Side details are not required for the contra-side (sell side). In phase 2d, MMA will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.

#	Step	Reported Event	Comments
		buyDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: B	
7	Broker 2 generates a new proprietary order	*Broker 2 (IMID = BRKB) reports a* ***New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
7	Broker 2 reports the execution	*Broker 2 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR124 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: O	The *sideDetailsInd* must be marked as SELL. Side details are not required for the contra-side (buy side). In phase 2c, BRK2 will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.

#	Step	Reported Event	Comments
		sideDetailsInd: SELL sellDetails: orderKeyDate: 20180501T000000 orderID: O12346 side: SL	

2.8.3. Trade Negotiated over the Phone

This scenario illustrates the CAT reporting requirements when a Market Maker executes an order as the result of a negotiation with another Industry Member over the phone. In this scenario, Broker 2 calls Market Maker 1 and negotiates a trade. Market Maker 1 reports its side of the trade to the ORF as the executing party, and Broker 2 reports its side of the trade to the ORF as the contra party. The two sides of the trade are matched by the ORF and sent for clearing.

Industry Member Market Maker 1 is required to report the following:

- A proprietary new buy order (New Order event)
- An execution linking to its ORF trade report (Trade event)

Industry Member Broker 2 is required to report the following:

- A new proprietary sell (New Order event)
- An execution linking to its ORF trade report (Trade event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *sideDetailsInd* fields present and marked properly. Both Trade events reported by Marker Maker 1 and Broker 2 must link to their ORF report.

The negotiation between Market Maker 1 and Broker 2 is not reportable to CAT.

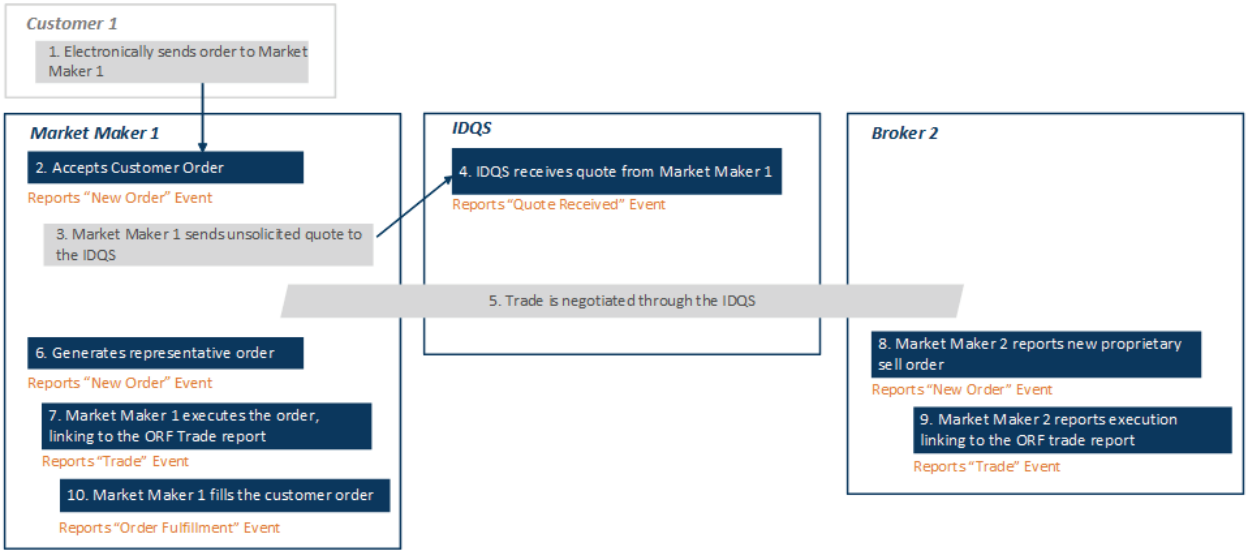
#	Step	Reported Event	Comments
1	Trade is negotiated between Market Maker 1 and Broker 2	*NA*	
2	Market Maker 1 generates a new proprietary order	*Market Maker 1 (IMID = MMA) reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP1 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
3	Market Maker 1 reports the execution	*Market Maker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: O sideDetailsInd: BUY buyDetails: orderKeyDate: 20180501T000000	The *sideDetailsInd* must be marked as BUY. Side details are not required for the contra-side (sell side).

#	Step	Reported Event	Comments
		orderID: O12345 side: B	
4	Broker 2 generates a new proprietary order	*Broker 2 (IMID = BRKB) reports a* ***New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
5	Broker 2 reports the execution	*Broker 2 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR124 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: O sideDetailsInd: SELL sellDetails: orderKeyDate: 20180501T000000 orderID: O12346	The *sideDetailsInd* must be marked as SELL. Side details are not required for the contra-side (buy side).

#	Step	Reported Event	Comments
		side: SL	

2.8.4. Representative Order Executed as a Result of a Negotiation

This scenario illustrates the CAT reporting requirements when a Market Maker receives a customer order, and chooses to handle the customer order by generating a representative order to facilitate the execution. The Industry Member then submits an unsolicited displayed (bid) quote to an inter-dealer quotation system ("IDQS"), and the order is executed as the result of a negotiation. In this scenario, the customer order is filled on a Riskless Principal basis.



Industry Member Market Maker 1 is required to report the following in Phase 2a:

- The receipt of the customer buy order (New Order event)
- The origination of a representative proprietary buy order (New Order event)
- The execution of the representative order linking to the ORF trade report (Trade event)
- The fill of the customer order on a Riskless Principal basis (Order Fulfillment event)

Industry Member Broker 2 must report the following to CAT in Phase 2a:

- A new proprietary sell order (New Order event)
- An execution linking to the ORF trade report (Trade event)

The Industry Member IDQS will be required to report the following to CAT for Phase 2a:

- The receipt of Market Maker 1's quote (Quote Received event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *sideDetailsInd* fields present and marked properly. Both Trade events reported by Market Maker 1 and Broker 2 must link to the same ORF report.

In Phase 2c, Market Maker 1 and Broker 2 will both be required to populate the *quoteID* in their MEOT events linking to the MEQR event reported by the IDQS. In Phase 2d, Market Maker 1 will be required to report an MENQ reflecting the quote that was sent to the IDQS. The negotiation between Market Maker 1 and Broker 2 is not reportable to CAT in Phases 2a/2b/2c.

Reporting requirements for representative orders in OTC securities are the same as for NMS securities. Refer to Appendix C of the CAT Reporting Technical Specifications for Industry Members for additional information.

#	Step	Reported Event	Comments
1	Customer 1 sends an order to Market Maker 1	*NA*	
2	Market Maker 1 receives the order from Customer 1	*Market Maker 1 (IMID = MMA) reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153034.234456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1 accountHolderType: A affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: N	
3	Market Maker 1 sends a quote to the IDQS	*NA*	Market Maker 1 will be required to report a New Quote event in Phase 2d. The *quoteID* for this MENQ would be Q1234 in Phase 2d.

#	Step	Reported Event	Comments
4	The IDQS receives a quote from Market Maker 1	*IDQS (IMID = IDQS) reports a* ***Quote Received event*** type: MEQR quoteKeyDate: 20180501T000000 quoteID: Q6789 symbol: XYZ receivedQuoteID: Q1234 eventTimestamp: 20180501T153034.534456 receiverIMID: 123:IDQS senderIMID: 456:MMA onlyOneQuoteFlag: false bidPrice: 1.14 bidQty: 3000 mpStatusCode: open unsolicitedInd: B quoteWantedInd:	In Phase 2d, the IDQS will be required to link the Quote Received event to the New Quote event reported by Market Maker 1 through the *receivedQuoteID* field.
5	A trade is negotiated between Market Maker 1 and Broker 2 through the IDQS	*NA*	
6	Market Maker 1 generates a representative proprietary order	*Market Maker 1 (IMID = MMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: REP12345 symbol: XYZ eventTimestamp: 20180501T153035.534456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: REP1 accountHolderType: P affiliateFlag: false aggregatedOrders: O12345@20180501T000000@@ negotiatedTradeFlag: false representativeInd: Y	The *representativeInd* field must be populated with a value of 'Y' to indicate that this is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated. If the order satisfies the criteria for use of the *representativeInd* value "YE", the Industry Member would be able to populate a *representativeInd* value of "YE" in this step without receiving a rejection in CAT.

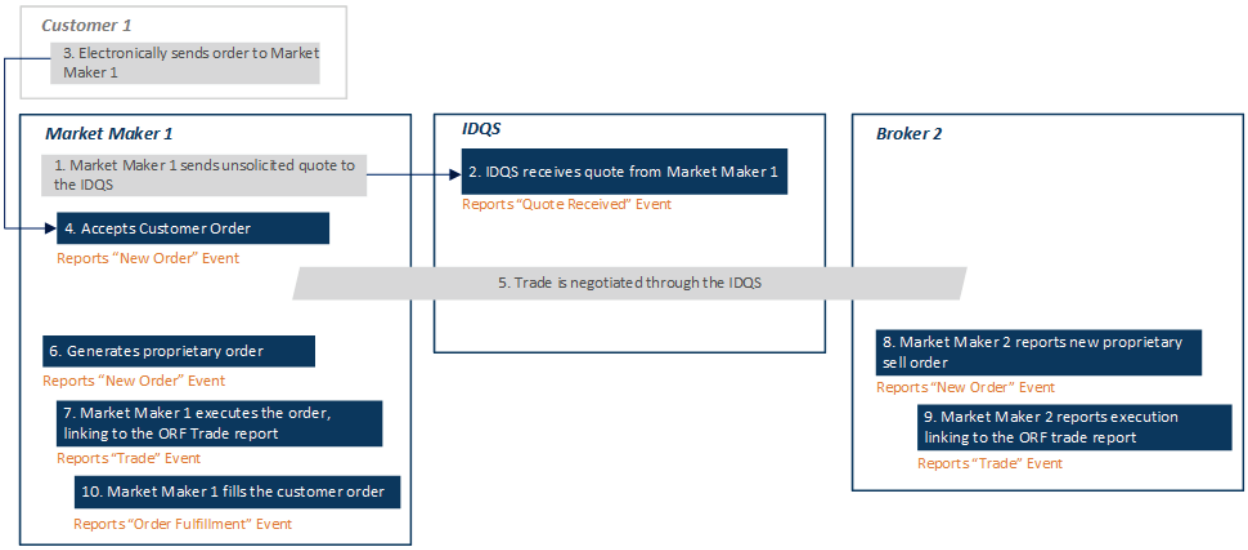
#	Step	Reported Event	Comments
7	Market Maker 1 reports the execution	*Market Maker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: A tapeTradeID: ORF1234 marketCenterID: O sideDetailsInd: BUY buyDetails: orderKeyDate: 20180501T000000 orderID: REP12345 side: B	The *sideDetailsInd* must be marked as BUY. Side details are not required for the contra-side (sell side). In Phase 2c, MMA will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.
8	Broker 2 generates a new proprietary order	*Broker 2 (IMID = BRKB) reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true	

#	Step	Reported Event	Comments
		representativeInd: N	
9	Broker 2 reports the execution	*Broker 2 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR124 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: O sideDetailsInd: SELL sellDetails: orderKeyDate: 20180501T000000 orderID: O12346 side: SL	The *sideDetailsInd* must be marked as SELL. Side details are not required for the contra-side (buy side). In Phase 2d, Broker 2 will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.
10	Market Maker 1 fills the customer order	*Market Maker 1 reports an **Order Fulfillment event*** Type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20180501T153039.534456 manualFlag: false fulfillmentLinkType: Y quantity: 3000 price: 1.14 capacity: R clientDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: B firmDetails:	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required.

#	Step	Reported Event	Comments
		orderKeyDate: 20180501T000000 orderID: REP12345 side: SL	

2.8.5. Fill of a Customer Order at a Previously Displayed Quote

This scenario illustrates the CAT reporting requirements when a Market Maker displays a quote unrelated to any customer order flow, then receives a customer order. The Industry Member then executes the customer order due to a Manning obligation resulting from an execution against the previously displayed quote.



Industry Member Market Maker 1 is required to report the following in Phase 2a:

- The receipt of the customer order (New Order event)
- The origination of a proprietary buy order against the previously displayed quote (New Order event)
- The execution of the proprietary order linking to the ORF trade report (Trade event)
- The fill of the customer order on a Riskless Principal basis (Order Fulfillment event)

Industry Member Broker 2 must report the following to CAT in Phase 2a:

- A new proprietary sell order (New Order event)
- An execution linking to the ORF trade report (Trade event)

The Industry Member IDQS will be required to report the following to CAT for Phase 2a:

- The receipt of Market Maker 1's quote (Quote Received event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *sideDetailsInd* fields present and marked properly. Both Trade events reported by Market Maker 1 and Broker 2 must link to the same ORF report.

In Phase 2c, Market Maker 1 and Broker 2 will both be required to populate the *quoteID* in their MEOT events linking to the MEQR event reported by the IDQS. In Phase 2d, Market Maker 1 will be required to report an MENQ reflecting the quote that was sent to the IDQS. The negotiation between Market Maker 1 and Broker 2 is not reportable to CAT in Phases 2a/2b/2c.

Reporting requirements for representative orders in OTC securities are the same as for NMS securities. Refer to Appendix C of the CAT Reporting Technical Specifications for Industry Members for additional information.

#	Step	Reported Event	Comments
1	Market Maker 1 sends a quote to the IDQS	*NA*	Market Maker 1 will be required to report a New Quote event in Phase 2d. The *quoteID* for this MENQ would be Q1234 in Phase 2c.
2	The IDQS receives a quote from Market Maker 1	*IDQS (IMID = IDQS) reports a* ***Quote Received event*** type: MEQR quoteKeyDate: 20180501T000000 quoteID: Q6789 symbol: XYZ receivedQuoteID: eventTimestamp: 20180501T153034.234456 receiverIMID: 123:IDQS senderIMID: 456:MMA onlyOneQuoteFlag: false bidPrice: 1.14 bidQty: 3000 mpStatusCode: open unsolicitedInd: B quoteWantedInd:	In Phase 2d, the IDQS will be required to link the Quote Received event to the New Quote event reported by Market Maker 1 through the *receivedQuoteID* field.
3	Customer 1 sends an order to Market Maker 1	*NA*	
4	Market Maker 1 receives the order from Customer 1	*Market Maker 1 (IMID = MMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180501T153035.534456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1 accountHolderType: A affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: N	
5	A trade is negotiated between Market Maker 1 and Broker 2 through the IDQS	*NA*	
6	Market Maker 1 generates a proprietary order	*Market Maker 1 (IMID = MMA) reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID:PROP1 accountHolderType: P affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: true representativeInd: N	The *representativeInd* field must be populated with a value of 'N' to indicate that this was not a representative order, as the principal order was not generated to facilitate the execution of a customer order. The *aggregatedOrders* field must not be populated. If the order generated by Broker 1 had been generated in a proprietary account where it was eligible to receive customer fills, the Industry Member would be able to populate a *representativeInd* value of "YE" in this step without receiving a rejection in CAT.
7	Market Maker 1 reports the execution	*Market Maker 1 reports a **Trade event***	The *sideDetailsInd* must be marked as BUY. Side details are not

#	Step	Reported Event	Comments
		type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: A tapeTradeID: ORF1234 marketCenterID: N sideDetailsInd: BUY buyDetails: orderKeyDate: 20180501T000000 orderID: O12350 side: B	required for the contra-side (sell side). In Phase 2d, MMA will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.
8	Broker 2 generates a new proprietary order	*Broker 2 (IMID = BRKB) reports a* ***New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
9	Broker 2 reports the	*Broker 2 reports a* ***Trade event***	The *sideDetailsInd* must be marked

#	Step	Reported Event	Comments
	execution	type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR124 symbol: XYZ eventTimestamp: 20180501T153039 manualFlag: true cancelFlag: false cancelTimestamp: quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: N sideDetailsInd: SELL sellDetails: orderKeyDate: 20180501T000000 orderID: O12346 side: SL	as SELL. Side details are not required for the contra-side (buy side). In Phase 2c, Broker 2 will be required to populate a *quoteID* of Q6789 linking to the Quote Received event reported by the IDQS.
10	Market Maker 1 fills the customer order	*Market Maker 1 reports an* ***Order Fulfillment event*** Type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20180501T153039.534456 manualFlag: false fulfillmentLinkType: YP quantity: 3000 price: 1.14 capacity: R clientDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20180501T000000 orderID: O12350 side: SL	The *fulfillmentLinkType* field must be populated with a value of 'YP' to indicate that the customer order is being filled from a pre-existing principal order, and that explicit linkage is required in Phase 2a. *firmDetails* are required.

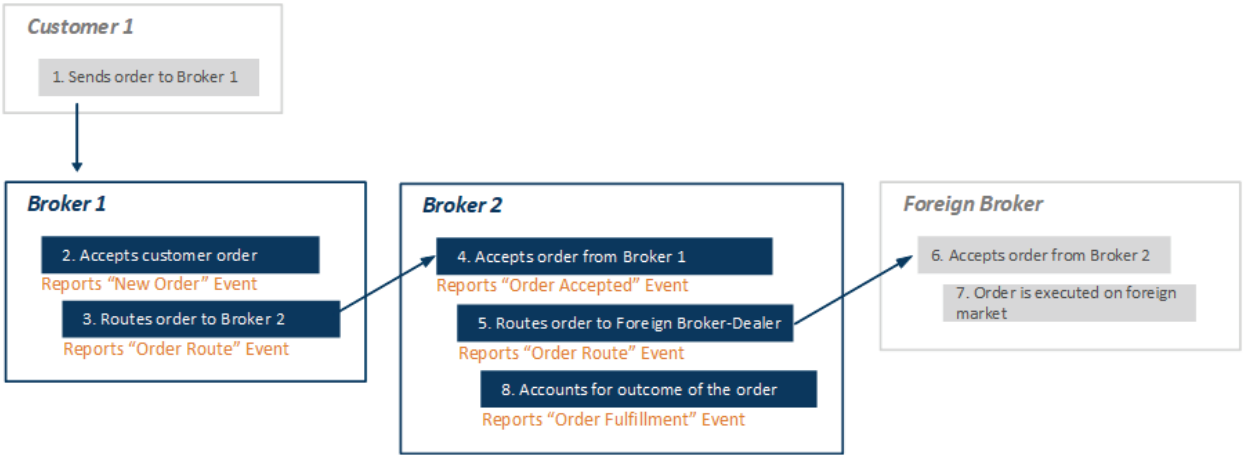
#	Step	Reported Event	Comments

2.9. Foreign Scenarios

This section illustrates the CAT reporting requirements when an Industry Member routes an order to a foreign destination for execution. These scenarios assume that the related security is CAT reportable in accordance with Section I of the CAT FAQs regarding Foreign Securities.

2.9.1. Route to a Foreign Broker-Dealer

This scenario illustrates the CAT reporting requirements when an Industry Member routes an order to another Industry Member, who routes the order to an affiliated foreign broker-dealer. Since the foreign broker-dealer is not a CAT reporter and the execution was not reported for public dissemination purposes in the United States, the Industry Member must report an Order Fulfillment event to represent the outcome of the customer order.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The route of the customer order to the affiliated foreign broker-dealer (Order Route event)
- The outcome of the order (Order Fulfillment event)

When reporting Order Fulfillment events for orders that were routed to a foreign broker-dealer, *firmDetails* are not required. While this scenario reflects the fill of a customer order on a foreign market, the same requirement to report an Order Fulfillment event would apply if the order were proprietary.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: FOR custDspIntrFlag: false firmDesignatedID: EFGHO001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the customer order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234556 manualFlag: false senderIMID: 123:BRKA destination: 456:BRKB destinationType: F routedOrderID: XYZ123555 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: FOR affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153036.234556 manualFlag: true electronicDupFlag: false electronicTimestamp: receiverIMID: 456:BRKB senderIMID: 123:BRKA senderType: F routedOrderID: XYZ123555 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: FOR isoInd: NA custDspIntrFlag: false	
5	Broker 2 routes the customer order to a non-reporting affiliated foreign broker-dealer	*Broker 2 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153036.234556 manualFlag: false senderIMID: destination: destinationType: N routedOrderID: side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: FOR affiliateFlag: true	When routing to a foreign broker-dealer, *destinationType* must be populated as ‘N’, and *tradingSession* must be populated as ‘FOR’. *destination*, *senderIMID,* and *routedOrderID* are not required when routing to a foreign broker-dealer.

#	Step	Reported Event	Comments
		isoInd: NA	
6	Non-reporting Foreign Broker-Dealer accepts and executes the order	*NA*	
7	Broker 2 reports an Order Fulfillment event to show the outcome of the customer order	*Broker 2 reports an **Order Fulfillment event*** type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FRGN123 symbol: XYZ eventTimestamp: 20180501T153045.234556 fulfillmentLinkType: FOR quantity: 1000 price: 10.00 capacity: A clientDetails: orderKeyDate: 20180501T000000 orderID: O34567 side: B	The *fulfillmentLinkType* must be populated with a value of 'FOR' to indicate that the order was routed to a foreign destination, and that *firmDetails* are not required. The eventTimestamp in the Order Fulfillment event represents the time that the firm filled the customer order, not the time that the execution was received on the foreign market.

2.9.2. Customer Order is Routed to a Foreign Affiliate, and the Foreign Affiliate Executes the Order on a Net Basis

This scenario illustrates the CAT reporting requirements when an Industry Member receives an order from its customer to buy a foreign security and routes the order to a non-member foreign affiliate for execution. The foreign affiliate executes the order in the foreign market and the transaction is reported by the foreign market. The foreign affiliate sells the security to the Industry Member at a different price than the price reported in the foreign market. The Industry Member fills the customer order at the same price at which it bought the security from its foreign affiliate (except for any change in price due to currency conversion).

Since the price given to the Industry Member by the foreign affiliate was different than the price that the foreign affiliate received on the foreign market, the Industry Member is required to submit a media trade report to a TRF in the United States. In the TRF report, the FINRA member firm will be identified as the executing firm on the trade report with a blank contra.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to its foreign affiliate (Order Route event)
- The execution of the order in the foreign market (one-sided Trade event linking to the TRF report with a *sideDetailsInd* of 'BUY')

Broker 1 is required to report the execution of the order on the foreign market using a Trade event with linkage to the TRF report. Broker 1 is only required to report its own side of the execution in the Trade event side details. The *sideDetailsInd* field must be populated with a value of 'BUY', indicating that the Trade event is one sided, and that only the *buyDetails* will be populated.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 receives the Buy order from the customer	*Broker 1 (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: FOR custDspIntrFlag: false firmDesignatedID: INC123 accountHolderType: A	

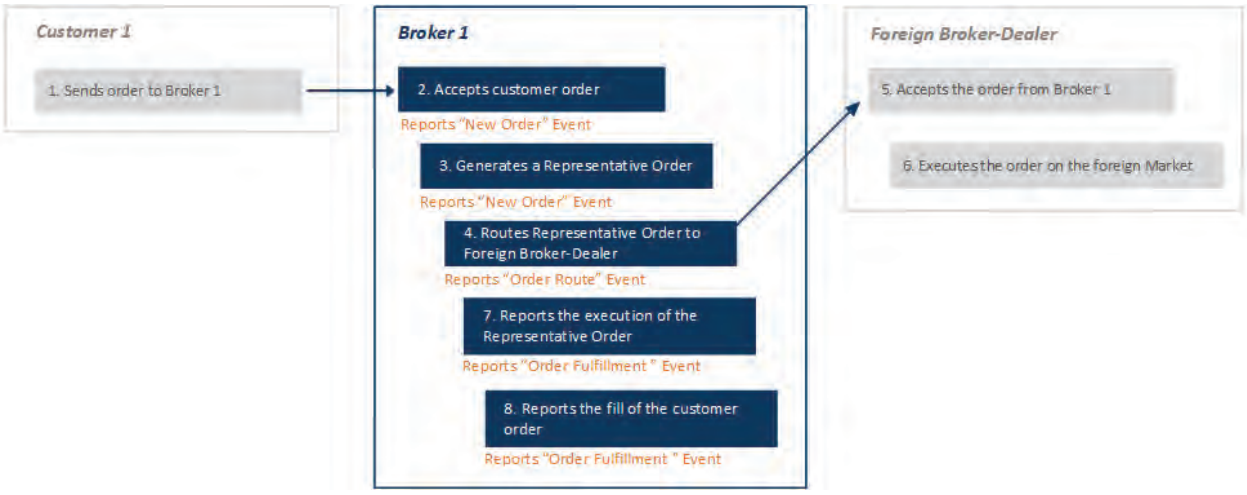
#	Step	Reported Event	Comments
		affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to a foreign affiliate	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143032.53456 manualFlag: false senderIMID: destination: destinationType: N routedOrderID: side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: FOR affiliateFlag: true isoInd: NA	When *destinationType* is populated as 'N', *senderIMID, destination,* and *routedOrderID* are not required.
5	Foreign affiliate accepts the order from Broker 1 and executes the order in the foreign market @9.97	*NA*	This transaction is reported by to the foreign market.
6	Foreign affiliate sells the shares to Broker 1 @10.01	*NA*	Since the foreign affiliate received a price of 9.97 on the foreign market, and sold the shares to Broker 1 a price of 10.01, Broker 1 is required to report a media trade report in the US.
7	Broker 1 reports the trade to the TRF and reports a one-sided Trade event @10.01	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ125 symbol: XYZ eventTimestamp: 20170801T143035.53456 manualFlag: false cancelFlag: false cancelTimestamp:	Since Broker 1 reported the trade to the TRF, Broker 1 must populate all relevant fields required to link to the related trade report. In this scenario, Broker 1 is only required to report its own side in the Trade event side details. The *sideDetailsInd* field must be populated with a value of 'BUY' indicating that only the *buyDetails* are populated.

#	Step	Reported Event	Comments
		quantity: 300 price: 10.01 capacity: A tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: BUY buyDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B	

2.9.3. Customer Order is Routed to a Foreign Broker-Dealer and Executed on a Riskless Principal Basis

This scenario illustrates the CAT reporting requirements when an Industry Member routes a customer order on a Riskless Principal basis to a foreign broker-dealer for execution. In this scenario, the Industry Member receives a customer order and generates a representative order, then routes the representative order to a foreign broker-dealer.

The foreign broker-dealer executes the order in the foreign market and the transaction is reported by the foreign market. The foreign broker-dealer sells the security to the Industry Member at the same price that was reported in the foreign market. The Industry Member fills the customer order at the same price at which it bought the security from its foreign affiliate (except for any change in price due to currency conversion).



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)

- The generation of a representative order (New Order event)
- The route of the representative order (Order Route event)
- The execution representative order (Order Fulfillment event with a *fulfillmentLinkType* of 'FOR')
- The fill of the customer order (Order Fulfillment event with a *fulfillmentLinkType* of 'Y')

In phase 2a, explicit linkage between the customer order and the representative order is required, since the representative order was originated specifically to represent a single customer order and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system.

firmDetails are not required on Order Fulfillment events with a *fulfillmentLinkType* of 'FOR' representing orders that were routed to a foreign broker-dealer.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 receives the Buy order from the customer	*Broker 1 (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: FOR custDspIntrFlag: false firmDesignatedID: INC123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order	*Broker 1 (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20170801T000000	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a.

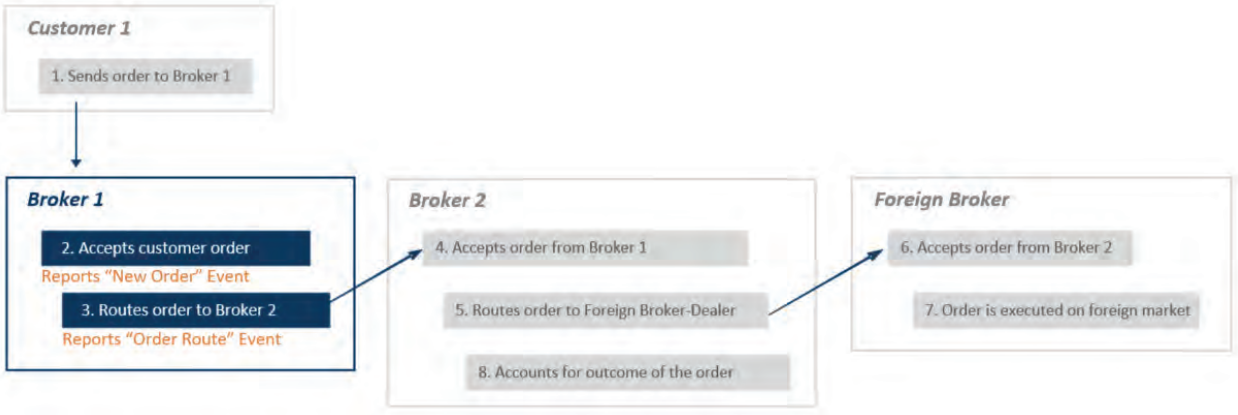
#	Step	Reported Event	Comments
		orderID: R12345 symbol: XYZ eventTimestamp: 20170801T143032.223456 manualFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: FOR custDspIntrFlag: false firmDesignatedID: REP125 accountHolderType: P aggregatedOrders: O12345@20170801T000000@@ affiliateFlag: false negotiatedTradeFlag: false representativeInd: Y	The *aggregatedOrders* field must be populated.
4	Broker 1 routes the Representative Order to a foreign broker-dealer	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20170801T000000 orderID: R12345 symbol: XYZ eventTimestamp: 20170801T143032.53456 manualFlag: false senderIMID: destination: destinationType: N routedOrderID: side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG affiliateFlag: false isoInd: NA	When *destinationType* is populated as 'N', *senderIMID, destination* and *routedOrderID* are not required.
5	Foreign affiliate accepts the order from Broker 1 and executes the order in the foreign market	*NA*	This transaction is reported by to the foreign market.

#	Step	Reported Event	Comments
	@10.01		
6	Foreign affiliate sells the shares to Broker 1 @10.01	*NA*	Since the transaction was reported to the foreign market at a price of 10.01, and the foreign broker-dealer sold the shares to Broker 1 a price of 10.01, Broker 1 is not required to report a media trade report in the US.
7	Broker 1 reports an Order Fulfillment event to show the outcome of the representative order	*Broker 1 reports an **Order Fulfillment event*** Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20170801T143035.53456 manualFlag: false fulfillmentLinkType: FOR quantity: 300 price: 10.01 capacity: P clientDetails: orderKeyDate: 20170801T000000 orderID: R12345 side: B	The *fulfillmentLinkType* must be populated with a value of 'FOR' to indicate that the order was routed to a foreign destination, and that *firmDetails* are not required. Although the order being filled on the foreign exchange is a representative proprietary order, the *clientDetails* must be populated with the *orderID* of the representative proprietary order.
8	Broker 1 executes the customer order on a Riskless Principal basis	*Broker 1 reports an **Order Fulfillment event*** Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12360 symbol: XYZ eventTimestamp: 20170801T143035.63456 manualFlag: false fulfillmentLinkType: Y quantity: 300 price: 10.01 capacity: R clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20170801T000000	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required.

#	Step	Reported Event	Comments
		orderID: R12345 side: SL	

2.9.4. Industry Member Routes an Order in an OTC Equity Symbol of a Foreign Security to Another Industry Member with Discretion on Where to Execute

This scenario illustrates the CAT reporting requirements when Industry Member Broker 1 routes an order in an OTC equity symbol of a foreign security to another Industry Member Broker 2, and Broker 2 has discretion on how to execute the order. Broker 2 then chooses to route the order to a foreign market for execution. Broker 1 is unaware of the outcome of the order and therefore has an obligation to report to CAT in accordance with FAQs I2 and I4. However, Broker 2 knows that the order was executed and trade reported on a foreign market, and does not have an obligation to report to CAT in accordance with FAQ I7.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event with *destinationType* 'O')

While Broker 2 may optionally report this activity to CAT, it does not have a CAT reporting obligation in accordance with FAQ I7.

Broker 1 may populate a *destinationType* value of 'O' on its Order Route event to Broker 2. When *destinationType* 'O' is populated, linkage will be attempted on the Order Route event. After linkage is attempted, if no link is found, the firm will not receive an unlinked error.

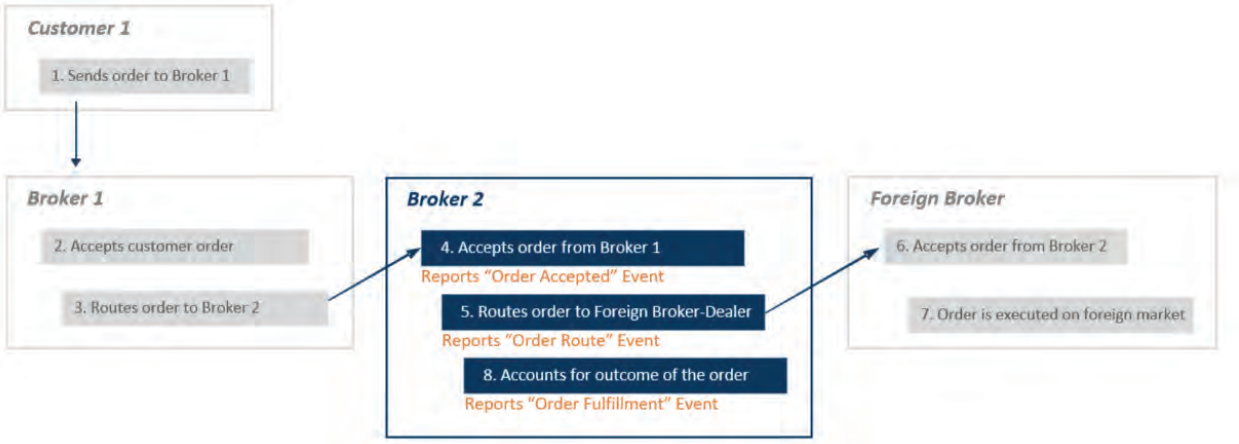
#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	

#	Step	Reported Event	Comments
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: ALL custDspIntrFlag: false firmDesignatedID: EFGHO001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the customer order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234556 manualFlag: false senderIMID: 123:BRKA destination: 456:BRKB destinationType: O routedOrderID: XYZ123555 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: ALL affiliateFlag: false isoInd: NA	If Broker 1 does not know that the order was executed and trade reported on a foreign market, or chooses to optionally report the order, then to avoid an interfirm linkage error, they should report the *destinationType* 'O'. When *destinationType* 'O' is populated, linkage will be attempted on the Order Route event. After linkage is attempted, if no link is found, the firm will not receive an unlinked error.
4	Broker 2 accepts the order from Broker 1	*NA*	Broker 2 knows that the order was executed and trade reported on a foreign market and does not have an

#	Step	Reported Event	Comments
			obligation to report this activity to CAT.
5	Broker 2 routes the customer order to a foreign market for execution	*NA*	Broker 2 knows that the order was executed and trade reported on a foreign market and does not have an obligation to report this activity to CAT.

2.9.5. Industry Member Routes an Order in an OTC Equity Symbol of a Foreign Security to Another Industry Member with Instructions to Execute on a Foreign Market

This scenario illustrates the CAT reporting requirements when Industry Member Broker 1 routes an order in an OTC equity symbol of a foreign security to another Industry Member Broker 2 with instructions to direct the order to a foreign market for execution. In accordance with FAQ I6, neither Broker 1 nor Broker 2 have an obligation to report this activity to CAT. However, Broker 2 chooses to optionally report this activity.



Industry Member Broker 2 optionally reports:

- The receipt of the order from Broker 1 (Order Accepted event with *senderType* 'O')
- The route of the order to the foreign market (Order Route event)
- The outcome of the order (Order Fulfillment event)

While Broker 1 may also optionally report this activity to CAT, it does not have a CAT reporting obligation in accordance with FAQ I7.

Broker 2 may populate a *senderType* value of 'O' on its Order Accepted event from Broker 1. When *senderType* 'O' is populated, linkage will be attempted on the Order Accepted event. After linkage is attempted, if no link is found, the firm will not receive an unlinked error.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*NA*	Broker 1 knows that the order was executed and trade reported on a foreign market and does not have an obligation to report this activity to CAT.
3	Broker 1 routes the customer order to Broker 2	*NA*	Broker 1 knows that the order was executed and trade reported on a foreign market and does not have an obligation to report this activity to CAT.
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153036.234556 manualFlag: true electronicDupFlag: false electronicTimestamp: receiverIMID: 456:BRKB senderIMID: 123:BRKA senderType: O routedOrderID: XYZ123555 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: FOR isoInd: NA handlingInstructions: DIR custDspIntrFlag: false	Since Broker 2 knows that the order was executed and trade reported on a foreign market, it does not have an obligation to report this activity to CAT. If they choose to optionally report the order, to avoid an interfirm linkage error, they should report the *senderType* 'O'. When *senderType* 'O' is populated, linkage will be attempted on the Order Accepted event. After linkage is attempted, if no link is found, the firm will not receive an unlinked error.
5	Broker 2 routes the customer order to a non-reporting affiliated foreign broker-dealer	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ	When routing to a foreign broker-dealer, *destinationType* must be populated as 'N', and *tradingSession* must be populated as 'FOR'. *destination*, *senderIMID,* and *routedOrderID* are not required when routing to a foreign broker-dealer.

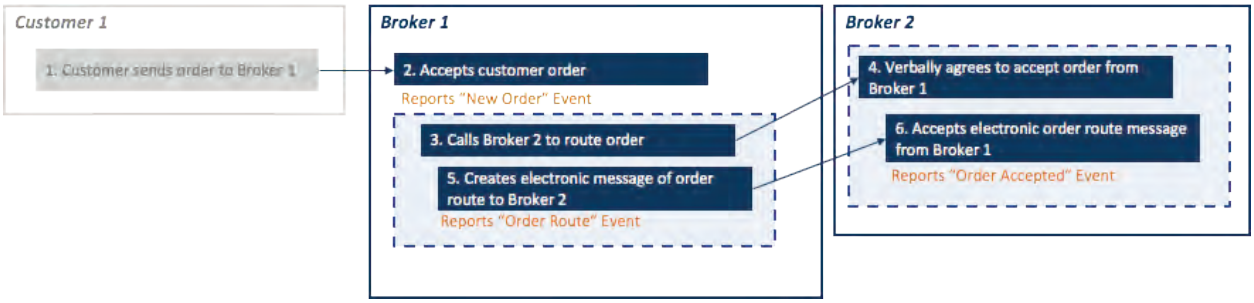
#	Step	Reported Event	Comments
		eventTimestamp: 20180501T153036.234556 manualFlag: false senderIMID: destination: destinationType: N routedOrderID: side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180501 tradingSession: FOR affiliateFlag: true isoInd: NA	
6	Non-reporting Foreign Broker-Dealer accepts and executes the order	*NA*	
7	Broker 2 reports an Order Fulfillment event to show the outcome of the customer order	*Broker 2 reports an **Order Fulfillment event*** type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FRGN123 symbol: XYZ eventTimestamp: 20180501T153045.234556 fulfillmentLinkType: FOR quantity: 1000 price: 10.00 capacity: A clientDetails: orderKeyDate: 20180501T000000 orderID: O34567 side: B	The *fulfillmentLinkType* must be populated with a value of 'FOR' to indicate that the order was routed to a foreign destination, and that *firmDetails* are not required. The eventTimestamp in the Order Fulfillment event represents the time that the firm filled the customer order, not the time that the execution was received on the foreign market.

2.10. Electronic Duplicate Scenarios

This section illustrates the CAT reporting requirements when an Industry Member routes or receives an order manually and then subsequently sends or receives an electronic message to represent the manual instruction. Refer to Section 3.2.2 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.10.1. Manual Order Route Followed by Electronic Route, Merged Event

This scenario illustrates the CAT reporting requirements when an Industry Member manually routes an order to another Industry Member and follows up with an electronic route message. In this scenario, both parties report a 'merged' event.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)

When reporting a 'merged' event, Industry Members are required to report both the *eventTimestamp* and the *electronicTimestamp*, along with a *routedOrderID*. The *electronicDupFlag* must be set to 'false' and the *manualFlag* must be set to 'true' on a 'merged' event.

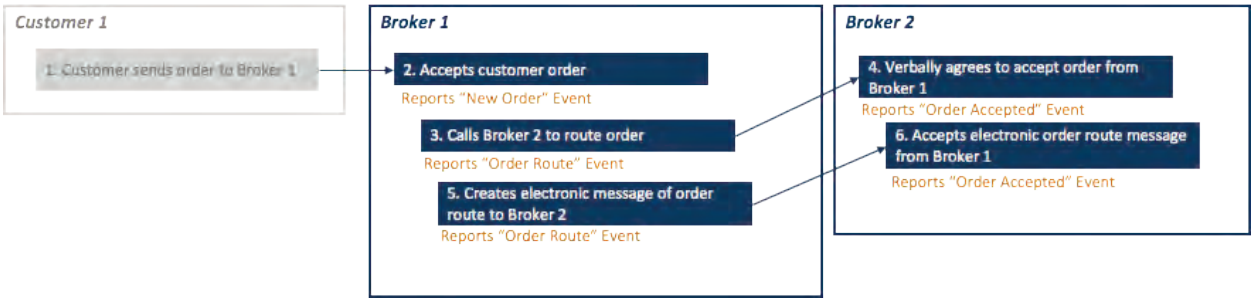
#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.123456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417	

#	Step	Reported Event	Comments
		tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 calls Broker 2 to route the order		
4	Broker 2 verbally accepts the order		
5	Broker 1 creates an electronic order route message and sends the message to Broker 2	*Broker 1 (IMID = FRMA) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: 20180417T143040.123456 senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: RT5678 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	Broker 1 reports a merged event for the Order Route event. *electronicDupFlag* must be set to 'false' on merged events. The *eventTimestamp* on the Order Route event must capture the time at which Broker 1 called Broker 2 in step 3 (with granularity to at least seconds). The *electronicTimestamp* must be the time at which the electronic route was sent and must be reported to millisecond granularity.
6	Broker 2 accepts the electronic order route message	*Broker 2 (IMID = FRMB) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true	Broker 2 reports a merged event for the Order Accepted event. *electronicDupFlag* must be set to 'false' on merged events. The *eventTimestamp* on the Order Accepted event must capture the time at which Broker 2 agreed to take the order from Broker 1 in step 4 (with granularity to at least seconds). The *electronicTimestamp* must be the

#	Step	Reported Event	Comments
		electronicDupFlag: false electronicTimestamp: 20180417T143040.126456 receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: RT5678 affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	time at which the electronic route was received and must be reported to millisecond granularity.

2.10.2. Manual Order Route, Electronic Duplicate Order

This scenario illustrates the Phase 2a reporting requirements when an Industry Member manually routes an order but is unable to merge the manual and electronic copies of the order into a single message for CAT Reporting.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The manual route to Broker 2 (Order Route event)
- The electronic route message sent to Broker 2 (Order Route event with *electronicDupFlag* populated as 'true')

Industry Member Broker 2 is required to report:

- The receipt of the route from Broker 1 (Order Accepted event)

- The receipt of the electronic route message from Broker 1 (Order Accepted event with *electronicDupFlag* populated as 'true')

When reporting the electronic duplicate event, the *electronicDupFlag* must be populated as 'true', and the *manualFlag* must be populated as 'false'. The *routedOrderID* field is not required on the events reflecting the manual route by Broker 1 and the manual receipt by Broker 2, but is required on the events reflecting the receipt of the duplicate electronic message. The *orderID* on the event reflecting the manual order receipt by Broker 2 must not be the same as the *orderID* on the event reflecting the receipt of the duplicate electronic message.

In phase 2a, Industry Members are not required to populate the *manualOrderID* field. This field is required in phase 2c. When the *manualOrderID* field is populated, the *manualOrderKeyDate* must also be populated in order to generate a Manual Order Key to link to the electronic duplicate event to the original manual event.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a* ***New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.123456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 calls Broker 2 to route the order	*Broker 1 (IMID = FRMA) reports an* ***Order Route event***	*routedOrderID* is not required on orders routed manually.

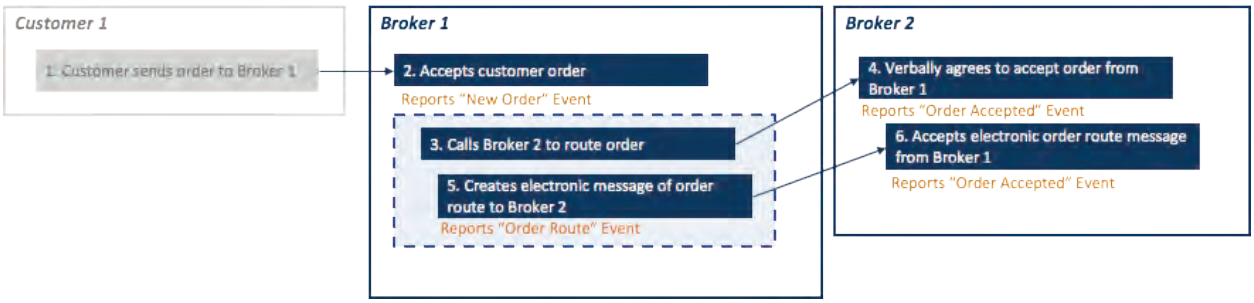
#	Step	Reported Event	Comments
		type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: senderIMID: 456:FRMA destination: 123:FRMB destinationType: F routedOrderID: side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	*electronicTimestamp* is not required, as the systemization of the route is being captured in a separate event.
4	Broker 2 verbally accepts order	*Broker 2 (IMID = FRMB) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567E symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	*routedOrderID* is not required on orders received manually. *electronicTimestamp* is not required, as the systemization of the order is being captured in a separate event.

#	Step	Reported Event	Comments
5	Broker 1 creates an electronic order route message and sends to Broker 2	*Broker 1 (IMID = FRMA) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143040.123456 manualFlag: false electronicDupFlag: true electronicTimestamp: senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: RT5678 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	The *electronicDupFlag* must be set to 'true', indicating that this event is the electronic copy of a previously reported event. When *electronicDupFlag* is populated as 'true', *manualFlag* must be populated as 'false'. *electronicTimestamp* is not required when *electronicDupFlag* is 'true'. *routedOrderID* is required when *electronicDupFlag* is 'true'. The orderID on the duplicative electronic message must match the internal orderID. Linkage is not being attempted until Phase 2c.
6	Broker 2 accepts the electronic order route message	*Broker 2 (IMID = FRMB) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567FIX symbol: XYZ eventTimestamp: 20180417T143040.126456 manualFlag: false electronicDupFlag: true electronicTimestamp: receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: RT5678 manualOrderKeyDate: 20180417T000000 manualOrderID: O34567E affiliateFlag: false deptType: A side: B price: 9.99	The *electronicDupFlag* must be set to 'true', indicating that this event is the electronic copy of a previously reported event. When *electronicDupFlag* is populated as 'true', *manualFlag* must be populated as 'false'. *electronicTimestamp* is not required when *electronicDupFlag* is 'true'. *routedOrderID* is required when *electronicDupFlag* is 'true'. The internal *orderID* is different than the manual Order Accepted event. The Industry Member assigns a new orderID upon receipt of the electronic message. Optional in Phase 2a, the Industry Member may capture the *manualOrderID* (O34567E) to reference the manual order that was

#	Step	Reported Event	Comments
		quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	previously reported. When *manualOrderID* is populated, *manualOrderKeyDate* must also be populated.

2.10.3. Manual Order, One Side Reports Merged Event

This scenario illustrates the Phase 2a reporting requirements when an Industry Member manually routes an order to anther Industry Member. The routing Industry Member chooses to report a single 'merged' order event with both an *eventTimestamp* and an *electronicTimestamp*, and the receiving Industry Member reports separate events for the receipt of the manual order and the receipt of the electronic message.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)

When reporting a 'merged' event, Broker 1 is required to report both the *eventTimestamp* and the *electronicTimestamp*, along with a *routedOrderID*. The *electronicDupFlag* must be set to 'false' and the *manualFlag* must be set to 'true' on the 'merged' event.

Industry Member Broker 2 is required to report:

- The manual receipt of the order from Broker 1 (Order Accepted event)
- The receipt of the electronic route message from Broker 1 (Order Accepted event with *electronicDupFlag* populated as 'true')

When reporting the electronic duplicate event, Broker 2 is required to populate the *electronicDupFlag* as 'true', and the *manualFlag* as 'false'. The *routedOrderID* field is not required on the event reflecting the manual receipt of the order, but is required on the event reflecting the receipt of the duplicate electronic message. The *orderID* on the event reflecting the manual order receipt by Broker 2 must not be the same as the *orderID* on the event reflecting the receipt of the duplicate electronic message.

In phase 2a, Broker 2 is not required to populate the *manualOrderID* field on electronic duplicate events. This field is required in phase 2c. When the *manualOrderID* field is populated, the *manualOrderKeyDate* must also be populated in order to generate a Manual Order Key to link to the electronic duplicate event to the original manual event.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.123456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 calls Broker 2 to route the order		
4	Broker 2 verbally accepts the order route	*Broker 2 (IMID = FRMB) reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567E	*routedOrderID* is not required on orders received manually. *electronicTimestamp* is not required, as the systemization of the order is being captured in a separate event.

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 1 creates an electronic order route message and sends to Broker 2	*Broker 1 (IMID = FRMA) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: 20180417T143040.123456 senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: RT5678 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	Broker 1 reports a merged event for the Order Route. *electronicDupFlag* must be set to 'false' on merged events. The *eventTimestamp* on the Order Route event must capture the time at which Broker 1 called Broker 2 in step 3 (with granularity to at least seconds). The electronicTimestamp must be the time at which the electronic route was sent and must be reported to millisecond granularity.
6	Broker 2 accepts the	*Broker 2 (IMID = FRMB) reports an*	The *electronicDupFlag* must be set

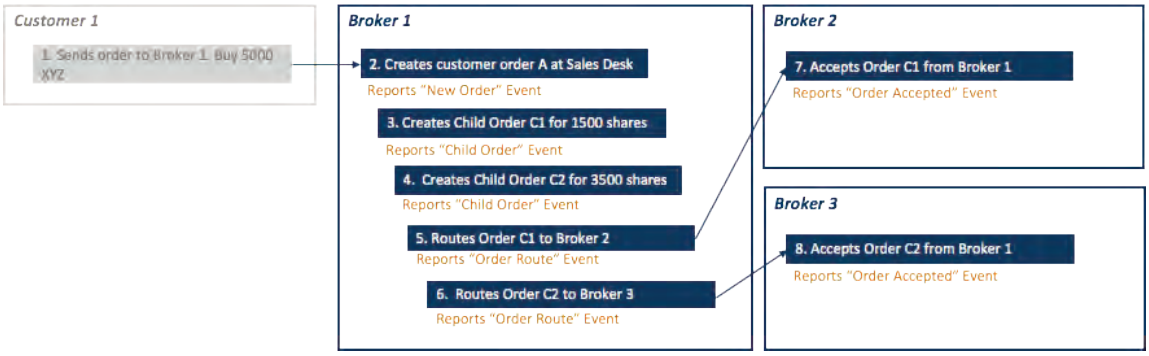
#	Step	Reported Event	Comments
	electronic order route message	***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567FIX symbol: XYZ eventTimestamp: 20180417T143040.126456 manualFlag: false electronicDupFlag: true electronicTimestamp: receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: RT5678 manualOrderKeyDate: 20180417T000000 manualOrderID: O34567E affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	to 'true', indicating that this event is the electronic copy of a previously reported event. When *electronicDupFlag* is populated as 'true', *manualFlag* must be populated as 'false'. *electronicTimestamp* is not required when *electronicDupFlag* is 'true'. *routedOrderID* is required when *electronicDupFlag* is 'true'. The internal *orderID* is different than the manual Order Accepted event. The Industry Member assigns a new orderID upon receipt of the electronic message. Optional in Phase 2a, the Industry Member may capture the *manualOrderID* (O34567E) to reference the manual order that was previously reported. When *manualOrderID* is populated, *manualOrderKeyDate* must also be populated.

2.11. Child Order Scenarios

This section illustrates the CAT reporting requirements when an order is sliced within the desk or department it is being worked. Child Order events are not required to be reported to CAT, but are provided for the convenience of Industry Members to help model these types of order handling scenarios. Refer to Section 4.6 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.11.1. Industry Member Creates Child Orders and Routes

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order and splits the customer order into multiple child orders before further handling. This scenario illustrates the reporting requirements for generating child orders, and does not reflect further order handling.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of each child order (Child Order event)
- The route of each child order (Order Route event)

Industry Members Broker 2 and 3 are required to report:

- The receipt of each order from Broker 1 (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG custDspIntrFlag: false firmDesignatedID: ID09876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

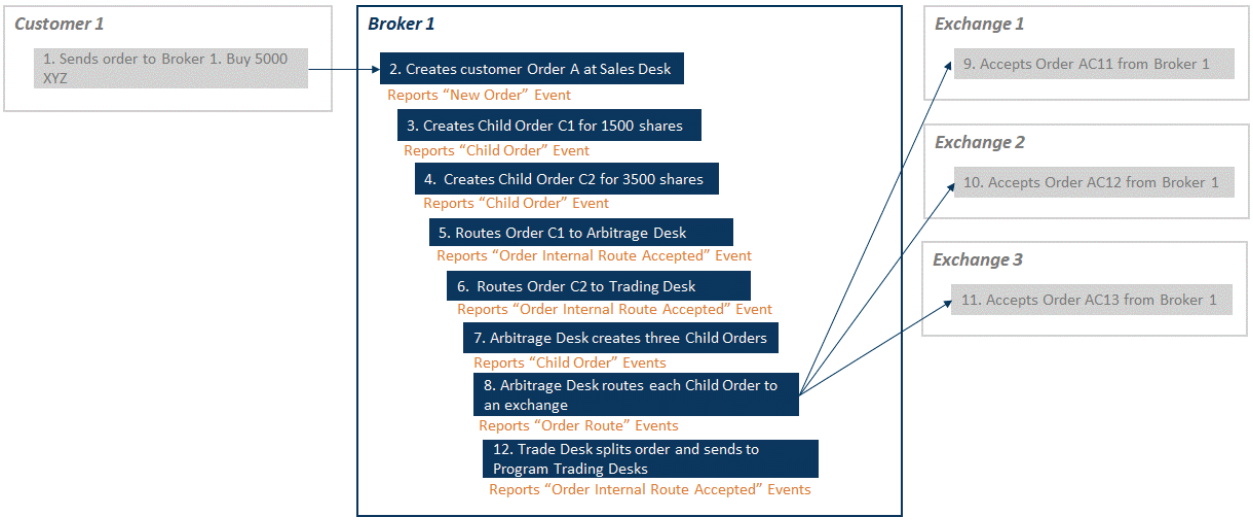
#	Step	Reported Event	Comments
3	Broker 1 generates two child orders from the customer order. Order 1 of 2, C12345 for 1500.	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323456 side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C12345. The Parent Order Key with *orderID* O11235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.
4	Broker 1 generates two child orders from the customer order. Order 2 of 2, C22345 for 3500	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323457 side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C22345. The Parent Order Key with *orderID* O11235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.
5	Broker 1 routes Child Order C12345 to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ eventTimestamp: 20180424T113018.343456 manualFlag: false	

#	Step	Reported Event	Comments
		senderIMID: 123:BRKR1 destination: 456:FRM2 destinationType: F routedOrderID: RTC1 side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA	
6	Broker 1 routes Child Order C22345 to Broker 3	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113018.343457 manualFlag: false senderIMID: 123:BRKR1 destination: 789:FRM3 destinationType: F routedOrderID: RTC2 side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA	
7	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180424T000000 orderID: O28765 symbol: XYZ eventTimestamp: 20180424T113018.543456 manualFlag: false receiverIMID: 456:FRM2 senderIMID: 123:BRKR1	

#	Step	Reported Event	Comments
		senderType: F routedOrderID: RTC1 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG isoInd: NA custDspIntrFlag: false	
8	Broker 3 accepts the order from Broker 1	*Broker 3 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180424T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180424T113018.543458 manualFlag: false receiverIMID: 789:FRM3 senderIMID: 123:BRKR1 senderType: F routedOrderID: RTC2 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG isoInd: NA custDspIntrFlag: false	

2.11.2. Industry Member Creates Multiple Branches of Child Orders

This scenario illustrates the CAT reporting requirements when an order is handled at multiple desks within an Industry Member, and each desk has chosen to work an order by splitting the original order into multiple child orders. This scenario illustrates the reporting requirements for generating child orders, and does not reflect further order handling.



Industry Member Broker 1 must report the following for each desk:

- At the Sales Desk:
  - The receipt of the customer (New Order event)
  - The generation of each child order (Child Order events)
- At the Arbitrage Desk:
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
  - The generation of each child order (Child Order events)
  - The route of each child order (Order Route event)
- At the Trading Desk:
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
- At the Program Trading desk:
  - The receipt of the internal route from the Trading Desk (Order Internal Route Accepted event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.123456 manualFlag: false deptType: A side: B	

#	Step	Reported Event	Comments
		price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG custDspIntrFlag: false firmDesignatedID: ID09876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3, 4	Broker 1 creates 2 child orders from Order A	*Broker 1 reports a **Child Order event (1 of 2)*** type: MECO orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323456 side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG *Broker 1 reports a **Child Order event (2 of 2)*** type: MECO orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323457 side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY=20180424	Upon generation of each child order, Broker 1 assigns a new Order Key with *orderIDs* C12345 and C22345. The Parent Order Key with *orderID* O11235 must be populated in the *parentOrderID* field on each Child Order event. The Parent Order Key links the Child Order events with the New Order event.

#	Step	Reported Event	Comments
		tradingSession: REG	
5	Child Order 1 is internally routed to the Arbitrage Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ eventTimestamp: 20180424T113018.323656 manualFlag: false deptType: T receivingDeskType: AR side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Broker 1 does not assign a new *orderID* to the Order Internal Route Accepted event.
6	Child Order 2 is internally routed to the Trading Desk	*Broker 1 reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113018.323657 manualFlag: false deptType: T receivingDeskType: T side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Broker 1 does not assign a new *orderID* to the Order Internal Route Accepted event.
7	The Arbitrage Desk splits the order and creates three child orders	*Broker 1 reports a **Child Order event (1 of 3)*** type: MECO orderKeyDate: 20180424T000000 orderID: AC112345 symbol: XYZ	Upon generation of each child order, Broker 1 assigns a new Order Key with *orderIDs* AC112345 and AC122345 and AC132345. The Parent Order Key with *orderID* C12345 must be populated in the *parentOrderID* field on each Child

#	Step	Reported Event	Comments
		parentOrderKeyDate: 20180424T000000 parentOrderID: C12345 eventTimestamp: 20180424T113018.324656 side: B price: 10.00 quantity: 400 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG *Broker 1 reports a **Child Order event (2 of 3)*** type: MECO orderKeyDate: 20180424T000000 orderID: AC122345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: C12345 eventTimestamp: 20180424T113018.324657 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG *Broker 1 reports a **Child Order event (3 of 3)*** type: MECO orderKeyDate: 20180424T000000 orderID: AC132345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: C12345 eventTimestamp: 20180424T113018.324658 side: B price: 10.00 quantity: 600 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Order event. The Parent Order Key links the parent Order Internal Route Accepted event.

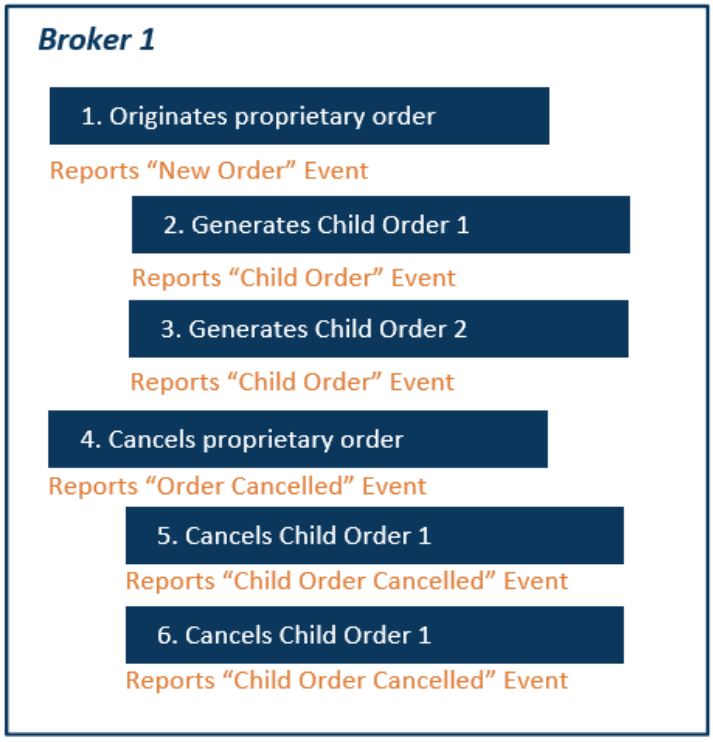
#	Step	Reported Event	Comments
8	The Arbitrage Desk routes each child order to an exchange	*Broker 1 reports an **Order Route event (1 of 3)*** type: MEOR orderKeyDate: 20180424T000000 orderID: AC112345 symbol: XYZ eventTimestamp: 20180424T113018.325656 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH1 destinationType: E routedOrderID: RTAC11 session: s5 side: B price: 10.00 quantity: 400 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA *Broker 1 reports an **Order Route event (2 of 3)*** type: MEOR orderKeyDate: 20180424T000000 orderID: AC122345 symbol: XYZ eventTimestamp: 20180424T113018.325657 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH2 destinationType: E routedOrderID: RTAC12 session: s6 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
8	(cont'd from above)	*Broker 1 reports an* ***Order Route event (3 of 3)*** type: MEOR orderKeyDate: 20180424T000000 orderID: AC132345 symbol: XYZ eventTimestamp: 20180424T113018.325658 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH3 destinationType: E routedOrderID: RTAC13 session: s7 side: B price: 10.00 quantity: 600 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA	
9	Exchange 1 accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	
10	Exchange 2 accepts the order from Broker 1	*EXCH2 reports a Participant* ***Order Accepted event***	
11	Exchange 3 accepts the order from Broker 1	*EXCH3 reports a Participant* ***Order Accepted event***	
12	The Trading Desk splits the order and sends to two different Program Trading Desks	*Broker 1 reports an* ***Order Internal Route Accepted event (1 or 2)*** type: MEIR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113018.343657 manualFlag: false deptType: T receivingDeskType: PT side: B price: 10.00 quantity: 2000 orderType: LMT	Broker 1 does not assign a new *orderID* to the Order Internal Route Accepted event.

#	Step	Reported Event	Comments
		timeInForce: DAY=20170801 tradingSession: REG *Broker 1 reports an **Order Internal Route Accepted event (2 or 2)*** type: MEIR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113018.343658 manualFlag: false deptType: T receivingDeskType: PT side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY=20170801 tradingSession: REG	

2.11.3. Industry Member Creates Child Orders Then Cancels the Parent order

This scenario illustrates the CAT reporting requirements when an Industry Member originates a proprietary order and splits the order into multiple child orders. The Industry Member then decides to cancel the parent order. While the Industry Member is required to report an Order Cancelled event reflecting the cancellation of the parent order, the Industry Member is also required to report a Child Order Cancelled event for each related Child Order.



Industry Member Broker 1 is required to report:

- The origination of the proprietary order (New Order event)
- The generation of each child order (Child Order events)
- The cancellation of the parent order (Order Cancelled event)
- The cancellation of each child order (Child Order Cancelled event)

#	Step	Reported Event	Comments
1	Broker 1 originates a proprietary order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180424	

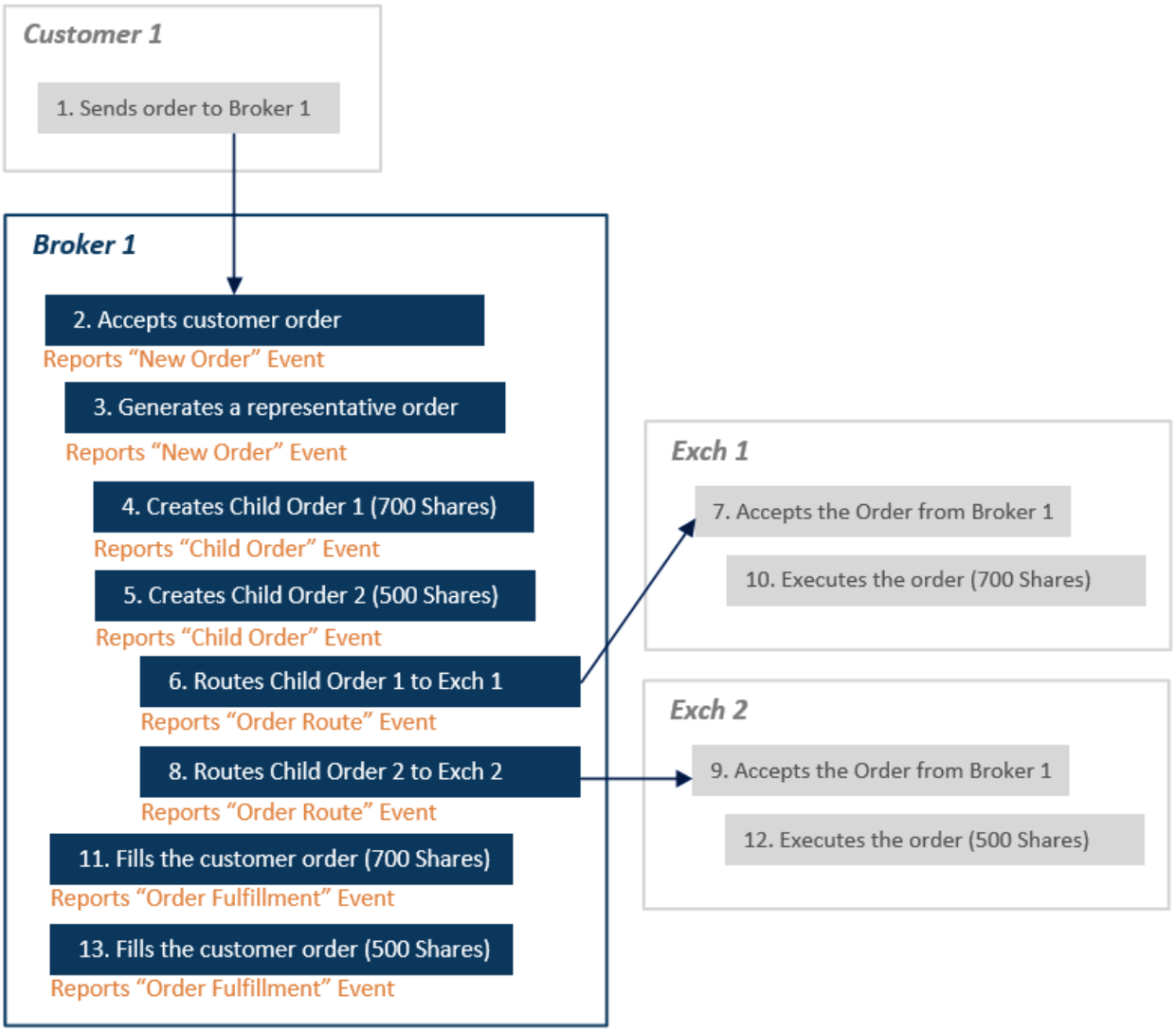
#	Step	Reported Event	Comments
		tradingSession: REG custDspIntrFlag: false firmDesignatedID: ID09876 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 generates two child orders from the proprietary order. Order 1 of 2, C12345 for 1500.	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323456 side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C12345. The Parent Order Key with *orderID* O11235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.
3	Broker 1 generates two child orders from the proprietary order. Order 2 of 2, C22345 for 3500	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323457 side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C22345. The Parent Order Key with *orderID* O11235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.

#	Step	Reported Event	Comments
4	Broker 1 cancels the parent order	*Broker 1 reports an* ***Order Cancelled event*** type: MEOC orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113019.323457 manualFlag: false cancelQty: 5000 leavesQty: 0 initiator: F	
5	Broker 1 cancels the child orders. Order 1 of 2, C12345 for 1500.	*Broker 1 reports a* ***Child Order Cancelled event*** type: MECOC orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ eventTimestamp: 20180424T113019.423457 manualFlag: false cancelQty: 1500 leavesQty: 0	Broker 1 is required to report the cancellation of each child order. Based on the firm's order handling practice and system configuration, the *eventTimestamp* on the MECOC may be different than or prior to the *eventTimestamp* in the MECO.
6	Broker 1 cancels the child orders Order 2 of 2, C22345 for 3500	*Broker 1 reports a* ***Child Order Cancelled event*** type: MECOC orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113019.423457 manualFlag: false cancelQty: 3500 leavesQty: 0	Broker 1 is required to report the cancellation of each child order. Based on the firm's order handling practice and system configuration, the *eventTimestamp* on the MECOC may be different than or prior to the *eventTimestamp* in the MECO.

2.11.4. Industry Member Generates a Representative Order then Creates Child Orders

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order, and then generates a representative order to facilitate the execution of the customer order. The

Industry Member then generates multiple child orders off the representative order, which are routed to the exchange. The customer order is filled on a print for print basis as executions occur against the representative child orders on the exchange. Upon receipt of each fill, an Order Fulfillment event is reported for the customer order. The *firmDetails* on the Order Fulfillment events should reflect the *orderID* of the representative order.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of the representative order (New Order event)
- The creation of each child order for (Child Order events)
- The route of each child order to the exchange (Order Route events)
- The fill of the original customer order on a print for print basis (Order Fulfillment events)

#	Step	Reported Event	Comments
1	Broker 1 receives a customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUS9876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 generates a representative order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: R21235 symbol: XYZ eventTimestamp: 20180424T113019.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG custDspIntrFlag: false firmDesignatedID: RP123 accountHolderType: P affiliateFlag: false aggregatedOrders: O11235@20180424T000000@@ negotiatedTradeFlag: false	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.

#	Step	Reported Event	Comments
		representativeInd: Y	
3	Broker 1 generates two child orders from the representative order. Order 1 of 2, C12345 for 700.	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: R21235 eventTimestamp: 20180424T113019.323456 side: B price: 10.00 quantity: 700 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C12345. The Parent Order Key with *orderID* R21235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.
4	Broker 1 generates two child orders from the proprietary order. Order 2 of 2, C22345 for 500	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: R21235 eventTimestamp: 20180424T113019.323457 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C22345. The Parent Order Key with *orderID* R21235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.
5	Broker 1 routes child order 1 to Exchange 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ	

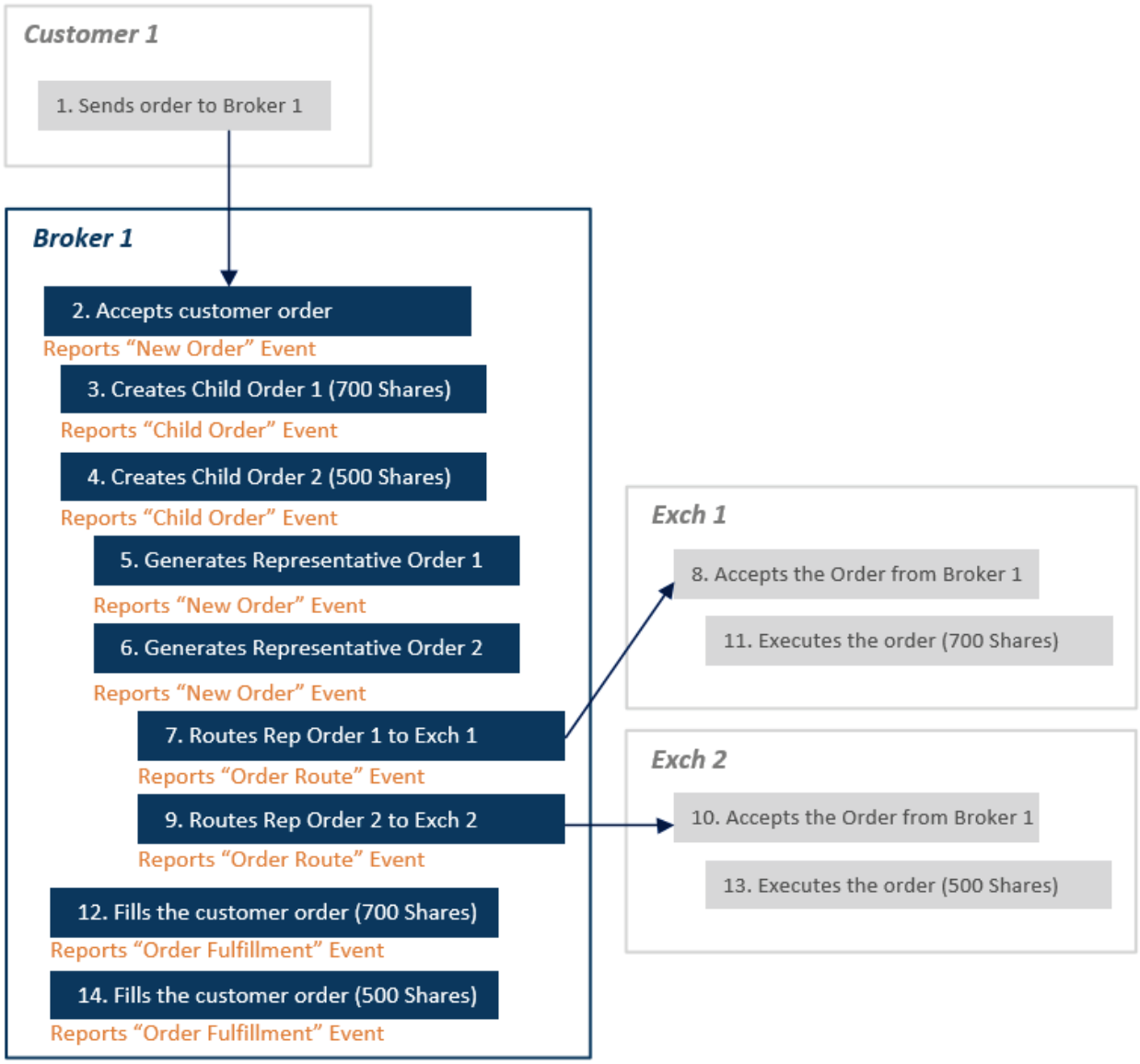
#	Step	Reported Event	Comments
		eventTimestamp: 20180424T113019.623457 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH1 destinationType: E routedOrderID: RTAC11 session: s5 side: B price: 10.00 quantity: 700 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA	
6	Exchange 1 accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	
7	Broker 1 routes child order 2 to Exchange 2	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113019.623457 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH3 destinationType: E routedOrderID: RTAC13 session: s7 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA	
8	Exchange 2 accepts the order from Broker 1	*EXCH2 reports a Participant* ***Order Accepted event***	
9	Exchange 1 executes the order from Broker 1	*EXCH1 reports a Participant* ***Order Trade event***	

#	Step	Reported Event	Comments
10	Broker 1 fills the customer order print for print	*Broker 1 reports an* ***Order Fulfillment event*** Type: MEOF fillKeyDate: 20180424T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20180424T113020.623457 manualFlag: false fulfillmentLinkType: Y quantity: 700 price: 10.00 capacity: R clientDetails: orderKeyDate: 20180424T000000 orderID: O11235 side: B firmDetails: orderKeyDate: 20180424T000000 orderID: R21235 side: SL	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required and must be populated with the *orderID* of the representative order.
11	Exchange 2 executes the order from Broker 1	*EXCH2 reports a Participant* ***Order Trade event***	
12	Broker 1 fills the customer order print for print	*Broker 1 reports an* ***Order Fulfillment event*** Type: MEOF fillKeyDate: 20180424T000000 fulfillmentID: FO12355 symbol: XYZ eventTimestamp: 20180424T113021.623457 manualFlag: false fulfillmentLinkType: Y quantity: 500 price: 10.00 capacity: R clientDetails: orderKeyDate: 20180424T000000 orderID: O11235 side: B firmDetails:	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required and must be populated with the *orderID* of the representative order.

#	Step	Reported Event	Comments
		orderKeyDate: 20180424T000000 orderID: R21235 side: SL	

2.11.5. Industry Member a Creates Child Order Then Generates a Representative Order

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order, and then generates child orders to work the customer order. The Industry Member then generates a representative order to facilitate the execution of each child order, which are routed to an exchange for execution. The customer order is filled on a print for print basis. Based on Broker 1's order handling practices and system architecture, the firm may populate either the orderID of the parent order or the related child order in the *clientDetails.*



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The creation of each child order (Child Order events)
- The generation of each representative order (New Order events)
- The route of each representative order to the exchange (Order Route events)
- The fill of the customer order (Order Fulfillment events)

#	Step	Reported Event	Comments
1	Broker 1 receives a customer order	*Broker 1 reports a **New Order event*** type: MENO	

#	Step	Reported Event	Comments
		orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUS9876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 generates two child orders from the customer order. Order 1 of 2, C12345 for 700.	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113019.323456 side: B price: 10.00 quantity: 700 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C12345. The Parent Order Key with *orderID* O11235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.
3	Broker 1 generates two child orders from the proprietary order. Order 2 of 2, C22345 for 500	*Broker 1 reports a **Child Order event*** type: MECO orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113019.323457 side: B price: 10.00 quantity: 500	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* C22345. The Parent Order Key with *orderID* O11235 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY=20180424 tradingSession: REG	
4	Broker 1 generates a representative order for child order 1	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: R21235 symbol: XYZ eventTimestamp: 20180424T113020.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 700 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG custDspIntrFlag: false firmDesignatedID: RP123 accountHolderType: P affiliateFlag: false aggregatedOrders: C12345@20180424T000000@@ negotiatedTradeFlag: false representativeInd: Y	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.
5	Broker 1 generates a representative order for child order 2	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: R21236 symbol: XYZ eventTimestamp: 20180424T113020.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG custDspIntrFlag: false firmDesignatedID: RP123 accountHolderType: P affiliateFlag: false aggregatedOrders: C22345@20180424T000000@@	The *representativeInd* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The *aggregatedOrders* field must be populated.

#	Step	Reported Event	Comments
		negotiatedTradeFlag: false representativeInd: Y	
6	Broker 1 routes representative order 1 to Exchange 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180424T000000 orderID: R21235 symbol: XYZ eventTimestamp: 20180424T113020.623457 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH1 destinationType: E routedOrderID: RTAC11 session: s5 side: B price: 10.00 quantity: 700 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: NA	
7	Exchange 1 accepts the order from Broker 1	*EXCH1 reports a Participant **Order Accepted event***	
8	Broker 1 routes representative order 2 to Exchange 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180424T000000 orderID: R21236 symbol: XYZ eventTimestamp: 20180424T113020.623457 manualFlag: false senderIMID: 123:BRKR1 destination: EXCH3 destinationType: E routedOrderID: RTAC13 session: s7 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false	

#	Step	Reported Event		Comments
		isoInd: NA		
9	Exchange 2 accepts the order from Broker 1	*EXCH2 reports a Participant **Order Accepted event***		
10	Exchange 1 executes the order from Broker 1	*EXCH1 reports a Participant **Order Trade event***		
11	Broker 1 fills the customer print for print	**Option 1** *Broker 1 reports an **Order Fulfillment event** linking to the original customer order* Type: MEOF fillKeyDate: 20180424T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20180424T113021.623457 manualFlag: false fulfillmentLinkType: Y quantity: 700 price: 10.00 capacity: R clientDetails: orderKeyDate: 20180424T000000 orderID: O11235 side: B firmDetails: orderKeyDate: 20180424T000000 orderID: R21235 side: SL	**Option 2** *Broker 1 reports an **Order Fulfillment event** linking to the related child order* Type: MEOF fillKeyDate: 20180424T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20180424T113021.623457 manualFlag: false fulfillmentLinkType: Y quantity: 700 price: 10.00 capacity: R clientDetails: orderKeyDate: 20180424T000000 orderID: C12345 side: B firmDetails: orderKeyDate: 20180424T000000 orderID: R21235 side: SL	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. *firmDetails* are required. Based on Broker 1's order handling practices and system architecture, the firm may populate either the *orderID* of the parent order or the related child order in the *clientDetails.*
12	Exchange 2 executes the order from Broker 1	*EXCH2 reports a Participant **Order Trade event***		
13	Broker 1 fills the customer order print for print	**Option 1** *Broker 1 reports an **Order Fulfillment event** linking to the original customer order*	**Option 2** *Broker 1 reports an **Order Fulfillment event** linking to the related child order*	The *fulfillmentLinkType* field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage

#	Step	Reported Event		Comments
		Type: MEOF fillKeyDate: 20180424T000000 fulfillmentID: FO12355 symbol: XYZ eventTimestamp: 20180424T113022.623457 manualFlag: false fulfillmentLinkType: Y quantity: 500 price: 10.00 capacity: R clientDetails: orderKeyDate: 20180424T000000 orderID: O11235 side: B firmDetails: orderKeyDate: 20180424T000000 orderID: R21236 side: SL	Type: MEOF fillKeyDate: 20180424T000000 fulfillmentID: FO12355 symbol: XYZ eventTimestamp: 20180424T113022.623457 manualFlag: false fulfillmentLinkType: Y quantity: 500 price: 10.00 capacity: R clientDetails: orderKeyDate: 20180424T000000 orderID: C22345 side: B firmDetails: orderKeyDate: 20180424T000000 orderID: R21236 side: SL	is required. *firmDetails* are required in Phase 2a. Based on Broker 1's order handling practices and system architecture, the firm may populate either the *orderID* of the parent order or the related child order in the *clientDetails.*

2.12. Proprietary Order Scenarios

This section illustrates the CAT reporting requirements for proprietary orders.

2.12.1. Unsolicited Cancellation of a Proprietary Order by an Exchange

This scenario illustrates the CAT reporting requirements when an Industry Member routes a proprietary order to an exchange and the exchange cancels the order without receiving an explicit cancel request. In this scenario, Industry Member Broker 1 receives a proprietary order, and routes the order to an exchange for execution. The exchange accepts the order, then cancels the order without receiving an explicit cancel request. The requirements in this scenario would be the same if the order had been routed to another Industry Member rather than an exchange.

Note that there is a distinction from implicit cancels, such as IOC orders or DFD messages. In these cases, Industry Members would not have to report a cancellation because it's implied by the circumstances.

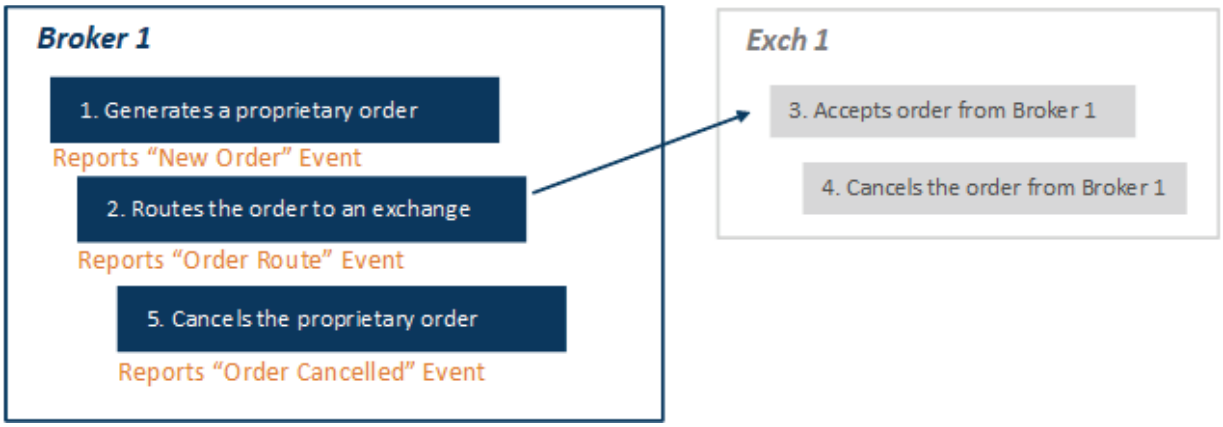
The reporting requirements in this scenario depend on the actions taken by Broker 1 upon receipt of the unsolicited cancellation from the exchange. Broker 1 is not required to report the unsolicited cancellation by the exchange. However, Broker 1 is required to report any action that it takes on the order as a result

of the unsolicited cancellation, including a cancellation of the order on its own books and records, as outlined in Option 1.

If the order remains open on Broker 1's books and records after receipt of the unsolicited cancellation, Broker 1 must report any subsequent action on the order, such as a modification or a route to another venue, as outlined in Option 2.

Option 1:

Upon cancellation by the exchange, Broker 1 cancels the order on its books and records.



Industry Member Broker 1 is required to report:

- The origination of the proprietary order (New Order event)
- The route of the order to the exchange (Order Route event)
- The cancellation of the order (Order Cancelled event)

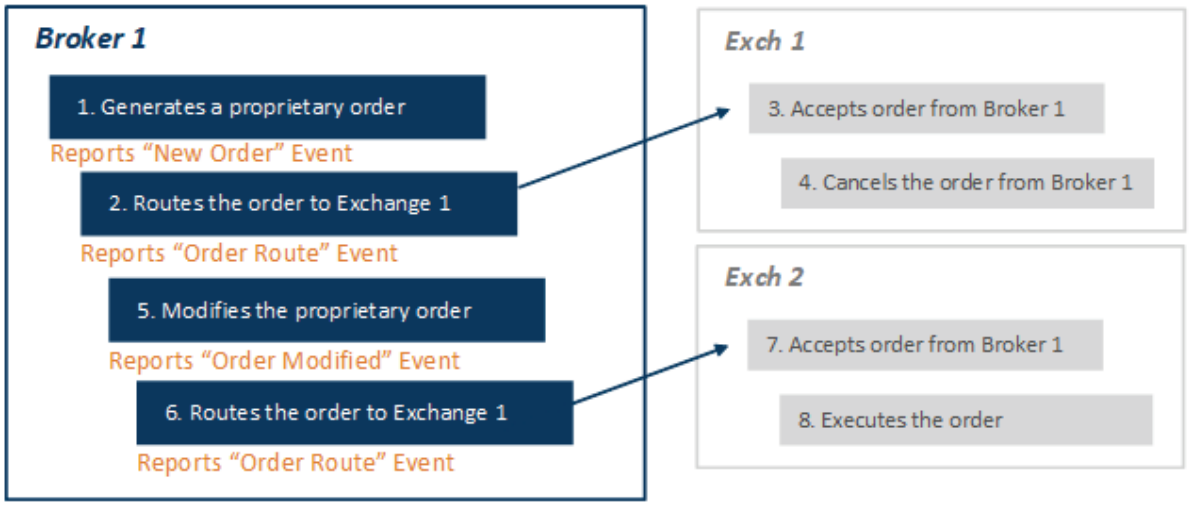
#	Step	Reported Event	Comments
1	Broker 1 generates a proprietary order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417	

#	Step	Reported Event	Comments
		tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes the order to the exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: SESS-1 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
3	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
4	Exch 1 cancels the order due to market conditions	*Exch 1 reports a Participant **Order Cancelled event***	
5	Broker 1 cancels the proprietary order	*Broker 1 reports an **Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036.534456 manualFlag: false	

#	Step	Reported Event	Comments
		cancelQty: 1000 leavesQty: 0 initiator: F	

Option 2:

Upon cancellation by the exchange, Broker 1 modifies the order on its books and records and routes the order to another venue.



Industry Member Broker 1 is required to report:

- The origination of the proprietary order (New Order event)
- The route of the order to Exchange 1 (Order Route event)
- The modification of the proprietary order (Order Modified event)
- The route of the order to Exchange 2 (Order Route event)

#	Step	Reported Event	Comments
1	Broker 1 generates a proprietary order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: T side: B price: 9.99	

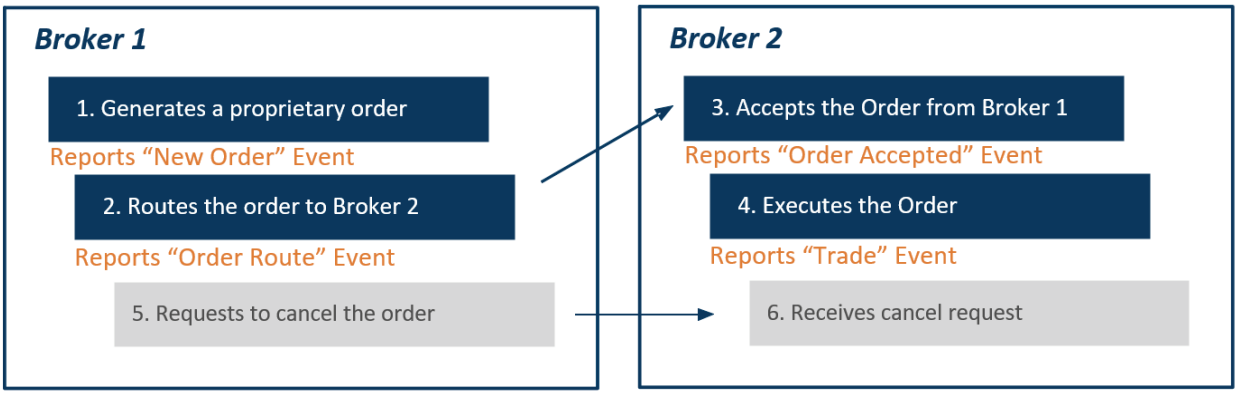
#	Step	Reported Event	Comments
		quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes the order to Exchange 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: SESS-1 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
3	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
4	Exch 1 cancels the order due to market conditions	*Exch 1 reports a Participant **Order Cancelled event***	
5	Broker 1 modifies the proprietary order	*Broker 1 reports an **Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: OM23456 symbol: XYZ	

#	Step	Reported Event	Comments
		priorOrderKeyDate: 20180417T000000 priorOrderID: O23456 eventTimestamp: 20180417T143036.234456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: F side: B price: 10.02 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY=20170417 tradingSession: REG custDspIntrFlag: false	
6	Broker 1 routes the order to Exchange 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036.534456 manualFlag: false senderIMID: 123:FRMA destination: EXCH2 destinationType: E routedOrderID: XYZO560 session: SESS-5 side: B price: 10.02 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
7	Exch 2 accepts the order from Broker 1	*Exch 2 reports a Participant **Order Accepted event***	

#	Step	Reported Event	Comments
8	Exch 2 executes the order	*Exch 2 reports a Participant **Trade event***	

2.12.2. Industry Member Cancels a Proprietary Order that has Already Been Executed

This scenario illustrates the CAT reporting requirements when an Industry Member attempts to cancel a proprietary order that has already been executed. In this scenario, Industry Member Broker 1 generates a proprietary order and routes the order to Broker 2 for execution. Broker 1 subsequently requests to cancel the order, but the order was fully executed several milliseconds before the cancellation was initiated by Broker 1.



Industry Member Broker 1 is required to report:

- The origination of the proprietary order (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of Broker 1's order (Trade event)

In accordance with CAT FAQ B42, Broker 2 is not required to report an Order Cancel Request event in Phase 2d, since the request was received after the order was fully executed. However, this activity may be required in future phases of CAT. If Broker 2 chose to optionally report an Order Cancel Request event, it will not be rejected by CAT in accordance with CAT FAQ P14.

#	Step	Reported Event	Comments
1	Broker 1 originates a	*Broker 1 reports a **New Order event***	

#	Step	Reported Event	Comments
	proprietary order	type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.534456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: XYZO555 session: side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
3	Broker 2 accepts the	*Broker 2 reports an **Order***	

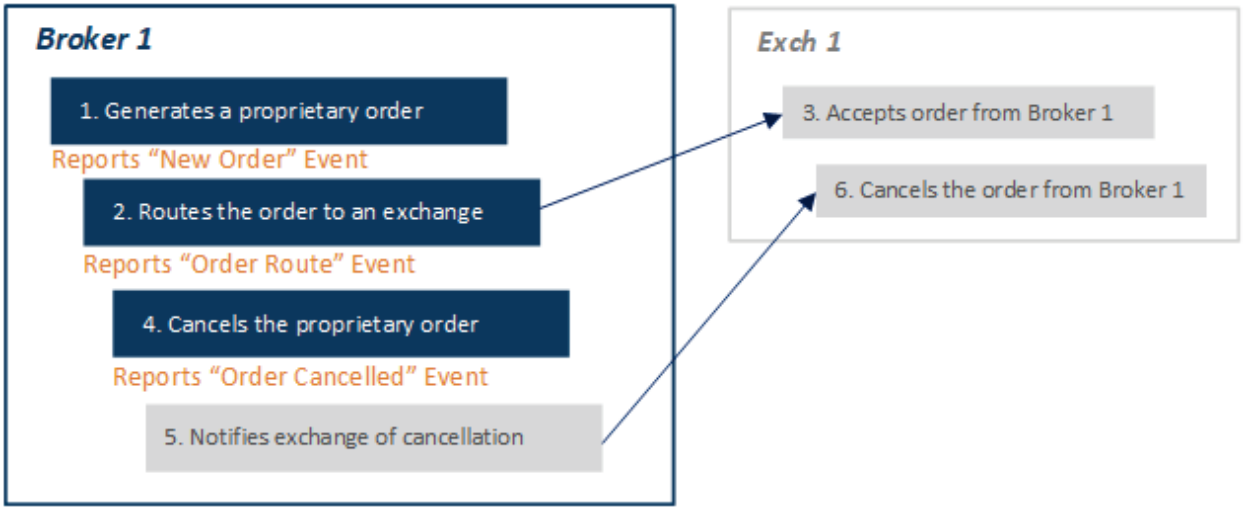
#	Step	Reported Event	Comments
	order from Broker 1	***Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143035.634456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	

4	Broker 2 executes the order	*Broker 2 reports a* ***Trade event***
		
		type: MEOT
		tradeKeyDate: 20180417T000000
		tradeID: TXYZ124
		symbol: XYZ
		eventTimestamp: 20180417T143037.234456
		manualFlag: false
		cancelFlag: false
		cancelTimestamp:
		quantity: 1000
		price: 9.99
		capacity: P
		tapeTradeID: TRF123
		marketCenterID: DN
		sideDetailsInd: NA
		buyDetails:
		  orderKeyDate: 20180417T000000
		  orderID: O34567
		  side: B
		sellDetails:
		  side: SL
			The *buyDetails* reflect the details of customer order O34567. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		firmDesignatedID: PROP123 accountHolderType: P	
5	Broker 1 requests that Broker 2 cancel the order several milliseconds after the order has been executed	*NA*	Broker 2 is not required to report an Order Cancel Request event since the order has already been fully executed.

2.12.3. Industry Member Cancels a Proprietary Order Previously Routed to an Exchange

This scenario illustrates the CAT reporting requirements when an Industry Member cancels a proprietary order that was previously routed to an exchange for execution.



Industry Member Broker 1 is required to report:

- The origination of the proprietary order (New Order event)
- The route of the order to the exchange (Order Route event)
- The cancellation of the proprietary order (Order Cancelled event)

#	Step	Reported Event	Comments
1	Broker 1 generates a proprietary order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180417T150335.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP1234 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes the order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ eventTimestamp: 20180417T150335.464456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: RO56575XYZ session: SESS1 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
3	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
4	Broker 1 cancels the proprietary order	*Broker 1 reports an **Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000	

#	Step	Reported Event	Comments
		orderID: O56575 symbol: XYZ eventTimestamp: 20180417T150345.123456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: F	
5	Broker 1 notifies the exchange that the order was cancelled	*NA*	
6	The exchange cancels the order per the firm's instruction	*Exchange 1 reports a Participant* ***Order Cancelled event***	

2.13. Clearing Firm Scenarios

This section illustrates the CAT reporting requirements for orders handled in a Clearing Firm's system.

2.13.1. Order Routed and Executed via a Clearing Firm

This example illustrates the CAT reporting requirements when an introducing firm enters a customer order into a clearing firm's system, and the clearing firm executes the order from a proprietary account. Both the introducing firm and clearing firm are Industry Members.

Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the clearing firm (Order Route event)

The Clearing Firm is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	*NA*	

#	Step	Reported Event	Comments
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: A8B7C6 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to the clearing firm	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.334456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: RT23456 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
4	The clearing firm accepts the order from Broker 1	*Clearing firm reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180417T153036.334456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: RT23456 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	The clearing firm executes the order	*Clearing firm reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TO3A1B2C symbol: XYZ eventTimestamp: 20180417T153037.534456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1000 price: 10.00 capacity: P tapeTradeID: TRFAO556 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O3A1B2C Side: B sellDetails:	The *buyDetails* reflect the details of customer order O3A1B2C. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		Side: SL firmDesignatedID: PROPF accountHolderType: P	

2.13.2. Direct Order Routing via a Clearing Firm's System

This scenario illustrates the CAT reporting requirement when an introducing firm receives a customer order and, using its clearing firm's system, directs the order to an exchange for execution. The clearing firm does not participate in any order routing or handling instructions, but only provides the technology to the introducing firm to route the order.

Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Exchange 1 (Order Route event)

The clearing firm does not have CAT reporting obligations in this scenario. The exchange follows CAT reporting guidelines as outlined in the CAT Reporting Technical Specifications for Plan Participants.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the order from the customer	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT	

#	Step	Reported Event	Comments
		timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: 4e3f2g1h accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Through the clearing firm's system, Broker 1 enters and directs the order to Exchange 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T0000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153036.234456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: RT23456 session: s2 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Exchange 1 accepts the order from Broker 1	*Exchange 1 reports a Participant **Order Accepted event***	

2.13.3. Order Routing via an Algorithm Provided by the Clearing Firm

This scenario illustrates the CAT reporting requirements when an introducing firm receives a customer order and enters it into a clearing firm's system. The clearing firm's system automatically determines the routing destination based on pre-defined criteria developed by the clearing firm. The clearing firm makes the determination as to where the order is routed. The introducing firm does not direct the order. Both the introducing firm and the clearing firm are Industry Members.

Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the clearing firm (Order Route event)

The Clearing Firm is required to report:

- The receipt for the order from the introducing firm (Order Accepted event)
- The route of the order to Exchange 1 (Order Route event)

The exchange follows CAT reporting guidelines as outlined in the CAT Reporting Technical Specifications for Plan Participants.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1, as the introducing firm, accepts the order from the customer	*Broker 1 (IMID = FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: FDID2222 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Broker 1 enters the order into the clearing firm's system	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.334456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: RT23456 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
4	The clearing firm accepts the order routed from Broker 1	*Clearing firm (FRMB) reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180417T153036.334456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: RT23456 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: ALG custDspIntrFlag: false	

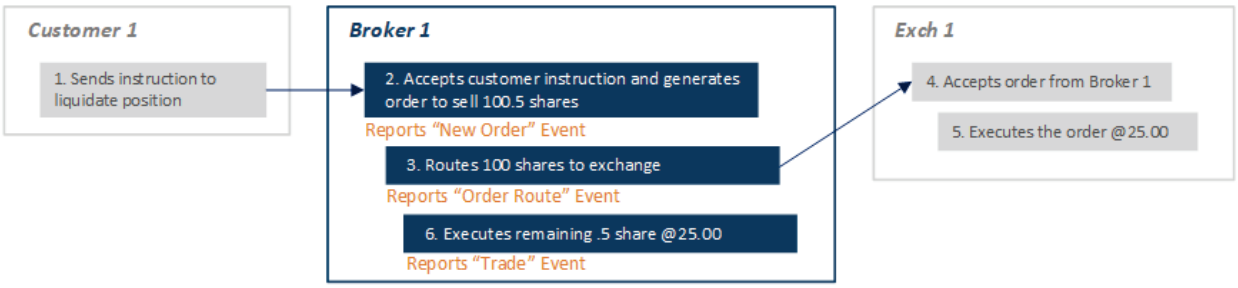
#	Step	Reported Event	Comments
5	The clearing firm's system algorithm determines to route the order out to Exchange 1	*Clearing firm (FRMB) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180417T153038.334456 manualFlag: false senderIMID: 123:FRMB destination: EXCH1 destinationType: E routedOrderID: BEO34567 session: EA:16 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
6	Exchange 1 receives the order from clearing firm	*Exchange 1 (EXCH1) reports the Participant* ***Order Accepted event***	

2.14. Fractional Share Scenarios

This section illustrates the CAT reporting requirements for liquidating a fractional share from a customer or client account. These scenarios can be applied to full liquidation of a position that includes fractional shares, an ACAT request or dividend reinvestment after liquidation.

2.14.1. Industry Member Liquidates Customer Position by Routing Away the Whole Share Quantity and Internalizing the Fractional Share

This scenario illustrates the CAT reporting requirements when a customer or client requests that an Industry Member liquidate an entire position which includes a fractional share. The Industry Member routes the whole share portion of the order to an exchange for execution and executes the fractional share against its own proprietary account.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the whole share quantity to the exchange (Order Route event)
- The execution of the fractional share against its proprietary account (Trade event)

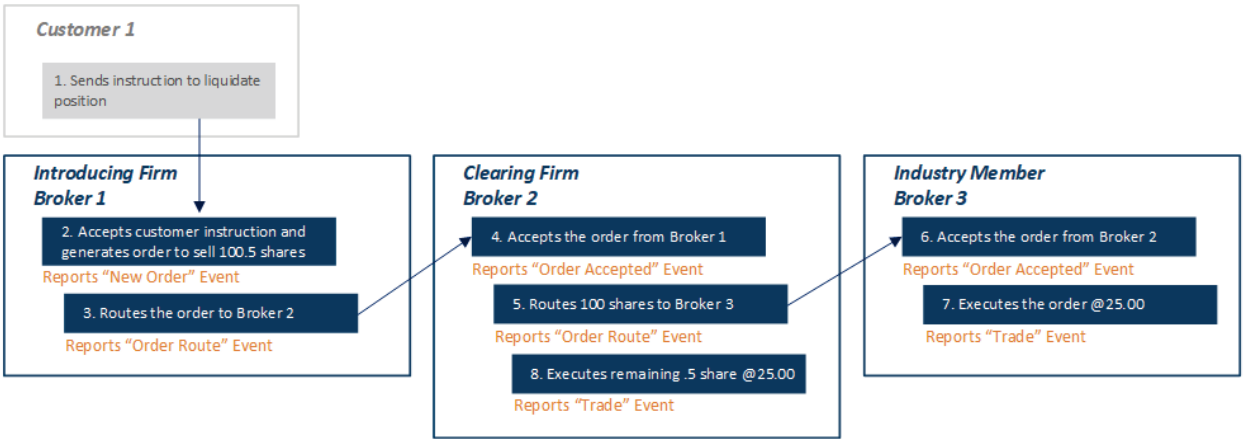
#	Step	Reported Event	Comments
1	Customer sends an instruction to Broker 1 to liquidate its position	*NA*	
2	Broker 1 accepts the customer instruction and generates an order to liquidate the position	Broker 1 reports a ***New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: T side: SL price: quantity: 100.5 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Since the customer requested full liquidation of the position, Broker 1 is required to report the full *quantity* of 100.5 shares.
3	Broker 1 routes the whole share quantity to the exchange	Broker 1 (IMID = FRMA) reports an ***Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: O12345	Since Broker 1 is routing to a national securities exchange, *session* must be populated.

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180416T153035.334466 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: SL price: quantity: 100 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	The Exchange accepts the order from Broker 1	EXCH1 reports a Participant ***Order Accepted event***	
5	The Exchange executes the whole share quantity at 25.00 per share	EXCH1 reports a Participant ***Trade event***	
6	Broker 1 executes the fractional share against its own proprietary account	Broker 1 reports a ***Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180416T153035.434466 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 0.5 price: 25.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: FRAC123 accountHolderType: P sellDetails: orderKeyDate: 20180416T000000	The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled. The *sellDetails* reflect the details of customer order O12345.

#	Step	Reported Event	Comments
		orderID: O12345 side: SL	

2.14.2. Introducing Firm Routes the Position to the Clearing Firm

This scenario illustrates the CAT reporting requirements when a customer or client requests that an Industry Member introducing firm liquidate an entire position which includes a fractional share. The introducing firm routes the entire position to the clearing firm and the clearing firm routes the whole share portion to another Industry Member and executes the fractional share against its own proprietary account.



Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the clearing firm (Order Route event)

Clearing Firm Broker 2 is required to report:

- The receipt of the order from Introducing Firm Broker 1 (Order Accepted event)
- The route of the whole share quantity to Broker 3 (Order Route event)
- The execution of the fractional share quantity (Trade event)

Broker 3 is required to report:

- The receipt of the whole share order from the Clearing Firm Broker 2 (Order Accepted event)
- The execution of the whole share order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends an instruction to introducing firm Broker 1 to liquidate its position	*NA*	

#	Step	Reported Event	Comments
2	Introducing firm Broker 1 accepts the customer instruction and generates an order to liquidate the position	Introducing firm Broker 1 reports a ***New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: A side: SL price: quantity: 100.5 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Since the customer requested full liquidation of the position, Broker 1 is required to report the full *quantity* of 100.5 shares.
3	Introducing firm Broker 1 routes the order to the clearing firm Broker 2	Introducing firm Broker 1 reports an ***Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.334466 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: XYZO555 side: SL price: quantity: 100.5 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	

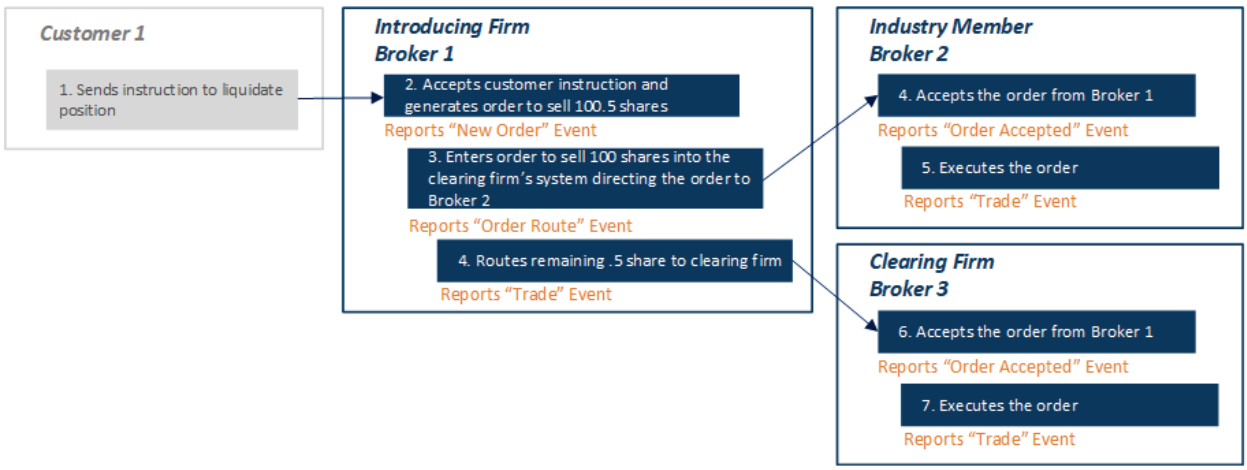
#	Step	Reported Event	Comments
4	The clearing firm Broker 2 accepts the order routed from introducing firm Broker 1	Clearing firm Broker 2 reports an ***Order Accepted event*** type: MEOA orderKeyDate: 20180416T000000 orderID: 9876XYZ symbol: XYZ eventTimestamp: 20180416T153035.444467 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: false deptType: T side: SL price: quantity: 100.5 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	The clearing firm Broker 2 routes the whole share quantity to Broker 3	Clearing firm Broker 2 reports an ***Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: 9876XYZ symbol: XYZ eventTimestamp: 20180416T153035.554466 manualFlag: false senderIMID: 456:FRMB destination: 789:FRMC destinationType: F routedOrderID: 41619XYZ side: SL price: quantity: 100 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
6	Broker 3 accepts the order routed from the clearing firm Broker 2	Broker 3 reports an ***Order Accepted event*** type: MEOA orderKeyDate: 20180416T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180416T153035.674467 manualFlag: false receiverIMID: 789:FRMC senderIMID: 456:FRMB senderType: F routedOrderID: 41619XYZ affiliateFlag: false deptType: T side: SL price: quantity: 100 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG isoInd: NA custDspIntrFlag: false	
7	Broker 3 executes the order	Broker 3 reports a ***Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180416T153035.764468 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 100 price: 25.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: PROP123	The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled. The *sellDetails* reflect the details of customer order O3A1B2C.

#	Step	Reported Event	Comments
		accountHolderType: P sellDetails: orderKeyDate: 20180416T000000 orderID: O3A1B2C side: SL	
8	The clearing firm Broker 2 executes the fractional share principally at 25.00 per share	Clearing firm Broker 2 reports a ***Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ0416189 symbol: XYZ eventTimestamp: 20180416T153035.894468 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 0.5 price: 25.00 capacity: P tapeTradeID: XYZ987 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: FRAC123 accountHolderType: P sellDetails: orderKeyDate: 20180416T000000 orderID: 9876XYZ side: SL	The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled. The *sellDetails* reflect the details of customer order 9876XYZ.

2.14.3. Introducing Firm Routes the Whole Share Quantity to Another Industry Member and Routes the Fractional Share to the Clearing Firm

This scenario illustrates the CAT reporting requirements when a customer or client requests that an Industry Member introducing firm liquidate an entire position which includes a fractional share. The customer order is entered into the clearing firm's system but the clearing firm does not participate in any order routing or handling instructions for the whole share portion of the order. The introducing firm routes the whole share portion of the order to another Industry Member and the fractional share portion to the Industry Member clearing firm.



Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the whole share quantity to Broker 2 (Order Route event)
- The route of the fractional share quantity to Clearing Firm Broker 3 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the whole share order from Introducing Firm Broker 1 (Order Accepted event)
- The execution of the whole share order (Trade event)

Clearing Firm Broker 3 is required to report:

- The receipt of the fractional share order from Broker 1 (Order Accepted event)
- The execution of the fractional share order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends an instruction to introducing firm Broker 1 to liquidate its position	*NA*	
2	Introducing firm Broker 1 accepts the customer instruction and generates an order to liquidate the position	Introducing firm Broker 1 reports a ***New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: A side: SL price:	Since the customer requested full liquidation of the position, Broker 1 is required to report the full *quantity* of 100.5 shares.

#	Step	Reported Event	Comments
		quantity: 100.5 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Introducing firm Broker 1 routes the whole share quantity to Industry Member Broker 2	Introducing firm Broker 1 reports an ***Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.334466 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: XYZO555 side: SL price: quantity: 100 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Industry Member Broker 2 accepts the order routed from introducing firm Broker 1	Industry Member Broker 2 reports an ***Order Accepted event*** type: MEOA orderKeyDate: 20180416T000000 orderID: 9876XYZ symbol: XYZ eventTimestamp: 20180416T153035.444467 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555	

#	Step	Reported Event	Comments
		affiliateFlag: false deptType: T side: SL price: quantity: 100 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Industry Member Broker 2 executes the whole share order principally at 25.00 per share	Industry Member Broker 2 reports a ***Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180416T153035.534468 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 100 price: 25.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: PROP123 accountHolderType: P sellDetails: orderKeyDate: 20180416T000000 orderID: 9876XYZ side: SL	The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled. The *sellDetails* reflect the details of customer order 9876XYZ.
6	Introducing firm Broker 1 routes the fractional share quantity to the clearing firm Broker 3	Introducing firm Broker 1 reports an ***Order Route event*** type: MEOR orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180416T153035.634466 manualFlag: false senderIMID: 123:FRMA destination: 789:FRMC destinationType: F routedOrderID: XYZO556 side: SL price: quantity: 0.5 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG affiliateFlag: false isoInd: NA	
7	The clearing firm Broker 3 accepts the order routed from introducing firm Broker 1	Clearing firm Broker 3 reports an ***Order Accepted event*** type: MEOA orderKeyDate: 20180416T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180416T153035.734467 manualFlag: false receiverIMID: 789:FRMC senderIMID: 123:FRMA senderType: F routedOrderID: XYZO556 affiliateFlag: false deptType: T side: SL price: quantity: 0.5 orderType: MKT timeInForce: DAY=20180416 tradingSession: REG isoInd: NA custDspIntrFlag: false	
8	The clearing firm Broker 3 executes the fractional share against its own proprietary account	Clearing firm Broker 3 reports a ***Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ0416189	The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled. The *sellDetails* reflect the details of customer order O3A1B2C.

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180416T153035.834468 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 0.5 price: 25.05 capacity: P tapeTradeID: XYZ987 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: FRAC123 accountHolderType: P sellDetails: orderKeyDate: 20180416T000000 orderID: O3A1B2C side: SL	

2.14.4. Clearing Firm Liquidates a Fractional Share after an ACAT or Account Closure Request

This scenario illustrates the CAT reporting requirements when an Industry Member clearing firm liquidates a fractional share that remained in a customer's account after processing an ACAT request. This scenario would similarly apply if an Industry Member clearing firm liquidates a fractional share received in a customer or client account due to an automatic reinvestment plan after the account was closed. The Industry Member clearing firm's system automatically creates an order based on receipt of the ACAT request and executes the fractional share against its own proprietary account.

Clearing Firm Broker 1 is required to report:

- The creation of the fractional share order (New Order event)
- The execution of the fractional share against its proprietary account (Trade event)

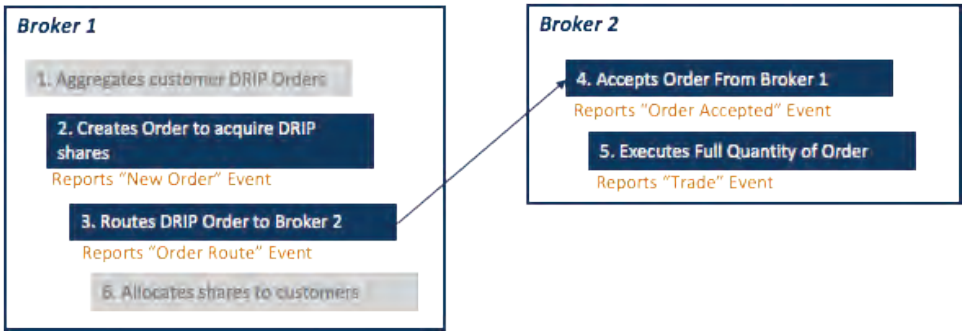
#	Step	Reported Event	Comments
1	Broker 1's system creates an order to internalize the fractional share at the previous trading day's closing price of 25.00 per share	Broker 1 reports a ***New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T080000.000456 manualFlag: false deptType: T side: SL price: 25.00 quantity: 0.5 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	The *eventTimestamp* is the time that the Industry Member's system created the order.
2	Broker 1 executes the fractional share against its own proprietary account	Broker 1 reports a ***Trade event*** type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180416T093000.400456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 0.5 price: 25.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: FRAC123 accountHolderType: P sellDetails: orderKeyDate:	The *buyDetails* capture the FDID of the firm proprietary account from which the customer order was filled. The *sellDetails* reflect the details of customer order O12345.

#	Step	Reported Event	Comments
		20180416T000000 orderID: O12345 side: SL	

2.14.5. Dividend Reinvestment

The following scenario illustrates the reporting requirements for an Industry Member whose customers participate in a dividend reinvestment program. Industry Member Broker 1 aggregates dividend reinvestment investment program (DRIP) orders for participating customers, rounds up to the next whole share, and creates a new order to purchase shares that need to be allocated to customers. This order is routed to the street, executed, and allocated to the participating customers. The remaining fractional share is allocated to the proprietary account of Broker 1.

Post Trade Allocation events for allocations to sub-accounts are not reportable until Phase 2c.



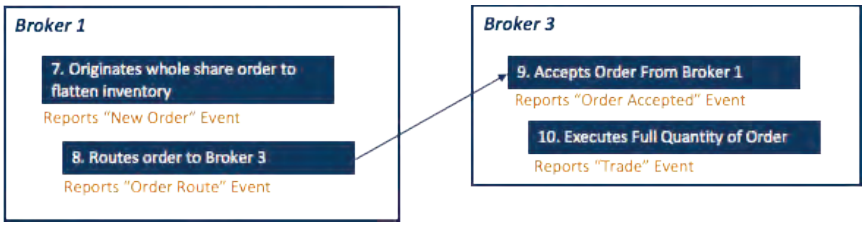
Industry Member Broker 1 is required to report:

- The order created to acquire shares for all customers participating in the dividend reinvestment program (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

Once the fractional inventory reaches a whole share threshold, Broker 1 would follow standard procedures for sales from proprietary accounts if actions were taken to flatten fractional share inventory.



Industry Member Broker 1 is required to report:

- The whole share order (New Order event)
- The route of the order to Broker 3 (Order Route event)

Industry Member Broker 3 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

#	Step	Reported Event	Comments
1	Broker 1 aggregates the orders for DRIP participant customers into a single order	*NA*	
2	Broker 1 originates an order rounded up to the nearest whole share	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.543458 manualFlag: false deptType: A side: B price: 10.00 quantity: 113 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG handlingInstructions: DIV custDspIntrFlag: false firmDesignatedID: ID09876 accountHolderType: V affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	The broker must populate a value of 'DIV' in the *handlingInstructions* field to indicate that the order is part of a Dividend Reinvestment acquisition
3	Broker 1 routes the	*Broker 1 reports an **Order Route event***	In phase 2c, since the values in the *handlingInstructions* field have not

#	Step	Reported Event	Comments
	order to Broker 2	type: MEOR orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.545458 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: OBB12345 side: B price: 10.00 quantity: 113 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG affiliateFlag: false isoInd: N handlingInstructions:	changed from the New Order to the Order Route, FRMA may populate "RAR" in the *handlingInstructions* field indicating the order was "routed as received". Alternatively, firms have the option to re-state all *handlingInstructions* values.
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180424T000000 orderID: O28765 symbol: XYZ eventTimestamp: 20180424T113018.943458 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: OBB12345 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 113 orderType: LMT timeInForce: DAY=20180424 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 2 executes the	*Broker 2 reports a **Trade event***	

#	Step	Reported Event	Comments
	full quantity of order	type: MEOT tradeKeyDate: 20180424T000000 tradeID: BBB12345 symbol: XYZ eventTimestamp: 20180424T113019.123456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 113 price: 10.00 capacity: A tapeTradeID: BAA89898 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180424T000000 orderID: O28765 side: B sellDetails: orderKeyDate: 20180424T000000 orderID: BO445 side: SL	
6	Broker 1 allocates the shares to its customers	*NA*	
7	Broker 1 originates an order from its firm account to flatten its fractional share inventory	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180427T000000 orderID: OD56391 symbol: XYZ eventTimestamp: 20180427T113015.123456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 1 orderType: LMT timeInForce: DAY=20180427 tradingSession: REG custDspIntrFlag: false firmDesignatedID: DIVACC05	

#	Step	Reported Event	Comments
		accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
8	Broker 1 routes the order to Broker 3	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180427T000000 orderID: OD56391 symbol: XYZ eventTimestamp: 20180427T113015.125456 manualFlag: false senderIMID: 123:FRMA destination: 789:BROKER3 destinationType: F routedOrderID: O23C565 side: SL price: 10.00 quantity: 1 orderType: LMT timeInForce: DAY=20180427 tradingSession: REG affiliateFlag: false isoInd: N	
9	Broker 3 accepts the order from Broker 1	*Broker 3 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180427T000000 orderID: O31234 symbol: XYZ eventTimestamp: 20180427T113015.135456 manualFlag: false receiverIMID: 789:BROKER3 senderIMID: 123:FRMA senderType: F routedOrderID: O23C565 affiliateFlag: false deptType: T side: SL price: 10.00 quantity: 1 orderType: LMT timeInForce: DAY=20180427	

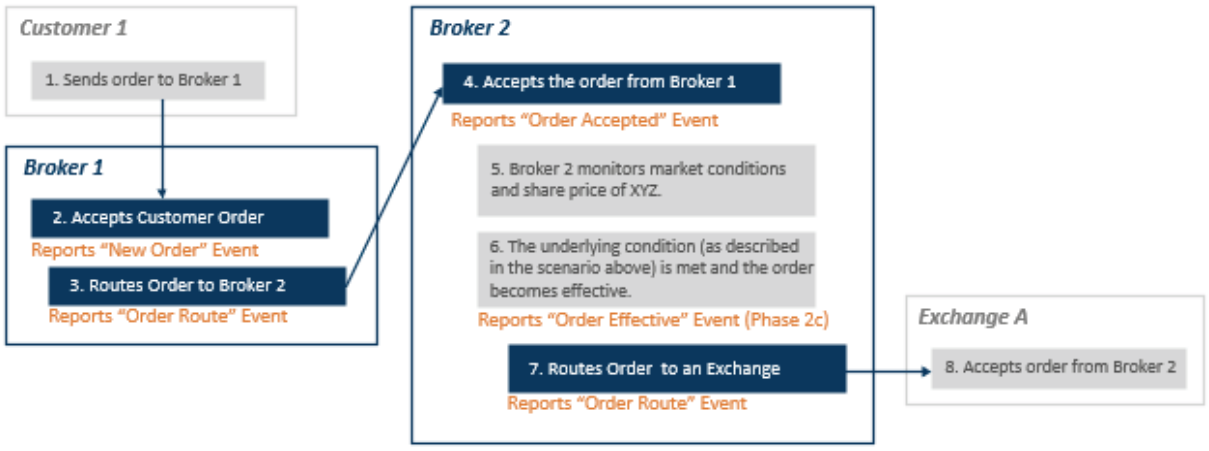
#	Step	Reported Event	Comments
		tradingSession: REG isoInd: NA custDspIntrFlag: false	
10	Broker 3 executes the full quantity of order	*Broker 3 reports a **Trade event*** type: MEOT tradeKeyDate: 20180427T000000 tradeID: T1A0008 symbol: XYZ eventTimestamp: 20180427T113015.235456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1 price: 10.00 capacity: A tapeTradeID: ABC171722 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180427T000000 orderID: O45329 side: B sellDetails: orderKeyDate: 20180427T000000 orderID: O31234 side: SL	

2.15. Stop and Conditional Order Scenarios

2.15.1. Stop Order

This scenario illustrates the Phase 2a CAT reporting requirements when a customer places a stop order, also referred to as a stop-loss order, with an Industry Member.

The customer places a GTC sell order and provides instructions to Industry Member Broker 1 specifying that, should the share price of XYZ fall below a predetermined level of $35.00 (i.e., the stop price), the order should become immediately executable as a market order. Broker 1 then routes the order to Industry Member Broker 2. Broker 2 is holding the order at the time the stop price is reached and the condition is triggered and routes the order to an exchange for execution.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event with applicable *handlingInstructions*)
- The route of the customer order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event with applicable *handlingInstructions*)
- The route of the customer order to the exchange (Order Route event)

If the order is received/originated or routed as a Stop order, the o*rderType* field must be populated with a value of 'MKT'. If the order is received/originated or routed as a Stop Limit order, the *orderType* must be populated with a value of 'LMT', and the *price* field must be populated. Refer to CAT FAQ B57 for additional information.

Beginning in Phase 2c, since Broker 2 is holding the order at the time the condition is triggered, Broker 2 will be required to report an Order Effective event to CAT.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a* ***New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456	Broker 1 is required to report a *handlingInstructions* value of 'STOP' (Stop Price) paired with a value representing the predetermined stop price ($35.00).

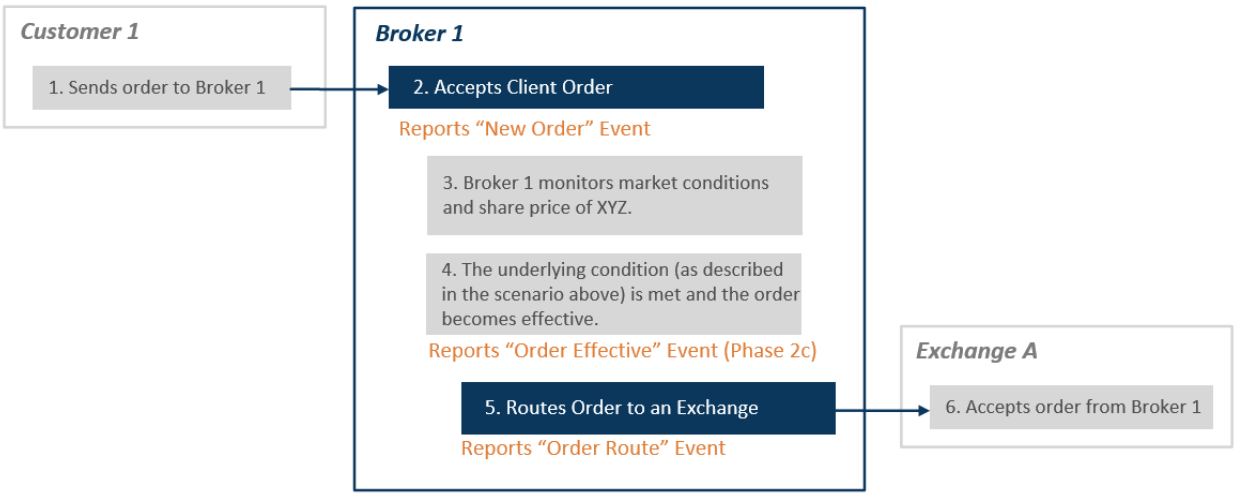
#	Step	Reported Event	Comments
		manualFlag: false deptType: A side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG handlingInstructions: STOP=35.00 custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.534456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: AO222 side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions: STOP=35.00	
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143030.534456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA	

#	Step	Reported Event	Comments
		senderType: F routedOrderID: AO222 affiliateFlag: false deptType: A side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG isoInd: NA custDspIntrFlag: false handlingInstructions: STOP=35.00	
5	Broker 2 monitors market conditions and share price of XYZ	*NA*	As long as the market price of XYZ advances, the stop is not triggered.
6	The underlying condition is met and the order becomes effective	*NA*	The market price for XYZ declines and hits or goes through the stop price ($35.00), triggering a market order to sell the 1,000 shares of XYZ. Beginning in Phase 2c, Broker 2 will be required to report an Order Effective event to CAT, which is used indicate that an order, or an underlying condition of an order, has become effective.
7	Broker 2 routes the order to Exchange	*Broker 2 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153030.957389 manualFlag: false senderIMID: 456:FRMB destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: S price: quantity: 1000 orderType: MKT timeInForce: GTC	

#	Step	Reported Event	Comments
		tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
8	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	

2.15.2. Stop on Quote Order

This scenario illustrates the CAT reporting requirements when a customer places an order with an Industry Member and communicates instructions that a market order be triggered by a quotation at the stop price. The customer places a GTC sell order and provides instructions to Industry Member Broker 1 specifying that, should a quotation in XYZ appear at $35.00 (i.e., the stop price), the order should become immediately executable as a market order. Broker 1 holds the order until the condition is triggered (i.e., a quotation at the stop price), at which point Broker 1 routes the order to an exchange for execution.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event with applicable *handlingInstructions*)
- The route of the customer order to the exchange (Order Route event)

If the order is received/originated or routed as a Stop on Quote order, the o*rderType* field must be populated with a value of 'MKT'. If the order is received/originated or routed as a Stop Limit on Quote order, the *orderType* must be populated with a value of 'LMT', and the *price* field must be populated. Refer to CAT FAQ B57 for additional information.

Beginning in Phase 2c, Broker 2 will be required to report an Order Effective event to CAT when the condition becomes effective.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: A side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG handlingInstructions: STOP=35.00|SOQ custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Broker 1 is required to report a *handlingInstructions* value of 'STOP' (Stop Price) paired with a value representing the predetermined stop (i.e., $35.00). A *handlingInstructions* value of 'SOQ' (Stop on Quote) must also be populated to indicate that a market order is triggered by a quotation at the stop price. If the order was a Stop Limit on Quote order, a *handlingInstructions* value of 'SLQ' would be populated instead of 'SOQ'.
3	Broker 1 monitors market conditions and quotation activity in XYZ	*NA*	As long as the quotations in XYZ advance, the stop on quote is not triggered.
4	The underlying condition is met and the order becomes effective	*NA*	The quotation prices in XYZ decline and hit or goes through the stop price ($35.00), triggering a market order to sell the 1,000 shares of XYZ. Beginning in Phase 2c, Broker 1 will be required to report an Order Effective event to CAT, which is used indicate that an order, or an underlying condition of an order, has become effective.
5	Broker 1 routes the order to Exchange	*Broker 1 reports an **Order Route event*** type: MEOR	

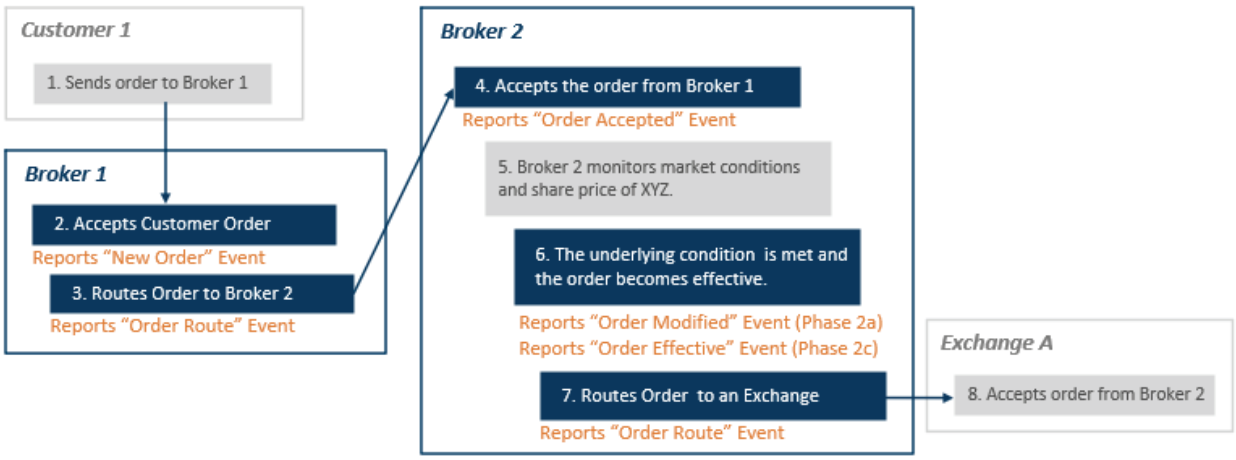
#	Step	Reported Event	Comments
		orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T153030.957389 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
6	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	

2.15.3. Trailing Stop Order

This scenario illustrates the CAT reporting requirements when a customer places a trailing stop order with Industry Member Broker 1, who routes the order to Industry Member Broker 2 for further handling and execution. For the purposes of CAT reporting, a trailing stop order is defined as outlined in FAQ B62.

In this scenario, a customer of Broker 1 places a GTC trailing stop sell order at 90% of the prevailing market price. Broker 1 routes to order to Broker 2. Broker 1 relies on Broker 2 to calculate the initial Trailing Stop price, which it determines upon receipt (i.e., initially, $18.00). Broker 2 continuously re-calculates the trailing stop price as appropriate, and the order is retained by Industry Member Broker 2 until the trailing stop price is triggered.

The price of XYZ advances to a high of $30.00 per share, and the highest calculated trailing stop price is $27.00 (i.e., market price of $30.00 X 90%). The market price for XYZ subsequently declines and hits or go through the highest calculated trailing stop price (i.e. $27.00), which triggers a market order to sell the 1,000 shares of XYZ. Once the limit order is triggered, Broker 2 routes the order to an exchange for execution.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event with applicable *handlingInstructions*)
- The route of the customer order to Broker 2 (Order Route event with applicable *handlingInstructions)*

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event with applicable *handlingInstructions)*
- The time at which the stop price is hit and the underlying condition of the order becomes effective (Order Modification event)
- The route of the customer order to the exchange (Order Route event)

If the order is received/originated or routed as a Trailing Stop order, the o*rderType* field must be populated with a value of 'MKT'. If the order is received/originated or routed as a Trailing Stop Limit order, the *orderType* must be populated with a value of 'LMT', and the *price* field must be populated. Refer to CAT FAQ B57 for additional information.

In Phase 2a, Broker 2 is required to report an Order Modified event when the condition is met. Beginning in Phase 2c, for Trailing Stop and Trailing Stop Limit orders, Broker 2 will be required to report an Order Effective event (MEOE) when the condition is met with the *triggerPrice* field populated, as opposed to an Order Modification event. The Order Effective event includes a *price* field and a *triggerPrice* field, and the Limit price denoted in the *price* field and *triggerPrice* field may differ.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: A side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG handlingInstructions: TS custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Broker 1 is required to populate a *handlingInstructions* value of 'TS' (Trailing Stop) to indicate that this is a trailing stop order. Broker 1 relies on Broker 2 to calculate the initial Trailing Stop price. Broker 1 relays that the calculation be determined at 90% of the prevailing market price. While this captured in Broker 1's books and records, it is not required to be reported to CAT.
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.957389 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: AO122 session: side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	

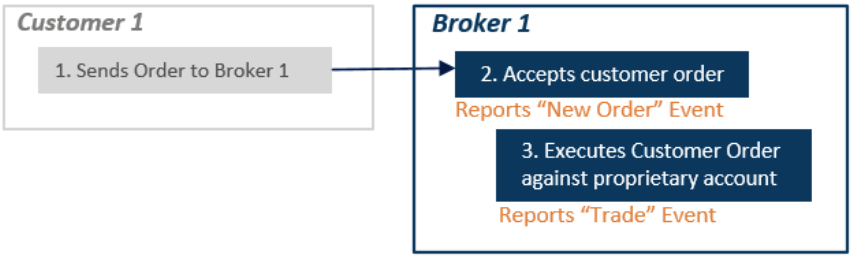
#	Step	Reported Event	Comments
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143030.957389 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: AO122 affiliateFlag: false deptType: A side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG isoInd: NA custDspIntrFlag: false handlingInstructions: TS	Upon receipt, Broker 2 determines the initial Trailing Stop calculation of 90% of the prevailing market price to be $18.00. While this captured in Broker 2's books and records, it is not required to be reported to CAT.
5	Broker 2 monitors market conditions and share price of XYZ	*NA*	As the market price of XYZ advances, Broker 2 will continue to re-calculate the trailing stop price at 90% of market value. CAT does not require an Order Modified event to be reported each time Broker 2's system re-calculates the trailing stop price. However, Broker 2's system will need to retain the highest calculated trailing stop price.
6	The underlying condition is met and the order becomes effective	*Broker 2 reports an **Order Modified event*** type: MEOM orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ priorOrderKeyDate: priorOrderID: eventTimestamp: 20180417T153032.957389 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID:	The market price for XYZ declines and hits or goes through the highest calculated trailing stop price ($27.00), triggering a market order to sell the 1,000 shares of XYZ. Beginning in Phase 2c, Broker 2 will be required to report an Order Effective event when the condition is met, as opposed to an Order Modification event. For this scenario in Phase 2c, the trigger price of $27.00 would be reflected in the *triggerPrice* field of the Order Effective event. The initiator flag is populated

#	Step	Reported Event	Comments
		initiator: F side: S price: quantity: 1000 leavesQty: 1000 orderType: MKT timeInForce: GTC tradingSession: REG custDspIntrFlag: false isoInd: NA handlingInstructions:	with a value of 'F' (Firm), as the order was modified by Broker 2 based on implicit instructions communicated with the Trailing Stop order upon receipt. The *receiverIMID*, *senderIMID*, *senderType*, and *routedOrderID* fields are likewise left blank, as Broker 1 did not communicate modification instructions to Broker 2 at the time of trigger. Refer to CAT FAQ B63 for additional information. If a new Order Key is assigned when the condition becomes effective, the Prior Order Key with *orderID* O12321 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the previous Order Modified event. If no new Order Key is assigned, the Prior Order Key fields must be left blank, and the Order Effective event will be linked to the New Order event using the Order Key. The *eventTimestamp* must be populated with the time the stop was triggered and the order becomes effective.
7	Broker 2 routes the order to the Exchange	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T153030.957389 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: S price: quantity: 1000 orderType: MKT timeInForce: GTC tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
		handlingInstructions: RAR	
8	The Exchange accepts the order from Broker 2	*EXCH1 reports a Participant* ***Order Accepted event***	

2.15.4. Stop Stock Order

In this scenario, an institutional customer places an order with Industry Member Broker 1, and the parties agree that the entire order will be executed at stop stock price or better. Broker 1 later executes the trade in an off-exchange transaction, filling the customer order from existing inventory held in a proprietary account at the stop stock price.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event with applicable *handlingInstructions*)
- The execution of the customer order against its proprietary account (Trade event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a* ***New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: A side: B price: 8.64 quantity: 1000 orderType: LMT timeInForce: GTC	Broker 1 is required to report a *handlingInstructions* value of 'SW' (Stop Stock Transaction) indicating that the order resulted from an agreement that it be executed at stop stock price or better. The SW *handlingInstructions* must be paired with a value representing the agreed upon price ($8.64).

#	Step	Reported Event	Comments
		tradingSession: REG handlingInstructions: SW=8.64 custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 executes the order against its own proprietary account	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180417T153030.123456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1000 price: 8.64 capacity: P tapeTradeID: TRF123 marketCenterID: D sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O12321 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	The *buyDetails* reflect the details of customer order O12321. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

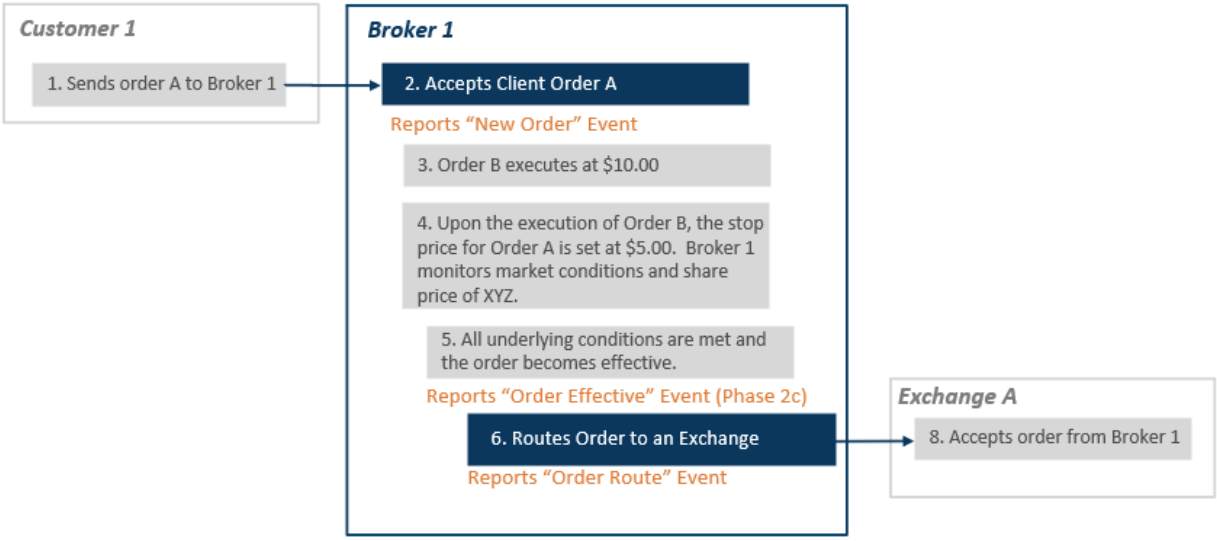
2.15.5. Stop Price is Based on Underlying Condition

This scenario illustrates the Phase 2a CAT reporting requirements when a customer places a conditional order that has multiple underlying conditions.

In this example, the customer places a conditional stop order to sell 100 shares of security XYZ (Order A) with Industry Member Broker 1. The customer provides instructions specifying that the stop price for Order A be determined upon the execution of a separate order in security ABC (Order B).

This scenario addresses the CAT Reporting requirements for Order A. Unlike other stop scenarios (Such as Scenario 2.15.1) where the stop price was known at the time of order receipt, the stop price for Order

A is unknown because it is based on an underlying condition (e.g., the execution of Order B). Upon receipt of Order A, Broker 1 reports a New Order event with *handlingInstructions* of 'CND' (Conditional Order) and 'STOPF' (Stop Formula). The 'STOPF' *handlingInstructions* value denotes that the stop price of the order is not known at the time of order receipt, as it is based on a formula. Broker 1 is holding the order at the time all underlying conditions of the order are met (execution of Order B and the stop being triggered), at which point Broker 1 routes the order to an exchange for execution.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event with applicable *handlingInstructions*)
- The route of the customer order to the exchange (Order Route event)

If the order is received/originated or routed as a Stop order, the o*rderType* field must be populated with a value of 'MKT'. If the order is received/originated or routed as a Stop Limit order, the *orderType* must be populated with a value of 'LMT', and the *price* field must be populated. Refer to CAT FAQs B57 for additional information.

Beginning in Phase 2c, since Broker 1 is holding the order at the time that all underlying conditions are met such that the order becomes and remains effective, Broker 1 will be required to report an Order Effective event to CAT. Refer to CAT FAQ B67 for additional information.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1 (Order A).	*NA*	The customer provides instructions that Order A is conditional upon the execution of Order B, at which point Order A's stop price is set at $5.00 below the execution price of Order B.

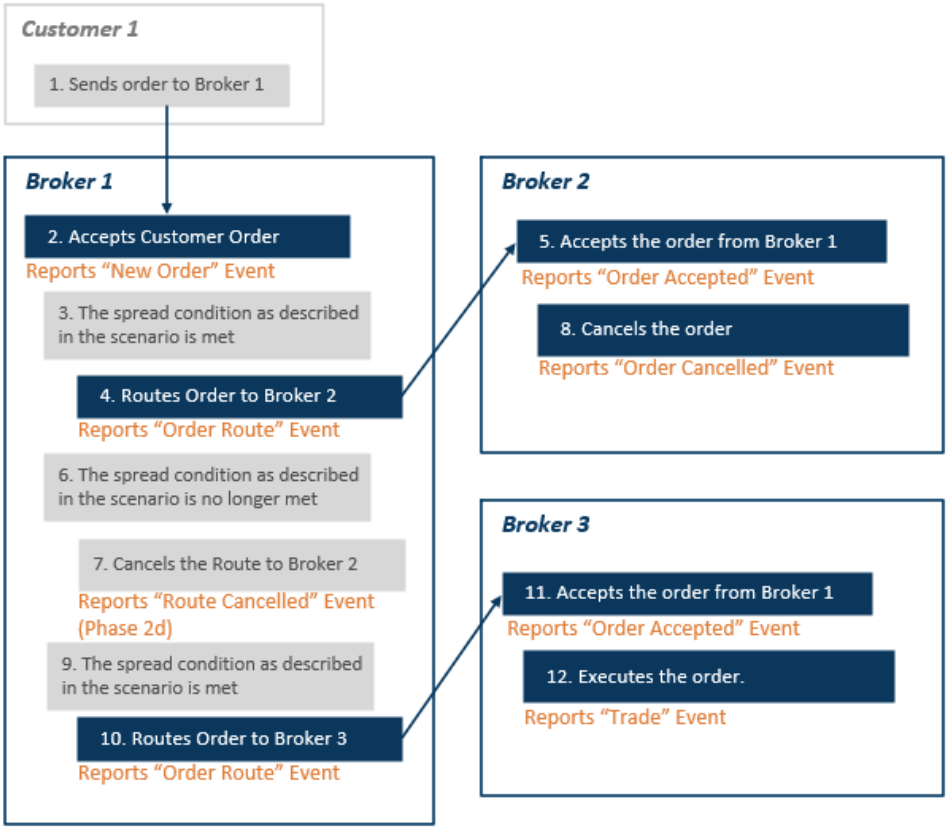
#	Step	Reported Event	Comments
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: A side: S price: quantity: 100 orderType: MKT timeInForce: GTC tradingSession: REG handlingInstructions: CND|STOPF custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Broker 1 is required to report a *handlingInstructions* values of 'CND' (Conditional Order) and 'STOPF' (Stop Formula). The 'CND' instruction denotes that Order A is conditional on another order (Order B). The 'STOPF' instruction indicates that this order is a stop order, but that the stop price is unknown at the time of order receipt.
3	Order B executes at $10.00.	*NA*	Broker 1 would be obligated to report all relevant CAT reportable events for Order B. This scenario addresses the CAT Reporting requirements for Order A.
4	Upon the execution of Order B, the stop price for Order A is set at $5.00. Broker 1 monitors market conditions and share price of XYZ	*NA*	As long as the market price of XYZ advances, the stop is not triggered. Broker 1 is not required to report to CAT when the stop price for Order A is determined, as the stop has not been triggered.
5	All underlying conditions are met and the order becomes effective		The market price for XYZ declines and hits or goes through the stop price ($5.00), triggering a market order to sell 100 shares of XYZ. Beginning in Phase 2c, Broker 1 will be required to report an Order Effective event when *all* underlying conditions are met such that the order becomes and remains effective. The Order Effective event will be required to

#	Step	Reported Event	Comments
			capture the *triggerPrice* of $5.00.
6	Broker 1 routes the order to Exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T153030.957389 manualFlag: false senderIMID: 456:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: S price: quantity: 100 orderType: MKT timeInForce: GTC tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
7	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant **Order Accepted event***	

2.15.6. Order Contingent on Spread Condition

This scenario illustrates the CAT reporting requirements when a customer places an order with a spread condition such that order becomes activated or inactivated multiple times throughout the day.

In this example, the customer places an order to sell 500 shares of security XYZ with Industry Member Broker 1. The customer provides instructions specifying that the order be acted upon only when the market price of security XYZ is within a $10.00 spread from the market price of security ABC. When these spread conditions are met (e.g., the market price of security XYZ is within a $10.00 spread from the market price of security ABC), Broker 1 routes the order to Industry Member Broker 2. When these spread conditions are no longer active (e.g., the market price of security XYZ exceeds a $10.00 spread from the market price of security ABC), Broker 1 cancels route to Broker 2. Later that day, the market price of security XYZ returns to being within a $10.00 spread from the market price of security ABC, at which point Broker 1 routes the order to Industry Member Broker 3 where the order is executed.



In Phase 2a, Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The initial route of the customer order to Broker 2 when the spread conditions are initially met (Order Route event)
- The route of the customer order to Broker 3 when the spread conditions are subsequently met (Order Route event)

In Phase 2a, Industry Member Broker 2 is required to report:

- The initial receipt of the order from Broker 1 (Order Accepted event)
- The cancellation of the order received from Broker 1 (Order Cancelled event)

In Phase 2a, Industry Member Broker 3 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of Broker 1's order (Trade event)

Although Broker 1 cancelled the route that was sent to Broker 2, the customer order remained open in Broker 1's books and records. Therefore, Broker 1 is not required to report the cancellation of the route that was sent to Broker 2 until Phase 2d. This guidance would also apply if Broker 1 routed the order to an exchange as opposed to another broker-dealer. Since the order in Broker 2's books and records is

fully cancelled, Broker 2 is required to report the cancellation of the order they received from Broker 1 to CAT.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	The customer provides instructions specifying that the order be acted upon only when the market price of security XYZ is within a $10.00 spread from the market price of security ABC.
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.123456 manualFlag: false deptType: A side: S price: quantity: 500 orderType: MKT timeInForce: GTC tradingSession: REG handlingInstructions: CSC custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Broker 1 is required to report a *handlingInstructions* value of 'CSC' (Contingent on Spread Condition) denoting the spread condition, which may cause the order to become active or inactive multiple times throughout the day.
3	The spread condition is met (e.g., the market price of security XYZ is within a $10.00 spread from the market price of security ABC).	*NA*	Broker 1 is ***not*** required to report an Order Effective event in Phase 2c. The Order Effective event must ***not*** be used in instances when an order has conditions that can become activated and inactivated multiple times throughout the day, such as the spread condition in this scenario. Refer to CAT FAQ B66 for additional information.
4	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456	

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180417T153035.123456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: XYZO555 session: side: S price: quantity: 500 orderType: MKT timeInForce: GTC tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
5	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.123456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: false deptType: A side: S price: quantity: 500 orderType: MKT timeInForce: GTC tradingSession: REG isoInd: NA custDspIntrFlag: false handlingInstructions: CSC	
6	The spread condition is no longer met (e.g., the market price of security XYZ is ***not*** within a	*NA*	

#	Step	Reported Event	Comments
	$10.00 spread from the market price of security ABC).		
7	Broker 1 cancels the route to Broker 2	*NA*	Broker 1 will be required to report a Route Cancelled event in Phase 2d.
8	Broker 2 receives the cancellation request from Broker 1 and cancels the order.	*Broker 2 reports an **Order Cancelled event*** type: MEOC orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153535.983751 manualFlag: false cancelQty: 500 leavesQty: 0 initiator: C	
9	The spread condition is met (e.g., the market price of security XYZ is within a $10.00 spread from the market price of security ABC).		Broker 1 is ***not*** required to report an Order Effective event in Phase 2c. The Order Effective event must ***not*** be used in instances when an order has conditions that can be become activated and inactivated multiple times throughout the day, such as the spread condition in this scenario. Refer to CAT FAQ B66 for additional information.
10	Broker 1 routes the order to Broker 3	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T154220.145092 manualFlag: false senderIMID: 123:FRMA destination: 987:FRMC destinationType: F routedOrderID: XYZO560 session: side: S price: quantity: 500 orderType: MKT timeInForce: GTC	

#	Step	Reported Event	Comments
		tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
11	Broker 3 accepts the order from Broker 1	*Broker 3 reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O6789 symbol: XYZ eventTimestamp: 20180417T154220.145092 manualFlag: false receiverIMID: 987:FRMC senderIMID: 123:FRMA senderType: F routedOrderID: XYZO560 affiliateFlag: false deptType: A side: S price: quantity: 500 orderType: MKT timeInForce: GTC tradingSession: REG isoInd: NA handlingInstructions: CSC custDspIntrFlag: false	
12	Broker 3 executes the order	*Broker 3 reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ124 symbol: XYZ eventTimestamp: 20180417T154620.234456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 500 price: 20.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA	The *buyDetails* reflect the details of customer order O6789. The *sellDetails* capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		buyDetails: orderKeyDate: 20180417T000000 orderID: O6789 side: SL sellDetails: side: B firmDesignatedID: PROP123 accountHolderType: P	

2.16. RFQ and Solicitation Responses

This section illustrates the CAT reporting requirements for responses to RFQs (Request for Quote) and other forms of solicitation. Refer to Section 3.7 for Options RFQ and Solicitation Response scenarios.

2.16.1. Retired Scenario

2.16.2. Retired Scenario

2.16.3. Retired Scenario

2.16.4. Retired Scenario

2.16.5. Retired Scenario

2.16.6. Order is Originated in Response to Solicitation of a Customer Order

This scenario illustrates the Phase 2a CAT reporting requirements when an Industry Member issues an RFQ, and multiple Industry members respond to the RFQ. Upon selection of a winning response, an order is originated and executed.

Industry Members are not required to report RFQs or other forms of solicitation to CAT. In accordance with CAT FAQ B45, all orders received or originated as the result of an RFQ or solicitation process must be reported and must be identified as being part of an RFQ or solicitation process regardless of the form (electronic or manual) of the RFQ or solicitation response. Therefore, in Phase 2a, the Responder and the Solicitor are required to report order events for the order that was originated as a result of the winning bid, regardless of who originated the order, or how the order was executed.

Industry Members will be required to report responses to RFQs and other forms of solicitation beginning in Phase 2c, as described in CAT FAQ B45. Responses communicated in standard electronic format (i.e. FIX) will be reportable in Phase 2c by both the Industry Member issuing the RFQ or solicitation ("the Solicitor") and the Industry Member responding to the RFQ or solicitation ("the Responder"), including responses that were not ultimately selected.

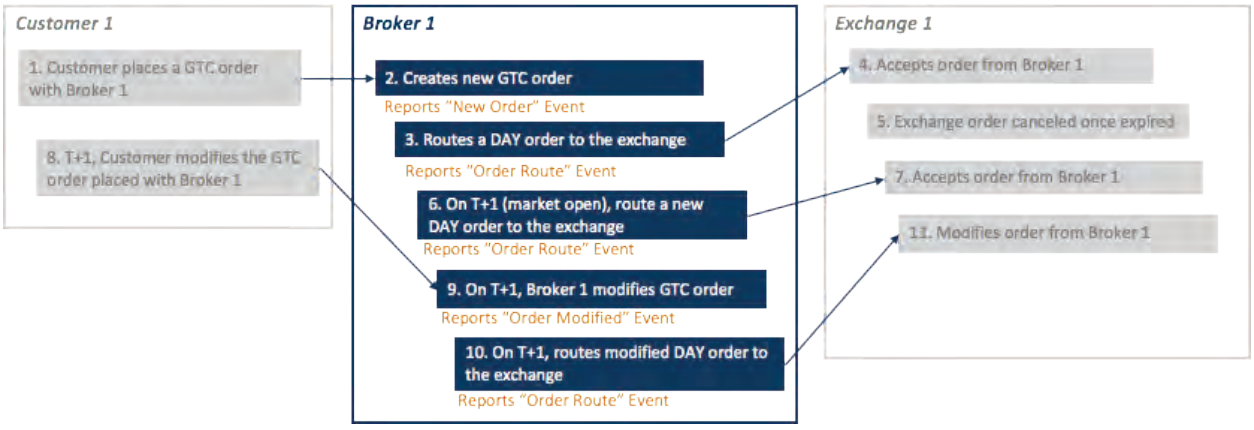
2.17. Additional Reporting Scenarios

2.17.1. GTC Order Routed to Exchange, Modified by Customer

The following scenario illustrates the CAT reporting requirements when an Industry Member receives a multi-day order from a customer, and routes the order to an exchange as a DAY order.

When the Industry Member receives the order from the customer, the order is reported to CAT as a GTC order. When the Industry Member routes the order to the exchange for execution, the order is routed as a "DAY" order, and must be reported to CAT as a “DAY” on the Order Route event reported by the Industry Member as well as relevant Participant events as outlined in the CAT Reporting Technical Specifications for Plan Participants. The Industry Member must submit an Order Route event every day that the order is sent to the exchange until the order is executed or cancelled.

On T+1, the customer modifies the GTC order. Broker 1 must report an Order Modified event with the original order date and an Order Route event for the modification on the exchange.



Industry Member Broker 1 is required to report:

- The receipt of the customer GTC order on T (New Order event)
- The route of the order to the exchange on T as a "DAY" order (Order Route event)
- The route of the order to the exchange on T+1 (start of day) as the order was not executed or cancelled on T (Order Route event)
- The modification of the customer order on T+1 (during market hours) (Order Modified event)
- The route of the modification to the exchange on T+1 (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends a new GTC order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO	

#	Step	Reported Event	Comments
		orderKeyDate: 20180417T000000 orderID: O76543 symbol: XYZ eventTimestamp: 20180417T153035.123456 manualFlag: false deptType: A side: Buy price: 9.50 quantity: 1000 orderType: LMT timeInForce: GTC tradingSession: REG custDspIntrFlag: false firmDesignatedID: FDI345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Exchange 1 as a DAY order	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O76543 symbol: XYZ eventTimestamp: 20180417T153035.124456 manualFlag: false senderIMID: 123:BROKER1 destination: EXCH1 destinationType: E routedOrderID: RT91234 session: s1t2 side: Buy price: 9.50 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Exchange 1 accepts the order from Broker 1	*Exchange 1 reports a Participant **Order Accepted event***	
5	At close of business on T, the order on the		

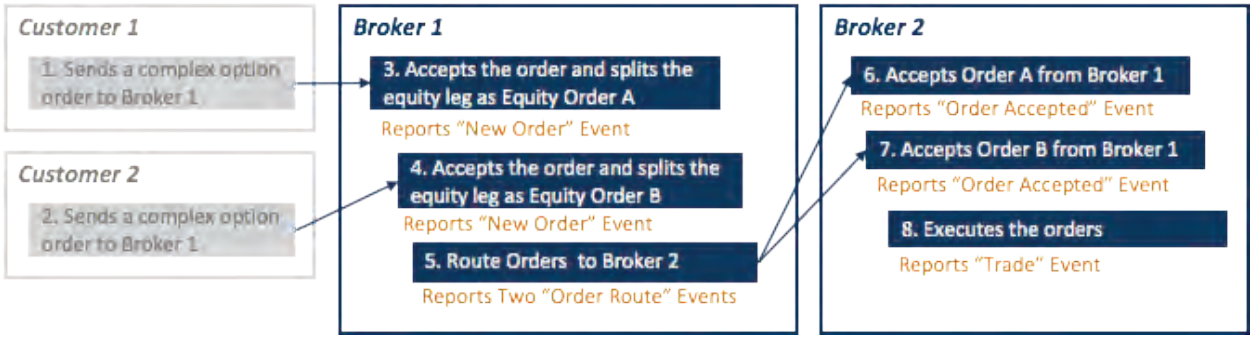
#	Step	Reported Event	Comments
	exchange expires		
6	At start of day T+1, Broker 1 routes the order to Exchange 1 as a DAY order	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O76543 symbol: XYZ eventTimestamp: 20180418T093000.000000 manualFlag: false senderIMID: 123:BROKER1 destination: EXCH1 destinationType: E routedOrderID: RT91235 session: s1t2 side: Buy price: 9.50 quantity: 1000 orderType: LMT timeInForce: DAY=20180418 tradingSession: REG affiliateFlag: false isoInd: NA	The *orderKeyDate* reflects the date and time the Order Key was assigned, which is the previous day. Since Broker 1 is routing the order to a national securities exchange, *session* is required.
7	Exchange 1 accepts the order from Broker 1	*Exchange 1 reports a Participant* ***Order Accepted event***	
8	On T+1, the customer modifies the GTC order, reducing share quantity	*NA*	
9	Broker 1 modifies the order per the customer's instructions	*Broker 1 reports an* ***Order Modified event*** type: MEOM orderKeyDate: 20180418T000000 orderID: OM87654 symbol: XYZ priorOrderID: O76543 priorOrderKeyDate: 20180417 eventTimestamp: 20180418T103045.123456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: Buy	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* OM87654. The Prior Order Key with *orderID* O76543 must be populated in the *priorOrderID* field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received from a non-CAT reporting customer, the *receiverIMID, senderIMID*, *senderType,* and *routedOrderID* fields are not required.

#	Step	Reported Event	Comments
		price: 9.50 quantity: 900 leavesQty: 900 orderType: LMT timeInForce: GTC tradingSession: REG custDspIntrFlag: false	
10	Broker 1 routes the modified order to Exchange 1	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180418T000000 orderID: OM87654 symbol: XYZ eventTimestamp: 20180418T103045.323456 manualFlag: false senderIMID: 123:BROKER1 destination: EXCH1 destinationType: E routedOrderID: RT91236 session: s1t2 side: Buy price: 9.50 quantity: 900 orderType: LMT timeInForce: DAY=20180418 tradingSession: REG affiliateFlag: false isoInd: NA	
11	Exchange 1 accepts modified order from Broker 1	*Exchange 1 reports a Participant **Order Modified event***	

2.17.2. Routing of the Equity Leg of a Complex Option to another Industry Member

This scenario illustrates the CAT reporting requirements when Industry Member Broker 1 splits the equity leg of complex option orders received from customers. Upon determining the price at which the equity legs must be executed, the Industry Member routes the equity legs to Industry Member Broker 2, who crosses the orders.

This scenario illustrates the requirements for reporting the equity leg of a complex option, and does not include reporting requirements for the complex option orders or option legs. Refer to CAT FAQ B12 for additional information.



Industry Member Broker 1 is required to report:

- The receipt of the equity orders from its customers (New Order events)
- The route of the equity orders to Broker 2 (Order Route events)

Industry Member Broker 2 is required to report:

- The receipt of the equity leg order (Sell) from Broker 1 (Order Accepted event)
- The receipt of the equity leg order (Buy) from Broker 1 (Order Accepted event)
- The execution of the orders (Trade Event)

#	Step	Reported Event	Comments
1	Customer 1 sends a complex option order to Broker 1	*NA*	
2	Customer 2 sends a complex option order to Broker 1	*NA*	
3	Broker 1 accepts the customer order and splits the equity leg	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: CO12345 symbol: XYZ eventTimestamp: 20180417T153035.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG handlingInstructions: OPT custDspIntrFlag: false firmDesignatedID: INS345 accountHolderType: A	Broker 1 is required to report a *handlingInstructions* value of "OPT" in its New Order event indicating that this is an options related transaction.

#	Step	Reported Event	Comments
		affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
4	Broker 1 accepts the customer order and splits the equity leg	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: CO6789 symbol: XYZ eventTimestamp: 20180417T153035.523456 manualFlag: false deptType: A side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG handlingInstructions: OPT custDspIntrFlag: false firmDesignatedID: INS999 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Broker 1 is required to report a *handlingInstructions* value of “OPT” in its New Order event indicating that this is an options related transaction.
5	Broker 1 routes the equity leg orders to Broker 2	*Broker 1 (IMID = BRKA) reports an **Order Route event (1 of 2)*** type: MEOR orderKeyDate: 20180417T000000 orderID: CO12345 symbol: XYZ eventTimestamp: 20180417T153035.553456 manualFlag: false senderIMID: 123:BRKA destination: 456:BRKB destinationType: F routedOrderID: RTCO12345 side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG	In phase 2c, since the values in the *handlingInstructions* field have not changed from the New Order to the Order Route, BRKA may populate "RAR" in the *handlingInstructions* field indicating the order was "routed as received". Alternatively, firms have the option to re-state all *handlingInstructions* values.

#	Step	Reported Event	Comments
		affiliateFlag: false isoInd: NA handlingInstructions: *Broker 1 (IMID = BRKA) reports an* ***Order Route event (2 of 2)*** type: MEOR orderKeyDate: 20180417T000000 orderID: CO6789 symbol: XYZ eventTimestamp: 20180417T153035.553456 manualFlag: false senderIMID: 123:BRKA destination: 456:BRKB destinationType: F routedOrderID: RTCO6789 side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
6	Broker 2 accepts the order from Broker 1	*Broker 2 (IMID = BRKB) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: RTB910 symbol: XYZ eventTimestamp: 20180417T153035.853456 manualFlag: false receiverIMID: 456:BRKB senderIMID: 123:BRKA senderType: F routedOrderID: RTCO12345 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 200 orderType: LMT	Broker 2 is required to report a *handlingInstructions* value of “OPT” in its Order Accepted event indicating that this is an options related transaction.

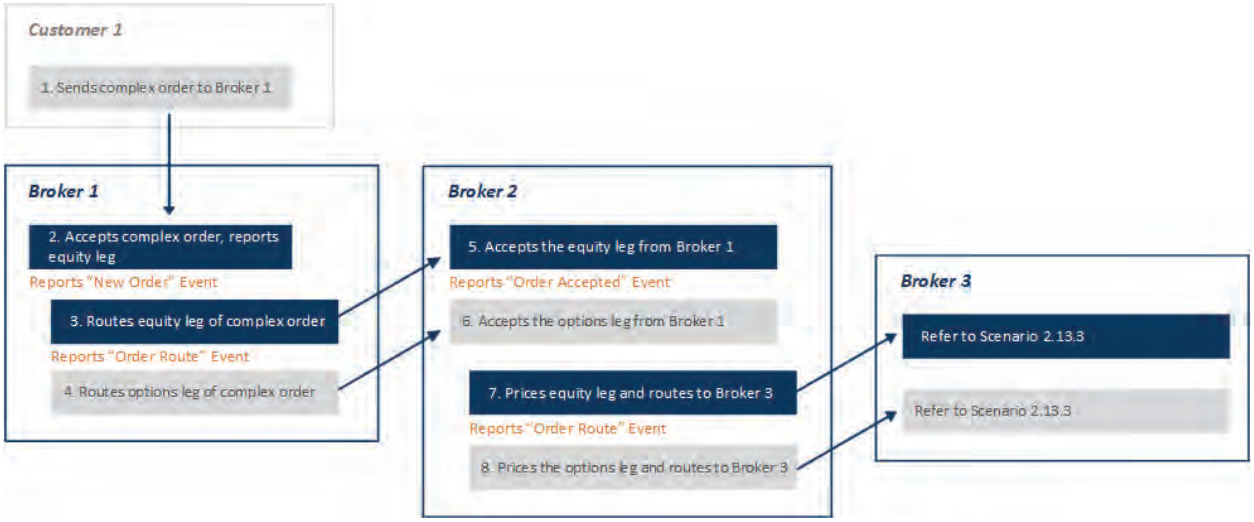
#	Step	Reported Event	Comments
		timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: OPT custDspIntrFlag: false	
7	Broker 2 accepts the routed order from Broker 1	*Broker 2 (IMID = BRKB) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: RTB909 symbol: XYZ eventTimestamp: 20180417T153035.853456 manualFlag: false receiverIMID: 456:BRKB senderIMID: 123:BRKA senderType: F routedOrderID: RTCO6789 affiliateFlag: false deptType: T side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: OPT custDspIntrFlag: false	Broker 2 is required to report a *handlingInstructions* value of “OPT” in its Order Accepted event indicating that this is an options related transaction.
8	Broker 2 crosses the Buy and Sell orders	*Broker 2 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ123 symbol: XYZ eventTimestamp: 20180417T153035.883456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 200 price: 10.00 capacity: A tapeTradeID: TRF123 marketCenterID: DN	

#	Step	Reported Event	Comments
		sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: RTB910 side: B sellDetails: orderKeyDate: 20180417T000000 orderID: RTB909 side: SL	

2.17.3. Receipt and Route of the Equity Leg of a Complex Order with a Net Price

This scenario illustrates the Phase 2a reporting requirements when an Industry Member receives a complex order involving both an equity leg and an options leg at a net price. In this scenario, Industry Member Broker 1 receives a complex order from a customer involving both an equity leg and an options leg at a net price, and routes the complex order to Industry Member Broker 2 with instructions to treat as a complex order with a net price.

Upon receipt of the net priced order, Industry Member Broker 2 splits the complex order into individual option and equity legs, determines the price at which each leg must be executed, and routes the equity leg to Industry Member Broker 3 for execution.



Industry Member Broker 1 is required to report:

- The receipt of the equity leg of the complex order from its customer as a market order with a *handlingInstructions* value of 'OPT' (New Order event)

- The route of the equity leg of the complex order to Broker 2 as a market order with a *handlingInstructions* value of 'OPT' (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the equity leg of the complex order from Broker 1 as a market order with a *handlingInstructions* value of 'OPT' (Order Accepted event)
- The route of the individually priced equity order to Broker 3 as a priced order with a *handlingInstructions* value of 'OPT' (Order Route event)

For Broker 3's CAT reporting obligation, please refer to Scenario 2.17.2.

In this scenario, since the complex order contains a net price, Broker 1 must report the receipt and route of the equity leg as an unpriced market order with a *handlingInstructions* value of 'OPT'. In Phases 2a and 2c, CAT will interpret the combination of a market order with a *handlingInstructions* value of 'OPT' as an order with a net price. In Phase 2d, a net price will be required.

While *handlingInstructions* are generally not required on Order Route events until Phase 2c, Broker 1 must report a *handlingInstructions* value of 'OPT' on its Order Route event so it is not reflected in CAT as the route of an ordinary market or limit order. Broker 2 must also report a *handlingInstructions* value of 'OPT' on its Order Route event so the price at which the order is routed is properly reflected as the price of an options related transaction.

The option leg of the complex order is not reportable until Phase 2d. In Phase 2d, the reporting requirements for the equity leg will change to reporting separate complex order events. The net price of the complex order will also be reportable in Phase 2d. Complex orders received and routed directly to an exchange are not reportable until Phase 2d and cannot be voluntarily reported in earlier phases.

#	Step	Reported Event	Comments
1	Customer originates a complex option order	*NA*	
2	Customer routes the complex order to Broker 1	*NA*	
3	Broker 1 accepts the complex order from the customer and reports the equity leg	*Broker 1 reports a* ***New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: CO12345 symbol: XYZ eventTimestamp: 20180417T153035.123456 manualFlag: false deptType: A	In Phases 2a and 2c, since the customer order is an equity leg of a complex option that contains a net price, Broker 1 may report either an *orderType* of 'MKT' with a blank *price* or an *orderType* of 'LMT' with a *price* of '0', and a *handlingInstructions* value of 'OPT'. CAT will interpret this combination of values as an order containing a net price. In Phase 2d, Broker 1 will be required

#	Step	Reported Event	Comments
		side: B price: quantity: 200 orderType: MKT timeInForce: DAY=20180417 tradingSession: REG handlingInstructions: OPT custDspIntrFlag: false firmDesignatedID: INS345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	to report a net price. The option leg of the complex order is not reportable until Phase 2d.
4	Broker 1 routes the complex order to Broker 2 and reports the equity leg	*Broker 1 (IMID = BRKA) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: CO12345 symbol: XYZ eventTimestamp: 20180417T153035.553456 manualFlag: false senderIMID: 123:BRKA destination: 456:BRKB destinationType: F routedOrderID: RTCO12345 side: B price: quantity: 200 orderType: MKT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions: OPT	While *handlingInstructions* are generally not required on Order Route events until Phase 2c, Broker 1 must report a *handlingInstructions* value of 'OPT' so the route is not reflected in CAT as the route of an ordinary market order.
5	Broker 2 accepts the complex order from Broker 1 and reports the equity leg.	*Broker 2 (IMID = BRKC) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: RTB910 symbol: XYZ eventTimestamp: 20180417T153035.853456 manualFlag: false	Broker 2 must report the *handlingInstructions* value of 'OPT' that was received from Broker 1.

#	Step	Reported Event	Comments
		receiverIMID: 456:BRKB senderIMID: 123:BRKA senderType: F routedOrderID: RTCO12345 affiliateFlag: false deptType: T side: B price: quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: OPT custDspIntrFlag: false	
6	Broker 2 prices the individual legs and routes the equity leg to Broker 3	*Broker 2 (IMID = BRKB) reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: RTB910 symbol: XYZ eventTimestamp: 20180417T153036.553456 manualFlag: false senderIMID: 456:BRKB destination: 789:BRKC destinationType: F routedOrderID: RTCO12345 side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions: OPT	Since Broker 2 has assigned a price to the equity leg, the *price* field must be populated. Since Broker 2 knows that the order is the equity leg of a complex option, Broker 2 will be required to report a *handlingInstructions* value of 'OPT'.
7	Broker 3 accepts the equity leg from Broker 2 and further handles the order	For Broker 3's CAT reporting obligation, refer to Scenario 2.17.2.	

2.17.4. Order Fulfillment Amendment

This scenario illustrates the CAT reporting requirements when an Industry Member amends the price of a customer fill that was reported to CAT earlier that day, then amends the price of the customer fill again the next day. Refer to section 4.13.2 of the CAT Reporting Technical Specifications for Industry Members for additional information.

For the purpose of this example, details of order handling on the original day are not included.

Industry Member Broker 1 is required to report:

- The fill of the customer order on a Riskless Principal basis on Day T (Order Fulfillment event)
- The amendment of the price of the customer fill on day T (Order Fulfillment Amendment event)
- The amendment of the price of the customer fill on day T+1 (Order Fulfillment Amendment event)

#	Step	Reported Event	Comments
1	On day T, Broker 1 accepted a customer order and filled the order on a Riskless Principal basis	*Broker 1 (IMID = FRMA) reports an* ***Order Fulfillment event*** type: MEOF fillKeyDate: 20180417T000000 fulfillmentID: AABB1231 symbol: XYZ eventTimestamp: 20180417T153035.326456 manualFlag: false fulfillmentLinkType: Y quantity: 500 price: 9.99 capacity: R clientDetails: orderKeyDate: 20180417T000000 orderID: O12345 side: B	

#	Step	Reported Event	Comments
		firmDetails: orderKeyDate: 20180417T000000 orderID: O999 side: SL	
2	On T, Broker 1 amends the price of the customer fill	*On T, Broker 1 reports an **Order Fulfillment Amendment event*** type: MEFA fillKeyDate: 20180417T000000 fulfillmentID: AACC1231 priorFillKeyDate: 20180417T000000 priorFulfillmentID: AABB1231 symbol: XYZ eventTimestamp: 20180417T153037.326456 manualFlag: false quantity: 500 capacity: R price: 9.98 fulfillmentLinkType: Y clientDetails: orderKeyDate: 20180417T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20180417T000000 orderID: O999 side: SL	In this example, Broker 1 assigns a new Fulfillment Key with *fulfillmentID* AACC1231 when the fulfillment is amended. The *fillKeyDate* must be populated with the date that the new Fulfillment Key was assigned. The Prior Fill Key with *fulfillmentID* AABB1231 must be populated in the *priorFulfillmentID* field, and the *priorFillKeyDate* must be populated with the date the Fulfillment Key was assigned in the original Order Fulfillment event.
3	On T+1, Broker 1 amends the price of the customer fill again	*On T+1, Broker 1 reports an **Order Fulfillment Amendment event*** type: MEFA fillKeyDate: 20180418T000000 fulfillmentID: AADD1231 priorFillKeyDate: 20180417T000000 priorFulfillmentID: AACC1231 symbol: XYZ eventTimestamp: 20180418T153035.326456 manualFlag: false quantity: 500 capacity: R price: 9.97	In this example, Broker 1 assigns a new Fulfillment Key with *fulfillmentID* AADD1231 when the fulfillment is amended. The *fillKeyDate* must be populated with the date that the new Fulfillment Key was assigned. The Prior Fill Key with *fulfillmentID* AACC1231 must be populated in the *priorFulfillmentID* field, and the *priorFillKeyDate* must be populated with the date the Fulfillment Key was assigned in the previous Fulfillment Amendment event.

#	Step	Reported Event	Comments
		fulfillmentLinkType: Y clientDetails: orderKeyDate: 20180417T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20180417T000000 orderID: O999 side: SL	

2.18. JSON and CSV Examples

This provides an illustration of the different reporting formats of JSON and CSV. Refer to Section 2.5 of the CAT Reporting Technical Specifications for Industry Members for additional information.

2.18.1. JSON Representation

Below is a JSON representation using the example in Scenario 2.2.2 Internalized Trade against Proprietary Account.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180416 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false	{ "type": "MENO", "orderKeyDate": "20180416T000000", "orderID":"O12345", "symbol": "XYZ", "eventTimestamp": "20180416T153035.234456", "manualFlag": false, "deptType": "T", "side": "B", "price": 10.00, "quantity": 500, "orderType": "LMT", "timeInForce": {"DAY": 20180416}, "tradingSession": "REG", "custDspIntrFlag": false, "firmDesignatedID": "INS001", "accountHolderType": "A", “affiliateFlag”: false, “negotiatedTradeFlag": false, "representativeInd": "N"

#	Step	Reported Event	Comments
		negotiatedTradeFlag: false representativeInd: N	}

3	Broker 1 executes the order against own proprietary account	*Broker 1 reports a **Trade event***
		
		type: MEOT
		tradeKeyDate: 20180416T000000
		eventTimestamp: 20180416T153035.253456
		manualFlag: false
		cancelFlag: false
		cancelTimestamp:
		symbol: XYZ
		tradeID: TXYZ555
		quantity: 500
		price: 10.00
		capacity: P
		tapeTradeID:TRF123
		marketCenterID: DN
		sideDetailsInd: NA
		buyDetails:
		orderKeyDate: 20180416T000000
		orderID: O12345
		side: B
		sellDetails:
		side: SL
		firmDesignatedID: PROP123
		accountHolderType: P
			{
			"type": "MEOT",
			"tradeKeyDate": "20180416T000000",
			"eventTimestamp": "20180416T153035.253456",
			"manualFlag": false,
			“cancelFlag”: false,
			“cancelTimestamp”:
			"symbol": "XYZ",
			"tradeID": "TXYZ555",
			"quantity": 500,
			"price": 10.00,
			"capacity": "P",
			"tapeTradeID": "TRF123",
			"marketCenterID": "DN",
			"sideDetailsInd": "NA",
			"buyDetails":[
			{
			"OrderKeyDate": "20180416T000000",
			"orderID": "O12345",
			"side": "B"
			}
			],
			"sellDetails":[
			{
			"side": "SL",
			"firmDesignatedID": "PROP123",
			"accountHolderType": "P"
			}
			]

2.18.2. CSV Representation

Below is the corresponding CSV representation of the same sample events.

Step 2: New Order Event

,,,MENO,,20180416T000000,O12345,XYZ,20180416T153035.234456,
false,,,T,,,B,10.00,500,,LMT,DAY=20180416,REG,,false,INS001,A,false,,,false,N,,,,,,,,,,,,

Step 3: Trade Event

,,,MEOT,,20180416T000000,TXYZ555,XYZ,20180416T153035.253456,false,false,,,,,500,10.00,P,TRF
123,DN,NA,20180416T000000@O12345@B@@@@,@@SL@@123FPAEXC@P@,,,,,,,,

3. Option Scenarios and Examples

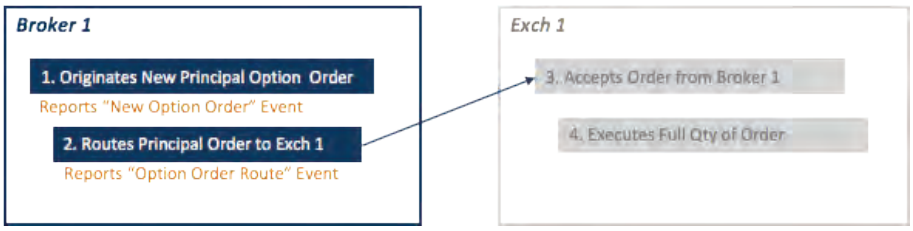
This section illustrates reporting scenarios for single leg electronic option events in scope for Phase 2b. Each example includes a process flow table and sample reporting values. Refer to Section 5 of the CAT Reporting Technical Specifications for Industry Members, along with Published Options guidance and Section K of the CAT FAQs regarding Options for additional information.

3.1. Option Order Origination and Route Scenarios

This section illustrates the CAT reporting requirements when an order is received or originated, and is subsequently routed away from the firm for execution. Refer to Section 5.4 of the CAT Reporting Technical Specifications for Industry Members for additional information.

3.1.1. New Principal Option Order Routed to Exchange and Executed

This scenario illustrates the CAT reporting requirements when an Industry Member originates a new principal option order electronically, and electronically routes the order to an exchange where it is executed.



Industry Member Broker 1 is required to report:

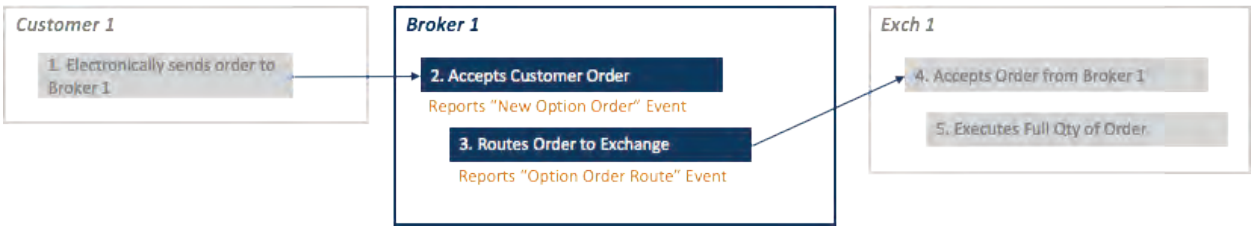
- The origination of a principal option order (New Option Order event)
- The route to an exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Broker 1 originates an order from its proprietary account	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: OFP544 optionID: ABCD 191220C00095000 eventTimestamp: 20180516T133031.127 deptType: T side: B price: 9.95 quantity: 20 orderType: LMT timeInForce: DAY=20180516	

#	Step	Reported Event	Comments
		tradingSession: REG firmDesignatedID: 123FPAEXC accountHolderType: P affiliateFlag: false openCloseIndicator: Open representativeInd: N	
2	Broker 1 routes the option order to Exch 1	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OFP544 optionID: ABCD 191220C00095000 eventTimestamp: 20180516T133031.129 senderIMID: 123:AEXC destination: OEXCH destinationType: E routedOrderID: RTOFP544 session: 2102 side: B price: 9.95 quantity: 20 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG exchOriginCode: F affiliateFlag: false openCloseIndicator: Open	
3	Exch 1 accepts the option order from Broker 1	*Exchange reports a Participant **Simple Option Order Accepted event***	
4	Exch 1 executes the full quantity of the option order	*Exchange reports a Participant **Simple Option Trade event***	

3.1.2. Customer Option Order Routed to the Exchange and Executed

This scenario illustrates the CAT reporting requirements when an Industry Member routes a customer order to an exchange for execution.



Industry Member Broker 1 is required to report:

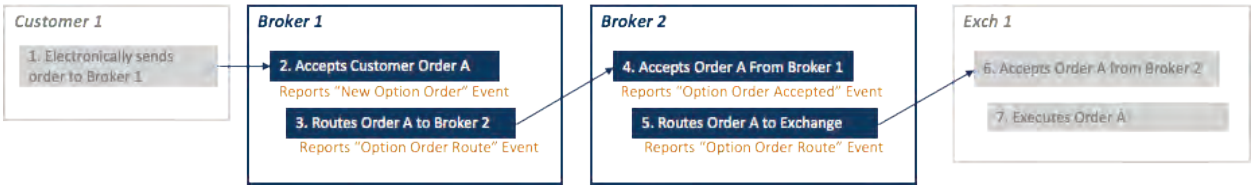
- The receipt of the customer order (New Option Order event)
- The route of the customer order to the exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1234 deptType: A side: SL price: 6.60 quantity: 30 minQty: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH|STP firmDesignatedID: CUS98765 accountHolderType: A affiliateFlag: false openCloseIndicator: Close representativeInd: N	
3	Broker 1 routes the option order to Exch 1	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1684	In phase 2c, since the values in the *handlingInstructions* field have not changed from the New Option Order to the Option Order Route, BRKR01 may populate "RAR" in the *handlingInstructions* field indicating the order was "routed as received". Alternatively, firms have the option to re-state all *handlingInstructions* values.

#	Step	Reported Event	Comments
		senderIMID: 123:BRKR01 destination: OPEXCH1 destinationType: E routedOrderID: RT555 session: s5 side: SL price: 6.60 quantity: 30 minQty: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: exchOriginCode: C affiliateFlag: false openCloseIndicator: Close	
4	Exch 1 accepts the option order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
5	Exch 1 executes the full quantity of the option order	*Exchange reports a Participant* ***Simple Option Trade event***	

3.1.3. Customer Option Order Electronically Routed between Two Industry Members and Subsequently Executed on an Exchange

This scenario illustrates the CAT reporting requirements when an option order is electronically routed from one Industry Member to another, and is further routed to an exchange for execution.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Option Order event)
- The route of the customer option order to Broker 2 (Option Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Option Order Accepted event)
- The route of the order to the Exchange (Option Order Route event)

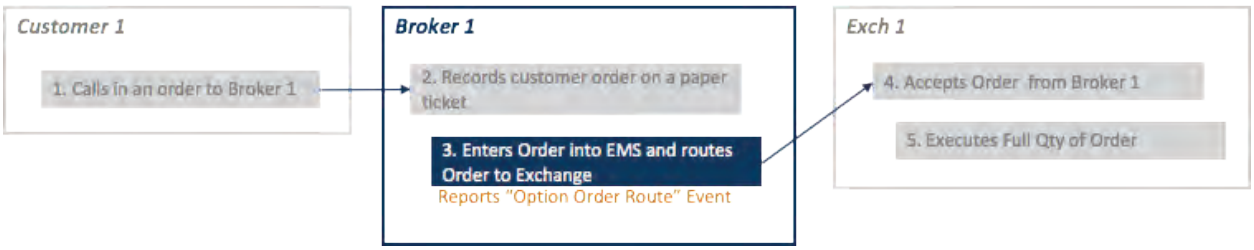
#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: OA1B2C3 optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 5.5 quantity: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG firmDesignatedID: C0001 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	The option is a FLEX Percent option. Strike price is 95% of the closing price. Therefore, the *price* field is reported as a percentage, 5.5%, of the underlying close price.
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OA1B2C3 optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.1324 senderIMID: 123:BRKR01 destination: 456:BROKER2 destinationType: F routedOrderID: RT0789 side: B price: 5.5 quantity: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG affiliateFlag: false openCloseIndicator: Open	

#	Step	Reported Event	Comments
4	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Option Order Accepted event*** type: MOOA orderKeyDate: 20180516T000000 orderID: O45678 optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.2324 receiverIMID: 456:BROKER2 senderIMID: 123:BRKR01 senderType: F routedOrderID: RT0789 deptType: A side: B price: 5.5 quantity: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG affiliateFlag: false openCloseIndicator: Open	
5	Broker 2 routes order to the exchange	*Broker 2 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O45678 optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.2542 senderIMID: 456:BROKER2 destination: EXCH1 destinationType: E routedOrderID: RT3210 session: s2 side: B price: 5.5 quantity: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG exchOriginCode: C affiliateFlag: false openCloseIndicator: Open	
6	Exch 1 accepts order	*Exchange reports a Participant*	

#	Step	Reported Event	Comments
	from Broker 2	***Simple Option Order Accepted event***	
7	Exch 1 executes the order	*Exchange reports a Participant* ***Simple Option Trade event***	

3.1.4. Customer Option Order Received Manually and Routed Electronically to an Exchange for Execution

This scenario illustrates the CAT reporting requirements for Phase 2b when a customer order is received manually by an Industry Member. The order then is systematized by the Industry Member and electronically routed to an exchange for execution.



Industry Member Broker 1 is required to report:

- The route of the option order to the exchange (Option Order Route event)

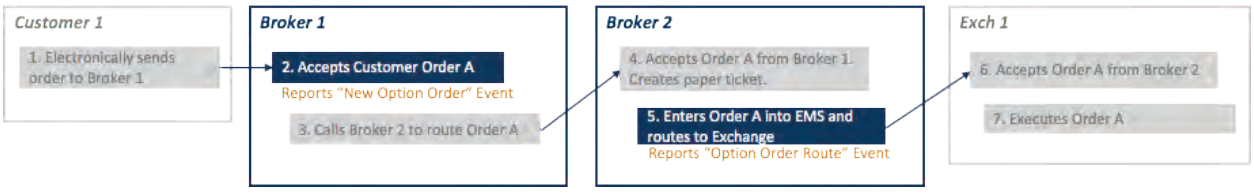
Manual option CAT events are not required in Phase 2b. In Phase 2b, the Industry Member must populate the *priorUnlinked* field on its Option Order Route event with a value of 'M' to indicate that the immediately preceding step is a manual event and is not reported in Phase 2b.

#	Step	Reported Event	Comments
1	Customer calls in an option order to Broker 1	*NA*	
2	Broker 1 manually receives the customer order	*NA*	In Phase 2b, Industry Members are not required to report orders received manually.
3	Broker 1 systematizes the order in its EMS and routes the order to the Exchange	*Broker 1 reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OP23456 optionID: XYZ 180601C00001925 eventTimestamp: 20180516T133033.1234 senderIMID: 123:BRKR01 destination: EXCH1	The *orderKeyDate* is the date and time the Order Key was assigned. The *priorUnlinked* field must be populated with a value of 'M' to indicate that the immediately preceding event is not reportable, as it is a manual event.

#	Step	Reported Event	Comments
		destinationType: E routedOrderID: RT05252 session: s56 side: B price: 10 quantity: 50 orderType: LMT timeInForce: IOC tradingSession: REG exchOriginCode: C affiliateFlag: false openCloseIndicator: Open priorUnlinked: M	
4	Exch 1 accepts order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
5	Exch 1 executes the order	*Exchange reports a Participant* ***Simple Option Trade event***	

3.1.5. Customer Option Order Received Electronically and Routed Manually to another Industry Member

This scenario illustrates the CAT reporting requirements for Phase 2b when an Industry Member electronically receives a customer order that is manually routed to another Industry Member. The order is then electronically routed to an exchange for execution.



Industry Member Broker 1 is required to report:

- The electronic receipt of the customer order (New Option Order event)

Industry Member Broker 2 is required to report:

- The route of the option order to the exchange (Option Order Route event)

Manual option CAT events are not required in Phase 2b. In Phase 2b, Industry Member Broker 1 must populate the *nextUnlinked* field on its New Option Order event with a value of 'M' to indicate that the immediately following step is a manual event and is not reported in Phase 2b. If the *nextUnlinked* value is

unknown at the time of receipt, Industry Member Broker 1 may report this information in a separate Option Order Supplement event.

Industry Member Broker 2 must populate the *priorUnlinked* field on its Option Order Route event with a value of 'M' to indicate that the immediately preceding event is a manual event and is not reported in Phase 2b.

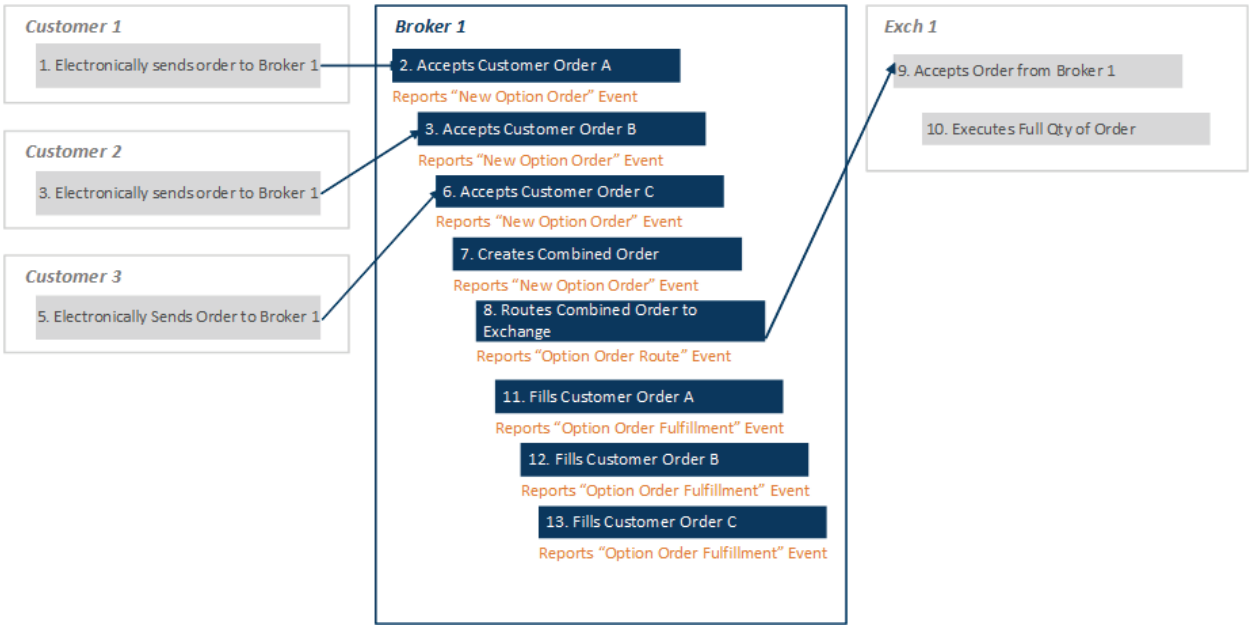
#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a* ***New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: OP0912 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: O side: B price: 11 quantity: 70 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH|STP firmDesignatedID: C0001 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N nextUnlinked: M	The *nextUnlinked* flag must be populated with a value of 'M' to indicate that the immediately following event is not reportable, as is it is a manual event. Alternatively, if the *nextUnlinked* value is unknown at the time of order receipt, a separate Option Order Supplement event may be reported to capture the *nextUnlinked* value.
3	Broker 1 calls Broker 2 routing the order	*NA*	In Phase 2b, Industry Members are not required to report orders routed manually.
4	Broker 2 manually accepts the order from Broker 1	*NA*	In Phase 2b, Industry Members are not required to report orders received manually.
5	Broker 2 systematizes the order and electronically routes the order to an exchange	*Broker 2 reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O32BA optionID: XYZ 180810C00001925	The *orderKeyDate* is the date and time the *orderID* was assigned. Since Broker 2 is routing the order to a national securities exchange, *session* is required.

#	Step	Reported Event	Comments
		eventTimestamp: 20180516T133035.1256 senderIMID: 123:FIRM2 destination: EXCH1 destinationType: E routedOrderID: RT01111 session: sA2 side: B price: 11 quantity: 70 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: C priorUnlinked: M	In Phase 2c, FIRM2 will be required to populate the *handlingInstructions* field with a value of “NH” and “STP” on its Option Order Route event. The p*riorUnlinked* field must be populated with a value of ‘M’ to indicate that the immediately preceding event is not reportable, as it is a manual event.
6	Exchange 1 accepts the order from Broker 2	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
7	Exchange 1 executes the order	*Exchange reports a Participant* ***Simple Option Trade event***	

3.2. Fulfillment Scenarios

3.2.1. Broker Receives Single Leg Electronic Orders, Creates a Combined Order and Routes the Combined Order to an Exchange

This scenario illustrates the Phase 2b reporting requirements when an Industry Member combines individual, simple option orders from customers before routing to an exchange as a single, simple order for execution. Refer to Section 5.11 of the CAT Reporting Technical Specifications for Industry Members for additional information.



Industry Member Broker 1 is required to report:

- The electronic receipt of each single leg customer order (New Option Order events)
- The generation of the combined order (New Option Order event)
- The route of the combined order to the exchange (Option Order Route event)
- The fill of each customer order (Option Order Fulfillment event)

In Phase 2b, the New Option Order event representing the combined order must be populated with a *representativeInd* value of 'O' indicating that the order is an Options Combined order. The Option Order Fulfillment events must be populated with a *fulfillmentLinkType* value of 'O' indicating that the order is an Options Order Fulfillment.

Explicit linkage between the customer orders and the combined order is not required until Phase 2d.

#	Step	Reported Event	Comments
1	Customer 1 electronically sends a single leg option order to Broker 1	*NA*	
2	Customer 2 electronically sends a single leg option order to Broker 1	*NA*	
3	Customer 3 electronically sends a single leg option order to Broker 1	*NA*	
4	Broker 1 accepts the order from Customer 1	*Broker 1 reports a* ***New Option Order event***	

#	Step	Reported Event	Comments
		type: MONO orderKeyDate: 20180516T000000 orderID: O10987 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 3.90 quantity: 60 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001A accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
5	Broker 1 accepts the order from Customer 2	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: O10988 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T134520.1234 deptType: A side: B price: 3.90 quantity: 150 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001B accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
6	Broker 1 accepts the order from Customer 3	*Broker 1 reports a **New Option Order event*** type: MONO	

#	Step	Reported Event	Comments
		orderKeyDate: 20180516T000000 orderID: O10989 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T135540.1234 deptType: A side: B price: 3.90 quantity: 90 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001C accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
7	Broker 1 generates a combined order.	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: O10990 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T135610.1234 deptType: A side: B price: 3.90 quantity: 300 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001D accountHolderType: A affiliateFlag: false aggregatedOrders: openCloseIndicator: Open representativeInd: O	The *representativeInd* field must be populated with a value of 'O' to indicate that the order is an Options Combined Order. The *aggregatedOrders* field is not required to be populated until phase 2d.
8	Broker 1 routes the combined order to an Options Exchange	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000	In Phase 2d, BRKR1 will be required to populate the *handlingInstructions* field with a value of "NH" on its Option Order Route event.

#	Step	Reported Event	Comments
		orderID: O10990 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T135610.2250 senderIMID: 123:BRKR1 destination: EXCH1 destinationType: E routedOrderID: RT01111 session: sA2 side: B price: 3.90 quantity: 300 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: C priorUnlinked:	
9	Exchange 1 accepts the order from Broker 1	*Exchange reports a **Participant Simple Option Order Accepted event***	
10	Exchange 1 executes the order	*Exchange reports a **Participant Simple Option Trade event***	
11	Broker 1 fills Customer 1's order	*Broker 1 reports an **Option Order Fulfillment event*** type: MOOF fillKeyDate: 20180516T000000 fulfillmentID: FB10434 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T141510.1250 quantity: 60 price: 3.90 fulfillmentLinkType: O clientDetails: orderKeyDate: 20180516T000000 orderID: O10987 side: B	The *fulfillmentLinkType* field must be populated with a value of 'O' indicating that this is an Options Order Fulfillment. *firmDetails* are not required until phase 2d.
12	Broker 1 fills Customer 2's order	*Broker 1 reports an **Option Order Fulfillment event*** type: MOOF fillKeyDate: 20180516T000000	The *fulfillmentLinkType* field must be populated with a value of 'O' indicating that this is an Options Order Fulfillment. *firmDetails* are not required until phase 2d.

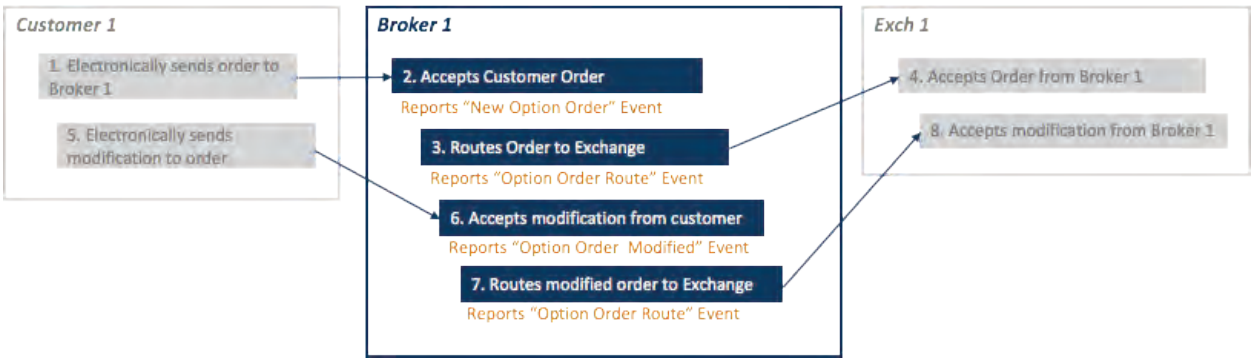
#	Step	Reported Event	Comments
		fulfillmentID: FB10435 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T141510.1250 quantity: 150 price: 3.90 fulfillmentLinkType: O clientDetails: orderKeyDate: 20180516T000000 orderID: O10988 side: B	
13	Broker 1 fills Customer 3's order	*Broker 1 reports an **Option Order Fulfillment event*** type: MOOF fillKeyDate: 20180516T000000 fulfillmentID: FB10436 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T141510.1250 quantity: 90 price: 3.90 fulfillmentLinkType: O clientDetails: orderKeyDate: 20180516T000000 orderID: O10989 side: B	The *fulfillmentLinkType* field must be populated with a value of 'O' indicating that this is an Options Order Fulfillment. *firmDetails* are not required until phase 2d.

3.3. Option Order Modification Scenarios

This section illustrates CAT reporting requirements for single leg option order modification scenarios in Phase 2b. In addition to the scenarios provided below, please refer to Equity Event Section 2.5. This guidance also applies to single leg electronic option order reporting. Refer to Section 5.8 of the CAT Reporting Technical Specifications for Industry Members for additional information.

3.3.1. Customer Initiates the Modification of an Option Order that was Previously Routed to an Exchange

This scenario illustrates a customer initiated modification (electronically) of an option order which the Industry Member had previously routed to an exchange.



Industry Member Broker 1 is required to report:

- The electronic receipt of the customer order (New Option Order event)
- The route of the order to the exchange (Option Order Route event)
- The electronic receipt of the customer modification (Option Order Modified event)
- The route of the modification to the exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends the option order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: OPA1740 optionID: XYZ 180906C00001905 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH|STP firmDesignatedID: C0001 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
3	Broker 1 routes the order to Exchange 1	*Broker 1 reports an **Option Order Route event***	In Phase 2d, FIRM1 will be required to populate the *handlingInstructions*

#	Step	Reported Event	Comments
		type: MOOR eventTimestamp: 20180516T133031.1434 optionID: XYZ 180906C00001905 senderIMID: 123:FIRM1 destination: EXCH1 destinationType: E orderID: OPA1740 routedOrderID: RTID201 session: s2r1 side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: C openCloseIndicator: Open	field with a value of “NH” and “STP” on its Option Order Route event.
4	Exchange 1 accepts the order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
5	Customer electronically modifies the order	*NA*	
6	Broker 1 modifies the order per the customer's instructions	*Broker 1 reports an* ***Option Order Modified event*** type: MOOM orderKeyDate: 20180516T000000 orderID: OPB1740 optionID: XYZ 180906C00001905 priorOrderKeyDate: 20180516T000000 priorOrderID: OPA1740 eventTimestamp: 20180516T133031.1484 initiator: C side: B price: 10 quantity: 50 leavesQty: 50 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: NH|STP openCloseIndicator: Open	Upon receipt of the modification, Broker 1 assigns a new Order Key with *orderID* OPB1740. The Prior Order Key with *orderID* OPA1740 must be populated in the *priorOrderID* field. The Prior Order Key links the Option Order Modified event with the New Option Order event.

#	Step	Reported Event	Comments
		representativeInd: N	
7	Broker 1 routes the modification to Exchange 1	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OPB1740 optionID: XYZ 180906C00001905 eventTimestamp: 20180516T133031.1500 senderIMID: 123:FIRM1 destination: EXCH1 destinationType: E routedOrderID: RTID567 session: s2r1 side: B price: 10 quantity: 50 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: C openCloseIndicator: Open	In Phase 2d, FIRM1 will be required to populate the *handlingInstructions* field with a value of “NH” and “STP” on its Option Order Route event.
8	Exchange 1 updates the order	*Exchange reports a Participant **Option Order Modified event***	

3.4. Cancellation Scenarios

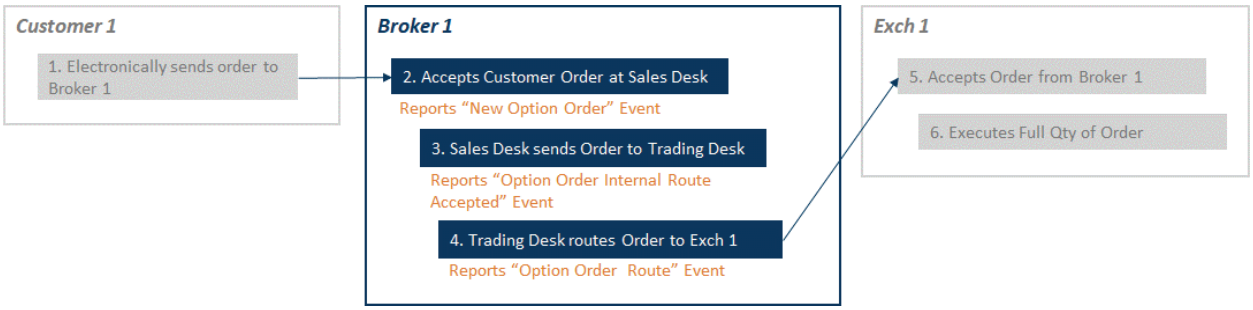
Option Order Cancelled events follow the same guidance as Order Cancelled events for equities. In addition to the scenarios provided below, refer to Equity Event Section 2.6. The guidance also applies to single leg electronic option order reporting. Refer to Section 5.9 of the CAT Reporting Technical Specifications for Industry Members for additional information.

3.5. Internal Route Scenarios

This section illustrates the CAT reporting requirements when an order is passed to a different department or desk within a *CATReporterIMID*. Refer to Section 5.6 of the CAT Reporting Technical Specifications for Industry Members for additional information.

3.5.1. Customer Option Order Internally Routed Electronically

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the Sales Desk to the Trading Desk.



Industry Member Broker 1 is required to report:

- The electronic receipt of the customer order (New Option Order event)
- The internal route of the order from the Sales Desk to the Trading Desk (Option Order Internal Route Accepted event)
- The route of the order to the exchange (Option Order Route event)

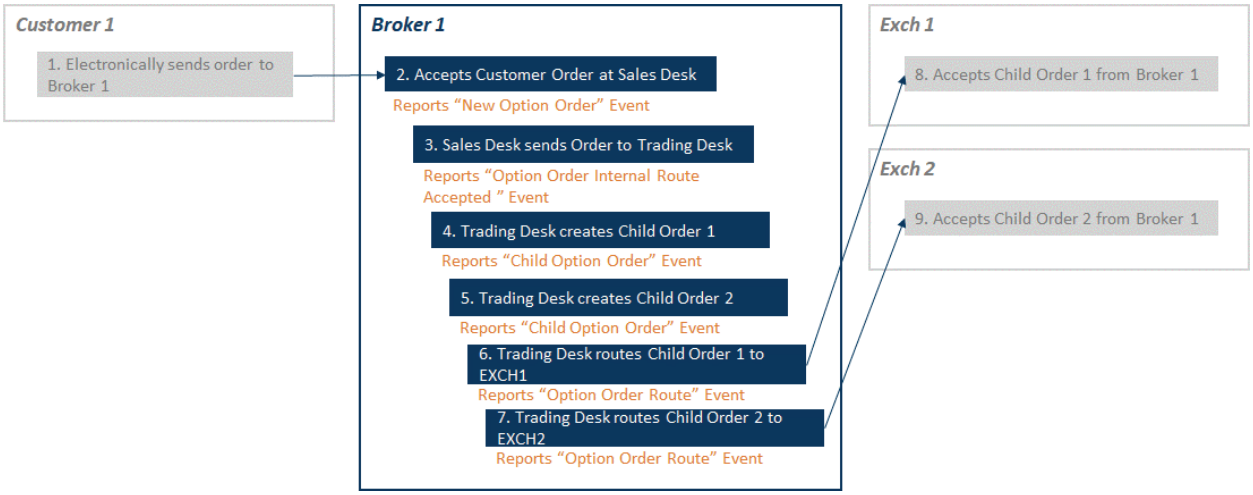
#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at the Sales Desk	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: OS3456 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 6.60 quantity: 20 minQty: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: STP firmDesignatedID: CUS98765 accountHolderType: A affiliateFlag: false openCloseIndicator: Close representativeInd: N	

#	Step	Reported Event	Comments
3	Trading Desk accepts the internal route of the order from the Sales Desk	*Broker 1 reports an **Option Order Internal Route Accepted event*** type: MOIR orderKeyDate: 20180516T000000 orderID: OT5459 optionID: XYZ 190215C00002150 parentOrderKeyDate: 20180516T000000 parentOrderID: OS3456 eventTimestamp: 20180516T133031.1254 deptType: T receivingDeskType: T side: B price: 6.60 quantity: 20 minQty: 10 orderType: LMT handlingInstructions: STP openCloseIndicator: Open	The Trading Desk, upon receipt of the internal route, assigns a new Order Key with *orderID* OT5459. The Parent Order Key with *orderID* OS3456 must be populated in the *parentOrderID* field. The Parent Order Key links the Option Order Internal Route Accepted event with the New Option Order event. The *openCloseIndicator* changes from "Close" to "Open". At the time of order origination, the customer was short, but at the point of time the order is received by the Trading Desk, the customer's position was flat.
4	The Trading Desk electronically routes the order to the Exchange	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OT5459 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.3789 senderIMID: 123:BRKR01 destination: OPEXCH1 destinationType: E routedOrderID: RT5309 session: s5 side: B price: 6.60 quantity: 20 minQty: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: C openCloseIndicator: Open	In Phase 2d, BRKR01 will be required to populate the *handlingInstructions* field with a value of “STP” on its Option Order Route event.

#	Step	Reported Event	Comments
5	Exchange 1 accepts order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
6	Exchange 1 executes the order	*Exchange reports a Participant* ***Simple Option Trade event***	

3.5.2. Order is Routed Internally and Child Orders are Generated Prior to Routing

This scenario illustrates the CAT reporting requirements when an Industry Member routes an order internally from the Sales Desk to the Trading Desk, and the Trading Desk generates child orders. The child orders are then routed to exchanges for execution.



Industry Member Broker 1 is required to report:

- The electronic receipt of the customer order (New Option Order event)
- The internal route of the order from the Sales Desk to the Trading Desk (Option Order Internal Route Accepted event)
- The generation of child orders by the Trading Desk (Child Option Order events)
- The route of each child order to an exchange (Option Order Route events)

#	Step	Reported Event	Comments
1	Customer electronically sends the option order to Broker 1	*NA*	
2	Broker 1 accepts customer order at the Sales Desk	*Broker 1 reports a* ***New Option Order event*** type: MONO orderKeyDate: 20180516T000000	

#	Step	Reported Event	Comments
		orderID: OS10001 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 8.5 quantity: 10 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: STP firmDesignatedID: CUS234 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
3	Trading Desk accepts the internal route of the order from the Sales Desk	*Broker 1 reports an **Option Order Internal Route Accepted event*** type: MOIR orderKeyDate: 20180516T000000 orderID: OT56789 optionID: XYZ 190215C00002150 parentOrderKeyDate: parentOrderID: OS10001 eventTimestamp: 20180516T133031.1254 deptType: T receivingDeskType: T side: B price: 8.5 quantity: 10 orderType: LMT handlingInstructions: STP openCloseIndicator: Open	The Trading Desk, upon receipt of the internal route, assigns a new Order Key with *orderID* OT56789. The Parent Order Key with *orderID* OS10001 must be populated in the *parentOrderID* field. The Parent Order Key links the Option Order Internal Route Accepted event with the New Option Order event.
4	Trading Desk creates Child Order 1	*Broker 1 reports a **Child Option Order event (1 of 2)*** type: MOCO orderKeyDate: 20180516T000000 orderID: CO111 optionID: XYZ 190215C00002150 parentOrderKeyDate: 20180516T000000 parentOrderID: OT56789	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* CO111. The Parent Order Key with *orderID* OT56789 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.

#	Step	Reported Event	Comments
		eventTimestamp: 20180516T133031.1260 side: B price: 8.5 quantity: 7 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: STP openCloseIndicator: Open	
5	Trading Desk creates Child Order 2	*Broker 1 reports a **Child Option Order event (2 of 2)*** type: MOCO orderKeyDate: 20180516T000000 orderID: CO222 optionID: XYZ 190215C00002150 parentOrderKeyDate: 20180516T000000 parentOrderID: OT56789 eventTimestamp: 20180516T133031.1261 side: B price: 8.5 quantity: 3 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: STP openCloseIndicator: Open	Upon generation of the child order, Broker 1 assigns a new Order Key with *orderID* CO222. The Parent Order Key with *orderID* OT56789 must be populated in the *parentOrderID* field. The Parent Order Key links the Child Order event with the New Order event.
6	Trading Desk routes Child Order 1 to EXCH 1	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: CO111 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.1360 senderIMID: 123:BRKR01 destination: OPEXCH1 destinationType: E routedOrderID: RT432 session: s101 side: B price: 8.5	In Phase 2d, BRKR01 will be required to populate the *handlingInstructions* field with a value of “STP” on its Option Order Route event.

#	Step	Reported Event	Comments
		quantity: 7 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: C openCloseIndicator: Open	
7	Trading Desk routes Child Order 2 to EXCH 2	*Broker 1 reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: CO222 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.1365 senderIMID: 123:BRKR01 destination: OPEXCH2 destinationType: E routedOrderID: RT369 session: s5 side: B price: 8.5 quantity: 3 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: C openCloseIndicator: Open	In Phase 2d, BRKR01 will be required to populate the *handlingInstructions* field with a value of “STP” on its Option Order Route event.
8	EXCH1 accepts the order from Broker 1	*Exchange 1 reports a Participant* ***Simple Option Order Accepted event***	
9	EXCH2 accepts the order from Broker 1	*Exchange 2 reports a Participant* ***Simple Option Order Accepted event***	

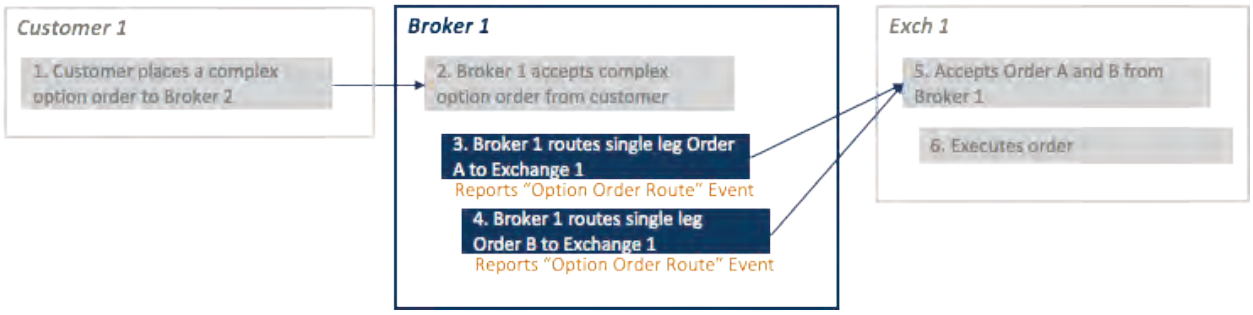
3.6. Complex Order Scenarios

This section illustrates the CAT reporting requirements when handling complex orders. Refer to Section 5 of the CAT Reporting Technical Specifications for Industry Members and CAT FAQ K2 for additional information.

3.6.1. Industry Member Receives a Complex Option Order Which is worked as Individual Single Order Legs in the Customer's Account

This scenario illustrates Phase 2b reporting requirements when an Industry Member receives a complex option order from a customer, but routes the order to an exchange as single leg option orders directly from the customer's account without creating new single leg option orders.

Complex option orders are not reportable in Phase 2b, so the Industry Member is not required to report the receipt of the complex order from the customer. The Industry Member is required to report the route of the individual single order legs, as these represent simple electronic option orders, which are reportable in Phase 2b.



Industry Member Broker 1 is required to report:

- The route of each single leg option order to the exchange (Option Order Route event)

The Industry Member must populate the *priorUnlinked* field with a value of 'C' in its Option Order Route event to indicate that the immediately preceding step was not reported since it was a complex order.

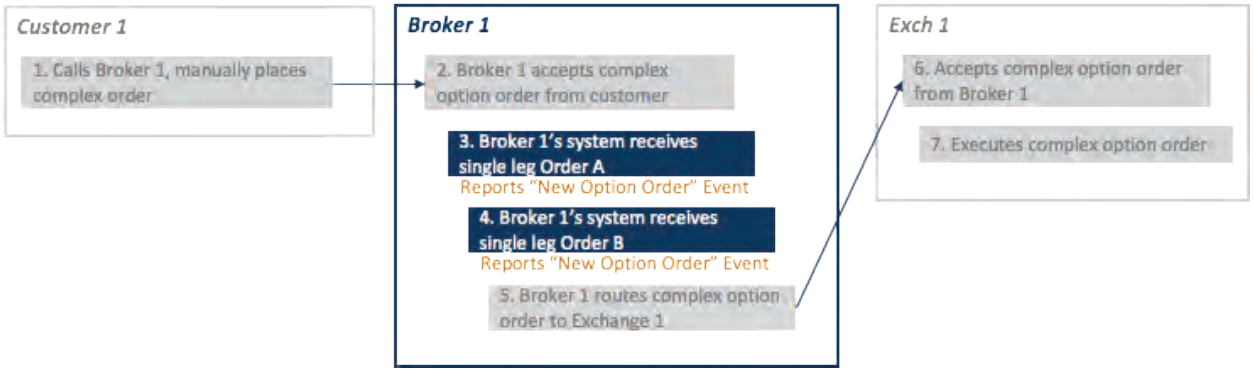
#	Step	Reported Event	Comments
1	Customer sends a complex option order to Broker 1	*NA*	Complex options out of scope for Phase 2b
2	Broker 1 accepts the complex option order	*NA*	Complex options out of scope for Phase 2b
3	Broker 1 routes Order A to Exchange 1	*Broker 1 reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OA1234 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1254 senderIMID: 123:BKRF1 destination: EXCH1 destinationType: E routedOrderID: RTOA1	In phase 2b, the *priorUnlinked* field must be populated with a value of 'C' to indicate the immediately preceding event is not reportable, as it is a complex option. In phase 2d, the *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order. The orderKeyDate is the date and time that the Order Key was assigned.

#	Step	Reported Event	Comments
		session: s.012.5 side: B price: 10 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: exchOriginCode: P affiliateFlag: false openCloseIndicator: Open priorUnlinked: C	
4	Broker 1 routes Order B to Exchange 1	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OB1234 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.2235 senderIMID: 123:BKRF1 destination: EXCH2 destinationType: E routedOrderID: RTOB1 session: s.012.6 side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: exchOriginCode: P affiliateFlag: false openCloseIndicator: Open priorUnlinked: C	In phase 2b, the *priorUnlinked* field must be populated with a value of 'C' to indicate the immediately preceding event is not reportable, as it is a complex option. In phase 2d, the *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order. The orderKeyDate is the date and time that the *orderID* was assigned.
5	Exchange 1 accepts Order A and Order B from Broker 1	*Exchange 1 reports a Participant **Simple Option Order Accepted event***	
6	Exchange 1 executes the option orders	*Exchange 1 reports a Participant **Simple Option Trade event***	

3.6.2. Industry Member Manually Receives a Complex Option Order Followed by Multiple Single Leg Electronic Option Orders

This scenario illustrates the Phase 2b reporting requirements when an Industry Member manually receives a complex option order from a customer, and the customer also sends the order as single leg electronic messages due to system limitations. The Industry Member routes the order to an exchange as a complex order.

In Phase 2b, the entirety of the customer order is not reportable to CAT, as the customer intended the order to be handled as a complex order. In Phase 2b, the preferred approach is that the Industry Member does not report the electronic single leg orders, as complex orders are not in scope. However, Industry Members may be unable to suppress these events from CAT in Phase 2b. This scenario illustrates reporting requirements if the Industry Member is unable to suppress the single leg orders.



Industry Member Broker 1 is required to report:

- The receipt of the electronic single leg orders (New Option Order events)

If the Industry Member elects to report the single legs, the *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order, and the *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable in Phase 2b, as it is a complex order event. Alternatively, if the *nextUnlinked* value is unknown at the time of order receipt, a separate New Option Order Supplement event may be reported to capture the *nextUnlinked* value.

#	Step	Reported Event	Comments
1	Customer calls in a complex option order to Broker 1	*NA*	Complex options out of scope for Phase 2b
2	Broker 1 accepts the complex option order	*NA*	Complex options out of scope for Phase 2b
3	Broker 1's system electronically captures single leg option order A	*Broker 1 reports a* ***New Option Order event***	The *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately

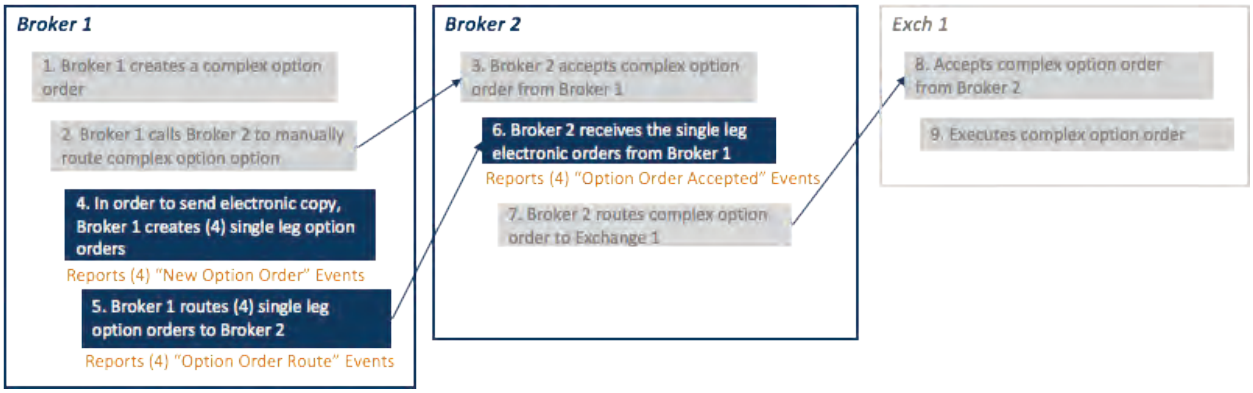
#	Step	Reported Event	Comments
		type: MONO orderKeyDate: 20180516T000000 orderID: OA1234 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 10 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: FD0012 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N nextUnlinked: C	following event is not reportable, as is it is a complex option. Alternatively, if the *nextUnlinked* value is unknown at the time of order receipt, a separate New Option Order Supplement event may be reported to capture the *nextUnlinked* value. The *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.
4	Broker 1's system electronically captures single leg option order B	*Broker 1 reports a* ***New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: OB1234 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.1235 deptType: A side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: FD0012 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N nextUnlinked: C	The *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable, as is it is a complex option. Alternatively, if the *nextUnlinked* value is unknown at the time of order receipt, a separate New Option Order Supplement event may be reported to capture the *nextUnlinked* value. The *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.
5	Broker 1 routes complex order to Exchange 1	*NA*	Complex options out of scope for Phase 2b

#	Step	Reported Event	Comments
6	Exchange 1 accepts complex option order from Broker 1	*Exchange 1 reports a Participant* ***Complex Option Order Accepted event***	
7	Exchange 1 executes complex option order	*Exchange 1 reports a Participant* ***Complex Option Trade event***	

3.6.3. Industry Member Manually Routes a Complex Option Order to another Industry Member Followed by Multiple Single Leg Electronic Option Orders

This scenario illustrates the Phase 2b reporting requirements when an Industry Member manually routes a complex option order to another Industry Member and also sends the order as single leg electronic messages due to system limitations. The order is then routed to an exchange as a complex order.

In Phase 2b, the entirety of the customer order is not reportable to CAT, as the customer intended the order to be handled as a complex order. In Phase 2b, the preferred approach is that the Industry Member does not report the electronic single leg orders, as complex orders are not in scope. However, Industry Members may be unable to suppress these events from CAT in Phase 2b. This scenario illustrates reporting requirements if the Industry Members are unable to suppress the single leg orders.



Industry Member Broker 1 is required to report:

- The origination of the electronic single leg orders (New Option Order events)
- The route of the single leg orders to Broker 2 (Option Order Route Events)

Industry Member Broker 2 is required to report:

- The receipt of the electronic routes received from Broker 1 (Option Order Accepted events)

If the Industry Member elects to report the single legs, the *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order, and the *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable in Phase 2b, as it is a complex order event. Alternatively, if the *nextUnlinked* value is unknown at the time of

order receipt, a separate New Option Order Supplement event may be reported to capture the *nextUnlinked* value.

#	Step	Reported Event	Comments
1	Broker 1 creates a complex option order	*NA*	Complex options out of scope for Phase 2b
2	Broker 1 calls Broker 2 to manually route the complex option order	*NA*	Complex options out of scope for Phase 2b Manual order events out of scope for Phase 2b
3	Broker 2 accepts complex option order	*NA*	Complex options out of scope for Phase 2b Manual order events out of scope for Phase 2b
4	Broker 1 creates four single leg option orders	*Broker 1 reports a **New Option Order event (1 of 4)*** type: MONO orderKeyDate: 20180516T000000 orderID: O12345 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 AccountHolderType: P affiliateFlag: false openCloseIndicator: Open representativeInd: N *Broker 1 reports a **New Option Order event (2 of 4)*** type: MONO orderKeyDate: 20180516T000000 orderID: O22345 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.1235 deptType: A side: B	The *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.

#	Step	Reported Event	Comments
		price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 accountHolderType: P affiliateFlag: false openCloseIndicator: Open representativeInd: N	
4	(cont'd)	*Broker 1 reports a **New Option Order event (3 of 4)*** type: MONO orderKeyDate: 20180516T000000 orderID: O32345 optionID: XYZ 181210C00001925 eventTimestamp: 20180516T133031.1236 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 accountHolderType: P affiliateFlag: false openCloseIndicator: Open representativeInd: N *Broker 1 reports a **New Option Order event (4 of 4)*** type: MONO orderKeyDate: 20180516T000000 orderID: O42345 optionID: XYZ 181210P00001925 eventTimestamp: 20180516T133031.1237 deptType: A side: B price: 10 quantity: 20	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 accountHolderType: P affiliateFlag: false openCloseIndicator: Open representativeInd: N	
5	Broker 1 routes the electronic single leg orders to Broker 2	*Broker 1 reports an **Option Order Route event (1 of 4)*** type: MOOR orderKeyDate: 20180516T000000 orderID: O12345 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.5234 senderIMID: 123:BKRF1 destination: 456:BKRK_2 destinationType: F routedOrderID: RTOA111 side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open nextUnlinked: C *Broker 1 reports an **Option Order Route event (2 of 4)*** type: MOOR orderKeyDate: 20180516T000000 orderID: O22345 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.5235 senderIMID: 123:BKRF1 destination: 456:BKRK_2 destinationType: F routedOrderID: RTOA222 side: B	In Phase 2b, the *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable, as is it is a complex option. The *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.

#	Step	Reported Event	Comments
		price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open nextUnlinked: C	
5	(cont'd)	*Broker 1 reports an **Option Order Route event (3 of 4)*** type: MOOR orderKeyDate: 20180516T000000 orderID: O32345 optionID: XYZ 181210C00001925 eventTimestamp: 20180516T133031.5236 senderIMID: 123:BKRF1 destination: 456:BKRK_2 destinationType: F routedOrderID: RTOA333 side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open nextUnlinked: C *Broker 1 reports an **Option Order Route event (4 of 4)*** type: MOOR orderKeyDate: 20180516T000000 orderID: O42345 optionID: XYZ 181210P00001925 eventTimestamp: 20180516T133031.5237 senderIMID: 123:BKRF1 destination: 456:BKRK_2 destinationType: F routedOrderID: RTOA444 side: B	

#	Step	Reported Event	Comments
		price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open nextUnlinked: C	
6	Broker 2 accepts the electronic single leg option orders from Broker 1	*Broker 2 reports an **Option Order Accepted event (1 of 4)*** type: MOOA orderKeyDate: 20180516T000000 orderID: O10987 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.5434 receiverIMID: 456:BRKR_2 senderIMID: 123:BKRF1 senderType: F routedOrderID: RTOA111 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open priorUnlinked: C nextUnlinked: C *Broker 2 reports an **Option Order Accepted event (2 of 4)*** type: MOOA orderKeyDate: 20180516T000000 orderID: O20987 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.5435 receiverIMID: 456:BRKR_2 senderIMID: 123:BKRF1 senderType: F	In phase 2b, the *priorUnlinked* field must be populated with a value of 'C' to indicate the immediately preceding event is not reportable, as it is a complex option. In Phase 2b, the *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable, as is it is a complex option. The *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.

#	Step	Reported Event	Comments
		routedOrderID: RTOA222 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open priorUnlinked: C nextUnlinked: C	
6	(cont'd)	*Broker 2 reports an O**ption Order Accepted event (3 of 4)*** type: MOOA orderKeyDate: 20180516T000000 orderID: O30987 optionID: XYZ 181210C00001925 eventTimestamp: 20180516T133031.5436 receiverIMID: 456:BRKR_2 senderIMID: 123:BKRF1 senderType: F routedOrderID: RTOA333 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open priorUnlinked: C nextUnlinked: C *Broker 2 reports an **Option Order Accepted event (4 of 4)*** type: MOOA orderKeyDate: 20180516T000000 orderID: O40987 optionID: XYZ 181210P00001925	

#	Step	Reported Event	Comments
		eventTimestamp: 20180516T133031.5437 receiverIMID: 456:BRKR_2 senderIMID: 123:BKRF1 senderType: F routedOrderID: RTOA444 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open priorUnlinked: C nextUnlinked: C	
7	Broker 2 routes the complex option orders to Exchange 1	*NA*	Complex options out of scope for Phase 2b
8	Exchange 1 accepts the order from Broker 2	*Exchange 1 reports a Participant* ***Complex Option Order Accepted event***	
9	Exchange 1 executes the complex option order	*Exchange 1 reports a Participant* ***Complex Option Trade event***	

3.7. RFQ and Solicitation Response Scenarios

This section illustrates the CAT reporting requirements for responses to RFQs (Request for Quote) and other forms of solicitation. Refer to Section 2.16 for additional RFQ and Solicitation Response scenarios that apply to both Equity and Options order flow.

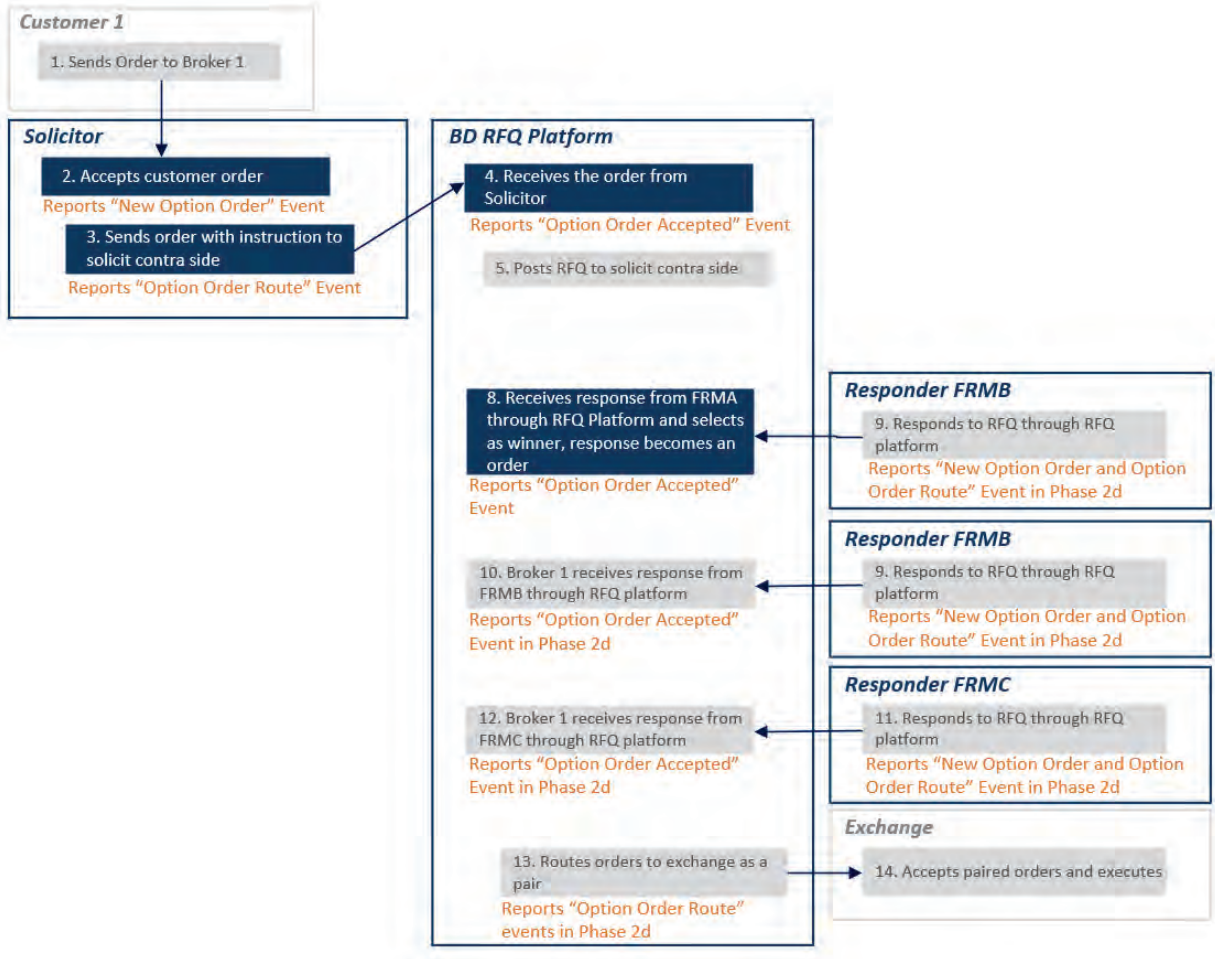
3.7.1. Retired Scenario

3.7.2. Retired Scenario

3.7.3. Response to RFQ is Sent Through an RFQ Platform operated by a Broker-Dealer

This scenario illustrates the Phase 2b CAT reporting requirements when an Industry Member (Solicitor) receives a customer order and sends the customer order to an Industry Member broker-dealer that operates an RFQ platform (BD RFQ Platform) with instructions to issue an RFQ to solicit the contra side. The broker-dealer operating the RFQ platforms sends out the RFQ and multiple Industry Members (Responders)

respond to the RFQ directly through the RFQ platform. The broker-dealer operating the RFQ platform selects the winning response and routes the customer order and the selected response as a paired order to an exchange for execution.



The Solicitor is required to report the following in Phase 2b:

- The receipt of a customer order (New Option Order event)
- The route of the customer order to the BD RFQ Platform (Option Order Route event)

The BD RFQ Platform is required to report the following in Phase 2b:

- The receipt of the customer order from the Solicitor (Option Order Accepted event)
- The receipt of the order from the winning Responder (Option Order Accepted event)

All orders received or originated after the selection of a winning bid to facilitate the execution of such bid as the result of such RFQ or solicitation process must be reported and must be identified as being part of

an RFQ or solicitation process subject to the phasing requirements as set forth in the CAT Reporting Technical Specifications for Industry Members as outlined in FAQ B45.

In Phase 2b, only the order received as a result of the winning response is reportable to CAT. Any RFQ responses are not reportable to CAT until Phase 2d. However, if a Responder chooses to report order events for responses that were not required to be reported to CAT, the Industry Member must report these responses to CAT with a *handlingInstructions* value of 'SR' on the Option Order Route event. The RFQ Platform must also report a *handlingInstructions* value of 'SR' on its Order Accepted event. While *handlingInstructions* on Option Order Route events are generally not required until Phase 2d, unlinked feedback on any unlinked Order Route events and Order Accepted events without a *handlingInstructions* value of 'SR' cannot be suppressed by the Plan Processor in Phase 2b.

Beginning in Phase 2d, the RFQ Platform will be required to report Order Route events to CAT representing the route of both orders as a pair to the Exchange for execution.

#	Step	Reported Event	Comments
1	The Solicitor FRMS receives a customer order	*Solicitor FRMS reports a **New Option Order event*** type: MONO orderKeyDate: 20180417T000000 orderID: C56743 symbol: XYZ eventTimestamp: 20180417T153033.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	The Solicitor FRMS routes the customer order to the BD RFQ platform RFQP, issues an RFQ.	*Solicitor FRMS reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180417T000000 orderID: C56743 symbol: XYZ	

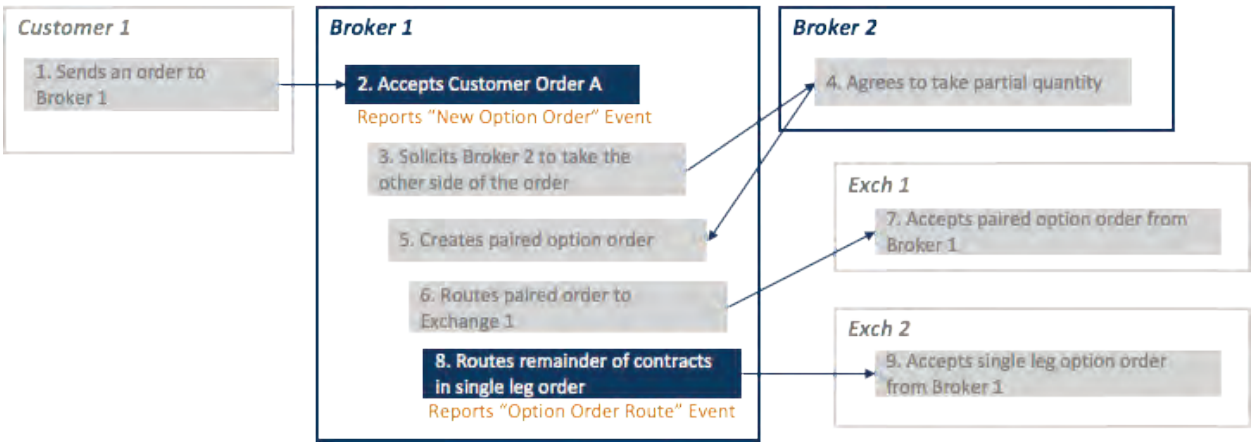
#	Step	Reported Event	Comments
		eventTimestamp: 20180417T153033.234456 manualFlag: false senderIMID: FRMS destination: RFQP destinationType: F routedOrderID: AO226 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	
3	The BD RFQ Platform RFQP receives the order from FRMS	*BD RFQ Platform RFQP reports an* ***Option Order Accepted event*** type: MOOA orderKeyDate: 20180417T000000 orderID: O8654 symbol: XYZ eventTimestamp: 20180417T153033.534456 manualFlag: false receiverIMID: RFQP senderIMID: FRMS senderType: F routedOrderID: AO226 affiliateFlag: false deptType: ATS side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: custDspIntrFlag: false	
4	Responders FRMA, FRMB and FRMC originate a response to RFQ.	*N/A*	Beginning in Phase 2d, all Responders will be required to report a New Option Order event to CAT with the *solicitationFlag* populated as true, including responses that were not ultimately selected.

#	Step	Reported Event	Comments
5	Responders FRMA , FRMB and FRMC route responses to BD RFQ Platform RFQP.	*N/A*	Beginning in Phase 2d, all responders will be required to report an Option Order Route event to CAT, including responses that were not ultimately selected.
6	RFQ Platform selects response from FRMA as the winning response and an order received from FRMA	*RFQ Platform RFQP reports an* ***Option Order Accepted event*** type: MOOA orderKeyDate: 20180417T000000 orderID: O8655 symbol: XYZ eventTimestamp: 20180417T153035.534456 manualFlag: false receiverIMID: RFQP senderIMID: FRMA senderType: F routedOrderID: AO227 affiliateFlag: false deptType: ATS side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false nextUnlinked: P	In Phase 2b, the RFQ Platform is only required to report order received as a result of the winning response. A *handlingInstructions* value of 'SR' must be populated on the Option Order Accepted in order to suppress unlinked feedback.
7	The BD RFQ Platform routes both orders to an Exchange as a pair	*NA*	The RFQ Platform will be required to report the route of the orders as a pair in Phase 2d.

3.8. Additional Options Reporting Scenarios

3.8.1. Industry Member Receives a Customer Order and is Only Able to Pair a Portion of the Order

This scenario illustrates the CAT reporting requirements when an Industry Member electronically receives a single leg order from a customer and solicits another Industry Member to pair the order, but is left with a partial quantity of the single leg customer order. Only the single leg components of the lifecycle are required for CAT reporting in Phase 2b, as paired option orders are not required until Phase 2d. Refer to CAT FAQ K2 for additional information.



Industry Member Broker 1 is required to report:

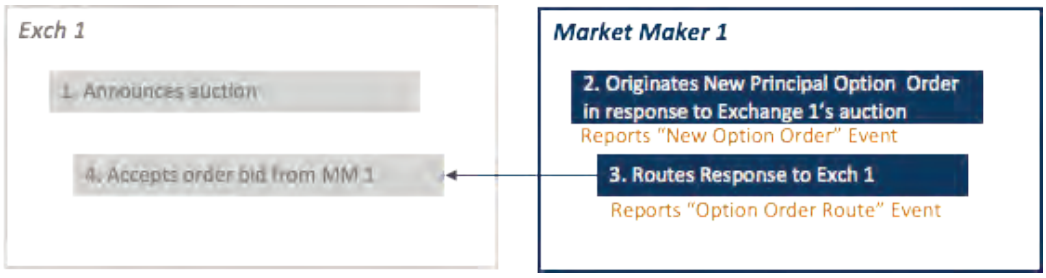
- The receipt of the customer order (New Option Order event)
- The route of the un-paired quantity of the single leg order to an exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends option order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 8.5 quantity: 100 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG firmDesignatedID: CUS458 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	The *nextUnlinked* field must **not** be populated, as part of the order is still being worked as single leg orders that are eligible for linkage.
3	Broker 1 solicits Broker 2 to take other side of order	*NA*	

#	Step	Reported Event	Comments
4	Broker 2 agrees to 60 contracts	*NA*	
5	Broker 1 creates a paired option order for 60 contracts	*NA*	Paired option orders are not reportable until Phase 2d
6	Broker 1 routes the paired option order to the exchange	*NA*	Paired option orders are not reportable until Phase 2d
7	Exchange 1 accepts the paired option order from Broker 1	*Exchange 1 reports two Participant* ***Simple Option Order Accepted events***	
8	Broker 1 routes a single leg option order to the exchange	*Broker 1 reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133032.1234 senderIMID: 123:BROKER1 destination: EXCH2 destinationType: E routedOrderID: RT7171 session: s9 side: B price: 8.5 quantity: 40 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG exchOriginCode: C affiliateFlag: false openCloseIndicator: Open	
9	Exchange 2 accepts the single leg order from Broker 1	*Exchange 2 reports a Participant* ***Single Option Order Accepted event***	

3.8.2. Response to an Exchange Auction

This scenario illustrates the CAT reporting requirements when an Industry Member originates a proprietary option order in response to an Exchange Auction of a simple option or paired order of simple options. Refer to CAT FAQ K3 for additional information.



Industry Member Market Maker 1 is required to report:

- The origination of the proprietary order (New Option Order event)
- The response to the exchange auction (Option Order Route event)

The Industry Member is required to report the auction details in the *handlingInstructions* field using the name/value pair 'AucResp', which must be paired with the AuctionID value.

#	Step	Reported Event	Comments
1	Exchange 1 announces auction	*NA*	
2	Market Maker 1 originates a prop option order in response to the auction	*Market Maker 1 reports a **New Option Order Event*** type: MONO orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: T side: B price: 5 quantity: 10 orderType: LMT timeInForce: IOC tradingSession: REG handlingInstructions: AucResp=1a95|FOK firmDesignatedID: P999 accountHolderType: P affiliateFlag: false openCloseIndicator: Open representativeInd: N	Orders originated in response to an auction must have the *handlingInstructions* field populated with a value of 'AucResp', which is a Name/Value pair requiring the Auction ID value.
3	Market Maker 1 routes response to Exchange 1	*Market Maker 1 reports an **Option Order Route event*** type: MOOR	In phase 2c, since the values in the *handlingInstructions* field have not changed from the New Order to the Order Route, MMFIRM1 may populate "RAR" in the

#	Step	Reported Event	Comments
		orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1834 senderIMID: 123:MMFIRM1 destination: EXCH1 destinationType: E routedOrderID: RTBID01 session: s12 side: B price: 5 quantity: 10 orderType: LMT timeInForce: IOC tradingSession: REG handlingInstructions: affiliateFlag: false exchOriginCode: M openCloseIndicator: Open	*handlingInstructions* field indicating the order was "routed as received". Alternatively, firms have the option to re-state all *handlingInstructions* values.
4	Exchange 1 accepts the order bid from Market Maker 1	*Exchange 1 reports a Participant* ***Simple Option Order Accepted event***	

4. Error Account Scenarios

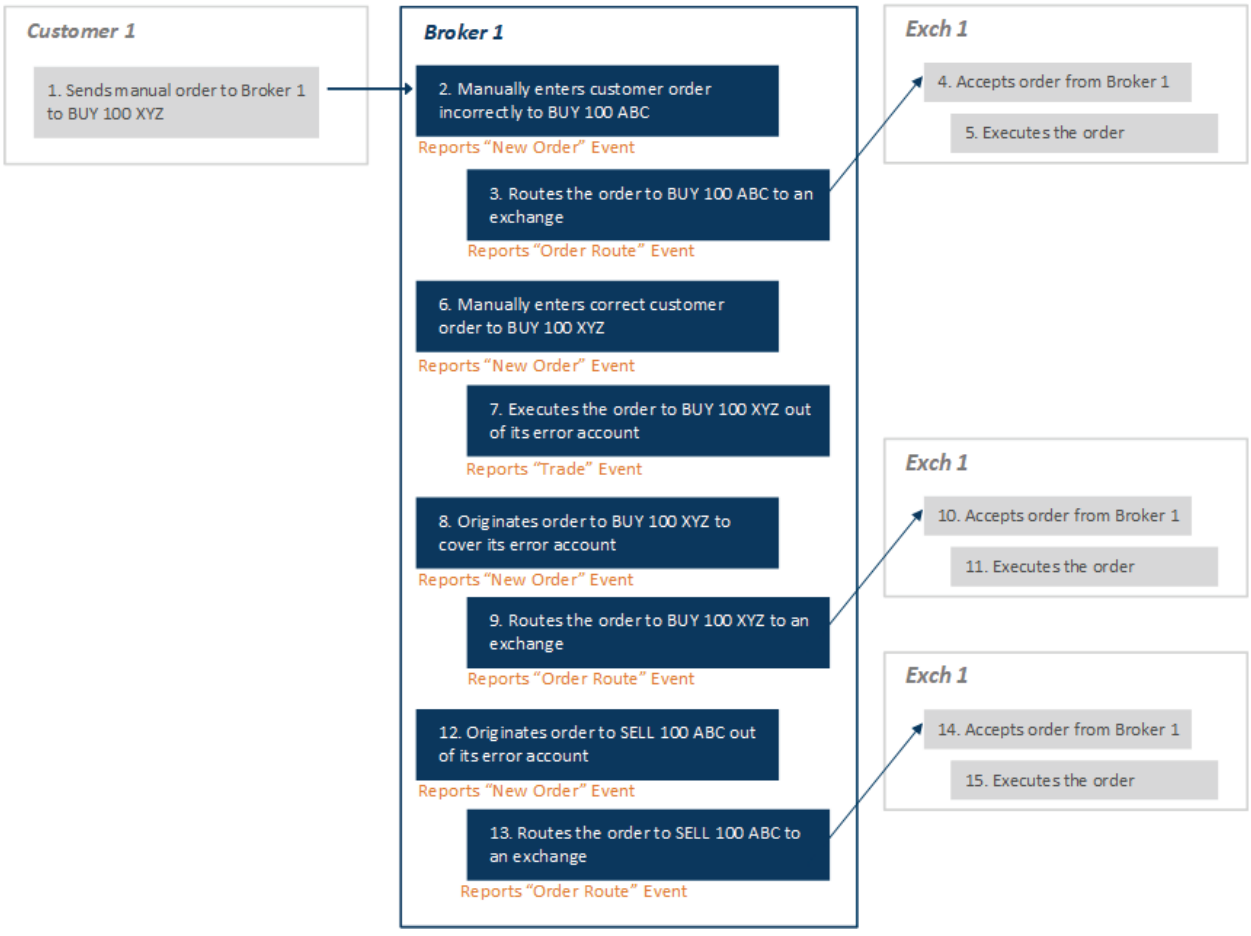
This section illustrates reporting requirements for reporting bona fide errors and activity occurring in an error account. These scenarios are applicable to equivalent equities and options order flows.

4.1.1. Industry Member Purchases the Wrong Security for a Customer/Client in Error

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer/client order and purchases the wrong security in error. In this scenario, the customer/client places an order to buy 100 shares of XYZ over the phone, and in error, the Industry Member enters an order to buy 100 shares of ABC.

Once the Industry Member realizes the error, it moves 100 shares of ABC from the customer's/client's account to its error account, and executes the customer/client order for 100 shares of XYZ out of its error account at the price the stock was trading when the customer/client originally placed the order.

The Industry Member then purchases 100 shares of XYZ on an exchange for its error account to cover the shares sold to the customer/client, and sells the 100 shares of ABC purchased in error on an exchange from its error account.



When the firm places an order in error for symbol ABC, Industry Member Broker 1 is required to report:

- The entry of the customer/client order to buy the wrong security ABC (New Order event)
- The route of the order to buy ABC to an exchange (Order Route event)

When the firm realizes and corrects the error, Industry Member Broker 1 is required to report:

- The entry of the customer/client order to buy the correct security XYZ (New Order event)
- The fill of the customer/client order for symbol XYZ from the firm's error account (Trade event)

- The origination of an order to buy XYZ to cover the firm's error account (New Order event)
- The route of the buy order for XYZ to an exchange (Order Route event)

- The origination of an order to sell the shares of ABC purchased in error (New Order event)
- The route of the sell order for ABC to an exchange (Order Route event)

The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.

#	Step	Reported Event	Comments
1	Customer/client manually routes an order to Broker 1 to buy 100 shares of XYZ		
2	Broker 1 enters an order to buy the wrong security	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: ABC1234 symbol: ABC eventTimestamp: 20180501T153035.634456 manualFlag: true electronicTimestamp: 20180501T153035.634456 deptType: T side: B price: 9.99 quantity: 100 orderType: LMT	

#	Step	Reported Event	Comments
		timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order in the incorrect security to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: ABC1234 symbol: ABC eventTimestamp: 20180501T153036.634456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
5	Exch 1 executes the order	*Exch 1 reports a Participant **Trade event***	
6	Broker 1 realizes the error and moves the shares of ABC to its error account	*NA*	The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.
7	Broker 1 reports the receipt of the correct customer/client order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ1234	

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: true electronicTimestamp: 20180501T153038.634456 deptType: T side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
8	Broker 1 satisfies the original customer/client order at the price that XYZ was trading when the customer/client originally placed the order	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180501T153038.634456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 100 price: 9.99 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180501T000000 orderID: XYZ1234 side: B sellDetails: side: SL firmDesignatedID: ERR123 accountHolderType: X	The *buyDetails* reflect the details of customer/client order XYZ1234. The *sellDetails* reflect the FDID of the firm's error account.
9	Broker 1 originates a Buy order for symbol	*Broker 1 reports a **New Order event***	

#	Step	Reported Event	Comments
	XYZ to cover its error account	type: MENO orderKeyDate: 20180501T000000 orderID: XYZ5678 symbol: XYZ eventTimestamp: 20180501T153039.134456 manualFlag: false deptType: T side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: ERR123 accountHolderType: X affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
10	Broker 1 routes the Buy order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: XYZ5678 symbol: XYZ eventTimestamp: 20180501T153039.134456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	
11	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
12	Exch 1 executes the	*Exch 1 reports a Participant **Trade***	

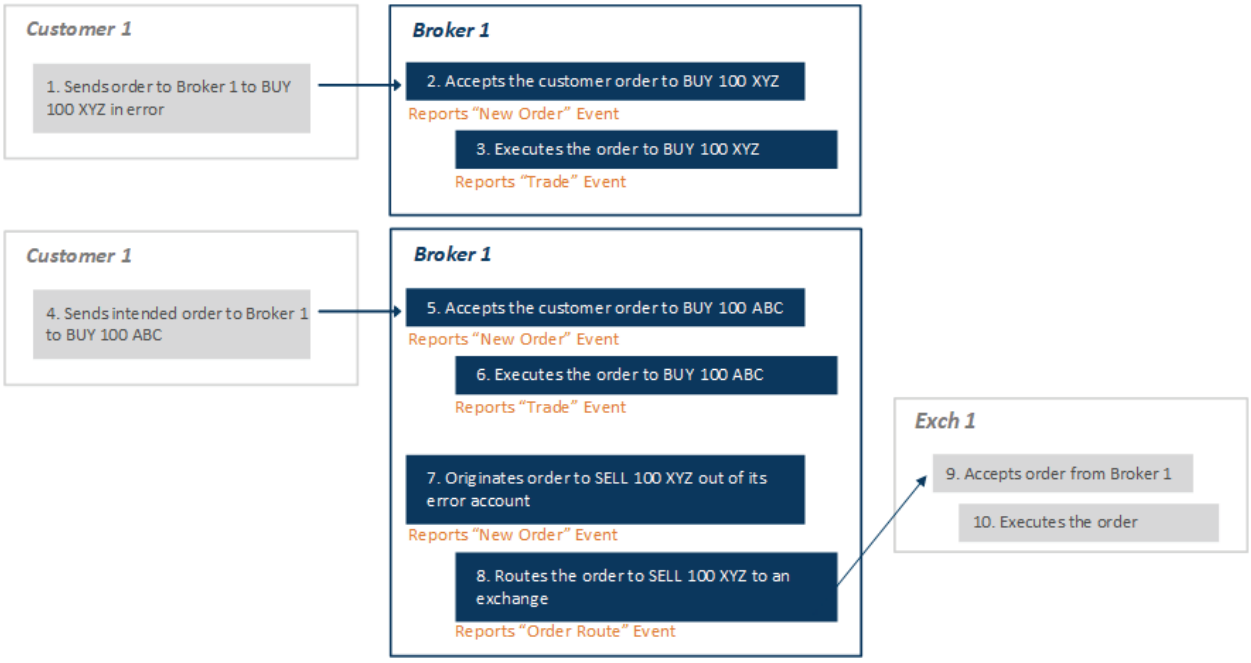
#	Step	Reported Event	Comments
	order	***event***	
13	Broker 1 originates an order in symbol ABC to sell the shares purchased in error.	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: ABC5678 symbol: ABC eventTimestamp: 20180501T153039.634456 manualFlag: false deptType: T side: SL price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: ERR123 accountHolderType: X affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
14	Broker 1 routes the Sell order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: XYZ5678 symbol: XYZ eventTimestamp: 20180501T153039.134456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO124 session: s5 side: SL price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
15	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant* ***Order Accepted event***	
16	Exch 1 executes the order	*Exch 1 reports a Participant* ***Trade event***	

4.1.2. Customer/Client Places an Order in Error and the Industry Member Elects to Correct the Error as an Accommodation to the Customer/Client

This scenario illustrates the CAT reporting requirements when a customer/client places an order to purchase the wrong security, and the Industry Member elects to correct the error as an accommodation to the customer/client. In this scenario, the customer/client places on order to buy 100 shares of XYZ, which is immediately executed by the Industry Member.

The customer/client then informs the Industry Member that they intended to buy 100 shares of ABC, and the Industry Member agrees to correct the error as an accommodation to the customer/client. The Industry Member executes the customer/client order for 100 shares of ABC from a proprietary account, and takes the 100 shares of XYZ from the customer/client account into its error account. The Industry Member then sells 100 shares of XYZ from its error account on an exchange.



For symbol XYZ, Industry Member Broker 1 is required to report:

- The receipt of the customer/client buy order placed in error (New Order event)
- The execution of the customer/client buy order from a proprietary account (Trade event)

- The origination of an order to sell the shares out of the error account (New Order event)
- The route of the sell order to an exchange (Order Route event)

For symbol ABC, Industry Member Broker 1 is required to report:

- The receipt of the customer/client buy order in the correct security (New Order event)
- The execution of the customer/client buy order from a proprietary account (Trade event)

The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.

#	Step	Reported Event	Comments
1	Customer/client routes an order to Broker 1 to buy 100 shares of XYZ		
2	Broker 1 accepts the customer/client order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: false deptType: T side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 executes the customer/client order	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180501T153035.634456	The *buyDetails* reflect the details of customer/client order XYZ1234. The *sellDetails* reflect the FDID of the firm's proprietary account.

#	Step	Reported Event	Comments
		manualFlag: false cancelFlag: false cancelTimestamp: quantity: 100 price: 9.99 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180416T000000 orderID: XYZ1234 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	
4	The customer/client informs Broker 1 of the error. Broker 1 takes the shares of XYZ into its error account	*NA*	The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.
5	Broker 1 accepts the customer/client order for symbol ABC	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: ABC1234 symbol: ABC eventTimestamp: 20180501T153037.634456 manualFlag: false deptType: T side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
6	Broker 1 executes the	*Broker 1 reports a **Trade event***	The *buyDetails* reflect the details of

#	Step	Reported Event	Comments
	customer/client order	type: MEOT tradeKeyDate: 20180501T000000 tradeID: TABC555 symbol: ABC eventTimestamp: 20180501T153037.634456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 100 price: 9.99 capacity: P tapeTradeID: TRF124 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180416T000000 orderID: ABC1234 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	customer/client order ABC1234. The *sellDetails* reflect the FDID of the firm's proprietary account.
7	Broker 1 sells the shares of XYZ acquired from the customer	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ5678 symbol: XYZ eventTimestamp: 20180501T153038.634456 manualFlag: false deptType: T side: SL price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: ERR001 accountHolderType: X affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
8	Broker 1 routes the Sell order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: XYZ5678 symbol: XYZ eventTimestamp: 20180501T153038.634456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: SL price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	
9	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
10	Exch 1 executes the order	*Exch 1 reports a Participant **Trade event***	

4.1.3. Price Adjustment Through the Execution of a New Trade

This scenario illustrates the CAT reporting requirements when an Industry Member makes a price adjustment to a customer/client order by executing a new trade with the customer as principal. In this scenario, Industry Member Broker 1 receives a customer/client order to buy 1,000 shares of XYZ, and routes the order to Industry Member Broker 2 for execution at a price of 10.00 per share.

Industry Member Broker 1 determines that the customer/client should have received a price of 9.98 per share, and moves the 1,000 shares of XYZ executed at a price of 10.00 per share from the customer account to its error account. To effect the price adjustment to the customer, Industry Member Broker 1 sells the shares, as Principal, to the customer at 9.98 per share.

Industry Member Broker 1 is required to report:

- The receipt of the customer/client order (New Order event)
- The route of the order to Broker 2 (Order Route event)
- The execution of the order from the firm's error account at a price of 9.98 (Trade event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order at a price of 10.00 (Trade event)

The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.

#	Step	Reported Event	Comments
1	Customer/client routes an order to Broker 1 to Buy 1,000 shares of XYZ @9.98		
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: false deptType: T side: B price: 9.98 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false	

#	Step	Reported Event	Comments
		firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153036.634456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: AO123 session: side: B price: 10.00 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an ***Order Accepted event*** type: MEOA orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153036.634456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: AO123 affiliateFlag: false deptType: A side: B price: 10.00	

#	Step	Reported Event	Comments
		quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 2 executes the trade @10.00	*Broker 2 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180501T153038.634456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1,000 price: 10.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180416T000000 orderID: O34567 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	The *buyDetails* reflect the details of Broker 1's order O34567. The *sellDetails* reflect the FDID of Broker 2's prop account.
6	Broker 1 realizes the error and moves the shares of XYZ executed @10.00 to its error account	*NA*	The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.
7	Broker 1 executes the customer/client order from its error account @9.98	*Broker 1 reports a **Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TXYZ557 symbol: XYZ eventTimestamp: 20180501T153038.634456 manualFlag: false	

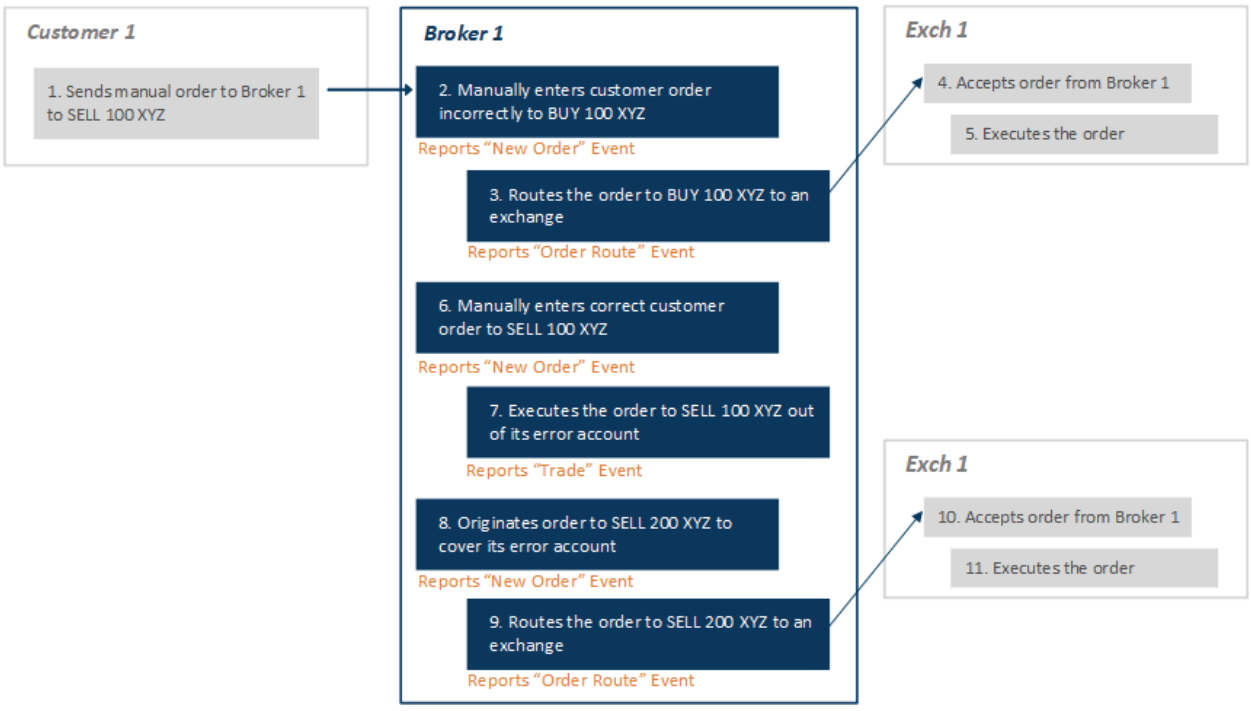
#	Step	Reported Event	Comments
		cancelFlag: false cancelTimestamp: quantity: 1,000 price: 9.98 capacity: P tapeTradeID: TRF127 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180416T000000 orderID: XYZ1234 side: B sellDetails: side: SL firmDesignatedID: ERR123 accountHolderType: X	

4.1.4. Industry Member Enters the Incorrect Side on a Customer/Client Order in Error

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer/client order and enters the incorrect side in error. In this scenario, the customer/client places an order to sell 100 shares of XYZ over the phone, and in error, the Industry Member enters an order to buy 100 shares of XYZ. The order is routed to an exchange for execution.

Once the Industry Member realizes the error, it moves the 100 shares of XYZ purchased in error from the customer's/client's account to its error account, and executes the customer/client order to sell 100 shares of XYZ out of its error account at the price the stock was trading when the customer/client originally placed the order.

The Industry Member then sells 200 shares of XYZ on an exchange for its error account to cover the shares acquired from the customer/client.



When the firm places an order in error to buy symbol XYZ, Industry Member Broker 1 is required to report:

- The entry of the customer/client order to buy the security in error (New Order event)
- The route of the buy order to an exchange (Order Route event)

When the firm realizes and corrects the error, Industry Member Broker 1 is required to report:

- The entry of the correct customer/client order to sell the security (New Order event)
- The fill of the customer/client order to sell XYZ from the firm's error account (Trade event)

- The origination of an order to sell the shares of XYZ acquired from the customer (New Order event)
- The route of the sell order to an exchange (Order Route event)

The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.

#	Step	Reported Event	Comments
1	Customer/client routes an order to Broker 1 to sell 100 shares of XYZ		

#	Step	Reported Event	Comments
2	Broker 1 enters an order to buy the security in error	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: true electronicTimestamp: 20180501T153035.634456 deptType: T side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the buy order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153036.634456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
4	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant* ***Order Accepted event***	
5	Exch 1 executes the order	*Exch 1 reports a Participant* ***Trade event***	
6	Broker 1 realizes the error and moves the 100 shares of XYZ to its error account	*NA*	The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.
7	Broker 1 reports the receipt of the correct customer/client sell order	*Broker 1 reports a* ***New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ1235 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: true electronicTimestamp: 20180501T153038.634456 deptType: T side: SL price: 9.99 quantity: 100 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
8	Broker 1 satisfies the original customer/client sell order at the price that XYZ was trading when the customer/client originally placed the order	*Broker 1 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180501T153038.634456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 100 price: 9.99 capacity: P	The *sellDetails* reflect the details of customer/client order XYZ1235. The *buyDetails* reflect the FDID of the firm's error account.

#	Step	Reported Event	Comments
		tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: side: B firmDesignatedID: ERR123 accountHolderType: X sellDetails: orderKeyDate: 20180501T000000 orderID: XYZ1235 side: SL	
9	Broker 1 originates an order to sell the shares acquired from the customer in its error account	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ5678 symbol: XYZ eventTimestamp: 20180501T153039.134456 manualFlag: false deptType: T side: SL price: 9.99 quantity: 200 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: ERR123 accountHolderType: X affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
10	Broker 1 routes the sell order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: XYZ5678 symbol: XYZ eventTimestamp: 20180501T153039.134456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E	

#	Step	Reported Event	Comments
		routedOrderID: AO124 session: s5 side: SL price: 9.99 quantity: 200 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	
11	Exch 1 accepts the proprietary order from Broker 1	*Exch 1 reports a Participant **Order Accepted event***	
12	Exch 1 executes the order	*Exch 1 reports a Participant **Trade event***	

4.1.5. Industry Member Does Not Enter a Customer Order Until T+1

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer/client order and does not enter the customer order until T+1. In this scenario, the customer/client places an order to buy 100 shares of XYZ over the phone, and in error, the Industry Member enters the order on T+1. The order is routed to an exchange for execution.

Once the Industry Member realizes that the customer is due a price adjustment, it moves the 100 shares of XYZ from the customer's/client's account to its error account, and executes the customer/client order out of its error account at the price the stock was trading when the customer/client originally placed the order.

Industry Member Broker 1 is required to report:

- The receipt of the customer/client order (New Order event)
- The route of the order to the exchange (Order Route event)

- The execution of the order from the firm's error account at a price of 9.98 (Trade event)

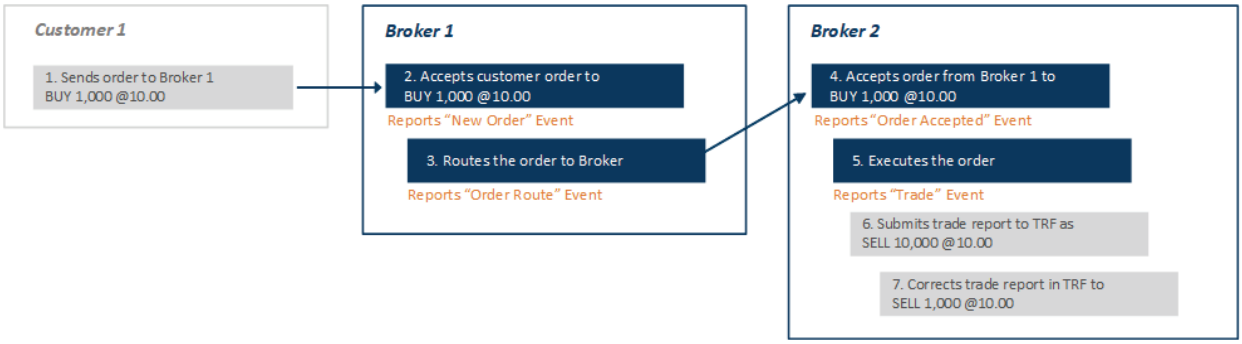
The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.

#	Step	Reported Event	Comments
1	Customer/client manually routes an order to Broker 1		
2	Broker 1 accepts the customer order, but does not enter the order until T+1	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180502T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153035.634456 electronicTimestamp: 20180502T153035.634456 manualFlag: true deptType: T side: B price: 9.98 quantity: 100 orderType: LMT timeInForce: DAY=20180502 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to an exchange	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180502T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180502T153036.634456 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s1 side: B	

#	Step	Reported Event	Comments
		price: 10.00 quantity: 100 orderType: LMT timeInForce: DAY=20180502 tradingSession: REG affiliateFlag: false isoInd: NA	
4	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant* ***Order Accepted event***	
5	Exch 1 executes the order	*Exch 1 reports a Participant* ***Trade event***	
6	Broker 1 realizes that a price adjustment is needed and moves the 100 shares of XYZ to its error account	*NA*	The movement of the shares from the customer/client account to the error account is not reportable to CAT, as internal security movements and journal entries are not reportable to CAT.
7	Broker 1 executes the customer/client order from its error account @9.98	*Broker 1 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180502T000000 tradeID: TXYZ557 symbol: XYZ eventTimestamp: 20180502T153038.634456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 100 price: 9.98 capacity: P tapeTradeID: TRF127 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180502T000000 orderID: XYZ1234 side: B sellDetails: side: SL firmDesignatedID: ERR123 accountHolderType: X	The *buyDetails* reflect the details of customer/client order XYZ1234. The *sellDetails* reflect the FDID of the firm's error account.

4.1.6. Correction of a Trade Incorrectly Reported to a TRF/ADF/ORF

This scenario illustrates the CAT reporting requirements when an Industry Member makes a correction to a trade that was submitted to a TRF/ADF/ORF. In this scenario, Industry Member Broker 1 receives an order for 1,000 shares of XYZ at a price of 10.00 per share, and routes the order to Broker 2. Broker 2 executes the order at a price of 10.00 per share and reports the trade to the TRF, but incorrectly reports the trade as a sale of 10,000 shares at a price of 10.00. Broker 2 determines that the trade should have been reported with a quantity of 1,000 shares, and corrects the TRF report to reflect the correct shares quantity.



Industry Member Broker 1 is required to report:

- The receipt of an order for 1,000 shares (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order for 1,000 shares from Broker 1 (Order Accepted event)
- The execution of the order for 1,000 shares at a price of 10.00 (Trade event linking to the initially reported TRF report with a shares quantity of 10,000)

In its Trade event, Broker 2 should populate the *tapeTradeID* linking to the initially reported TRF report with an incorrect shares quantity of 10,000. In this scenario, Broker 2 is not required to submit any CAT reports reflecting the correction made in the TRF.

If the CAT Trade event was also submitted with an incorrect quantity of 10,000 shares, Broker 2 would be required to submit a correction to CAT correcting the quantity on the Trade event. Refer to Section 7.6 of the CAT Reporting Technical Specifications for Industry Members for instructions on submitting corrections to previously accepted CAT Events.

#	Step	Reported Event	Comments
1	Customer/client routes an order to Broker 1 to		

#	Step	Reported Event	Comments
	Buy 1,000 shares of XYZ @10.00		
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180501T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: false deptType: T side: B price: 10.00 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST001 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	*Broker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180501T000000 orderID: XYZ1234 symbol: XYZ eventTimestamp: 20180501T153036.634456 manualFlag: false senderIMID: 123:FRMA destination: 456:FRMB destinationType: F routedOrderID: AO123 session: side: B price: 10.00 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG affiliateFlag: false isoInd: NA	

#	Step	Reported Event	Comments
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an ***Order Accepted event*** type: MEOA orderKeyDate: 20180501T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153036.634456 manualFlag: false receiverIMID: 456:FRMB senderIMID: 123:FRMA senderType: F routedOrderID: AO123 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 1,000 orderType: LMT timeInForce: DAY=20180501 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 2 executes the trade @10.00	*Broker 2 reports a* ***Trade event*** type: MEOT tradeKeyDate: 20180501T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180501T153038.634456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1,000 price: 10.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180501T000000 orderID: O34567 side: B sellDetails:	In its Trade event, Broker 2 should populate the *tapeTradeID* field linking to the initially submitted trade report with the incorrect quantity of 10,000

#	Step	Reported Event	Comments
		side: SL firmDesignatedID: PROP123 accountHolderType: P	
6	Broker 2 submits the trade to the TRF with an incorrect quantity of 10,000	*NA*	
7	Broker 2 corrects the TRF report to the correct quantity of 1,000	*NA*	

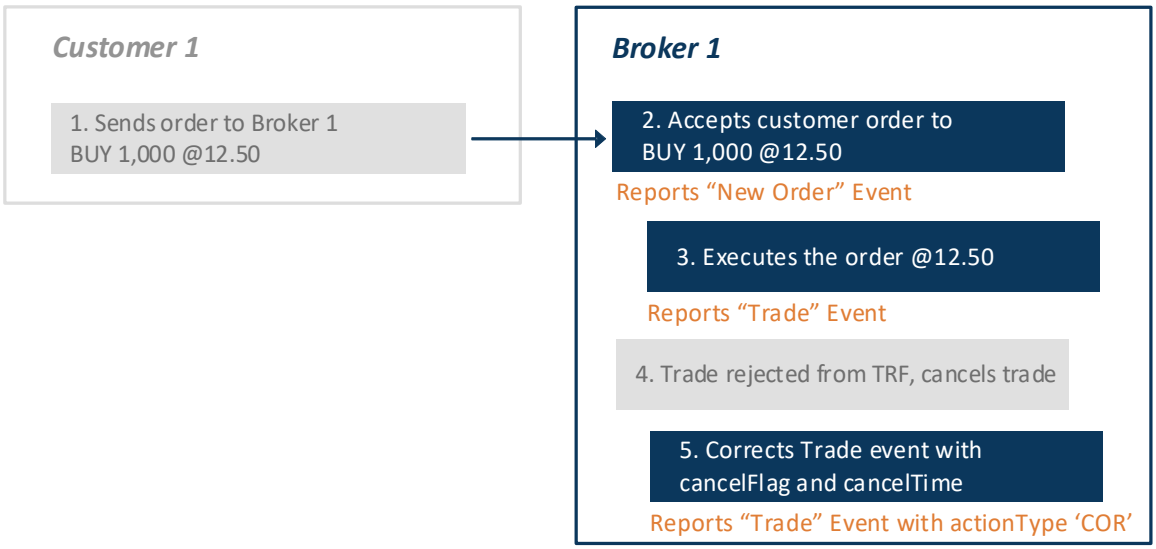
4.1.7. Trade is Cancelled after TRF Rejection due to 'Price out of Range'

This scenario illustrates the CAT reporting requirements when an Industry Member cancels a trade after receiving a TRF Rejection due to 'Price out of Range'. This is an edge case scenario and does not frequently occur.

In this scenario, an Industry Member receives an order to buy 1,000 shares of XYZ and executes the shares from a proprietary account at a price of 12.50. The Industry Member submits a media trade report to the TRF, but the trade report is rejected due to 'Price out of Range'. Instead of repairing the media trade report and resubmitting to the TRF, the Industry Member determines to cancel the trade.

For CAT reporting, the *cancelFlag* and *cancelTimestamp* fields are only required in a Trade event in instances where cancel information is not captured in the TRF. Since the media trade report was not repaired, the cancel information was therefore not captured in the TRF, and the Industry Member is required to populate the *cancelFlag* and *cancelTimestamp* fields in its CAT Trade event reflecting the time the Industry Member cancelled the trade.

This scenario illustrates the requirement that if the Industry Member is unable to populate the *cancelFlag* and *cancelTimestamp* fields in its initial Trade event submission to CAT, and must submit a 'COR' event to capture these fields.



Industry Member Broker 1 is required to report:

- The receipt of the customer/client order (New Order event)
- The execution of the customer/client order (Order Trade event)
- The correction of the Trade event reflecting the addition of the *cancelFlag* and *cancelTimestamp* fields (Trade event with *actionType* 'COR')

Broker 1 may alternatively choose to combine the trade and cancel information into one MEOT event with the *cancelFlag* set to 'true' and the *cancelTimestamp* field populated if it is able to do so.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer order	*Broker 1 reports a* ***New Order event*** actionType: NEW firmROEID: 20180417_ M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false cancelFlag: false cancelTimestamp: deptType: T side: B price: 12.50	

#	Step	Reported Event	Comments
		quantity: 1000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 executes the customer order	*Broker 1 reports a **Trade event*** actionType: NEW firmROEID: 20180417_ M12370 CATReporterIMID: BRK1 type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180417T153035.634456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 1000 price: 12.50 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O11111 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	
4	Broker 1 cancels the trade because it was rejected in the TRF due to price out of range	*NA*	
5	Broker 1 corrects its Trade event to reflect the *cancelFlag* and	*Broker 1 reports a **Trade event*** actionType: COR	Broker 1 may alternatively choose to combine the trade and cancel information into one MEOT event

#	Step	Reported Event	Comments
	cancelTimestamp values	firmROEID: 20180417_ M12370 CATReporterIMID: BRK1 type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180417T153035.634456 manualFlag: false cancelFlag: true cancelTimestamp: 20180417T153050.634456 quantity: 1000 price: 12.50 capacity: P tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O11111 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	with the *cancelFlag* set to 'true' and the *cancelTimestamp* field populated if it is able to do so.

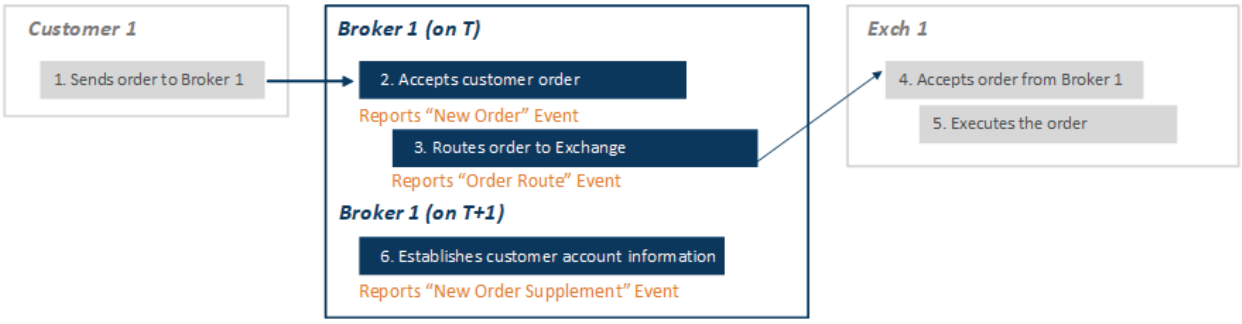
5. FDID Scenarios

This section illustrates reporting requirements when populating the *firmDesignatedID* field ("FDID"). These scenarios are applicable to equivalent equities and options order flows. Refer to Section 2.4.2 of the CAT Reporting Technical Specifications for Industry Members, along with Published FDID guidance and Section M of the CAT FAQs regarding FDIDs for additional information.

5.1.1. An Order is Received from a New Customer/Client and an Account Number is not Finalized Until a Later Date

This scenario illustrates the CAT reporting requirements when an Industry Member receives an order from a new customer/client for which an account number is not yet established, and does not become finalized until a later date.

In this scenario, the Industry Member must report the receipt of the customer/client order on T, and the FDID must be populated with a value of "PENDING", indicating that an account number for this customer/client is not yet established. Once the account number is established on T+1, the Industry Member must report a New Order Supplement event with the FDID of the newly established account.



Industry Member Broker 1 is required to report:

- The receipt of the customer/client order, indicating that an account number is not yet established (New Order event)
- The route of the customer/client order to the exchange (Order Route event)
- The FDID of the customer/client account after the account number has been finalized (New Order Supplement event)

In this scenario, the customer is an individual retail customer, which is reflected with an *accountHolderType* value of "I". However, the reporting requirements in this scenario are not limited to retail customers.

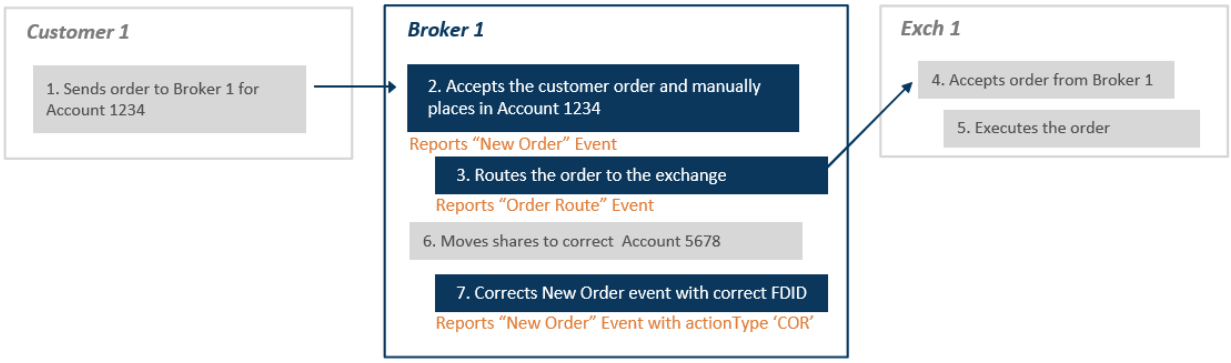
If an Industry Member is unable to submit a New Order Supplement event once the FDID becomes available, the Industry Member may report this activity by submitting a "COR" event reflecting the update in FDID. However, CAT will be unable to distinguish that the COR record is an update of a "PENDING" FDID value, and will categorize the event as a firm initiated error correction.

#	Step	Reported Event	Comments
1	Customer/client sends a Buy order to Broker 1	*NA*	
2	On T, Broker 1 accepts the customer/client order, and indicates that an account number has not yet been established	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: PENDING accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	Broker 1 must populate a value of "PENDING" in the FDID field to indicate that an account number is not yet established, and that the FDID will be reported in a New Order Supplement event once the account number has been established.
3	Broker 1 routes the order to exchange EXCH1	Broker 1 (IMID = FRMA) reports an ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false	

#	Step	Reported Event	Comments
		isoInd: NA handlingInstructions:	
4	The Exchange accepts the order from Broker 1	*EXCH1 reports a Participant* ***Order Accepted event***	
5	The Exchange executes the order	*EXCH1 reports a Participant* ***Trade event***	
6	On T+1, Broker 1 finalizes the account number and reports the FDID to CAT	*Broker 1 reports a* ***New Order Supplement event*** type: MENOS orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 aggregatedOrders: firmDesignatedID: CUST1234	Once an account number is established on T+1, Broker 1 reports the FDID to CAT in a New Order Supplement event. When reporting a New Order Supplement event to establish an FDID for an account, the *aggregatedOrders* field must not be populated. The *orderKeyDate* is the date and time that the Order Key for the related New Order event was generated, which is T. The *eventTimestamp* in the New Order Supplement event must match the *eventTimestamp* value reported on the New Order event.

5.1.2. Order is Entered in the Wrong Account

This scenario illustrates the CAT reporting requirements when an Industry Member places an order for a customer in the wrong account. In this scenario, the Industry Member receives a customer order and manually places the order for the incorrect customer account. The firm routes the order to an exchange for execution. The Industry Member reports the order to CAT with the FDID of the incorrect account. After the order is reported to CAT, the Industry Member realizes the error, and moves the shares to the correct account.



Industry Member Broker 1 is required to report:

- The receipt of the customer/client order with the FDID of the incorrect account (New Order event)
- The route of the customer/client order to the exchange (Order Route event)
- The correction of the FDID reported to CAT (New Order event with *actionType* 'COR')

Since the relevant events had already been reported to CAT, the Industry Member must correct the FDID by reporting a firm-initiated correction of the New Order event using an *actionType* of 'COR'. If the Industry Member had realized and corrected the error prior to submission, the Industry Member would be required to report the correct FDID in its New Order event.

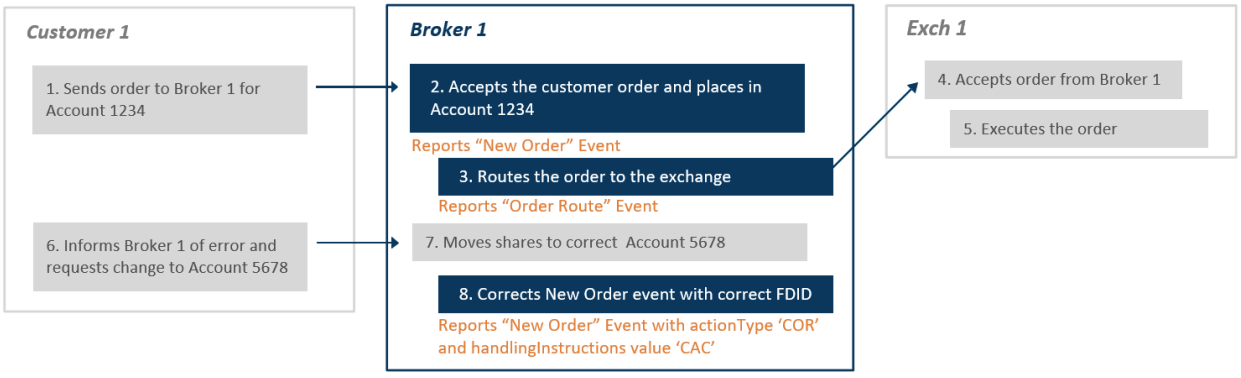
#	Step	Reported Event	Comments
1	Customer/client sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer/client order and places the order in the wrong account.	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180417_ M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.00 manualFlag: true electronicTimestamp: 20180417T153035.234456 deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to exchange EXCH1	*Broker 1 reports an **Order Route event*** actionType: NEW firmROEID: 20180417_ M12370 type: MEOR	

#	Step	Reported Event	Comments
		CATReporterIMID: BRK1 orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.634556 manualFlag: false senderIMID: 123:BRK1 destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant* ***Order Accepted event***	
5	Exch 1 executes the full quantity of the order	*Exch 1 reports a Participant* ***Trade event***	
6	Broker 1 moves shares to the correct account	*NA*	The movement of the shares to the correct account is not reportable as a separate CAT event, as internal security movements and journal entries are not reportable to CAT.
7	Broker 1 submits a correction using the *actionType* of 'COR' correcting the FDID.	*Broker 1 reports a* ***New Order event*** actionType: COR firmROEID: 20180417_ M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.00 manualFlag: true electronicTimestamp: 20180417T153035.234456 deptType: A side: B	Note that, if the Broker had realized the error before reporting the original MENO, then it could have provided the correct FDID in its MENO, and would not have to subsequently submit the corrected MENO event in this step.

#	Step	Reported Event	Comments
		price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST5678 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

5.1.3. Customer Requests a Change in FDID Prior to Allocation

This scenario illustrates the CAT reporting requirements when a customer requests a change in the account prior to allocation. In this scenario, the Industry Member receives a customer order with instructions to place the order in a specific account. The firm routes the order to an exchange for execution. The Industry Member reports the order to CAT with the FDID of the account instructed by the customer. After the order is reported to CAT, the customer realizes the incorrect account information was given, and the Industry Member moves the shares to the correct account as an accommodation to the customer.



Industry Member Broker 1 is required to report:

- The receipt of the customer/client order with the FDID of the account originally instructed by the customer (New Order event)
- The route of the customer/client order to the exchange (Order Route event)
- The correction of the FDID reported to CAT (New Order event with *actionType* 'COR' and *handlingInstructions* value 'CAC')

Since the relevant events had already been reported to CAT, the Industry Member must correct the FDID by reporting a firm-initiated correction of the New Order event using an *actionType* of 'COR'. The correction must contain a *handlingInstructions* value of 'CAC' to indicate that the account correction was initiated by the customer, and was not a firm error. If the Industry Member had processed the customer initiated account correction prior to submission, the Industry Member would be required to report the correct FDID in its New Order event.

#	Step	Reported Event	Comments
1	Customer/client sends a Buy order to Broker 1	*NA*	
2	Broker 1 accepts the customer/client order in Account 1234	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180417_ M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.00 manualFlag: true electronicTimestamp: 20180417T153035.234456 deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1234 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to exchange EXCH1	*Broker 1 reports an **Order Route event*** actionType: NEW firmROEID: 20180417_ M12370 type: MEOR CATReporterIMID: BRK1 orderKeyDate: 20180417T000000	

#	Step	Reported Event	Comments
		orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.634556 manualFlag: false senderIMID: 123:BRK1 destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
4	Exch 1 accepts the order from Broker 1	*Exch 1 reports a Participant* ***Order Accepted event***	
5	Exch 1 executes the full quantity of the order	*Exch 1 reports a Participant* ***Trade event***	
6	Customer requests account change and Broker 1 moves shares to Account 5678	*NA*	The movement of the shares to the correct account is not reportable as a separate CAT event, as internal security movements and journal entries are not reportable to CAT.
7	Broker 1 submits a correction using the *actionType* of 'COR' correcting the FDID.	*Broker 1 reports a* ***New Order event*** actionType: COR firmROEID: 20180417_ M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.00 manualFlag: true electronicTimestamp: 20180417T153035.234456 deptType: A side: B price: 10.00 quantity: 500	Since the account change was requested by the customer, the *handlingInstructions* field must be populated with a value of 'CAC' to indicate that the change in FDID was not a firm error, and was a customer request. Note that if the Broker was notified and could reflect the change before reporting the original MENO, then it could have provided the correct FDID in its MENO, and would not have to subsequently submit the corrected MENO event in this step.

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY=20180417 tradingSession: REG handlingInstructions: CAC custDspIntrFlag: false firmDesignatedID: CUST5678 accountHolderType: I affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

6. Error Correction Scenarios

This section illustrates reporting requirements when correcting an error in CAT. These scenarios are applicable to equivalent equities and options order flows. Refer to Section 7 of the CAT Reporting Technical Specifications for Industry Members and Section P of the CAT FAQs regarding Feedback and Error Corrections for additional information.

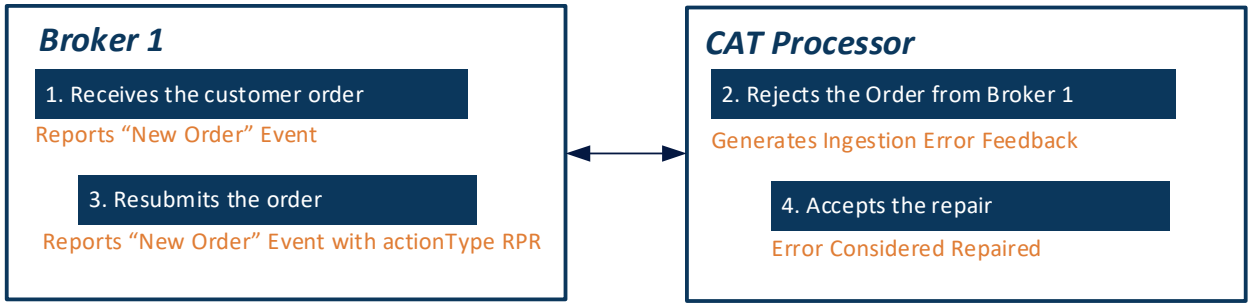
6.1. Correcting Ingestion Errors

6.1.1. Correcting an Error using Action Type of 'RPR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an error using the Action Type of 'RPR'.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is subsequently rejected.
- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member corrects the error and resubmits to CAT.



Note that in the example below, only a subset of fields relevant to corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order.	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	
2	Broker 1 receives feedback from the CAT Processor.	*Broker 1 receives feedback on the **New Order event***	Rejected with Error Code 2001 - Missing or Invalid *accountHolderType*

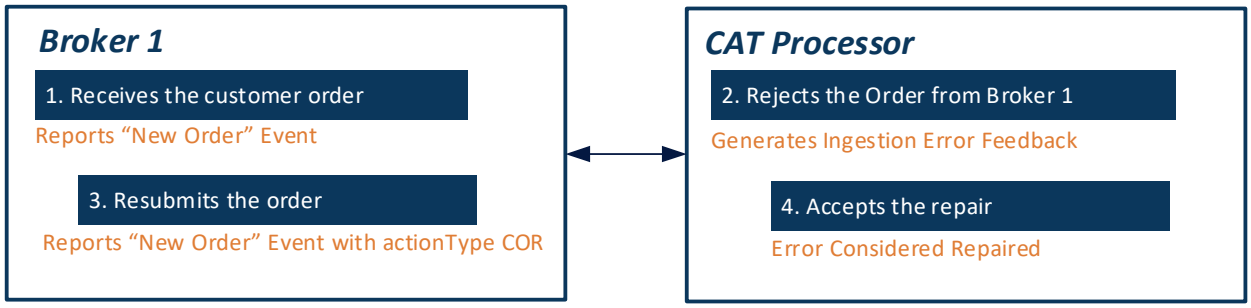
#	Step	Reported Event	Comments
		errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	
3	The Industry Member repairs the record using the Action Type of 'RPR' and resubmits.	*Broker 1 resubmits the **New Order event*** actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
4	CAT Processor accepts the repair.		The original error will be considered as repaired. The repaired event will be processed by CAT.

6.1.2. Correcting an Error using the Action Type of 'COR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an error using the Action Type of 'COR'.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is subsequently rejected.
- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member corrects the error and resubmits to CAT.



Note that in the example below, only a subset of fields relevant to corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	
2	Broker 1 receives feedback from the CAT Processor	*Broker 1 receives feedback on the **New Order event*** errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	Rejected with Error Code 2001 - Missing or Invalid *accountHolderType* Feedback includes *actionType* of RPR
3	The Industry Member repairs the record using the Action Type of 'COR' and resubmits.	*Broker 1 resubmits the **New Order event*** actionType: COR errorROEID: firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456	

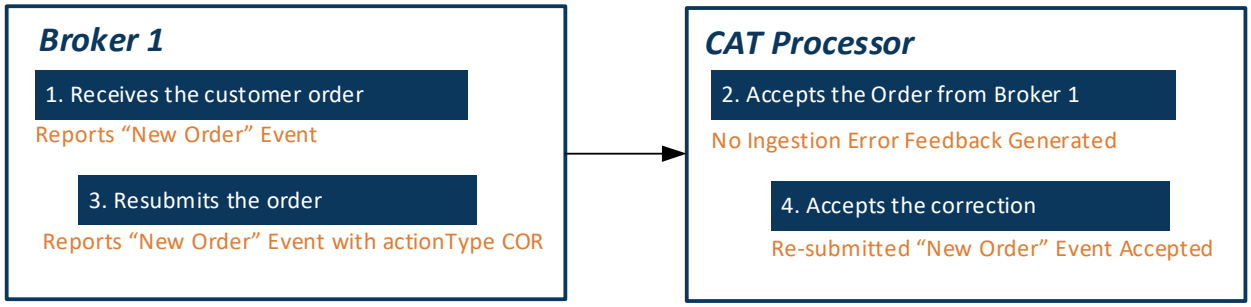
#	Step	Reported Event	Comments
		orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
4	CAT Processor accepts the repair.		The original error will be considered as repaired. The repaired event will be processed by CAT.

6.1.3. Firm Initiated Correction using Action Type of 'COR'

This scenario illustrates the firm initiated correction reporting requirements to CAT for an Industry Member that corrects an error using the Action Type of 'COR'.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is accepted.
- The Industry Member subsequently submits a correction to the *accountHolderType* field reported to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order.	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456	

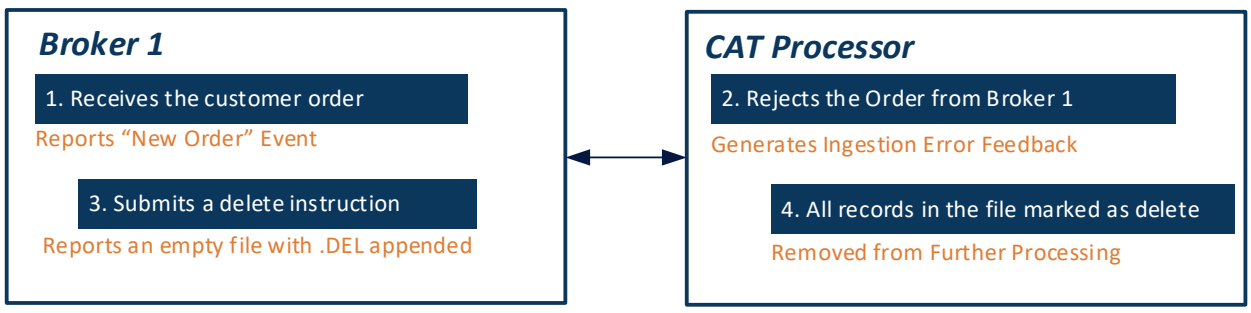
#	Step	Reported Event	Comments
		accountHolderType: P	
2	Broker 1 order is accepted.		
3	The Industry Member submits a correction using the Action Type of 'COR'.	*Broker 1 resubmits the **New Order event*** actionType: COR errorROEID: firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: A	
4	CAT Processor accepts the correction.		The corrected event will be processed by CAT.

6.1.4. File Deletion

This scenario illustrates the reporting requirements to CAT for an Industry Member that submits a delete file instruction. After the firm has received the File Acknowledgement feedback, the file deletion instruction may only be used for files with data representing an event date that is prior to 8 am on T+4. All events contained within the original file for which the file deletion instruction was received must have an Action Type of NEW.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is subsequently rejected.
- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member submits a delete file instruction to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B fileName: SUBID_BRK1_20180501_OrderEvents_000123.json.bz2	
2	Broker 1 receives feedback from the CAT Processor	*Broker 1 receives feedback on the **New Order event*** errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	Rejected with Error Code 2001 - Missing or Invalid *accountHolderType*
3	The Industry Member submits a delete file instruction	*Broker 1 submits an empty file with delete instruction on 20180503.* SUBID_BRK1_20180503_OrderEvents_000123.DEL.json.bz2	
4	CAT Processor marks all records in the file as deleted		All events included in the original file submission will be considered deleted. All associated errors will be considered as repaired.

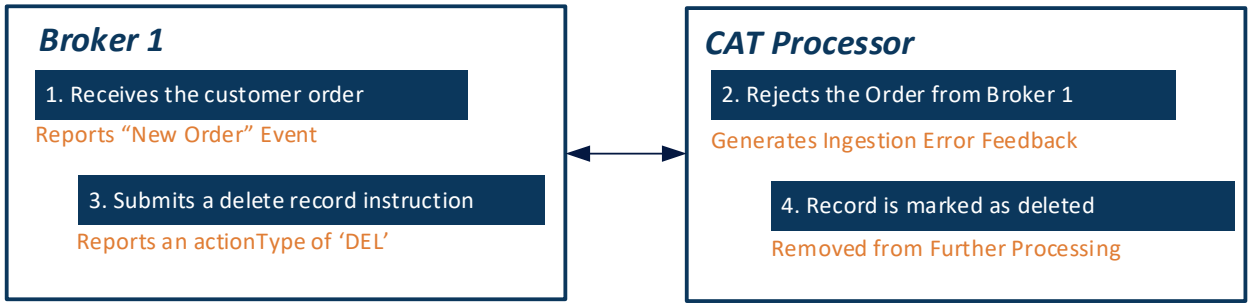
6.1.5. Deleting an Erroneous Record using Action Type of 'DEL'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that submits a record delete instruction.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is submitted and accepted.

- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member submits a delete record instruction to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	
2	Broker 1 receives feedback from the CAT Processor	*Broker 1 receives feedback on the **New Order event*** errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	Rejected with Error Code 2001 - Missing or Invalid *accountHolderType*
3	The Industry Member submits a delete record instruction	*Broker 1 submits a delete record instruction.* actionType: DEL errorROEID: 123456789 firmROEID:	

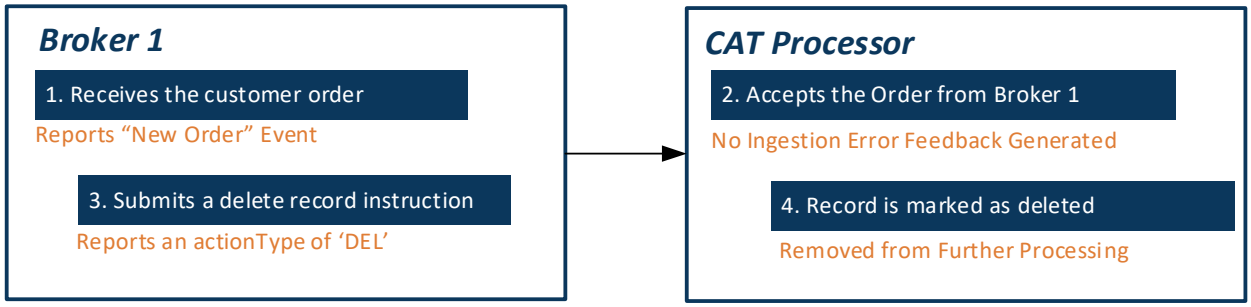
#	Step	Reported Event	Comments
4	CAT Processor marks the record as deleted		The original record will be considered as deleted. All associated errors will be considered as repaired.

6.1.6. Deleting a record with no Error Feedback using Action Type of 'DEL'

This scenario illustrates the follow-up reporting requirements to CAT for an Industry Member that submits a record delete instruction without receiving Error Feedback.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is accepted.
- The Industry Member submits a delete record instruction to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order	*Broker 1 reports a **New Order event*** actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
2	Broker 1 order is accepted.		
3	The Industry Member submits a delete record instruction.	*Broker 1 submits a delete record instruction.* actionType: DEL errorROEID:	

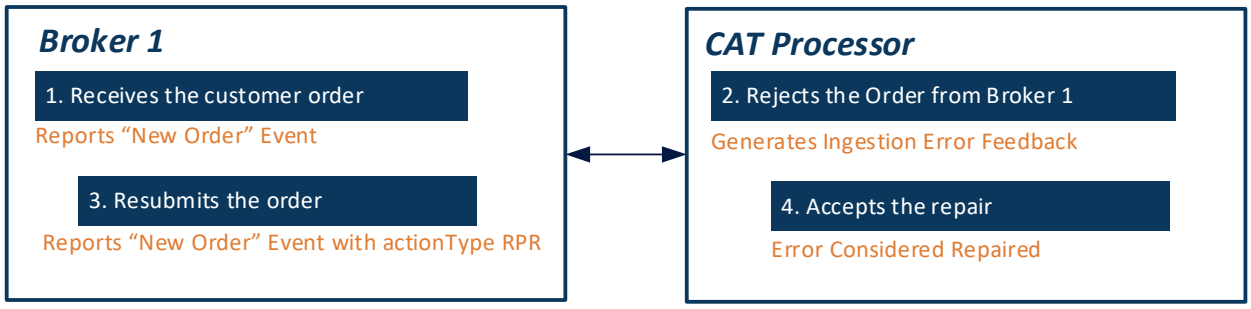
#	Step	Reported Event	Comments
		firmROEID: 20180501_M12360	
4	CAT Processor marks the record as deleted.		The original record will be considered as deleted. All associated errors will be considered as repaired.

6.1.7. Correcting an Unreadable Event using Action Type of 'RPR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an error using the Action Type of 'RPR' when the submitted record is unreadable by CAT.

For this scenario, the following steps occur:

- Industry Member submits a New Order that is subsequently rejected because it was malformed and could not be parsed.
- The CAT Processor provides the error feedback to the Industry Member including the Error Code.
- The Industry Member corrects the error and resubmits to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order	*Broker 1 reports an unreadable record.*	
2	Broker 1 receives feedback from the CAT Processor	*Broker 1 receives feedback*	Rejected with Error Code 2134 - Invalid JSON or CSV format The record cannot be parsed, hence the only fields that will be returned will be *errorCode*, *actionType* and *errorROEID.*
3	The Industry Member repairs the record using the Action Type of 'RPR' and resubmits.	*Broker 1 resubmits the* ***event*** actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360	

#	Step	Reported Event	Comments
		type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
4	CAT Processor accepts the repair.		The original error will be considered as repaired. The repaired event will be processed by CAT.

6.2. Correcting Linkage Discover Errors

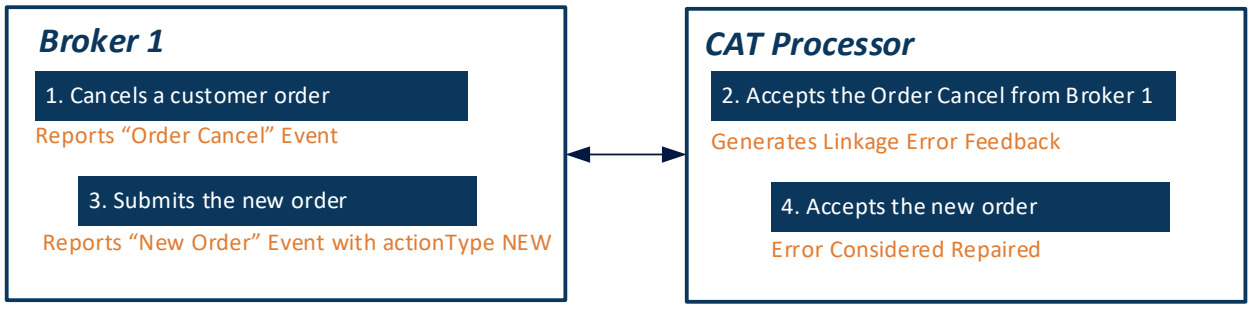
6.2.1. Correcting an Intrafirm Linkage Error using Action Type of 'NEW'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an intra-firm linkage error using the action type of 'NEW'. This scenario applies to error code 3501 when the originating event does not exist in CAT.

In such instances, the reporting of a 'RPR' or 'COR' is not applicable since the unlinked event must remain. The error is resolved by reporting the missing event.

For this scenario, Industry Member Broker 1 reported an Order Cancel event, without an associated origination event:

- Order Cancel event submitted by Broker 1 is unlinked due to Order Key not found.
- The CAT Processor provides the intra-firm linkage error feedback to the Industry Member.
- The Industry Member submits the missing event to the CAT Processor, which corrects the linkage error.



Note that in the example below, only a subset of fields relevant for corrections have been included.

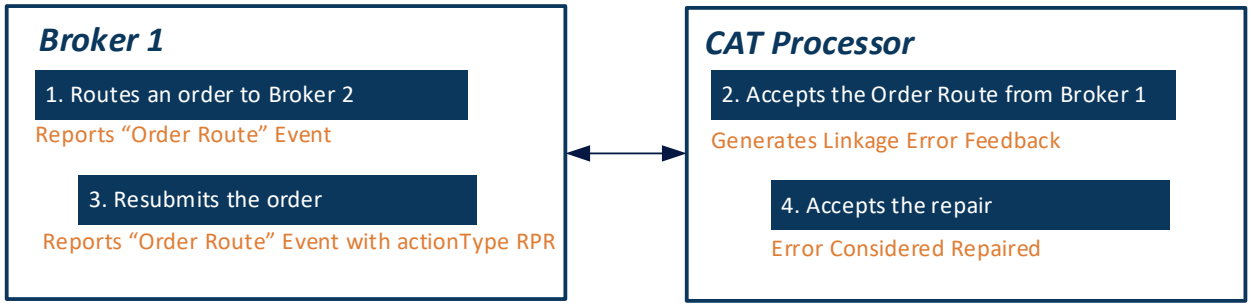
#	Step	Reported Event	Comments
1	Broker 1 reports an order cancel event	*Broker 1 reports an **Order Cancel event*** actionType: NEW firmROEID: 20180417_Q12360 type: MEOC CATReporterIMID:BRK1 orderKeyDate: 20180417T000000 eventTimestamp: 20180417T143035.323556 symbol: XYZ orderID: Z23456 cancelQty: 1000	
2	Broker 1 receives feedback from the CAT Processor.	*Broker 1 receives feedback on the **Order Cancel event*** errorCode: 3501 actionType: RPR errorROEID: 923451234 firmROEID: 20180417_Q12360 type: MEOC CATReporterIMID:BRK1 orderKeyDate: 20180417T000000 orderID: Z23456 symbol: XYZ cancelQty: 1000	Linkage Error Code 3501 - Secondary Event – Order Key, Trade Key, Quote Key or Fulfillment Key not found
3	The Industry Member repairs the unlink record using the Action Type of 'NEW'.	*Broker 1 submits the **New Order event*** actionType: NEW firmROEID: 20180417_Q12378 type: MENO CATReporterIMID:BRK1 orderKeyDate: 20180417T000000 orderID: Z23456 symbol: XYZ quantity: 1000	The late reported MENO event is NOT required to include the errorROEID or firmROEID of the associated linkage error.
5	CAT Processor accepts the unlink repair.		During processing, CAT will make the linkage and the original linkage error will be considered repaired.

6.2.2. Correcting an Interfirm Linkage Error using Action Type of 'RPR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an interfirm linkage error using the Action Type of 'RPR'.

For this scenario, the following events occur:

- Order Route event submitted by Broker 1 is unlinked because a matching *routedOrderID* cannot be found
- The CAT Processor provides the unlinked error feedback to the Industry Member.
- The Industry Member corrects the error and resubmits to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 routes order to Broker 2.	*Broker 1 reports an **Order Route event*** actionType: NEW firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: 123:FRMA destination: 456:FRMB orderID: O23456 routedOrderID: AO222	
2	Broker 1 receives feedback from the CAT Processor.	*Broker 1 receives feedback on the **Order Route event*** errorCode: 8003 actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: 123:FRMA destination: 456:FRMB orderID: O23456 routedOrderID: AO222	Linkage Error Code 8003 - Matching *routedOrderID* cannot be found.

#	Step	Reported Event	Comments
3	Broker 1 receives feedback from the CAT Processor.	*Broker 1 receives feedback as Named on the **Order Accept event*** errorCode: 9004 actionType: RPR firmROEID:20180417_Z12322 eventTimestamp: 20180417T153035.234556 symbol: XYZ receiverIMID: 456:FRMB senderIMID: 123:FRMA routedOrderID: AO223 quantity:100	Linkage Error Code 9004: Named - Matching *routedOrderID* cannot be found.
4	The Industry Member repairs the unlink record using the Action Type of 'RPR' and resubmits.	*Broker 1 resubmits the **Order Route event*** actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: 456:FRMA destination: 123:FRMB orderID: O23456 routedOrderID: AO223	The firm may also use actionType of 'COR' when re-submitting the Order Route event.
5	CAT Processor accepts the unlink repair.		During processing, CAT will make the linkage and BOTH of the original linkage errors will be considered repaired.

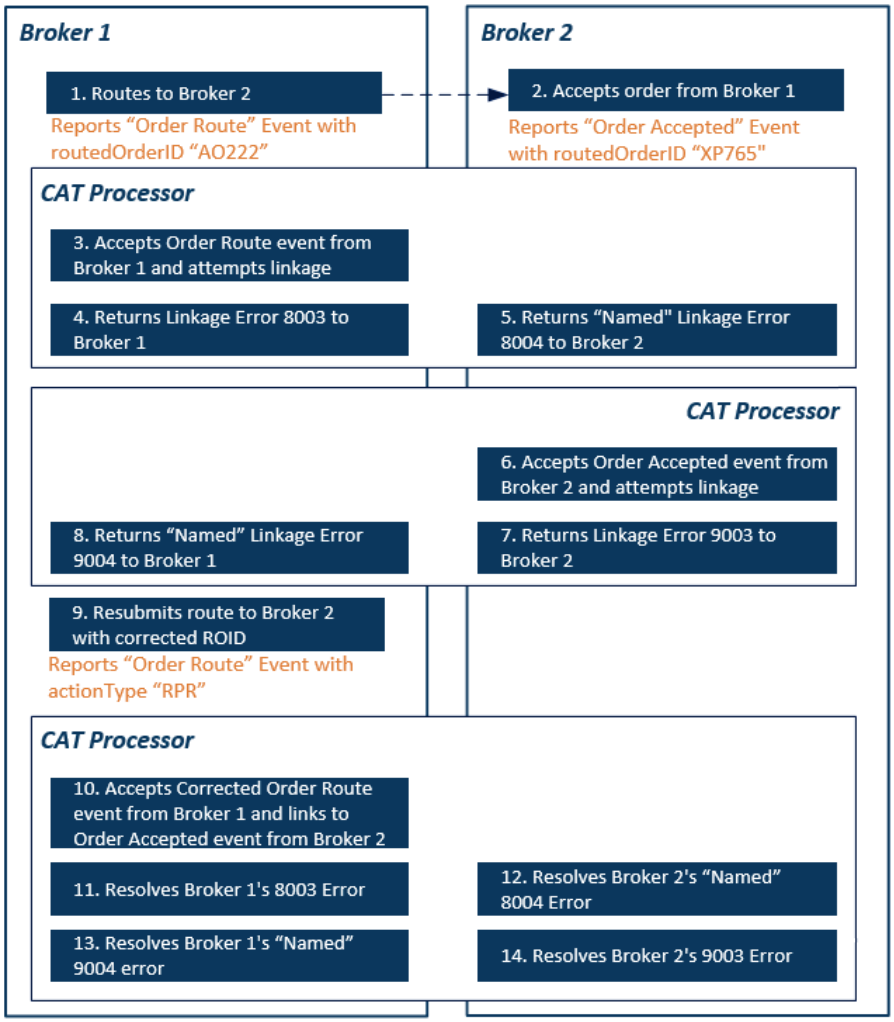
6.2.3. Correcting an Interfirm Linkage Error using Action Type of 'RPR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an interfirm linkage error using the Action Type of 'RPR'.

For this scenario, the following events occur:

- Order Route event submitted by Broker 1 is unlinked to Order Accepted event submitted by Broker 2 because a matching *routedOrderID* cannot be found
- The CAT Processor returns unlinked error feedback to the reporting parties and unlinked "named" error feedback to the "named" parties
- Broker 1 corrects the error in the *routedOrderID* and resubmits to CAT

- The CAT Processor links the Order Route event resubmitted by Broker 1 to the Order Accepted event reported by Broker 2 and resolves the errors



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 reports route to Broker 2	*Broker 1 reports an **Order Route event*** actionType: NEW firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234556 senderIMID: 123:FRMA destination: 456:FRMB	

#	Step	Reported Event	Comments
		routedOrderID: AO222	
2	Broker 2 accepts the order from Broker 1	*Broker 2 reports an **Order Accepted event*** actionType: NEW firmROEID: 20180417_X98735 type: MEOA orderKeyDate: 20180417T000000 orderID: O6789 symbol: XYZ eventTimestamp: 20180417T153035.234556 receiverIMID: 456:FRMB senderIMID: 123:FRMA routedOrderID: XP756	
3	Broker 1 receives unlinked feedback from the CAT Processor	*Broker 1 receives feedback on the **Order Route event*** errorCode: 8003 actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: 123:FRMA destination: 456:FRMB orderID: O23456 routedOrderID: AO222	Linkage Error Code 8003 - Matching *routedOrderID* cannot be found.
4	Broker 2 receives “named” unlinked feedback from the CAT Processor	*Broker 2 receives feedback as Named on the **Order Route event*** errorCode: 8004 errorType: ERRIM firmROEID: 20180417_Z12360 type: MEOR symbol: XYZ eventTimestamp: 20180417T153035.234556 senderIMID: 123:FRMA destination: 456:FRMB routedOrderID: AO222	Linkage Error Code 8004 - Named - Matching *routedOrderID* cannot be found.
5	Broker 2 receives unlinked feedback from the CAT processor	*Broker 2 receives feedback on the **Order Accepted event*** errorCode: 9003 actionType: RPR	Linkage Error Code 9003 – Matching *routedOrderID* cannot be found.

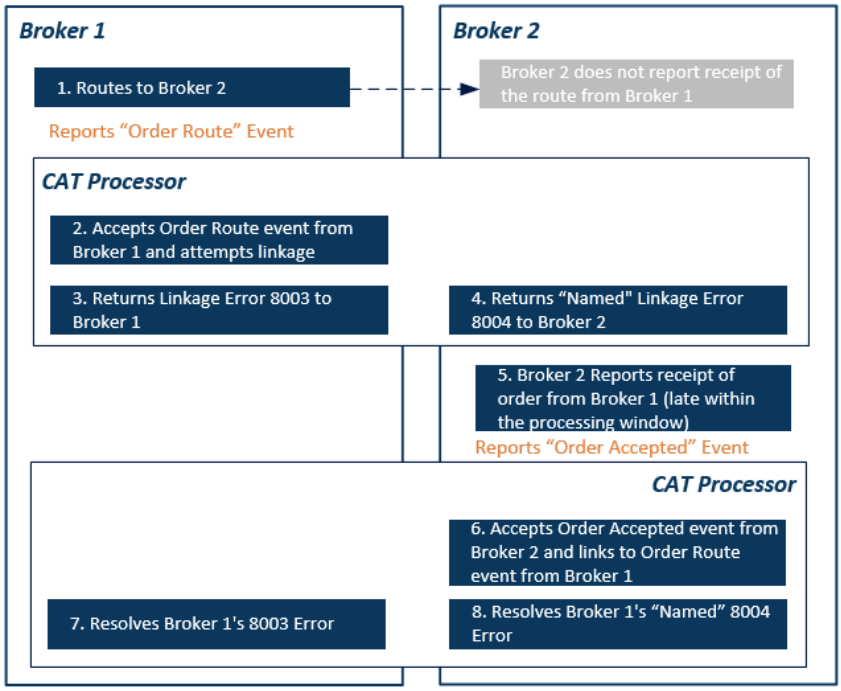
#	Step	Reported Event	Comments
		errorROEID: 98765987 firmROEID: 20180417_X98735 type: MEOA orderKeyDate: 20180417T000000 orderID: O6789 symbol: XYZ eventTimestamp: 20180417T153035.234556 receiverIMID: 456:FRMB senderIMID: 123:FRMA routedOrderID: XP756	
6	Broker 1 receives "named" feedback from the CAT Processor	*Broker 1 receives feedback as Named on the **Order Accept event*** errorCode: 9004 errorType: ERRIM firmROEID:20180417_Z12322 symbol: XYZ eventTimestamp: 20180417T153035.234556 receiverIMID: 456:FRMB senderIMID: 123:FRMA routedOrderID: XP756	Linkage Error Code 9004- Named- Matching *routedOrderID* cannot be found.
7	Broker 1 repairs the unlinked Order Route event using the Action Type of 'RPR' and resubmits	*Broker 1 resubmits the **Order Route event*** actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234556 senderIMID: 123:FRMA destination: 456:FRMB routedOrderID: XP756	The firm may also use *actionType* of 'COR' when re-submitting the Order Route event.
8	CAT Processor accepts the unlink repair and resolves linkage errors		During processing, CAT will make the linkage and the 8003, 8004, 9003 and 9004 errors will be considered repaired.

6.2.4. Correcting an Interfirm Linkage Error by Submitting the Missing Event

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an interfirm linkage error by reporting the missing event.

For this scenario, the following events occur:

- Order Route event submitted by Broker 1 is unlinked, as no Order Accepted event was submitted by Broker 2
- The CAT Processor returns unlinked error feedback to Broker 1 and “named” feedback to Broker 2
- Broker 2 submits the related Order Accepted event to CAT
- The CAT Processor links the Order Route event submitted by Broker 1 to the Order Accepted event reported by Broker 2 and resolves the errors



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 reports route to Broker 2	*Broker 1 reports an **Order Route event*** actionType: NEW firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234556 senderIMID: 123:FRMA destination: 456:FRMB routedOrderID: AO222	

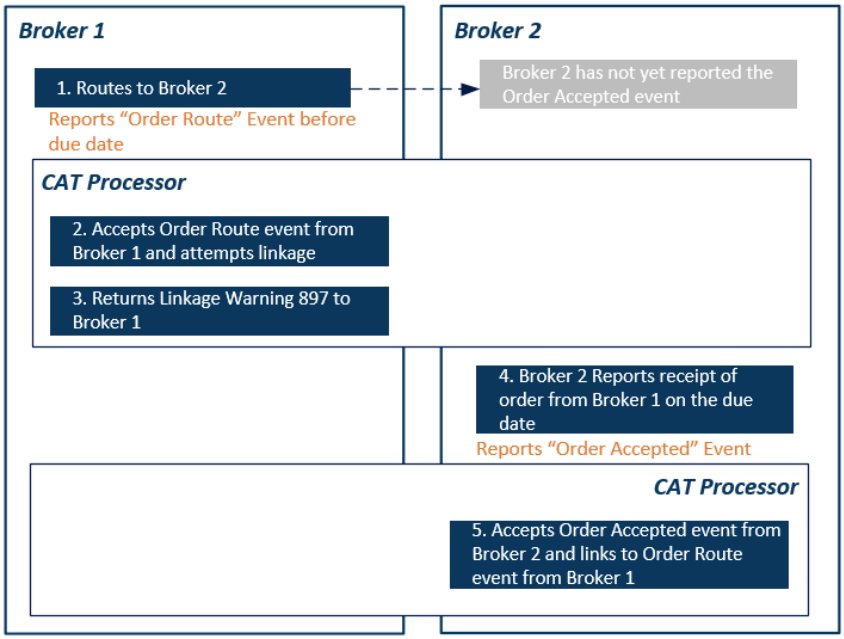
#	Step	Reported Event	Comments
2	Broker 1 receives unlinked feedback from the CAT Processor	*Broker 1 receives feedback on the **Order Route event*** errorCode: 8003 actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: 123:FRMA destination: 456:FRMB orderID: O23456 routedOrderID: AO222	Linkage Error Code 8003 - Matching *routedOrderID* cannot be found.
3	Broker 2 receives “named” unlinked feedback from the CAT Processor	*Broker 2 receives feedback as Named on the **Order Route event*** errorCode: 8004 errorType: ERRIM firmROEID: 20180417_Z12360 type: MEOR symbol: XYZ eventTimestamp: 20180417T153035.234556 senderIMID: 123:FRMA destination: 456:FRMB routedOrderID: AO222	Linkage Error Code 8004 - Named - Matching *routedOrderID* cannot be found.
4	Broker 2 reports the Order Accepted event (late within the processing window)	*Broker 2 receives feedback on the **Order Accepted event*** actionType: NEW firmROEID: 20180417_X98735 type: MEOA orderKeyDate: 20180417T000000 orderID: O6789 symbol: XYZ eventTimestamp: 20180417T153035.234556 receiverIMID: 456:FRMB senderIMID: 123:FRMA routedOrderID: AO222	
5	CAT Processor links the record from Broker 2 and repair and resolves linkage errors		During processing, CAT will make the linkage and the 8003 and 8004 errors will be considered repaired.

6.2.5. Interfirm Linkage Warning for a Record Reported Early to CAT

This scenario illustrates the feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that reports a record to CAT prior to the due date.

For this scenario, the following events occur:

- Order Route event submitted by Broker 1 is reported prior to the due date and is unlinked, as the Order Accepted event has not yet been submitted by Broker 2
- The CAT Processor returns a warning to Broker 1 that is not repairable
- Broker 2 submits the related Order Accepted event to CAT on the due date
- The CAT Processor links the Order Route event submitted by Broker 1 to the Order Accepted event reported by Broker 2



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 reports route to Broker 2 before the due date	*Broker 1 reports an **Order Route event*** actionType: NEW firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234556	

#	Step	Reported Event	Comments
		senderIMID: 123:FRMA destination: 456:FRMB routedOrderID: AO222	
2	Broker 1 receives unlinked warning from the CAT Processor	*Broker 1 receives feedback on the* ***Order Route event*** errorCode: 897 actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: 123:FRMA destination: 456:FRMB orderID: O23456 routedOrderID: AO222	The CAT Processor is unable to identify a matching ROID for the Event Date. Linkage Error Code 897 - Early reported event
3	Broker 2 reports the Order Accepted event on the due date	*Broker 2 reports an* ***Order Accepted event*** actionType: NEW firmROEID: 20180417_X98735 type: MEOA orderKeyDate: 20180417T000000 orderID: O6789 symbol: XYZ eventTimestamp: 20180417T153035.234556 receiverIMID: 456:FRMB senderIMID: 123:FRMA routedOrderID: AO222	
4	CAT Processor links the record from Broker 2 to the record from Broker 1		No further action is required by Broker 1, since the 897 Warning is not repairable

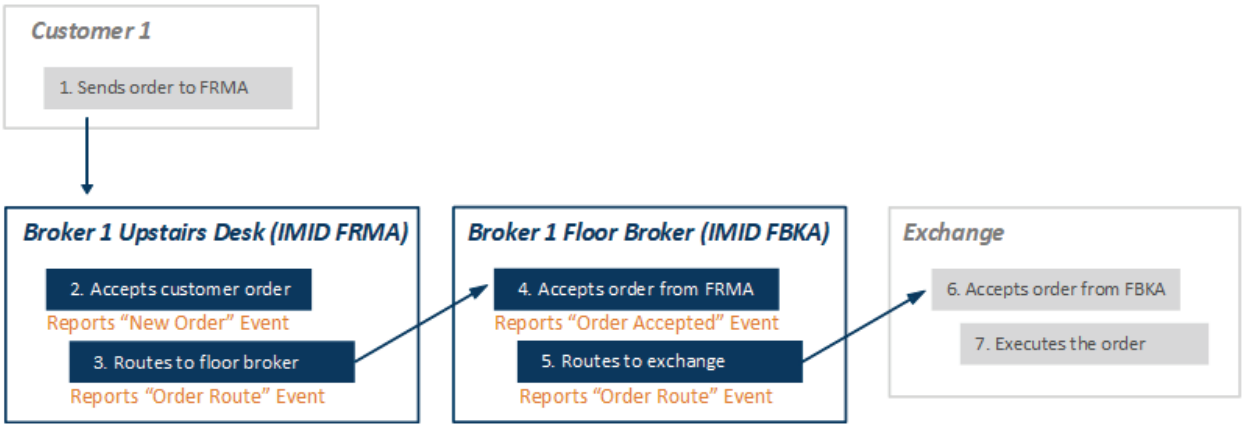
7. Floor Broker Scenarios

7.1. NYSE Floor Broker Scenarios

This section illustrates the CAT reporting requirements for NYSE Floor Brokers.

7.1.1. Order Routed to a Floor Broker Within the Same Broker-Dealer

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order, and further routes the customer order to a floor broker within the same broker-dealer that uses a separate IMID. While both parties belong to the same Industry Member, Broker 1 maintains a separate IMID for its upstairs desk and its floor broker. Upon receipt of the order, the floor broker further routes the order to the exchange for execution.



Industry Member Broker 1's upstairs desk (FRMA) is required to report:

- The receipt of the order from the customer (New Order event)
- The route of the order to its floor broker (Order Route event)

Industry Member Broker 1's floor broker (FBKA) is required to report:

- The receipt of the order from Broker 1's upstairs desk (Order Accepted event)
- The route of the order to the exchange (Order Route event)

Since Broker 1 maintains separate IMIDs for its floor broker and its upstairs desk, Broker 1 is required to report an MEOR reflecting a route to the floor broker, not an MEIR. Refer to CAT FAQ L1 for additional information on equity floor broker reporting.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at IMID FRMA	*Broker 1's upstairs desk (IMID=FRMA) reports a* ***New Order event***	

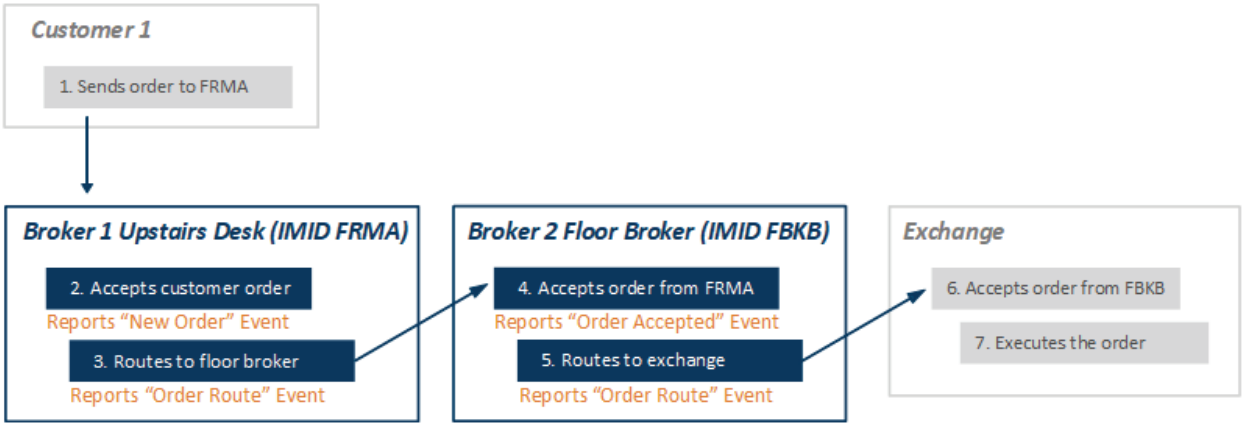
#	Step	Reported Event	Comments
		type: MENO orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	FRMA routes the order to the floor broker FBKA	*FRMA reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: 123:F1 destinationType: F routedOrderID: XYZO555 session: side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: true isoInd: NA handlingInstructions:	In this scenario, the *destination* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number. When routing an order to another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
4	Floor broker accepts the	*Broker 1's Floor Broker*	In this scenario, the *receiverIMID*

#	Step	Reported Event	Comments
	order from FRMA	*(IMID=FBKA) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.534556 manualFlag: false receiverIMID: 123:F1 senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: true deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number. When receiving an order from another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
5	Floor broker routes the order to the exchange	*FBKA reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153036.534556 manualFlag: false senderIMID: 123:BDG1234 destination: EXCH1 destinationType: E routedOrderID: XYZO560 session: Es6:AA side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA	In this scenario, the *senderIMID* represents the badge number of the floor broker routing the order.

#	Step	Reported Event	Comments
		handlingInstructions:	
6	The Exchange accepts the order from the floor broker	*EXCH1 reports a Participant **Order Accepted event***	
7	The Exchange executes the order	*EXCH1 reports a Participant **Trade event***	

7.1.2. Order Routed to a Floor Broker at Another Broker-Dealer

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order, and further routes the customer order to a floor broker at another broker-dealer. Upon receipt of the order, the floor broker further routes the order to the exchange for execution.



Industry Member Broker 1's upstairs desk (FRMA) is required to report:

- The receipt of the order from the customer (New Order event)
- The route of the order to Broker 2's floor broker (Order Route event)

Industry Member Broker 2's floor broker (FBKB) is required to report:

- The receipt of the order from Broker 1's upstairs desk (Order Accepted event)
- The route of the order to the exchange (Order Route event)

Refer to CAT FAQ L1 for additional information on equity floor broker reporting.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at IMID FRMA	*Broker 1's upstairs desk (IMID=FRMA) reports a **New Order event***	

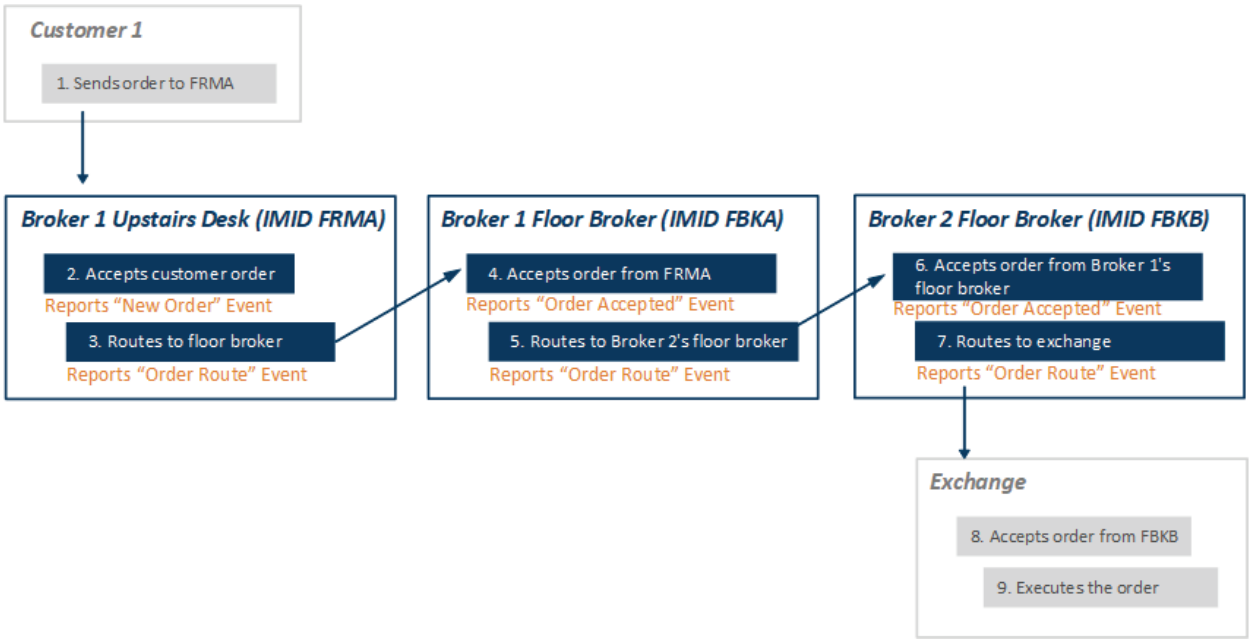
#	Step	Reported Event	Comments
		type: MENO orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	FRMA routes the order to Broker 2's floor broker FBKB	*FRMA reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: 456:F2 destinationType: F routedOrderID: XYZO555 session: side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	In this scenario, the *destination* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number. When routing an order to another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
4	Broker 2's floor broker accepts the order from	*Broker 2's Floor Broker (IMID=FBKB) reports an **Order***	In this scenario, the *receiverIMID* represents the entering firm

#	Step	Reported Event	Comments
	FRMA	***Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.534556 manualFlag: false receiverIMID: 456:F2 senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: true deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA custDspIntrFlag: false	mnemonic of the floor broker receiving the order, which is a booth number. When receiving an order from another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
5	Broker 2's floor broker routes the order to the exchange	*FBKB reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153036.534556 manualFlag: false senderIMID: 456:BDG3456 destination: EXCH1 destinationType: E routedOrderID: XYZO560 session: Es6:AA side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	In this scenario, the *senderIMID* represents the badge number of the floor broker routing the order.

#	Step	Reported Event	Comments
6	The Exchange accepts the order from the floor broker	*EXCH1 reports a Participant* ***Order Accepted event***	
7	The Exchange executes the order	*EXCH1 reports a Participant* ***Trade event***	

7.1.3. Floor Broker Routes an Order to a Floor Broker at Another Broker-Dealer

This scenario illustrates the CAT reporting requirements when a floor broker routes an order to a floor broker at another Broker-Dealer. In this scenario, Industry Member Broker 1 receives a customer order, and further routes the customer order to a floor broker within the same broker-dealer that uses a separate IMID. Upon receipt of the order, the floor broker routes the order to Industry Member Broker 2's floor broker. Industry Member Broker 2's floor broker routes the order to the exchange for execution.



Industry Member Broker 1's upstairs desk (FRMA) is required to report:

- The receipt of the order from the customer (New Order event)
- The route of the order to its floor broker (Order Route event)

Industry Member Broker 1's floor broker (FBKA) is required to report:

- The receipt of the order from Broker 1's upstairs desk (Order Accepted event)
- The route of the order to Broker 2's floor broker (Order Route event)

Industry Member Broker 2's floor broker (FBKB) is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The route of the order to the exchange (Order Route event)

Refer to CAT FAQ L1 for additional information on equity floor broker reporting.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at IMID FRMA	*Broker 1's upstairs desk (IMID=FRMA) reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	FRMA routes the order to its floor broker FBKA	*FRMA reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: 123:F1 destinationType: F routedOrderID: XYZO555 session: side: B	In this scenario, the *destination* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number. When routing an order to another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.

#	Step	Reported Event	Comments
		price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: true isoInd: NA handlingInstructions:	
4	Broker 1's floor broker accepts the order from FRMA	*Broker 1's Floor Broker (IMID=FBKA) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.534556 manualFlag: false receiverIMID: 123:F1 senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: true deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: custDspIntrFlag: false	In this scenario, the *receiverIMID* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number. When receiving an order from another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
5	Broker 1's floor broker routes the order to Broker 2's floor broker	*FBKA reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.734556 manualFlag: false senderIMID: 123:F1 destination: 456:BDG3456	In this scenario, the *senderIMID* represents the entering firm mnemonic of the floor broker routing the order. The *destination* represents the badge number of the floor broker routing the order.

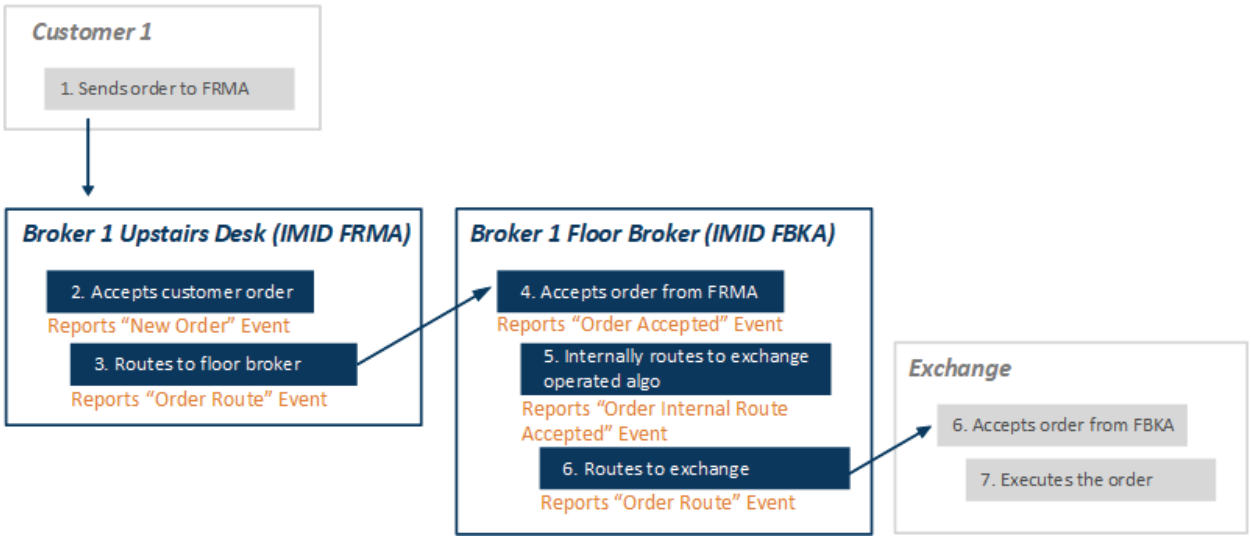
#	Step	Reported Event	Comments
		destinationType: F routedOrderID: XYZO560 session: side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
6	Broker 2's floor broker accepts the order from Broker 1's floor broker	*Broker 2's Floor Broker (IMID=FBKB) reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O9999 symbol: XYZ eventTimestamp: 20180417T153035.934556 manualFlag: false receiverIMID: 456:BDG3456 senderIMID: 123:F1 senderType: F routedOrderID: XYZO560 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: custDspIntrFlag: false	In this scenario, the *destination* represents the entering firm mnemonic of the floor broker routing the order. The *receiverIMID* represents the badge number of the floor broker routing the order.
7	Broker 2's floor broker routes the order to the exchange	*FBKB reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O9999 symbol: XYZ eventTimestamp:	In this scenario, the *senderIMID* represents the badge number of the floor broker routing the order.

#	Step	Reported Event	Comments
		20180417T153036.434556 manualFlag: false senderIMID: 456:BDG3456 destination: EXCH1 destinationType: E routedOrderID: XYZO575 session: Es6:AA side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
8	The Exchange accepts the order from the floor broker	*EXCH1 reports a Participant* ***Order Accepted event***	
9	The Exchange executes the order	*EXCH1 reports a Participant* ***Trade event***	

7.1.4. Floor Broker Routes an Order to an Exchange Operated Algorithm

This scenario illustrates the CAT reporting requirements when a floor broker receives an order and routes the order to an exchange operated algorithm. In this scenario, Industry Member Broker 1 receives a customer order, and further routes the customer order to a floor broker within the same broker-dealer that uses a separate IMID.

Upon receipt of the order, the floor broker further routes the order to an exchange operated algorithm. The algorithm routes the order to the exchange for execution. The exchange operated algorithm is considered to be a separate department or desk of Broker 1's floor broker for the purposes of reporting to CAT.



Industry Member Broker 1's upstairs desk (FRMA) is required to report:

- The receipt of the order from the customer (New Order event)
- The route of the order to its floor broker (Order Route event)

Industry Member Broker 1's floor broker (FBKA) is required to report:

- The receipt of the order from Broker 1's upstairs desk (Order Accepted event)
- The internal route of the order to the exchange operated algorithm (Order Internal Route Accepted event)
- The route of the order to the exchange (Order Route event)

The floor broker's route to the exchange operated algorithm is required to be reported as an MEIR event with a *handlingInstructions* value of "FBA". Refer to CAT FAQ L1 for additional information on equity floor broker reporting.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at IMID FRMA	*Broker 1's upstairs desk (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A	

#	Step	Reported Event	Comments
		side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	FRMA routes the order to its floor broker FBKA	*FRMA reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: 123:F1 destinationType: F routedOrderID: XYZO555 session: side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: true isoInd: NA handlingInstructions:	In this scenario, the *destination* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number. When routing an order to another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
4	Floor broker receives the order from FRMA	*Broker 1's Floor Broker (IMID=FBKA) reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.534556	In this scenario, the *receiverIMID* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number. When receiving an order from another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.

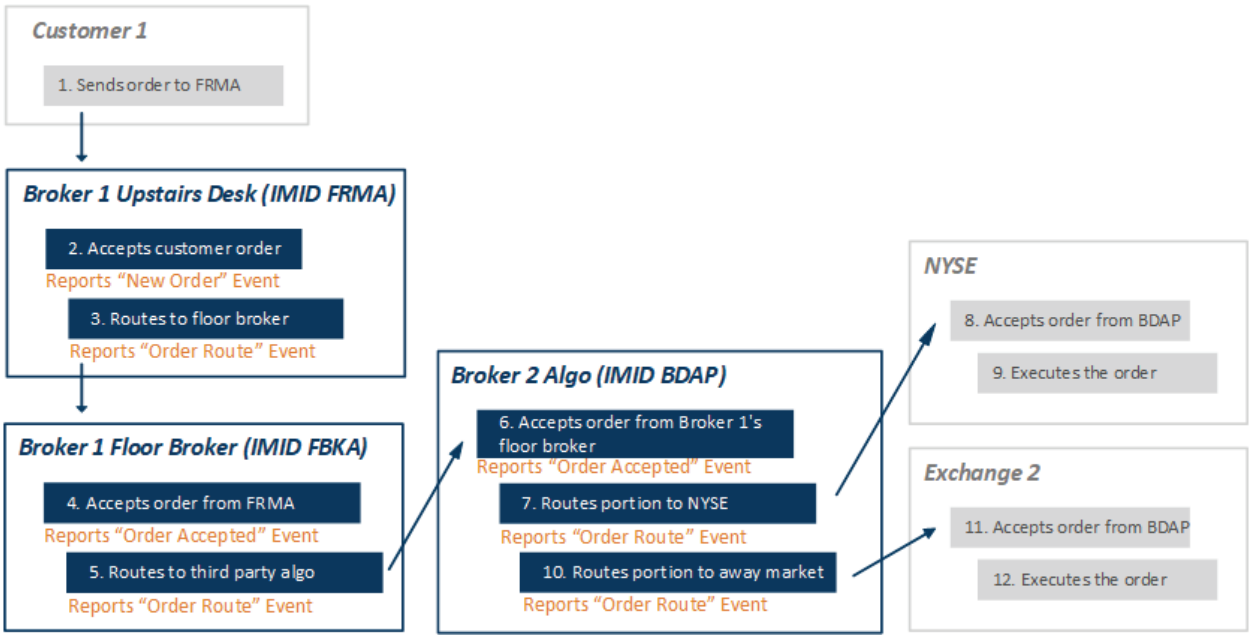
#	Step	Reported Event	Comments
		manualFlag: false receiverIMID: 123:F1 senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: true deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: custDspIntrFlag: false	
5	Floor broker routes the order to an exchange operated algorithm	*FBKA reports an **Order Internal Route Accepted event*** type: MEIR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ parentOrderKeyDate: parentOrderID: eventTimestamp: 20180417T153035.534556 manualFlag: false deptType: A receivingDeskType: FB infoBarrierID: BDG1234 side: B price: 10.00 quantity: 5000 orderType: LMT handlingInstructions: FBA timeInForce: DAY=20180417 tradingSession: REG	When the order is internally routed, a new Order Key is not assigned, and the Parent Order Key fields must remain blank. In this scenario, the *infoBarrierID* is populated with the Badge Number of the floor broker routing the order. A *handlingInstructions* value of FBA is required on the MEIR event.
6	FBKA routes the order to the exchange using the exchange operated algo	*FBKA reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp:	In this scenario, the *senderIMID* represents the badge number of the floor broker routing the order. In phase 2c, a *handlingInstructions* value of FBA will be required on the MEOR event.

#	Step	Reported Event	Comments
		20180417T153036.534556 manualFlag: false senderIMID: 123:BDG1234 destination: EXCH1 destinationType: E routedOrderID: XYZO560 session: Es6:AA side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
7	The Exchange accepts the order from the floor broker	*EXCH1 reports a Participant* ***Order Accepted event***	
8	The Exchange executes the order	*EXCH1 reports a Participant* ***Trade event***	

7.1.5. Floor Broker Routes an Order to an Algorithm Operated by Another Broker-Dealer

This scenario illustrates the CAT reporting requirements when a floor broker receives an order and routes the order to a third party algorithm operated by another broker-dealer. In this scenario, Industry Member Broker 1 receives a customer order, and further routes the customer order to a floor broker within the same broker-dealer that uses a separate IMID.

Upon receipt of the order, the floor broker routes the order to a third party algorithm operated by another broker-dealer. The third party algorithm, which is operated by a registered broker-dealer, routes part of the order to the NYSE for execution and the rest of the order to an away exchange.



Industry Member Broker 1's upstairs desk (FRMA) is required to report:

- The receipt of the order from the customer (New Order event)
- The route of the order to its floor broker (Order Route event)

Industry Member Broker 1's floor broker (FBKA) is required to report:

- The receipt of the order from Broker 1's upstairs desk (Order Accepted event)
- The route of the order to the third party algorithm (Order Route event)

The broker-dealer operating the algorithm is required to report:

- The receipt of the order (Order Accepted event)
- The partial route of the order to NYSE (Order Route event)
- The partial route of the order to an away market (Order Route event)

In this scenario, the reporting requirements for the third party algorithm are the same if algorithm is acting as a broker-dealer or acting solely as a technology provider. Refer to CAT FAQ L1 for additional information on equity floor broker reporting.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	*NA*	
2	Broker 1 accepts the customer order at IMID FRMA	*Broker 1's upstairs desk (IMID=FRMA) reports a* ***New Order event*** type: MENO orderKeyDate: 20180417T000000	

#	Step	Reported Event	Comments
		orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	FRMA routes the order to its floor broker FBKA	*FRMA reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: 123:FRMA destination: 123:F1 destinationType: F routedOrderID: XYZO555 session: side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: true isoInd: NA handlingInstructions:	In this scenario, the *destination* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth number When routing an order to another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
4	Floor broker receives the order from FRMA	*Broker 1's Floor Broker (IMID=FBKA) reports an **Order Accepted event***	In this scenario, the *receiverIMID* represents the entering firm mnemonic of the floor broker receiving the order, which is a booth

#	Step	Reported Event	Comments
		type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.534556 manualFlag: false receiverIMID: 123:F1 senderIMID: 123:FRMA senderType: F routedOrderID: XYZO555 affiliateFlag: true deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: custDspIntrFlag: false	number. When routing an order to another IMID within the same broker-dealer, the *affiliateFlag* must be populated as 'true'.
5	Floor broker routes the order to a third party algorithm operated by a broker-dealer	*FBKA reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T153035.734556 manualFlag: false senderIMID: 123:BDG1234 destination: 456:BDAP destinationType: F routedOrderID: XYZO560 session: side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	In this scenario, the *senderIMID* represents the badge number of the floor broker routing the order. In phase 2c, a *handlingInstructions* value of FBA will be required on the MEOR event.

#	Step	Reported Event	Comments
6	The Industry Member operating the algo accepts the order from FBKA	*Broker-Dealer Algo Provider (IMID=BDAP) reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: O56789 symbol: XYZ eventTimestamp: 20180417T153035.934556 manualFlag: false receiverIMID: 456:BDAP senderIMID: 123:BDG1234 senderType: F routedOrderID: XYZO560 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: FBA custDspIntrFlag: false	In this scenario, the *senderIMID* represents the badge number of the floor broker routing the order. A *handlingInstructions* value of FBA is required.
7	BDAP partially routes the order to NYSE	*BDAP reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O56789 symbol: XYZ eventTimestamp: 20180417T153036.434556 manualFlag: false senderIMID: 456:BDAP destination: NYSE destinationType: E routedOrderID: XYZO570 session: Es6:AA side: B price: 10.00 quantity: 3000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG	In phase 2c, a *handlingInstructions* value of FBA will be required on the MEOR event.

#	Step	Reported Event	Comments
		affiliateFlag: false isoInd: NA handlingInstructions:	
8	NYSE accepts the order from the floor broker	*NYSE reports a Participant* ***Order Accepted event***	
9	NYSE executes the order	*NYSE reports a Participant* ***Trade event***	
10	BDAP partially routes the order to an away market	*BDAP reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: O56789 symbol: XYZ eventTimestamp: 20180417T153036.434556 manualFlag: false senderIMID: 456:BDAP destination: EXCH1 destinationType: E routedOrderID: XYZO575 session: Es6:AA side: B price: 10.00 quantity: 2000 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	In phase 2c, a *handlingInstructions* value of FBA will be required on the MEOR event.
11	The exchange accepts the order from the floor broker	*EXCH1 reports a Participant* ***Order Accepted event***	
12	The exchange executes the order	*EXCH1 reports a Participant* ***Trade event***	

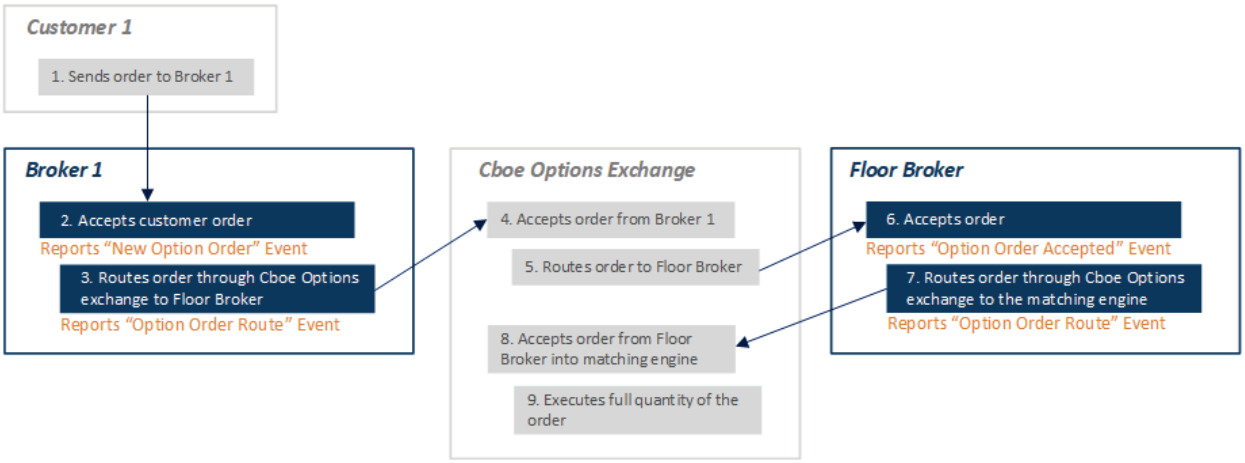
7.2. Cboe Floor Broker Scenarios

This section illustrates the CAT reporting requirements for Cboe Floor Brokers.

7.2.1. Cboe Options Floor Broker Receives and Routes Order to Cboe Options Matching Engine for Further Handling and Execution

This scenario illustrates the CAT Phase 2b reporting requirements when Industry Member Broker 1 receives a simple electronic options order from a customer, and routes the order through the Cboe Options exchange systems to an Industry Member Floor Broker.

The Floor Broker then determines to route the order through the Cboe Options exchange systems to the exchange matching engine so that the order can electronically trade or book. Once there, the order is fully executed via the exchange matching engine. Note that in this scenario "Broker 1" could be an Industry Member located off or on the Cboe Options exchange trading floor, including a floor broker.



Industry Member Broker 1 is required to report:

- The receipt of the order from the customer (New Option Order event)
- The route of the order to the exchange (Option Order Route event)
  In Phase 2d, the MOOR event should also include *handlingInstructions* values 'DIR' (Directed Orders) and 'FB' (Cboe Options Floor Broker) to denote the route to Floor Broker.

Industry Member Floor Broker is required to report:

- The receipt of the order from the exchange (Option Order Accepted event)
- The route of the order to the exchange to electronically trade or book (Option Order Route event must have a *timeInForce* value that is not 'IOR' (Immediate or Return))

Cboe Options exchange is required to report as outlined in the CAT Reporting Technical Specifications for Plan Participants.

#	Step	Reported Event	Comments
1	Customer electronically sends an options order to	*NA*	

#	Step	Reported Event	Comments
	Broker 1		
2	Broker 1 accepts the customer order	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1234 deptType: A side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: firmDesignatedID: CUS98765 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
3	Broker 1 routes the order through the Cboe Options exchange to Floor Broker	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1684 senderIMID: 123:BRKR01 destination: CBOE destinationType: E routedOrderID: RT555 session: ABCD1234 side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: exchOriginCode: C affiliateFlag: false openCloseIndicator: Open	In Phase 2d, Broker 1 will be required to report *handlingInstructions* 'DIR' and 'FB' in its MOOR event to the exchange indicating that the order was directed to a Cboe Options floor broker.

#	Step	Reported Event	Comments
4	Cboe Options exchange accepts the order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
5	Cboe Options exchange routes the order to Floor Broker	*Exchange reports a Participant* ***Option Route event***	
6	Floor Broker accepts the order from the Cboe Options exchange	*Floor Broker reports an* ***Option Order Accepted event*** type: MOOA orderKeyDate: 20180516T000000 orderID: O45678 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133032.1684 receiverIMID: 456:FBRKR senderIMID: CBOE senderType: E routedOrderID: RT0789 deptType: T side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG affiliateFlag: false openCloseIndicator: Open	
7	Floor Broker routes the order through the Cboe Options exchange to the exchange matching engine so that the order can electronically trade or book (e.g., when using a PAR Workstation, Floor Broker hits the "book" button)	*Floor Broker reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O45678 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133033.4684 senderIMID: 456:FBRKR destination: CBOE destinationType: E routedOrderID: RT4210 session: EFGH4567 side: SL price: 6.60 quantity: 30	Since Floor Broker is seeking to trade or book the order which would relinquish control of the order to the matching engine, the *timeInForce* field must not be populated as 'IOR'.

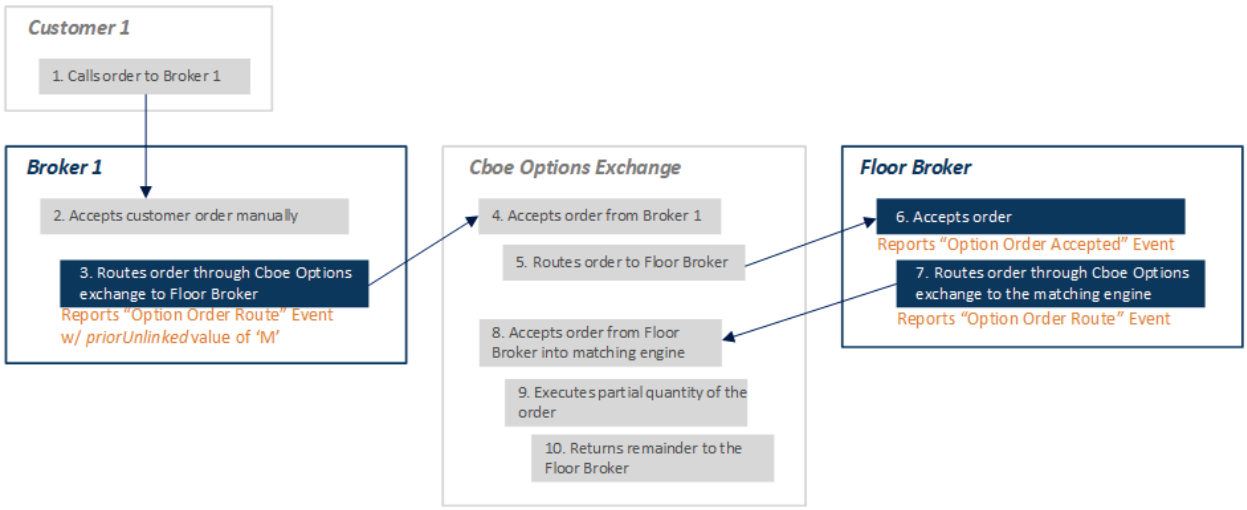
#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY=20180516 tradingSession: REG exchOriginCode: C affiliateFlag: false openCloseIndicator: Open	
8	Cboe Options exchange accepts the option order from Floor Broker into the exchange matching engine	*Exchange reports a Participant **Order from Floor Broker event***	
9	Cboe Options exchange matching engine executes the full quantity of the option order	*Exchange reports a Participant **Simple Option Trade event***	

7.2.2. Cboe Options Floor Broker Receives and Routes an Order to Exchange Matching Engine with Instructions to Return any Unexecuted Portion to the Floor Broker

This scenario illustrates the CAT Phase 2b reporting requirements when a customer order is received manually by an Industry Member Broker 1. The order is systematized by Broker 1 and electronically routed through the Cboe Options exchange systems to an Industry Member Floor Broker.

The Floor Broker then determines to route the order through the Cboe Options exchange systems to the exchange matching engine with instructions to return to the floor broker any remainder of the order that is not immediately executed. The order is then partially executed via the exchange matching engine, and the remainder of the order is returned to the floor broker for further handling and execution in open outcry.

Note that in this scenario “Broker 1” could be an Industry Member located off or on the Cboe Options exchange trading floor, including a floor broker.



Industry Member Broker 1 is required to report:

- The route of the order to the exchange (Option Order Route event)
  In Phase 2d, the MOOR event should also include *handlingInstructions* values 'DIR' (Directed Orders) and 'FB' (Cboe Options Floor Broker) to denote the route to Floor Broker.

Industry Member Floor Broker is required to report:

- The receipt of the order from the exchange (Option Order Accepted event)
- The route of the order to the exchange to electronically trade immediately and return any remainder (Option Order Route event with a *timeInForce* value of 'IOR')

Cboe Options exchange is required to report as outlined in the CAT Reporting Technical Specifications for Plan Participants.

#	Step	Reported Event	Comments
1	Customer calls in an option order to Broker 1	*NA*	
2	Broker 1 manually receives the customer order	*NA*	In Phase 2b, Industry Members are not required to report orders received manually (or the systematization of such orders).
3	Broker 1 systematizes the order in its EMS and routes the order through the Cboe Options exchange to the floor broker	*Broker 1 reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1684 senderIMID: 123:BRKR01	In Phase 2d, Broker 1 will be required to report *handlingInstructions* 'DIR' and 'FB' in its MOOR event to the exchange indicating that the order was directed to a Cboe Options floor broker.

#	Step	Reported Event	Comments
		destination: CBOE destinationType: E routedOrderID: RT555 session: ABCD1234 side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: exchOriginCode: C affiliateFlag: false openCloseIndicator: Open priorUnlinked: M	
4	Cboe Options exchange accepts the order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
5	Cboe Options exchange routes the order to the floor broker	*Exchange reports a Participant* ***Option Route event***	
6	Floor broker accepts the order from the Cboe Options exchange	*Floor Broker reports an* ***Option Order Accepted event*** type: MOOA orderKeyDate: 20180516T000000 orderID: O45678 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133032.1684 receiverIMID: 456:FBRKR senderIMID: CBOE senderType: E routedOrderID: RT0789 deptType: T side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG affiliateFlag: false openCloseIndicator: Open	
7	Floor broker routes the order through the Cboe Options exchange to	*Floor Broker reports an* ***Option Order Route event***	The floor broker is required to report a *timeInForce* value of 'IOR' indicating that the order routed to the

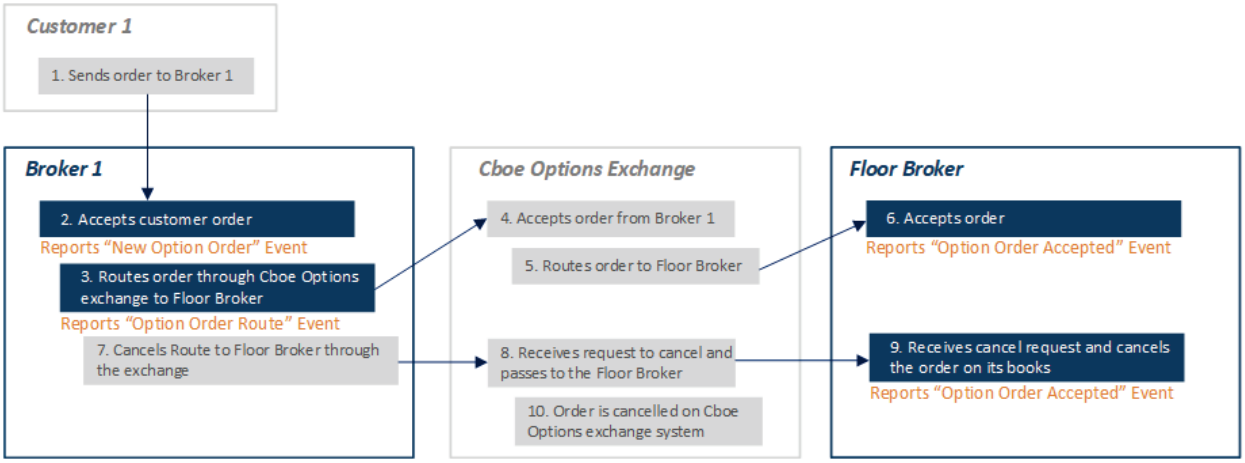
#	Step	Reported Event	Comments
	the exchange matching engine with instructions to return any remainder of the order that is not immediately executed (e.g., when using a PAR Workstation, the floor broker hits the “TA” or “TB” or “Sweep” button)	type: MOOR orderKeyDate: 20180516T000000 orderID: O45678 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133032.4684 senderIMID: 456:FBRKR destination: CBOE destinationType: E routedOrderID: RT3210 session: EFGH4567 side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: IOR tradingSession: REG exchOriginCode: C affiliateFlag: false openCloseIndicator: Open	Cboe Options exchange as immediate or return.
8	Cboe Options exchange accepts the order from the floor broker into the exchange matching engine	*Exchange reports a Participant* ***Order from Floor Broker event***	
9	Cboe Options exchange matching engine partially executes the order	*Exchange reports a Participant* ***Simple Option Trade event***	
10	Cboe Options exchange returns the remainder of the order to the floor broker	*Exchange reports a Participant* ***Order Return to Floor Broker event***	

7.2.3. Industry Member Cancels a Route to a Cboe Options Floor Broker

This scenario illustrates the CAT Phase 2b reporting requirements when Industry Member Broker 1 receives a simple electronic options order from a customer, and routes the order through the Cboe Options exchange systems to an Industry Member Floor Broker. Broker 1 then determines to cancel the route that was sent to the Floor Broker, and directs the route cancel instruction through the exchange machine engine to Floor Broker. Floor Broker cancels the order on its books and records, and subsequently cancels the order on the matching engine.

In this scenario, the order remains open on Broker 1's books and records for further handling. Route cancellations are not required to be reported in Phase 2b.

Note that in this scenario "Broker 1" could be an Industry Member located off or on the Cboe Options exchange trading floor, including a floor broker.



Industry Member Broker 1 is required to report:

- The receipt of the order from the customer (New Option Order event)
- The route of the order to the exchange (Option Order Route event)
  In Phase 2d, the MOOR event should also include *handlingInstructions* values 'DIR' (Directed Orders) and 'FB' (Cboe Options Floor Broker) to denote the route to Floor Broker.

Industry Member Floor Broker is required to report:

- The receipt of the order from the exchange (Option Order Accepted event)
- The cancellation of the order (Option Order Cancelled event)

Cboe Options exchange is required to report as outlined in the CAT Reporting Technical Specifications for Plan Participants.

#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	*NA*	
2	Broker 1 originally receives the customer order	*Broker 1 reports a* ***New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500	

#	Step	Reported Event	Comments
		eventTimestamp: 20180516T133031.1234 deptType: A side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: firmDesignatedID: CUS98765 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
3	Broker 1 electronically routes the order through the Cboe Options exchange to the floor broker	*Broker 1 reports an* ***Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1684 senderIMID: 123:BRKR01 destination: CBOE destinationType: E routedOrderID: RT555 session: ABCD1234 side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: exchOriginCode: C affiliateFlag: false openCloseIndicator: Open	In Phase 2d, Broker 1 will be required to report *handlingInstructions* 'DIR' and 'FB' in its MOOR event to the exchange indicating that the order was directed to a Cboe Options floor broker.
4	Cboe Options exchange accepts the order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
5	Cboe Options exchange routes the order to Floor Broker	*Exchange reports a Participant* ***Option Route event***	

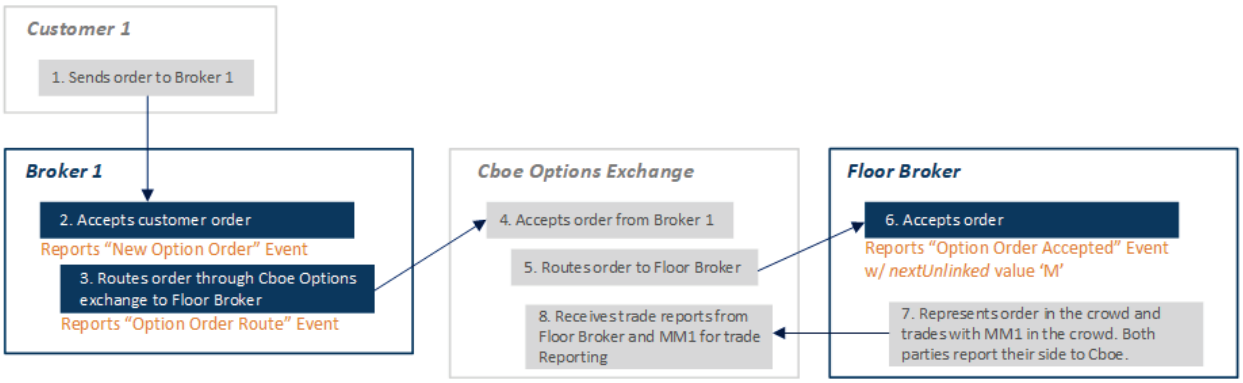
#	Step	Reported Event	Comments
6	Floor Broker accepts the order from the Cboe Options exchange	*Floor Broker reports an **Option Order Accepted event*** type: MOOA orderKeyDate: 20180516T000000 orderID: O45678 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133032.1684 receiverIMID: 456:FBRKR senderIMID: CBOE senderType: E routedOrderID: RT0789 deptType: T side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG affiliateFlag: false openCloseIndicator: Open	
7	Broker 1 cancels the route to the floor broker through the exchange	*NA*	Deferred – event not required for Phase 2b. SROs will evaluate need for a cancelled route event after reviewing Phase 2b data and include event in Phase 2d, if necessary.
8	Cboe Options exchange receives Broker 1's request to cancel the order and passes the request to the floor broker	*Exchange reports a Participant **Option Cancel Route event***	
9	Floor Broker receives the cancel request and cancels the order on its books and records (e.g., Floor Broker cancels the order on the PAR Workstation)	*Floor Broker reports an **Option Order Cancelled event*** type: MOOC orderKeyDate: 20180516T000000 orderID: O45678 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133038.4684 manualFlag: false cancelQty: 10 leavesQty: 0 initiator: C	

#	Step	Reported Event	Comments
10	Order is cancelled on Cboe Options exchange system	*Exchange reports a Participant* ***Option Order Cancelled event***	

7.2.4. Cboe Options Floor Broker Manually Trades an Options Order in Open Outcry

This scenario illustrates the CAT Phase 2b reporting requirements when Industry Member Broker 1 receives a simple electronic options order from a customer, and directs the order through the Cboe Options exchange systems to an Industry Member Floor Broker. Floor Broker represents the order to the crowd in open outcry, and Market Maker 1 trades against the order (i.e., the order is manually executed by the floor broker with Market Maker 1 in open outcry). The execution is then communicated to the exchange for trade reporting.

Note that in this scenario "Broker 1" could be an Industry Member located off or on the Cboe Options exchange trading floor, including a floor broker.



Industry Member Broker 1 is required to report:

- The receipt of the option order from the customer (New Option Order event)
- The route of the order to the exchange (Option Order Route event)
  In Phase 2d, the MOOR event should also include *handlingInstructions* values 'DIR' (Directed Orders) and 'FB' (Cboe Options Floor Broker) to denote the route to Floor Broker.

Industry Member Floor Broker is required to report:

- The receipt of the order from the exchange (Option Order Accepted event)

As part of defining the reporting requirements for manual events in Phase 2d, the Plan Participants are evaluating how Floor Broker and Market Maker 1 will be required to report open outcry verbal/manual options trade and trade reporting events linked to the Cboe Options exchange's Simple Option Trade event.

Cboe Options exchange is required to report as outlined in the CAT Reporting Technical Specifications for Plan Participants.

#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	NA	
2	Broker 1 receives the customer order	*Broker 1 reports a **New Option Order event*** type: MONO orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1234 deptType: A side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG handlingInstructions: firmDesignatedID: CUS98765 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
3	Broker 1 directs the order through the Cboe Options exchange to the floor broker	*Broker 1 reports an **Option Order Route event*** type: MOOR orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1684 senderIMID: 123:BRKR01 destination: CBOE destinationType: E routedOrderID: RT555 session: ABCD1234 side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516	In Phase 2d, Broker 1 will be required to report *handlingInstructions* 'DIR' and 'FB' in its MOOR event to the exchange indicating that the order was directed to a Cboe Options floor broker.

#	Step	Reported Event	Comments
		tradingSession: REG handlingInstructions: exchOriginCode: C affiliateFlag: false openCloseIndicator: Open	
4	Cboe Options exchange accepts the order from Broker 1	*Exchange reports a Participant* ***Simple Option Order Accepted event***	
5	Cboe Options exchange routes the order to Floor Broker	*Exchange reports a Participant* ***Option Route event***	
6	Floor Broker accepts the order from the Cboe Options exchange	*Floor Broker reports an* ***Option Order Accepted event*** type: MOOA orderKeyDate: 20180516T000000 orderID: O45678 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133032.1684 receiverIMID: 456:FBRKR senderIMID: CBOE senderType: E routedOrderID: RT0789 deptType: T side: SL price: 6.60 quantity: 30 orderType: LMT timeInForce: DAY=20180516 tradingSession: REG affiliateFlag: false openCloseIndicator: Open nextUnlinked: M	The *nextUnlinked* flag must be populated with a value of 'M' to indicate that the immediately following event is not reportable, as is it is a manual event. Alternatively, if the *nextUnlinked* value is unknown at the time of order receipt, a separate Option Order Supplement event may be reported to capture the *nextUnlinked* value.
7	Floor Broker represents the order in the crowd and trades it in the crowd with Market Maker 1. Floor Broker and Market Maker 1 both subsequently report their respective sides of the execution to Cboe Options exchange	*NA*	In Phase 2b, Floor Broker and Market Maker 1 are not required to report open outcry verbal/manual executions. Note that the representation of the order (e.g., the 'Represent' button on Floor Broker's PAR Workstation) is not a CAT reportable event.
8	Cboe Options exchange receives trade reports from Floor Broker and	*Exchange reports a Participant* ***Simple Option Trade event***	

#	Step	Reported Event	Comments
	Market Maker 1 for trade reporting		

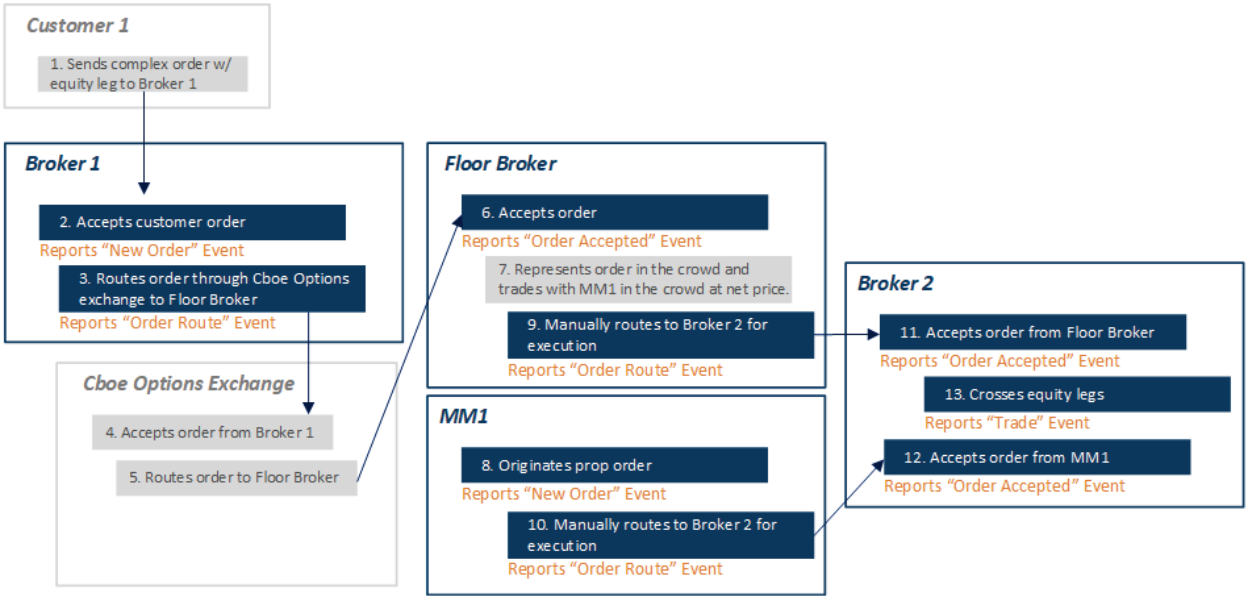
7.2.5. Cboe Options Floor Broker Manually Routes the Equity Leg of a Complex Option Order to another Industry Member

This scenario illustrates the CAT Phase 2a reporting requirements when Industry Member Broker 1 receives a complex order with an equity buy leg from a customer, and directs the order through the Cboe Options exchange systems to an Industry Member Floor Broker.

The Floor Broker represents the complex order with the equity leg to the crowd, and trades the complex order with Market Maker 1 at a net price, with the execution of the options legs at a given price being contingent on the execution of the equity leg at a given price. Upon determining the price of the equity leg, both Floor Broker and Market Maker 1 each separately route their respective sides of the equity leg to Broker 2, who crosses the equity orders.

This scenario illustrates the requirements for reporting the equity leg of a complex order in Phase 2a, and does not include reporting requirements for the option legs, which will not be reportable until Phase 2d. Refer to CAT FAQ B12 for additional information.

Note that in this scenario "Broker 1" could be an Industry Member located off or on the Cboe Options exchange trading floor, including a floor broker.



Industry Member Broker 1 is required to report:

- The receipt of the equity leg buy order from the customer (New Order event with *handlingInstructions* 'OPT')
- The route of the equity leg buy order to the exchange (Order Route event with *handlingInstructions* 'OPT')
  In Phase 2c, the MOOR event should also include *handlingInstructions* values 'DIR' (Directed Orders) and 'FB' (Cboe Options Floor Broker) to denote the route to Floor Broker.

Industry Member Floor Broker is required to report:

- The receipt of the equity leg buy order from the exchange (Order Accepted event with *handlingInstructions* 'OPT')
- The route of the equity leg buy order to Broker 2 (Order Route event with *handlingInstructions* 'OPT')

Industry Member Market Maker 1 is required to report:

- A new proprietary sell equity leg sell order (New Order event with *handlingInstructions* 'OPT')
- The route of the equity leg sell order to Broker 2 (Order Route event with *handlingInstructions* 'OPT')

Industry Member Broker 2 is required to report:

- The receipt of the buy order from Floor Broker (Order Accepted event with *handlingInstructions* 'OPT')
- The receipt of the sell order from Market Maker 1 (Order Accepted event with *handlingInstructions* 'OPT')
- The execution of the orders from Floor Broker and Market Maker 1 (Trade event)

Cboe Options exchange is required to report as outlined in the CAT Reporting Technical Specifications for Plan Participants.

#	Step	Reported Event	Comments
1	Customer sends a complex order with an equity leg to Broker 1	*NA*	
2	Broker 1 accepts the complex order with an equity leg	*Broker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: CO12345 symbol: XYZ eventTimestamp: 20180417T153035.123456 manualFlag: false	In Phases 2a and 2c, since the customer order is an equity leg of a complex option that contains a net price, Broker 1 must report an *orderType* of 'MKT', a blank *price*, and a *handlingInstructions* value of 'OPT'. CAT will interpret this combination of values as an order containing a net price. In Phase 2d, Broker 1 will be required to report a net price.

#	Step	Reported Event	Comments
		deptType: A side: B price: quantity: 200 orderType: MKT timeInForce: DAY=20180417 tradingSession: REG handlingInstructions: OPT custDspIntrFlag: false firmDesignatedID: INS345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	The option leg(s) of the complex order is not reportable until Phase 2d.
3	Broker 1 routes the complex order with an equity leg through the Cboe Options exchange to Floor Broker	*Broker 1 reports an* ***Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: CO12345 symbol: XYZ eventTimestamp: 20180417T153035.553456 manualFlag: false senderIMID: 123:BRKA destination: CBOE destinationType: E routedOrderID: RTCO12345 session: ABCD1234 side: B price: quantity: 200 orderType: MKT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions: OPT	While *handlingInstructions* are generally not required on Order Route events until Phase 2c, Broker 1 must report a *handlingInstructions* value of 'OPT' so the route is not reflected in CAT as the route of an ordinary market order. In Phase 2d, Broker 1 will be required to report a net price. The option leg(s) of the complex order is not reportable until Phase 2d.
4	Cboe Options exchange accepts the complex order with an equity leg from Broker 1	*Exchange reports a Participant* ***Complex Option Order Accepted event*** *and* ***Stock Leg Order event***	
5	Cboe Options exchange routes the complex order with an equity leg to Floor Broker	*Exchange reports a Participant* ***Equity Order Route event***	

#	Step	Reported Event	Comments
6	Floor Broker accepts the complex order with equity leg from the Cboe Options exchange	*Floor Broker reports an **Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: RTB910 symbol: XYZ eventTimestamp: 20180417T153035.853456 manualFlag: false receiverIMID: 456:FBRKR senderIMID: CBOE senderType: E routedOrderID: RTCO45678 affiliateFlag: false deptType: T side: B price: quantity: 200 orderType: MKT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: OPT custDspIntrFlag: false	The floor broker is required to report a *handlingInstructions* value of 'OPT'.to indicate that the order is an options related order. In Phase 2d, Floor Broker will be required to report a net price. The option leg(s) of the complex order is not reportable until Phase 2d.
7	Floor Broker represents the complex order, including the equity leg, to the crowd and trades the customer complex order in the crowd with Market Maker 1. Floor Broker and Market Maker 1 both subsequently report their respective sides of the options legs executions to Cboe Options exchange	*NA*	In Phase 2b, Floor Broker and Market Maker 1 are not required to report open outcry verbal/manual executions. Note that the representation of the order (e.g., the 'Represent' button on Floor Broker's PAR Workstation) is not a CAT reportable event.
8	Market Maker 1 manually originates a proprietary new equity leg order	*Market Maker 1 reports a **New Order event*** type: MENO orderKeyDate: 20180417T000000 orderID: MM65432 symbol: XYZ eventTimestamp: 20180417T153037.153456 manualFlag: true	Market Maker 1 is required to report a *handlingInstructions* value of 'OPT' to indicate that the order is an options related order.

#	Step	Reported Event	Comments
		deptType: T side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG handlingInstructions: OPT custDspIntrFlag: false firmDesignatedID: INS345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
9	Floor Broker calls/manually routes the order to Broker 2 for execution	*Floor Broker reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: RTB910 symbol: XYZ eventTimestamp: 20180417T153037.653456 manualFlag: true senderIMID: 456:FBRKR destination: 789:BRK2 destinationType: F routedOrderID: RTCO65432 side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	Since Floor Broker has assigned a price to the equity leg, the *price* field must be populated. In Phase 2c, Floor Broker is required to report a *handlingInstructions* value of 'OPT' to indicate that the order is an options related order.
10	Market Maker 1 calls/manually routes the equity leg order to Broker 2 for execution	*Market Maker 1 reports an **Order Route event*** type: MEOR orderKeyDate: 20180417T000000 orderID: MM65432 symbol: XYZ eventTimestamp: 20180417T153037.653456	Since a price has been assigned to the equity leg, the *price* field must be populated. In Phase 2c, Market Maker 1 is required to report a *handlingInstructions* value of 'OPT' to indicate that the order is an options related order.

#	Step	Reported Event	Comments
		manualFlag: true senderIMID: 555:MM1 destination: 789:BRK2 destinationType: F routedOrderID: RTCO98765 side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG affiliateFlag: false isoInd: NA handlingInstructions:	
11	Broker 2 manually accepts the equity leg order from Floor Broker	*Broker 2 reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: ORD123 symbol: XYZ eventTimestamp: 20180417T153037.853456 manualFlag: true receiverIMID: 789:BRK2 senderIMID: 456:FBRKR senderType: F routedOrderID: RTCO65432 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: OPT custDspIntrFlag: false	Broker 2 is required to report a *handlingInstructions* value of 'OPT' to indicate that the order is an options related order.
12	Broker 2 manually accepts the equity leg order from Market Maker 1	*Broker 2 reports an* ***Order Accepted event*** type: MEOA orderKeyDate: 20180417T000000 orderID: ORD456 symbol: XYZ	Broker 2 is required to report a *handlingInstructions* value of 'OPT' to indicate that the order is an options related order.

#	Step	Reported Event	Comments
		eventTimestamp: 20180417T153037.853456 manualFlag: true receiverIMID: 789:BRK2 senderIMID: 555:MM1 senderType: F routedOrderID: RTCO98765 affiliateFlag: false deptType: T side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY=20180417 tradingSession: REG isoInd: NA handlingInstructions: OPT custDspIntrFlag: false	
13	Broker 2 crosses the Buy and Sell equity leg orders	*Broker 2 reports a **Trade event*** type: MEOT tradeKeyDate: 20180417T000000 tradeID: TXYZ123 symbol: XYZ eventTimestamp: 20180417T153039.853456 manualFlag: false cancelFlag: false cancelTimestamp: quantity: 200 price: 10.00 capacity: A tapeTradeID: TRF123 marketCenterID: DN sideDetailsInd: NA buyDetails: orderKeyDate: 20180417T000000 orderID: ORD123 side: B sellDetails: orderKeyDate: 20180417T000000 orderID: ORD456 side: SL	

In the scenario above, upon determining the price of the equity leg, both Floor Broker and Market Maker 1 each separately route their respective sides of the equity leg to Broker 2, who crosses the equity orders. Another common scenario that occurs is one where Market Maker 1 would ask Floor Broker to route Market Maker 1's side of the equity leg to Broker 2 on Market Maker 1's behalf. In that scenario, Floor Broker would route both Floor Broker's buy-side equity leg and Market Maker 1's sell-side equity leg to Broker 2 for execution. In that scenario, if everything else about the fact pattern remains the same, the following events would be reported in Phase 2a:

Industry Member Broker 1 is required to report:

- The receipt of the equity leg buy order from the customer (New Order event with *handlingInstructions* 'OPT')
- The route of the equity leg buy order to the exchange (Order Route event with *handlingInstructions* 'OPT'; in Phase 2d, the event should also include the following additional handling instructions to denote the route to the floor broker: *handlingInstructions* 'DIR' and 'FB')

Industry Member Floor Broker is required to report:

- The receipt of the equity leg buy order from the exchange (Order Accepted event with *handlingInstructions* 'OPT')
- The receipt of the equity leg sell order from Market Maker 1 (Order Accepted event with *handlingInstructions* 'OPT')
- The route of the equity leg buy order to Broker 2 (Order Route event with *handlingInstructions* 'OPT')
- The route of the equity leg sell order to Broker 2 (Order Route event with *handlingInstructions* 'OPT')

Industry Member Market Maker 1 is required to report:

- A new proprietary equity leg sell order (New Order event with *handlingInstructions* 'OPT')
- The route of the equity leg sell order to Floor Broker (Order Route event with *handlingInstructions* 'OPT')

Industry Member Broker 2 is required to report:

- The receipt of the equity leg buy order from Floor Broker (Order Accepted event with *handlingInstructions* 'OPT')
- The receipt of the equity leg sell order from Floor Broker (Order Accepted event with *handlingInstructions* 'OPT')
- The execution of the orders from Floor Broker (Trade event)

Cboe Options exchange is required to report as outlined in the CAT Reporting Technical Specifications for Plan Participants.