

CAT Reporting Technical Specifications for Industry Members

3/29/2019

DRAFT 2 Version 1.1

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Preface

Rule 613 of the Securities Exchange Act of 1934 requires national securities exchanges and national securities associations (“SROs”) to submit a national market system plan to the Securities and Exchange Commission (“Commission” or “SEC”) to create, implement, and maintain a consolidated audit trail (the “CAT”) that would allow regulators to more efficiently and accurately track all activity in U.S. equity and listed options markets. Pursuant to Rule 613, the SROs filed with the Commission the National Market System Plan Governing the Consolidated Audit Trail (“CAT NMS Plan”), which was approved by the Commission on November 15, 2016.

Under Rule 613(g)(2), each member of a national securities exchange or national securities association is required to comply with all the provisions of the CAT NMS Plan. Relatedly, as mandated under Rule 613, 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 agree to enforce compliance by its members in that regard. Accordingly, each SRO has adopted rules requiring its members to comply with Rule 613 and the CAT NMS Plan. See, e.g., FINRA Rule 6800 Series.

The SROs 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. Thus, the CAT is a facility of each SRO.

This specification represents a phased approach to industry reporting. Key dates are as noted below. Please note that a proposed amendment to the CAT NMS Plan will be filed with the Commission to reflect the phased approach for Industry Member CAT reporting described in these Technical Specifications. The proposed amendment will be subject to the Commission's approval.

Table 1: Industry Specifications Phased Approach

Phase 2a – Equities Part 1 Go Live 4/2020	Phase 2c – Equities Part 2 Go Live 4/2021
All events and scenarios covered by OATS	Linkages to the customer order(s) being represented for all representative order scenarios including agency average price, net trading, aggregated orders, OMS-EMS scenarios
All proprietary orders including market maker orders	Sub-account allocations
Firm Designated ID (mandatory by end of regulatory conformance period)	Rejected External Routes with flag indicating route was not accepted by receiving destination
All street side representative orders (both agency and proprietary)	Internal Route modifications and cancels
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	Unlisted quotes sent to an inter-dealer quotation system operated by a CAT Reporter
Quotes in NMS stocks sent to a national securities exchange or facility of a national securities association *assumes exemptive relief request for verbal quotes	Revisit application of OATS guidance to CAT for firm modifications to previously routed orders (OATS FAQ C35) *subject to Event Type Decision
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	Special Handling instructions on Route Reports (limited to a defined set of values)
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 (OATS FAQ C35) applies to CAT *subject to Event Type Decision	

Phase 2b – Options Part 1 Go Live 5/2020	Phase 2d – Options Part 2 Go Live 12/2021
Simple electronic orders, excluding electronic paired orders	Simple manual orders
	Electronic and manual paired orders
	All complex orders with linkage to all CAT-reportable legs

Executive Summary

This document describes the requirements for the reporting of data to CAT by Industry Members, including detailed information about data elements and file formats of each Reportable Event. It also describes how Industry Members should submit files to CAT, including access instructions, network and transport options, and testing requirements.

A separate companion document containing detailed reporting scenarios entitled CAT Industry Member Reporting Scenarios should be used as a guide for determining how the event types and field values laid out in this document should be applied when reporting various order handling and execution scenarios for both equities and options.

Table 2: Revision / Change Process

Version	Date	Author	Description
1.0	10/30/2018	Thesys CAT	Initial publication
1.01	2/22/2019	CAT NMS, LLC	Re-publish v1.0 (as v1.01) to reflect transition from Thesys CAT
1.1 Draft 1	2/28/2019	CAT NMS, LLC	<p>Removed values (A,R,T) from allow able values for <i>reportingExceptionCode</i></p> <p>Added the following allow able values to <i>handlingInstructions</i>: MOC, MOO, BIN</p> <p>Removed the following allow able values to <i>handlingInstructions</i>: CDIF, OPG</p> <p>Added the following fields to MOOM event: <i>routingOrigin</i>, <i>routingOriginType</i>, <i>aggregatedOrders</i>, <i>representativeInd</i></p> <p>Removed <i>isolInd</i> field from MECO and MECOM events</p> <p>Removed <i>auctionFlag</i> from Data Dictionary</p> <p>Changed description of ATS fields to state "Applicable for ATSs only."</p> <p>Greyed out <i>quoteRejectedFlag</i> on MENQ event</p> <p>Extended <i>seqNum</i> to be alphanumeric (40)</p> <p>Changed <i>firmDesignatedID</i> to alphanumeric (40)</p> <p>Changed <i>firmDesignatedID</i> to be required on MENQ</p> <p>Changed Lifecycle Keys to Linkage Keys</p> <p>Changed <i>negotiatedTrade</i> field to <i>negotiatedTradeFlag</i></p> <p>Updated language for <i>displayPrice</i> and <i>displayQty</i> fields</p> <p>Changed <i>Material Terms</i> in the glossary to state "strike price" instead of "sticker price"</p> <p>Greyed out <i>quoteID</i> and <i>priorQuoteID</i> on MEOM event</p> <p>Changed Stop Stock <i>handlingInstruction</i> to a Name</p>

Version	Date	Author	Description
			<p>Value Pair</p> <p>Changed <i>accountType</i> to <i>AccountHolderType</i></p> <p>Greyed out <i>handlingInstructions</i> on route events.</p> <p>Removed <i>optionOriginCode</i> from options events.</p> <p>Removed <i>originator</i></p> <p>Added <i>accountHolderType</i> to MONO</p> <p>Added <i>affiliateFlag</i> to MENO, MEOA, MONO, and MOOA events.</p> <p>Added <i>accountHolderType</i> of F Foreign</p> <p>Removed <i>reportingExceptionCode</i> field from MEOTQ event</p> <p>Changed definition of <i>electronicTimestamp</i> to the time the order was systematized.</p> <p>Removed the list of exchange specific values from the Data Dictionary in the <i>ExchOriginCode</i> field</p> <p>Added <i>capacity</i> to MEFA event</p> <p>Added <i>manualOrderID</i> to MENO, MONO, MOOA events.</p> <p>Added new allow able value to <i>representativeInd</i> and <i>fulfillmentLinkType</i>: O</p> <p>Removed SH code from Routes to 2c</p> <p>Extended <i>FirmROEID</i> to 50 characters</p> <p>Removed <i>leavesQty</i> from MEOF</p>
1.1 Draft 2	3/29/2019	CAT NMS, LLC	<p>Made corrections to 2/28/19 change log</p> <p>Updated go live dates for phases 2c and 2d</p> <p>Removed MEOTQ event and added <i>quoteID</i> as a conditional field on the MEOT.</p> <p>Changed <i>reporterID</i> and <i>submitterID</i> fields to <i>CATReporterIMID</i> and <i>CATSubmitterID</i></p> <p>Added <i>actionType</i>, <i>orderReceivedDate</i>, <i>CATReporterIMID</i>, <i>OrigFirmROEID</i>, and <i>origFileName</i> to all event types</p> <p>Added <i>actionType</i>, <i>orderReceivedDate</i>, <i>origFirmROEID</i>, <i>origFileName</i> to Data Dictionary</p> <p>Added "Primary Order Event", "Secondary Order Event", "Trading Algorithm" , and "ROE" to the Glossary</p> <p>Defined NBBOSource of "Hybrid"</p> <p>Updated Section 2.2.1</p> <p>Updated Section 2.2.5 and section 4.3 to note that <i>handlingInstructions</i> are not required on Order Route events until phase 2c.</p> <p>Updated Linkage Keys throughout the document</p> <p>Updated Section 3 with instructions for populating ATS fields</p>

Version	Date	Author	Description
			<p>Updated definition of <i>session</i> in Data Dictionary</p> <p>Updated definition of <i>custDsplnstrFlag</i> in Data Dictionary and events, added allow able values to Data Dictionary</p> <p>Added <i>manualOrderID</i> to MEOM event.</p> <p>Added <i>affiliateFlag</i>, <i>cancelFlag</i>, and <i>cancelTimestamp</i> to MEOT</p> <p>Added <i>cancelFlag</i> and <i>cancelTimestamp</i> to Data Dictionary</p> <p>Changed <i>displayPrice</i> on MENO and MEOA to be an ATS Field</p> <p>Removed <i>handlingInstruction</i> of CLO</p> <p>Added letter values for NBBO Source fields</p> <p>Updated instances of "Equity Quote Event" to state "Quote Event" consistent w with the name of the event type</p> <p>Updated definition of fulfillmentLinkType YF to remove reference to options order fulfilment</p> <p>Updated all references of web portal to state "CAT Reporter Portal"</p> <p>Changed the definition of <i>electronicTimestamp</i> to "the time the event was systematized"</p> <p>Removed <i>leavesQty</i> from MOOF</p> <p>Updated the definition of <i>priorOrderDate</i> in MEIR, MECOM, MEOM, MEOJ, MOIR, MOCOM, MOOM, and MOOJ events</p> <p>Removed <i>priorOrderDate</i> from MEOR, MECO, MECOC, MEOC, MEOT, MEOF, MOOR, MOCO, MOCOC, MOOC, and MEOF events.</p> <p>Updated the definition of <i>priorOrderID</i> in MEIR, MECOM, MEOM, MEOJ, MOIR, MOCOM, MOOM, and MOOJ events</p> <p>Removed <i>parentOrderID</i> from MECOM, MECOC, MOCOM and MOCOC events</p> <p>Updated the definition of <i>parentOrderID</i> in MECO and MOCO events</p> <p>Updated the definition of <i>orderID</i> in MEIR, MECOM, MECOC, and MOIR and MOCOC events</p> <p>Added <i>parentOrderDate</i> to MECO and MOCO event</p> <p>Added <i>destination</i> and <i>routingOrigin</i> MIAX Emerald ("MIAXOE")</p> <p>Changed the <i>destination</i> and <i>routingOrigin</i> value for MIAX Pearl to "MIAXOP"</p> <p>Updated the definition of "Destination" in the MENQ event to state that it must match the <i>receiverIMID</i></p> <p>Updated the definition of <i>initiator</i> in the Data Dictionary</p> <p>Removed <i>reason</i> and <i>cancelReason</i> fields</p>

Version	Date	Author	Description
			<p>Updated definition of <i>eventTimestamp</i> in MOCO, MOCOM and MOCOC events</p> <p>Removed <i>side</i> field from MEOJ</p> <p>Added definition of <i>AccountHolderType</i> "F"</p> <p>Updated definition of <i>senderIMID</i> in Data Dictionary</p> <p>Updated Section 2.5.3 for requirements when routing to a foreign broker-dealer</p> <p>Updated section 6 and 7 Submission, Feedback and Corrections</p> <p>Added and clarified date definitions in Appendix D</p> <p>Added draft of error codes in Appendix E</p> <p>Updated contact info for CAT Help Desk</p>

1. Introduction

1.1. CAT Overview

The Securities and Exchange Commission (SEC) approved Rule 613 under the Securities Exchange Act of 1934, which requires national securities exchanges and national securities associations (collectively, the Participants) to submit a national market system plan to create, implement, and maintain a consolidated audit trail ([CAT NMS Plan](#)) that would capture customer and order event information for orders in NMS Securities and OTC Equity Securities (Eligible Securities), across all markets, from the time of order inception through routing, cancellation, modification, execution, and allocation. The SEC approved the CAT NMS Plan on November 15, 2016.

In accordance with SEC Rule 613, the CAT NMS Plan requires a Central Repository that will comprehensively track orders throughout their lifecycle and identify the Participants and Industry Members handling them, as well as the account holders and authorized traders for any account that originates an order (Customers¹). Specific data elements will be submitted to the Central Repository by Participants, Industry Members, and CAT Reporting Agents. CAT Reporting Agents may be third-party firms reporting on behalf of other entities, or may be outside parties that are not required to submit data to the CAT, but from which the CAT may receive data per the CAT NMS Plan, such as the Securities Information Processors (SIPs).

The CAT NMS Plan also requires the selection of an entity as the Plan Processor to be responsible for performing the processing functions required by Rule 613 and the Plan. The Operating Committee of CAT NMS LLC, a governing body composed of representatives of the Participants, oversees the operation of the CAT. The duties of the Operating Committee are further described in Article IV of the CAT NMS Plan.

Refer to SEC Rule 613, available at: <https://www.sec.gov/rules/final/2012/34-67457.pdf> for more details.

Refer also to CAT NMS Plan, available at: <https://www.catnmsplan.com/wp-content/uploads/2018/02/34-79318-exhibit-a.pdf>

¹ Customers are defined in SEC Rule 613(j)(3) as: (i) the account holder(s) of the account at a registered broker-dealer originating the order; and (ii) any person from whom the broker-dealer is authorized to accept trading instructions for such account, if different from the account holder(s).

2. CAT Reporting Fundamentals

2.1. Industry Member Perspective

Industry Members should populate fields from their own perspective. For example, for “capacity”, the Industry Member should report based on the capacity in which the Industry Member acted. For a New Order and Order Accepted, reports should indicate the instructions as received; for an Order Route, the fields should include the instructions as sent to the destination.

2.2. Key Data Elements

The sections below describe the key data elements of CAT that may be used in order events and/or metadata files.

2.2.1. CAT Reporter IMID and CAT Submitter ID

Two CAT identifiers, the CAT Reporter IMID and the CAT Submitter ID, i.e., CAT Reporting Agent, are used during the CAT file submission process to identify the Industry Member and, if applicable, the party authorized to submit CAT files on behalf of the Industry Member (CAT Reporting Agent).

CAT Reporter IMID

The CAT Reporter IMID is the SRO assigned identifier that an Industry Member used to report order events to CAT. A CAT Reporter may use any SRO assigned identifier that is valid on the CAT Trading Day for which order events are submitted. CAT will use reference data submitted by Participant Reporters each day to identify the Industry Member to which the specific identifier is assigned. Each SRO assigned identifier is linked to the Industry Member's CRD number so that all reporting activity of a single Industry Member CAT reporter can be consolidated at the firm level in CAT.

CAT Submitter ID

The CAT Submitter ID is the identifier of the CAT Reporting Agent, the entity authorized to submit the files to CAT on behalf of the Industry Member. CAT Reporters may authorize third-parties (“CAT Reporting Agents”) to submit data to CAT on their behalf. The CAT Reporting Agent must be authorized to submit data on behalf of the Reporter. Each CAT Reporting Agent will be assigned a unique CAT Submitter ID by CAT during onboarding.

2.2.2. Order ID

The order ID used in order events, representing the internal order IDs assigned by the Industry Member, must be unique when combined with the *orderReceivedDate*, *CATReporterIMID* and *symbol* (or *optionID*).

2.2.3. Timestamps

Each Industry Member must record and report Industry Member Data to the CAT with timestamps in milliseconds. However, to the extent that any Industry Member's order handling or execution systems utilize timestamps in increments finer than milliseconds, such Industry Member must record and report Industry Member Data to the CAT with timestamps in such finer increments. CAT will accept granularity up to nanoseconds. Each Industry Member may record and report Manual Order Events to the CAT in increments up to and including one second, provided that each Industry Member shall record and report the time when a Manual Order Event has been captured electronically in an order handling and execution system of such Industry Member ("Electronic Capture Time") in milliseconds. Each Industry Member may record and report the time of Allocation Reports in increments up to and including one second.

There are two timestamps fields in each event - *eventTimestamp* and *electronicTimestamp*. The *eventTimestamp* is the time of order handling or execution pursuant to Section 6.8 of the CAT NMS Plan (e.g. origination, receipt) depending on the respective order event). For manual order handling, *eventTimestamp* is the manual handling or execution time, which is required to be reported in increments of at least one second. When the manual order is later captured electronically, the systematized time must be captured in the *electronicTimestamp* field.

With respect to sequence numbers, Alternative Trading Systems (ATs) must provide a sequence number assigned by the ATs's matching engine on all Reportable Events.

2.2.4. Order Types

CAT uses a standardized list of order types for Industry Members that can be found in the Data Dictionary. All events with the field *orderType* will require one of these standard order types as a value.

For events reported by ATs, an additional field (in addition to *orderType*) - *atsOrderType* - is used to capture ATs-specific order types. Please see Section 3.1.2 ATs Order Types for more details.

Please note that brokers routing to ATs are not required to use the *atsOrderType* field, nor the ATs specific codes in the standardized *orderType* field in their Order Route events. The *orderType* on the Order Route event will not be validated against an *atsOrderType*.

2.2.5. Order Handling Instructions

Special handling instructions are reported in the *handlingInstructions* field using a standardized list of handling instructions based on common exchange order types and codes. Multiple codes and values can be used in combination to describe the special handling instructions. Industry Members are required to report *handlingInstructions* on Order Route events in phase 2c. In the event an Industry Member routes

an order with exactly the same handling instructions received from the customer, they may use *handlingInstructions* code "RAR" (Routed as Received) on the Order Route event rather than re-stating all *handlingInstructions* values from the New Order/Order Accepted event.

2.3. Reference Data

2.3.1. Industry Member Identifier (IMID)

An Industry Member Identifier, IMID, is any identifier assigned by an SRO to one of its members. Examples of SRO assigned identifiers include FINRA MPIDs, Nasdaq MPIDs, NYSE Mnemonics, CBOE User Acronyms, and CHXAcronyms.

Reportable events will use fields with the Data Type "IMID" to refer to the Industry Member performing the action described by the event, and/or the entity that is the subject of the action described by the event. In other words, an IMID type field will be used in all scenarios where an Industry Member must refer to themselves or another Industry Member in an event.

This IMID approach allows the Industry Member to use any SRO assigned Industry Member Identifier in the Reportable Events. Acknowledging the potential that the same SRO assigned Industry Member Identifier may be used by different SRO for different entities, CAT will publish a daily file to highlight any conflict among the SRO assigned Industry Member Identifiers. Such conflicts are detected in the processing of the daily member dictionaries submitted by each SRO. If a conflict is identified for a specific IMID, the Industry Member may choose to use either the SRO assigned Industry Member Identifier by another SRO that is not conflicted with other IDs, or the full format of the IMID - the combination of source (issuing SRO) and the SRO assigned Industry Member Identifier - to guarantee uniqueness of the IMID. For example, if AAAA is conflicted with another SRO assigned Market Participant Identifier in the CAT, the alternative can be to either use a different SRO assigned Market Participant Identifier assigned by another SRO (e.g., AAAB, pointing to the same Industry Member), or the full format FINRA:AAAA - a combination of ID and the source SRO.

2.3.2. Firm Designated ID (FDID)

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."

FDID represents an account and not a specific customer. For example, John Doe has two accounts at BDA, a regular trading account (account #124) and an IRA account (account #456). BDA would have two different FDIDs in this case, one for John Doe's regular trading account and a second for John Doe's IRA account.

The FDID for the trading account an order was received or originated for must be reported on all New Order Events.

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 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

An actual account may not be used as the FDID for CAT reporting. See CAT Interpretive FAQ M2 for more information on the prohibition on use of actual account numbers.

2.3.3. Equity Symbols

Industry Members must report Reportable Events related to listed equity Eligible Securities to CAT using the symbology of the primary listing exchange and must report Reportable Events related to OTC Equity Securities using FINRA OTC symbology.

2.3.3.1. CAT Symbol Master

CAT will provide a start-of-day equity symbol master list at 6:00AM and an end-of-day equity symbol master list each day on www.catnmsplan.com.

The symbol master file for Industry Members contains the following information:

- Listing exchange,
- Symbol in the symbology of the listing exchange, and
- Flag indicating whether the symbol is a test symbol.

2.3.4. Option Symbols

As stated above, the CAT NMS Plan requires symbols to be reported to CAT in the symbology of the listing exchange. Standard option symbols established across exchanges as the result of the Option Symbology Initiative (OSI) should be used for any single-leg listed options.

2.3.4.1. 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 for a FLEXPercent option, Industry Members must append "%" to

the beginning of the standard OSI symbol. This will enable the CAT system to differentiate between a strike value that is expressed in percent terms from one that is expressed in dollars and cents.

Thus, FLEXPercent option symbols expressed with percentage strike values will have 22 characters. For example, an option order with optionID

%1AAPL 200131C00095000 indicates it is a Flex Percent option order on OSI symbol 1AAPL 200131C00095000.

2.3.5. Corporate Actions

The CAT System will maintain a historical symbology in the Central Repository that includes corporate actions.

CAT will receive daily corporate action files and symbol updates from the various data sources (including equity and options listing exchanges, FINRA OTC Equity Symbols, Data Distribution Services from Options Clearing Corporation, etc.) and publish daily symbol master files to the Industry Members. The symbol changes impacted by corporate actions will be reflected in the daily symbol master files. Industry Members must use the updated symbol in Reportable Events from the effective date of the symbol change. Failure to report in the updated symbol would result in rejects of the record(s).

Industry Members are not required to report order adjustments due to corporate actions, e.g., price or size changes. However, if an Industry Member chooses to report an adjustment resulting from a corporate action, the adjustment should be reported using the Order Modified event (or Order Adjusted event).

2.3.5.1. Options Intraday Listing or Delisting

CAT accommodates intraday listing of options by exchanges. Industry Members must report the OSI symbol as the optionID, just like for previously listed options.

CAT will maintain a historical record of option symbols, including symbols that have been delisted.

Exchanges and the OCC will provide reference data to CAT for option symbols that are listed or delisted intraday.

2.4. Data Types

CAT will accept two kinds of text-based files: JSON and CSV. The fundamental data types used throughout this document are described below. Other data types are defined in the Data Dictionary provided in Appendix G of this document.

To support both JSON and CSV submissions, CAT will publish 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 that the data element would assume. A schema will be provided for each data object that can be reported in both JSON and CSV.

Data Validation Based on Data Types

All data submitted to CAT will be validated based on the defined data type of each item, including proper formatting and range checking. Examples of accepted values are detailed in the table below. Valid values for Choice fields are defined in the Data Dictionary for each data element. Valid data values, ranges, and formats will be specified in the record schema files, which will be used to validate submitted data element values. Records and values that fail validation will be marked as a failure and will be reported as feedback to the Reporter and Data Submitter as detailed in Section 7.

Table 3: Data Types

Data Type	JSON Type	Description
Numeric	NUMBER	<p>A general numeric type, composed of digits, an optional decimal point, followed by more digits (with an optional leading +/- sign). While these values look like floating point numbers, they should always be read and processed in a way that represents the exact value as signified by the text.</p> <p>Examples:</p> <ul style="list-style-type: none"> • 1235 • -1235 • 1235.67 • -1235.67 <p>When a numeric type is described in this document, it will include two numbers, the first is the maximum number of digits before the decimal point, and the second is the maximum number of digits after the decimal point.</p> <p>For example, Numeric (6,4) means that the number can have up to 6 digits before the decimal point and up to 4 digits after the decimal point (the visual format would be #####.####). Note that these are maximum limits but the lengths can be smaller. Valid examples which comply with Numeric (6,4) including the following:</p> <ul style="list-style-type: none"> • -999999.9999 • -0.1 • 0 • 0.0001 • 999999.99 <p>All numeric values must have a whole number portion before the decimal point (for example, 0.25 cannot be represented as .25). The fractional portion is optional.</p> <p>Do not use leading zeros in numeric values. A zero should only appear as</p>

Data Type	JSON Type	Description
		the first digit if it is the only digit before the decimal point (e.g., 0.75).
Price	NUMBER	A Price is shorthand for Numeric (10,8), which can support prices in the inclusive range from -9999999999.99999999 to 9999999999.99999999.
Real Quantity	NUMBER	A numeric field meaning Numeric (12,6) with up to 12 digits before the decimal point and up to 6 digits after the decimal point. However, the type Real Quantity cannot have trailing zeroes in the decimal quantities. Trailing zeroes in the decimal quantity will result in a rejection. For example, a value of 100.00 would not be accepted for the type Real Quantity, only 100 would be accepted. Similarly, a value of 100.10 would not be accepted, only 100.1 is acceptable for the type Real Quantity.
Whole Quantity	NUMBER	An integer value with no decimal fraction component. Shorthand for Numeric (12,0).
Integer	NUMBER	An integer value (positive, negative, or zero), with no decimal fraction component, in the inclusive range from -9,223,372,036,854,775,808 to 9,223,372,036,854,775,807 (the same range as a 64-bit signed integer).
Unsigned	NUMBER	An unsigned value, greater than or equal to zero, with no decimal fraction component, in the inclusive range from 0 to 18,446,744,073,709,551,615 (the same range as a 64-bit unsigned integer).
Boolean	BOOLEAN	A value with only two choices: true or false. In CSV representations, the value must equal true or false (lower cases, no quotation marks)
Alphanumeric	STRING	A string, composed only of letters and digits [a-zA-Z0-9]. When an Alphanumeric type is described, it will include a number, indicating the maximum length of the field. For example, Alphanumeric (7) means that the field can contain up to 7 characters.
Text	STRING	A string, composed of any printable character, except comma (ASCII decimal 44, hex 2C), pipe (ASCII decimal 124, hex 7C), double quote (ASCII decimal 34, hex 22), and @ (ASCII decimal 64, hex 40). When a Text data type is described, it will include a number, indicating the maximum length of the field. For example, Text (7) means that the field can contain up to 7 characters.
Date	NUMBER	An 8-digit integer representing the date in YYYYMMDD.
Time	STRING	A numeric field, with a specific format conforming to what the ISO 8601 standard calls the <i>basic format</i> , with a few extra specifications. All 24-hour time components are mandatory (<i>i.e.</i> , hour, minute, and second as HHMMSS). The decimal-fraction part must be separated from the whole part with a period (ASCII decimal 46, hex 2E), and can contain up to 9 digits (to represent nanosecond component). The time zone is always Eastern Time (ET). For example, 09:30:00.123456789 ET would be reported as 093000.123456789.
Timestamp	STRING NUMBER	A timestamp represents a moment in time, and contains both Date and Time, separated by the letter T (ASCII decimal 84, hex 54) or a space (ASCII decimal 32, hex 20). All time must be in Eastern Time (ET). For example, January 7, 2017 21:30:00.123456789 in New York would be represented as the string 20170107T213000.123456789 or

Data Type	JSON Type	Description
		<p>20170107 213000.123456789.</p> <p>As an alternative format, the timestamp can be submitted as a value of type Unsigned, representing the number of nanoseconds that have elapsed since 00:00:00 Coordinated Universal Time (UTC), Thursday, 1 January 1970, not counting leap seconds. This is also commonly known as POSIX time or UNIX time. The same point in time from the above example would be represented as the number 1483842600123456789.</p> <p>Note that the data type is different between the two formats. In JSON, the first representation requires it to be surrounded by double quotes, while the second does not.</p>
Name Value Pairs	STRING	A value of type Text, composed as described in the Name Value Pairs section. (Note that the pipe character is allowed for the purpose of separating each name/value pair. Commas and double quotes are not allowed in name/value pair strings.). Please refer to the following section for more details.
Array of ZZZ	ARRAY	<p>When represented in JSON, it is an array of the indicated type (ZZZ is a placeholder). So, Array of Unsigned would be an array of unsigned integers, and would be represented as [0, 42].</p> <p>When represented in CSV, it is a series of the indicated type, separated by the pipe symbol. So, the array cited previously of Unsigned would be represented as 0 42.</p>
Choice	STRING	A Text field, but with an explicit list of acceptable values. The Data Dictionary section of this document lists acceptable values for Choice fields.
Symbol	STRING	Text (22). See Section 2.2.3 and 2.2.4 for more details on Equity and Options symbols. The string is case sensitive.
Message Type	STRING	An Alphanumeric (5) field, indicating the type of message being reported.
CAT Reporter IMID	STRING	Alphanumeric (7) - a CAT Reporter IMID.
Participant ID	STRING	A subclass of CAT Reporter IMID that applies only to Participants.
Exchange ID	STRING	A subclass of Participant ID that applies only to exchanges.
CAT Submitter ID	STRING	Alphanumeric (7) - a unique ID assigned by CAT to the CAT Reporting Agent.
Industry Member ID (IMID)	STRING	<p>Text (16) – SRO assigned Market Participant Identifier - an identifier assigned by an SRO to one of its members. For example, FINRA MPID, Nasdaq MPID, NYSE Mnemonic, CBOE User Acronym, or CHX Acronym.</p> <p>As an alternative, the IMID can be represented in the format of IssuingSRO:IMID. For example, a FINRA MPID AAAA can be represented as <i>FINRA:AAAA</i>.</p> <p>The alternative format is used when simple IMID cannot guarantee the uniqueness of identification of an Industry Member.</p>
FDID	STRING	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

Data Type	JSON Type	Description
		business date."
Trade Side Details	Nested Object	<p>A compound object that consists of a list of data elements that represents buy or sell side details of a Trade.</p> <p>For example, <i>fieldName</i> is the data elements of this data type. It is represented as:</p> <pre>{ "field0": "value0", "fieldName": { "nestedField0": "nestedValue0", "nestedField1": "nestedValue1", "nestedField2": "nestedValue2" } }</pre> <p>When represented in CSV, it is value0,nestedValue0,nestedValue1,nestedValue2</p> <p>Please refer to Section 4.12.1 table Trade Side Details for the list of nested fields.</p>
Fulfillment Side Details	Nested Object	<p>A compound object that consists of a list of data elements that represents firm side or customer/client side details of an Order Fulfillment. Please refer to Section 4.13.1 table Fulfillment Side Details and 5.10.1 Options Fulfillment Side Details for the list of nested fields.</p>

2.4.1. Name/Value Pairs

Some fields are described as containing Name/Value pairs. This signifies a list of zero or more attributes, where each attribute is either a name with no value, or a name with an accompanying value such that the name and value are separated by a single equal sign (ASCII decimal 61, hex 3D). Multiple attributes, i.e., Name/Value Pairs, are separated by the pipe symbol (ASCII decimal 124, hex 7C). If an attribute is Boolean in nature, it can optionally be represented as a name alone, where its value is implied by its presence (true) or absence (false).

The Name part is the string up to the first pipe symbol or equal sign. Names must not contain commas (ASCII 44, hex 2C), pipes, equal-signs, or double-quotes (ASCII decimal 34, hex 22).

If the name terminates with a pipe, it is a Boolean value, and its presence indicates true. If the name terminates with an equal sign, the value must follow.

The Value part is the string starting with the character just after the equal sign, up to either a pipe symbol or the end of the string. Values may contain an equal sign, but must not contain commas, pipes or double-quotes.

For example, the following JSON represents a hypothetical name/value pair field, with a boolean attribute and a price attribute: { "data": "XYZ|ABC=12.55" }

The above format works for both JSON and CSV data entry. However, when submitting data in JSON, a more native JSON style can optionally be used by assigning a JSON object as the value for a Name Value Pair attribute. Note, however, that Boolean values must be explicitly set. The above example can alternatively be submitted as:

```
{ "data": { "XYZ": true, "ABC": 12.55 } }
```

2.4.2 Required, Conditional, and Optional Fields

Throughout this document, event types and their fields will be defined. Each field 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.

Table 4: Include Key

Value	Abbreviation	Description
Required	R	Required for the given event. This field must always be included.
Conditional	C	Conditionally required for the given event, depending upon other values submitted in the Reportable Event message.
Optional	O	Optional for the given event. May be included at the discretion of the reporter/submitter.
ATS	A	Applicable for ATSS only.

2.5. Linkage Overview

This section describes the linkage keys that are used to create lifecycles in CAT and explains how the linkage keys are constructed via different data elements in respective Reportable Events.

2.5.1. CAT Linkage Keys

All Reportable Events will be linked in CAT via the daisy chain approach. Below is the list of linkage keys that connect order events within an Industry Member and across Industry Members.

- **Order Key** links together the events of the same order, within an Industry Member, e.g. linking an Order Route event to the Order Accepted event. The Order Key is constructed by *orderReceivedDate*, *CATReporterIMID*, *symbol* (or *optionID*) and *orderID*.

- **Prior Order Key** links together the modified, cancel/replaced or internally routed order to the original order. For example, linking an Order Modified event to the Order Accepted event. The Prior Order Key is constructed by *orderReceivedDate* (or *priorOrderDate* if populated), *CATReporterIMID*, *symbol* (or *optionID*), and *priorOrderID*. However, the field names may vary depending on the order events. Please see each order events sections for more details.
- **Parent Order Key** links a child order event to its related parent order event. The Parent Order Key is constructed by *orderReceivedDate*, *CATReporterIMID*, *symbol*, *parentOrderID*.
- **Route Linkage Key** links the order events by the Industry Member routing an order away and the Industry Member accepting the order. Please see Section 2.5.2 below for more detailed descriptions.
- **Trade Key:** Each Trade event has a Trade Key (date, *CATReporterIMID*, *symbol* (or *optionID*), *tradeID*), and each side of the trade has an Order Key that links to the order on side.
- **TRF Linkage Key** links the order events reported by the Industry Member to the related tape report in the TRF/ADF/ORF. The trade linkage key is constructed by , *eventTimestamp*, *sideIMID*, *symbol* and *tapeTradeID*
- **Fulfillment Key:** *orderReceivedDate*, *CATReporterIMID*, *symbol* (or *optionID*), *fulfillmentID*
- **Prior Fulfillment Key:** *priorFulfillmentDate*, *CATReporterIMID*, *symbol* (or *optionID*), *priorFulfillmentID*
- **Quote Key:** date, *CATReporterIMID*, *symbol*, *quoteID*

2.5.2 Reporting Responsibilities of Sender/Receiver in Order Route

In Phase 2a, Industry Members are responsible for reporting routes, modifications, and cancellations in line with OATS guidance. Below are a list of sample scenarios and the reporting responsibilities of the sender (Broker A) and the receiver (Broker B).

Table 5: Reporting Responsibilities of Sender/Receiver in Order Route

Scenario	Sender (Broker A)		Receiver (Broker B)	
	Action	CAT Report	Action	CAT Report
An Order Sent from Broker A to Broker B	Routes the order to Broker B	Order Route	Accepts the order from Broker A	Order Accepted
An Order Sent from Broker A to Broker B is rejected	Routes the order to Broker B	N/A	Rejects the order from Broker A	N/A
Customer Initiates a cancel/replace on a previously routed order to Broker B	Routes the original order to Broker B	Order Route	Accepts the order from Broker A	Order Accepted
	Sends a cancel/replace route request to Broker B (via a different Routed Order ID)	Order Route	Accepts the request and cancel/replaced the order	Order Modified
Customer Initiates a modification on a previously routed order to Broker B	Routes the original order to Broker B	Order Route	Accepts the order from Broker A	Order Accepted
	Sends modify route request to Broker B (via the same Routed Order ID)	Order Route	Accepts the modify route request, and modifies the order	Order Modified
Broker A initiates a modification on a previously routed firm order to Broker B	Routes the original order to Broker B	Order Route	Accepts the order from Broker A	Order Accepted
	Broker A sends a modify route request to Broker B to update the order	N/A	Modifies the order	Order Modified
Broker A requests to cancel a previously routed order to Broker B	Contacts Broker B to cancel route request	N/A	Acknowledges the cancel route and cancels the order	Order Cancelled
	Contacts Broker B to cancel route request	N/A	Rejects the cancel route	N/A
Broker B cancels the order received from Broker A	<None>	N/A	Cancels the order from Broker A	Order Cancelled

2.5.3. Summary of Route Linkage Keys

The table below summarizes the required data elements to construct the route key for linking Route and Order Accepted events reported by different entities in CAT. The combination of the data elements must be unique. Data elements in the same row must always be equal values. Note that only the data elements used to create linkage are listed here.

For Participant related event details, please refer to the *CAT Reporting Technical Specifications for Participants*.

Table 6: Summary of Route Linkage Keys

	Order Route Event	Order Accepted Event
Routing Between Industry Members (IMs)	IM	IM
	senderIMID	routingOrigin
	destination (IMID)	receiverIMID
	Date	Date
	symbol (or optionID)	symbol (or optionID)
	session (must be blank)	session (must be blank)
	routedOrderID*	routedOrderID*
Routing from an Industry Member to an Exchange	IM	Participant
	senderIMID	routingParty
	destination (Exchange ID)	exchange (Exchange ID)
	Date	Date
	symbol (or optionID)	symbol (or optionID)
	Session	session
	routedOrderID*	routedOrderID
Routing from an Exchange to the Exchange Affiliated/Routing Broker	Participant	IM
	exchange (Exchange ID)	routingOrigin (Exchange ID)
	routingParty	receiverIMID
	Date	Date
	symbol (or optionID)	symbol (or optionID)
	Session	session
	routedOrderID	routedOrderID*
Routing from an Industry Member to a non-reporting Foreign Entity	IM	Foreign Broker-Dealer
	No Linkage	

* Not required for manual order route/receipt.

- **session** - The *session* field contains an ID string for the specific session used to route the order. Note that this differs from the trading session (e.g., pre-market, regular, post-market, etc.) Session can constitute an actual protocol session name, IP/port combination, unique login account, or some other means of identifying a particular API session. It must be reported as the same value by both the sending and receiving entities. When routing between two Industry Members, the session must be left blank by both the sending and receiving entities.
- **routedOrderID** - When an order is routed away, it may be assigned another ID on the route - this is noted in the Order Route event as the *routedOrderID* (e.g., the *CIOrdID* in FIX, *ClientOrderID* for NYSE UTP direct users). This ID must match the *routedOrderID* reported by the receiving entity in its Order Accepted event.

Routing Between Industry Members

For orders routed between Industry Members, the linkage between sender and receiver is established via a combination of:

- ♦ *Date, symbol (or optionID), session (must be blank), destination, senderIMID, and routedOrderID* on the Order Route events reported by the sender; and
- ♦ *Date, symbol (or optionID), session (must be blank), receiverIMID, routingOrigin, and routedOrderID* on Order Accepted event reported by the receiver.
- **destination** - The IMID of the destination receiving this routed order. It must equal the *receiverIMID* field on the Order Accepted event reported by the destination Industry Member. The sending and receiving firms must mutually agree on the IMID to be used if they have multiple SRO assigned IMIDs.
- **senderIMID** - The IMID of the sender that is routing out the order, known also by the destination. The destination has to report the same value on the *routingOrigin* field of the Order Accepted event.
- **receiverIMID** - The IMID of the Industry Member receiving the routed order. It must match the destination field on the Order Route event reported by the sender.
- **routingOrigin** - The IMID of the Industry Member from which the order is routed. It must match *senderIMID* in the Order Route event reported by the routing entity.

Routing to Exchanges

When routing to exchanges, the destination must be the Exchange ID to which the order is routed.

Hence, the linkage will be created by:

- ♦ *Date, symbol (or optionID), session, destination (ExchangeID), senderIMID, and routedOrderID* on the Order Route event; and

- ◆ Date, *symbol* (or *optionID*), *session*, *exchange*, *routingParty*, and *routedOrderID* on the Participant Order Accepted event to create linkages. See *CAT Reporting Technical Specifications for Participants* for more details.

Note that, when using Order Route event to report a modification to an order that was previously routed to an exchange, the linkage key is created via the same set of data elements².

Routing to Foreign Destinations

If the order is routed to a foreign non-CAT-reporting entity, the *destinationType* must be marked as N (Foreign). However, there is no requirement to report *destination* or *routedOrderID*, thus there is no subsequent linkage in CAT. When routing to a foreign non-CAT-reporting entity, there is no requirement to report *senderIMID*, but an Industry Member may choose to populate this field.

Routing from an Exchange to the Exchange's Routing Broker

When an Industry Member, that is an exchange routing broker, receives an order routed from the exchange, the *routingOrigin* field must be the Exchange ID from which the order is routed. Hence the linkage will be created by:

- ◆ Date, *symbol* (or *optionID*), *exchange*, *routedOrderID*, *session*, *routingParty* on the Participant **Order Route** event (See *CAT Reporting Technical Specifications for Participants* for more details);
- ◆ Date, *symbol* (or *optionID*), *routingOrigin* (Exchange ID), *routedOrderID*, *session*, *receiverIMID* on the Industry Member **Order Accepted** event.

² In order to create the linkage key between Industry Member Order Route Event (potentially Order Modify Route Event in 2c) and Participant Order Modified event, a change is planned for future phases of the Participant reporting - adding *routingParty*, *session* and *routedOrderID* to Participant Order Modified event.

3. Special Reporting Requirements

3.1. Alternative Trading Systems (“ATS”) Reporting

ATSs are required to submit additional information in applicable order events.

3.1.1. National Best Bid and Offer (NBBO)

ATSs are required to report to CAT NBBO prices, though such information is optional for other Industry Members. The quantities being bid or offered for the NBBO are optional for all Industry Members.

The NBBO should be reported to CAT from the perspective of the Industry Member. An ATS is required to report, for orders, the NBBO (or relevant reference price) in effect at the time of the order event, and the timestamp of when the ATS captured the effective NBBO (or relevant reference price). In addition, the ATS must identify the market data feed (NBBO Source) it used to obtain the NBBO (or relevant reference price).

If another reference price, such as the primary market's BBO, is used by the ATS, then the applicable reference price should be reported instead of the NBBO. If there is no price, the ATS should populate the field with a “0”. Industry Members that are not ATSs should leave these fields blank.

3.1.2. ATS Order Types

For events reported by ATSs, an additional field (in addition to *orderType*) - *atsOrderType* - is used to report ATS-specific order types. Note that *orderType* and *atsOrderType* are not mutually exclusive; ATSs must populate both of these fields with a value where they are present on Reportable Events. Industry members that are not ATSs should leave this field blank.

The field *atsOrderType* is defined as Name/Value Pairs where "name" must be equal to a unique code that has been provided to CAT by the ATS through the CAT web interface. All codes must be registered before any relevant order events are submitted. Specific instructions for registering *atsOrderTypes* will be published in a CAT Alert available on catnmsplan.com. All *atsOrderTypes* must be registered with CAT 20 business days prior to the order type becoming effective.

3.1.3. Sequence Number

Alternative Trading Systems (ATSs) must also provide a sequence number assigned by the ATS's matching engine on all reportable events. Industry members that are not ATSs should leave this field blank.

3.2. Manual Orders

The CAT NMS Plan defines a Manual Order Event as “non-electronic communication of order-related information for which CAT Reporters must record and report the time of the event.” This version of the Technical Specifications addresses manual equity orders, which are reportable in Phase 2a, while manual option orders will be addressed in the Phase 2d Technical Specifications.

3.2.1. Manually Received Order Events Immediately Systematized

Orders which are non-electronically communicated but immediately systematized (e.g., a broker received a call and directly enters the order into the order management system) must be marked as a manual event using the *manualFlag*. In this scenario, 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 milliseconds³.

3.2.2. Manual Order Events Followed by Separate Electronic Messages

Manual order events must be reported to CAT marked as a manual event using the *manualFlag* and must include an electronic capture time if the manual event is captured in an order management or execution system.

If an Industry Member routes or receives an order manually and then subsequently sends or receives an electronic message to represent the manual instruction, the following reporting requirements apply:

- All material terms and conditions of a manually received or routed order, including time of route and receipt, must be reported to CAT on the required manual event, with all relevant timestamps representing when the manual order event occurred.
- Additional electronic messages related to a manual order or route that do not change any material term or condition of the original order are not required to be reported to CAT as they represent a duplicate of the original order.
- If the duplicate electronic message includes a routed order identifier that could be used to link the sender's route report to the receiver's new order, and the member has the ability to include this electronic information on the manual event (referred to as a "merged" event), the Industry Member should do so.

³ Please see FAQ G4 (<https://www.catnmsplan.com/faq/#faqManOrd>) for additional information.

- If the Industry Member is not able to merge the manual and electronic information in a single manual event and elects to report the duplicate electronic message independently, such messages must be reported with the *electronicDupFlag* = true. Further, the *manualOrderID* may be populated with the Order ID of the original manual order. This is optional in Phase 2a, but will be mandatory in Phase 2c.

No linkage will be attempted for electronic duplicate events in Phase 2a.

4. Equity Events

This section describes Reportable Events for equities that are Eligible Securities. The following table lists each equity event type with its corresponding Message Type code.

Events and data elements that are greyed out do not apply to Phase 2a.

Table 7: Equity Events

Sec	Event	Message Type	Description
4.1	New Order Event	MENO	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.
4.2	New Order Supplement Event	MENOS	Supplement to the New Order event, used when the New Order event exceeds the maximum length allowed, or the child orders of a representative order is not captured in the New Order Event.
4.3	Order Route Event	MEOR	Reported when an Industry Member routes an order to another broker dealer or execution venue such as an exchange or ATS. The modification of a routed order is also reported using this Order Route event in Phase 2a.
4.3.1	Order Modify Route	MEMR	Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a modified route event after reviewing Phase 2a/2b data and include event in Phase 2c, if necessary.
4.3.2	Order Cancel Route	MECR	Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a cancelled route event after reviewing Phase 2a/2b data and include event in Phase 2c, if necessary.
4.4	Order Accepted	MEOA	Reported when an Industry Member, including an ATS, accepts a routed order that originated at another broker dealer.
4.5.1	Order Internal Route	MEIR	Reported whenever an order moves within an Industry Member to another desk or other internal destination.
4.5.2	Order Internal Route Modified	MEIM	Reported when an Order Internal Route was modified.
4.5.3	Order Internal Route Cancelled	MEIC	Reported when an Order Internal Route was cancelled.
4.6.1	Child Order	MECO	Reported for the generation of child order(s). This is to provide extra flexibility of reporting, however there is not a scenario in which the use of Child Order is mandatory.

Sec	Event	Message Type	Description
4.6.2	Child Order Modified	MECOM	Reported when a Child Order is modified.
4.6.3	Child Order Cancelled	MECOC	Reported when a Child Order is cancelled.
4.7	Order Modified	MEOM	Reported whenever changes to the Material Terms of an order are made, or an order is cancel/replaced.
4.8	Order Modified Supplement Event	MEOMS	Supplement to the Order Modified event, used when the Order Modified event exceeds the maximum length allowed, or the child orders of a representative order is not captured in the Order Modified Event.
4.9	Order Adjusted	MEOJ	An abbreviated message to report simple order modifications. The only types of modifications that are allowed to be reported with this event are changes to the side, price or quantity of the order.
4.10	Order Cancelled	MEOC	Reported whenever an Industry Member fully or partially cancels an order that it has not already routed to another destination.
4.11	New Quote	MENQ	Reported when quotations on equity Eligible Securities sent to a quote display facility or quote driven ATS, or a quote sent to a customer or broker dealer that resulted in a trade.
4.11.1	Quote Received	MEQR	Reported when a quote is received by an Industry Member.
4.11.2	Quote Cancelled	MEQC	Reported when a quote is cancelled.
4.12.1	Trade Event	MEOT	Reported by the executing venue where the trade occurred, with details of the trade, including Agency Order Crosses and broker internalization of an order. (i.e., the order is filled against Industry Member's proprietary account).
4.13	Order Fulfillment	MEOF	Reports how orders are fulfilled by each Industry Member who handled a given order.
4.14	Order Fulfillment Amendment	MEFA	Reports how the order fulfillment was amended.
4.15.1	Post Trade Allocation	MEPA	Reports how executed shares are allocated to end customer accounts during post-trade processing.
4.15.2	Amended Allocation	MEAA	Reports an amendment to a previously reported post trade allocation.

4.1. New Order Event

An Industry Member must report a New Order event to CAT when an order is received or originated. This includes:

- New customer orders⁴
- Representative orders⁵
- Proprietary orders
- Order(s) received from a non-reporting foreign broker-dealer or affiliate.

Note that an order received from another CAT Reporter (US broker-dealer, ATS or an exchange) must be reported as an Order Accepted event.

Phase 2a Representative Orders

In Phase 2a, linkage is required between the representative street-side order and the customer order or client order being represented when the representative order was originated specifically to represent a single order and there is:

- An existing direct electronic link in the Industry Member's system between the order being represented and the representative order, and
- Any resulting executions are immediately and automatically applied to the represented order in the Industry Member's system.

Phase 2c Representative Orders

Any scenario that does not meet the definition of Phase 2a representative order will fall into this category. The Industry Member must report a New Order event for the creation of the representative order in Phase 2a and flag the New Order event properly to indicate that it is a representative order. It is not mandatory to report the linkage to the underlying orders (the *aggregatedOrders* field) until Phase 2c.

Appendix C contains detailed descriptions of representative order scenarios and illustrates when marking of the representative order, linkage between the represented order and the representative order, and Order Fulfillment linkage is required in each phase.

The *representativeInd* is used to show whether an order is originated to represent a customer/client order and whether the linkage is present. It is required for all New Order events.

⁴ Note - this document refers to orders received from CAT Reporters as "client orders," and orders received from non-CAT Reporters, including non-US broker-dealers, as "customer orders."

⁵ A representative order is an order originated in a firm owned or controlled account for the purpose of working a customer/client order. Please see FAQ F1 (<https://www.catnmsplan.com/faq/#faqRepOrd>) for additional information.

Note that all fields and values necessary to support Phase 2c linkages are included in this version of the specification and Industry Member Reporters may voluntarily report these linkages prior to the start of Phase 2c.

Table 8: New Order Event Field Specifications

Field Name	Data Type	Description	Include Key
Type	Message Type	MENO	R
actionType	Choice	Indicating whether the event is a new event, a correction or a deletion.	R
firmROEID	Alphanumeric (64)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is received or captured manually.	R
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in Phase 2a.	C
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
orderId	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
manualOrderID	Text (40)	When this is a duplicative electronic message of a previously (separately) reported manual Order Accepted event (<i>electronicDupFlag</i> = <i>true</i>), this field is to capture the internal order ID of the manual order. Optional for Phase 2a.	O
deptType	Choice	This is the category of internal department, unit or	R

Field Name	Data Type	Description	Include Key
		desk originating or receiving the order. See the Data Dictionary for a list of allowed values.	
quoteID	Text (40)	If this order was the result of a quote provided to a customer/client, this is the <i>quoteID</i> of the quote offered to the Industry Member's customer/client. Required if this order was originated as the result of a quote.	C
Side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
Price	Price	The limit price of the order, if applicable.	C
quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed, required when applicable.	C
orderType	Choice	The type of order being submitted (e.g., market, limit). See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The time-in-force for the order (e.g. DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	This field will contain zero or more order instruction codes, each separated by a single pipe symbol. See the Data Dictionary for a list of allowed values.	C
custDsplntrFlag	Boolean	Indicating if a customer has instructed that a limit order should not be displayed or block size order should be displayed. See the Data Dictionary for a list of allowed values.	R
firmDesignatedID	Alphanumeric (40)	The FDID assigned by the Industry Member to the account submitting the order.	R
accountHolderType	Choice	Represents the type of beneficial owner of the account for which the order was received or originated. See Data Dictionary for the list of allowed values.	R
affiliateFlag	Boolean	Indicates if the routing party is an affiliate of the Industry Member. See Data Dictionary for the list of allowed values.	R
infoBarrierID	Alphanumeric (12)	Specifying the identifier of the information barrier in place for a trading unit that will meet the criteria of the "no-knowledge" exception in FINRA Rule 5320.02. Any alphanumeric not containing a delimiter.	C
aggregatedOrders	Name/Value Pairs	This field applies to a representative/aggregated order created by the Industry Member, or a riskless principal order to link to the associated order(s). It specifies the original disparate order IDs and quantities (if partial) being consolidated in this representative/aggregated order, or the order IDs and	C

Field Name	Data Type	Description	Include Key
		quantities associated with the riskless principal order. Must be present if the <i>representativeInd</i> = "Y". One or multiple Name/Value pair(s) may be included in this field.	
negotiatedTradeFlag	Boolean	Indicates whether the order is a result of a negotiated trade. See the Data Dictionary for a list of allowed values.	R
representativeInd	Choice	Indicates the type of representative order. See the Data Dictionary for a list of allowed values.	R
seqNum	Alphanumeric (40)	The sequence number assigned to the order event by the ATS's matching engine. Any alphanumeric not containing a delimiter. Only required for ATSS.	A
displayPrice	Price	The displayed price of this order as instructed by the customer or client. Required when the ATS displays the order outside of ATS and if <i>displayQty</i> > 0.	A
workingPrice	Price	The working price of the order at the time it was accepted. If no current <i>workingPrice</i> , it must be 0.	A
displayQty	Whole Quantity	The displayed quantity for this order. If the quantity is hidden, value must be "0".	A
atsOrderType	Name/Value Pairs	Shows the ATS-specific order type as selected from a list of order types defined by this reporter via the CAT Reporter Portal.	A
nbbPrice	Price	The NBBO at the moment the order was originated or received. Prices are required, quantities are optional.	A
nbbQty	Whole Quantity		O
nboPrice	Price		A
nboQty	Whole Quantity		O
nbboSource	Choice	Source of the NBBO data used. See the Data Dictionary for a list of allowed values.	A
nbboTimestamp	Timestamp	The date/time at which the NBBO was referenced upon the receipt of the order.	A
OrigFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
OrigFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderID*

- Quote Key: date, *CATReporterIMID*, *symbol*, *quoteID* (if applicable)
- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *aggregatedOrders.Name*

4.2. New Order Supplemental Event

The Supplement Event serves as a supplement to the New Order event. This event accommodates reporting in two scenarios:

1. When the number of Name/Value pairs included under the *aggregatedOrders* field causes the New Order event to exceed the maximum allowed message length. Generally, this includes scenarios where so many orders are being aggregated together in a New Order that the number of Name/Value Pairs included in the field *aggregatedOrders* causes the message to exceed the allowed length.
2. When there is no explicit linkage to disparate orders when a representative order is generated. This supplement event can be used to capture the relationship of representative and disparate orders and submitted to CAT separately as an addition to the original New Order event.

This event can be submitted in the same file as the original New Order event or in a separate file, so long as it is submitted on the same date as the New Order event. One New Order event can have multiple New Order Supplement events. Multiple New Order Supplement events are considered as additions (not replacements or modifications). The *aggregatedOrders* field in the New Order Supplement event should only contain the additional Name/Value Pairs that have not been captured in the original New Order event (or another Supplement event for the same New Order).

Table 9: New Order Supplement Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MENOS	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of the representative order. This must match the <i>eventTimestamp</i> value reported on the New Order this event supplements (including scenarios in which the supplement is created at a later time).	R
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
orderId	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination. This must match the <i>orderId</i> on the New Order event.	R
aggregatedOrders	Name/Value Pairs	This field serves as the supplement to the <i>aggregatedOrder</i> field of the New Order event, specifying the disparate order IDs and quantities (if partial) being consolidated in this representative/aggregated order, or the order IDs and quantities associated with the riskless principal order. One or multiple Name/Value pair(s) may be included in this field.	R
OrigFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
OrigFileName	Alphanumeric (100)	For corrections, the File Name in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderId*

- Order Key: *orderReceivedDate, CATReporterIMID, symbol, aggregatedOrders.Name*

4.3. Order Route

An Industry Member must report to CAT an Order Route event when:

- Routing to another Industry Member
- Routing to foreign broker-dealers
- Routing to exchanges
- Routing between two IMIDs (e.g. two different FINRA MPIDs) attributed to the same legal entity (i.e. the same CRD)
- Routing partial quantities of an order (assigned using *routedOrderID* in routing message)

In order to maintain order lifecycle linkage, the *orderID* populated in the Order Route event must reflect any changes made to the *orderID* internally by the broker before routing the order. If, for example, an order was subject to a Cancel/Replace that changed the Order ID, then the value used for *orderID* in an Order Route event must reflect those changes - in other words, the most recent *orderID* is used to reference the order.

Handling Instructions on the Order Route

Handling Instructions are not required to be reported on the Order Route event until phase 2c. In phase 2c, the handling instructions included in this event should represent those on the routed order. If the handling instructions do not change from the Order Accepted or New Order associated with the order, Industry Members may use the handling instruction code "RAR" - routed as received, instead of repeating each individual handling instruction.

Notes

- Please note that internal routes to another desk or department within an Industry Member are not reported using the Order Route event; instead an Order Internal Route event is used. See the Order Internal Route section for more details.

Table 10: Order Route Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEOR	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (64)	An identifier assigned to the record by the reporting	R

Field Name	Data Type	Description	Include Key
		firm.	
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of the Order Route. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is routed manually.	R
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in Phase 2a.	C
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
Symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
senderIMID	Industry Member ID	The IMID used to identify the Industry Member that is routing the order, known by the destination. When routing to another Industry Member, this value <u>must match the <i>routingOrigin</i> on the Order Accepted event reported by the destination, while routing to an exchange, it equals the <i>routingParty</i> reported by the exchange on the Participant Order Accepted event.</u> Not required when routing to a foreign broker-dealer.	C
Destination	Industry Member ID / Exchange ID	When routing to another Industry Member, it is the IMID used to identify the Industry Member that is receiving this routed order. And it <u>must match the <i>receiverIMID</i> field on the Order Accepted event reported by the destination Industry Member.</u> When routing to an exchange, it is the Exchange ID of the destination exchange. <u>Must match the <i>exchange</i> field on the Order Accepted event reported by the destination exchange.</u> Not required if the destination is a foreign broker-dealer.	C
destinationType	Choice	Indicating whether the destination of the route is an Industry Member, an exchange or a foreign broker-dealer. See the Data Dictionary for a list of allowed values.	R
orderId	Text (40)	This <i>orderId</i> is the latest internal order ID assigned to the order before routing	R

Field Name	Data Type	Description	Include Key
routedOrderID	Text (40)	The ID assigned to the order by the Industry Member when routing the order to the destination. This value must match the value for <i>routedOrderID</i> reported by the destination in their Order Accepted report. Not required when routing destination is a foreign broker-dealer or when routed manually.	C
Session	Text (40)	The session ID used when routing the order. This must match the session ID reported in the order accepted event by the receiving Industry Member, ATS, or exchange. Not required when routing destination is a foreign broker-dealer or when routed manually. Must be reported as blank if routing to another Industry Member.	C
Side	Choice	The side of the order: See the Data Dictionary for a list of allowed values.	R
Price	Price	The limit price of the order, if applicable.	C
Quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required when applicable.	C
orderType	Choice	The type of order being routed (e.g., market, limit) See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
shortSaleExptInd	Boolean	Short sale exempt indicator. If the value for the field <i>side</i> is "Exempt", this field is required and indicates if the order was eligible to be marked Short Exempt according to SEC Rule 201. The value is <i>true</i> if the order may be marked short exempt consistent with SEC Rule 201.	C
isInd	Choice	Indicates the order was routed as an Intermarket Sweep Order. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in the Data Dictionary for handlingInstructions.	C
routeRejectedFlag	Boolean	Indicates the routed order was not accepted by the destination (rejected or no response) when marked <i>true</i> . (This field is optional in Phase 2a. Routes that are not accepted are required to be reported in Phase 2c.)	O
seqNum	Alphanumeric (40)	The sequence number assigned to the order event by the ATS's matching engine. Any alphanumeric not containing a delimiter.	A

Field Name	Data Type	Description	Include Key
OrigFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
OrigFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate, CATReporterIMID, symbol, orderID*
- Route Link Key: *date, senderIMID, destination, symbol, session, routedOrderID*

4.3.1. Order Modify Route (Potential Phase 2c Event)

<Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a modified route event after reviewing Phase 2a/2b data and include event in Phase 2c, if necessary.>

4.3.2. Order Cancel Route (Potential Phase 2c Event)

<Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a cancelled route event after reviewing Phase 2a/2b data and include event in Phase 2c, if necessary.>

4.4. Order Accepted

When an Industry Member receives a routed order from another CAT Reporter (i.e., Industry Member, ATS or exchange), then an Order Accepted event must be reported to CAT by the Industry Member receiving the routed order. As described in Order Route event, if an Industry Member accepts a routed order from another IMID belonging to the same Industry Member, i.e., the same CRD, an Order Accepted event must be reported.

Once all Industry Members are reporting to CAT, in all cases, the order reported with this event should have already been originated by another broker and reported upon origination with a New Order event. A New Order event represents the beginning of the order lifecycle in CAT, therefore a new customer order is represented with a New Order event - not an Order Accepted event. Similarly, orders received by an Industry Member from its non-broker-dealer affiliates or from a non-reporting foreign broker-dealer should be reported as a New Order event - NOT an Order Accepted event. (Note: At the start of Phases 2a and 2b, there will be some lifecycles beginning at Order Accepted event, as small Industry Members will not be required to report until a later phase).

Table 11: Order Accepted Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEOA	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is received or captured manually.	R
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in Phase 2a.	C
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
orderID	Text (40)	Order ID assigned to the order by the Industry Member upon acceptance. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
receiverIMID	Industry Member ID	The IMID of the Industry Member receiving the order. When receiving from another Industry Member, it <u>must match the <i>destination</i> field on the Order Route event reported by the routing Industry Member.</u> If receiving from an exchange as the routing broker, <u>then this must match the <i>routingParty</i> on the Order Route event reported by the exchange.</u>	R
routingOrigin	Industry Member ID / Exchange ID	When the order is routed from another Industry Member, this is the IMID of the sending Industry Member from which the order is routed, and it <u>must match <i>senderIMID</i> in the Order Route event reported by the routing Industry Member.</u> When the order is	R

Field Name	Data Type	Description	Include Key
		routed from an exchange, this is the Exchange ID of the sending entity from which the order is routed, and the value must match the <i>exchange</i> field in the Order Route event reported by the exchange.	
routingOriginType	Choice	Indicating the type of origin from which the order is routed. See the Data Dictionary for a list of allowed values.	R
routedOrderID	Text (40)	The Order ID as received on the order before being assigned a new Order ID upon acceptance. This is the Order ID assigned by the routing Industry Member. This value must match the value for <i>routedOrderID</i> reported by the routing Industry Member or exchange in their Order Route report. Not required when the order is manually received.	C
manualOrderID	Text (40)	When this is a duplicative electronic message of a previously (separately) reported manual Order Accepted event (<i>electronicDupFlag</i> = true), this field is to capture the internal order ID of the manual order. Optional for Phase 2a.	O
affiliateFlag	Boolean	Indicates if the routing party is an affiliate of the Industry Member. See Data Dictionary for the list of allowed values.	R
deptType	Choice	This is the category of internal department, unit or desk receiving the order. See the Data Dictionary for a list of allowed values.	R
session	Text (40)	The ID assigned to the specific session that the routing Industry Member or exchange used to route the order to the receiving Industry Member. Not required when routed manually. Must be reported as blank if receiving from another Industry Member.	C
side	Choice	The side of the order: See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order, if applicable.	C
quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required when applicable.	C
orderType	Choice	The type of order as routed to the destination reporting the accepted event: (e.g., market, limit) See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
isInd	Choice	Indicates the order was accepted as an Intermarket Sweep Order. See the Data Dictionary for a list of	R

Field Name	Data Type	Description	Include Key
		allow ed values.	
handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in the Data Dictionary for <i>handlingInstructions</i> . A pipe-delimited (" ", ASCII decimal 124, hex 7C) field including all relevant instructions.	C
custDspIntrFlag	Boolean	Indicating if a customer has instructed that a limit order should not be displayed or block size order should be displayed. . See the Data Dictionary for a list of allow ed values.	R
infoBarrierID	Alphanumeric (12)	Specifying the identifier of the information barrier in place for a trading unit that w ill meet the criteria of the "no-knowledge" exception in FINRA Rule 5320.02. Any alphanumeric not containing a delimiter.	C
seqNum	Alphanumeric (40)	The sequence number assigned to the order event by the ATS's matching engine. Any alphanumeric not containing a delimiter.	A
displayPrice	Price	The displayed price for the order. Required w hen the ATS displays the order outside of ATS and if <i>displayQty</i> > 0.	A
w orkingPrice	Price	The w orking price of the order at the time it w as accepted. If no current <i>w orkingPrice</i> , it must be 0.	A
displayQty	Whole Quantity	The displayed quantity of the order. If the quantity is hidden, value must be "0".	A
atsOrderType	Name/Value Pairs	Show s the ATS-specific order type as selected from a list of order types defined by this Industry Member via the CAT Reporter Portal.	A
nbbPrice	Price	The NBBO at the moment the order w as received. Prices are required, quantities are optional.	A
nbbQty	Whole Quantity	The NBBO at the moment the order w as received. Prices are required, quantities are optional.	O
nboPrice	Price		A
nboQty	Whole Quantity		O
nbboSource	Choice		A
nbboTimestamp	Timestamp	The date/time at w hich the NBBO w as referenced upon the receipt of the order.	A
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required w hen <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in w hich the original ROE being corrected w as originally submitted. Required w hen <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate, CATReporterIMID, symbol, orderID*
- Route Link Key: *date, senderIMID, destination, symbol, session, routedOrderID*

4.5. Order Internal Route

An Order Internal Route event must be reported when an order is passed to different departments or desks within the *CATReporterIMID*.

Although multiple *CATReporterIMIDs* may be attributed to a single Industry Member, routes between different IMIDs attributed to the same Industry Member are not considered internal routes.

Note that an Order Internal Route event does not follow the logic of sending / receiving two-sided reporting followed throughout the rest of these Industry Member Technical Specifications. It is required to be reported from the perspective of the recipient desk. The Order Internal Route merely shows that an order was received by an internal destination and if a new *orderID* has been assigned to the order as a result of this Order Internal Route.

- Order Internal Route may also represent the routing of partial quantities of an order internally, and the practice of assigning those slices new *orderIDs*. In this case, multiple internal routes may occur on the same original *orderID* reported in an Order Accepted event or New Order event. Similarly, if an order is routed internally and then subsequently multiple slices are routed to yet another destination internally, this event should represent the receiving desk, quantities, and new *orderIDs* of those routed slices as received by the subsequent internal destination. This approach will allow CAT to track changes in *orderID* within an Industry Member as an order is passed between internal entities or partial quantities are routed to internal entities as slices of another order.
- The major difference between Order Internal Route and Child Order events is that Child Order event can only be used when no desk change or desk route happens. For example, some Industry Members may choose to first generate child orders using the Child Order event to represent slices of a parent order, then to route those slices internally to another desk (Order Internal Route event). This approach is also acceptable for CAT reporting and will not result in unlinked events.

Order Internal Route Modified and Order Internal Route Cancelled are not required to be reported until Phase 2c.

4.5.1. Order Internal Route

Order Internal Route event is used to report routing within a *CATReporterIMID* as described above.

Table 12: Internal Route Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEIR	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt by the receiving desk. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is routed to another desk manually.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>orderId</i> from the event that was internally routed.	C
priorOrderDate	Date	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event that was internally routed. Required when the <i>priorOrderID</i> is populated.	C
orderId	Text (40)	The ID assigned to the order by the receiving desk as a result of the order internal route. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
deptType	Choice	The category of department, unit, or desk that received this Order Internal Route event. See the Data Dictionary for a list of allowed values.	R
receivingDeskType	Choice	Indicating the type of desk or department receiving the order. More granular than the field <i>deptType</i> . Required when the destination of an internal route is a desk. See the Data Dictionary for a list of allowed values.	R

Field Name	Data Type	Description	Include Key
infoBarrierID	Alphanumeric (12)	Specifying the identifier of the information barrier in place for the desk to which the order was routed that will meet the criteria of the “no-knowledge” exception in FINRA Rule 5320.02. Any alphanumeric not containing a delimiter.	C
side	Choice	The side of the order: See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order, if applicable.	C
quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required when applicable.	C
orderType	Choice	The type of order being routed (e.g., market, limit) See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in the Data Dictionary for handlingInstructions.	C
OrigFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
OrigFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderID*
- Prior Order Key: *orderReceivedDate* (or *priorOrderDate* if populated), *CATReporterIMID*, *symbol* (or *optionID*), and *priorOrderID*

4.5.2 Order Internal Route Modified (Phase 2c)

<Deferred - Not Required Until Phase 2c>

4.5.3 Order Internal Route Cancelled (Phase 2c)

<Deferred - Not Required Until Phase 2c>

4.6 Child Order

CAT provides several ways to report parent/child order activity. The Child Order event is provided solely for the convenience of Industry Members to help model scenarios in which an order is split or sliced into

smaller "child" orders that are handled independently of their parent order - in a way that best reflects each individual Industry Member's system(s).

For example, in the scenario when Industry Members create independent child orders with new *orderIDs*, if the Child Order event is reported, then the changes of order IDs are captured. Afterwards, the Industry Member can reference each individual child order in any subsequent event by the new order ID. However, if no Child Order event is reported, then the Industry Member can only reference the order at the parent level by the order ID of the parent. There is no scenario in which the use of Child Order event is mandatory.

Notes:

- Child Order event can only be used when an order is sliced and assigned new order IDs within the same desk. An Order Internal Route event must be reported when routed to another desk.
- There is no limit to how many "generations" can be created through Child Order events.
- Child Orders must belong to the same FDID as the parent orders. Child Orders should not be used to create representative orders. If the FDID changes, a representative New Order event must be used and not a Child Order.
- Child Orders should **not** be used for equity legs of a multi-leg option order.
- This event only includes the key data elements and fields that may be changed from the parent order or that are required for linkage, i.e., certain key data elements from the parent order may not be changed when creating Child Orders.

4.6.1. Child Order Event

Table 13: Child Order Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MECO	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the	R

Field Name	Data Type	Description	Include Key
		new <i>orderID</i> was assigned.	
eventTimestamp	Timestamp	The date/time at which the child order was originated.	R
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
parentOrderID	Text (40)	The <i>orderID</i> of the event from which the Child Order originated.	R
orderID	Text (40)	Order ID assigned to the child order by the Industry Member upon origination. Must be different from the <i>parentOrderID</i> . Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
parentOrderDate	Timestamp	<i>orderReceivedDate</i> of the event from which the Child Order originated.	R
side	Choice	The side of the order: See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order, if applicable.	C
quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required when applicable.	C
orderType	Choice	The type of order (e.g., market, limit). See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in the Data Dictionary for handlingInstructions. A pipe-delimited (" ", ASCII decimal 124, hex 7C) field including all relevant instructions.	C
displayPrice	Price	The displayed price of this order as instructed by the customer or client. Required when the ATS displays the order outside of ATS and if <i>displayQty</i> > 0.	A
workingPrice	Price	The working price of the order at the time it was originated or received. If no current <i>workingPrice</i> , it must be 0.	A
displayQty	Whole Quantity	The displayed quantity of the order. If the quantity is hidden, value must be "0".	A
nbbPrice	Price	The NBBO at the moment the order was originated or received. Prices are required, quantities are optional.	A
nbbQty	Whole Quantity		O
nboPrice	Price		A

Field Name	Data Type	Description	Include Key
nboQty	Whole Quantity		O
nbboSource	Choice	Source of the NBBO data used. See the Data Dictionary for a list of allowed values.	A
nbboTimestamp	Timestamp	The date/time at which the NBBO was referenced upon the receipt of the order.	A
OrigFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
OrigFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderID*
- Parent Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *parentOrderID*

4.6.2 Child Order Modified

When the price, quantity or any Material Terms of the child order has been changed, a Child Order Modified event must be reported to CAT. This modification event is only used when the child order creation is reported to CAT in a Child Order event. As such, modifying a partial quantity internal route cannot be reported in this event.

All attributes and Material Terms of the Order of a modified child order listed on this event should be reported when applicable, including the fields that remain unchanged.

Table 14: Child Order Modified Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MECOM	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and	R

Field Name	Data Type	Description	Include Key
		time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	
eventTimestamp	Timestamp	The date/time at which the child order was modified.	R
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
orderId	Text (40)	Order ID assigned to the child order by the Industry Member upon origination. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>OrderID</i> of the event being modified.	C
priorOrderDate	Timestamp	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event being modified.	C
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order, if applicable.	C
quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed.	C
leavesQty	Real Quantity	The number of shares left open after the modification has occurred.	R
orderType	Choice	The type of order (e.g., market, limit). See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in the Data Dictionary for handlingInstructions. A pipe-delimited (" ", ASCII decimal 124, hex 7C) field including all relevant instructions.	C
displayPrice	Price	The displayed price of this order as instructed by the customer or client. Required when the ATS displays the order outside of ATS and if <i>displayQty</i> > 0.	A
workingPrice	Price	The working price of the order at the time it was originated. If no current <i>workingPrice</i> , it must be 0.	A
displayQty	Whole Quantity	The displayed quantity of the order. If the quantity is hidden, value must be "0".	A
nbbPrice	Price	The NBBO at the moment of the order was routed. Prices are required, quantities are optional.	A
nbbQty	Whole Quantity		O

Field Name	Data Type	Description	Include Key
nboPrice	Price		A
nboQty	Whole Quantity		O
nbboSource	Choice	Source of the NBBO data used. See the Data Dictionary for a list of allowed values.	A
nbboTimestamp	Timestamp	The date/time at which the NBBO was referenced upon the receipt of the order.	A
origFirmROEID	Alphanumeric (64)	For corrections, the FirmROEID of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the FileName in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderID*
- Prior Order Key: *orderReceivedDate* (or *priorOrderDate* if populated), *CATReporterIMID*, *symbol* (or *optionID*), and *priorOrderID*

4.6.3. Child Order Cancelled

If a child order is cancelled, a Child Order Cancelled event must be reported to CAT by the Industry Member.

Note that a partial cancellation can be reported either with a Child Order Modified event or Child Order Cancelled event with *leavesQty*, depending on how it is handled by the Industry Member. If an actual Cancel message was used, the Industry Member should report a Child Order Cancelled event to CAT. If a modify or cancel/replace message was used, a Child Order Modified event should be reported to CAT. This keeps the reported event in line with the action taken by the Industry Member.

Table 15: Child Order Cancelled Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MECOC	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member	The SRO assigned identifier that an Industry Member	O

Field Name	Data Type	Description	Include Key
	ID	uses to report to CAT.	
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time at which the child order was cancelled.	R
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
orderID	Text (40)	Order ID assigned to the child order by the reporter upon origination.	R
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
cancelQty	Real Quantity	The quantity being cancelled.	R
leavesQty	Whole Quantity	The quantity left open of this child order after cancellation. Full cancellation will result in a zero in this field. Note that, this is not the leaves quantity of the parent order.	R
initiator	Choice	Specifies the initiator of the cancellation. See the Data Dictionary for a list of allowed values.	R
OrigFirmROEID	Alphanumeric (64)	For corrections, the FirmROEID of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
OrigFileName	Alphanumeric (100)	For corrections, the FileName in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderID*

4.7. Order Modified and Cancel/Replace Event

When the price, quantity or any other Material Term of an order has been changed or when an order is cancel/replaced, an Industry Member must report an Order Modified event to CAT. This Order Modified event concerns both of the following scenarios:

1. A new order is generated (with a new Order ID) during the modification and completely replaces the prior order. In this case, the *orderID* field must capture the identifier for the new order, and the new order must be linked to the prior one through *priorOrderID*.

- If the order ID remains the same during the modification, the *priorOrderID* does not need to be populated.

Note that in the first scenario, if the order has been modified several times, the *priorOrderID* must refer to the most recent order ID prior to this modification, which may not always be the original order ID.

Side is required to be reported, but side adjustments are only allowed for same-side changes (e.g., changes between short and long sell).

All attributes and Material Terms of the modified order listed on this event should be reported when applicable, including the fields that remain unchanged.

Table 16: Order Modified and Cancel/Replace Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEOM	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the modification to the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is modified or replaced manually.	R
manualOrderID	Text (40)	When this is a duplicative electronic message of a previously (separately) reported manual Order Accepted event (<i>electronicDupFlag</i> = <i>true</i>), this field is to capture the internal order ID of the manual order. Optional for Phase 2a.	O
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in Phase 2a.	C
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event	C

Field Name	Data Type	Description	Include Key
		is systematized.	
symbol	Symbol	The stock symbol.	R
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>OrderID</i> of the event being modified.	C
priorOrderDate	Timestamp	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event being modified.	C
receiverIMD	Industry Member ID	Required when the modification is the result of an order modify route. The IMD of the Industry Member receiving the routed order modification. When receiving from another Industry Member, it must match the <i>destination</i> field on the Order Modify Route (Order Route in 2a) event reported by the routing Industry Member. If receiving from an exchange, this must match the <i>routingParty</i> on the Participant Order Modify Route reported by the exchange.	C
routingOrigin	Industry Member ID / Exchange ID	Required when the modification is the result of an order modify route. When the order modification is routed from another Industry Member, this is the IMD of the sending Industry Member from which the order is routed, and it must match <i>senderIMD</i> in the Order Modify Route (Order Route in 2a) event reported by the routing Industry Member. When the order is routed from an exchange, this is the Exchange ID of the sending entity from which the order is routed. The value must match the <i>exchange</i> field in the Participant Order Modify Route event reported by the exchange.	C
routingOriginType	Choice	Required when the modification is the result of an order modify route. Indicating the type of origin from which the order is routed. See the Data Dictionary for a list of allowed values.	C
routedOrderID	Text (40)	The ID for the order as sent by the routing entity. Not required if this modification is initiated by the Industry Member, or when the modify route is received manually.	C
quoteID	Text (40)	If this order modification was the result of a quote provided to a customer/client, this is the <i>quoteID</i> of the quote offered to the reporter's customer/client. Required if this order was originated as the result of a quote.	C
priorQuoteID	Text (40)	The most recent <i>quoteID</i> for the order prior to this Order Modified event Not required if the prior New Order or Order Modified	C

Field Name	Data Type	Description	Include Key
		event does not have a <i>quoteID</i> .	
initiator	Choice	Indicates whether the customer/client or Industry Member initiated the order modification. See the Data Dictionary for a list of allowed values.	R
session	Text (40)	The ID assigned to the session used to receive the modify route message from the routing Industry Member or the routing exchange. Not applicable if it is customer modification. Must be reported as blank if receiving from another Industry Member.	C
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values. For this Reportable Event, only same-side adjustments are allowed (e.g., long to short sell).	R
price	Price	The limit price of the order, if applicable.	C
quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required when applicable.	C
leavesQty	Real Quantity	The number of shares left open after the modification has occurred.	R
orderType	Choice	The type of order being submitted (e.g., market, limit). See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The time-in-force for the order (e.g. DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
isInd	Choice	Indicates the order was an Intermarket Sweep Order. See the Data Dictionary for a list of allowed values. Required if modification is to Order Accepted event.	C
handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in the Data Dictionary for handlingInstructions.	C
custDspIntrFlag	Boolean	Indicating if a customer has instructed that a limit order should not be displayed or block size order should be displayed. See the Data Dictionary for a list of allowed values.	R
infoBarrierID	Alphanumeric (12)	Specifying the identifier of the information barrier in place for a trading unit that will meet the criteria of the "no-knowledge" exception in FINRA Rule 5320.02. Any alphanumeric not containing a delimiter.	C
aggregatedOrders	Name/Value Pairs	Applies to representative order, aggregated order or riskless principal order created by the Industry Member, specifying the disparate order IDs and quantities being consolidated in this representative or aggregated order. Note that all the customer/client	C

Field Name	Data Type	Description	Include Key
		order IDs and quantities being consolidated into this order must be stated in this field, even though some may remain unchanged.	
representativeInd	Choice	Indicates if the representative linkage is required. Mandatory for all the representative and aggregated orders. See the Data Dictionary for allowed values.	R
seqNum	Alphanumeric (40)	The sequence number assigned to the order event by the ATS's matching engine. Any alphanumeric not containing a delimiter.	A
displayPrice	Price	The displayed price of this order as instructed by the customer or client. Required when the ATS displays the order outside of ATS and if <i>displayQty</i> > 0.	A
workingPrice	Price	The working price of the order. e.g., changes to prices (e.g., PEG orders) would be tracked in this field. If no current <i>workingPrice</i> , it must be 0.	A
displayQty	Whole Quantity	The displayed quantity for this order at the time the order was placed. If the quantity is hidden, value must be "0".	A
atsOrderType	Name/Value Pairs	Shows the ATS-specific order types as selected from a list of order types defined by this ATS.	A
nbbPrice	Price	The NBBO at the moment the order was modified. Prices are required, quantities are optional.	A
nbbQty	Whole Quantity		O
nboPrice	Price		A
nboQty	Whole Quantity		O
nbboSource	Choice	Source of the NBBO data used. See the Data Dictionary for a list of allowed values.	A
nbboTimestamp	Timestamp	The date/time at which the NBBO was referenced upon the receipt of the order.	A
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderID*
- Prior Order Key: *orderReceivedDate* (or *priorOrderDate* if populated), *CATReporterIMID*, *symbol* (or *optionID*), and *priorOrderID*
- Route Link Key: *date*, *symbol*, *receiverIMID*, *routingOrigin*, *session*, *routedOrderID*
- Quote Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *quoteID*

4.8. Order Modified (Cancel/Replace) Supplement Event

The Order Modified Supplement event serves as a supplement to the Order Modified event, just as the Supplement Event serves as a supplement to the New Order event.

Table 17: Order Modified Supplement Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEOMS	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of the Order Modified this event supplements.	R
symbol	Symbol	The symbol of the stock being executed.	R
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member. This must match the <i>orderID</i> on the Order Modified event.	R
aggregatedOrders	Name/Value Pairs	This field serves as the supplement to the <i>aggregatedOrder</i> field of the Order Modified event, specifying the disparate order IDs and quantities (if partial) being consolidated in this representative/aggregated order, or the order IDs and quantities associated with the riskless principal order. One or multiple Name/Value pair(s) may be included in this field.	R
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate, CATReporterIMID, symbol, orderID*
- Order Key: *orderReceivedDate, CATReporterIMID, symbol, aggregatedOrders.Name*

4.9. Order Adjusted Event

The Order Modified event requires the full state of the order be reported to CAT for each modify. However, there are some common cases where only the price or quantity are modified. If such changes are initiated by the Industry Member, which can occur frequently, the Order Adjusted event can be used in these situations. However, Order Adjusted events may not be used if a price or quantity change is initiated by a routing Industry Member.

The only types of modifications that are allowed to be reported with this event are changes to the side, price or quantity of the order.

- Side adjustments are only allowed for same-side changes (e.g., changes between short and long sell). The side only needs to be reported if it changes.
- If a price change is reported, then all three price fields (*price, displayPrice, and workingPrice*) must represent the current state of the order relative to price. The quantity fields can be omitted.
- Likewise, if a quantity change is reported, then all three quantity fields must represent the current state of the order relative to quantity. The price fields can be omitted.

When the display price or quantity changes as the result of a display ATS matching engine action and not from a customer instruction, an Order Adjusted event must be used (the Order Modified event cannot be used in this scenario).

Any modification that cannot be fully represented in this Reportable Event must be reported via the Order Modified event.

Table 18: Order Adjusted Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEOJ	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated.	R

Field Name	Data Type	Description	Include Key
		If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	
eventTimestamp	Timestamp	The date/time of receipt of the modification to the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is adjusted manually.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <u>CATReporterIMID</u> , and <i>symbol</i> combination.	R
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>OrderID</i> of the event being modified.	C
priorOrderDate	Timestamp	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event being adjusted.	C
initiator	Choice	Indicates whether the customer/client or Industry Member initiated the order modification. See the Data Dictionary for a list of allowed values.	R
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values. For this Reportable Event, only same-side adjustments are allowed (e.g., long to short sell)	C
price	Price	The limit price of the order. Present if changed or if other price fields changed. Otherwise, not present.	C
quantity	Real Quantity	The order quantity. Present if changed or if other quantity fields changed. Otherwise, not present.	C
minQty	Whole Quantity	The minimum quantity of an order to be executed. Present if changed or if other quantity fields changed. Otherwise, not present.	C
leavesQty	Real Quantity	The number of shares left open after the adjustment/modification has occurred. Present if changed or if other quantity fields changed. Otherwise, not present.	R
seqNum	Alphanumeric (40)	The sequence number assigned to the order event by the ATS's matching engine. Any alphanumeric not containing a delimiter.	A
displayPrice	Price	The displayed price of the order. Present if changed or	A

Field Name	Data Type	Description	Include Key
		if other price fields changed. Otherwise, not present.	
workingPrice	Price	The working price of the order. If no current <i>workingPrice</i> , it must be 0.	A
displayQty	Whole Quantity	The displayed quantity for this order. Present if changed or if other quantity fields changed. Otherwise, not present.	A
nbbPrice	Price	The NBBO at the moment the order was modified. Prices are required, quantities are optional.	A
nbbQty	Whole Quantity		O
nboPrice	Price		A
nboQty	Whole Quantity		O
nbboSource	Choice	Source of the NBBO data used. See the Data Dictionary for a list of allowed values.	A
nbboTimestamp	Timestamp	The date/time at which the NBBO was referenced upon the receipt of the order.	A
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *orderID*
- Prior Order Key: *orderReceivedDate* (or *priorOrderDate* if populated), *CATReporterIMID*, *symbol* (or *optionID*), and *priorOrderID*

4.10. Order Cancelled

The Order Cancelled event is used in specific situations when an order is fully or partially cancelled. Note:

- Partial cancellation of an order may be reported to CAT using either an Order Cancelled event or an Order Modified event.
- This Order Cancelled Event is only reported by the entity that performs the cancellation. Cancellations by away venues are not required to be reported. For example, if Broker B accepts an order from Broker A, and Broker B initiated a cancel on the order, then B is responsible for reporting the order cancelled (not Broker A).
- Implicit order cancellations are not required to be reported to CAT (e.g., cancellation due to expiration of Time in Force.)

Table 19: Order Cancelled Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEOC	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the cancellation. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is cancelled manually.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
orderId	Text (40)	The internal order ID assigned to the order by the Industry Member.	R
cancelQty	Real Quantity	The quantity being cancelled.	R
leavesQty	Real Quantity	The quantity left open after the cancel event. The full cancel will result in zero in this field.	R
initiator	Choice	Indicates who initiated the order cancellation (e.g., customer, Industry Member). See the Data Dictionary for a list of allowed values.	R
seqNum	Alphanumeric (40)	The sequence number assigned to the order event by the ATS's matching engine. Any alphanumeric not containing a delimiter.	A
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate, CATReporterIMID, symbol, orderID*

4.11. New Quote

In Phase 2a, the following quotations must be reported:

- Quotes in NMS Securities sent to an exchange or the ADF
- Quotes in OTC Equity Securities received by an Industry Member CAT Reporter operating an inter-dealer quotation system.
- 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 in OTC equity securities sent to an inter-dealer quotation system operated by an Industry Member CAT Reporter must be reported in Phase 2c.

The New Quote Event is used to report quotes in OTC equity securities. Quotes in NMS Securities sent to an exchange must be reported using the New Order and Route Events.

For two-sided quotes - *bidPrice, bidQty, askPrice, and askQty* must all be populated. For one-sided quotes both a quantity and a price field must be populated for either the bid or the ask.

Note that there is no Quote Modify event. The field *priorQuoteID* is used to report modifications to a previously reported New Quote. If the field *priorQuoteID* is populated with a value in the New Quote event, then this New Quote is considered to replace the quote described in the *priorQuoteID* field. In the case when quote ID does not change for a modified quote, the *priorQuoteID* and the *quoteID* (new) will have the same value.

Otherwise, if the field *onlyOneQuoteFlag* = true, any New Quote event offered by the same *CATReporterIMID* to the same destination in the same symbol will be considered cancelled by CAT.

Table 20: New Quote Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MENQ	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R

Field Name	Data Type	Description	Include Key
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time the quote was sent by the Industry Member to the recipient. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
seqNum	Alphanumeric (40)	The sequence number assigned to the quote by the reporter. Any alphanumeric not containing a delimiter. Required for inter-dealer quotation systems only.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
senderIMID	Industry Member ID	The IMID of the Industry Member that is sending the quote, as known by the destination. This value must match the <i>routingOrigin</i> on the Quote Received event reported by the destination. Not required if the recipient of the quote is not a reporter to CAT.	C
destination	Industry Member ID	This field contains the SRO assigned identifier of the destination Industry Member. This value must match the <i>receiverIMID</i> field on the Quote Received event reported by the destination. Required if the destination of the quote is another broker-dealer or ATS.	C
quoteID	Text (40)	The internal quote ID assigned to the quote by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
routedQuoteID	Text (40)	The quote ID as sent to the recipient of the quote. Not required if the recipient of the quote is a customer/client (e.g. not an Industry Member). If the <i>routedQuoteID</i> is the same as the <i>quoteID</i> , then the <i>quoteID</i> should be repeated in this field. The same conditions for uniqueness that apply to the <i>quoteID</i> also apply to the <i>routedQuoteID</i> .	C
onlyOneQuoteFlag	Boolean	Value is <i>true</i> if the recipient only allows one quote per <i>symbol</i> for this Industry Member. Otherwise, <i>false</i> .	R
priorQuoteID	Text (40)	This field is only relevant for an update/replacement of	C

Field Name	Data Type	Description	Include Key
		an existing quote, and must not be populated for new Quotes. After this Reportable Event, the quote specified in this field will be considered to have been replaced. This field does not have to be included if <i>onlyOneQuoteFlag</i> is true, since it is known implicitly that the previous quote is being replaced. This field is the <i>quoteID</i> of the quote that is being replaced.	
bidPrice	Price	Price being bid.	C
bidQty	Whole Quantify	Quantity being bid.	C
askPrice	Price	Price being asked.	C
askQty	Whole Quantify	Quantity being asked.	C
firmDesignatedID	Alphanumeric (40)	The firm designated ID assigned by the Industry Member to the account from which the quote was originated.	R
accountHolderType	Choice	Represents the type of account that originated this quote. Must be provided when <i>firmDesignatedID</i> is present. See the Data Dictionary for a list of allowed values.	C
unsolicitedInd	Choice	Indicating whether this is an unsolicited quote. Please see the data dictionary for allowed values.	R
mpStatusCode	Choice	Market Participant Status Code, indicating if the market maker's quote is open or closed. Please see the Data Dictionary for allowed values. Only required for the inter-dealer quotation systems.	C
quoteRejectedFlag	Boolean	If the result of the quote is rejected or no response was received, value should be <i>true</i> . (For Phase 2a, this is not required to be reported. In Phase 2c, the field will change to required.)	O
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

4.11.1. Quote Received

When Quotes are sent to another Industry Member, that receiving Industry Member must report their receipt of the quote. Note that Industry Members do not have to report the quotes that they do not accept.

Table 21: Quote Received Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEQR	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time the quote was accepted by the Industry Member. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
seqNum	Alphanumeric (40)	The sequence number assigned to the quote received message by the reporter. Any alphanumeric not containing a delimiter. Required for inter-dealer quotation systems only.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
receiverIMID	Industry Member ID	The IMD of the Industry Member receiving the quote (the Industry Member reporting this Reportable Event). It must match the <i>destination</i> field on the New Quote event reported by the routing entity.	R
routingOrigin	Industry Member ID	The IMD of the Industry Member providing the quote. This value must match the string <i>senderIMID</i> in the Order Accepted event reported by the routing Industry Member.	R
quoteID	Text (40)	The internal quote ID assigned to the quote by Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>symbol</i> combination.	R
receivedQuoteID	Text (40)	The quote ID as received by the ATS or Industry Member, should match the <i>routedQuoteID</i> in the New Quote event created by the issuer of the quote.	R
onlyOneQuoteFlag	Boolean	<i>true</i> if the Industry Member only allows one quote per <i>symbol</i> for the issue of the quote; <i>false</i> otherwise.	R

Field Name	Data Type	Description	Include Key
priorQuoteID	Text (40)	This field is only relevant for an update/replacement of an existing quote. After this Reportable Event, the quote specified in this field will be considered to have been replaced. This field does not have to be included if <i>onlyOneQuoteFlag</i> is true, since it is known implicitly that the previous quote is being replaced. This is the <i>quoteID</i> of the quote previously accepted by the Industry Member that is being replaced.	C
bidPrice	Price	Price being bid.	C
bidQty	Unsigned	Quantity being bid.	C
askPrice	Price	Price being asked.	C
askQty	Unsigned	Quantity being asked.	C
mpStatusCode	Choice	Market Participant Status Code, indicating if the market maker's quote is open or closed. Please see the Data Dictionary for allowed values. Only required for the inter-dealer quotation systems.	C
unsolicitedInd	Choice	Indicating whether this is an unsolicited quote. Please see the data dictionary for allowed values.	R
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

4.11.2 Quote Cancelled

The Industry Member issuing the quote or the recipient of a quote (if an ATS or Industry Member) may cancel a quote. If the issuer of a quote cancels a quote where the recipient was an ATS or an Industry Member (not a customer), then both the issuer of the quote and the entity that accepted the quote must report Quote Cancelled events.

Table 22: Quote Cancelled Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEQC	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O

Field Name	Data Type	Description	Include Key
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time the quote was cancelled by the Industry Member to the recipient. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
seqNum	Alphanumeric (40)	The sequence number of the quote cancel message. Any alphanumeric not containing a delimiter. Required for inter-dealer quotation systems only.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
quoteID	Text (40)	The internal quote ID assigned to the quote by the Industry Member. (The <i>quoteID</i> of the quote being cancelled).	R
onlyOneQuoteFlag	Boolean	<i>true</i> if the ATS or Industry Member only allows one quote per <i>symbol</i> for the issue of the quote; false otherwise.	R
initiator	Choice	Specifies who initiated the cancel: the issuer of the quote or the recipient. See the Data Dictionary for a list of allowed values.	R
mpStatusCode	Choice	Market Participant Status Code, indicating if the market maker's quote is open or closed. Please see the Data Dictionary for allowed values. Only required for the inter-dealer quotation systems.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

4.12. Trade

Trade A Trade Event is used when the Industry Member acts as the executing broker and is required to report the trade for public dissemination purposes. When an Industry Member is not required to report

the execution of a customer order for public dissemination purposes, an Order Fulfillment event must be used. See Section 4.13 Order Fulfillment for more details.

Note there are two circumstances where a Reporting Exception Code (REC) will be required on a Trade Event. The first is when an Industry Member executes a trade between two desks or departments involving two proprietary accounts of the firm, but because there is no change in beneficial ownership, no trade is reported for public dissemination. In this instance a REC of "P" should be used on the Trade Event. The second is when an Industry Member executes a trade and must report the trade via Form T. In this instance a REC of "F" should be used on the Trade Event.

Trade Side Details

Trade events are generally two-sided, containing information on both sides of the trade (with the exception of negotiated trades and internalized trades). The details of each side are reported in *buyDetails* and *sellDetails* respectively. The *buyDetails* must contain the *orderID* of the buy side of the trade and the *sellDetails* must contain the *orderID* of the sell side of the trade. Side Details may contain only one *orderID* per side. If a single order is crossed against multiple orders, a separate Trade Event must be reported for the execution of each individual order.

Note that the data type Trade Side Details is described as a list of fields in the table immediately following the Trade event table. These are data elements such as an *orderID* associated with a side of the trade.

Internalized Trade

In the scenario where the Industry Member internalizes an order by filling it from a proprietary account, the Industry Member must report the *orderID* on the customer side and the FDID and the account type of the proprietary account on the firm side. No order ID is required on the *firmSideDetails*.

Negotiated Trade

If an execution occurs as the result of a negotiated trade between two Industry Members, both of the Industry Members, for CAT purposes, are considered to have executed the trade and must submit a Trade event with the *negotiatedTradeSide* marked appropriately. The *negotiatedTradeSide* indicates whether the Industry Member is performing a negotiated buy or negotiated sell in this execution. The Industry Member must capture the full details for its own side, while only the IMID of the contra-side.

Trades that are executed by a market maker as the result of a displayed quotation must be reported using the Trade as Result of Quote Event. See Section 4.12.2 for the reporting requirements for trades executed by a market maker as the result of a quote.

4.12.1. Trade Event

The tables below describe the data elements to report agency cross or internalized orders by filling them from a proprietary account.

Table 23: Trade Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MEOT	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time at which the trade was executed. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if this is a manual execution.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
affiliateFlag	Boolean	Indicates if the routing party is an affiliate of the Industry Member. See Data Dictionary for the list of allowed values.	R
cancelFlag	Boolean	Must be marked as <i>true</i> if the execution is busted and was not reported to the TRF/ADF/ORF.	C
cancelTimestamp	Timestamp	When <i>cancelFlag</i> is <i>true</i> , the time at which the execution was busted.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
tradeID	Text (40)	Unique ID assigned to this execution by the Industry Member. This ID will be used in subsequent events when a specific trade needs to be identified. The combination of date, <i>CATReporterIMID</i> , <i>symbol</i> ,	R

Field Name	Data Type	Description	Include Key
		and <i>tradeID</i> must be unique.	
quoteID	Text (40)	If this trade was the result of a quote that was sent to an IDQS, this is the quoteID of the related quote event. Required if this order was originated as the result of a quote.	C
quantity	Real Quantity	Quantity of the trade.	R
price	Price	Price of the trade.	R
marketCenterID	Choice	The national securities exchange or transaction reporting system operated by FINRA where the trade was reported. See the Data Dictionary for a list of allowed values.	C
negotiatedTradeSide	Choice	Indicates whether this is a negotiated trade. See the Data Dictionary for a list of allowed values.	R
buyDetails	Trade Side Details	See Order Trade Side Details table below.	R
sellDetails	Trade Side Details	See Order Trade Side Details table below.	R
reportingExceptionCode	Choice	Indicates the reason that a unique identifier (e.g., Branch Sequence Number, Compliance ID) was not supplied to a transaction reporting system. Must be provided if the execution is not required to be reported to a FINRA transaction reporting system. See the Data Dictionary for a list of allowed values.	C
seqNum	Alphanumeric (40)	The sequence number assigned to the Reportable Event by the ATS's matching engine. Any alphanumeric not containing a delimiter.	A
nbbPrice	Price	The national best bid price at the moment the trade occurred.	A
nbbQty	Whole Quantity	The national best bid quantity at the moment the trade occurred.	O
nboPrice	Price	The national best offer price at the moment the trade occurred.	A
nboQty	Whole Quantity	The national best offer quantity at the moment the trade occurred.	O
nbboSource	Choice	Source of the NBBO Data Used. See the Data Dictionary for a list of allowed values.	A
nbboTimestamp	Timestamp	The date/time at which the NBBO was referenced upon the receipt of the order.	A
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Table 24: Trade Side Details

Field Name	Data Type	Description	Include Key
orderID	Text (40)	The order ID assigned by the Industry Member to the order on this side. Not required for the non-reporter side in a negotiated trade.	C
orderReceivedDate	Timestamp	The <i>orderReceivedDate</i> of the order on this side.	C
sideIMID	Industry Member ID	Indicating the party on the trade. If this side of the trade was an order that was the result of an: Order Accepted Event - this is the <i>senderIMID</i> of the order's Order Accepted event New Order Event - this IMID is the same as the <i>CATReporterIMID</i>	R
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
leavesQty	Real Quantity	The leaves quantity of the order after the execution. Not required for the non-reporter side in a negotiated trade or the prop side of an internalized trade.	C
capacity	Choice	The capacity in which the Industry Member acted. Not required for the contra-side of a negotiated trade. See the Data Dictionary for a list of allowed values.	C
firmDesignatedID	Alphanumeric (40)	Only required for internalized trades. The FDID of the broker proprietary account against which a customer/client order is being filled.	C
accountHolderType	Choice	Required if firmDesignatedID is populated. Represents the type of account against which a customer/client order is being filled. See Data Dictionary for the list of allowed values.	C
tapeTradeID	Text (40)	The unique identifier reported by the Industry Member to the TRF/ADF/ORF based on the reporting specifications of the specific facility, required when the ID was supplied to a transaction reporting system: <ul style="list-style-type: none"> • Compliance ID in ORF and ADF • Branch Sequence Number in FINRA/NQ TRF FINRA Compliance Number in FINRA/NYSE TRF Not required for the non-Industry Member side in a negotiated trade.	C

Linkage Keys for this Reportable Event:

- Order Key: *buyDetails.orderReceivedDate, CATReporterIMID, symbol, buyDetails.orderID*
- Order Key: *sellDetails.orderReceivedDate, CATReporterIMID, symbol, sellDetails.orderID*
- Trade Key: *orderReceivedDate, CATReporterIMID, symbol, tradeID*
- TRF Key: *orderReceivedDate, CATReporterIMID, symbol, tapeTradeID*

4.13. Order Fulfillment

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. Order Fulfillment reports are required for scenarios where a representative order was used to facilitate the execution of the customer/client order. Examples include orders executed on a riskless principal basis and orders executed on an agency basis via a representative agency order, such as in aggregation scenarios. An Order Fulfillment is also required when an order is routed to a foreign market and the resulting foreign execution is not captured by CAT. In this scenario, the Order Fulfillment is used to obtain the execution information for the customer order since such information is not otherwise available in CAT.

The Order Fulfillment event is designed to capture the customer/client details and the firm side details, which reflect the representative order details for the order used to execute the customer/client order. In Phase 2a, not all scenarios require the firm side details to be populated.

The field *fulfillmentLinkType* is used to indicate if the Industry Member (firm) side details are required. Below are the values allowed:

- Y – Representative Order; linkage required
- YF – Representative order; linkage required in future phase
- YP – Fill from pre-existing Principal order; linkage required
- FOR – No linkage required; Fulfillment on an order routed to a foreign destination
- O – Options Order Fulfillment

Appendix C contains detailed descriptions of representative order scenarios and illustrates when marking of the representative order, linkage between the represented order and the representative order, and Order Fulfillment linkage is required in each phase.

4.13.1. Order Fulfillment Event

Table 25: Order Fulfillment Event Field Specifications

Field Name	Data Type	Description	Include Key
Type	Message Type	MEOF	R

Field Name	Data Type	Description	Include Key
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time when the fulfillment was processed by the Industry Member. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if this is a manual process.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
Symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
fulfillmentID	Text (40)	The unique identifier for the fulfillment. The combination of reporter, date, <i>symbol</i> and <i>fulfillmentID</i> must be unique.	R
fulfillmentLinkType	Choice	Indicates how the order is fulfilled and whether the order details of the Industry Member side are required (scenarios where linkage is required between client and firm order). See Data Dictionary for allowed values.	R
Quantity	Real Quantity	Quantity being executed and assigned. It may or may not be the full quantity of the order.	R
Price	Price	Price of the executed shares.	R
clientDetails	Fulfillment Side Details	See Fulfillment Side Details table below.	R
firmDetails	Fulfillment Side Details	Used to capture the Industry Member side order details. See Fulfillment Side Details table below. Not required when the <i>fulfillmentLinkType</i> = FOR or YF.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted.	C

Field Name	Data Type	Description	Include Key
	(100)	Required when <i>actionType</i> is 'COR' or 'DEL'.	

Table 26: Fulfillment Side Details

Field Name	Data Type	Description	Include Key
orderID	Text (40)	The order ID assigned by the Industry Member to the order on this side.	R
orderReceivedDate	Timestamp	The <i>orderReceivedDate</i> of the order on this side.	C
sideIMID	Industry Member ID	Indicating the party on the trade. If this side of the trade was an order that was the result of an: Order Accepted Event - this is the <i>senderIMID</i> of the order's Order Accepted event New Order Event - this IMID is the same as the <i>CATReporterIMID</i>	R
Side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
Capacity	Choice	The capacity in which the Industry Member acted. See the Data Dictionary for a list of allowed values.	R

Linkage Keys for this Reportable Event:

- Order Key: *firmDetails.orderReceivedDate*, *CATReporterIMID*, *symbol*, *firmDetails.orderID*
- Order Key: *clientDetails.orderReceivedDate*, *CATReporterIMID*, *symbol*, *clientDetails.orderID*
- Fulfillment Key: *date*, *CATReporterIMID*, *symbol*, *fulfillmentID*

4.14. Order Fulfillment Amendment

If the order fulfillment is amended, an amendment event must be reported to CAT with required details. This Reportable Event must capture the entire state of the fulfillment after it has been amended, even though some of the data elements may remain unchanged.

For example, an Industry Member has a trade correction from the exchange after the customer order has already been fulfilled. Subsequently, the Industry Member decided to amend the executed shares given back to the customer. In this scenario, both the original Order Fulfillment and Order Fulfillment Amendment events must be reported to CAT, even though they may happen on the same day. However,

if the trade correction comes before any initial fulfillment has been made, and the Industry Member directly gives the corrected shares to the customer, then only one Order Fulfillment event is necessary to be reported.

If an Industry Member makes a correction via a debit/credit to the customer's account instead of modifying the executed shares given back to the customer, then the Industry Member does not need to report an Order Fulfillment Amendment event.

Note that the amendment reporting is only applicable to Order Fulfillment events, not the events reported to the TRF for media dissemination (which would have originally been reported as Trade events).

Table 27: Order Fulfillment Amendment Event

Field Name	Data Type	Description	Include Key
type	Message Type	MEFA	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time when the fulfillment was processed by the Industry Member. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if this is a manual process.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized.	C
symbol	Symbol	The symbol of the stock in the symbology of the primary listing exchange or FINRA for OTC Equity Securities.	R
fulfillmentID	Text (40)	The unique identifier for the fulfillment. The combination of reporter, date, <i>symbol</i> and <i>fulfillmentID</i> must be unique.	R
priorFulfillmentDate	Date	If a new fulfillment ID is assigned, this is the <i>fulfillmentID</i> of the event being amended. The most	C

Field Name	Data Type	Description	Include Key
		recent date on which the fulfillment was last amended. If this is the first amendment on the Fulfillment, then it is the date of the original Fulfillment. Only present if this is at a different date from the original Fulfillment or last Fulfillment Amendment.	
priorFulfillmentID	Text (40)	If a new fulfillment ID is assigned, this is the fulfillmentID of the event being amended. The most recent <i>fulfillmentID</i> assigned by the Industry Member on the prior Fulfillment or Fulfillment Amendment event. If the <i>fulfillmentID</i> remains the same after the amendment, it must be the same as <i>fulfillmentID</i> .	C
quantity	Real Quantity	Quantity being executed and assigned. It may or may not be the full quantity of the order.	R
capacity	Choice	The capacity in which the Industry Member acted.	R
price	Price	Price of the executed shares.	R
fulfillmentLinkType	Choice	Specifies the type of the fulfillment - Riskless Principal Flip, Principal Flip or Aggregated Order Flip. Refer to the Data Dictionary for the acceptable values for this field. See the Data Dictionary for a list of allowed values.	R
clientDetails	Fulfillment Side Details	See Fulfillment Side Details table above.	R
firmDetails	Fulfillment Side Details	See Fulfillment Side Details table above.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage Keys for this Reportable Event:

- Order Key: *firmDetails.orderReceivedDate*, *CATReporterIMID*, *symbol*, *firmDetails.orderID*
- Order Key: *clientDetails.orderReceivedDateCATReporterIMID*, *symbol*, *clientDetails.orderID*
- Fulfillment Key: *orderReceivedDate*, *CATReporterIMID*, *symbol*, *fulfillmentID*
- Prior Fulfillment Key: *date*, *CATReporterIMID*, *symbol*, *priorFulfillmentID*

4.15. Post-trade Allocation (Phase 2c)

<Deferred - Not Required Until Phase 2c>

5. Single Leg Option Events

This section describes Reportable Events for single leg option transactions. The following table lists each option Reportable Event type with its corresponding Message Type code.

Notes

- In Phase 2b, Industry Members are required to report CAT Industry Member Data related to Eligible Securities that are options and meet the definition of Simple Electronic Option Orders⁶, excluding Electronic Paired Option Orders.

Events and data elements that are greyed out do not apply to Phase 2b.

- The greyed out order events will not be supported in Phase 2b; any submission on unsupported event types will generate an error.
- If data elements are greyed out for Phase 2b on a supported order event, the fields will be supported⁷ though not required. The Industry Member may voluntarily report the elements in Phase 2b.

Linkages in Phase 2b

In Phase 2b, the definition of an electronic single option order will result in unlinked events within a single CAT Reporter. To address these expected unlinked events, two fields (*priorUnlinked* and *nextUnlinked*) are used as described below. The purpose of these fields is to identify that the immediately preceding or following event is not reportable in Phase 2b and is not present for linkage. An immediately preceding or following event may be a manual event, complex order event, or a paired order. The *priorUnlinked* and

⁶ "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.

For more details, please refer to the CAT FAQ K2 (<https://www.catnmsplan.com/faq/#faqOpt>).

⁷ For Industry Members reporting in CSV, the greyed out data elements will take empty columns if not populated.

nextUnlinked fields have values to indicate why the immediately preceding or following event is not present.

Table 28: Unlinked Event Fields

Field Name	Values	
nextUnlinked	M	Next Manual
	C	Next Complex
	P	Next Paired
	Blank	Not applicable
priorUnlinked	M	Prior Manual
	C	Prior Complex
	Blank	Not applicable

One or both of these fields will be on all options event types as conditional. If an event does not have this field populated, linkage will be attempted.

Special circumstances of a complex order being represented as individual legs in Phase 2b

In the special circumstance of an Industry Member sending (receiving) a complex order electronically as individual legs of the complex orders, the preferred method of reporting is to suppress the events associated with these messages. If an Industry Member cannot do this, the Industry Member must populate the *handlingInstructions* field with 'CMPX' to indicate that the order (route) is part of a complex option order in Phase 2b. In addition, such voluntarily reported single leg orders must include a *priorUnlinked* or *nextUnlinked* flag of 'C', as applicable, to indicate they will not link to a related order at the sending (receiving) firm.

Table 29: Summary of Option Order Events

Section	Event	Message Type	Description
5.1	New Option Order	MONO	Event used to report new option orders to CAT.
5.2	Option Order Supplement	MONOS	Used for certain aggregated orders in addition to the New Order event.
5.3	Paired Option Order	MONP	Event used to report a cross of an agency/initiating order and contra side order(s) for single-leg option orders.
5.4.1	Option Order Route	MOOR	Reported to CAT by an Industry Member that has routed an option order to another Industry Member or an exchange.

Section	Event	Message Type	Description
5.4.2	Option Order Modify Route	MOMR	Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a modified route event after reviewing Phase 2a/2b data and include event in Phase 2d, if necessary.
5.4.3	Option Order Cancel Route	MOCR	Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a cancelled route event after reviewing Phase 2a/2b data and include event in Phase 2d, if necessary.
5.5	Option Order Accepted	MOOA	Reported when an Industry Member accepts a single-leg option order routed from another Industry Member or an exchange.
5.6.1	Option Order Internal Route	MOIR	Reported when an order is internally routed from where it was accepted or originated to another desk or other internal destination.
5.6.2	Option Order Internal Route Modified	MOIM	Reported when an Industry Member modifies an internal route.
5.6.3	Option Order Internal Route Cancelled	MOIC	Reported when an Industry Member cancels an internal route.
5.7.1	Child Option Order	MOCO	Reported for the generation of child order(s). This is to provide flexibility of reporting, there is not a scenario in which the use of Child Option Order is mandatory.
5.7.2	Child Option Order Modified	MOCOM	Reported when a Child Option Order is modified.
5.7.3	Child Option Order Cancelled	MOCOC	Reported when a Child Option Order is cancelled.
5.8	Option Order Modified	MOOM	Reported when an order originated or received by an Industry Member is modified.
5.8.1	Option Order Modified Supplement	MOOMS	Used for certain aggregated orders in addition to the Option Order Modified event.
5.9	Option Order Adjusted	MOOJ	Alternative, simplified event that may be reported when only the price and/or quantity of an order is modified.
5.10	Option Order Cancelled	MOOC	Reported when an order originated or received by an Industry Member is fully or partially cancelled.
5.11.1	Option Order Fulfilment	MOOF	Reports how orders are fulfilled by each entity that handled a given order.
5.11.2	Option Order Fulfilment Amendment	MOFA	Reports how an order fulfillment was amended.
5.12.1	Option Post-Trade Allocation	MOPA	Reports how option positions (executed contracts) are allocated to end customer accounts and sub-accounts by clearing firms during post-trade processing.

Section	Event	Message Type	Description
5.12.2	Option Post-Trade Amended Allocation	MOAA	Reports an amendment to a previously reported allocation.

5.1. New Option Order Event

An Industry Member must report a New Option Order event to CAT when an order is received or originated. This includes:

- New customer orders⁸
- Representative orders
- Proprietary orders
- Order(s) received from a non-reporting foreign broker-dealer or affiliate.

Note that an order received from another CAT Reporter (US broker-dealer, ATS, or an exchange) must be reported as an Option Order Accepted event.

Representative Orders

Phase 2b Representative Orders

While there are fewer representative order scenarios for options than equities, to the extent they are used, representative orders will be treated the same as equity representative orders, including the phased reporting approach for such orders.

Specifically, in Phase 2b, representative orders and linkage to the represented order is required for simple, electronic orders between the representative street-side order and the customer or client order being represented, when the representative order was originated specifically to represent a single customer/client order and there is:

- An existing, direct electronic link in the Industry Member's system between the order being represented and the representative order, and
- Any resulting executions are immediately and automatically applied to the represented order in the Industry Member's system.

⁸ Note - this document refers to orders received from CAT Reporters as "client order," and orders received from non-CAT Reporters, including non-US broker-dealers, as "customer orders."

Any portion of a specific order handling scenario that involves a complex or paired order is not reportable until Phase 2d.

See Appendix C for a detailed description of representative order reporting.

Phase 2d Representative Orders

Any scenario that does not meet the definition of Phase 2b representative order will fall into this category, including any scenario involving a manual or complex order.

See the CAT Industry Member Reporting Scenarios document for detailed examples of how representative order scenarios for options are reported in Phase 2b.

Table 30: New Option Order Event

Field Name	Data Type	Description	Include Key
type	Message Type	MONO	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , <i>timestamp</i> must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , <i>timestamp</i> must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is handled manually.	R
manualOrderID	Text (40)	When this is a duplicative electronic message of a previously (separately) reported manual Order Accepted event (<i>electronicDupFlag</i> = <i>true</i>), this field is to capture the internal order ID of the manual order. Optional for Phase 2a.	O
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in	C

Field Name	Data Type	Description	Include Key
		Phase 2b.	
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>optionID</i> combination.	R
deptType	Choice	This is the category of internal department, unit or desk originating the order. See Data Dictionary for list of allowed values.	R
side	Choice	The side of the order. For options events, the allowed values are Buy and Sell. See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order per contract, if specified by the order originator. Not required for market orders. For FLEX Percent options, this field may reflect a percentage of the underlying closing price, e.g., for a price equal to 95.5% of the underlying close price, this field would contain 95.5.	C
quantity	Real Quantity	The quantity of contracts.	R
minQty	Whole Quantity	The minimum quantity of contracts to be executed. Required when instructed by the order originator.	C
orderType	Choice	The type of order being submitted (e.g. market, limit, cabinet). See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The time-in-force for the order (e.g. DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	This field will contain zero or more order instruction codes, each separated by a single pipe symbol. See the Data Dictionary for allowed values.	C
firmDesignatedID	Alphanumeric (40)	The FDID assigned by the Industry Member.	R
accountHolderType	Choice	Represents the type of beneficial owner of the account for which the order was received or originated. See Data Dictionary for the list of allowed values.	R
affiliateFlag	Boolean	Indicates if the routing party is an affiliate of the Industry Member. See Data Dictionary for the list of	R

Field Name	Data Type	Description	Include Key
		allow ed values.	
aggregatedOrders	Name/Value Pairs	This field is required w hen reporting an aggregated order created by the Industry Member. It specifies the original order IDs and quantities (if partial) being consolidated into this aggregated order. One or multiple Name/Value pair(s) may be included in this field.	C
cmtaFirm	Alphanumeric (8)	Required for CMTA trades. See the Data Dictionary for more information.	C
openCloseIndicator	Choice	Describes w hether the action taken — either buying or selling this option — w ill open/increase a new position or w ill close/decrease an existing position.	R
representativeInd	Choice	Indicates if the representative linkage is required. For Phase 2b, only values "N", "O" and "YF" are allow ed to be populated on New Option Order event.	R
nextUnlinked	Choice	Indicates if the internal immediate next step is not reported and no linkage w ill be available in Phase 2b. See Data Dictionary for a list of allow ed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required w hen <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in w hich the original ROE being corrected w as originally submitted. Required w hen <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*
- ComplexOrderKey: *date*, *CATReporterIMID*, (*complexOptionID*), *complexOrderID* (Not applicable in Phase 2b)

5.2. Option Order Supplement Event (Phase 2d)

<Deferred - Not Required Until Phase 2d>

5.3. Paired Option Order (Phase 2d)

<Deferred - Not Required Until Phase 2d>

5.4. Option Order Route

Industry Members must report Option Order Route events to CAT when reporting the routing of option orders.

5.4.1. Option Order Route Event

An Industry Member must report to CAT an Option Order Route Event when:

- Routing to other Industry Members
- Routing to foreign broker-dealers
- Routing to exchanges
- Routing between two IMIDs (e.g. two different FINRA MPIDs) attributed to the same legal entity (i.e. the same CRD)
- Routing partial quantities of an order (assigned using *routedOrderId* in routing message)

In order for CAT to maintain order lifecycle linkage, the *orderId* populated in the Option Order Route event must reference the most recent internal ID of the order. For example, if an order was modified before routing out, the Route Event must use the ID assigned on the order modification.

Internal routes to another desk or department within an Industry Member are not reported using the Option Order Route event; instead an Option Order Internal Route event is used. See the Option Order Internal Route section for more details.

Handling Instructions on the Option Order Route

The handling instructions included in this event should represent those on the routed order. If the handling instructions do not change from the Option Order Accepted or New Option Order associated with the order, Industry Members may use the handling instruction code "RAR" - routed as received, instead of repeating each individual handling instruction.

Table 31: Option Order Route Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOOR	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (64)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member	The SRO assigned identifier that an Industry	O

Field Name	Data Type	Description	Include Key
	ID	Member uses to report to CAT.	
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of the route. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is handled manually. Not applicable for Phase 2b.	R
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in Phase 2b.	C
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
senderIMID	Industry Member ID	The IMID used to identify the Industry Member that is routing the order, known by the destination. When routing to another Industry Member, this value <u>must match the <i>routingOrigin</i> on the Option Order Accepted event reported by the destination, while routing to an exchange, it equals the <i>routingParty</i> reported by the exchange on the Participant Order Accepted event</u> . Not required when routing to a foreign broker-dealer.	C
destination	Industry Member ID / Exchange ID	When routing to another Industry Member, it is the IMID used to identify the Industry Member that is receiving this routed order. <u>Must match the <i>receiverIMID</i> field on the Option Order Accepted event reported by the destination Industry Member</u> . When routing to an exchange, use the Exchange ID of the destination exchange. <u>Must match the <i>exchange</i> field on the Order Accepted event reported by the destination exchange</u> . Not required if the destination is a foreign broker-dealer.	C
destinationType	Choice	Indicating whether the destination of the route is an Industry Member, an exchange or a foreign broker-dealer. See the Data Dictionary for a list of allowed values.	R
orderID	Text (40)	This is the <i>orderID</i> of the event being routed	R

Field Name	Data Type	Description	Include Key
routedOrderID	Text (40)	The ID assigned to the order by the Industry Member when routing the order to another Industry Member or exchange. This value must match the value for <i>routedOrderID</i> reported by the destination in their Option Order Accepted report. Required unless the order is routed to a non-reporting foreign destination.	C
session	Text (40)	The session ID used when routing the order. This must match the session ID on the Option Order Accepted event reported by the receiving exchange. Must be reported as blank if routing to another Industry Member. Not required for manual route or route to a foreign non-reporting entity.	C
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price per contract included on the order when routed. Not required for market orders. For FLEX Percent options, this field may reflect a percentage of the underlying close price (e.g. a contract price of 101% of the underlying close price would be represented in this field as 101.00).	C
quantity	Real Quantity	The quantity of contracts included on the order when routed.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required if included on the order when routed.	C
orderType	Choice	The type of order being routed (e.g., market, limit) See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in the Data Dictionary for handlingInstructions.	C
routeRejectedFlag	Boolean	Indicates the routed order was not accepted by the destination (rejected or no response) when marked <i>true</i> . Not applicable for Phase 2b. (Routes that are not accepted are required to be reported in Phase 2d.) See the Data Dictionary for a list of allowed values.	O
exchOriginCode	Text (4)	The code signifying the origin of the account as sent to the exchange.	C
cmtaFirm	Alphanumeric (8)	Required for CMTA trades.	C
executingFirm	Alphanumeric (8)	The OCC number of the executing/give-up firm.	C

Field Name	Data Type	Description	Include Key
openCloseIndicator	Choice	Describes whether the action taken — either buying or selling this option — will open/increase a new position or will close/decrease an existing position. See the Data Dictionary for a list of allowed values.	C
priorUnlinked	Choice	Indicates if the internal immediate prior step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for the list of allowed values.	C
nextUnlinked	Choice	For Option Order Route events, only applicable to single legs of a complex option order. Indicates if no linkage will be available in Phase 2b to the receiving side. Allowed values on Option Order Routes limited to "C" or blank.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*
- Route Link Key: *orderReceivedDate*, *senderIMID*, *destination*, *optionID*, *session*, *routedOrderID*

5.4.2 Option Order Modify Route Event (Potential Phase 2d)

<Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a modified route event after reviewing Phase 2a/2b data and include event in Phase 2d, if necessary.>

5.4.3 Option Order Cancel Route Event (Potential Phase 2d)

<Deferred – event not required for Phase 2a or Phase 2b. SROs will evaluate need for a cancelled route event after reviewing Phase 2a/2b data and include event in Phase 2d, if necessary.>

5.5. Option Order Accepted

When an Industry Member receives a routed option order from another Industry Member or an exchange, then an Option Order Accepted event must be reported to CAT. As described in Options Order Route event, if an Industry Member accepts a routed order from another Industry Member, even though that IMID may attribute to the same Industry Member, i.e., the same CRD, an Order Accepted event must be reported.

Once all Industry Member are reporting, in all cases, the order reported with this event should have already been originated by another Industry Member and reported upon origination with a New Option Order event. A New Option Order event represents the beginning of the order lifecycle in CAT, therefore a new customer order is represented with a New Option Order event - not an Option Order Accepted event. At the start of Phase 2b, there will be some lifecycles beginning at Option Order Accepted event, as Small Industry Members are not required to report until a later phase.

Orders received from a non-reporting foreign entity or affiliate should be reported as a New Option event instead of an Option Order Accepted event.

Table 32: Option Order Accepted Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOOA	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualOrderID	Text (40)	When this is a duplicative electronic message of a previously (separately) reported manual Order Accepted event (<i>electronicDupFlag</i> = <i>true</i>), this field is to capture the internal order ID of the manual order. Optional for Phase 2a.	O
manualFlag	Boolean	Must be marked as <i>true</i> if the order is handled manually.	R
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in Phase 2b.	C
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order	C

Field Name	Data Type	Description	Include Key
		specifications are deferred to Phase 2d.	
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
orderID	Text (40)	The order ID assigned to the order by the Industry Member upon acceptance. Must be unique within same date, <i>CATReporterIMID</i> , and <i>optionID</i> combination.	R
receiverIMD	Text (40)	The ID string used to identify the Industry Member receiving the order. It is not required to match the IMD of the Industry Member, but it must match the destination field on the Option Order Route event reported by the routing Industry Member.	R
routingOrigin	Industry Member ID / Exchange ID	When the order is routed from another Industry Member, this is the IMD of the sending Industry Member from which the order is routed. <u>Must match senderIMD in the Option Order Route event reported by the routing Industry Member.</u> When the order is routed from an exchange, this is the Exchange ID of the sending Industry Member from which the order is routed. <u>And the value must match the exchange field in the Order Route event reported by the exchange.</u>	R
routingOriginType	Choice	Indicating the type of origin from which the order is routed. See the Data Dictionary for a list of allowed values.	R
routedOrderID	Text (40)	The Order ID as received on the order before being assigned a new Order ID upon acceptance. This is the Order ID assigned by the routing Industry Member. This value must match the value for <i>routedOrderID</i> reported by the routing Industry Member or exchange in its CAT Option Order Route report. Required unless the order is received from a non-reporting foreign entity.	C
session	Text (40)	The ID assigned to the specific session that the routing member used to route the order to the Industry Member. Must be reported as blank if routing member is another Industry Member.	C
deptType	Choice	This is the category of internal department, unit or desk receiving the order. See the Data Dictionary for a list of allowed values.	R
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
price	Price	The price per contract received on this order. Not required for market orders.	C
quantity	Real Quantity	The quantity of contracts on the accepted order.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required if included on the order when received.	C

Field Name	Data Type	Description	Include Key
orderType	Choice	The type of order received (e.g., market, limit) See the Data Dictionary for allowed values.	R
timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary entry for allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade.	R
handlingInstructions	Name/Value Pairs	The handling instructions, as described in the Data Dictionary. All instructions included on the order when received are required to be reported.	C
affiliateFlag	Boolean	Indicates if the routing party is an affiliate of the Industry Member. See Data Dictionary for the list of allowed values.	R
cmtaFirm	Alphanumeric (8)	Required for CMTA trades.	C
executingFirm	Alphanumeric (8)	The OCC number of the executing/give-up Industry Member.	C
openCloseIndicator	Choice	Describes whether the action taken — either buying or selling this option — will open/increase a new position or will close/decrease an existing position.	C
priorUnlinked	Choice	For Option Order Accepted events, only applicable to single legs of a complex option order. Indicates if no linkage will be available in Phase 2b to the sending side. Allowed values on Option Order Accepted limited to "C" or blank.	C
nextUnlinked	Choice	Indicates if the internal immediate next step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *date*, *CATReporterIMID*, *optionID*, *orderID*
- Route Link Key: *date*, *senderIMID*, *destination*, *optionID*, *session*, *routedOrderID*

5.6. Option Order Internal Route

An Option Order Internal Route events must be reported when an order is passed internally to a different department or desk within a *CATReporterIMID*.

Although multiple *CATReporterIMIDs* may be attributed to a single Industry Member, routes between different IMIDs attributed to the same Industry Member are not considered internal routes.

Note that an Optional Order Internal Route event does not follow the logic of sending/receiving two-sided reporting followed throughout the rest of these Industry Member Technical Specifications. It is required to be reported from the perspective of the recipient desk. The Option Order Internal Route merely shows that an order was received by an internal destination and if a new *orderID* has been assigned to the order as a result of the Option Order Internal Route.

- An Option Order Internal Route may also represent the routing of partial quantities of an option order internally, and the practice of assigning those slices new *orderIDs*. In this case, multiple slices are routed to yet another destination internally - this event should represent the receiving desk, quantities, and new *orderIDs* of those routed slices as received by the subsequent internal destination. This approach will allow CAT to track changes in *orderID* within an Industry Member as an order is passed between internal entities or partial quantities are routed to internal entities as slices of another order.
- The major difference between Option Order Internal Route and Child Option Order events is that the Child Option Order event can only be used when no desk change or desk route happens. For example, some Industry Members may first choose to generate child orders using the Child Option Order event to represent slices of a parent order, then route those slices internally to another desk (Option Order Internal Route event). This approach is also acceptable for CAT reporting and will not result in unlinked events.

Option Order Internal Route Modified and Option Order Internal Route Cancelled are not required to be reported until Phase 2d.

5.6.1. Option Order Internal Route Event

Option Order Internal Route event is used to report an order sent internally to another desk.

Table 33: Option Order Internal Route Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOIR	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O

Field Name	Data Type	Description	Include Key
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt by the receiving desk. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is handled manually.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>orderID</i> from the event that was internally routed.	C
priorOrderDate	Timestamp	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event that was internally routed. Required when the <i>priorOrderID</i> is populated.	C
orderID	Text (40)	The ID assigned to the order by the Industry Member's receiving desk as a result of the internal route. Must be unique within same date, <i>CATReporterIMID</i> , and <i>optionID</i> combination.	R
deptType	Choice	The category of department, unit, or desk that is the destination of this internal route event. See the Data Dictionary for allowed values.	R
receivingDeskType	Choice	Field indicating the type of desk receiving the internally routed order. More granular than the field <i>deptType</i> . Only required when the destination of an internal route is a desk. See the Data Dictionary for allowed values.	R
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order. Required if included on the order when internally routed.	C
quantity	Real Quantity	The quantity of contracts on the order when internally routed.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed.	C

Field Name	Data Type	Description	Include Key
		Required if included on the order when internally routed.	
orderType	Choice	The type of order being internally routed (e.g., market, limit) See the Data Dictionary for allowed values.	R
handlingInstructions	Name/Value Pairs	The handling instructions, as described in the Data Dictionary for <i>handlingInstructions</i> . Required when included on the order when internally routed.	C
openCloseIndicator	Choice	Describes whether the action taken — either buying or selling this option — will open/increase a new position or will close/decrease an existing position.	C
priorUnlinked	Choice	Indicates if the internal immediate prior step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
nextUnlinked	Choice	Indicates if the internal immediate next step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>fileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*

5.6.2 Option Order Internal Route Modify Event (Phase 2d)

<Deferred - Not Required Until Phase 2d>

5.6.3 Option Order Internal Route Cancelled Event (Phase 2d)

<Deferred - Not Required Until Phase 2d>

5.7. Child Option Order

The Child Option Order event is provided solely for the convenience of Industry Members to help model scenarios in which an order is split or sliced into smaller "child" orders that are handled independently of their parent order - in a way that best reflects each individual Industry Member's system(s).

For example, in the scenario when Industry Members create independent child orders with new *orderIDs*, if the Child Option Order event is reported, then the changes of order IDs are captured. Afterwards, the Industry Member can reference each individual child option order in subsequent events by the new order ID. However, if no Child Option Order event is reported, then the Industry Member can only reference the order at the parent level by the order ID of the parent. There is no scenario in which the use of a Child Option Order event is absolutely mandatory.

Notes:

- Child Option Order events can only be used when an order is sliced and assigned new order IDs within the same desk. An Option Order Internal Route event must be reported when routed to another desk.
- There is no limit to how many "generations" can be created using Child Option Order events.
- Child Option Orders must belong to the same FDID as the parent order.
- Child Option Orders should **not** be used for single legs of a multi-leg option order.
- This event only includes the key data elements and fields that may be changed from the parent order or that are required for linkage, i.e., certain key data elements from the parent order may not be changed when creating Child Option Orders.

5.7.1. Child Option Order Event

Table 34: Child Option Order Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOCO	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	R
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt by the receiving desk. Can be manual or electronic.	R
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is	R

Field Name	Data Type	Description	Include Key
		appended before the OSI symbol elements. See the Option Symbol section for more information.	
parentOrderID	Text (40)	The <i>orderID</i> of the event from which the Child Order originated.	R
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>optionID</i> combination.	R
parentOrderDate	Timestamp	<i>orderReceivedDate</i> of the event from which the Child Order originated.	R
side	Choice	The side of the order. For options events, the allowed values are Buy and Sell.	R
price	Price	The limit price of the order per contract, if specified by the order originator. Not required for market orders. For FLEX Percent options, this field may reflect a percentage of the underlying closing price, e.g., for a price equal to 95.5% of the underlying close price, this field would contain 95.5.	C
quantity	Real Quantity	The quantity of contracts.	R
minQty	Whole Quantity	The minimum quantity of contracts to be executed. Required when instructed by the order originator.	C
orderType	Choice	The type of order being submitted (e.g. market, limit, cabinet). See Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The time-in-force for the order (e.g. DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	This field will contain zero or more order instruction codes, each separated by a single pipe symbol. See Data Dictionary for allowed values.	C
openCloseIndicator	Choice	Describes whether the action taken - either buying or selling this option - will open/increase a new position or will close/decrease an existing position.	R
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate, CATReporterIMID, optionID, orderID*
- Parent Order Key: *orderReceivedDate, CATReporterIMID, symbol, parentOrderID*

5.7.2 Child Option Order Modified Event

When the price, quantity, or any Material Term of the child option order has been changed, a Child Option Order Modified event must be reported to CAT. This modification event is only used when the child option order creation is reported to CAT in a Child Option Order event. As such, modifying a partial quantity internal route cannot be reported in this event.

All attributes and Material Terms of the Order of a modified child option order listed on this event should be reported when applicable, including the fields that remain unchanged.

Table 35: Child Option Order Modified Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOCOM	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt by the receiving desk. Can be manual or electronic.	R
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbol section for more information.	R
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>optionID</i> combination.	R
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>orderID</i> of the event being modified.	C
priorOrderDate	Timestamp	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event being modified.	C

Field Name	Data Type	Description	Include Key
side	Choice	The side of the order. For options events, the allowed values are Buy and Sell.	R
price	Price	The limit price of the order per contract, if specified by the order originator. Not required for market orders. For FLEX Percent options, this field may reflect a percentage of the underlying closing price, e.g., for a price equal to 95.5% of the underlying close price, this field would contain 95.5.	C
quantity	Real Quantity	The quantity of contracts.	R
minQty	Whole Quantity	The minimum quantity of contracts to be executed. Required when instructed by the order originator.	C
orderType	Choice	The type of order being submitted (e.g. market, limit, cabinet). See Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The time-in-force for the order (e.g. DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	This field will contain zero or more order instruction codes, each separated by a single pipe symbol. See Data Dictionary for allowed values.	C
openCloseIndicator	Choice	Describes whether the action taken - either buying or selling this option - will open/increase a new position or will close/decrease an existing position.	R
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*
- Prior Order Key: *orderReceivedDate* (or *priorOrderDate* if populated), *CATReporterIMID*, *optionID*, and *priorOrderID*

5.7.3 Child Option Order Cancelled

If a child option order is cancelled, a Child Option Order Cancelled event must be reported to CAT by the Industry Member.

Note that a partial cancellation can be reported either with a Child Option Order Modified event or Child Option Order Cancelled event with *leavesQty*, depending on how it is handled by the Industry Member. If an actual cancel message was used, the Industry Member should report a Child Option Order Cancelled event to CAT. If a modify or cancel/replace message was used, a Child Option Order Modified event should be reported to CAT. This keeps the reported event in line with the action taken by the Industry Member.

Table 36: Child Option Order Cancelled Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOCOC	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt by the receiving desk. Can be manual or electronic.	R
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbol section for more information.	R
orderId	Text (40)	Order ID assigned to the child order by the reporter upon origination.	R
side	Choice	The side of the order. For options events, the allowed values are Buy and Sell.	R
cancelQty	Real Quantity	The quantity being cancelled.	R
leavesQty	Whole Quantity	The quantity left open of this child order after cancellation. Full cancellation will result in a zero in the field. Note that, this is the leaves quantity of the parent order.	R
initiator	Choice	Specifies the initiator of the cancellation. See the Data Dictionary for a list of allowed values.	R
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Field Name	Data Type	Description	Include Key
origFileName	Alphanumeric (100)	For corrections, the FileName in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage Keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*

5.8. Option Order Modified and Cancel/Replace Event

When the price, quantity or any other Material Terms of the Order has been changed or when an order is cancel/replaced, an Industry Member must report an Option Order Modified event to CAT. This Option Order Modified event concerns both of the following scenarios:

1. A new order is generated (with a new Order ID) during the modification and completely replaces the prior order. In this case, the *orderID* field must capture the identifier for the the order, and the new order must be linked to the prior order through *priorOrderID*.
2. If the Order ID remains the same during the modification, the *priorOrderID* does not need to be populated.

Note that in the first scenario, if the order has been modified several times, the *priorOrderID* must refer to the most recent *orderID* prior to this modification, which may not always be the original order ID.

Side is required to be reported, but side adjustments are only allowed for same-side changes (e.g., changes between short and long sell).

All attributes and Material Terms of the modified order listed on this event should be reported when applicable, including the fields that remain unchanged.

Table 37: Option Order Modified and Cancel/Replace Event

Field Name	Data Type	Description	Include Key
type	Message Type	MOOM	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O

Field Name	Data Type	Description	Include Key
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the modification to the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is handled manually.	R
electronicDupFlag	Boolean	Indicating whether this is a duplicative electronic message of a manual event. If populated, this message will not be linked to any other events in Phase 2b.	C
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
orderID	Text (40)	The internal order ID assigned to this order by the Industry Member. Must be unique within same date, CATReporterIMID, and <i>optionID</i> combination.	R
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>OrderID</i> of the event being modified.	C
priorOrderDate	Date	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event being modified.	C
routingOrigin	Industry Member ID / Exchange ID	Required when the modification is the result of an order modify route. When the order modification is routed from another Industry Member, this is the IMID of the sending Industry Member from which the order is routed, and it must match the <i>senderIMID</i> in the Order Modify Route (Order Route in 2b) event reported by the routing Industry Member. When the order is routed from an exchange, this is the Exchange ID of the sending entity from which the order is routed. The value must match the <i>exchange</i> field in the Participant Order Modify Route event reported by the exchange.	C
routingOriginType	Choice	Required when the modification is the result of an order modify route. Indicates the type of origin from which the order is routed. See the Data Dictionary	C

Field Name	Data Type	Description	Include Key
		for a list of allowed values.	
routedOrderID	Text (40)	The ID for the order as sent by the routing Industry Member. Not required if this modification is initiated by the Industry Member, or when a modify route is received from a non-reporting foreign entity.	C
initiator	Choice	Indicates whether the customer/client initiated the order modification. See the Data Dictionary for a list of allowed values.	R
session	Text (40)	The ID assigned to the session used to receive the modify route message from the routing exchange. Must be reported as blank if routing from another Industry Member. Not applicable and thus not required if it is customer-initiated modification or a modification to the Industry Member's own order.	C
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order, if applicable. Required if included on the order when originated.	C
quantity	Real Quantity	The order quantity.	R
minQty	Whole Quantity	The minimum quantity of an order to be executed. Required if included on the order when originated.	C
leavesQty	Real Quantity	The number of contracts left open after the modification has occurred.	R
orderType	Choice	The type of order being submitted (e.g., market, limit). See the Data Dictionary for a list of allowed values.	R
timeInForce	Choice	The time-in-force for the order (e.g. DAY, IOC, GTC). See the Data Dictionary for a list of allowed values.	R
tradingSession	Choice	The trading session(s) during which an order is eligible to trade. See the Data Dictionary for a list of allowed values.	R
handlingInstructions	Name/Value Pairs	The handling instructions, as described in the Data Dictionary. Required if included on the order when originated.	C
openCloseIndicator	Choice	Describes whether the action taken — either buying or selling this option — will open/increase a new position or will close/decrease an existing position.	C
cmtaFirm	Alphanumeric (8)	Required for CMTA trades.	C
executingFirm	Alphanumeric (8)	The OCC number of the executing/give-up firm.	C
aggregatedOrders	Name/Value Pairs	This field is required when reporting an aggregated order created by the Industry Member. It specifies the original order IDs and quantities (if partial) being consolidated into this aggregated order. One or	C

Field Name	Data Type	Description	Include Key
		multiple Name/Value pair(s) may be included in this field.	
representativeInd	Choice	Indicates if the representative linkage is required. For Phase 2b, only values "N", "O" and "YF" are allowed to be populated.	R
priorUnlinked	Choice	Indicates if the internal immediate prior step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values. (Note the flag set as 'M' will indicate the prior Order Accepted/New Order is manual, not that the client modify route request comes in manually from the sender).	C
nextUnlinked	Choice	Indicates if the internal immediate next step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*
- Prior Order Key: *orderReceivedDate* (or *priorOrderDate* if populated), *CATReporterIMID*, *optionID*, and *priorOrderID*
- Route Link Key: *date*, *optionID*, *receiverIMID*, *routingOrigin*, *session*, *routedOrderID*

5.8.1. Option Order Modified Supplement Event (Phase 2d)

<Deferred - Not Required Until Phase 2d>

5.9. Option Order Adjusted Event

Industry Members must report to CAT the Option Order Modified event, which records the full state of the order reported to CAT on each modification. However, there are some common scenarios where only the order price and/or quantity of an order are modified. If such changes are initiated by the Industry member, the Option Order Adjusted event can be used. However, Option Order Adjusted events may not be used if a price or quantity change is initiated by a routing Industry Member.

- Price change only - the price field and *leavesQty* must be reported to represent the current state of the order with respect to price. The two conditionally-required quantity fields (*quantity*, *minQty*) can be omitted.
- Quantity change only - both conditionally-required quantity fields (*quantity*, *minQty*) and *leavesQty* must be reported. The price field can be omitted.
- Both price and quantity change - If both price and quantity change, all fields must be reported.

Any modification that cannot be fully represented in this Reportable Event must be reported via the Option Order Modified event.

Table 38: Option Order Adjusted Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOOJ	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the modification to the order. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or a finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is handled manually.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member. Must be unique within same date, <i>CATReporterIMID</i> , and <i>optionID</i> combination.	R

Field Name	Data Type	Description	Include Key
priorOrderID	Text (40)	If a new Order ID has been assigned, this is the <i>OrderID</i> of the event being modified.	C
priorOrderDate	Date	If a new Order ID has been assigned, this is the <i>orderReceivedDate</i> of the event being adjusted.	C
initiator	Choice	Indicates whether the customer initiated the order modification. See the Data Dictionary for a list of allowed values.	R
price	Price	The limit price of the order. Present if changed or if other price fields changed. Otherwise, not present.	C
quantity	Real Quantity	The order quantity. Present if changed or if other quantity fields changed. Otherwise, not present.	C
minQty	Whole Quantity	The minimum quantity of an order to be executed. Present if changed or if other quantity fields changed. Otherwise, not present.	C
leavesQty	Real Quantity	The number of contracts left open after the adjustment/has occurred. Present if changed or if other quantity fields changed. Otherwise, not present.	R
priorUnlinked	Choice	Indicates if the internal immediate prior step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
nextUnlinked	Choice	Indicates if the internal immediate next step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*
- Prior Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *priorOrderID*

5.10. Option Order Cancelled Event

The Option Order Cancelled event is used in specific situations when an options order is fully or partially cancelled. Note:

- Partial cancellation of an order may be reported to CAT using either an Option Order Cancelled event or an Option Order Modified event.
- This Option Order Cancelled Event is only reported by the Industry Member that performs the cancellation. Cancellations by away venues are not required to be reported. For example, if Industry Member Broker B accepts an order from Industry Member Broker A, and Broker B initiated a cancel on the order, then B is responsible for reporting the order cancelled (not Broker A).
- Implicit order cancellations are **not** required to be reported to CAT (e.g., cancellation due to expiration of Time in Force).

Table 39: Option Order Cancelled Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOOC	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderId</i> was assigned, the date and time the new <i>orderId</i> was assigned.	R
eventTimestamp	Timestamp	The date/time of receipt of the cancellation. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if the order is handled manually.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
orderId	Text (40)	The internal order ID assigned to the order by the Industry Member.	R
cancelQty	Real Quantity	The quantity being cancelled.	R

Field Name	Data Type	Description	Include Key
leavesQty	Real Quantity	The quantity of contracts left open after the cancel event. For full order cancellations, zero should be populated in this field.	R
initiator	Choice	Indicates who initiated the order cancellation (e.g., customer/client, Industry Member). See the Data Dictionary for a list of allowed values.	R
priorUnlinked	Choice	Indicates if the internal immediate prior step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Linkage keys for this Reportable Event:

- Order Key: *orderReceivedDate*, *CATReporterIMID*, *optionID*, *orderID*

5.11. Option Order Fulfillment

The Option Order Fulfillment event is designed to show an execution given back to the original option order(s), informing its customer/client of the number of contracts executed and at what price that is not required to be reported for public dissemination purposes.

An Order Fulfillment event must be reported in the following scenarios:

- When an aggregated order executes, and the Industry Member gives back executed contracts to each order that was part of the aggregated order. An Option Order Fulfillment event will be reported for each order that was part of an aggregated order.
- When an Industry Member creates a "representative" multi-leg complex option order. If the representative order is executed, the Industry Member must report an Option Order Fulfillment event for each of the orders being represented.
- When an order is routed to a foreign non-reporting entity, the Industry Member must report an Option Order Fulfillment to represent the outcome of the order.

For the first two scenarios above, Phase 2b does not require explicit order linkage between the bunched or representative order and the "underlying" order. Prior to Phase 2d, the Order Fulfillment events only contain the *clientDetails*. The *fulfillmentLinkType* must be marked as "YF".

In the scenario of routing to a foreign non-reporting destination, the fulfillment event is always one sided (customer order only) and the *fulfillmentLinkType* must be marked as "FOR".

5.11.1. Option Order Fulfillment Event

Table 40: Option Order Fulfillment Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOOF	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R
eventTimestamp	Timestamp	The date/time when the fulfillment was processed by the Industry Member. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if this is a manual process.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
fulfillmentID	Text (40)	A unique identifier for the fulfillment. For each Industry Member, the combination of date, <i>optionID</i> , and <i>fulfillmentID</i> must be unique.	R
quantity	Real Quantity	Quantity being reported as fulfilled with this event. It may or may not be the full quantity of the order.	R
price	Price	Price at which the order contracts are being fulfilled.	R
fulfillmentLinkType	Choice	Specifies the type of the fulfillment. See the Data Dictionary for a list of allowed values.	R
clientDetails	Fulfillment Side	See Fulfillment Side Details table below.	C

Field Name	Data Type	Description	Include Key
	Details		
firmDetails	Fulfillment Side Details	See Fulfillment Side Details table below . Not applicable in Phase 2b.	O
priorUnlinked	Choice	Indicates if the internal immediate prior step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric (100)	For corrections, the <i>FileName</i> in which the original ROE being corrected was originally submitted. Required when <i>actionType</i> is 'COR' or 'DEL'.	C

Table 41: Options Fulfillment Side Details

Field Name	Data Type	Description	Include Key
orderId	Text (40)	The order ID assigned by the Industry Member to the order on this side.	R
orderReceivedDate	Timestamp	The <i>orderReceivedDate</i> of the order on this side.	C
sideIMID	Industry Member ID	Indicating the party on the fulfillment. If this side is an order that was the result of an Option Order Accepted event, this is the <i>senderIMID</i> of the order's Option Order Accepted event. If this side is an order that resulted from a New Option Order event, this IMID is the same as the <i>CATReporterIMID</i> of this event.	R
side	Choice	The side of the order. See the Data Dictionary for a list of allowed values.	R
capacity	Choice	The capacity in which the Industry Member acted. See the Data Dictionary for a list of allowed values.	R

Linkage Keys for this Reportable Event:

- Order Key: *firmDetails.orderReceivedDate, CATReporterIMID, optionID, firmDetails.orderID*
- Order Key: *clientDetails.orderReceivedDate, CATReporterIMID, optionID, clientDetails.orderID*
- Order Key: *orderReceivedDate, CATReporterIMID, optionID,*
- Fulfillment Key: *orderReceivedDate, CATReporterIMID, optionID, fulfillmentID*

5.11.2 Option Order Fulfillment Amendment Event

If an order fulfillment is amended by an Industry Member on or after the trade date, an Option Order Fulfillment Amendment event is used. This Reportable Event must capture the entire state of the fulfillment after it has been amended, even though some of the data elements may remain unchanged.

For example, if an Industry Member fulfills its customer's/client's order on an average price basis or work the order through representative or bunched orders. Afterwards, when a trade correction or trade break comes from the exchange and subsequently changes the price or quantity of the fulfilled contracts, both the original Option Order Fulfillment event and the Option Order Fulfillment Amendment event would be reported to CAT.

The Option Order Fulfillment Amendment is not used in the following scenarios.

- If a customer order is worked directly in an Agency capacity (without any representing or bunching) and filled print-for-print, when a trade break or trade correction occurs, the Industry Member does not need to report a Fulfillment Amendment event.
- When a trade correction occurred same-day before the client order was fulfilled, only the Order Fulfillment event would be necessary to report to CAT, presuming it contained the updated (post-correction) average price.
- When an Industry Member fulfills an order and receives a trade break from the exchange, it is possible that the Industry Member may choose to take the delta (e.g. using an error account) without amending the manner by which the order was fulfilled.

Table 42: Options Order Fulfillment Amendment Event Field Specifications

Field Name	Data Type	Description	Include Key
type	Message Type	MOFA	R
actionType	Choice	Indicating whether the event is a new event, a correction, or a deletion.	R
firmROEID	Alphanumeric (50)	An identifier assigned to the record by the reporting firm.	O
CATReporterIMID	Industry Member ID	The SRO assigned identifier that an Industry Member uses to report to CAT.	O
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.	R

Field Name	Data Type	Description	Include Key
eventTimestamp	Timestamp	The date/time that the fulfillment was amended. Can be manual or electronic. If <i>manualFlag</i> is <i>true</i> , timestamp must be reported to seconds. If <i>manualFlag</i> is <i>false</i> , timestamp must be reported to milliseconds or finer increment up to nanoseconds.	R
manualFlag	Boolean	Must be marked as <i>true</i> if this is a manual process.	R
electronicTimestamp	Timestamp	When <i>manualFlag</i> is <i>true</i> , the time at which the event is systematized. Options manual order specifications are deferred to Phase 2d.	C
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements. See the Option Symbols section for more information.	R
fulfillmentID	Text (40)	A new internal identifier assigned to this amended fulfillment. Must be unique per reporter, date, <i>optionID</i> .	R
priorFulfillmentDate	Date	If a new fulfillment ID is assigned, this is the <i>orderReceivedDate</i> of the event being amended. The most recent date on which the fulfillment was last amended. If this is the first amendment, then it is the date of the original Fulfillment. Only present if this is at a different date from the original Fulfillment or last Fulfillment Amendment.	C
priorFulfillmentID	Text (40)	If a new fulfillment ID is assigned, this is the <i>orderReceivedDate</i> of the event being amended.	R
fulfillmentLinkType	Choice	Specifies the type of the fulfillment - Riskless Principal Flip, Principal Flip or Aggregated Order Flip. See the Data Dictionary for a list of allowed values.	R
quantity	Real Quantity	Amended quantity being reported as fulfilled with this event. It may or may not be the full quantity of the order.	R
price	Price	Amended price at which the order contracts are being fulfilled.	R
clientDetails	Fulfillment Side Details	This field is used to capture the customer/client details. See Options Fulfillment Side Details table above.	C
firmDetails	Fulfillment Side Details	See Options Fulfillment Side Details table above. Not applicable in Phase 2b.	O
priorUnlinked	Choice	Indicates if the internal immediate prior step is not reported and no linkage will be available in Phase 2b. See Data Dictionary for list of allowed values.	C
origFirmROEID	Alphanumeric (64)	For corrections, the <i>firmROEID</i> of the original record. Required when <i>actionType</i> is 'COR' or 'DEL'.	C
origFileName	Alphanumeric	For corrections, the <i>FileName</i> in which the original	C

Field Name	Data Type	Description	Include Key
	(100)	ROE being corrected w as originally submitted. Required w hen <i>actionType</i> is 'COR' or 'DEL'.	

Linkage Keys for this Reportable Event:

- Order Key: *firmDetails.orderReceivedDate, CATReporterIMID, optionID, firmDetails.orderID*
- Order Key: *clientDetails.orderReceivedDate, CATReporterIMID, optionID, clientDetails.orderID*
- Fulfillment Key: *orderReceivedDate, CATReporterIMID, optionID, fulfillmentID*
- Prior Fulfillment Key: *orderReceivedDate, CATReporterIMID, optionID, priorFulfillmentID*

5.12. Linked Multi-Leg Option Order Events (Phase 2d)

<Deferred - Not Required Until Phase 2d>

5.13. Option Post-Trade Allocations (Phase 2d)

<Deferred - Not Required Until Phase 2d>

6. Submission Process

In this section, information is provided regarding how to format submission files, submit to CAT (including a general data flow overview), the registration process, network and transport options, and CAT access and reporting hours.

6.1. File and Data Formats

All data files sent from the CAT Reporter (or the third-party CAT Reporting Agent for the CAT Reporter) must be compressed.

All files submitted on a given date must have a unique file name, as defined in 6.1.1. The mechanism used for uploading files will prevent duplicate file names from being accepted into the CAT system.

CAT System does not accept file archives, so do not submit multiple files bundled in a single file archive. For example: Do NOT zip, tar, or 7z all of the submitted files into one consolidated file. The files must be individually compressed and submitted.

All data elements are submitted using ISO-8859-1 encoding. This is a one-byte-per-character encoding, with possible values in the range of [0, 255]. This encoding has the characteristic that the encoding character definitions are the same as the first 256 code points of UTF-8. However, only fully defined values will be accepted.

According to the encoding specification, byte values in the ranges [0, 31] and [127, 159] are undefined. As a result, any record submitted with character values in those ranges will be rejected as invalid. In cases where data is echoed back in feedback files, invalid characters will be translated to a 3-character octal value, preceded by a backslash.

6.1.1. File Names

Files are to be named in the following manner:

```
<CAT Submitter ID> <CAT Reporter IMID>_<File Generation Date>_[<Group>_]<File Kind>_<File Number>.<Extension>[.<Compression Extension>]
```

For example: SUBID_MYID_20170101_OrderEvents_000123.csv.bz2 is a valid filename

- **CAT Submitter ID** is the unique identifier assigned by the CAT processor to the entity authorized to submit files to CAT on behalf of an Industry Member.
- **CAT Reporter IMID** is the unique SRO assigned identifier that an Industry Member uses to report to CAT.

- **File Generation Date** is the date the file was generated or reported in YYYYMMDD format. This date only participates in defining a unique file.
- **Group** is an optional reporter-defined string. It must either be missing, or composed of up to 20 alphanumeric characters. The field exists solely for reporters' convenience. Other than file name validation, it is ignored by the CAT processor.
- **File Kind** is "OrderEvents" for Industry Members.
- **File Number** is the sequence number of this file, 6-digits long, left-padded with zeros. The tuple (CAT Reporter ID, Date, File Kind, File Number) must be unique. The File Number determines the order that a file will be processed within a File Kind.
- **Extension** is the extension, representing the format of the data inside: json, csv
- **Compression Extension** is the extension representing the compression used to compress the data file: bz2.

6.1.2 Metadata Files

For each data file that is uploaded to CAT, associated metadata must also be uploaded. Submitters may pair the metadata file one-to-one with the data file, so that when the "pair" is ready, both files can be processed in a timely manner, or the submitter may choose to package multiple metadata "blocks" for multiple data files into one metadata file. But they must be for the same calendar date, CATReporterIMID, on the same file version and by the same submitter. Each metadata "block" contains checksum of the files that are submitted, which are needed to verify integrity and track provenance of the submissions.

The metadata file must be named in the following manner:

```
<CAT Submitter ID> <CAT Reporter IMID>_<File Generation Date>_ [<Group>_] <File Kind>_ <Metadata File Number>.<Extension>
```

- CAT Submitter ID, CAT Reporter IMID, Date (and Group) must be consistent with the data file(s)
- Metadata file number is the sequence number of the metadata file, 6-digits long, left-padded with zeros. The combination (CAT Submitter ID, CAT Reporter IMID, Date, Metadata File Number) must be unique.
- Extension is .meta

An Industry Member may use multiple metadata files for a day. If an Industry Member is uploading multiple metadata files, the Industry Member should set the *doneForDay* flag as false until the last metadata file is submitted for the date with *doneForDay* = true. Once a metadata file with *doneForDay* = true is received, this signals that the files submitted by the Industry Member are ready for the linkage discovery processing stage. However, this will not "close" the submission process. If an Industry Member discovers it needs to make additional data submissions, the Industry Member may continue to submit the

additional data files with a new metadata file. If no metadata files for a trading day are flagged *doneForDay* = true, the *doneForDay* flag(s) those files will be automatically set to true upon submission deadline at 8:00AM.

The metadata file is in JSON format, and contains:

Table 43: Metadata File Specifications

Field Name	Data Type	Description	Include Key	
type	Message Type	META	R	
doneForDay	Boolean	Used to indicate the last metadata file for the Submitter/Industry Member Reporter on the date. Any file submitted with <i>doneForDay</i> =true should be the last set of files submitted for the day. It defaults to false.	O	
fileGenerationDate	Date As defined in section 2.4	The date the file was generated or reported. This date only participates in defining a unique file.	R	
reporter	Reporter ID	The SRO assigned identifier that an Industry Member uses to report order events to CAT.	R	
submitter	Reporter ID	The CAT-assigned ID for the entity submitting data on behalf of the reporter. The CAT Reporting Agent must have been previously authorized to submit data on behalf of the Industry Member Reporter. If the Industry Member submits data on its own behalf, then the Submitter would be the same as the Reporter.	R	
fileVersion	Version	A version number for the schema file used to encode and format this file. The schema file will be inferred from the File Kind of the file.	R	
files	File Details	See File Details table below	R	
Repeating Groups – Start				
→	fileName	As described above	The name of the corresponding data file of this metadata block	R
→	recordCount	Unsigned	The number of new -line delimited records in the data file	R
→	raw Hash	Alphanumeric (64)	SHA256 of the raw data file. This field and/or compressedHash must be provided.	C
→	compressedHash	Alphanumeric (64)	SHA256 of the compressed data file. This field and/or raw Hash must be provided.	C
Repeating Groups – End				

The hashes are to be submitted as 64-character hexadecimal string encodings of the hash value.

```

{
  "type": "META",
  "doneForDay": false,
  "date": 20180919,
  "reporter": "MPID",
  "submitter": "OSOID",
  "fileVersion": "1.1",
  "files": [
    {
      "fileName": "SUBID_MPID_20180919_OrderEvents_000001",
      "recordCount": "5217",
      "rawHash": "08997E354AEAE2EA9E71E685CE1CC6FCCD1EB17E957B18573617CA80199
EA67A",
      "compressedHash": "99A7712E2CC1CB3A5789B91E3C1D1E76D7F83D82C8D35FF1F56B
156A49C228E2",
    },
    {
      "fileName": "SUBID_MPID_20180919_OrderEvents_000002",
      "recordCount": "9999",
      "rawHash": "8F4C6DF6DF7C68B1177CE572C848B1B5484417CE2DF274FCCB2BDB8955D
97BE3",
      "compressedHash": "00660828E45FFCCA37EF9CCF2A4967308DDA033CD498B0A1810F
3BFC4BF6BFCC",
    }
  ]
}

```

If a metadata block in the file has an error, the erroneous block will be dropped, and proper corresponding feedback will be returned (see Section 7 for File Acknowledgment Feedback or Basic File Integrity Feedback). The rest of the "blocks" of the metadata file will continue to be processed.

6.1.3. Data Files

All data files are either new-line delimited JSON objects, or new-line delimited CSV records. This means that for JSON, there is no top level object. Instead, the file acts as the top level container for each object. Each object is a normal JSON object, separated with a new-line (ASCII decimal 10, hex 0A). For CSV files, each record's fields are separated with a comma (ASCII decimal 44, hex 2C).

Each JSON object is terminated by a new-line, but the data in the object itself must not include new-lines. Specifically, each line in the file must contain exactly one complete record, no matter whether the submission format is JSON or CSV. In either case, the total maximum length of any line is 4095 bytes. The examples in the document include new-lines between elements for readability.

6.1.3.1. JSON Schema

JSON schema files for each record type will be provided on the CAT public website. Industry Members will be able to download and use these schemas to format and validate their CSV and JSON data files

prior to submission. These schemas will also allow Industry Members to translate their data files from JSON to CSV or from CSV to JSON formats, as desired.

The schema files will be maintained by the Plan Processor and will be versioned as the message specifications change. The meta files submitted to CAT will contain a version identifier specifying which version of the schema the associated reference or order data was formatted in accordance with. This will allow the CAT System to perform a basic initial formatting validation of all submitted data.

Provided here is an abbreviated example of a JSON schema containing only part of the equity New Order event and a couple definitions for Choice fields:

```
{
  "description": "CAT schema for equity new order event",
  "version" : "1.1",
  "eventDefinitions" : [
    {
      "eventName" : "New Order",
      "fields" : [
        {
          "JSONDataType": "String",
          "name" : "type",
          "dataType" : "Choice",
          "defaultValue": "MENO",
          "position" : 0,
          "required": "Required"
        },
        {
          "JSONDataType": [ "Number", "String" ],
          "name" : "eventTimestamp",
          "dataType" : "Timestamp",
          "position" : 2,
          "required": "Required"
        },
        {
          "JSONDataType": "String",
          "name" : "symbol",
          "dataType" : "Symbol",
          "position" : 3,
          "required": "Required"
        },
        {
          "JSONDataType": "String",
          "name" : "orderID",
          "dataType" : "Text",
          "position" : 4,
          "maxLength" : 40,
          "required": "Required"
        }
      ],
      ...
    }
  ]
}
```

```
    ],  
}
```

Note that the file is not a typical "JSON schema" but a schema describing the Reportable Events in JSON.

The field "JSONDataType" indicates the underlying JSON data type.

The field "dataType" is the actual type, as indicated in this specification, with some further restrictions over the underlying JSON data type.

The field "name" is the JSON field name. The "name" is also used as a lookup key to find valid values for a field of dataType "Choice."

Each field of dataType "Choice" will contain a corresponding entry in the "choices" object, which contains the list of valid choices. The key is the value in the name field. If the name field contains a '.' (period), then the value is part of a nested JSON object and the key will be the trailing name. For example, if the field has a Choice field with the name "buyDetails.side" then the field "buyDetails" contains a JSON object with a member named "side" and "side" would be used as the key to lookup the valid choices for the element.

The field "position" is the 0-based index where this field would be expected in a CSV version of the data.

The field "required" indicates whether the field is "Required," "Conditional," or "Optional." If submitting in JSON, any conditional or optional field that is not provided must be omitted. If submitting in CSV, and conditional or optional field that it not provided must be an empty column (i.e., in the following example position 2 is considered to be omitted: zero,1,,three).

Note that the Timestamp data type has two possible representations, so the JSONDataType is an array of choices: String for a formatted string and Number for nanoseconds since the epoch.

6.1.3.2. CSV Conversion

The JSON schema defines valid data types, and mappings between JSON and CSV. Note that schemas can change with each specification version, and the authoritative schemas will be available on the CAT website. For this discussion, assume the following schema for an Equity Order Adjusted event. Provided here is an abbreviated example of a JSON schema containing only part of the Order Adjusted event and a couple definitions for Choice fields:


```

{
  "description": "CAT schema for Equity Order Adjusted event",
  "version": "1.1",
  "eventDefinitions": [
    {
      "eventName": "Order Adjusted Event",
      "fields": [
        {
          "name": "type",
          "dataType": "Message Type",
          "JSONDataType": "String",
          "required": "Required",
          "defaultValue": "MEOJ",
          "position": 0
        },
        {
          "name": "eventTimestamp",
          "dataType": "Timestamp",
          "JSONDataType": "String,Number",
          "required": "Required",
          "position": 1
        },
        {
          "name": "manualFlag",
          "dataType": "Boolean",
          "JSONDataType": "boolean",
          "required": "Required",
          "position": 3
        },
        {
          "name": "seqNum",
          "dataType": "Unsigned",
          "JSONDataType": "Number",
          "required": "Conditional",
          "position": 4
        },
        {
          "name": "symbol",
          "dataType": "Symbol",
          "JSONDataType": "String",
          "required": "Required",
          "position": 5
        },
        {
          "name": "orderID",
          "dataType": "Text",
          "JSONDataType": "String",
          "required": "Required",
          "maxLength": 40,
          "position": 6
        }
      ]
    }
  ],
  "choices": {
    "side": ["Buy", "Sell", "Exempt", "Cross", "CrossShort"]
  }
}

```

```
}
```

Below is a sample event based on the JSON representation:

```
{  
  "type": "MEOJ",  
  "eventTimestamp": "20170901T120102.123456",  
  "manualFlag": "false",  
  "symbol": "XYZ",  
  "orderID": "T12346",  
  "priorOrderID": "T12345",  
  "initiator": "Customer",  
  "side": "Buy",  
  "quantity": "1100",  
  "minQty": "100",  
  "leavesQty": "100"  
}
```

The corresponding CSV would be:

```
MEOJ,20170901T120201.123456,E,false,,,XYZ,T12346,T12345,Customer,Buy,,,,,1100,  
100,100,,,,,,,,,
```

6.2. Connectivity

More detailed information on connectivity will be provided in the Industry Member Onboarding User Guide.

6.3. Transport Options

Industry Members may use different mechanisms (SFTP or the CAT Reporter Portal) to send/obtain different types of information to/from CAT.

Basic types of CAT information:

1. Submissions (e.g. initial submission of files of order events, resubmission of files that were previously rejected, and corrections or deletions to previously accepted records;
2. Feedback (e.g. upload status, rejections, and reporting statistics); and
3. Administrative information.

Access Method	Category	SFTP	CAT Reporter Portal
Submission of Order Events	Submission	✓	✓
Resubmission of Rejected Files/Records and Correction	Submission	✓	✓
File Status Retrieval	Feedback	✓	✓
Report Statistics	Feedback		✓
System Status	Submission		✓

The following is the SFTP directory structure that will be made available in the submitter's home directory.

```

/submitterID/cat/upload
/submitterID/cat/upload_arcv
/submitterID/cat/feedback
/submitterID/cat/errors

```

SFTP submission allows file(s) only. If the submission is via the CAT Reporter Portal, it may be sent by typing the information directly into the Web page or by submitting small files. The file size allowed via CAT Reporter Portal is limited to 1GB before compression.

6.3.1. File Size and Compression

Any files transmitted via SFTP or CAT Reporter Portal must be compressed. The compression algorithm allowed is BZip2 (extension: bz2).

The size of files uploaded via SFTP is limited to 100GB per file before compression. In order to receive feedback sooner, it is strongly recommended that firms submit files smaller than 1GB per file. The size limit for the CAT Reporter Portal is 1GB per file before compression.

6.3.2. SFTP Upload Process

Each file that is uploaded must follow these basic steps.

1. Upload the data file and the metadata file into the `cat/upload` directory
2. Upload the metadata file after uploading the corresponding datafiles

6.4. Accessing Feedback Information

6.4.1. CAT Feedback

Multiple types of feedback will be provided to Industry Members through various mechanisms, dependent upon the type of feedback provided.

- **Receipts** - receipt of a file or the arrival of a file at the next stage of processing is provided in a feedback file. A File Acknowledgement Feedback File will be provided when each file is first received. A separate file will be generated when the file reaches each stage of processing. Processing stages (and thus feedback file types) vary based on the type of file being processed. Feedback files will be available via sftp. Receipt and feedback information will also be available via the CAT Reporter Portal.
- **Error Reports** - if records in a file are rejected, if an entire file is rejected, or if there are warnings generated by a file, the feedback file will detail which records were rejected, why they were rejected, and at which stage of processing they were rejected. Note that CAT will not completely reject a file at the INGESTION stage. (Please refer to Section 7 for more details on various processing stages and feedbacks.)
- **File Submission Status** - current processing status (whether a file has been received, which stage of processing a file is in, etc.) will be made available via the CAT Reporter Portal.
- **Reporting Statistics** - reporting statistics will be made available via the CAT Reporter Portal on a daily basis, and are posted when processing for all files has completed. The daily statistics will include, at a minimum, the following information for order events and reference data:
 - ◆ CAT Reporter IMID
 - ◆ Date of Submission
 - ◆ Number of files received
 - ◆ Number of files accepted
 - ◆ Number of files rejected
 - ◆ Number of total order events received
 - ◆ Number of order events accepted
 - ◆ Number of order events rejected
 - ◆ Number of each type of report received
 - ◆ Number of each type of report accepted
 - ◆ Number of each type of report rejected
 - ◆ Number of unknown accounts
 - ◆ Number of late submissions
 - ◆ Order-IDs rejected
 - ◆ Reasons(s) for rejection

- ◆ Number of records attempted to be matched
- ◆ Number of records matched
- ◆ Percentage of records matched

The table below provides Feedback and Error Correction Availability

Types of Feedback	Anticipated Delivery	No Later Than
File Acknowledgement Feedback	Within 10 minutes of Metadata File Submission	1 hour of Metadata File Submission
Basic File Integrity Feedback	Within 30 minutes of Metadata File Submission	2 hour of Metadata File Submission
Order Events – Ingestion Feedback	Within an 1 hour of Basic File Integrity Feedback	4 hour of Basic File Integrity Feedback
Order Events – Linkage Discovery Feedback (Record Level Data Integrity including Full Duplicates, Key Duplicates, Linkages)	T+1 at Noon	T+1 at Noon
Corrections Feedback for Order Events – Ingestion Feedback	Within an 1 hour of File Acceptance	4 hour of File Acceptance
Corrections Feedback for Order Events – Linkage Discovery Feedback	Processing Date of Correction Submission + 1 at Noon	Processing Date of Correction Submission + 1 at Noon

6.5. CAT Reporting Hours

Submission of Order Events

Pursuant to SEC Rule 613, the CAT NMS Plan requires Industry Members to record order events contemporaneously with the actual transactions themselves. Realtime reporting to CAT is not required. Data may be bulk uploaded at the end of the Trading Day, or may be broken into multiple batches and uploaded in pieces throughout the day. However, all Reportable Events for one Trading Day must be reported to CAT by 8:00 AM Eastern Time on the next Trading Day.

Trading Day for Industry Members is defined as:

- **Start:** immediately after 4:15:00PM and no fractions of a second Eastern Time on one trade date

- **End:** exactly 4:15:00PM and no fraction of a second Eastern Time on the next trade date (T=Trading Day, a defined term)⁹

Note that the Trading Day is only used to determine the reporting deadline of order events. It does not impact the date on the file name (calendar day) or the date used to create linkages (date on *eventTimestamp*). Additional details on reporting dates and deadlines are included in Appendix D.

CAT accepts submissions (via SFTP and CAT Reporter Portal) 24 hours per day, 7 days per week, other than during announced scheduled maintenance. Events that occurred during a particular Trading Day may be reported anytime between the time the event occurred and the reporting deadline, which is 8:00 AM Eastern Time on the following Trading day. Reports received after the deadline will be marked late by CAT.

The table below gives some examples of the reporting deadline.

Table 44: Reporting Deadline Examples

Event Occurs	Holiday	Report Due to CAT (T+1)
Monday 14:20 PM ET	N/A	Tuesday 8:00 AM ET
Monday 23:40 PM ET	N/A	Wednesday 8:00 AM ET
Friday 11:00 AM ET	N/A	Monday 8:00 AM ET
Friday 16:02 PM ET	N/A	Monday 8:00 AM ET
Friday 16:02 PM ET	The Following Monday	Tuesday 8:00 AM ET
Wednesday 15:00 PM ET	Thursday, Friday is half day	Friday 8:00 AM ET

Deadline of Rejection Repair

Rejections will be provided to Industry Members in the following order:

- File Format Validation Error
- Syntax and Semantics Error
- Context Issues

Once rejections are available, repairs can be made immediately.

⁹ Note that the Trading Day definition for Participants is different. It starts on 1 millisecond from 12:00AM of T, and ends at 12:00AM of T+1.

In order to comply with the rule, all rejections that require repair should be repaired before **8AM Eastern Time on T+3** (transaction date + three Trading Days). Repairs received after the standard repair window will be classified as late.

If corrections are not received by **8AM Eastern Time T+5** (transaction date + five Trading Days), Participants' regulatory staff and the SEC will be notified. The Plan Processor shall notify the Participants' regulatory staff and the SEC as to how corrections submitted after T+5 will be re-processed. The Operating Committee will be involved with decisions on how to re-process the data.

Table 45: Repair Window Examples

Event Occurs	Holiday	Initial Report Due (T+1)	Standard Repair Window (T+3)
Monday 14:20 PM ET	N/A	Tuesday 8:00 AM ET	Thursday 8:00 AM ET
Monday 23:40 PM ET	N/A	Wednesday 8:00 AM ET	Friday 8:00 AM ET
Friday 11:00 AM ET	N/A	Monday 8:00 AM ET	Wednesday 8:00 AM ET
Friday 16:02 PM ET	N/A	Monday 8:00 AM ET	Wednesday 8:00 AM ET
Friday 16:02 PM ET	Next Monday	Tuesday 8:00 AM ET	Thursday 8:00 AM ET
Wednesday 15:00 PM ET	Thursday, Friday is half day	Friday 8:00 AM ET	Tuesday 8:00 AM ET

Deadline for Corrections and Deletions

Sometimes an Industry Member will have occasion to correct a report that may have passed all data validation and integrity checks. All such corrections must be submitted within the same three day timeframe as provided for record repairs. Specifically, Industry Members will be provided the same T+3 window for submitting timely corrections to data.

6.6. Security

Additional details on security will be provided in a subsequent version.

7. Feedback and Corrections

This section describes the procedures for obtaining feedback and how to submit corrections, including different types of feedback messages, data elements, and formats of the correction reports. After data submission, CAT will conduct data validations, provide feedback to CAT Reporting Agents and Industry Members, and allow corrections to be submitted.

Feedback will be made available via the CAT Reporter Portal and via SFTP.

7.1. Feedback Files and Error Files

For files submitted by an Industry Member, CAT will return a feedback file, and an error file if applicable. These files are generated at different stages of processing and returned to the Industry Member and CAT Reporting Agent. The feedback files and error files will be made available via the home directory, and the CAT Reporter Portal.

CAT will have four main processing stages, as described below:

1. File Acknowledgement
2. Basic File Integrity Check
3. Order Events - Ingestion
4. Order Events - Linkage Discovery

Please see the following sections for details of each stage.

A feedback file is generated for every stage. An error file is generated only for the “Order Events - Ingestion” and “Order Events - Linkage Discovery” stages. The format of the files will match the format of the original file submission in JSON or CSV.

- **Feedback File**

Feedback files will be accessible under the `cat/feedback` directory in both the CAT Reporting Agent’s and Industry Member’s home directory on the Feedback SFTP server. Feedback files from different stages of processing will have different file extensions. See the following sections for more details.

- **Error File**

If an error file is generated, it will be accessible under the `cat/errors` both the CAT Reporting Agent’s and Industry Member’s home directory on the Feedback SFTP server. Error files from different stages of processing will have different file extensions. See the following sections for more details.

Feedback files will have the same base name as the submitted file. The file name will be appended with an extension describing the feedback type. The file will be compressed. For example, if a file was submitted from CAT Reporter “MYID”, with the following name:

SUBID_MYID_20170101_OrderEvents_000123.csv.bz2

The following would be the filename for the acknowledgement feedback file:

SUBID_MYID_20170101_OrderEvents_000123.ack

Filenames are considered unique using the base name of the file (i.e., after removing all suffixes). Thus, trying to upload files that differ only in extension would be considered an error for uploading files with duplicate filenames.

Table 46: Filename / Base Name Examples

Filename	Base Name – used for comparison
SUBID_MYID_20170101_OrderEvents_000123.csv.bz2	SUBID_MYID_20170101_OrderEvents_000123
SUBID_MYID_20170101_OrderEvents_000123.json.bz2	SUBID_MYID_20170101_OrderEvents_000123

If multiple files are submitted with the same base name, but with different format or compression extensions, then a <_N> will be applied to the base name of the second and subsequent feedback file names, where N will be the iteration of the feedback file.

If multiple files are submitted with the same base name or CAT needs to provide feedback when reprocessing a file feedback, an <_N> will be applied to the base name of the feedback files to avoid overwrite of any feedback files contained at that time in the download directories.

The minimum retention time for feedback files on the SFTP server is 14 calendar days. After that time, they may be removed from the server. Feedback will continue to be available after that time via the CAT Reporter Portal.

Error codes are listed in Appendix E.

7.2. File Acknowledgement

A receipt of acknowledgement will be generated for each file that appears in the upload directory or uploaded via the CAT Reporter Portal.

The data and metadata file should be uploaded within a reasonable timeframe of each other. If a file is rejected (e.g., because the filename is not in the correct format or there is a timeout without receiving the associated data/metadata file), the receipt will contain a status of Failure and one or more error codes.

The Plan Processor will remove files from the upload directory as soon as each file upload is complete. The Submitter should never attempt to delete files from the `upload` directory.

A copy of the uploaded file will be made available in a read-only archive directory called `upload_arcv` for 14 calendar days with the following naming convention.

`<timestamp>_<submittedfilename>`

7.2.1. File Acknowledgement Feedback

An acknowledgement feedback file will have a `.ack` extension and will contain the following fields:

- CAT Submitter ID (as determined from SFTP or CAT Reporter Portal username)
- CAT Reporter IMID (as determined from filename, if available)
- Timestamp of Receipt - timestamp file is received and receipt is generated
- File Generation Date (file generation date as submitted from filename, if available)
- Stage – FILE_ACKNOWLEDGEMENT
- File Name
- Feedback Version - the version of feedback file schemaStatus - Success or Failure
- Errors - a repeating group of error codes and descriptions
 - ◆ Severity - WARNING or ERROR
 - ◆ Error Code

File Acknowledgement Feedback Record will contain the following fields:

Table 47 File Acknowledgement Feedback Record

Seq	Name	Data Type (Length)	Description
1	CAT Submitter ID	Alphanumeric (7)	A unique ID assigned by CAT to the CAT Reporting Agent.
2	CAT Reporter IMID	Alphanumeric (7)	The CAT Reporter IMID is the SRO assigned identifier that an Industry Member uses to report order events to CAT. A CAT Reporter may use any SRO assigned identifier that is valid on the CAT Trading Day for which order events are submitted.
3	Time Stamp of Receipt	Alphanumeric (25)	timestamp file is received and receipt is generated
4	File Generation Date	Alphanumeric (8)	file generation date as submitted from filename, if available

Seq	Name	Data Type (Length)	Description
5	Stage	Alphanumeric (20)	FILE_ACKNOWLEDGEMENT
6	File Name	Alphanumeric (60)	File Name
7	Feedback Version	Alphanumeric (3)	the version of feedback file schema
8	Status	Alphanumeric (7)	Success or Failure
9	Severity	Alphanumeric (7)	Only required when Status is Failure. Severity can be warning or error.
10	Error Code	Alphanumeric (14)	Error Code indicating reason for rejection.

The following is an example JSON object for a successful file acknowledgement:

```
{
  "submitter": "SUBID",
  "reporter": "MYID",
  "receiptTimestamp": "20170307T153552.000001089",
  "fileGenerationDate": 20170307,
  "stage": "FILE_ACKNOWLEDGEMENT",
  "fileName": "SUBID_MYID_20170307_OrderEvents_000123.json.bz2",
  "feedbackVersion": "0.1",
  "status": "Success"
}
```

CSV presentation of a successful file acknowledgement:

```
Line 0      SUBID,MYID,20170307T153552.000001089,20170307,FILE_ACKNOWLEDGEMENT,
           SUBID_MYID_20170307_OrderEvents_000123.json.,0.1,Success
```

The following is an example JSON object for an unsuccessful file acknowledgement:

```
{
  "submitter": "SUBID",
  "reporter": "MYID",
  "receiptTimestamp": "20170307T153552.000001089",
  "fileGenerationDate": 20170307,
  "stage": "FILE_ACKNOWLEDGEMENT",
  "fileName": "SUBID_MYID_20170307_OrderEvents_000123.json.bz2",
  "feedbackVersion": "0.1",
  "status": "Failure"
},
{
  "severity": "ERROR",
  "code": "FILE.ACK.1001"
}
```

CSV presentation:

```
Line 0      SUBID,MYID,20170307T153552.000001089, 20170307, FILE_ACKNOWLEDGEMENT
           , SUBID_MYID_20170307_OrderEvents_000123.json.bz2, 0.1,Failure
Line 1      ERROR, FILE.ACK.1001
```

7.3. Basic File Integrity

When all the data file(s) and associated metadata file have been received, basic validation will begin. If the metadata file cannot be processed, a failure will be generated, and no further attempt will be made to process the file until a valid metadata file is uploaded. If there is an error for one 'block' of metadata within the file, the 'block' with the failure is dropped from processing but the remaining metadata 'blocks' and associated files will still be processed. The Industry Member can submit another metadata file with the corrected 'block' to complete processing.

7.3.1. Basic File Integrity Checks

The values contained in the metadata file will be checked against properties of the corresponding data file. The following properties will be checked:

- **Matching Date** - the date part of the filename must match the metadata Date
- **Submitter** - metadata CAT Submitter ID must be the same as actual submitter (as determined from sftp or CAT Reporter Portal username)
- **Reporter** - the CAT Reporter IMID part of the filename must match the metadata CAT Reporter IMID
- **Compressed Hash** - computed SHA256 must equal metadata Compressed Hash, if provided
- **Data Hash** - computed SHA256 must equal metadata Raw Hash, if provided

One or both of the Compressed Hash and Data Hash must be provided. If neither are provided, then the file will be rejected.

Note that all data elements in the metadata file are validated during this stage except Record Count, which will be validated when the file is actually processed.

7.3.2. Basic File Integrity Feedback

A basic file integrity feedback file will have a .integrity extension and will contain the following fields:

- CAT Submitter ID (as determined from sftp or CAT Reporter Portal username)
- CAT Reporter IMID (as determined from filename)
- Timestamp of Receipt - timestamp when receipt was generated
- File Generation Date (file generation date as submitted from filename, if available)
- Stage – FILE_INTEGRITY

- Feedback Version - the version of feedback file schema
- Status - Success or Failure
- Errors - a repeating group of error codes and descriptions
 - ◆ Severity - WARNING or ERROR
 - ◆ Error Code

Table 48 Basic File Integrity Feedback Record

Seq	Name	Data Type (Length)	Description
1	CAT Submitter ID	Alphanumeric (7)	A unique ID assigned by CAT to the CAT Reporting Agent.
2	CAT Reporter IMID	Alphanumeric (7)	The CAT Reporter IMID is the SRO assigned identifier that an Industry Member uses to report order events to CAT. A CAT Reporter may use any SRO assigned identifier that is valid on the CAT Trading Day for which order events are submitted.
3	Time Stamp of Receipt	Alphanumeric (25)	Timestamp file is received and receipt is generated
4	File Generation Date	Alphanumeric (8)	file generation date as submitted from filename, if available
5	Stage	Alphanumeric (20)	FILE_INTEGRITY
6	File Name	Alphanumeric (60)	File Name
7	Feedback Version	Alphanumeric (3)	the version of feedback file schema
8	Status	Alphanumeric (7)	Success or Failure
9	Severity	Alphanumeric (7)	Only required when Status is Failure. Severity can be warning or error.
10	Error Code	Alphanumeric (14)	Error Code indicating reason for rejection.

The following is an example JSON object for a successful integrity check:

```
{
  "submitter": "SUBID",
  "reporter": "MYID",
  "receiptTimestamp": "20170307T153552.000001089",
  "fileGenerationDate": 20170307,
  "stage": "FILE_INTEGRITY",
  "feedbackVersion": "0.1",
  "status": "Success"
}
```

CSV conversion

Line 0 SUBID,MYID,20170307T153552.000001089,20170307,FILE_INTEGRITY,0.1,Success

The following is an example JSON object for an unsuccessful integrity check:

```
{
  "submitter": "SUBID",
  "reporter": "MYID",
  "receiptTimestamp": "20170307T153552.000001089",
  "fileGenerationDate": 20170307,
  "stage": "FILE_INTEGRITY",
  "feedbackVersion": "0.1",
  "status": "Failure"
},
{
  "severity": "ERROR",
  "code": " FILE.INT.1512 "
}
```

CSV conversion

```
Line 0 SUBID,MYID,20170307T153552.000001089,20170307,FILE_INTEGRITY,0.1,Failure
Line 1 ERROR, FILE.INT.1512
```

7.4. Order Event Files

Order Event files are composed of many different types of records. Any record determined to be malformed or otherwise invalid will be rejected as a failure.

- If the number of records in the file does not match the Record Count in the metadata file or metadata block, the entire file will be rejected.
- If an Order Event file contains anything other than expected order event messages, the entire file will be rejected.

Each field of the order event will be checked and validated, resulting in one of three states for the record: success, error, or warning. An error will prevent the record from being processed. A warning will not prevent the record from being processed, but may indicate that a record will be subject to errors during a later stage or processing. Depending on the type of warning, the record may be processed and ignored, or processed and applied to the data set. A record with only warning(s) but without error(s) do not require corrective action from the Industry Member.

For example, there are occasions where symbols are “delisted” late and may already have been referenced by some Industry Members (most likely in stage two). CAT allows incremental uploads throughout the day. Thus, their order event reports may contain opens and/or cancels for those symbols.

Instead of rejecting these records, CAT will generate warnings for benign order actions and silently ignore them. Execution events for such symbols, however, will generate errors.

The system is backward compatible when there is a change or transition to a new version of reporting specifications. In such cases where the latest/preferred method is detectable, but not detrimental, a warning may be generated to inform the reporter on the details, but the record will still be accepted and processed by the system.

7.4.1. Order Event Feedback

The act of processing order events has multiple stages: ingestion and linkage discovery.

During the ingestion phase, each record will be checked for proper formatting (JSON field names and values, CSV values in proper columns) and data contents. The defined JSON schemas for each record type will be used to validate every field of each record. The schema defines the format of each record and the data types and acceptable ranges of each value. In addition, it defines which fields are mandatory.

Fields whose value depends on context (and are not defined in the schema) will be validated by explicit rules to make sure that all requirements for their processing are followed.

Order events will be checked for both internal consistencies and valid relationships when referencing other orders or events from the same reporter.

The full lifecycle will be generated from the full set of order events, and any order that is not fully linked will be flagged as an error.

CAT will not completely reject a file at the ingestion or linkage discovery stage (once it passes the record count validation). Any file that passes the basic file integrity check will be fully scanned, and feedback will be provided for each of the records in the file.

Feedback will be generated for each phase. The feedback files will have the following extensions for each stage:

- INGESTION - .ingestion
- LINKAGE DISCOVERY - .linkage

7.4.1.1. Feedback File for Ingestion

The feedback file for ingestion will contain the following fields:

- CAT Submitter ID

- CAT Reporter IMID
- Timestamp of Receipt
- File Generation Date - File Generation Date as provided in the data file
- Stage - INGESTION
- Status - Success if all records in the file were accepted, Failure if some or all records were rejected, or Warning if some or all records have warnings
- Number of Accepted Records
- Number of Error and Warning Records
- Error Filename - if present, contains the relative name of the file in the `cat/errors` directory containing records that were in error.
- Feedback Version - the version of feedback file schema

Order Events Ingestion Feedback Record will include the following fields:

Table 49 Order Events Ingestion Feedback Record

Seq	Name	Data Type (Length)	Description
1	CAT Submitter ID	Alphanumeric (7)	A unique ID assigned by CAT to the CAT Reporting Agent.
2	CAT Reporter IMID	Alphanumeric (7)	The CAT Reporter IMID is the SRO assigned identifier that an Industry Member uses to report order events to CAT. A CAT Reporter may use any SRO assigned identifier that is valid on the CAT Trading Day for which order events are submitted.
3	Time Stamp of Receipt	Alphanumeric (25)	Timestamp file is received and receipt is generated
4	File Generation Date	Alphanumeric (8)	file generation date as submitted from filename, if available
5	Stage	Alphanumeric (20)	INGESTION
6	Status	Alphanumeric (7)	Success or Failure
7	Accepted Count	Alphanumeric (350)	Number of Accepted Records in the file
8	Error and Warning Count	Alphanumeric (350)	Number of Error and Warning Records in the file
9	Error File Name	Alphanumeric (350)	Error File Name associated with the feedback metadata file
10	Feedback Version	Alphanumeric (3)	the version of feedback metadata file schema

The following is an example JSON object for a successful Order Events ingestion:

```
{
  "submitter": "SUBID",
```



```

    "reporter": "MYID"
    "receiptTimestamp": "20170307T153552.000001089",
    "fileGenerationdate": 20170307,
    "stage": "INGESTION",
    "status": "Success",
    "acceptedCount": 214513134,
    "errorCount": 0,
    "feedbackVersion": "0.1"
  }

```

CSV conversion

```

Line 0 SUBID,MYID,20170307T153552.000001089,20170307,INGESTION,Success,214
513134,0,0.1

```

The following is an example JSON object for an unsuccessful Order Events ingestion:

```

{
  "submitter": "SUBID",
  "reporter": "MYID"
  "receiptTimestamp": "20170307T153552.000001089",
  "fileGenerationdate": 20170307,
  "stage": "INGESTION",
  "status": "Failure",
  "acceptedCount": 214513134,
  "errorCount": 2,
  "errorFileName":
  "SUBID_MYID_20170307_OrderEvents_000123.json.bz2.ingestion.error",
  "feedbackVersion": "0.1"
}

```

CSV conversion:

```

Line 0 SUBID,MYID,20170307T153552.000001089,20170307,INGESTION,Failure,214
513134,2,SUBID_MYID_20170307_OrderEvents_000123.json.bz2.ingestion.
error,0.1

```

7.4.1.2. Error File for Ingestion

The error file for Ingestion will contain the original record along with the corresponding error code(s) – The JSON and CSV examples for the error file to be defined in a subsequent publication.

7.4.1.3. Feedback file for Linkage Discovery

Additional information on this section will be provided in a subsequent publication.

7.4.1.4. Error File for Linkage Discovery

Additional information on this section will be provided in a subsequent publication.

7.5. Corrections

Corrections may be made manually via the CAT Reporter Portal or may be submitted via SFTP and distinguished by using the `actionType` field that indicates whether the event is a new event or a correction or a deletion.

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 (See FAQ P16). Corrected record will replace the original record for all further processing.

7.5.1. Repair Records

Repair records may be submitted to correct or delete a previously submitted record. Both records that have been previously rejected and records that have been accepted may be repaired.

7.5.1.1. Delete Record

A delete record must contain the following:

- `actionType` – DEL
- `origFirmROEID` – FirmROEID of the original record
- `origFilename` – Filename of the original record

The following is an example delete record:

```
{
  "actionType": "DEL",
  "origFirmROEID": 456
  "origFilename": SubmitterID_ReporterID_20190207_OrderEvents_000002.json.bz2
}
```

CSV presentation:

```
DEL,,,,,,,,,,,,,,,,,,,,,456, SubmitterID_ReporterID_20190207_OrderEvents_000002.json.bz2
```

7.5.1.2. Correction Record

A correction record must contain the following:

- `actionType` – COR
- `origFirmROEID` – firmROEID of the original record
- `origFilename` – Filename of the original record

The following is an example correction record:

```
{
  "type": "MENO",
  "actionType": "COR",
  "firmROEID": "COR012345",
  "eventTimestamp": "20170801T143031.123456",
  "manualFlag": false,
  "symbol": "XYZ",
  "orderID": "O12345",
  "deptType": "O",
  "side": "Buy",
  "price": 10.01,
  "quantity": 500,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "tradingSession": "REG",
  "custDspIntrFlag": false,
  "firmDesignatedID": "PROP456",
  "accountHolderType": "O",
  "negotiatedTradeFlag": false
  "origFirmROEID": 456
  "origFilename": SubmitterID_ReporterID_20190207_OrderEvents_000002.json.bz2
}
```

CSV presentation:

```
COR,567,MENO,DESK98765,20170801T143031.123456,false,,XYZ,O12345,
N,O,,Buy,10.01,500,,LMT,DAY,REG,,false,PROP456,O,,false,,,,,,,,,456,
SubmitterID_ReporterID_20190207_OrderEvents_000002.json.bz2
```

7.5.1.3. File Deletion

Files may be deleted individually within the correction window. The reporter may submit a file delete instruction by submitting an empty file with the original filename with .DEL appended (For example, SubmitterID_ReporterID_20190207_OrderEvents_000002.DEL). All records in the file will be removed from processing and related CAT processing errors will be considered as repaired.

Deletions reported outside the correction window will be marked as deleted for audit purposes only.

8. Testing

CAT will provide an environment for testing that mirrors the current functionality of the CAT production environment, as well as including functionality for the next release version of the CAT environment when available. The CAT testing environment will automatically determine which specification version Industry Members and CAT Reporting Agents are using for submissions. If error reporting formats change, Industry Members and CAT Reporting Agents will receive feedback in the current and new specification via sftp, as well as have access to current/new CAT Reporter portal urls for specification changes that impact the CAT Reporter portal. Current/new connectivity changes will also be supported concurrently.

The testing environment performs lifecycle linkage, and Industry Members and CAT Reporting Agents are encouraged to coordinate testing with their counterparties so as to test lifecycle linkage with their counterparties. Without simultaneous contra-party reporting in the test environment, Industry Members and CAT Reporting Agents will not be able to test linkage with their counterparties.

Industry Members and CAT Reporting Agents should test their submissions using the testing environment before they begin submitting to the production environment.

The test environment is available 24 hours a day, 6 days a week. Refer to the CAT website for contact information and hours of operation for support.

Industry Members and CAT Reporting Agents connect to the test environment in the same manner they would connect to the production environment. However, for the connection to the test environment, one or more alternate IP/domains may be used.

Testing does not relieve an Industry Member of its responsibilities to submit production data to the CAT System.

9. Additional Information

9.1. Public Website

The CAT Public Website, www.catnmsplan.com, is available via the public internet, and is hosted outside the CAT secure network. The CAT Public Website provides information about the CAT, such as a link to SEC Rule 613, Technical Specifications, FAQs, training materials, and CAT Help Desk contact information.

Web announcements will be made available on the public website (www.catnmsplan.com). You can also subscribe to receive email notifications regarding changes to the website. These announcements are used to post information related to the operation of CAT.

Please contact help@finracat.com for any questions and/or feedback regarding this document.

Appendices

Appendix A: Change Release Management Process

Following publication of version 1.0, changes to this Industry Member Technical Specification will be released as follows:

- All proposed amendments to the Technical Specifications will be made in accordance with the CAT NMS Plan, including being approved or deemed approved (as applicable) by the CAT NMS, LLC Operating Committee.
- Prior to the go-live date for any system changes set forth in the Technical Specifications:
 - ◆ A new Technical Specifications will be posted to the CAT Public Website, www.catnmsplan.com.
 - ◆ A notice will be posted on the CAT NMS Plan Public website with a summary of changes, the go-live date for the changes and links to relevant information.
 - ◆ One or more email alerts will be sent to CAT Reporters with a summary of changes set forth in the revised Technical Specifications, the go-live date for the changes and links to relevant information.
 - ◆ Industry Members will be permitted to perform testing of the revised Technical Specifications in advance of the go-live date for the changes. [Information on such testing will be set forth in the notices and alerts described above.]
 - ◆ As the go-live date approaches, Industry Members will be able to conduct testing and will receive support from the Plan Processor to prepare for production reporting using the revised Technical Specifications format. The revised Technical Specifications will include a summary list of changes as well as a table listing the specific areas of the document where the changes have been made.

Appendix B: Clock Synchronization Requirement

In previous sections, details are described regarding Order Events and data elements. Timestamp, as one of the required data elements for each order event, must be correctly reported by Industry Members at predefined granularity. This section provides an overview of the corresponding clock synchronization requirements applicable to Industry Members.

In order to comply with applicable requirements of Clock Synchronization and correctly record the Timestamp fields for order events. Industry Members 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 Order 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 ensure the accuracy of timestamps for Reportable Events, Industry Members must document and maintain their synchronization procedures for Business Clocks. Industry Members must keep a log of the time when they synchronize their Business Clocks and the results of the synchronization process. This log should include notice of any time a Business Clock drifts more than the applicable tolerances specified above. Such log must include results for a period of time 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. Industry Members must also certify their compliance with these clock synchronization requirements and report violations according to requirements established by the Operating Committee.

Any time provider and technology may be used for clock synchronization as long as the Business Clocks are in compliance with the accuracy requirement.

If additional details are needed, please refer to the Clock Sync User Guide to be published, or to Participants' applicable rules.

Note: The tolerance for clock synchronization does not impact the amount of time allowed for CAT reporting. CAT does NOT require Industry Members to report order information within 50 milliseconds of receiving an order.

Appendix C: Representative Order Linkages

The CAT NMS Plan requires that customer orders be linked to representative orders created in firm accounts for the purpose of facilitating the execution of a customer order. This Appendix outlines reporting requirements for creating linkages between customer and representative orders.

Phase 2a Requirements

1. Representative Order Reporting

In Phase 2a, representative orders must be reported to CAT and marked as a representative order. Representative orders are identified using the *representativeInd* field on New Order events.

Allowed values for this field include:

Y Representative order, linkage required

YS Representative order, linkage required; details in supplement event

YF Representative order, linkage required in future phase

YP Representative order, pricing guarantee, linkage not required

N Not a representative order

O Options Combined Order

2. Representative Order Linkages

In Phase 2a, 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 from a customer or another broker-dealer) and there is:

1. An existing direct electronic link in the Industry Member'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 Industry Member's system

Linkages are required between the customer/clients order and the representative order for both executed and unexecuted orders. Executed orders must also have a link between the Order Fulfillment Event for the customer/client order and the representative order from which the fill came.

The following fields are used in the linkage process:

At the Order Level

- *representativeInd* indicates if an order was originated to represent a customer/client order
- *aggregatedOrders* specifies the original order IDs and quantities being consolidated in the representative order

At the Order Fulfillment Level

- *orderID* contains the firm side order that was used to fill the customer order
- *fulfillmentLinkType* indicates whether there is order level and trade level linkage, only trade level linkage (e.g., fill from the pre-existing customer order), or why the firm side details are not present

Representative Order Marking and Linkage Requirements by Phase

Single Order Scenarios

The table below details requirements for both linkage and marking of a Representative Order in Single Order scenarios. These requirements are NOT applicable in situations where an electronic link does not exist between the Industry Member's OMS and EMS. Please refer to Data Dictionary for relevant field values. Please refer to the CAT Industry Member Reporting Scenarios document for further information on how the relevant field values should be populated for each scenario.

Table 50: Requirements for Both Linkage and Marking of a Representative Order in Single Order Scenarios

Scenario Description	Is Linkage Required?				Is Rep Order Marking Required?			
	MENO		MEOF		MENO		MEOF	
	Phase 2a	Phase 2c	Phase 2a	Phase 2c	Phase 2a	Phase 2c	Phase 2a	Phase 2c
Riskless Principal Scenarios								
A. Single Prop Order, single fill	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
B. Single Prop Order, multiple fills, print for print	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
C. Single Prop Order, multiple fills, average price fill to customer	No	Yes	No	Yes	Yes	Yes	Yes	Yes

Scenario Description	Is Linkage Required?				Is Rep Order Marking Required?			
	MENO		MEOF		MENO		MEOF	
	Phase 2a	Phase 2c	Phase 2a	Phase 2c	Phase 2a	Phase 2c	Phase 2a	Phase 2c
D. Multiple Prop Orders, multiple fills, print for print	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
E. Multiple Prop Orders, multiple fills, average price fill to customer	No	Yes	No	Yes	Yes	Yes	Yes	Yes
F. Fill of a customer order from a pre-existing principal order (Manning scenario)	No	No	Yes	Yes	No	No	Yes	Yes
Agency Scenarios - applies when a firm'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 firm for the purpose of working the customer order.								
G. Single Rep Order, single fill	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
H. Single Rep Order, multiple fills, print for print to customer account	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
I. Single Rep Order, multiple fills, single average price booking to customer account; no print for print details available to customer account	No	Yes	No	Yes	Yes	Yes	Yes	Yes
J. Multiple Rep Orders, multiple fills, print for print	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
K. Multiple Prop Orders, multiple fills, average price fill to customer	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Principal Net Trading - assumed that all street side fills are guaranteed to go to the customer order								
L. Single Prop Order, multiple fills, print for print	No	Yes	No	Yes	Yes	Yes	Yes	Yes
M. Single Prop Order, multiple fills, print for print	No	Yes	No	Yes	Yes	Yes	Yes	Yes
N. Single Prop Order, multiple fills, average price fill to customer	No	Yes	No	Yes	Yes	Yes	Yes	Yes

Scenario Description	Is Linkage Required?				Is Rep Order Marking Required?			
	MENO		MEOF		MENO		MEOF	
	Phase 2a	Phase 2c	Phase 2a	Phase 2c	Phase 2a	Phase 2c	Phase 2a	Phase 2c
O. Multiple Prop Orders, multiple fills, print for print	No	Yes	No	Yes	Yes	Yes	Yes	Yes
P. Multiple Prop Orders, multiple fills, average price fill to customer	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Other Single Order Scenarios								
Q. Price Guarantee Scenarios (e.g., GVWAP, Stop Stock) - either single or aggregated orders	No	No	No	No	No	Yes	No	Yes

Aggregated Order Scenarios

[Placeholder for Phase 2c. Aggregated Order Reporting will be finalized and included in future version of the specification.]

Appendix D: CAT Date Definitions and Reporting Guidelines

The following key date terms are used throughout the document for reporting instructions:

- **eventTimestamp:** The time of the order handling or execution pursuant to Section 6.8 of the CAT NMS Plan (e.g. origination, receipt, etc., depending on the respective order event). The time is reported as per the calendar date of the order event.
- **date (Linkage Keys):** The date used for linkage keys is the date portion of the eventTimestamp (calendar date)¹⁰.
- **File Generation Date (file Name):** The date the file was generated or reported. This date only participates in defining a unique file.
- **CAT Trading Day:** Trading Day for Industry Members is defined as beginning immediately after 4:15:00PM and no fractions of a second Eastern Time on one trade date and ending at exactly 4:15:00PM and no fractions of a second Eastern Time on the next trading date.
- **CAT Reporting Due By Date:** All events that occurred by 4:15PM on one Trading Day must be reported by 8:00AM the following Trading Day.
- **CAT Processing Date:** Date representing the set of events reported for a *CAT Trading Day*. Events reported late to CAT will be assigned the CAT Processing Date reflective of when they were reported. For example, an event, that occurred at 2pm on T which is reported to CAT after T+1 8am and prior to T+2 8AM will be assigned CAT Processing Date of T+1.
- **Order Received Date:** The date and time the order was received or originated by the firm.
- **Event Date:** The calendar date the event occurred.

Order Event Times and Reporting Deadlines

The table below illustrates the reporting deadlines for Order Events across multiple calendar days and CAT Trading Days.

¹⁰ In the scenario when an order event needs to be linked to a prior event on a different date - e.g. modify a GTC order on a prior day - an additional field "priorOrderDate" is reported on the event and will be used in linking. However, it doesn't impact the eventTimestamp or date in file name of the event itself.

Table 51: Deadlines for Order Events across Multiple Calendar Days and CAT Trading Days

#	orderID	eventTimestamp (Calendar Day)	Data Used in Linkage Key (Calendar Day)	Date in File Name (Calendar Day)	CAT Trading Day (4:15 PM cutoff time)	CAT Reporting Due by
1	O1234	Wed, 9/12 16:13:00	9/12	9/12	9/12	9/13, 8:00 AM
2	O1235	Wed, 9/12 16:16:00	9/12	9/12	9/13	9/14, 8:00 AM
3	O1234	Fri, 9/14 16:01:00	9/14	9/14	9/14	9/17, 8:00 AM
4	O1235	Fri, 9/14 16:45:00	9/14	9/14	9/17	9/18, 8:00 AM
5	O1234	Sat, 9/15 12:30:01	9/15	9/15	9/17	9/18, 8:00 AM
6	O1234	Mon, 9/17 10:30:05	9/17	9/17	9/17	9/18, 8:00 AM

Order IDs must be unique within the same calendar date. In the table above, the *orderID* in row 1 and 2 are distinct since both orders have a calendar date of 9/12. The Trading Day is not used for determining *orderID* uniqueness, as illustrated in rows 5 and 6.

The Trading Day for Industry Members is defined as starting 1 millisecond after 4:15PM on one trade date and ending 4:15PM on the next trade date. As shown in rows 1 and 2, events with a timestamp after 4:15PM (row 2) are considered to be the following trading date and are not due until T+1 at 8:00AM. Alternatively, Industry Members may submit one file one file per calendar day (the orders on rows 1 and 2 can both be submitted on a 9/12 file). The Trading Day only exists to determine the reporting deadline of an event, it does not impact the date used to create linkage or the file name.

Weekends are excluded from Trading Days. Events from 4:15PM on a Friday to 4:15PM the follow Monday are the same Trading day, but files must be separated by the calendar date (see rows 4, 5, and 6).

Holidays are also excluded from Trading Days. Hypothetically, if Monday 9/17 were a holiday in the example, the next available Trading Day becomes Tuesday 9/18.

Table 52: Example of Holidays being excluded from Trading Days

#	orderID	eventTimestamp (Calendar Day)	Data Used in Linkage Key (Calendar Day)	Date in File Name (Calendar Day)	CAT Trading Day (4:15 PM cutoff time)	CAT ReportingDue by
3	O1234	Fri, 9/14 16:01:00	9/14	9/14	9/14	9/18, 8:00 AM
4	O1235	Fri, 9/14 16:45:00	9/14	9/14	9/18	9/19, 8:00 AM
5	O1234	Sat, 9/15 12:30:01	9/15	9/15	9/18	9/19, 8:00 AM
6	O1234	Tues, 9/18 10:30:05	9/18	9/18	9/18	9/19, 8:00 AM

Appendix E: Error Codes¹¹

The error code is a machine-parseable string of why a file or record was rejected.

Each error code is divided into a failure category, sub-category and value, joined together by a period.

<category>.<sub-category>.<value>

- Category and sub-category are defined as the table below. Each category corresponds to the stage of processing at which a file or record was rejected.
- Value will be an alphanumeric (12) code that represents a specific error or warning. The list of values will be refined and a complete list of codes and descriptions will be provided.

Table 53: Error Codes

Failure Category		Failure Subcategory	
FILE	A problem with the file name or permissions	ACK	A timeout waiting for the corresponding data or meta file or a missing data file
		INT	Basic file integrity checks
OE	A problem with an order event file or record		
		INGEST	A problem with an individual record encountered in the ingestion stage
		LINK	A problem with an individual record encountered in the linkage discovery stage

An error code may be used for warnings or errors, distinguished by the severity field in the failure report. The error code itself does not distinguish between a warning (in which a record is accepted but still shows up in the feedback report) and an error (which causes a record to be rejected).

An error description is a human readable field returned with an error code that informs a user which field failed, the value which was submitted (if applicable to the error), and why it is incorrect.

For example, the following error code tells the user the severity is an error, the failure was identified on an Order Event file during the ingestion stage, and the field *timeInForce* is missing from the record.

```
record.{"severity":"ERROR",  
  "code":"OE.INGEST.2108",
```

¹¹ Note that this section provides the structure of how error codes are generated and concatenated. A final list of specific values and descriptions will be published when finalized.


```
"desc": "Missing or Invalid timeInForce"
}
```

File Acknowledgement and Basic File Integrity Errors

The table below is a draft of file error messages that are associated with the file acknowledgement and basic file integrity.

Table 53: File Acknowledgement and Basic File Integrity Errors

Error Code	Error Code Description	Explanation
FILE.ACK.1001	Missing Metadata File	Timeout waiting for metadata file
FILE.ACK.1002	Missing or Invalid fileName	FileName in meta file is missing or invalid (No corresponding data file)
FILE.INT.1501	Duplicate File	A file with the same base name as previously accepted by CAT
FILE.INT.1502	Missing or invalid CAT Submitter ID	CAT Submitter ID is missing or invalid.
FILE.INT.1503	Missing or invalid CAT Reporter IMID	CAT Reporter IMID is missing or is not a valid Market Participant for symbol for the Generation Date.
FILE.INT.1504	Missing or invalid File Generation Date	File Generation Date is missing or is not a valid date.
FILE.INT.1505	CAT Reporter IMID has expired	CAT Reporter IMID has expired.
FILE.INT.1506	File exceeds the supported size limit	File size exceeds the maximum uncompressed size of 100 GB via SFTP and 1GB via CAT Reporter Portal
FILE.INT.1507	Unauthorized CAT Submitter ID	Transmitting CAT Submitter ID has not been authorized to submit for the CAT Reporter IMID. Verify that the Transmitting CAT Submitter ID and CAT Reporter ID in the file name have a transmitting relationship.
FILE.INT.1508	Invalid Data File Name	A data file that is not in the required format <CAT Submitter ID>_<CAT Reporter IMID>_<File Generation Date>_[Group]_<File Kind>_<File Number>.<Extension>
FILE.INT.1509	Firm provided record count in meta file does not equal row count in the data file	The number of record count in the data file as calculated by CAT does not match the Record Count provided in the metadata file
FILE.INT.1510	Delete Instruction for a file not found	The firm submitted a .DEL appended to the file name but the file has not been submitted before
FILE.INT.1511	Invalid Metadata File Name	A meta file that is not in the required format <CAT Submitter ID>_<CAT Reporter IMID>_<File Generation Date>_[Group]_<File Kind>_<Meta File Number>.<Extension>
FILE.INT.1512	Missing or invalid Raw Hash	Raw Hash in meta file is missing or invalid (doesn't match the data file)
FILE.INT.1513	Missing or invalid Compressed Hash	Compressed Hash in meta file is missing or invalid (doesn't match the data file)
FILE.INT.1514	Missing or Invalid File Version	File Version in meta file is missing or invalid

The table below is a draft of data integrity error messages that are associated with the individual order events.

Table 54: Order Events Ingestion Errors

Error Code	Error Code Description	Explanation
OE.INGEST.2001	Missing or Invalid <i>accountHolderType</i>	Account Holder Type must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2002	Missing or Invalid <i>affiliateFlag</i>	Affiliate Flag value must one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2003	Missing or Invalid <i>aggregatedOrders</i>	Must be present if the <i>representativeInd</i> = "Y". The name must be the orderID in the New Order / Order Accepted event of the original order and the value specifies the quantity being consolidated in to the representative/aggregated order. Quantity is only required when partial quantity of the order is bunched, and optional for full quantities. In case one or multiple orders are on a different date, the date portion must be included together with the orderID as in the format of @YYMMDD@orderID
OE.INGEST.2004	Invalid <i>askPrice</i>	Price being asked in a quote provided must be in the correct format.
OE.INGEST.2005	Invalid <i>askQty</i>	Quantity being asked in a quote must be an integer and greater than zero.
OE.INGEST.2006	Invalid <i>atsOrderType</i>	If populated, ATS Order Type provided must be equal to a unique identifier representing the specific order type provided to FINRA CAT by the ATS. ATS Order Type must be blank if the Order

Error Code	Error Code Description	Explanation
		Receiving Firm MPID is not an ATS.
OE.INGEST.2007	Invalid <i>bidPrice</i>	Price being Bid in a quote must be in the correct format.
OE.INGEST.2008	Invalid <i>bidQty</i>	Quantity being bid in a quote must be an integer and greater than zero.
OE.INGEST.2009	Missing or Invalid <i>side</i> in buyDetails field	When side is provided, the value must one of the allow able values <i>See Data Dictionary Appendix G for list of allowable valueS</i>
OE.INGEST.2010	Missing or Invalid <i>sideMID</i> in buyDetails field	sideMID must be in the correct format.
OE.INGEST.2011	Invalid <i>quoteID</i> in buyDetails field	quoteID must be in the correct format.
OE.INGEST.2012	Invalid <i>capacity</i> in buyDetails field	When capacity is provided, the value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2013	Invalid <i>leavesQty</i> in buyDetails Field	leavesQty must be an integer and greater than zero.
OE.INGEST.2014	Invalid <i>tapeTradeID</i> in buyDetails Field	tapeTradeID is required w hen the ID w as supplied to a transaction reporting system: <ul style="list-style-type: none"> • Compliance ID in ORF and ADF • Branch Sequence Number in FINRA/NQ TRF • FINRA Compliance Number in FINRA/NYSE TRF tapeTradeID is not required for the non-Industry Member side in a negotiated trade.
OE.INGEST.2015	Missing or Invalid <i>cancelQty</i>	The quantity being canceled in Order Cancel Event must be an integer and greater or equal to zero.
OE.INGEST.2017	Missing or Invalid <i>capacity</i>	The capacity of a given side of a trade must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2018	Missing or Invalid <i>orderID</i> in clientDetails field	orderID must be in the correct format
OE.INGEST.2019	Missing or Invalid <i>sideMID</i> in clientDetails Field	sideMID must be in the correct format.

Error Code	Error Code Description	Explanation
OE.INGEST.2020	Missing or Invalid <i>side</i> in clientDetails Field	side value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2021	Missing or Invalid <i>capacity</i> in clientDetails Field	capacity value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2022	Invalid <i>priorOrderDate</i> in clientDetails Field	priorOrderDate must be in the correct format. priorOrderDate is required w hen this reportable event is not on the same calendar day as the date w hen orderID is assigned.
OE.INGEST.2023	Invalid leavesQty in clientDetail field	leavesQty must be an integer and greater than zero
OE.INGEST.2024	Invalid <i>cmtaFirm</i>	The OCC number need to be in correct format (leading zero may be omitted). Required for CMTA Traders
OE.INGEST.2025	Missing or Invalid <i>custDsplntrFlag</i>	Customer instruction not to display a limit order or to display a block size value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2026	Missing or Invalid <i>deptType</i>	Department Type must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2027	Combination of <i>destination</i> and <i>destinationType</i> is invalid	When destinationType = N, the field w ill be blank When destinationType = F, the field w ill be the IMID of an Industry Member When destinationType = E, the field value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2028	Missing or Invalid <i>destinationType</i>	The Destination Type must by one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>

Error Code	Error Code Description	Explanation
OE.INGEST.2029	Invalid <i>displayPrice</i>	Display Price must be in the correct format and must be populated when <i>atsOrderType</i> and <i>symbol</i> fields are not blank.
OE.INGEST.2030	Invalid <i>displayQty</i>	Display Quantity must be a positive integer and must be populated when <i>atsOrderType</i> is not blank. If quantity is hidden, the display quantity value must not be a 0.
OE.INGEST.2031	Invalid <i>electronicDupFlag</i>	Electronic Duplicated flag value must one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2032	Invalid <i>electronicTimestamp</i>	<i>electronicTimestamp</i> must be provided in the correct format.
OE.INGEST.2033	Missing or Invalid <i>eventTimestamp</i>	If <i>manualFlag</i> is true, <i>timestamp</i> must be reported to seconds. If <i>manualFlag</i> is false, <i>timestamp</i> must be reported to Milliseconds or finer increment up to nanoseconds.
OE.INGEST.2034	Invalid <i>exchOriginCode</i>	Only required for Orders routed to an exchange.
OE.INGEST.2035	Invalid <i>executingFirm</i>	The OCC clearing number of the executing/give-up firm must be in correct format.
OE.INGEST.2036	Missing or Invalid <i>firmDesignatedID</i>	FDID must provided in a correct format and unique among all identifiers from any given Industry Member for each business date
OE.INGEST.2037	Missing or Invalid <i>orderID</i> in <i>firmDetails</i> field	<i>orderID</i> must be in the correct format. The order ID assigned by the Industry Member to the order on this side
OE.INGEST.2038	Missing or Invalid <i>sideIMID</i> in <i>firmDetails</i> field	<i>sideIMID</i> must be in the correct format.
OE.INGEST.2039	Missing or Invalid <i>side</i> in <i>firmDetails</i> field	<i>side</i> value must one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2040	Missing or Invalid <i>capacity</i> in <i>firmDetails</i> field	<i>capacity</i> value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2041	Invalid <i>priorOrderDate</i> in <i>firmDetails</i> field	<i>priorOrderDate</i> must be in the correct format. <i>priorOrderDate</i> is required when this reportable event is not on the same calendar day as the date when <i>orderID</i> is assigned.
OE.INGEST.2042	Invalid <i>leavesQty</i> in <i>firmDetails</i> field	<i>leavesQty</i> must be an integer and greater than zero.

Error Code	Error Code Description	Explanation
OE.INGEST.2043	Missing or Invalid <i>firmROEID</i>	An identifier of the record assigned by the Industry Member must be in correct format. Any alphanumeric not containing a delimiter. Must be unique in a given file
OE.INGEST.2044	Missing or Invalid <i>fulfillmentLinkType</i>	Fulfilment Link Type must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2045	Invalid <i>handlingInstructions</i>	Handling Instructions value must be one of the allowable values
OE.INGEST.2046	Invalid <i>infoBarrierID</i>	Information Barrier Identifier must be in correct format. This could be any alphanumeric string but not containing a delimiter
OE.INGEST.2047	Missing or Invalid <i>Initiator</i>	The Invalid Initiator value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2048	Missing or Invalid <i>isolnd</i>	The isolnd value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2049	Missing or Invalid <i>leavesQty</i>	Leaves Quantity must be in correct format, must be a positive integer
OE.INGEST.2050	Missing or Invalid <i>manualFlag</i>	Manual Flag value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i> Must be marked as true if the order is modified or replaced manually.
OE.INGEST.2051	Missing or Invalid <i>manualOrderID</i>	Manual Order ID must be in correct format.
OE.INGEST.2052	Invalid <i>marketCenterID</i>	Market Center ID must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2053	Invalid <i>minQty</i>	Minimum Quantity must be in correct format. Must be an integer.
OE.INGEST.2054	Invalid <i>mpStatusCode</i>	Market Participant Status Code must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>

Error Code	Error Code Description	Explanation
OE.INGEST.2055	Missing or Invalid <i>nbbSource</i>	<p>Must be populated when <i>atsOrderType</i> is not blank.</p> <p>NBBO Source must be one of the allowable values</p> <p><i>See Data Dictionary Appendix G for list of allowable values</i></p> <p>Required when the Order Receiving Firm IMID is an ATS and the Issue Symbol ID is a NMS stock.</p> <p>NBBO Source of 'NA' must be used when the NBBO Engine Look up Date and Time is not applicable for the ATS Order Type or the ATS cancelled the order without referencing the NBBO. If this value is used, the related NBBO fields must be left blank</p>
OE.INGEST.2056	Missing or Invalid <i>nbbTimestamp</i>	National Best Bid or Offer Time Stamp must be populated and must be in the correct format when <i>atsOrderType</i> is not blank.
OE.INGEST.2057	Missing or Invalid <i>nbbPrice</i>	National Best Bid Price must be populated and must be in the correct format when <i>atsOrderType</i> is not blank.
OE.INGEST.2058	Missing or Invalid <i>nbbQty</i>	National Best Bid Quantity must be populated and must be in the correct format and when <i>atsOrderType</i> is not blank.
OE.INGEST.2059	Missing or Invalid <i>nboPrice</i>	National Best Offer Price must be populated and must be in the correct format when <i>atsOrderType</i> is not blank.
OE.INGEST.2060	Missing or Invalid Invalid <i>nboQty</i>	National Best Offer Quantity must be populated and must be in the correct format when the <i>atsOrderType</i> is not blank.
OE.INGEST.2061	Missing or Invalid <i>negotiatedTradeFlag</i>	<p>Only valid in a New Order Event. Value must be one of the allowable values</p> <p><i>See Data Dictionary Appendix G for list of allowable values</i></p>
OE.INGEST.2062	Missing or Invalid <i>negotiatedTradeSide</i>	<p>Negotiated Trade Flag Identifier value be one of the allowable values</p> <p><i>See Data Dictionary Appendix G for list of allowable values</i></p>

Error Code	Error Code Description	Explanation
OE.INGEST.2063	Invalid <i>nextUnlinked</i>	Next Unlinked Indicator value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2064	Missing or Invalid <i>onlyOneQuoteFlag</i>	Only one Quote Flag value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2065	Missing or Invalid <i>openCloseIndicator</i>	Open or Close Indicator value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2066	Missing or Invalid <i>optionID</i>	Option ID must be in the correct format. The ID should be 21-character OSI Symbol of the option. For FLEX Percent Options, a percentage symbol is appended before the OSI symbol elements.
OE.INGEST.2067	Missing or Invalid <i>orderID</i>	Order ID must be in the correct format.
OE.INGEST.2068	Missing or Invalid <i>orderType</i>	Order Type value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2069	Missing or Invalid <i>parentOrderID</i>	Parent Order ID must be in the correct format and this field is only used in a New Child Order Event.
OE.INGEST.2070	Missing or Invalid <i>price</i>	Price must be in the correct format.
OE.INGEST.2071	Missing or Invalid <i>FulfillmentID</i>	Fulfillment ID must be in the correct format.
OE.INGEST.2072	Invalid <i>priorFulfillmentID</i>	Prior Fulfillment ID must be in the correct format. The value must reflect the fulfillmentID provided in the most recent (prior) Order Fulfillment Amendment event.
OE.INGEST.2073	Invalid <i>priorOrderDate</i>	Prior Order date must be in the correct format. Only present if this is at a different date from the original Fulfillment or last Fulfillment Amendment. The event date can not be the same calendar day as the date w hen prior order ID is assigned
OE.INGEST.2074	Missing or Invalid <i>priorOrderID</i>	Prior Order ID must be in the correct format. If the order w as modified several times, this should be order ID in the most recent Order Modified or Order Adjusted.

Error Code	Error Code Description	Explanation
OE.INGEST.2075	Invalid <i>priorQuoteID</i>	Prior Quote ID must be in the correct format. The Quote ID must be the most recent quoteID of the existing quote before being updated or replaced.
OE.INGEST.2076	Invalid <i>priorUnlinked</i>	Prior Unlinked value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2077	Missing or Invalid <i>quantity</i>	The quantity of the order must be in the correct format. Must be an integer.
OE.INGEST.2078	Missing or Invalid <i>quoteID</i>	Quote ID assigned to the quote by the reporter must be in the correct format.
OE.INGEST.2079	Missing or Invalid <i>quoteRejectedFlag</i>	Quote Rejected Flag must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2081	Missing or Invalid <i>receivedQuoteID</i>	Received Quote ID must be in the correct format.
OE.INGEST.2082	Missing or Invalid <i>receiverIMID</i>	The Industry Member ID must be in the correct format. In the Quote Received event, receiver IMID is the IMID of the reporter receiving the quote. In the Order Accepted event, receiver IMID is the IMID of the reporter receiving the order.
OE.INGEST.2083	Missing or Invalid <i>receivingDeskType</i>	Only required when the destination of an internal route is a desk. The Receiving Desk Type must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2084	Invalid <i>reportingExceptionCode</i>	The reporting Exception Code must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2085	Missing or Invalid <i>representativeInd</i>	Representative linkage value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2086	Invalid <i>routedOrderID</i>	Route Order ID must be in the correct format.
OE.INGEST.2087	Invalid <i>routedQuoteID</i>	Route Quote ID must be in the correct format. In New quote event, this is the quote ID, in Quote received event, this is the quote ID received by the reporter. The Routed Quote ID must match the routedQuoteID in the New Quote event created by the issuer of the quote.

Error Code	Error Code Description	Explanation
OE.INGEST.2088	Invalid <i>routeRejectedFlag</i>	Route rejected Flag value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2089	Combination of <i>routingOriginType</i> and <i>routingOrigin</i> is invalid	If <i>routingOriginType</i> = F, it is the IMID of an Industry Member, and it must match <i>senderIMID</i> in the Route event reported by the routing entity. If <i>routingOriginType</i> = E, the value must be in one of the follow ing and the value must match the exchange field in the Routed event reported by the exchange. If <i>routingOriginType</i> = F, it is the IMID of an Industry Member <i>routingOrigin</i> value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2090	Missing or Invalid <i>routingOriginType</i>	Routing Origin Type value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2091	Missing or Invalid <i>sideIMID</i> in <i>sellDetails</i> field	<i>sideIMID</i> must be in the correct format.
OE.INGEST.2092	Missing or Invalid <i>side</i> in <i>sellDetails</i> field	When <i>side</i> is provided, the value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2093	Invalid <i>quoteID</i> in <i>sellDetails</i> field	<i>quoteID</i> must be in the correct format. <i>quoteID</i> must match the <i>quoteID</i> reported by the industry member of this event that w as offered a quote.
OE.INGEST.2094	Invalid <i>capacity</i> in <i>sellDetails</i> field	When <i>capacity</i> is provided, the value must be one of the allow able values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2095	Invalid <i>leavesQty</i> in <i>sellDetails</i> field	<i>leavesQty</i> must be an integer and greater than zero.

Error Code	Error Code Description	Explanation
OE.INGEST.2096	Invalid <i>tapeTradeID</i> in <i>sellDetails</i> field	<p><i>tapeTradeID</i> is required when the ID was supplied to a transaction reporting system:</p> <ul style="list-style-type: none"> • Compliance ID in ORF and ADF • Branch Sequence Number in FINRA/NQ TRF • FINRA Compliance Number in FINRA/NYSE TRF <p><i>tapeTradeID</i> is not required for the non-Industry Member side in a negotiated trade.</p>
OE.INGEST.2097	Invalid <i>senderIMID</i>	<p>The Sender IMID must be in the correct format. This field is only associated with Order Accepted event.</p> <p>If <i>destinationType</i> = N, this field may be populated, but is not required to be populated.</p>
OE.INGEST.2098	Invalid <i>seqNum</i>	Sequence Number must be in the correct format and must be populated on all events when <i>atsOrderType</i> is not blank.
OE.INGEST.2100	Invalid <i>shortSaleExptInd</i>	<p>Short Sale Exempt Indicator value must be one of the allowable values</p> <p><i>See Data Dictionary Appendix G for list of allowable values</i></p>
OE.INGEST.2101	Missing or Invalid <i>side</i>	<p>Side Value must be one of the allowable values</p> <p><i>See Data Dictionary Appendix G for list of allowable values</i></p>
OE.INGEST.2102	Missing or Invalid <i>sideIMID</i>	Required for <i>buyDetails</i> , <i>sellDetails</i> , <i>clientDetails</i> , and <i>firmDetails</i> . In Trade Side Details and Fulfillment Side Details, if this result of the trade/fulfillment was an order that was the result of an Order Accepted event, this is the <i>senderIMID</i> of the order's Order Accepted event. If this side of the trade was an order that resulted from a New Order event, this <i>IMS</i> is the same as the <i>CATReporterIMID</i> of this event.
OE.INGEST.2103	Missing or Invalid <i>symbol</i>	Symbol ID must be provided and must be in the correct format.
OE.INGEST.2104	<i>symbol</i> is not reportable to CATS	The issue is a valid symbol but is not reportable to CAT.
OE.INGEST.2105	<i>symbol</i> invalid for Order Event Date	Symbol ID is not effective on the order event date.
OE.INGEST.2106	<i>symbol</i> does not match listing market format	For exchange listed securities, the symbol format must match the format published by the primary listing market.

Error Code	Error Code Description	Explanation
OE.INGEST.2107	Invalid <i>tapeTradeID</i>	Required when the ID was supplied to a transaction reporting system: Compliance ID in ORF and ADF Branch Sequence Number in FINRA/NQ TRF FINRA Control Number in FINRA/NYSE TRF
OE.INGEST.2108	Missing or Invalid <i>timeInForce</i>	Time-In-Force of an order value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2109	Missing or Invalid <i>tradeID</i>	Trade ID must be in the correct format.
OE.INGEST.2110	Missing or Invalid <i>tradingSession</i>	Trading Session value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2111	Missing or Invalid <i>type</i>	For each event type, the event type must be correctly assigned and should be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2112	Missing or Invalid <i>unsolicitedInd</i>	Unsolicited Indicator value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2113	Invalid <i>workingPrice</i>	Working Price of an order required to be populated when <i>atsOrderType</i> is not blank. If no <i>workingPrice</i> is applicable, it must be 0 Working Price must be in the correct format.
OE.INGEST.2114	Missing or Invalid <i>actionType</i>	The Action Type code value must be one of the allowable values <i>See Data Dictionary Appendix G for list of allowable values</i>
OE.INGEST.2115	Correction or Deletion for an order that does not exist	When <i>actionType</i> = COR or DEL and the <i>originalFirmROE</i> is not a valid <i>firmROEID</i> in CAT
OE.INGEST.2116	<i>symbol</i> not reportable to CAT	Issue Symbol not reportable to CAT

Table 55: Order Events Linkage Discovery Errors

Linkage Discovery Error Codes to be added in a subsequent version.

Appendix F: Glossary

CAT Reporter IMID	The CAT Reporter IMID is the SRO assigned identifier that an Industry Member uses to report order events to CAT. A CAT Reporter may use any SRO assigned identifier that is valid on the CAT Trading Day for which order events are submitted.
CAT Submitter ID	The CAT Submitter ID is the identifier of the CAT Reporting Agent, the entity authorized to submit the files to CAT on behalf of the Industry Member. CAT Reporters may authorize third-parties ("CAT Reporting Agents") to submit data to CAT on their behalf. The CAT Reporting Agent must be authorized to submit data of behalf of the Reporter. Each CAT Reporting Agent will be assigned a unique CAT Submitter ID by CAT during onboarding. If an Industry Member submits data on their own behalf, then the CAT Submitter ID assigned to the entity may be same as the CAT Reporter IMID.
Display ATS	An ATS that displays subscriber orders outside of the ATS.
Eligible Security	"Eligible Security" includes: (i) 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 transaction in Listed Options"; and (ii) 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".
Electronic Capture Time	For manual orders, the timestamp or when the Manual Order Event was captured electronically in the relevant order handling and execution system of the CAT Reporter.
FDID	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.
IMID	An Industry Member Identifier, IMID, is any identifier assigned by an SRO to one of its members and is used as part of the linkage key in orders routed between Industry Members. Examples include FINRA MPIDs, Nasdaq MPIDs, NYSE Mnemonics, Cboe User Acronyms, and CHX Acronyms.
Manual Order Event	A non-electronic communication of order-related information for which CAT Reporters must records and report of the event.
Material Terms of an Order	Includes: the NMS Security or OTC Equity Security symbol; security type; price (is 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 (except on transactions in equities); 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 (except on market maker quotations); and any special handling instructions.

Order	The term order shall include: (i) Any order received by a member of a national securities exchange or national securities association from any person; (ii) Any order originated by a member of a national securities exchange or national securities association; or (iii) Any bid or offer.
Primary Order Event	An order event that is received or originated by an Industry Member. Primary Order Events include MENO, MEOA, MECO, MEOM, MENQ, MONO, MOOA, MOCO, and MOOM.
Reportable Event	Includes, but is not limited to, the original receipt or origination, modification, cancellation, routing, execution (in whole or in part) and allocation of an order, and receipt of a routed order
ROE	Reportable Order Event
Secondary Order Event	An order event that is not received or originated by an Industry Member. Secondary Order Events include all events other than Primary Order Events.
Trading Algorithm	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.”
Trading Day	For Industry Member CAT Reporters, Trading Day is defined as beginning immediately after 4:15:00PM and no fractions of a second Eastern Time on one trade date and ending at exactly 4:15:00PM and no fractions of a second Eastern Time on the next trade date.

Appendix G: Data Dictionary

Field Name	Data Type	Description
accountHolderType	Choice	<p>Represents the type of beneficial owner of the account which an order was received or originated.</p> <p>Allowed Values</p> <p>A Institutional Customer – An institutional account as defined in FINRA Rule 4512(c)</p> <p>C Combined – An order representing more than one type of account</p> <p>E Employee Account – An employee or associated person of an Industry Member</p> <p>F Foreign - A non-broker-dealer foreign affiliate or non-reporting foreign broker-dealer</p> <p>I Individual Customer – An account that does not meet the definition of FINRA Rule 4512(c) and is also not a proprietary account.</p> <p>O Market Making – See CAT FAQ #C5</p> <p>P Other Proprietary</p> <p>X Error Account – Error account of the firm</p>
actionType	Choice	<p>Indicating whether the event is a new event, a correction, or a deletion. Allowable values include:</p> <p>NEW New Record</p> <p>COR Corrected Record</p> <p>DEL Deleted Record</p>
affiliateFlag	Boolean	<p>In a <u>MENO, MEOA, MONO, or MOOA</u>, indicates if the routing party is an affiliate of the Industry Member.</p> <p>For definition of affiliate, see CAT FAQ #C4</p> <p>Allowed Values:</p> <p>true</p> <p>false</p>
aggregatedOrders	Name/Value Pairs	<p>This field applies to a representative/aggregated order created by the broker-dealer, or a riskless principal order to link to the associated order(s). It specifies the original order IDs and quantities being consolidated in this representative/aggregated order, or the order IDs and quantities associated with the riskless principal order.</p> <p>The data type of this field is Name/Value Pairs, where the Name must be the orderID in the New Order/Order Accepted event of the original order, and Value specifies the quantity being consolidated into the representative/aggregated order. For example:</p>

Field Name	Data Type	Description
		<pre>{ "aggregatedOrders": "O1234=500 O1235=1000 O1236=800" }</pre> <p>One or multiple Name/Value pair(s) may be included in this field. Quantity is only required when partial quantity of the order is bunched, and optional for full quantities. In the example above, if both O1234 and O1235 have full quantity being bunched and O1236 is partial, it can also be represented as:</p> <pre>{ "aggregatedOrders": "O1234 O1235 O1236=800" }</pre> <p>Generally, all the "underlying" orders are on the same calendar date of the aggregated New Order event. In case one or multiple orders are on a different date, the date portion must be included together with the orderID as in the format of @YYMMDD@orderID. For example, if an aggregated order created on 08152018, but it includes O12345 from date 08142018. Then it should be represented as:</p> <pre>{ "aggregatedOrders": "O1234 @20180814@O1235 O1236=800" }</pre> <p>Note that if the aggregatedOrders field makes the event exceed the maximum length allowed, a corresponding supplement event should be reported as a supplement to capture the additional name/value pairs that are included in the original event (or another supplement event for the same order).</p>
askPrice	Price	Price being asked in a quote.
askQty	Unsigned	Quantity being asked in a quote.
atsOrderType	Name/Value Pairs	ATS only field. ATSS will provide their order types and handling instructions to CAT by submitting data dictionaries. Multiple name value pairs can be included in this field separated by pipe delimiters.
bidPrice	Price	Price being bid in a quote.
bidQty	Whole Quantify	Quantity being bid in a quote.
buyDetails	Trade Side Details	It is in the format of Trade Side Details, a compound data type that consists of a list of fields (see Section 2.4 Data Type). <i>buyDetails</i> is only used in Equity Trade Events to capture the buy side details of the trade. Please see Section 4.12.1 for list of fields.
cancelQty	Real Quantity	The quantity being cancelled in Order Cancel Event. A value of zero means that the cancel was for the full remaining quantity. For example, if an order for 500 shares had partially executed 200 shares, and then the remainder was cancelled, the cancelQty could contain either 300 or 0.
cancelFlag	Boolean	<p>Must be marked as <i>true</i> if the execution is busted and was not reported to the TRF/ADF/ORF.</p> <p>Allowed Values:</p> <p>true</p> <p>false</p>

Field Name	Data Type	Description
cancelTimestamp	Timestamp	When <i>cancelFlag</i> is true, the time at which the execution was busted.
capacity	Choice	Specifies the capacity in which the Industry Member acted. Allowed Values: Agency Principal RisklessPrincipal
clientDetails	Fulfillment Side Details	It is in the format of Fulfillment Side Details, a compound data type that consists of a list of fields (see Section 2.4 Data Type). <i>clientDetails</i> is only used in Equity and Option Order Fulfillment and Fulfillment Amendment Events to capture the customer or client side details of the Fulfillment. Please see Section 4.13.1 for list of fields.
cmtaFirm	Alphanumeric (8)	The OCC number provided for clearing at the point of option order origination. Required for CMTA trades. Leading zeros may be omitted (e.g. 00501 may be reported as 501).
custDsplntrFlag	Boolean	Indicating if a customer has instructed that a limit order should not be displayed or block size order should be displayed. Allowed Values: true Customer has instructed that a limit order should not be displayed or that a block size order be displayed. false No instruction has been received from the customer that a limit order should not be displayed or that a block size order should be displayed.
deptType	Choice	Used in a New Order, Order Accepted, and Internal Route event to identify the category of internal department, unit or desk originating or accepting the order. Allowed Values: A Agency - a desk or department where orders may be routed to other market centers, either by a trading system or with the assistance of traders. This would include smart routers and algorithmic trading. ATS ATS - a trading system that meets the definition of "Alternative Trading System" under Regulation ATS. MA Market Access - When a member permits another broker-dealer to use a market participant identifier assigned to the member to route orders directly to market centers. T Trading - A desk or department where orders are executed. This may be interpreted as either a trading system or a desk or department where orders are executed with the assistance of traders. O Other – A department that does not execute orders or make routing decisions.

Field Name	Data Type	Description
destination	Industry Member ID / Exchange ID	<p>This field contains the SRO assigned identifier of the destination Industry Member or the Exchange ID of the destination exchange (unless destinationType = N, then this field will be blank). This value must match the routingOrigin field on the Order Accepted events or Quote Received event reported by the destination.</p> <p>When destinationType = F, it is the IMD of an Industry Member</p> <p>Allowed Values (When destinationType = E)</p> <p>BOX BOX Options Exchange</p> <p>CBOE Cboe Options</p> <p>C2 C2 Options</p> <p>BYX Cboe BYX Exchange</p> <p>BZX Cboe BZX Equities</p> <p>BOXOP Cboe BZX Options</p> <p>EDGA Cboe EDGA</p> <p>EDGX Cboe EDGX Equities</p> <p>EDGXOP Cboe EDGX Options</p> <p>IEX Investor's Exchange</p> <p>MIAMI Miami International Securities Exchange</p> <p>MIAXOP MIA X PEARL</p> <p>MIAXOE MIA X Emerald</p> <p>BX Nasdaq BX Equities Market</p> <p>NOBO Nasdaq BX Options Market</p> <p>PSX Nasdaq PHLX Equities Market</p> <p>PHLX Nasdaq PHLX Options Market</p> <p>NSDQ Nasdaq Stock Market</p> <p>NOM Nasdaq Options Market</p> <p>ISE Nasdaq ISE</p> <p>GEMX Nasdaq GEMX</p> <p>MRX Nasdaq MRX</p> <p>AMER NYSE American Equities</p> <p>AMEROP NYSE American Options</p> <p>ARCA NYSE ARCA Equities</p> <p>ARCAOP NYSE ARCA Options</p> <p>NYSE The New York Stock Exchange</p> <p>CHX NYSE CHX</p> <p>NYX NYSE NSX</p>
destinationType	Choice	Indicating whether the destination of the route is an Industry Member,

Field Name	Data Type	Description
		<p>an exchange or a foreign broker-dealer.</p> <p>Allowed Values:</p> <p>F Industry Members</p> <p>E Exchange</p> <p>N Foreign</p>
displayPrice	Price	ATS only field. The displayed price for an order if ATS displays orders outside of ATS.
displayQty	Whole Quantity	ATS only field. The displayed quantity for an order.
electronicDupFlag	Boolean	<p>Indicating whether the event is a duplicative electronic message of a manual event. Must be present if true. If populated as true, this message will not be linked to any other events in Phase 2a/2b. If the field is not present, the system will treat it as false.</p> <p>Allowed Values</p> <p>true</p> <p>false</p>
electronicTimestamp	Timestamp	For manually executed events, the time at which the event was systematized. Required to be reported at the most granular level an Industry Member's order handling or execution systems use to capture data for the reported event, with at least millisecond granularity.
eventTimestamp	Timestamp	EventTimestamp generally refers to when an event occurred, depending on the event. Refer to the events definitions to see what this timestamp represents within the context of that event. If electronic, required to be reported at the most granular level an Industry Member's order handling or execution systems use to capture data for the reported event, with at least millisecond granularity. For manual order handling, <i>eventTimestamp</i> is the manual handling or execution time (i.e. if it is immediately systematized, it must be at millisecond granularity; if it is first handled manually and later systematized, it is only required to be reported in increments of at least one second).
exchOriginCode	Text (4)	Not applicable to equity events. The code signifying the origin of the account as sent to an option exchange. Only required for orders routed to an exchange.
executingFirm	Alphanumeric (8)	The OCC clearing number of the executing/give-up firm.
firmDesignatedID	Alphanumeric (40)	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."
firmDetails	Fulfillment Side Details	It is in the format of Fulfillment Side Details, a compound data type that consists of a list of fields (see Section 2.4 Data Type). <i>firmDetails</i> is only used in Equity and Option Order Fulfillment and Fulfillment Amendment Events to capture the firm side details of the Fulfillment.

Field Name	Data Type	Description
		Please see Section 4.13.1 for list of fields.
firmROEID	Alphanumeric (50)	<p>An identifier of the record assigned by the Industry Member. Any alphanumeric not containing a delimiter.</p> <p>This firm ROE ID is only for the purpose of easy reporting for Industry Members and CAT Reporting Agents and any additional criteria for acceptable values (i.e. uniqueness) is up to the Industry Member's discretion. This field will not be processed and is not available for CAT Users.</p>
fulfillmentID	Text (40)	The identifier for the order fulfillment. The combination of reporter, date, symbol and fulfillmentID must be unique.
fulfillmentLinkType	Choice	<p>Specifies the type of the fulfillment.</p> <p>Allowed Values:</p> <p>Y Representative Order, linkage required</p> <p>YF Representative Order, linkage required in future phase</p> <p>YP Fill from pre-existing Principal order, linkage required</p> <p>O Options Order Fulfillment</p> <p>FOR Fulfillment on an order routed to a foreign destination, no linkage required</p>
handlingInstructions	Name/Value Pairs	<p>This order handling instructions field is a way to provide multiple instruction codes in a relatively flexible manner. This field will contain zero or more order instruction codes, each separated by a single pipe symbol (ASCII decimal 124, hex 7C). Codes which require a value will include that value immediately after the code Field Name and a single equal sign (ASCII decimal 61, hex 3D).</p> <p>All instructions that apply to the order are to be included. Values are case sensitive.</p> <p>Allowed Values (presence indicates truth):</p> <p>ADD Add on Order. The customer adds additional shares to the order after it was fully executed.</p> <p>ALG Order was received or originated with instructions to work using a trading algorithm</p> <p>ALGMod Order originally received with instructions to work using a trading algorithm is later modified by the customer/client to use a different trading algorithm or change the settings of the trading algorithm</p> <p>ALO Add Liquidity Only</p> <p>AOB At or Between. Instructs the trader to execute at a trade price equal to the NBBO or between the NBBO and the midpoint.</p>

Field Name	Data Type	Description
handlingInstructions (Cont.)	Name/Value Pairs	<p>AOK Auction or Kill</p> <p>AON All or None</p> <p>ATT Attributable</p> <p>BI Buy-In</p> <p>CMC Contingent on Market Conditions</p> <p>CMPX Complex option order that is tracked as a single leg option order with separate complex instructions</p> <p>CND Conditional Order. An order where the terms and conditions of the order are derived from a related transaction.</p> <p>CNH Cash Not Held. Instructs the Trader to buy or sell as much stock as possible, over the course of the trading day, for a specified amount.</p> <p>CPR Counterparty Restriction. Instructions that the order cannot be placed against certain counterparties.</p> <p>CSH Delivery Instruction: Cash trade settles on the same date</p> <p>d Discretionary Peg</p> <p>DIR Directed Orders – Orders that meet the definition of “Directed Order” under Rule 600(b)(19) of Regulation NMS (formerly defined under SEC Rule 11Ac1–6). That definition specifies that the term directed order shall mean a customer order that the customer specifically instructed the broker or dealer to route to a particular venue for execution.</p> <p>DIV Dividend Reinvestment Order. Order is part of a dividend reinvestment program.</p> <p>DNI Do Not Increase</p> <p>DNR Do Not Reduce</p> <p>DNRT Do Not Route</p> <p>EW Exchange for Physical Transaction – Equity trade component of an “exchange for physical” transaction. An exchange for physical transaction involves two parties simultaneously executing a futures contract and an equity transaction (for the securities covered by the futures contract), typically involving baskets that replicate common indices</p> <p>F7 Strict Scale</p> <p>F8 Try to Scale</p> <p>FA No Cross. The broker executing this trade is forbidden from taking other side of the trade.</p> <p>FB OK to Cross. The broker executing this trade is allowed to take the other side of the trade.</p> <p>FC Call First. Refer to the customer/client before trading.</p> <p>FD Percent of Volume. The sender does not want to be all the volume.</p> <p>FH Reinstate on System Failure. If system failure interrupts trading/order routing, attempt to reinstate this order, subject to time in force limitations. Note that depending on the type/severity of the failure, this may not be possible.</p>

Field Name	Data Type	Description
handlingInstructions (Cont.)	Name/Value Pairs	<p>FI Institutions Only.</p> <p>FJ Reinstate on Trading Halt. If trading in this instrument is halted, reinstate this order when/if trading resumes, subject to time in force limitations.</p> <p>FK Cancel on Trading Halt. If trading in this instrument is halted, cancel this order and do not reinstate it when/if trading resumes.</p> <p>FL Last Peg</p> <p>FN Non negotiable</p> <p>FO Opening Peg</p> <p>FQ Cancel on System Failure. If a system failure interrupts trading or order routing, attempt to cancel this order. Note that depending on the type and severity of the failure, this might not be possible.</p> <p>FS Suspend</p> <p>FW Peg to VWAP</p> <p>FX Trade Along. Trade Along. Customers/clients who specify "Trade Along" give brokers permission to handle and place their order in the market even if the broker already has its own proprietary orders for the same security placed in the market.</p> <p>FY Try to Stop</p> <p>FZ Cancel if Not best</p> <p>Fb Strict Limit</p> <p>Fc Ignore Price Validity Checks</p> <p>Fd Peg to Limit Price</p> <p>Fe Work to Target Strategy</p> <p>FBA NYSE Floor Broker Algorithm indicates that the order is routed to the Exchange via a NYSE Floor Broker Algorithm</p> <p>FOK Fill or Kill - Indicates the order is intended for immediate execution in its entirety, and if not executed in its entirety, the order is cancelled</p> <p>FUT Futures Related Trade</p> <p>G G Order – An order for an account covered by Exchange Act §11(a) that relies on §11(a)(1)(G) as an exemption to §11(a)(1)</p> <p>IDX Intra-Day Cross</p> <p>IO Imbalance Only</p> <p>LOC Limit on Close - Instructs the trader to execute the order at the closing price provided that the closing price is at or within the limit specified</p> <p>LOO Limit on Open - Instructs trader to execute the order at the opening price provided that the opening price is at or within the limit specified.</p> <p>M Midpoint Peg</p> <p>MAC Market at Close. Instructs the trader to execute the order at the closing inside quote price of regular market hours.</p>

Field Name	Data Type	Description
handlingInstructions (Cont.)	Name/Value Pairs	<p>MAO Market at Open. Instructs the trader to execute the order at the opening inside quote price of regular market hours.</p> <p>MOB Midpoint or Better. Instructs the trader to execute at a trade price equal to the mid-point or better.</p> <p>MOC Market on Close</p> <p>MOO Market on Open</p> <p>MRP Merger Related Transfer Position</p> <p>MTL Market to Limit. An order that is sent in as a market order to execute at the current best price. If the entire order does not immediately execute at the market price, the remainder of the order is re-submitted as a limit order with the limit price set to the price at which the original order executed.</p> <p>ND Delivery Instructions: Next Day - trade settles on next trade date</p> <p>NH Not Held</p> <p>OPO Opt Out of Locked Market</p> <p>OPT Options Related Trade</p> <p>OVD Over the Day. Requires that a trader break up an order into several partial executions. The customer may specify the number of executions.</p> <p>P Market Peg</p> <p>PEG Indicates that the customer's limit price is to be determined by a specific market price and/or volume factor or that the limit price should be determined pursuant to a specific formula</p> <p>PSO Post Only</p> <p>R Primary Peg</p> <p>RLO Retail Liquidity Order (On Exchange)</p> <p>RSV Reserve Side Order. Required for an order for which a customer has authorized the public display of part of the full size of the order with the remainder held in reserve on an undisplayed basis to be displayed in whole or in part as the displayed part is executed.</p> <p>SCL Scale. Requires partial executions that are not more than a specified price increment apart.</p> <p>SLD Slide —Instruction to adjust limit price to prevent locked or crossed market</p> <p>SLR Delivery Instructions: Seller's Option - trade settles on the date determined by a seller.</p> <p>SLQ Stop Limit on Quote. An order that is triggered by a quotation at which point the stopped order becomes a limit order.</p> <p>SMT Smart Router indicates that the order is routed out via a Smart Router.</p> <p>SOQ Stop on Quote. An order that is triggered by a quotation at which point the stopped order becomes a market order.</p> <p>STP Self Trade Prevention</p> <p>TS Trailing Stop</p> <p>WCO While Connected</p>

Field Name	Data Type	Description
handlingInstructions (Cont.)	Name/Value Pairs	<p>WDP With Discretion Price</p> <p>WRK Work. Leaves the time of execution to the trader's discretion; either full execution or partial executions are accepted.</p> <p>Some allowed values are name value pairs and must be accompanied by a value:</p> <p>Allowed Values (Name Value Pairs):</p> <p>AucResp Auction Response. Requires the Auction ID value for option orders originated in response to an exchange auction.</p> <p>DISP Display Price. The display price as instructed by the customer at the time the order is placed. Requires a numeric value representing the display price (e.g., DISP=10.00)</p> <p>DISQ Display Quantity. The display quantity as instructed by the customer at the time the order is placed. Requires a numeric value representing the display quantity (e.g., DISQ=1000)</p> <p>STOP Stop Price - requires a Numeric value representing the stop price (e.g., STOP=17.95)</p> <p>SW Stop Stock Transaction – Any transaction resulting from an order for which a member and another party agree that the order will be executed at a Stop Stock Price or better. Requires a numeric value representing the agreed stop price.</p> <p>XDATE Expire Date - requires a Date value, representing the date that the order expires. The value must be in Date format (e.g., May 15, 2017 would be XDATE=20170515). The order expires at the close of the specified date.</p> <p>XTIME Expire Time - requires a Timestamp value, representing the time that the order expires. The value must be in a valid Timestamp format.</p> <p>TMO The trigger time of the Time Managed Order (e.g. the specific date and time that an order becomes a market or limit price order) - requires a Timestamp value.</p> <p>For orders routed without any changes to the handling instructions, reporters may use single code to indicate the handling instructions are equal to the received order.</p> <p>Allowed Value:</p> <p>RAR Routed As Received</p>
infoBarrierID	Alphanumeric (12)	Specifying the identifier of the information barrier in place for a trading unit that will meet the criteria of the “no-knowledge” exception in FINRA Rule 5320.02. Any alphanumeric not containing a delimiter.
initiator	Choice	<p>Indicates who initiated a cancel or modification request. If the Customer initiates the Cancel this should be Customer, otherwise it should be Firm</p> <p>Allowed Values:</p>

Field Name	Data Type	Description
		Customer Firm
isInd	Choice	Indicates the order was an Intermarket Sweep Order or Trade-at Intermarket Sweep Order. Allowed Values: ISOD Intermarket Sweep Order - Day ISOI Intermarket Sweep Order IOC NA Not applicable
leavesQty	Real Quantity	The quantity remaining unfilled after the event. The meaning of this field is dependent on the event in which it's used. Refer to each individual event definition for more detail.
manualFlag	Boolean	The flag for whether or not the order was received manually (i.e. an order is called in by phone) or handled manually (Reportable Event was manual action). See this field in context of the event definitions. Allowed Values: true false
manualOrderID	Text (40)	The internal order ID of the previously (separately) reported manual order event when followed by a duplicative electronic message.
marketCenterID	Choice	The national securities exchange or transaction reporting system operated by registered securities association where the trade was reported. Used on Equity Trade event only. Allowed Values: FINRA transaction reporting systems DN FINRA/NYSE Trade Reporting Facility D ADF L FINRA/Nasdaq Trade Reporting Facility DC FINRA/Nasdaq Chicago Trade Reporting Facility O OTC Reporting Facility A NYSE MKT B Nasdaq BX C NYSE National F Non-US Exchange I International Securities Exchange J Cboe EDGA Exchange

Field Name	Data Type	Description
		K Cboe EDGX Exchange M NYSE Chicago Stock Exchange N New York Stock Exchange P NYSE Arca Q The Nasdaq Stock Market V Investors Exchange W CBOE Stock Exchange X Nasdaq PSX Y Cboe BYX Exchange Z Cboe BZX Exchange
minQty	Whole Quantity	Requires an Unsigned value, representing the minimum quantity allowed to be executed in a single transaction.
mpStatusCode	Choice	Market Participant Status Code, indicating if the market maker's quote is open or closed. Allowed Values: O Open C Close
nbboSource	Choice	ATS only field. Source of the NBBO data used. Allowed Values: D Direct S SIP H Hybrid - NBBO Source of Hybrid is used in instances where the firm uses a combination of Direct and SIP feeds as its NBBO Source. NA Not Applicable NBBO Source of 'NA' is used when the NBBO Engine Look up Date and Time is not applicable for the ATS Order Type or the ATS cancelled the order without referencing the NBBO. If this value is used, the related NBBO fields must be left blank.
nbboTimestamp	Timestamp	ATS only field. The date/time at which the NBBO was referenced.
nbbPrice	Price	ATS only field. The national best bid price at the moment of the timestamp. If the event changes the NBBO, this is the national best bid price before the change effected by the event, in this sense, this field is always the national best bid price immediately before the event occurs. See this field in context of the event definitions for more info.
nbbQty	Whole Quantity	ATS only field. The national best bid quantity at the moment of the timestamp. If the event changes the NBBO, this is the national best bid quantity before the change effected by the event, in this sense, this field is always the national best bid quantity immediately before the event occurs. See this field in context of the event definitions for more

Field Name	Data Type	Description
		info.
nboPrice	Price	ATS only field. The national best offer price at the moment of the timestamp. If the event changes the NBBO, this is the national best offer price before the change effected by the event, in this sense, this field is always the national best offer price immediately before the event occurs. See this field in context of the event definitions for more info.
nboQty	Whole Quantity	ATS only field. The national best offer quantity at the moment of the timestamp. If the event changes the NBBO, this is the national best offer quantity before the change effected by the event, in this sense, this field is always the national best offer quantity immediately before the event occurs. See this field in context of the event definitions for more info.
negotiatedTradeFlag	Boolean	In a <u>New Order event</u> , it identifies if an order is the result of a negotiated trade between two reporters. Allowed Values: true false
negotiatedTradeSide	Choice	In a <u>Trade event</u> , it indicates whether this is a negotiated trade and whether this report is for a negotiated buy or negotiated sell. Allowed Values: NBUY The Reporter is on the Buy side of the negotiated trade. This must be consistent with side of the order. NSELL The Reporter is on the Sell side of the negotiated trade. This must be consistent with side of the order. NA Not Applicable
nextUnlinked	Choice	For Phase 2b, indicates whether the reported option event is unlinked to the next event in the option order lifecycle as the next event is out of scope for Phase 2b. Allowed Values: M The immediate internal step is handled manually, no subsequent linkage C The next step of the order is to be represented by a complex order, no subsequent linkage P The next step of the order is a paired option order, no subsequent linkage
onlyOneQuoteFlag	Boolean	<i>true</i> if the system allows only one quote for the particular market maker; <i>false</i> otherwise. Allowed Values: true false

Field Name	Data Type	Description
openCloseIndicator	Choice	Allowed values: Open, Close. For option events, this field describes whether the action taken (buying or selling) will open a new position or will close an existing position in the order originator's account. Must be reported as a point-in-time value on each event (therefore, this may differ between New Option Order and Option Order Route for the same orderID).
optionID	Text (22)	The 21-character OSI Symbol of the option. For FLEX Percent options, a percentage symbol (%) is appended before the OSI symbol elements.
orderID	Text (40)	The internal order ID assigned to the order by the Industry Member.
orderReceivedDate	Timestamp	If the event is a Primary Order Event, the date and time the order was received or originated. If the event is a Secondary Order Event, the date and time of the related Primary Order Event. If a new <i>orderID</i> was assigned, the date and time the new <i>orderID</i> was assigned.
orderType	Choice	The order type defines the type of order being placed, and must be exactly one of the permitted values. Allowed Values: CAB Cabinet LMT Limit MKT Market
OrigFileName	Alphanumeric (100)	For corrections, the FileName in which the original ROE being corrected was originally submitted. Required when actionType is 'COR' or 'DEL'
OrigFirmROEID	Alphanumeric (64)	For corrections, the FirmROEID of the original record. Required when actionType is 'COR' or 'DEL'
parentOrderID	Text (40)	Used in a New Child Order event to identify the parent order from which the child order is generated from.
price	Price	The limit price of the order. However the definition of this field is dependent on the event in which it's used. Refer to the events definitions to see what this price represents within the context of that event. For example: In Trade event, this is the price of the trade.
priorFulfillmentID	Text (40)	The most recent internal ID given to the fulfillment event by the reporter. Values for this field should reflect the fulfillmentID provided in the most recent (prior) Order Fulfillment Amendment event.
priorFulfillmentDate	Date	The most recent date on which the fulfillment was last amended. If this is the first amendment no Fulfillment, then it is the date of the original Fulfillment. Only present if this is at a different date from the original Fulfillment or last Fulfillment Amendment.
priorOrderDate	Date	priorOrderDate generally refers to a prior date when the orderID or priorOrderID or parentOrderID is assigned, depending on the event.

Field Name	Data Type	Description
		Refer to the events definitions to see what this date represents within the context of that event.
priorOrderID	Text (40)	Generally, it is the identifier of the order referred by the event (e.g. most recent order ID before a modification). Refer to the events definitions to see what orderID represents within the context of that event. If the order was modified several times, this should be order ID in the most recent Order Modified or Order Adjusted.
priorQuoteID	Text (40)	The most recent quoteID of the existing quote before being updated or replaced.
priorUnlinked	Choice	For Phase 2b, indicates whether the reported option event is unlinked to the prior event in the option order lifecycle as the prior event is out of scope Phase 2b. Allowed Values: M The immediate prior order handling is manual, no linkage to the prior event. C This is a single leg order split from a complex parent order, no linkage to the parent.
quantity	Real Quantity	The quantity of the order.
quoteID	Text (40)	The internal quote ID assigned to the quote by the reporter. Required to report at the start of the lifecycle if initiated by a quote.
quoteRejectedFlag	Boolean	Indicates if the quote was not accepted by the destination. Allowed Values: true false
receivedQuoteID	Text (40)	Used in a Quote Received event to identify the quote ID as received by the ATS or broker dealer, should match the routedQuoteID in the New Quote event created by the issuer of the quote.
receiverIMID	Industry Member ID	In the Quote Received Event: The IMID of the reporter receiving the quote (the reporter of this event). See event details for linkage criteria. In the Order Accepted: The IMID of the reporter receiving the order. See event details for linkage criteria.
receivingDeskType	Choice	Indicating the type of desk or department receiving the order. More granular than the field deptType. Only required when the destination of an internal route is a desk.

Field Name	Data Type	Description
		<p>Allowed Values:</p> <p>A Agency</p> <p>AR Arbitrage</p> <p>B Block Trading</p> <p>C Convertible Desk</p> <p>CR Central Risk Books</p> <p>D Derivatives</p> <p>EC Equity Capital Markets</p> <p>IN International</p> <p>IS Institutional</p> <p>O Other</p> <p>PF Preferred Trading</p> <p>PR Proprietary</p> <p>PT Program Trading</p> <p>S Sales</p> <p>SW Swaps</p> <p>T Trading Desk</p> <p>TR Treasury</p>
reportingExceptionCode	Choice	<p>Indicates the reason that a unique identifier (e.g., Branch Sequence Number, Compliance ID) was not supplied to a transaction reporting system.</p> <p>Allowed Values:</p> <p>F Reported on Form T pursuant to FINRA Trade Reporting Rules</p> <p>M Execution where a FINRA transaction reporting system constraint prevented the entry of a unique identifier (e.g., Branch Sequence Number, Compliance ID)</p> <p>P Intra-firm order filled from firm's proprietary account</p>
representativeInd	Choice	<p>Indicates if the representative linkage is required. Mandatory for all orders.</p> <p>Allowed Values:</p> <p>Y Representative order, linkage required</p> <p>YS Representative order, linkage required; details in supplement event</p> <p>YF Representative order, linkage required in future phase</p> <p>YP Representative order, pricing guarantee, no linkage required</p> <p>O Options Combined Order</p> <p>N Not a representative order</p>

Field Name	Data Type	Description
routedOrderID	Text (40)	The ID assigned to this order by the routing firm when routing the order to the reporter; or, the ID assigned to this order by reporter for sending message to the routing destination.
routedQuoteID	Text (40)	In New Quote event, this is the quote ID as routed to the recipient by the reporter. However, in Quote Received event, this is quote ID as received by the reporter (ATS/broker dealer), should match the routedQuoteID in the New Quote event created by the issuer of the quote.
routeRejectedFlag	Boolean	Indicates if the routed order was not accepted by the destination (i.e. rejected, no response). Not required until Phase 2c. Allowed Values: true false
routingOrigin	Industry Member ID / Exchange ID	When the order is routed from another Industry Member, this is the IMID of the sending firm from which the order is routed. And <u>it must match senderIMID in the Route event reported by the routing entity.</u> When the order is routed from an exchange, this is the Exchange ID of the sending firm from which the order is routed. And <u>the value must match the exchange field in the Route event reported by the exchange.</u> When routingOriginType = F, it is the IMID of an Industry Member Allowed Values (When routingOriginType = E) BOX BOX Options Exchange CBOE Cboe Options C2 C2 Options BYX Cboe BYX Exchange BZX Cboe BZX Equities BOXOP Cboe BZX Options EDGA Cboe EDGA EDGX Cboe EDGX Equities EDGXOP Cboe EDGX Options IEX Investor's Exchange MIAMI Miami International Securities Exchange MIAXOP MIAX PEARL MIAXOE MIAX Emerald BX Nasdaq BX Equities Market NOBO Nasdaq BX Options Market PSX Nasdaq PHLX Equities Market PHLX Nasdaq PHLX Options Market

Field Name	Data Type	Description
		NSDQ Nasdaq Stock Market NOM Nasdaq Options Market ISE Nasdaq ISE GEMX Nasdaq GEMX MRX Nasdaq MRX AMER NYSE American Equities AMEROP NYSE American Options ARCA NYSE ARCA Equities ARCAOP NYSE ARCA Options NYSE The New York Stock Exchange CHX NYSE CHX NSX NYSE NSX
routingOriginType	Choice	Indicating the type of origin from which the order is routed. Allowed Values: F Industry Members E Exchange
sellDetails	Trade Side Details	It is in the format of Trade Side Details, a compound data type that consists of a list of fields (see Section 2.4 Data Type). <i>sellDetails</i> is only used in Equity Trade Events to capture the sell side details of the trade. Please see Section 4.12.1 for list of fields.
senderIMD	Industry Member ID	In an Order Accepted event, when the order is routed from an Industry Member, this is the SRO assigned member ID of the routing origin. If destinationType = N, this field may be populated, but is not required to be populated.
seqNum	Alphanumeric (40)	ATS only field. The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps. The sequence number is required to be strictly increasing for a given reporter, date, and symbol, and can be used to sort each event in chronological order where multiple events have the same timestamp. For more detail, please refer to Section 2.3.1 - Timestamps and Sequence Numbers.
session	Text (40)	The name/ID of the session being used to send the order between a firm and an exchange. May be any string shared between sender and receiver, including, <blank>, so long as they match, to ensure uniqueness in linkage.
shortSaleExptInd	Boolean	Boolean field. Indicates if the order was eligible to be marked Short Exempt according to SEC Rule 201. The value is <i>true</i> if the order may be marked short exempt consistent with SEC Rule 201. The value is

Field Name	Data Type	Description
		<p>false if the order was not exempt according to SEC Rule 201.</p> <p>Allowed Values:</p> <p>true</p> <p>false</p>
side	Choice	<p>Side of the event.</p> <p>Allowed Values:</p> <p>Buy</p> <p>Sell</p> <p>Short</p> <p>Exempt</p>
sideIMID	Industry Member ID	<p>In Trade Side Details and Fulfillment Side Details, if this side of the trade/fulfillment was an order that was the result of an Order Accepted event, this is the senderIMID of the order's Order Accepted event. If this side of the trade was an order that resulted from a New Order event, this IMID is the same as the CATReporterIMID of this event.</p> <p>Required for buyDetails, sellDetails, clientDetails, and firmDetails.</p>
symbol	Symbol	The stock symbol, in the symbology of the listing exchange, or FINRA OTC symbology for OTC Equity Securities.
tapeTradeID	Text (40)	<p>Used in a Trade event to record the unique identifier reported by the firm to the TRF/ADF/ORF based on the reporting specifications of the specific facility, required when the ID was supplied to a transaction reporting system:</p> <ul style="list-style-type: none"> • Compliance ID in ORF and ADF • Branch Sequence Number in FINRA/NQ TRF • FINRA Control Number in FINRA/NYSE TRF
timeInForce	Choice	<p>Specifies the Time-In-Force for an order.</p> <p>Allowed Values:</p> <p>DAY A day order</p> <p>IOC Immediate or Cancel</p> <p>GTC Good till Cancelled</p> <p>GTT Good till Time (requires XTIME in handlingInstructions)</p> <p>GTD Good till Date (requires XDATE in handlingInstructions)</p> <p>GTM Good this Month (valid until last business day of the month in which order was received)</p> <p>GTX Good till Crossing</p>
tradeID	Text (40)	Used in a Trade event. A reporter-assigned identifier for the trade. The combination of date, CATReporterIMID, symbol, and tradeID must be

Field Name	Data Type	Description
		unique.
tradingSession	Choice	<p>The trading session(s) during which an order is eligible to trade.</p> <p>Allowed Values:</p> <p>FOR To be executed only on a Foreign Market</p> <p>PRE Pre-Market Only</p> <p>PREREG Pre-Market and Regular</p> <p>REG Regular Only</p> <p>REGPOST Regular and Post-Market</p> <p>POST Post-Market Only</p> <p>PREPOST Pre-Market and Post-Market</p> <p>ALL All Sessions</p>
type	Message Type	<p>Specifies the event type.</p> <p>Equity Events:</p> <p>MENO New Order</p> <p>MENOS New Order Supplement</p> <p>MEOR Order Route Event</p> <p>MEMR Modify Order Route</p> <p>MECR Cancel Order Route</p> <p>MEOA Order Accepted</p> <p>MEIR Order Internal Route</p> <p>MEIM Order Internal Route Modified</p> <p>MEIC Order Internal Route Cancelled</p> <p>MECO Child Order</p> <p>MECOM Child Order Modified</p> <p>MECOC Child Order Cancelled</p> <p>MEOM Order Modified</p> <p>MEOMS Order Modified Supplement</p> <p>MEOJ Order Adjusted</p> <p>MEOC Order Cancelled</p> <p>MENQ New Quote</p> <p>MEQR Quote Received</p> <p>MEQC Quote Cancelled</p> <p>MEOT Trade</p> <p>MEOF Order Fulfillment</p> <p>MEFA Order Fulfillment Amendment</p> <p>MEPA Post Trade Allocation</p>

Field Name	Data Type	Description
		<p>MEAA Amended Allocation</p> <p>Option Events:</p> <p>MONO New Option Order</p> <p>MONOS Option Order Supplement</p> <p>MONP Paired Option Order</p> <p>MOOR Option Order Route</p> <p>MOMR Option Order Modified Route</p> <p>MOCR Option Order Cancel Route</p> <p>MOOA Option Order Accepted</p> <p>MOIR Option Order Internal Route</p> <p>MOIM Option Order Internal Route Modified</p> <p>MOIC Option Order Internal Route Cancelled</p> <p>MOCO Child Option Order</p> <p>MOCOM Child Option Order Modified</p> <p>MOCOC Child Option Order Cancelled</p> <p>MOOM Option Order Modified</p> <p>MOOMS Option Order Modified Supplement</p> <p>MOOJ Option Order Adjusted</p> <p>MOOC Option Order Cancelled</p> <p>MOOF Option Order Fulfillment</p> <p>MOFA Option Order Fulfillment Amendment</p> <p>MOPA Option Post Trade Allocation</p> <p>MOAA Option Post Trade Amended Allocation</p>
unsolicitedInd	Choice	<p>Indicates whether the quote is unsolicited or not.</p> <p>Allowed Values:</p> <p>U Unsolicited Bid and Ask</p> <p>A Unsolicited Ask</p> <p>B Unsolicited Bid</p> <p>N Not Unsolicited</p>
workingPrice	Price	<p>ATS only field. The working price of the order. For example, in a PEG order, the adjusted price due to NBBO movement should be captured in this workingPrice field. If no current <i>workingPrice</i>, it must be 0.</p>