CAT Reporting Technical Specifications for Plan Participants

11/21/2022

Version 4.1.0-r16

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Executive Summary

The Consolidated Audit Trail (CAT) tracks orders throughout their lifecycle and identifies the exchanges and broker-dealers handling them. This allows regulators to more efficiently and accurately track activity in eligible securities — those under the jurisdiction of the Securities and Exchange Commission (the "SEC") — throughout the U.S. markets. CAT is created by a joint plan (CAT NMS Plan) of the Plan Participants or simply "Participants."

This document provides Participants with the necessary information to fulfill their reporting obligations to CAT in compliance with SEC Rule 613 and the CAT NMS Plan. It describes the requirements for reporting data to CAT, including detailed information about data elements and file formats of each reportable event. This document also describes how Participants should submit files to CAT, including access instructions, network and transport options, and testing requirements.

This document does not include information related to the provision of data by Industry Members. The *CAT Reporting Technical Specifications for Industry Members* can be found on the CAT NMS website (www.catnmsplan.com).

Table 1: Summary of Document Revisions

See Appendix I for the Summary of Document Revisions for earlier versions.

Version	Date	Author	Description
4.1.0-r15	7/29/2022	FINRA CAT	*Spec Updates for Reject Message Event (RME):* • Added Section 3.7.4 for the new Reject Message Event (RME) • Added Section 10.6.7 for RejectMessageEvents file kind data ingestion feedback • Updated references to file kinds to include the new RejectMessageEvents file kind • Updated Appendix B.1: Data Ingestion Errors to reflect errors applicable to the new RejectMessageEvents file kind • Updated Appendix F: Data Dictionary to add new fields and to reference RME on existing fields as applicable *Spec Updates to* Support Use of FINRA ADF: • Added Section 6.3 for the new Equity Best Bid and Offer Event (EBBO) • Updated Appendix F: Data Dictionary to add new fields and to reference EBBO on existing fields as applicable
4.1.0-r16	11/21/2022	FINRA CAT	Moved Summary of Document Revision content for Releases 4.1.0-r9 through 4.1.0-r14 to Appendix I (changes not tracked) Updated *sentTimestamp* on Options Quote (OQ) event from Optional to Conditional; added language to clarify condition under which the field can be omitted

Version	Date	Author	Description
			Updated *sentTimestamp* on Options Quote Cancel (OQC) event from Optional to Conditional to better reflect description of field
			Updated Error Codes 7017, 7019, 7021, 7023 to clarify that they are Named Errors
			Updated description of 'FLOOR' *executionCode* to clarify that the value optionally may be reported beginning September 29, 2022 and must be reported beginning no later than November 14, 2022
			Updated Section 9.8.4 and Appendix G to include information for Disaster Recovery
			Updated Appendix F: Data Dictionary to: - Add *cancelReasons* 156-160 and *executionCodes>liquidityCode* 53-57 for Nasdaq Mercury, ISE, and Gemini - Add *cancelReasons* for NASDAQ Mercury - Add *orderType* PrimaryPegAvailWhenLocked and PrimaryPegUnavailWhenLocked for MIAX PEARL Equities - Add *executionType* Name/Value Pairs SOT and STT for BOX - Updated *handlingInstructions* > crossType values 31 – 41 to apply to Mercury *The following changes will be effective in the Production Environment on December 5, 2022:* - Updated Appendix F: Data Dictionary to add *rejectReason* codes for BOX, CBOE, IEX, MEMX, MIAX, and NYSE - Updated Appendix B.3: Linkage Discovery errors updated to add Error Codes 6022, 6024, 6026, 6028 to support linkage of (exchange) OT to (Industry Member) MOOT *The following changes will be effective in the Production Environment in March 2023:* - Added information for new BestBidAndOffer file kind to support the reporting of the EBBO event

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 (Customers[1]). 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 Consolidated Audit Trail, 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.

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[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).

1.2. Change Release Management Process

Changes to this technical specification will be released as follows:

- Prior to the go-live date for system changes
  - A new specification will be posted to the CAT Public Website
  - A notice will be posted on the website with a summary of changes and links to relevant information.
  - One or more email alerts will be sent to plan participants with a summary of changes and links to relevant information.
  - In some cases, CAT may accept production reporting using the new specification in advance of the go-live date.
  - Plan Participants that have not conducted testing or production reporting using the new technical specification format will receive support from CAT as the go-live date approaches.
- The new technical specification 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.

1.3. CAT Identifiers

CAT uses a number of identifiers, many of which readily convey their meaning from the context in which they are used. The subsections below include terms associated with the entities that will report data into CAT and their respective roles. As shown in the diagram below, Exchange ID is a subset of Participant ID, which is a subset of Reporter ID.
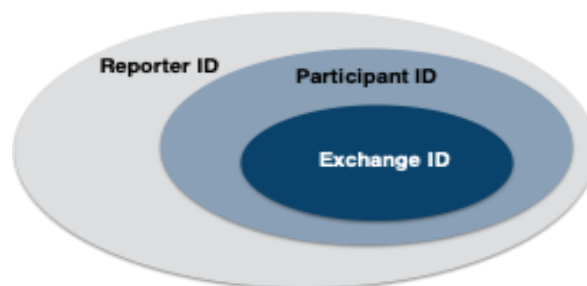
Figure 1: CAT Identifier Hierarchy

1.3.1. CAT Reporter ID

Each entity which reports into CAT will be assigned a unique identifier: a CAT Reporter ID. This ID will uniquely identify each reporter, including plan participants, industry members, and associated reporting facilities. The database of CAT Reporter IDs will be made available both as a downloadable file on the CAT website and through the web portal API.

1.3.2. Participant ID

The Participant ID is an ID assigned by CAT to each plan participant. The value will be the same as the participant's CAT Reporter ID.

1.3.3. Exchange ID

The Exchange ID is an ID assigned by CAT to each stock/options exchange. The actual value will be the same as the exchange Participant ID and Reporter ID, but, as indicated in Figure 1, Exchange ID is a subset of Participant ID, which is a subset of Reporter ID.

1.3.4. Member Alias

Each SRO will assign unique IDs to its industry members. These IDs are aliases for CAT reporters so that reporting firms can use existing identifiers when reporting market events to CAT. It is important that both the member and SRO are aware of the assigned IDs and when they should be used in reports to CAT.

Each SRO has autonomy in assigning their IDs. Note that the same ID could possibly be assigned to different industry members across SROs. Furthermore, a member may have multiple aliases assigned to them by the same SRO. Thus, the alias is only valid in combination with the SRO that assigned the ID. Specifically, when an exchange receives a routed order from one of its members, both the routing member and the exchange must report the same Member Alias in their reports to CAT in order to properly link the reports to the same order lifecycle.

An industry member can have the same alias value assigned by multiple SROs. Note that an alias is used in conjunction with an identifier that links the alias with the SRO that assigned the alias (either by explicit designation, or implicitly by context).

For example, consider three firms (Firm A, Firm B, and Firm C) and three SRO participants (Participant A, Participant B, and Participant C), and the following table of SRO-assigned member IDs.

Table 2: Example of SRO-assigned Member IDs

FIRM	Participant A	Participant B	Participant C
Firm A	FRMA	AAAA	FRMA
Firm B	FRMB		BBBB
Firm C	FRMC	CCCC	FRMB

Note that Member Alias FRMA is assigned to Firm A by both Participant A and Participant C, and Member Alias FRMB is assigned to two different firms by two different participants. While the same alias is used multiple times, these are valid mappings because the same alias is not assigned multiple times within a participant. Also note that Firm B is not a member of Participant B, and so there is no corresponding mapping.

Thus, each firm will have at least one alias for each SRO in which they have membership. The value may or may not be the same across all participants. When Participant A refers to Firm C, it will use the alias FRMC. Likewise, when Firm C refers to itself in relation to Participant A, it will use the alias FRMC.

Note that industry members can have multiple Member Aliases, but they will also be assigned a unique CAT Reporter ID. CAT maps the SRO-assigned Member Alias values to ensure the same unique CAT Reporter ID assigned to the member firm across SRO's. Note that member dictionary entries apply to data uploaded for the same business date as the member dictionary itself (values do not have to be the same from day to day).

1.4.   Fundamental Data Types

The fundamental data types used in this document are described below. A complete list of data types is presented in Appendix F. Data Dictionary.

CAT will accept two kinds of text-based files: JSON and CSV. To support both JSON and CSV submissions, CAT will publish a JSON schema file which 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.

When a data field is marked as either optional or conditional, some records may not provide values for that field. In such a case, the field is simply not reported as part of the JSON record. In a CSV record, it is reported as an empty column.[2]

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[2] For each CSV record, all fields up to and including the furthest of the last required field and last provided field for the record must be included. For example, consider the NOTE event in Section 3.7.1 where a number of fields are conditional or optional, including the last four fields. Each field through `noteType` (the last required field) must be provided (either with data or as an empty column). If one of the remaining non-required fields is provided, such as `Note`, then all values through `Note` must be provided.

Table 3: Data Type Descriptions

Data Type	JSON Type	Description
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
Array of XXX	ARRAY	When represented in JSON, it is an array of the indicated type (XXX is a placeholder). So, Array of Unsigned would be an array of unsigned integers, and would be represented as `[ 0, 42 ]`.
		When represented in CSV, it is a series of the indicated type, separated by the pipe symbol. So, the aforementioned array of Unsigned would be represented as `0|42`.
Boolean	BOOLEAN	A value with only two choices: true or false
Choice	STRING	A Text field, but with an explicit list of acceptable values.
Date	NUMBER	An 8-digit integer representing the date in YYYYMMDD.
Exchange ID	STRING	A subclass of Participant ID that only applies to exchanges (all participants except FINRA)
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)
Member Alias	STRING	Text(8) - one of the aliases assigned by an SRO to one of its members
Message Type	STRING	An Alphanumeric(5) field, indicating the type of message being reported
Name Value Pairs	STRING JSON Object	A value of type Text (except the pipe is allowed), composed as described in the Name Value Pairs section below
Numeric	NUMBER	A general numeric type, composed of digits, an optional decimal point, followed by more digits (with an optional leading +/- sign). These values, while looking like floating point numbers, should always be read and processed in a way that represents the exact value as represented by the text. Examples: 1235, -1235, 1235.67, -1235.67
		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.
		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 (visual format would be ######.####). Note that these are maximum limits - the lengths can be smaller. Valid examples which comply with Numeric(6,4) would be -999999.9999, -0.1, 0, 0.0001, and 999999.99.
		All numeric values must have a whole number portion before the decimal point (*e.g.*, 0.25 can't be represented as .25). The fractional portion is optional.
		Do not use leading zeros in numeric values. A zero should only appear as the first digit if it is the only digit before the decimal point (*e.g.*, 0.75)

Data Type	JSON Type	Description
Participant ID	STRING	A subclass of Reporter ID that applies only to participants
Price	NUMBER	A Price is shorthand for Numeric(10,8), which can support prices in the inclusive range [-9999999999.99999999, 9999999999.99999999]
Reporter ID	STRING	Alphanumeric(7) - a CAT Reporter ID
Symbol	STRING	Text (20)
Symbol Alias	STRING	Text (20) - an alias that can be assigned to a symbol
Text	STRING	A string, composed of any printable character, except comma (ASCII decimal 44, hex 2C), pipe (ASCII decimal 124, hex 7C), and double quote (ASCII decimal 34, hex 22). When a Text 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.
Time	NUMBER	A numeric field, with a specific format conforming to what the ISO 8601 standard calls the *basic format*, with a few extra specifications. All 24-hour time components are mandatory (*i.e.*, 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. For example, 09:30:00.123456789 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. For example, January 7, 2017 21:30:00.123456789 in New York would be represented as the string `20170107T213000.123456789`. 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. 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
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)

1.4.1. Data Validation

All data submitted to CAT will be validated based on the defined data type of each item, including proper formatting and range checking. All File Names, Field Names, and Field Values are case sensitive. During validations, if the case does not match, an error will occur. Examples of accepted values are detailed in the table above. 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 which fail validation will be marked as a failure and will be reported as feedback to the Submitting Member as detailed in Section 10.

1.4.2. Name Value Pairs

Some fields are described as containing name/value pairs. Name Value Pairs is 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 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.

In some cases, the names are free-format (i.e., undefined). Both the name and any value are left up to the discretion of the reporter and the contents are not validated by CAT.

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.   Reference Data

This section describes the reference or supplemental data required to be reported by each participant.

2.1.   Member Information

Each SRO must submit to CAT a directory of information that lists each industry member with which it has a reporting relationship. Each dictionary entry identifies a specific industry member, and assigns one or more IDs to that member. These IDs may be used by the SRO and/or the member when reporting order events to CAT. The industry members listed in the dictionary will also be participant members of the SRO, although this is not always the case. For example, each industry member that submits an order to an exchange must be a registered member of that exchange. However, the exchange may route orders to an industry member that is not a member of that exchange. In either case, the exchange must give at least one Member Alias to each industry member that appears in any of the order events reported to CAT.

Each member may have multiple aliases, but a specific Member Alias may only be assigned once per SRO. Note that the member dictionary is loaded each day, and the values only apply to that trading day. Thus, Member Aliases could be reassigned on subsequent trading days.

The Member Dictionary will be uploaded as a file of newline-delimited JSON objects, one object per member entry. The member dictionary is necessary to process other file uploads, and must be uploaded to CAT no later than T +1 at 4:00AM Eastern, with entries sufficient to support all reports submitted on that trading day. Note that this is a same-day upload requirement whereas order events are required to be reported by 8:00AM Eastern the following trading day.

CAT must be able to identify each IMID that operates as an ATS and must know the name under which the ATS operates. The Member Dictionary Entry does not support the provision of this information. When reporting a Member Dictionary Entry (MDE) that includes an ATS, a corresponding Member Alias Detail Entry (MADE) must also be submitted. Additionally, when reporting a Member Dictionary Entry (MDE) where the status is 'Other', a Member Alias Detail Entry (MADE) must also be submitted to provide the entity name. Note that, while any participant can submit a MADE record, it is intended for use only by participants that report ATSs to CAT, such as FINRA.

2.1.1. Member Dictionary Entry

Table 4: Member Dictionary Entry

			Member Dictionary Entry (MDE)		
#	**Field Name**	**Data Type**	**Description**		**Include Key**
1	type	Message Type	MDE		R
2	reporter	Reporter ID	The unique identifier assigned to the reporter by CAT		R
3	ID	Text (20)	The CRD number of the firm, if the status field directly below is set to Active, Inactive, or NonMember. Otherwise (Internal, Other), this must be an ID for the entity generated by the reporter.		R
4	status	Choice	The status of the member for the reporting date.		R
			If the status is 'Other', a corresponding MADE record must be reported for each member alias.		
			See Data Dictionary: `status`		
5	memberAliases	Array of Member Alias	A list of Member Alias values for the member, as assigned by this SRO, for use in association with this SRO.		R
			A corresponding MADE record must be reported for each member alias representing an ATS.		

The following example shows a potential member dictionary for exchange Exch1 where the first entry represents an industry member that is also a member of the reporting SRO, the second entry represents an industry member that is not a member of the reporting SRO, and the third entry represents the SRO itself, with various facilities that have been given Member Alias values.

```
{
  "type": "MDE",
  "reporter": "Exch1",
  "ID": "1234567",
  "status": "Active",
  "memberAliases": [ "FRMA", "FRMA1", "FRMA:U01", "FRMA:U02" ]
}
{
  "type": "MDE",
  "reporter": "Exch1",
  "ID": "7654321",
  "status": "NonMember",
  "memberAliases": [ "FRMB" ]
}
{
  "type": "MDE",
  "reporter": "Exch1",
  "ID": "123xyz",
```

```
  "status": "Internal",
  "memberAliases": [ "XXX" ]
}
{
  "type": "MDE",
  "reporter": "Exch1",
  "ID": "123abc",
  "status": "Internal",
  "memberAliases": [ "ZZZ" ]
}
```

The next example shows a potential member dictionary for exchange Exch2. Note how the same entities are members of both Exch1 and Exch2, but they may or may not have different Member Alias values with each SRO.

```
{
  "type": "MDE",
  "reporter": "Exch2",
  "ID": "1234567",
  "memberAliases": [ "FRMZ", "FRMZ:U01", "FRMZ:U02" ],
  "status": "Active"
}
{
  "type": "MDE",
  "reporter": "Exch2",
  "ID": "7654321",
  "memberAliases": [ "FRMB" ],
  "status": "Active"
}
```

2.1.2. Member Alias Detail Entry

Table 5: Member Alias Detail Entry

Member Alias Detail Entry (MADE)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	MADE	R
2	reporter	Reporter ID	The unique identifier assigned to the reporter by CAT.	R
3	ID	Text (20)	The CRD number of the firm for which the entry is being provided, or the ID for the entity generated by the reporter. Must also appear in an MDE event.	R
4	memberAlias	Member Alias	Member Alias of the member for the MADE submission. Must also appear in an MDE event for the corresponding ID.	R
5	ats	Boolean	Indicates that the memberAlias is an ATS.	C
6	name	Text (128)	The doing-business-as (DBA) name of the ATS; required when ats is true. OR The name of the entity;	R

Member Alias Detail Entry (MADE)				
#	Field Name	Data Type	Description	Include Key
			required when the status of the corresponding MDE is 'Other'.	

The following example shows a member dictionary for exchange Exch2 where one of the aliases represents an ATS. Note that the ID and memberAlias in the MADE record matches the data provided in the MDE record.

```
{
  "type": "MDE",
  "reporter": "Exch2",
  "ID": "7654321",
  "status": "Active"
  "memberAliases": [ "ATSA", "FRMA", "FRMA1", "FRMA:U01", "FRMA:U02" ]
}
{
  "type": "MADE",
  "reporter": "Exch2",
  "ID": "7654321",
  "memberAlias": "ATSA",
  "ats": true
  "name": "ATS Alpha"
}
```

2.2. Equity Symbols

FINRA CAT maintains a symbol master for CAT reportable equity securities.[3]

2.2.1. CAT Symbol Master

The CAT Equity Securities Symbol Master is published on the CAT NMS website at https://www.catnmsplan.com/reference-data, for use by Industry Members in reporting. FINRA CAT publishes a Start-of-Day (SOD) file by 6:00 AM daily, an End of Day (EOD) file by 6:00 PM, and intraday updates approximately every two hours during the business day. Information including file descriptions, file layouts, and retrieval instructions can also be found on that page. Additionally, the data is available to the Plan Participants via the CAT Query Tools.

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[3] The symbol master is maintained based on a data feed provided by FINRA independently from FINRA's reporting obligation as a CAT Plan Participant.

2.3.   Corporate Actions

FINRA CAT provides details for equity corporate actions impacting equities[4] and options[5].

2.4.   Options Dictionary

Naming conventions for options can vary among exchanges and trading firms. To reduce confusion and simplify reporting, CAT allows reporters to submit options reports using a unique ID of type Text(40), as defined by the reporter, for each option. However, each reporter must upload a dictionary every day for which it reports option quote/order events. The dictionary is valid only for events reported on the same business day.

The options dictionary shall include simple option entries and complex option entries, to cover all options utilized in any report submitted to CAT by that reporter on a given date. This file is composed of a series of dictionary entries for each option, with the Option ID that will be used by the reporter for all option reports done on that day.

Each Option ID defined in the dictionary must be unique for that reporter on that day, across all simple and complex options. As for reportable order events, Options Dictionary entries can be uploaded throughout the day. When uploaded files are processed, option dictionary files are processed before any order event files for the same uploaded timeframe. Entries can be added dynamically throughout the day.

Note that this is not the product definition, but a universal way to reference an options product for the purposes of reporting order events to CAT.

While the Options Dictionary is necessary to process plan participant data, the Processor uses Options Clearing Corporation (OCC) files to generate the Start of Day and End of Day Options Symbol Master files available to support reporting by Industry Members. In the event an exchange supports options products that are not available in the OCC data set (e.g., FLEXPCT products), CAT requests that the exchange submit those products to CAT by 6 p.m. on T+0, for inclusion in the End of Day Options files for industry member reporting.

The options dictionary is uploaded as a file of newline delimited JSON objects.

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[4] Corporate Actions for listed equities are received via a data feed provided by FINRA independently from FINRA's reporting obligation as a CAT Plan Participant.

[5] Corporate Actions for listed options are retrieved from the Options Clearing Corporation (OCC).

2.4.1. Option Series Dictionary Entry

The dictionary mapping for an option series (i.e., flex or simple) will contain the information provided in Table 6: Simple Option Series Dictionary Entry, which allows options events to be reported using the Option ID reported in the dictionary entry.

Table 6: Simple Option Series Dictionary Entry

Simple Option Series Dictionary Entry (OSDE)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OSDE	R
2	reporter	Reporter ID	The unique identifier assigned to the reporter by CAT	R
3	optionID	Text (40)	The unique ID assigned to this option by this reporter. No other simple/complex/flex option should receive the same ID. All reports from this reporter will use this ID to reference a particular option product	R
4	kind	Choice	Specifies if an option is a simple, complex, flex, or percentage denominated flex option. For the value FLEXPCT, the strike price and order prices of the option are in percentages. See Data Dictionary: `kind`	R
5	optionsSymbol	Text (14)	The option class or symbol for the series (as known by OCC)	R
6	primaryDeliverable	Symbol	The symbol for the primary deliverable component of the option, provided in the symbology of the listing exchange or a valid alias.	R
7	underlyingType	Choice	This field specifies whether a simple option series has an equity or index as its underlying. The underlying type mapping is consistent with the same mapping used at OCC (e.g., ETF is treated as Equity and WCO is treated as Index). See Data Dictionary: `underlyingType`	R
8	expirationDate	Date	The date that the contract will expire	R
9	strikePrice	Numeric (10,8)	The dollar and decimal value of the strike price. If option kind = FLEXPCT, this will be the percentage	R
10	putCall	Choice	Specifies if this simple option or option leg is a put or call. See Data Dictionary: `putCall`	R
11	exerciseStyle	Choice	Specifies the exercise style of the Option Series See Data Dictionary: `exerciseStyle`	R

			Simple Option Series Dictionary Entry (OSDE)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
12	settlement	Choice	Specifies the settlement of the option See Data Dictionary: `settlement`	R
13	testSeriesFlag	Boolean	Indicates that the entry represents a test symbol. Events submitted for a test symbol are excluded from linkage processing.	C

For example, the following dictionary entry would be for the January 19, 2018 150.0 Put for BRK class B. Note that the primary deliverable is reported in NYSE symbology because BRK.B is listed on NYSE.

```
{
  "type": "OSDE",
  "reporter": "MYID",
  "optionID": "12345",
  "kind": "Standard",
  "optionsSymbol": "BRKB",
  "primaryDeliverable": "BRK.B",
  "underlyingType": "Equity",
  "expirationDate": 20180119,
  "strikePrice": 150.00,
  "putCall": "Put",
  "exerciseStyle": "American",
  "settlement": "PM"
}
```

2.4.2. Option Symbol Changes

Changes to symbols stemming from corporate actions can be handled by reporters using Dictionary Entries. Each options exchange should ensure that on the effective date for a corporate action, its Dictionary Entries accurately reflect option symbols with the appropriate numerical suffix when applicable, and it includes any new option symbols created as the result of the corporate action. A detailed corporate action example follows:

> Stock ABCD undergoes a 2 for 1 stock split on June 1, 2018. All strike prices are halved, the deliverable remains 100 and the symbol is unchanged. On August 1, 2018 stock ABCD spins off company EFGH, 10 shares per 100 ABCD owned. On the market opening at ex-date all open interest in ABCD corp. is moved to symbol ABCD1 delivering 100 shares of ABCD and 10 shares of EFGH. Option symbol ABCD1 = 100 ABCD + 10 EFGH. Subsequently, ABCD and EFGH shares are each listed in the underlying cash market and their prices are used in the valuation of options ABCD1 respectively. The options exchanges list new option contracts for each underlying that deliver 100 shares using symbols ABCD and EFGH (assuming listing

criteria is met). Options symbols ABCD and EFGH begin trading (independently) and each delivers 100 shares of the corresponding stock upon exercise. On November 1, 2018 ABCD undergoes a 3 for 2 stock split. Option contracts in ABCD and ABCD1 are affected. Contracts in ABCD become ABCD2 delivering 150 shares of underlying stock ABCD. Option symbol ABCD2 = 150 ABCD. Contracts in ABCD1 remain ABCD1 and deliver 150 shares ABCD and 10 shares EFGH. Option symbol ABCD1 = 150 ABCD + 10 EFGH. The exchange will again list a new ABCD delivering 100 shares of ABCD stock upon exercise.

Considering the example above, the two entries below demonstrate the values before and after the first corporate action event:

Stock ABCD undergoes a 2 for 1 stock split on June 1, 2018. All strike prices are halved, the deliverable remains 100 and the symbol is unchanged.

Before 2:1 Stock Split on June 1, 2018

```
"type": "OSDE",
"reporter": "MYID",
"optionID": "4322",
"kind": "Standard",
"optionsSymbol": "ABCD",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 45.00,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
```

After 2:1 Stock Split on June 1, 2018
```
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "4322",
"kind": "Standard",
"optionsSymbol": "ABCD",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 22.50,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
```

The next entries demonstrate the impact of the second corporate action event – the spinoff on August 1, 2018.

On August 1, 2018 stock ABCD spins off company EFGH, 10 shares per 100 ABCD owned. On the market opening at ex-date all open interest in ABCD corp. is moved to symbol ABCD1 delivering 100 shares of ABCD and 10 shares of EFGH. Option symbol ABCD1 = 100 ABCD + 10 EFGH. Subsequently, ABCD and EFGH shares are each listed in the underlying cash market and their prices are used in the valuation of options ABCD1 respectively. The options exchanges list new option contracts for each underlying that deliver 100 shares using symbols ABCD and EFGH (assuming listing criteria is met). Options symbols ABCD and EFGH begin trading (independently) and each delivers 100 shares of the corresponding stock upon exercise.

Before Spinoff - Note that at this time, EFGH is still part of ABCD.

```
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "4322",
"kind": "Standard",
"optionsSymbol": "ABCD",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 45.00,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
```

After Spinoff – three Dictionary Entries would now be reported as the result of this corporate action:

```
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "4322",
"kind": "Non-Standard",
"optionsSymbol": "ABCD1",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 22.50,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "99123",
"kind": "Standard",
"optionsSymbol": "EFGH",
"primaryDeliverable": "EFGH",
"underlyingType": "Equity",
```

```
"expirationDate": 20181221,
"strikePrice": 5.00,
"type": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
{
"type": "OSDE",
"reporter": "MYID",
"optionID": 99124,
"kind": "Standard",
"optionsSymbol": "ABCD",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 17.50,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
```

The pre- and post-Spinoff JSON Dictionary Entries shown above are also shown in table format below.

Table 7: Pre- and Post-Spinoff JSON Dictionary Entries

Field Name	Pre-Spinoff Value	Post-Spinoff		
		Entry #1 Value	Entry #2 Value	Entry #3 Value
Exchange ID	CBOE	CBOE	CBOE	CBOE
Option ID	4322	4322	99123 (new unique id)	99124 (new unique id)
Option Kind	Standard	Non-standard	Standard	Standard
Underlying Type	Equity	Equity	Equity	Equity
Primary Deliverable	ABCD	ABCD	EFGH	ABCD
Option Symbol	ABCD or ABCD181221C00022500 *Note: EFGH is still part of parent company ABCD*	ABCD1 or ABCD181221C00022500 *Note: Delivery components of ABCD1 include 10 shares of EFGH. CAT will know this since ABCD1 is the*	EFGH or EFGH81221C00005000 *Note: This a new standard option as of Aug 1, 2018 which delivers 100 shares of the new standalone*	ABCD or ABCD181221C00017000 *Note: This is a new standard option as of Aug 1 2018, which delivers 100 shares of the parent company*

Field Name	Pre-Spinoff Value	Post-Spinoff		
		Entry #1 Value	Entry #2 Value	Entry #3 Value
		symbol used by OCC.	*company EFGH. Investors will price the underlying and the options accordingly.*	*ABCD that remains after EFGH was spun off. Investors will price the underlying and the options accordingly.*
Expiration Date	20181221	20181221	20181221	20181221
Option Put/Call Code	C	C	C	C
Strike Price	22.50	22.50	5.00	17.50
Exercise Style	American	American	American	American
Settlement	PM	PM	PM	PM

A final example demonstrates the impact of the third corporate action event – the stock split on November 1, 2018.

> On November 1, 2018 ABCD undergoes a 3 for 2 stock split. Option contracts in ABCD and ABCD1 are affected. Contracts in ABCD become ABCD2 delivering 150 shares of underlying stock ABCD. Option symbol ABCD2 = 150 ABCD. Contracts in ABCD1 remain ABCD1 and deliver 150 shares ABCD and 10 shares EFGH. Option symbol ABCD1 = 150 ABCD + 10 EFGH. The exchange will again list a new ABCD delivering 100 shares of ABCD stock upon exercise.

Before 3:2 Stock Split -- ABCD delivers 100 shares of ABCD. ABCD1 options deliver 100 shares of ABCD + 10 shares EFGH.

```
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "4322",
"kind": "Non-Standard",
"optionsSymbol": "ABCD1",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 22.50,
"putCall": "Call",
```

```
"exerciseStyle": "American",
"settlement": "PM"
}
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "99124",
"kind": "Standard",
"optionsSymbol": "ABCD",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 22.50,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
```

After 3:2 Stock Split - ABCD becomes ABCD2 and delivers 150 shares of ABCD. Symbol ABCD1 remains, though now delivers 150 shares ABCD and 10 shares EFGH. The exchange lists new, standard ABCD options that deliver 100 shares of ABCD.

```
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "4322",
"kind": "Non-Standard",
"optionsSymbol": "ABCD1",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 22.50,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
{
"type": "OSDE",
"reporter": "MYID",
"optionID": "99124",
"kind": "Non-Standard",
"optionsSymbol": "ABCD2",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 22.50,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
{
"type": "OSDE",
"reporter": "MYID",
"optionID": 100501,
"kind": "Standard",
```

```
"optionsSymbol": "ABCD",
"primaryDeliverable": "ABCD",
"underlyingType": "Equity",
"expirationDate": 20181221,
"strikePrice": 15.00,
"putCall": "Call",
"exerciseStyle": "American",
"settlement": "PM"
}
```

2.4.3. Complex Option Dictionary Entry

The dictionary mapping for a complex option will contain the information presented in the table below. Each complex option can contain multiple legs, where each leg is either an option leg or a stock leg (stock leg will generically refer to equity/exchange-traded fund "ETF").

Table 8: Complex Option Dictionary Entries

Complex Option Dictionary Entry (CODE)				
#	Field Name	Data Type	Description	Include Key
1	type		Message Type	CODE	R
2	reporter		Reporter ID	The unique identifier assigned to the reporter by CAT	R
3	optionID		Text (40)	The unique ID assigned to this option by this reporter. No other simple/complex/flex option should receive the same ID. All reports from this reporter will use this ID to reference a particular option product	R
4	kind		Choice	Specifies if an option is a simple, complex, flex, or percentage denominated flex option. For this message type, the kind will always be "Complex". See Data Dictionary: kind	R
5	groupID		Text (40)	An identifier supplied by the user/reporter, to be associated with this entry. The value of the field is not checked by CAT, but it will be stored, and can be used to search for dictionary entries that have the same value	O
6	legs	legType	Choice	Defines the type of leg. See Data Dictionary: kind	R
		side	Choice	The side of the order: See Data Dictionary: side	R
		ratio	Unsigned	The ratio quantity for this leg, relative to the other legs. For option legs, the ratios must already be reduced to the smallest units possible	R

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Complex Option Dictionary Entry (CODE)					
#	Field Name		Data Type	Description	Include Key
		optionID	Text (40)	The ID of the option - **for option legs only**. Note that the Option ID for the leg must have already been uploaded before using it in the definition of a complex option. Furthermore, the combination of Option ID / Side must be unique among all legs	C
		symbol	Symbol	The symbol of the equity, in the symbology of the listing exchange - **for equity legs only**. The same symbol must not appear in more than one leg. Multiple symbol legs are only allowed for index options only	C
7	testSeriesFlag		Boolean	Indicates that the entry represents a test symbol. Events submitted for a test symbol are excluded from linkage processing.	C

The Option ID must be unique. Duplicate dictionary entries are ignored. Entries that have the same Option ID, but different details are rejected. Any entry which defines the opposite side of an existing entry will be rejected. For example, a complex option dictionary entry to Buy one (1) contract of option 1234 and Sell two (2) contracts of option 4321 is considered to be the "opposite side" of an entry to Sell one (1) contract of option 1234 and Buy two (2) contracts of 4321. Thus, if both were submitted the second would be rejected.

JSON Example

```
{
  "type": "CODE",
  "reporter": "MYID",
  "kind": "Complex",
  "optionID": "98765",
  "legs": [
    {
      "legType": "Option",
      "side": "Buy",
      "ratio": 1,
      "optionID": "121345"
    },
    {
      "legType": "Equity",
      "side": "Buy",
      "ratio": 100,
      "symbol": "ABCD"
    }
  ]
}
```

JSON Example of reject

```
{
  "type": "CODE", "reporter": "MYID", "kind": "Complex",
  "optionID": "98765",
  "legs": [
    { "legType": "Option", "side": "Buy",
      "ratio": 1, "optionID": "121345"
    },
    { "legType": "Option", "side": "Sell",
      "ratio": 2, "optionID": "99999"
    }
  ]
}
{
  "type": "CODE", "reporter": "MYID", "kind": "Complex",
  "optionID": "56789",
  "legs": [
    { "legType": "Option", "side": "Sell",
      "ratio": 1, "optionID": "121345"
    },
    { "legType": "Option", "side": "Buy",
      "ratio": 2, "optionID": "99999"
    }
  ]
}
```

2.5.   Market Maker Information

Each Equity SRO must submit to CAT a directory of information that lists industry member with which it has a reporting relationship and where the member makes a market in one or more equity symbols. Each Market Maker Dictionary entry identifies a specific industry member, symbol, market maker type, status and status time. The Market Maker may make a market in one or more symbols.

The Market Maker dictionary is loaded each day, and the data values only apply to that trading day. The Market Makers, their assigned Symbols, Market Maker Type, and Status may change on subsequent trading days.

The Market Maker Dictionary will be uploaded as a file of newline-delimited JSON objects, one object per Market Maker entry. The Market Maker dictionary must be uploaded to CAT no later than T+1 at 4:00AM Eastern.

Table 9: Market Maker Dictionary Entry

#	Field Name	Data Type	Description	Include Key
Market Maker Dictionary Entry (MMDE)			
1	**type**	**Message Type**	**MMDE**	**R**
2	reporter	Reporter ID	The unique identifier assigned to the reporter by CAT	R
3	marketMaker	Member Alias	Identifier assigned to a member by the SRO as provided in the Member Dictionary	R
4	symbol	Symbol	Equity Symbol in listing market format, in which the Market Maker is registered on the exchange	R
5	marketMakerType	Market Maker Type	A list of exchange defined values for the Equity Market Maker distinguishing between types or designations of market makers. See Data Dictionary: `marketMakerType`	R
6	marketMakerStatus	Choice	The status of the member/symbol for the reporting date. For details, see the Data Dictionary entry for Status See Data Dictionary: `marketMakerStatus`	R
7	statusTime	Timestamp	Time of change in market maker's status. If one record for a member alias and symbol combination is provided, it is assumed to be active for the entire day. For market making initiations not at the open, provide the start time.	R
8	definedMMDEData	Name/Value Pair	A list of key/value pairs, providing machine parseable exchange specific regulatory context data for the Equity Market Maker. The attributes are not defined in the spec, and can be any values as long as they conform to the format for a list of name/value pairs as defined under the Fundamental Data Types section of this document.	O

The following example shows a Market Maker for exchange Exch1 where the first entry represents an industry member with one active symbol and another inactive.

```
{
  "type": "MMDE",
  "reporter": "Exch1",
  "marketMaker": "ABCD",
  "symbol": "PZ",
  "marketMakerType": "MM",
  "status": "Active",
  "statusTime": "20200714022015.123456789"
```

```
}
{
  "type": "MMDE",
  "reporter": "Exch1",
  "marketMaker": "ABCD",
  "symbol": "PX",
  "marketMakerType": "MM",
  "status": "Inactive",
  "statusTime": "20200714022216.123456789"
}
```

3. Special Data Elements and Common Events

This section describes data elements that are common to most order events, including timestamps, sequence numbers, symbols, material terms of an order, and elements used during the CAT process of creating order lifecycles.

Events that are universal, or common, are also described in this section.

3.1. Timestamps and Sequence Numbers

All timestamps are required to be reported in the greatest granularity in use by the reporter's trading platform, up to nanoseconds. While the timestamp generally allows the system to properly sequence events within the lifecycle of an order event, it is possible for multiple events to have the same timestamp, especially if the granularity of the reported timestamp is insufficient. In these cases, the system cannot confidently sequence the events by timestamp alone. When it is possible for multiple events --- from the same reporter, on the same day[6], in the same symbol --- to have the same timestamp, a sequence number must also be provided for each event.

The sequence number is required to be strictly increasing, and must guarantee proper sequencing of events in the order in which they originally occurred. The sequence number may be globally unique, in which case it provides sequencing unilaterally; however, this is not required. The sequence number does not sequence events across multiple reporters.

The system only uses the sequence number if two or more events have the same timestamp. If the timestamp alone provides the ability to determine the proper order of the events, the sequence number does not need to be reported.

3.1.1. Sequence Number Subsystems

The purpose of the sequence number is to allow regulators to sequence multiple events that have the same timestamp. However, reports for the same reporter/date/symbol may originate from multiple systems, and it may be difficult to coordinate a sequence number that is unique among all subsystems.

In such cases, a sequence number subsystem (`seqNumSub`) can be optionally reported along with the sequence number. This value can be examined to better determine ordering characteristics of the events that have the same timestamp value.

---

[6] For purposes of 24-hour trading, a "day" is considered to be a single cycle date. See the definition of `cycleDate` in Appendix F: Data Dictionary for additional details.

3.1.2. Time of Order Receipt

The time of order receipt is the time at which an exchange Participant assigns an Order-ID to an incoming message.

3.2. Symbology

When reporting events for equities, the symbol must be reported in the symbology of the listing exchange or using an alternate symbology identified in the symbol master as described in Section 2.2.

Any reporter who reports options events must submit an option dictionary to CAT. All options are identified using the Option ID, as provided to CAT in the reporter's option dictionary.

3.3. NBBO

The NBBO is provided with each relevant order event (i.e., when available). This is the NBBO from the perspective of the reporter at the time of the event, but not including the effect that the event would have on the NBBO. For example, if the NBBO were 100@10.10 x 100@10.15, and a new order arrived at the exchange to BUY 100@10.10, the reported NBBO would be 100@10.10 x 100@10.15, even though the immediate effect of the order would be to change the best bid to 200@10.10.

Note that the bid/ask prices are required, but the quantities being bid or offered are optional.

There exist some special cases where the NBBO is unavailable or nonexistent. In those cases, the NBBO values should be reported with a zero price and zero quantity. An entry with both the price and quantity of zero will indicate that the data was either unavailable or not applicable for that particular event. Note that the values can't just be reported as unavailable because it is hard to acquire them. They must truly be unavailable or not applicable to that particular event. NBBO prices are not required for leg-level events of complex orders and zero may be provided in lieu of a quote price.

3.4. Order Linkage and Lifecycle

When all members have submitted their reports to CAT for a given trading day, CAT will link all reportable events to create a complete lifecycle of each order. A key part of being able to connect the orders is recognizing and connecting the daisy chain of orders across all CAT reporters. In order to accomplish this, both the reporter routing an order away and the reporter accepting the order must report the exact same details about the order.

Of particular interest to reporting participants, the data elements important to creating cross-reporter order linkages are: Exchange ID, Date, Symbol/Option, Routing Party, Routed Order ID, and Session ID.

When an order is routed to an exchange, each communication protocol specifies a way to uniquely identify that order (e.g., FIX protocol calls it ClOrdId, OUCH calls it Order Token). However, the uniqueness guarantees differ from protocol to protocol. Some exchanges may assign a unique Member Alias for each account, and require uniqueness based on the account ID and order ID alone. Others may issue special identifiers for each API session that the member uses to connect into the exchange. Since there is no universally accepted method, CAT uses a combination of several different attributes that provide flexibility in ensuring globally unique order IDs across all known supported protocols.

Both the routing firm — once industry member reporting has commenced — and the exchange will submit information to CAT in their Order Route and Order Accepted reports. Note that exchange and industry member Routed Order ID, Routing Party, and Session ID must exactly match between in order for CAT to accomplish the linkage process.

The Routed Order ID is the unique order identifier sent in the API message going from the routing entity to the destination entity.

The Routing Party is a text string that the exchange has assigned to the firm routing the order. Complexity arises when a member is assigned multiple values by the exchange. The determination as to which value is used by both parties depends on protocol-specific information. The text string can be a Member Alias, but there is no restriction that it must be a Member Alias. It can be any string, so long as both the sender of the order and the exchange agree on using the same string for their orders.

The Session ID is also exchange-assigned, usually a unique login account, an actual protocol session name, IP/port combination, or some other means of identifying a particular API session. The Session ID identifies the specific session used to route the order. Even in cases where there is only one session in use between reporters, the same non-empty value must be reported in the session field by both parties.

CAT, in cooperation with each exchange, shall determine how the Routing Party, Routed Order ID, and Session ID are derived for each API supported by the exchange. This guidance will be documented and published on the CAT website.
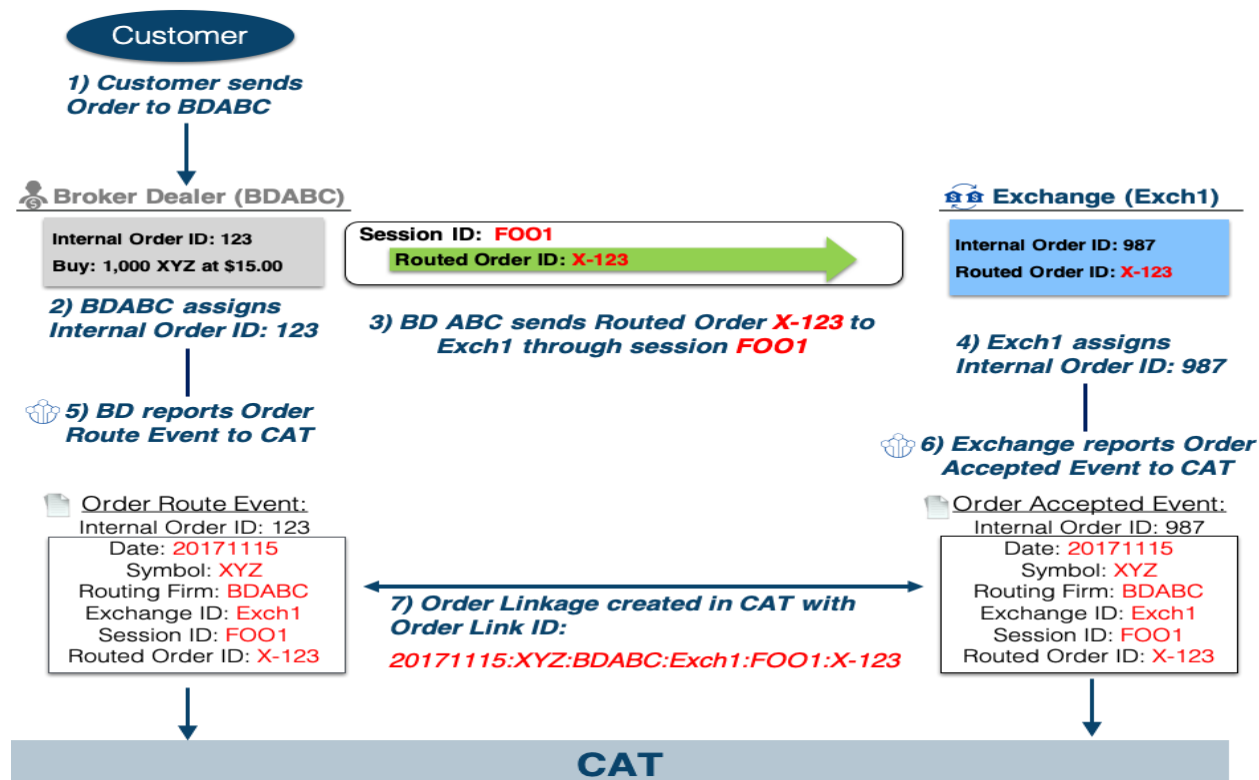
Figure 2: Order Linkage and Lifecycle

3.5.   Material Terms of an Order

The material terms of an order include but are not limited to price, quantity, side, order type, open/close indicator (for options), time in force, and special handling instructions. Each order event includes fields for each of these.

However, each exchange offers significant distinguishing features and instructions to describe how orders are to be handled. These differences are mainly captured in the possible values for the order type and any special handling instructions. The CAT system is generally agnostic to these values, and their primary utility is in how they are interpreted and used in surveillance activities.

In order to provide utility in using the reported data for surveillance purposes, both the reporters and the users must have well known definitions of the data being reported. In addition, without specific definitions, the submitted data cannot be checked for integrity in those fields that comprise the material terms of an order. Thus, every possible value for each field must be explicitly defined both in this specification and the separate specification document for industry members[7]. Every value that could possibly be reported must

---

[7] Industry Members must also report the material terms of the order on their route reports

be well-defined in the technical specifications. CAT maintains the technical specifications for both the participants and industry members to reflect changes to order types and/or handling instructions over time. Each exchange must provide guidance to CAT on how these values are determined for each of their system interfaces, with lead time sufficient to allow CAT to update the specifications for both participants and industry members.

3.5.1. Order Types

The Order Type for each order must be assigned with exactly one value from a predefined set of choices. These choices are documented in the data dictionary entry for Order Type (see Appendix F). CAT, in cooperation with each exchange, has defined a list of acceptable values for this field, however additional order types may be added to accommodate future market needs.

The CAT website contains guidance on how these choices can be determined for each exchange API.

3.5.2. Order Handling Instructions

The Handling Instructions field defines special instructions as to how the order should be handled by the exchange. Neither SEC Rule 613, nor the CAT NMS Plan dictate the special handling instructions that must be supported. Furthermore, each exchange may use different names and values to describe how orders are handled, and there can be numerous customized special handling instructions. While the CAT processor must be able to support any instructions which are required to be reported, mandating specific instructions is beyond the scope of the CAT processor as that information is only known by the exchanges and the appropriate surveillance and regulatory entities. Thus, the allowed values for this field support a wide array of special handling instructions. Order Handling Instructions' values must be documented in the data dictionary of this technical specification, and guidance must be provided to CAT by reporters for how these values can be determined based on each exchange API. Guidance will be subsequently posted on the CAT website.

The Handling Instructions field can specify as many special handling instructions as apply for that order (or be empty if no such instructions apply). Thus, the handling instructions field will be a list of name/value pair.

Note that the full intent of the order is reportable to CAT. At a minimum, every term and/or instruction for an order that is communicated to the exchange must be reported to CAT. It can be reported as part of the standard set of material terms, or via one of the defined name/value pairs as defined in the Handling Instructions section of the Data Dictionary. Reporters cannot choose which order instructions to report: they must report every instruction applicable to each order.

Note that the Order Handling Instructions field is marked as 'conditionally required' in the event definitions, because its existence is not enforced by the system. If the order does not have any characteristics that are reportable to CAT, then the field does not have to be provided. However, if there are any explicit or implied handling instructions for the order, then this effectively becomes a required field, as all instructions must be reported.

For example, assume two hypothetical handling instructions: AON and WDS=<percent>; where AON means all-or-none and WDS means a discretion price is allowed to be less than or equal to some percentage of the spread. If an order were to be placed as all-or-none, with a discretion of up to 50 percent of the spread, then the Order Handling Instructions field would contain "`AON|WDS=50`" as its value.

This approach provides flexibility for exchanges, enabling them to represent a wide array of handling instructions, while also enabling CAT to validate submitted data and providing regulators a defined structure for interpretation of the data.

3.6. Optional, Required, and Conditional Fields

Subsequent sections describe event types and their fields. Each field will be notated with the abbreviation R, O, C, or r to represent whether it is required, optional, conditional, or required conditionally. This codification will be present in the last column of each table describing an event.

Table 10: Optional, Required and Conditional Fields

Type	Abbreviation	Description
Optional	O	Optional for the event, may be included at the discretion of the reporter
Conditional	C	Conditional fields may be required depending on the contents of the event. For example: in the note event, quoteID and orderID are conditional fields. If the note event is on a quote, then quoteID is required, if the note event is on an order, then orderID is required
Required	R	Required for the event, must always be included. For example, the field "type" is always required.
Required Conditionally	r	This is a special category of fields that currently applies to options only. Specifically, fields marked as 'r' are required if the event applies to a simple option order, but they are conditional if the event applies to an option order that is part of a complex order

3.7. Common Events

3.7.1. Note Event

The Note Event is a generic event that accommodates reporting for events that are not defined with explicit events. For example, there could be certain events that occur in the process of handling an order on the floor of an exchange that may be desired to be included in the trail of events for a particular order, but don't fit into an explicitly defined reportable event. In another example, there could be a certain process that the order goes through as part of its handling that does not constitute a change in terms of the order, but may be beneficial as part of the order's audit trail.

The Note event requires either an Order ID or a Quote ID (but not both), so that the notation can be appropriately linked by CAT to the associated order/quote. If the note relates to a stock order, then both orderID and symbol are required. If the note relates to an option order/quote then both optionID and orderID/quoteID are required.

Table 11: Note Event

		Note (NOTE)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	NOTE	R
2	reporter	Reporter ID	The identifier for the reporter that generated the note	R
3	eventTimestamp	Timestamp	The date/time of the event being noted	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The symbol of order; for a stock order	C
7	optionID	Text (40)	The ID of the option; for an option order/quote	C
8	quoteID	Text (40)	The ID of the quote on which the note is being placed, only applicable if the note is related to a quote	C
9	orderID	Text (40)	The ID of the order on which the note is being placed, only applicable if the note is related to an order	C

Note (NOTE)				
#	Field Name	Data Type	Description	Include Key
10	noteType	Choice	One of several predefined types of notation events, providing a way to classify or categorize notations. See Data Dictionary: `noteType`	R
11	definedNoteData	Name Value Pairs	A list of key/value pairs, providing machine parseable data for the notation. See Data Dictionary: `definedNoteData`	O
12	undefinedNoteData	Name Value Pairs	A list of key/value pairs, providing machine parseable data for the notation. The attributes are not defined in the spec, and can be any values as long as they conform to the format for a list of name/value pairs as defined under the Fundamental Data Types section of this document.	O
13	note	Text (255)	A free-form text field to describe the notation for the event	O
14	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

The Note Type and Defined Note Data fields are well-defined and must conform to the permitted values as described in this specification. The Undefined Note Data can accommodate any attributes, as long as the field conforms to the format for a list of name/value pairs.

Thus, Note Events, while generic in nature, can be parsed and evaluated by both humans and computer programs.

Linkage Keys for **NOTE**:

- **Order Key:** date, reporter, symbol, orderID
- **Order Key:** date, reporter, optionID, orderID
- **Quote Key:** date, reporter, optionID, quoteID

3.7.2. Self-Help Declarations

"Self-help" declarations allow market participants to disregard the protected quotations of trading centers that are experiencing systems problems such as failure, material delay, or malfunction.

Participants must report to CAT any self-help declarations they make. If a self-help declaration is carried over to the next day, it must be reported again on that day. The following data is required to be reported for Self-Help declarations:

Table 12: Self-Help Declaration

Self-Help Declaration (SHD)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	SHD	R
2	reporter	Reporter ID	Identifier of reporter declaring self-help	R
3	declaredTimestamp	Timestamp	Date and time self-help was declared	C
4	revokedTimestamp	Timestamp	Date and time self-help was revoked. Self-help declarations must be reported each day. If self-help is not revoked by the end of the day, this field may be left unreported or can be set to the closing time. However, another self-help event must be reported for the next day	C
5	awayExchange	Exchange ID	Exchange affected by self-help event	R
6	comments	Text (255)	Comments related to self-help event	O
7	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date	C

Self-Help Declaration (SHD)				
#	Field Name	Data Type	Description	Include Key
			including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	

Both the declared and revoked timestamps can be reported in one single event by including both declaredTimestamp and revokedTimestamp. Alternatively, the declaration and revocation can be reported independently by just including the relevant timestamp in separate events.

3.7.3. Supplemental Trade Event

Each trade event (stock and option) contains some information which may not be readily available when generating the trade event. Thus, an independent event can be submitted to augment the information in the trade event. These events can be submitted in the same file as other events or in a separate file.

These events will not be recorded as separate events in CAT. Rather, the information in these events will be merged with the appropriate trade event to provide data that may have been missing in the original trade event. Currently, only the saleCondition can be reported in this way.

This event is used for stock and option trades. If the trade references a stock, then the symbol field must be provided. If the trade references an option, then the optionID field must be provided.

The description uses "trade" in a general manner. If the event references a trade, the tradeID field is required. If the event references a fill, the fillID and side are required.

Table 13: Supplemental Trade Event

Supplemental Trade Event (STE)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	STE	R

			Supplemental Trade Event (STE)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
2	exchange	Exchange ID	The ID of the exchange where the trade took place	R
3	tradeID	Text (40)	The tradeID from the original trade event	C
4	fillID	Text (40)	The fillID from the original fill event	C
5	optionID	Text (40)	The ID of the option being traded	C
6	symbol	Symbol	The symbol for the stock being traded	C
7	side	Choice	Side of the executed trade (required when fillID is used) See Data Dictionary: `side`	C
8	saleCondition	Text (8)	Conditions under which trade was executed	R
9	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **STE**:

- **Trade Key:** date, exchange, symbol, tradeID
- **Trade Key:** date, exchange, optionID, tradeID
- **Fill Key:** date, exchange, symbol, fillID
- **Fill Key:** date, exchange, optionID, fillID

3.7.4. Reject Message Event

This event may be submitted in the Test Environment beginning on November 14, 2022 and in the Production Environment beginning on December 5, 2022.

The Reject Message Event is reported when an exchange rejects a message, for example, when an exchange received a message that could not be accepted by the receiving system. This event is not intended for malformed messages. It is intended for well-formed messages that fail validation and are assigned a reject reason by the receiver.

A single event structure is defined for both equities and options, and it applies to both order-related and quote-related messages.

Table 14: Reject Message Event

	Reject Message Event (RME)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	**type**	**Message Type**	**RME**	**R**
2	exchange	Exchange ID	The ID for the exchange which received the rejected message.	R
3	symbol	Symbol	Symbol for the stock being traded. Required for equity messages, including equity orders; stock legs of multi-leg orders; and stock legs for cross orders. Must match the symbol on the Industry Member's route event. Required for all stock-related events unless the submitted value was missing or unreadable. For simple option messages with a single underlying equity, the stock symbol should be provided unless the submitted value was missing or unreadable.	C
4	optionID	Text (40)	The ID of the option being traded. Required for all rejections related to a simple option unless the submitted value was missing or unreadable. Required for all rejections related to a complex option unless the submitted value was not yet defined for the strategy, missing or unreadable.	C
5	eventTimestamp	Timestamp	The date/time of reject event.	R

			Reject Message Event (RME)		
#	**Field Name**	**Data Type**	**Description**		**Include Key**
6	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps.		C
7	seqNumSub	Text (10)	A sequence number subsystem identifier assigned to the system that rejected the message. Required if the process or processes rejecting messages are different from the process assigning eventTimestamp values and sequenceNumber values to other events.		C
8	exchangeInternalID	Text (40)	The internal ID assigned to the order or quote by the exchange. Required if the message is related to an existing order (such as a quantity reduction), and the nature of the rejection allows the exchange to match the rejected message to the existing order.		C
9	routingParty	Text (20)	The ID string used to identify the entity that routed the rejected message to the exchange. Must match the senderIMID on the Industry Member's route event. Required unless the submitted value was missing or unreadable.		C
10	routedOrderID	Text (40)	The order ID that the firm used in the API message when they sent the rejected message to the exchange (e.g., in FIX it would be ClOrdId, in OUCH it would be Order Token). Must match the routedOrderID value from the Industry Member's route event. Required unless the submitted value was missing or unreadable.		C
11	session	Text (40)	The ID assigned to the specific session that the routing member used to route the rejected message to the exchange. Must match the session value from the Industry Member's route event. Required unless the submitted value was missing or unreadable.		C
12	routedOriginalOrderID	Text (40)	The ID for the order being modified, as sent by the routing broker in the original route message, or the most recent modify message (in FIX OrigClOrdID, in OUCH Existing Order Token). Required if the message can be connected to an order that exists within the system.		C

			Reject Message Event (RME)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
13	rejectReason	Choice	Code representing the reason why the order was rejected. Codes are exchange-specific. See Data Dictionary for the list of allowed values.	R
14	rejectContext	Name/Value Pairs	A list of key/value pairs, providing machine parseable data for the notation. The attributes are not defined in the spec, and can be any values as long as they conform to the format for a list of name/value pairs. Any additional information can be provided in this field. For example, the entire rejected message in Tag=Value format.	O
15	member	Member Alias	The identifier for the member firm that is responsible for the order.	C
16	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

The Processor will attempt linkage for all Reject Message events. If all Lifecycles Keys are present (as defined below), a link will be made. If all Lifecycle Keys are not present, no link will be made. Reject Messages events that fail to link will not generate feedback; nor will they be included on report card statistics.

Lifecycle Keys for this event:

- Equities

- o **Order Key:** date, exchange, symbol, exchangeInternalID
- o **Quote Key:** date, exchange, symbol, exchangeInternalID
- o **Route Link Key:** date, symbol, routingParty, routedOrderID, session, exchange
- Simple Options Orders and Quotes:
  - o **Order Key:** date, exchange, optionID, exchangeInternalID
  - o **Quote Key:** date, exchange, optionID, exchangeInternalID
  - o **Route Link Key:** date, optionID, routingParty, routedOrderID, session, exchange
- Complex Options Orders:
  - o **Complex Order Key:** date, exchange, [OptionID,] exchangeInternalID
  - o **Route Link Key:** date, routingParty, routedOrderID, session, exchange

The Linkage Keys above have been grayed out as the Reject Message Event will not be linked to accepted data in the initial phase of rejection reporting. Linkage may be performed at a later time, pending the results of a data study and submission and approval of a corresponding Change Request.

4. Events for Stock Exchanges

Within this Technical Specification, events for stock exchanges, options exchanges, and the trade reporting facilities are documented in separate sections. This section describes reportable events for stock exchanges.

Table 15: Events for Stock Exchanges

Sec	Event	Message Type	Description
4.1	Order Accepted	EOA	An Exchange receives and accepts a routed order
4.2	Order Route	EOR	An Exchange routes an order through a routing broker dealer
4.3	Internal Order Route	EIR	An exchange routes an order to another internal subsystem
4.4	Order Modified	EOM	The material terms of an order have been changed
4.5	Order Adjusted	EOJ	A select set of material terms of an order have been changed
4.6	Order Canceled	EOC	An Exchange cancels an order in part or in whole
4.7	Order Trade	EOT	All trades are reported to CAT as two-sided transactions with a single event
4.8	Order Fill	EOF	When a routed order executes, the Exchange reports the fill with the order and the routing firm
4.9	Order Cancel Route	ECR	An exchange initiates a cancel request on an order that it previously routed away.
4.10	Order Modify Route	EMR	An exchange initiates a modify or cancel/replace request on an order it previously routed away
4.11	Order Restatement	EORS	An order that persists across multiple business days is restated each day before any other activity is reported for that symbol
4.12	Trade Break	ETB	A trade is broken
4.13	Trade Correction	ETC	A trade is corrected

4.1. Order Accepted Event

When an exchange receives and accepts a routed order, an Order Accepted event is reported to CAT. If the order is rejected (i.e., not received and successfully processed by the matching engine), then an event is not reported to CAT.

Some systems will outright reject messages if they are malformed or contain a duplicate order ID. Other systems will silently ignore certain malformed messages (e.g., the OUCH protocol specifically states that new orders containing duplicate order tokens are silently ignored). However, all current systems will send some sort of positive acknowledgement when an order has been finally accepted into the system. Some systems will send an acknowledgement from the gateway upon receipt of the request, but the order could still possibly be rejected instead of accepted by the matching engine. Such protocols have a prescribed way of notifying the sender whether or not their order was actually accepted.

The basic rule is that orders rejected by the gateway are not reportable, but any order reaching the matching engine is reportable.

Note that for the order accepted event, the firm that sends the order to the exchange will be referred to as the routing firm. In the next event, order route event (section 4.2), the routing broker dealer will also be referred to as the routing firm.

The Order ID that is used in orders must be globally unique when combined with the date, exchange, symbol and general side, where the general side is either Buy or Sell.

Table 16: Order Accepted

Equity Order Accepted (EOA)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	EOA	R
2	exchange	Exchange ID	The ID for the exchange which has accepted this order	R
3	eventTimestamp	Timestamp	The date/time of order receipt	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C

	Equity Order Accepted (EOA)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	routingParty	Text (8)	The ID string used to identify the entity that routed this order to the exchange	R
9	routedOrderID	Text (40)	The order ID that the firm used in the API message when they sent the order to the exchange (e.g., in FIX it would be ClOrdId, in OUCH it would be Order Token)	R
10	session	Text (40)	The ID assigned to the specific session that the routing member used to route the order to the exchange	R
11	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values	R
12	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
13	quantity	Unsigned	The order quantity	R
14	displayQty	Unsigned	The displayed quantity for this order	R
15	displayPrice	Price	The displayed price for this order. This must be provided when displayQty is greater than zero.	C
16	workingPrice	Price	The working price of the order at the time it was accepted. Note that Modified events must be reported to CAT anytime the working price changes.	C
17	orderType	Choice	The type of order being submitted (e.g., market, limit). See the corresponding entry in the Data Dictionary for more details about order types	R
18	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
19	capacity	Choice	See entry for "capacity" in the Data Dictionary for acceptable values	R
20	handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in Data Dictionary for Handling Instructions	C
21	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order, that are not necessarily handling instructions	C

			Equity Order Accepted (EOA)		
#	Field Name	Data Type	Description		Include Key
22	member	Member Alias	The identifier for the member firm that is responsible for the order		R
23	nbbPrice	Price	The NBBO at the moment the order was accepted. Prices are required. Quantities are optional		R
24	nbbQty	Unsigned			O
25	nboPrice	Price			R
26	nboQty	Unsigned			O

Linkage Keys for **EOA**:

- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, symbol, routingParty, routedOrderID, session, exchange
- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if populated in order attributes name value pair)

4.2. Order Route Event

The following Order Route event is used to report when an exchange routes an order through a routing broker dealer.

When an order is routed, some exchanges create a derived order (with a different order ID), to represent the order being routed away. Others just route the order (or part of the order) straight to the routing broker without changing the Order ID. In either case, CAT must be able to link the internal order on the exchange with the internal order at the routing BD. Thus, both the report from the exchange and the report from the routing BD must have the same identifiers for the routed order. This is very similar to the process described earlier related to the Accepted event.

Note that for an order route event, the routing broker is referred to as the routing firm.

The Order Route event reported by the exchange needs three key pieces of information: the Routing Firm receiving the routed order, the Session ID through which the order is being routed, and the Routed Order ID, which is the order ID sent to the routing firm.

The Routing Firm must be represented by an entry in the exchange's member dictionary (though not necessarily a member of the exchange). Furthermore, as explained in the linkage section, both the exchange and the Routing Firm must know which Member Alias is to be reported to CAT because both will have to report the same Member Alias (the exchange in their Route event, and the firm in their

Accepted event). Either both sides must use a constant value, or there must be some way to derive the value being used (via session configurations or in the message itself).

If the exchange creates a derived order, and passes that order ID to the firm via its API, then the Routed Order ID will be the order ID of the derived order. If, however, there is no derived order and the exchange passes its own internal order ID to the routing broker, then the internal order ID will also be assigned as the Routed Order ID. In this case, both the order ID and the routed order ID are populated with the same value.

Table 17: Order Route

			Equity Order Route (EOR)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	EOR	R
2	exchange	Exchange ID	The ID for the exchange which is routing this order	R
3	eventTimestamp	Timestamp	The date/time at which the order was routed	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	routingParty	Text (8)	The ID string used to identify the entity receiving this routed order. This value must match the value reported by the routing broker in their Order Accepted report	R
9	routedOrderID	Text (40)	The ID assigned to this order by the exchange when submitting the order to the routing firm. This value must match the value reported by the routing broker in their Order Accepted report	R
10	session	Text (40)	The ID assigned to the specific session used when sending the order from the exchange to the routing firm.	R
11	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values	R

			Equity Order Route (EOR)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
12	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
13	quantity	Unsigned	The order quantity	R
14	displayQty	Unsigned	The displayed quantity for this order	R
15	orderType	Choice	The type of order being submitted (e.g., market, limit). See the corresponding entry in the Data Dictionary for more details about order types	R
16	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
17	capacity	Choice	See entry for "capacity" in the Data Dictionary for acceptable values	R
18	handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in Data Dictionary for Handling Instructions	C
19	result	Choice	The result of the route request (e.g. acknowledged, rejected, or no response). See the Data Dictionary for the list of allowed values	O
20	resultTimestamp	Timestamp	The date/time the result of the request was received, required if the result is ACK (acknowledged) or REJ (rejected)	O
21	member	Member Alias	The identifier for the member firm that is responsible for the order	R
22	nbbPrice	Price	The NBBO at the moment the order was routed. Prices are required. Quantities are optional	R
23	nbbQty	Unsigned		O
24	nboPrice	Price		R
25	nboQty	Unsigned		O

Linkage Keys for **EOR**:

- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, symbol, exchange, routedOrderID, routingParty

4.3. Internal Order Route Event

In some cases, an exchange may have multiple internal subsystems involved in handling orders. In such cases, and order may be accepted by one internal system, and then routed to one or more internal

systems for processing. Routes within an exchange are not required to be reported to CAT. However, there are cases where it is difficult for an exchange to report the entire status of an order to CAT when its internal processing is handled on multiple systems. Specifically, ensuring that the events contain the same order identifiers would require substantial post processing.

Thus, an internal route event may be reported to CAT, indicating that an order is being passed from one internal system to another. This will allow CAT to link events that are related to the same order within an exchange, even if the exchange has changed the identifiers on the order as it moves between internal systems.

Table 18: Internal Order Route

Equity Internal Order Route (EIR)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	EIR	R
2	exchange	Exchange ID	The ID for the exchange which is routing this order.	R
3	eventTimestamp	Timestamp	The date/time at which the order was routed.	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps.	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	routingParty	Text (8)	The ID string used to identify the internal subsystem that is receiving this routed order. This value must match the value reported by the receiving subsystem in the `routingParty` field of their Order Accepted report	R
9	routedOrderID	Text (40)	The ID assigned to this order by the exchange when submitting the order to the subsystem. This value must match the value reported by the receiving subsystem in the `routedOrderID` field of their Order Accepted report	R
10	session	Text (40)	The ID assigned to the specific session used when sending the order from the sending subsystem to the receiving subsystem. This value must match the value reported by the receiving subsystem in the `session` field of their Order Accepted report	R

	Equity Internal Order Route (EIR)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
11	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values	R
12	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
13	quantity	Unsigned	The order quantity	R
14	displayQty	Unsigned	The displayed quantity for this order	R
15	orderType	Choice	The type of order being submitted (e.g., market, limit). See the corresponding entry in the Data Dictionary for more details about order types	R
16	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
17	capacity	Choice	See entry for "capacity" in the Data Dictionary for acceptable values	R
18	handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in Data Dictionary for Handling Instructions	C
19	result	Choice	The result of the route request (e.g. acknowledged, rejected, or no response). See the Data Dictionary for the list of allowed values	O
20	resultTimestamp	Timestamp	The date/time the result of the request was received, required if the result is ACK (acknowledged) or REJ (rejected)	O
21	member	Member Alias	The identifier for the member firm that is responsible for the order	R

Linkage Keys for **EIR**:

- **Order Key:** date, exchange, symbol, orderID

- **Route Link Key:** date, symbol, exchange, routedOrderID, session, routingParty

4.4. Order Modified Event

An event must be sent to CAT to report any customer modification to the order. Additionally, an event must be sent to CAT to report any changes to the order due to an exchange action, including updates related to changes in market conditions.

Events that should be reported include, but are not limited to:

- Any customer update that passes validation and is successfully processed by the trading system
- Changes to the available quantity of the order, such as liquidity returning from an away market unexecuted
- Changes to the working price, display price, or display quantity
- Changes to the executability of an order, such as when a regular-hours order arrived prior to the opening time and it is now the opening time or when an order expires and no explicit cancellation is provided

This event supports all possible modifications to an equity order. The full state of the order should be reported, including fields that did not change as a result of the modification.

Table 19: Order Modified

		Equity Order Modified (EOM)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	EOM	R
2	exchange	Exchange ID	The identifier for the exchange which has modified this order	R
3	eventTimestamp	Timestamp	The date/time at which the modification was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	originalOrderID	Text (40)	The internal order ID before the modify / replacement created a new order ID. If the order kept its ID through the modification, then this value need not be included	C
9	initiator	Choice	Indicates who initiated the order modification: See entry for "initiator" in the Data Dictionary for acceptable values	R
10	nbbPrice	Price	The NBBO at the moment the order was modified. Prices are required. Quantities are optional	R
11	nbbQty	Unsigned		O

#	Field Name	Data Type	Description	Include Key
			Equity Order Modified (EOM)	
12	nboPrice	Price		R
13	nboQty	Unsigned		O
14	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order. Note that this is only for reporting limit price modifications. Automated changes to prices (e.g., PEG orders) would be tracked by reporting a difference in the working price. See the PEG example in section 7.5 for exact details	C
15	quantity	Unsigned	When the initiator field is set to Firm or Market Maker, the order quantity. When the initiator field is set to Exchange, the total quantity available on the local book at the conclusion of the modification.	R
16	displayQty	Unsigned	The displayed quantity for this order	R
17	displayPrice	Price	The displayed price for this order. This must be provided when displayQty is greater than zero.	C
18	workingPrice	Price	The working price of the order	C
19	leavesQty	Unsigned	The quantity left open after the modification has occurred.	R
20	orderType	Choice	The type of order being submitted (e.g., market, limit). See the corresponding entry in the Data Dictionary for more details about order types.	R
21	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
22	capacity	Choice	See entry for Capacity in the Data Dictionary for acceptable values	R
23	handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in Data Dictionary for Handling Instructions.	C
24	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order, that are not necessarily handling instructions.	C
25	member	Member Alias	The identifier for the member firm that is responsible for the order	R

			Equity Order Modified (EOM)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
26	routedOrderID	Text (40)	For customer-driven changes to the order, the ID assigned to this order by the routing firm when submitting the modification to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away. Except as noted above, not required for exchange-driven modifications. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
27	routingParty	Text(8)	For customer-driven changes to the order, the ID string used to identify the entity that routed this order modification to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID string used to route the order away. Should match the value of the EOR event routingParty with the same routedOrderID. Except as noted above, not required for exchange-driven modifications. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
28	session	Text(40)	For customer-driven changes to the order, the ID assigned to the specific session that the routing member used to route the order to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away. Should match the value of the EOR event session with the same routedOrderID. Except as noted above, not required for exchange-driven modifications. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
29	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values. Should be provided for firm or market maker updates to an order. Should be reported even if it has not changed from the prior version of the order. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C

Linkage Keys for **EOM**:

- **Order Key:** date, exchange, symbol, orderID

- **Previous Order Key:** date, exchange, symbol, originalOrderID
- **Route Link Key:** date, symbol, exchange, routedOrderID, routingParty, session
- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair)

4.5. Order Adjusted Event

An event must be sent to CAT to report any customer modification to the order. Additionally, an event must be sent to CAT to report any changes to the order due to an exchange action, including updates related to changes in market conditions.

Unlike the EOM, which supports changes to any reportable attribute, the EOJ event supports only changes to the side, price, quantity, working price, display price, and display quantity. Side adjustments are only allowed for same-side changes (e.g., changes between short and long sell).

All other order instructions are assumed to be unchanged.

Table 20: Order Adjusted

#	Field Name	Data Type	Description	Include Key
Equity Order Adjusted (EOJ)
1	type	Message Type	EOJ	R
2	exchange	Exchange ID	The identifier for the exchange which has modified this order	R
3	eventTimestamp	Timestamp	The date/time at which the modification was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	originalOrderID	Text (40)	The internal order ID before the modify / replacement created a new order ID. If the order kept its ID through the modification, then this value need not be included	C

#	Field Name	Data Type	Description	Include Key
			Equity Order Adjusted (EOJ)	
9	initiator	Choice	Indicates who initiated the order modification: See entry for "initiator" in the Data Dictionary for acceptable values	R
10	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values. Should be provided for firm or market maker updates to an order. Should be provided for all firm updates to the order even if it hasn't changed from the previous version of the order. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
11	price	Price	The limit price of the order, if it changed. This must be provided when orderType indicates a limit order.	C
12	displayPrice	Price	The displayed price for this order. This must be provided when displayQty is greater than zero.	C
13	workingPrice	Price	The working price of the order	C
14	quantity	Unsigned	When the initiator field is set to Firm or Market Maker, the order quantity. When the initiator field is set to Exchange, the total quantity available on the local book at the conclusion of the modification. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
15	displayQty	Unsigned	The displayed quantity for this order. This must be provided when displayPrice is provided.	C
16	leavesQty	Unsigned	The quantity left open after the modification has occurred.	C
17	member	Member Alias	The identifier for the member firm that is responsible for the order	R
18	nbbPrice	Price	The NBBO at the moment the order was modified. Prices are required. Quantities are optional.	R
19	nbbQty	Unsigned		O
20	nboPrice	Price		R
21	nboQty	Unsigned		O

	Equity Order Adjusted (EOJ)			
#	Field Name	Data Type	Description	Include Key
22	routedOrderID	Text (40)	For customer-driven changes to the order, the ID assigned to this order by the routing firm when submitting the modification to the exchange For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away Except as noted above, not required for exchange-driven modifications This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
23	routingParty	Text(8)	For customer-driven changes to the order, the ID string used to identify the entity that routed this order modification to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID string used to route the order away. Should match the value of the EOR event routingParty with the same routedOrderID. Except as noted above, not required for exchange-driven modifications. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
24	session	Text(40)	For customer-driven changes to the order, the ID assigned to the specific session that the routing member used to route the order to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away. Should match the value of the EOR event session with the same routedOrderID. Except as noted above, not required for exchange-driven modifications. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C

Linkage Keys for **EOJ**:

- **Order Key:** date, exchange, symbol, orderID
- **Previous Order Key:** date, exchange, symbol, originalOrderID
- **Route Link Key:** date, symbol, exchange, routedOrderID, routingParty, session
- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair)

4.6.   Order Canceled Event

When an exchange cancels an order, in part or in whole, the event must be reported to CAT. Note that an explicit Canceled Event is required for every order that is canceled, even orders that have implicit "execute or cancel" instructions like IOC orders.

A Canceled event should be used anytime any part of an order is canceled. For example, an order can be partially reduced either with a cancel message or a modify (cancel/replace) message. If an actual cancel is processed by the exchange, a Canceled event would be reported. If a modify and/or cancel/replace was sent to the exchange, a Modified event would be reported. This keeps the reported event in line with the original intent.

Some protocols only allow full cancels; partial cancels must be accomplished via a cancel/replace. In such cases, partial cancels would always be reported as Modified events.

Table 21: Order Canceled

Equity Order Canceled (EOC)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	EOC	R
2	exchange	Exchange ID	The ID for the exchange which has canceled this order.	R
3	eventTimestamp	Timestamp	The date/time at which the cancellation was received or originated.	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier.	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	cancelQty	Unsigned	The quantity being canceled.	R
9	leavesQty	Unsigned	The quantity left open after the cancel event (zero for a full cancel)	R
10	initiator	Choice	Indicates who initiated the order cancellation: See entry for "initiator" in the Data Dictionary for acceptable values	R

Equity Order Canceled (EOC)				
#	Field Name	Data Type	Description	Include Key
11	cancelReason	Choice	Code representing the reason why the order was canceled. The actual value of the code is exchange specific. See Data Dictionary for the list of allowed values	O
12	member	Member Alias	The identifier for the member firm that is responsible for the order	R

Linkage Keys for **EOC**:

- **Order Key:** date, exchange, symbol, orderID

4.7. Order Trade Event

All trade events are reported to CAT as two-sided transactions, with a single event.

Each order trade event is represented with the following details. The details in the table Order Trade Side Details must be populated for each side of the trade.

Table 22: Order Trade Events

Equity Order Trade (EOT)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	EOT	R
2	exchange	Exchange ID	The ID for the exchange on which the trade took place	R
3	eventTimestamp	Timestamp	The date/time of execution	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	tradeID	Text (40)	This ID will be used when a specific trade needs to be identified, for example in trade break and correction reports. The combination of date, exchange, symbol, and tradeID must be globally unique	R
8	quantity	Unsigned	Quantity of the trade	R

Equity Order Trade (EOT)				
#	Field Name	Data Type	Description	Include Key
9	price	Price	Price of the trade	R
10	saleCondition	Text (8)	Conditions under which trade was executed	C
11	executionCodes	Name/Value Pairs	Describes any execution codes, acceptable values are described in Data Dictionary. These codes apply to both sides of the trade	C
12	buyDetails	Order Trade Side Details	See Order Trade Side Details table	R
13	sellDetails	Order Trade Side Details	See Order Trade Side Details table	R
14	nbbPrice	Price	The national best bid price at the moment the trade occurred	R
15	nbbQty	Unsigned	The national best bid quantity at the moment the trade occurred	O
16	nboPrice	Price	The national best offer price at the moment the trade occurred	R
17	nboQty	Unsigned	The national best offer quantity at the moment the trade occurred	O

Table 23: Order Trade Side Details

Equity Order Trade: Side Details				
#	Field Name	Data Type	Description	Include Key
12.n.1 / 13.n.1	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values. Not required if there is not order for the side as indicated by the NOBUYID/NOSELLID instruction. This must be provided if orderID is provided.	C
12.n.2 / 13.n.2	leavesQty	Unsigned	The quantity remaining unfilled after this trade event. Not required if there is no order for the side as indicated by the NOBUYID/NOSELLID instruction. Not required when used in a trade correction	C

Equity Order Trade: Side Details				
#	Field Name	Data Type	Description	Include Key
12.*n*.3 / 13.*n*.3	orderID	Text (40)	The internal order ID for this side of the trade. This must be provided when, and only when, there is not a NOBUYID/NOSELLID instruction. This must be blank if the NOBUYID/NOSELLID instruction exists.	C
12.*n*.4 / 13.*n*.4	capacity	Choice	See entry for Capacity in the Data Dictionary for acceptable values. Not required if there is no order for the side as indicated by the NOBUYID/NOSELLID instruction. This must be provided if orderID is provided.	C
12.*n*.5/ 13.*n*.5	clearingNumber	Text (20)	DTCC clearing number for this side of the trade. Not required if there is no order for the side as indicated by the NOBUYID/NOSELLID instruction. This must be provided if orderID is provided.	C
12.*n*.6 / 13.*n*.6	executionCodes	Name/Value Pairs	Describes any execution codes, as described in Data Dictionary for Execution Codes. These codes would only apply only to this side of the trade	C
12.*n*.7 / 13.*n*.7	liquidityCode	Choice	Specifies if this side of the trade was adding or removing liquidity. See entry for liquidityCode in the Data Dictionary for permitted values. Not required if there is no order for the side as indicated by the NOBUYID/NOSELLID instruction.	C
12.*n*.8 / 13.*n*.8	member	Member Alias	The identifier for the member firm that is responsible for the order on this side of the trade. Not required if there is no order for the side as indicated by the NOBUYID/NOSELLID instruction. This must be provided if orderID is provided.	C
12.*n*.9 / 13.*n*.9	routedOrderID	Text (40)	For events representing an away trade, the exchange-assigned ID used to route the order away.	O

Linkage Keys for **EOT**:

- **Order Key:** date, exchange, symbol, buyDetails.orderID
- **Order Key:** date, exchange, symbol, sellDetails.orderID
- **Trade Key:** date, exchange, symbol, tradeID
- **Route Link Key:** date, symbol, exchange, buyDetails.routedOrderID
- **Route Link Key:** date, symbol, exchange, sellDetails.routedOrderID

4.8.   Order Fill Event

When a routed order executes, the routing firm acquires the position. The exchange will report the fill with the order on one side, and the routing firm on the other side.

Table 24: Order Fill Event

			Equity Order Fill (EOF)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	EOF	R
2	exchange	Exchange ID	The ID of the exchange reporting the fill to CAT	R
3	eventTimestamp	Timestamp	The date/time when the fill was processed by the exchange	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	fillID	Text (40)	A unique identifier for the transaction. The combination of reporter, date, symbol, side, and fillID should be unique	R
7	symbol	Symbol	The symbol of the stock being filled	R
8	quantity	Unsigned	Quantity of the fill	R
9	price	Price	Price of the fill	R
10	leavesQty	Unsigned	The quantity remaining unfilled after this fill event	R
11	saleCondition	Text (8)	Conditions under which trade was executed	C
12	orderID	Text (40)	The internal ID of the order	R
13	side	Choice	Side of the executed trade: for example Buy, Sell or Short. See the entry 'side' in data dictionary for the list of accepted values	R
14	clearingNumber	Text (20)	DTCC clearing number for this side of the trade	R
15	contraClearingNumber	Text (20)	DTCC clearing number for contra side of the trade	O
16	executionCodes	Name / Value Pairs	Optional. Can include zero or more execution codes, as described in Data Dictionary for Execution Codes. These codes would only apply only to this side of the trade	C

Equity Order Fill (EOF)				
#	Field Name	Data Type	Description	Include Key
17	routingParty	Text (8)	The ID string used to identify the entity that received this routed order. This value will be the same as in the Order Route event for the order being filled	R
18	routedOrderID	Text (40)	The same Order ID that was used when the order was routed away - and will be on the execution report from the routing BD	R
19	session	Text (40)	The Session ID of the session on which the order was routed to the BD, and will be the same session on which the execution came back from the BD	R
20	capacity	Choice	See entry for Capacity in the Data Dictionary for acceptable values	R
21	member	Member Alias	The identifier for the member firm that is responsible for the order being filled	R

Linkage Keys for **EOF**:

- **Order Key:** date, exchange, symbol, orderID
- **Fill Key:** date, exchange, symbol, fillID
- **Route Link Key:** date, symbol, exchange, routedOrderID, session, routingParty

4.9.   Order Cancel Route Event

When an exchange initiates a cancel request on an order it has previously routed away, it must report its intent to cancel, using a Cancel Route Event.

Table 25: Order Cancel Route

Equity Order Cancel Route (ECR)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	ECR	R
2	exchange	Exchange ID	The ID for the exchange canceling the routed order	R
3	eventTimestamp	Timestamp	The date/time when the cancel request was sent to the routing firm	R

	Equity Order Cancel Route (ECR)			
#	Field Name	Data Type	Description	Include Key
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	routingParty	Text (8)	The ID string used to identify the entity that received this routed order. This value will be the same as in the Order Route event for the order being canceled	R
9	routedOrderID	Text (40)	The routed ID for the order being canceled - must also match the routedOrderID in the original Order Route message for this order	R
10	session	Text (40)	The session ID on which the cancel request is being made - must also match the session in the original Order Route message for this order	R
11	desiredLeavesQty	Unsigned	The desired number of shares remaining in the order after the cancel request has been issued. A value of zero indicates a full cancel	R
12	result	Choice	The result of the cancel request (e.g. acknowledged, rejected, or no response). See the Data Dictionary for the list of allowed values	O
13	resultTimestamp	Timestamp	The date/time the result of cancel request was received, required if the result is ACK (acknowledged) or REJ (rejected)	O
14	member	Member Alias	The identifier for the member firm that is responsible for the order	R

Linkage Keys for **ECR**:

- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, symbol, exchange, routedOrderID, routingParty

4.10. Order Modify Route Event

When an exchange initiates a modify or cancel/replace request on an order it has previously routed away, it must report its intent to modify the order, using a Modify Route Event.

If the request does not change the routed order ID, then both routedOrderID and routedOriginalOrderID must be the same.

Table 26: Order Modify Route

#	Field Name	Data Type	Description	Include Key
	Equity Order Modify Route (EMR)			
1	type	Message Type	EMR	R
2	exchange	Exchange ID	The ID for the exchange modifying the routed order	R
3	eventTimestamp	Timestamp	The date/time when the exchange made the modify request	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	routingParty	Text (8)	The ID string used to identify the entity that received this routed order. This value will be the same as in the Order Route event for the order being modified	R
9	routedOrderID	Text (40)	The new routed ID for the order, which will be used to refer to the routed order after the modification (in FIX, ClOrdID - in OUCH, Replacement Order Token)	R
10	routedOriginalOrderID	Text (40)	The ID for the order being modified, as sent to the routing broker in the original route message, or the most recent modify message (in FIX OrigClOrdID, in OUCH Existing Order Token)	R
11	session	Text (40)	The ID assigned to the session used to send the modify request from the routing broker to the exchange - must also match the session in the original Order Route message for this order	R
12	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
13	quantity	Unsigned	The order quantity	R
14	displayQty	Unsigned	The displayed quantity for this order	R

			Equity Order Modify Route (EMR)		
#	Field Name	Data Type	Description	Include Key
15	orderType	Choice	The type of order being submitted (e.g., market, limit). See the corresponding entry in the Data Dictionary for more details about order types.	R
16	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values.	R
17	capacity	Choice	See entry for Capacity in the Data Dictionary for the full list of acceptable values	R
18	handlingInstructions	Name/Value Pairs	Can include zero or more handling instructions, as described in Data Dictionary for Handling Instructions	C
19	result	Choice	The result of the modify request (e.g. acknowledged, rejected, or no response). See the Data Dictionary for the list of allowed values	O
20	resultTimestamp	Timestamp	The date/time the result of modify request was received, required if the result is ACK (acknowledged) or REJ (rejected)	O
21	member	Member Alias	The identifier for the member firm that is responsible for the order	R
22	nbbPrice	Price	The national best bid price at the moment the trade occurred	R
23	nbbQty	Unsigned	The national best bid quantity at the moment the trade occurred	O
24	nboPrice	Price	The national best offer price at the moment the trade occurred	R
25	nboQty	Unsigned	The national best offer quantity at the moment the trade occurred	O

Linkage Keys for **EMR**:

- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, symbol, exchange, routedOrderID, routingParty
- **Previous Route Link Key:** date, symbol, exchange, routedOriginalOrderID, routingParty

4.11. Order Restatement Event

Orders that persist across business days (e.g., GTC orders) must be restated each day before any other activity is reported for that symbol. The restatement is an explicit confirmation that the order is still active

in the reporter's order book, and also provides an opportunity to use per-day unique order IDs for all orders.

The attributes of the order will be restated in terms of the order's current state, after any corporate actions have been processed (e.g., if a 2:1 split occurred, the quantity and price would reflect the resulting change).

Table 27: Order Restatement

			Equity Order Restatement (EORS)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	EORS	R
2	exchange	Exchange ID	The ID for the exchange which is restating this order	R
3	eventTimestamp	Timestamp	The date/time when the order was restated by the exchange	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	originalOrderDate	Date	The most recent trading day for which the order was active. Note that this may not be the date when the order was originally accepted. If the order has been active for multiple trading days, this field must reference the previous trading day when the order was active	R
9	originalOrderID	Text (40)	The most recent internal order ID that was assigned to the order before this restatement event. If the order ID has not changed, then orderID and originalOrderID must be equivalent. Note this requirement is different from modification events	R
10	side	Choice	The side of the order (e.g., Buy, Sell, Short, etc.). See entry for "side" in the Data Dictionary for acceptable values	R
11	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
12	quantity	Unsigned	The order quantity, as adjusted for a corporate action, if applicable	R

	Equity Order Restatement (EORS)			
#	Field Name	Data Type	Description	Include Key
13	displayQty	Unsigned	The displayed quantity for this order	R
14	displayPrice	Price	The displayed price for this order. This must be provided when displayQty is greater than zero.	C
15	workingPrice	Price	The working price of the order	C
16	leavesQty	Unsigned	The quantity of the order that remains open	R
17	orderType	Choice	The type of order being submitted (e.g., market, limit). See the corresponding entry in the Data Dictionary for more details about order types	R
18	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values.	R
19	capacity	Choice	See entry for Capacity in the Data Dictionary for acceptable values	R
20	handlingInstructions	Name/Value Pairs	Defines the handling instructions, as described in Data Dictionary for Handling Instructions	C
21	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions	C
22	member	Member Alias	The identifier for the member firm that is responsible for the order	R

Linkage Keys for **EORS**:

- **Order Key:** date, exchange, symbol, orderID
- **Previous Order Key:** originalOrderDate, exchange, symbol, originalOrderID

4.12. Trade Break Event

When a trade is broken, an event is reported to CAT with the appropriate information. Note that CAT adds the event to the history of the order. The broken trade is not removed from the history, as it is something that actually happened and should be recorded.

Table 28: Order Trade Break

<table>
<tr><th colspan="5">Equity Order Trade Break (ETB)</th></tr>
<tr><th>#</th><th>Field Name</th><th>Data Type</th><th>Description</th><th>Include Key</th></tr>
<tr><td>1</td><td>type</td><td>Message Type</td><td>ETB</td><td>R</td></tr>
<tr><td>2</td><td>exchange</td><td>Exchange ID</td><td>The ID for the exchange on which the trade took place</td><td>R</td></tr>
<tr><td>3</td><td>eventTimestamp</td><td>Timestamp</td><td>The date/time of the break event</td><td>R</td></tr>
<tr><td>4</td><td>sequenceNumber</td><td>Unsigned</td><td>The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps</td><td>C</td></tr>
<tr><td>5</td><td>seqNumSub</td><td>Text (10)</td><td>A sequence number subsystem identifier</td><td>C</td></tr>
<tr><td>6</td><td>symbol</td><td>Symbol</td><td>The stock symbol, as reported on the original trade that is being broken</td><td>R</td></tr>
<tr><td>7</td><td>tradeDate</td><td>Date</td><td>The date on which the trade being broken occurred</td><td>R</td></tr>
<tr><td>8</td><td>tradeID</td><td>Text (40)</td><td>The ID for the trade that is being broken. This must match a previously reported trade</td><td>R</td></tr>
<tr><td>9</td><td>quantity</td><td>Unsigned</td><td>If the full quantity is being broken, then this field can be omitted. Otherwise, this represents the quantity of the original trade that is being broken</td><td>O</td></tr>
<tr><td>10</td><td>reason</td><td>Text (255)</td><td>Free format text field, with the reason for the break</td><td>O</td></tr>
</table>

Linkage Keys for **ETB**:

- **Trade Key:** tradeDate, exchange, symbol, tradeID

4.13. Trade Correction Event

If a trade is corrected in any way, a correction event must be reported to CAT with all details of the trade, after having been corrected.

As with trade breaks, CAT will still keep the original trade, adding the correction to the audit trail of the trade being corrected.

Table 29: Order Trade Correction

			Equity Order Trade Correction (ETC)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	ETC	R
2	exchange	Exchange ID	The ID for the exchange on which the trade took place.	R
3	eventTimestamp	Timestamp	The date/time of correction	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	tradeID	Text (40)	This ID for the trade being corrected	R
8	refTradeID	Text (40)	The trade being referenced. Used to link corrections if trade corrections can assign new identifiers to trades. If included, refTradeID must reference a previously reported trade, or a previously reported trade correction that has a matching tradeID	C
9	quantity	Unsigned	Quantity of the trade.	R
10	price	Price	Price of the trade	R
11	saleCondition	Text (8)	Conditions under which trade was executed	C
12	executionCodes	Name/Value Pairs	Describes any execution codes, acceptable values are described in Data Dictionary. These codes apply to both sides of the trade	C
13	executionTimestamp	Timestamp	The date/time of the execution, applicable only when the execution time was corrected	O
14	buyDetails	Order Trade Side Details	See Order Trade Side Details table 26	O
15	sellDetails	Order Trade Side Details	See Order Trade Side Details table 26	O
16	reason	Text (255)	Free format text field, with the reason for the correction	O

Linkage Keys for **ETC**:

- **Order Key:** date, exchange, symbol, buyDetails.orderID
- **Order Key:** date, exchange, symbol, sellDetails.orderID

- **Route Link Key:** date, symbol, exchange, buyDetails.routedOrderID
- **Route Link Key:** date, symbol, exchange, sellDetails.routedOrderID
- **Trade Key:** date, exchange, symbol, tradeID

4.14. Lifecycle Keys

The lifecycle keys for each event are summarized in the following table.

Table 30: Equity Event Lifecycle Keys

Section	Event	Lifecycle Keys
4.1	Order Accepted	**Order Key**: date, exchange, symbol, orderID **Route Link Key**: date, symbol, routingParty, routedOrderID, session, exchange **Cross Order Key**: date, exchange, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair)
4.2	Order Route	**Order Key**: date, exchange, symbol, orderID **Route Link Key**: date, symbol, exchange, routedOrderID, routingParty
4.3	Internal Order Route	**Order Key**: date, exchange, symbol, orderID **Route Link Key**: date, symbol, exchange, routedOrderID, session, routingParty
4.4	Order Modified	**Order Key**: date, exchange, symbol, orderID **Previous Order Key**: date, exchange, symbol, originalOrderID **Route Link Key:** date, symbol, exchange, routedOrderID, session, routingParty **Cross Order Key**: date, exchange, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair)
4.5	Order Adjusted	**Order Key**: date, exchange, symbol, orderID **Previous Order Key**: date, exchange, symbol, originalOrderID **Route Link Key:** date, symbol, exchange, routedOrderID, session, routingParty **Cross Order Key**: date, exchange, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair)
4.6	Order Canceled	**Order Key**: date, exchange, symbol, orderID
4.7	Order Trade	**Order Key**: date, exchange, symbol, buyDetails.orderID **Order Key**: date, exchange, symbol, sellDetails.orderID **Trade Key**: date, exchange, symbol, tradeID **Route Link Key:** date, symbol, exchange, buyDetails.orderID **Route Link Key:** date, symbol, exchange, sellDetails.orderID

Section	Event	Lifecycle Keys
4.8	Order Fill	**Order Key**: date, exchange, symbol, orderID **Route Link Key**: date, symbol, exchange, routedOrderID, session, routingParty **Fill Key**: date, exchange, symbol, fillID
4.9	Order Cancel Route	**Order Key**: date, exchange, symbol, orderID **Route Link Key**: date, symbol, exchange, routedOrderID, routingParty
4.10	Order Modify Route	**Order Key**: date, exchange, symbol, orderID **Route Link Key**: date, symbol, exchange, routedOrderID, routingParty **Previous Route Link Key**: date, symbol, exchange, routedOriginalOrderID,, routingParty
4.11	Order Restatement	**Order Key**: date, exchange, symbol, orderID **Previous Order Key**: originalOrderDate, exchange, symbol, originalOrderID
4.12	Trade Break	**Trade Key**: tradeDate, exchange, symbol, tradeID
4.13	Trade Correction	**Order Key**: date, exchange, symbol, buyDetails.orderID **Order Key**: date, exchange, symbol, sellDetails.orderID **Route Link Key:** date, symbol, exchange, buyDetails.routedOrderID **Route Link Key:** date, symbol, exchange, sellDetails.routedOrderID **Trade Key**: date, exchange, symbol, tradeID

5. Events for Options Exchanges

These events are specific for options exchanges.

Table 31: Events for Options Exchanges

Section	Event	Message Type	Description
5.1.1	Quote	OQ	A new quote or a quote replacement
5.1.2	Quote Cancel	OQC	Report when a quote is canceled
5.2.1.1	Simple Option Order Accepted	OOA	Represents either a stand-alone option series order, or one leg of a complex parent order accepted by an exchange
5.2.1.2	Complex Option Order Accepted	OCOA	Represents the complex option order accepted by an exchange
5.2.1.3	Stock Leg Order	OSL	Stock legs are reported individually, with a link to the parent complex order
5.2.2.1	Option Order Modified	OOM	Modification of a simple option order or an option leg order
5.2.2.2	Complex Option Order Modified	OCOM	Modification of a complex option order
5.2.2.3	Stock Leg Modified	OSLM	Modification of a stock leg of a complex option order
5.2.2.4	Option Order Adjusted	OOJ	Adjustment of a simple option order or an option leg order
5.2.2.5	Complex Option Order Adjusted	OCOJ	Adjustment of a complex option order
5.2.2.6	Stock Leg Adjusted	OSLJ	Adjustment of a stock leg of a complex option order
5.2.3	Option Order Canceled	OOC	Cancellation of a simple option order or a complex option order
5.2.4.2	Option Route	OOR	Routing all or part of a simple option order, routing two stock legs to be crossed, or routing a stock leg for execution
5.2.4.3	Complex Option Route	OCOR	Routing of a complex order to an external destination.
5.2.4.4	Internal Option Route	OIR	Internal route of an option or a leg of a complex option
5.2.4.5	Internal Complex Option Route	OCIR	Internal route of a complex option
5.2.4.6	Modify Option Route	OOMR	Modification or cancel/replace request on an option or stock leg order previously routed away,

Section	Event	Message Type	Description
5.2.4.7	Option Cancel Route	OOCR	Cancel request on an order that has been previously routed away
5.2.5.1	Simple Option Trade	OT	Two-sided trade report for simple options and option legs
5.2.5.2	Stock Leg Fill	OSLF	One-sided fill of a routed stock leg order
5.2.6	Post Trade Allocation	OPTA	In the event of a modified, canceled, or replaced post trade Allocation, the final allocation is reported to CAT.
5.3	Option Order Restatement	OORS	Restatement for options orders that persist across business days (e.g., GTC orders)
5.4	Option Trade Break	OTB	When a trade is broken
5.5	Option Trade Correction	OTC	When a trade is corrected in any way
5.6.1	Option Floor Participant	OFP	A floor participant routes a simple option order to a matching engine.
5.6.2	Complex Option Floor Participant	OCFP	A floor participant routes a complex option order to a matching engine.
5.6.3	Option Return to Floor Participant	ORFP	The matching engine returns an order to a Floor Participant.

5.1.   Market Maker Quotes

Quotes issued by market makers (MMs) to options exchanges must be reported to CAT. This section will describe the types of attributes that are used to model quote events, and the types of quote events that should be reported to CAT. CAT supports both one-sided and two-sided quotes.

While some exchanges create quotes and orders the same way, CAT considers them distinct from a reporting perspective, and they must be reported distinctly. First, MMs are exempt from reporting their quotes to CAT (Section 6.4(d)(iii) of the CAT NMS Plan). Instead, the exchange is fully responsible for submitting the quotes they receive from MMs. Second, the MMs must inform the exchange of the time that they sent each quote, so the exchange can report it to CAT along with the quote. Third, quotes require fewer data elements than orders.

Each quote must have a unique Quote ID. Specifically, when a trade occurs with a MM quote on one side, the Quote ID in the trade will identify the exact quote. The combination of Exchange ID, Date, Option ID, and Quote ID should be globally unique.

Furthermore, each quote update must also have a unique Quote ID which is different from the Quote ID for the quote being updated. If the exchange only supports a single quote per MM, the event can be so noted, and the Quote ID for the quote that is being replaced is not necessary. Otherwise, the update must also include the Quote ID for the quote that is being updated/replaced by the new quote.

The exchange must guarantee uniqueness of quote IDs throughout the day.

There are two types of quote events in CAT:

- **Quote Event:** Used to report a new quote or a quote replacement. When a quote is replaced, the Original Quote ID will identify the quote being replaced, and the Quote ID will provide the new ID for the updated and replaced quote (or note in the event that the market maker can only have one quote active at any given time).
- **Quote Cancel:** Reported when a quote is canceled.

For block quotes, each quote in the block would be reported to CAT as a separate quote, with a separate unique Quote ID. In such a case, the quote Sent Timestamp would be the same for each quote from the same block because they were all sent at the same time by the MM. However, the combination of Event Timestamp and Event Sequence Number must be unique for each quote.

Similarly, when a bulk cancel is requested, a separate quote cancel event is required for each quote that is canceled by such a request.

On some exchanges, quotes are allowed to be sent before the trading system is ready to process them. For example, there may be an established protocol where the API documents that quotes sent before a particular time are ignored. Or, a protocol may send a "Now Accepting Quotes" message to market makers, and any quotes sent before that time are ignored. In such cases, those ignored quotes are not processed, so they should not be reported to CAT.

Note that all pre-open quotes are still reportable to CAT. This exception is explicitly for those cases where the exchange allows quotes to be sent before they are officially accepted - but those quotes are neither processed, nor entered into the book, nor accepted for participating in the opening nor any other trading session.

Once the system has started accepting quotes (either because a set time has arrived, or it has sent out a message indicating that quotes are now being accepted), then all quotes must be reported. CAT does not have rules in place for when exchanges start accepting quotes, but it seems that all exchanges start accepting quotes at least five minutes before the start of trading.

For example, in the following diagram, an exchange ignores quotes until they send their "Now Accepting Quotes" message. Thereafter all quotes are processed and reported to CAT.
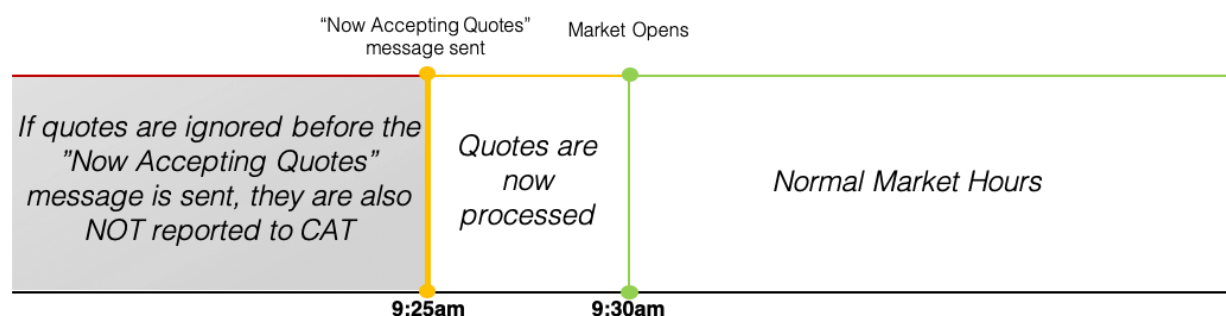
Figure 3: Accepted Quotes Processing

Similarly, if a quote is rejected and neither accepted nor booked, then the quote should not be reported to CAT.

5.1.1. Quote Event

The following data elements are to be reported with all quote events. For two-sided quotes, all bid/ask/price/qty values are required. For one-sided quotes, both the price and quantity fields are required, but only for one side.

Table 32: Quote Events

		Option Quote (OQ)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OQ	R
2	exchange	Exchange ID	The identifier for the exchange that received this quote	R
3	eventTimestamp	Timestamp	The date/time when the quote was received by the exchange	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	marketMaker	Member Alias	The Member Alias assigned by the SRO to identify the market maker issuing the quote. In the case where a market maker has multiple users (e.g., acronyms used to differentiate users within the	R

			Option Quote (OQ)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			same MM), there would be a separate Member Alias given to each user or sub-account	
7	sentTimestamp	Timestamp	The date/time when the market maker sent the quote to the exchange.	C
			Must be populated unless quote record was generated by an exchange system and was not received systematically from a Market Maker.	
8	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
9	quoteID	Text (40)	When onlyOneQuote=True, the unique identifier assigned to this quote by the exchange. If an askQuoteID value is also provided, then this value will only be applied to the bid side of the quote.	C
			When onlyOneQuote=False, the unique identifier assigned to the bid. To provide a unique identifier for an ask, use the askQuoteID field.	
			When onlyOneQuote=False, this field must be populated when bidPrice is populated.	
10	onlyOneQuote	Boolean	True if the system allows only one quote per OptionID for this market maker; false otherwise	R
11	originalQuoteID	Text (40)	When onlyOneQuote=False, this field must be populated when the bid from this record replaces a previously submitted bid. This field must not be provided for a bid that does not replace a previous bid, and it should never be populated for an ask. When onlyOneQuote=True no value is necessary for this field.	C
12	bidPrice	Price	The price being bid for the option (can be zero in two-sided quote which supports spread quotes in low prices names).	C
			When onlyOneQuote=False, this field must be populated when quoteID is populated.	
			At least one of bidPrice and askPrice must be provided.	
13	bidQty	Unsigned	The quantity being bid for the option (can be zero in two-sided quote which supports spread quotes in low prices names)	C
14	askPrice	Price	The price being asked for the option.	C
			When onlyOneQuote=False, this field must be populated when askQuoteID is populated.	
			At least one of bidPrice and askPrice must be provided.	

			Option Quote (OQ)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
15	askQty	Unsigned	The quantity being asked for the option	C
16	bidDisplayPrice	Price	The display price being bid for the option (can be zero in two-sided quote which supports spread quotes in low prices names)	C
17	bidDisplayQty	Unsigned	The display quantity being bid for the option (can be zero in two-sided quote which supports spread quotes in low prices names)	C
18	askDisplayPrice	Price	The display price being asked for the option	C
19	askDisplayQty	Unsigned	The display quantity being asked for the option	C
20	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C
21	askQuoteID	Text (40)	When onlyOneQuote=True, the unique identifier assigned to the ask by the exchange. If this field is populated, then the quoteID value will only be applied to the bid. When onlyOneQuote=False, the unique identifier assigned to the ask. To provide a unique identifier for a bid, use the quoteID field. If this field is populated, then the askPrice must also be populated.	C
22	originalAskQuoteID	Text (40)	When onlyOneQuote=False, this field must be populated when the ask from this record replaces a previously submitted ask. This field must not be provided for an ask that does not replace a previous	C

Option Quote (OQ)				
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			ask, and it should never be populated for a bid. When onlyOneQuote=True no value is necessary for this field.	

Linkage Keys for **OQ**:

- **Quote Key:** date, exchange, optionID, quoteID, askQuoteID
- **Previous Quote Key:** date, exchange, optionID, originalQuoteID, originalAskQuoteID

5.1.2. Quote Cancel Event

The following data elements are required for cancel quote events.

Table 33: Quote Cancel Events

Option Quote Cancel (OQC)				
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OQC	R
2	exchange	Exchange ID	The identifier for the exchange processing the quote cancel	R
3	eventTimestamp	Timestamp	The date/time when the quote cancel occurred	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	marketMaker	Member Alias	The Member Alias assigned by the SRO to identify the market maker issuing the quote cancel. In the case where a market maker has multiple users (e.g., acronyms used to differentiate users within the same MM), there would be a separate Member Alias given to each user or sub-account	R
7	sentTimestamp	Timestamp	The date/time when the market maker sent the quote cancel to the exchange. This field is only required if the cancel initiator is the market maker	C
8	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
9	quoteID	Text (40)	The unique identifier assigned to this quote to be canceled by the exchange. This field can be omitted	C

			Option Quote Cancel (OQC)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			if onlyOneQuote is true	
			If onlyOneQuote=False, then this field will only be used to cancel bids. To cancel an ask, provide the relevant identifier in the askQuoteID field.	
10	onlyOneQuote	Boolean	True if the system allows only one quote for this market maker; false otherwise	R
11	initiator	Choice	Specifies who initiated the cancel: the market maker or exchange	R
12	cancelReason	Choice	This code represents the reason why the quote was canceled. The actual value of the code is exchange specific. See Data Dictionary for the list of allowed values	O
13	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C
14	askQuoteID	Text (40)	The unique identifier assigned to cancel the ask to be canceled by the exchange. This field can be omitted if onlyOneQuote is true. If onlyOneQuote=False, then this field will only be used to cancel asks. To cancel a bid, provide the relevant identifier in the quoteID field.	C

Linkage Keys for **OQC**:

- **Quote Key:** date, exchange, optionID, quoteID, askQuoteID

5.2.   Options Orders

Order events for options are reported as either simple or complex. Simple option orders are orders for a single option series (including flex options). Complex option orders contain two or more simple option orders, or at least one each of a simple option order and equity order.

For CAT, an order for a complex option will be reported at the parent complex level, and additional orders will be reported if/when orders are created for each leg. Some exchanges create leg order reporting events as soon as the parent is created, and other exchanges create leg order reporting events only when an execution is created. CAT supports both reporting scenarios. In the latter case, when no leg executions occur, it is possible that no leg-level order events are generated.

Each options order routed to (and then accepted by) an exchange must be reported to CAT. Options orders that are routed to an exchange and then rejected by the exchange are not reportable by the exchange. When an exchange accepts an options order, it must report either a single Option Order Accepted event, or a single Complex Option Order Accepted event followed by one Accepted event for each leg of the complex option.

For manual/floor trades, this will be the identifier for the physical broker. For quotes, it will be an alias for the market maker behind the quote. For system trades, it will be an alias for the system handling that order.

5.2.1.   Order Accepted Events

5.2.1.1.   Simple Option Order Accepted Event

A simple option order can represent either a stand-alone option series, or one leg of a complex parent order. If the order represents a leg of a complex order, then the field Complex Order ID will be set to the Order ID of the parent complex order. If necessary, the event timestamp and sequence number could be the same as those in the parent complex order.

Fields marked with a lower-case 'r' are required if the event represents a normal option order, and they are conditional if the event represents a leg of a complex order.

Table 34: Simple Option Order Accepted Event

Simple Option Order Accepted (OOA)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OOA	R

			Simple Option Order Accepted (OOA)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**	
2	exchange	Exchange ID	The identifier for the exchange which has received this order	R	
3	eventTimestamp	Timestamp	The date/time of order receipt	R	
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C	
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C	
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R	
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R	
8	routingParty	Text (8)	The ID string used to identify the entity that sent this routed order. This must be provided for simple options (i.e. complexOrderID is null). Leave unset if the option is a leg of a complex order.	C	
9	routedOrderID	Text (40)	The ID assigned to this order by the client when submitting the order to the exchange. This must be provided for simple options (i.e. complexOrderID is null). Leave unset if the option is a leg of a complex order.	C	
10	session	Text (40)	The name of the session used to send the order from the routing member firm to the exchange. This must be provided for simple options (i.e. complexOrderID is null). Leave unset if the option is a leg of a complex order	C	
11	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values	R	
12	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C	
13	quantity	Unsigned	The order quantity	r	
14	displayQty	Unsigned	The displayed quantity for this order	r	
15	displayPrice	Price	The displayed price for this order. This must be provided on simple option orders (i.e. complexOrderID is null) when displayQty is greater than zero.	C	
16	workingPrice	Price	The working price of the order at the time it was accepted. Note that Modified events must be	C	

#	Field Name	Data Type	Description	Include Key
			reported to CAT anytime the working price changes	
17	openCloseIndicator	Choice	the position of the order: either Open, Close, or Unspecified	R
18	orderType	Choice	The order type is one of several possible pre-defined order types. There are a few general order type codes, and several codes unique for each exchange. See the corresponding entry in the Data Dictionary for more details about order types.	R
19	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	r
20	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details	C
21	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order, that are not necessarily handling instructions	C
22	exchOriginCode	Choice	Exchange defined code designating the origin of the order, see data dictionary for list of acceptable values	r
23	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	r
24	executingFirm	Alphanumeric(8)	The OCC number of the executing/give-up firm	r
25	cmtaFirm	Alphanumeric(8)	The OCC number of the CMTA firm (only valid for CMTA trades)	C
26	member	Member Alias	The identifier for the member firm that is responsible for the order	R
27	mktMkrSubAccount	Text (20)	The sub-account for the market maker, only valid when Origin Code is Market Maker	C
28	nbbPrice	Price	The NBBO at the moment just before accepting this order.	R
29	nbbQty	Unsigned		O
30	nboPrice	Price		R
31	nboQty	Unsigned		O
32	complexOrderID	Text (40)	The Order ID for the parent complex order, if this order represents a leg of a complex order. This must be provided if the order represents a leg	C

Simple Option Order Accepted (OOA)				
#	Field Name	Data Type	Description	Include Key
			of a complex order.	
33	complexOptionID	Text (40)	The optionID for the parent complex order, if this order represents a leg of a complex order. Not reported if the complex order's orderID is globally unique	C
34	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OOA**:

- **Order Key:** date, exchange, optionID, orderID
- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if populated in order attributes name value pair)
- **Route Link Key:** date, optionID, routingParty, routedOrderID, session, exchange
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.2.1.2. Complex Option Order Accepted Event

Each complex option order routed to (and accepted by) an exchange must be reported to CAT. CAT allows each leg of a complex order to be reported separately, thus the parent order is relatively small with most order details reported on behalf of each leg. If possible, exchanges should report leg events for all complex orders whether or not the complex order executes. Leg events must be reported for all legs for all executed complex orders.

The number of legs, and description of each leg is encapsulated in the dictionary entry for the Option ID. In addition to the Complex Order Accepted event, at least one Option Order Accepted event must be submitted for each leg of a complex order (Stock Leg Order Accepted for non-option legs).

Some systems allow individual legs to carry specific instructions. Thus, order type information is relevant on a per-leg basis, and not reported for the complex parent itself. Furthermore, some exchange don't ever create leg orders within the trading system. Instead they create synthetic leg order events for CAT reporting purposes at the time of execution. For these exchanges, the execution triggers the leg level order accept events, so for complex orders that are canceled without executions there will not be any leg order events. Thus, the model supports both processes, where leg orders can be created upon initial acceptance and at the point of execution.

When a leg order is created, each leg must have a unique internal Order ID. Some reporters already create such derived order representations, so these IDs are easy to acquire. Others do not assign identifiers to legs. However, all reporters will be expected to report individual order events for each leg that is executed. One suggested method for creating unique leg Order IDs is to use the Order ID of the parent complex order, combined with the leg number (its ordering in the complex option definition). Another is to combine the Complex Order ID with the Option ID and Side of that leg.

Qualified Contingent Cross orders are not exposed to other market participants, and require special handling on some exchanges. In certain cases, these orders may only be processed as individual leg orders and no Complex Option Order Accepted event is reported.

Note that the following fields are conditional in this event. If they are present, then they do not have to appear in the individual order events for option legs, unless the value for a leg would be different from the value in the complex order. In other words, these field values apply to all option legs, unless the option leg contains a different value. If these fields are missing, then the data must be present in each option leg.

```
coverage, exchOriginCode, executingFirm, cmtaFirm, mktMkrSubAccount
```

Table 35: Complex Option Order Accepted Event

Complex Option Order Accepted (OCOA)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OCOA	R
2	exchange	Exchange ID	The identifier for the exchange which has received this order	R

			Complex Option Order Accepted (OCOA)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
3	eventTimestamp	Timestamp	The date/time of order receipt	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
7	orderID	Text (40)	The internal order ID assigned to the complex order by the exchange	R
8	side	Choice	The side of the order, for a complex order the values for side can be either "AsDirected" or "Opposite", see entry for "Side" in the Data Dictionary for acceptable values	R
9	routingParty	Text (8)	The ID string used to identify the entity that sent this routed order	R
10	routedOrderID	Text (40)	The ID assigned to this order by the routing firm when submitting the order to the exchange	R
11	session	Text (40)	The name of the session used to send the order from the routing member firm to the exchange	R
12	price	Price	the net price of the order, which may be negative	C
13	quantity	Unsigned	the order quantity	R
14	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
15	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details	C
16	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order, that are not necessarily handling instructions	C
17	isGloballyUnique	Boolean	If reported with a value of true, then the orderID is globally unique across all optionIDs for this exchange/date. This means that no other complex order can have the same orderID. Furthermore, leg events for this complex order must be reported with just the complexOrderID and not the complexOptionID	O
18	member	Member Alias	The identifier for the member firm that is	R

#	Field Name	Data Type	Description	Include Key
			Complex Option Order Accepted (OCOA)	
			responsible for the order	
19	exchOriginCode	Choice	Exchange defined code designating the origin of the order, see data dictionary for list of acceptable values	C
20	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	C
21	executingFirm	Alphanumeric(8)	The OCC number of the executing/give-up firm	C
22	cmtaFirm	Alphanumeric(8)	The OCC number of the CMTA firm (only valid for CMTA trades)	C
23	mktMkrSubAccount	Text (20)	The sub-account for the market maker, only valid when Origin Code is Market Maker	C
24	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OCOA**:

- **Order Key:** date, exchange, optionID, orderID (if isGloballyUnique is false)
- **Order Key:** date, exchange, orderID (if isGloballyUnique is true)
- **Cross Order Key:** date, exchange, optionID, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair and isGloballyUnique is false)
- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if pariedOrderId is populated in order attributes name value pair and isGloballyUnique is true)

- **Route Link Key:** date, optionID, routingParty, routedOrderID, session, exchange

5.2.1.3. Stock Leg Order Event

Similar to option legs, stock legs are reported individually, with a link to the parent complex order. If necessary, the event timestamp and sequence number could be the same as those in the parent complex order.

See the explanation about leg Order IDs in the section on complex orders. The same process applies to Order IDs for stock legs.

Table 36: Stock Leg Event

Option Stock Leg (OSL)				
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OSL	R
2	exchange	Exchange ID	The identifier for the exchange which has accepted this order	R
3	eventTimestamp	Timestamp	The date/time of order receipt	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	side	Choice	The side of the order: See entry for "Side" in the Data Dictionary for acceptable values	R
9	price	Price	the limit price of the order, if applicable	C
10	quantity	Unsigned	the order quantity	R
11	displayQty	Unsigned	the displayed quantity for this order	R
12	orderType	Choice	The order type is one of several possible pre-defined order types. There are a few general order type codes, and several codes unique for each exchange. See the corresponding entry in the Data Dictionary for more details about order types	R
13	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC,	R

#	Field Name	Data Type	Description	Include Key
			GTC). See the Data Dictionary for a complex list of acceptable values	
14	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details.	C
15	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions	C
16	clearingFirm	Text (10)	Firm receiving the stock execution	O
17	nbbPrice	Price	The NBBO at the moment the order was accepted	R
18	nbbQty	Unsigned		O
19	nboPrice	Price		R
20	nboQty	Unsigned		O
21	complexOrderID	Text (40)	The Order ID for the parent complex order. This must be provided if the order represents a leg of a complex order.	R
22	complexOptionID	Text (40)	The optionID for the parent complex order. Not reported if the complex order's orderID is globally unique	C
23	member	Member Alias	The identifier for the member firm that is responsible for the order. This is the same member as in the complex order	R
24	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the	C

Option Stock Leg (OSL)				
#	Field Name	Data Type	Description	Include Key
			next Trade Date.)	

Linkage Keys for **OSL**:

- **Order Key:** date, exchange, symbol, orderID
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.2.2. Order Modified Events

An event must be sent to CAT to report any customer modification to the order. Additionally, an event must be sent to CAT to report any changes to the order due to an exchange action, including updates related to changes in market conditions.

Events that should be reported include, but are not limited to:

- Any customer update that passes validation and is successfully processed by the trading system
- Changes to the available quantity of the order, such as liquidity returning from an away market unexecuted
- Changes to the working price, display price, or display quantity
- Changes to the executability of an order, such as when a regular-hours order arrived prior to the opening time and it is now the opening time or when an order expires but no explicit cancellation is provided

5.2.2.1. Option Order Modified Event

This event supports all possible modifications to a simple option order and the legs of multi-leg orders. The full state of the order should be reported, including fields that did not change as a result of the modification.

Table 37: Option Order Modified Event

Option Order Modified (OOM)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OOM	R
2	exchange	Exchange ID	The identifier for the exchange which has received this order	R

			Option Order Modified (OOM)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
3	eventTimestamp	Timestamp	The date/time at which the modification was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
7	orderID	Text (40)	The internal order ID used by the exchange to refer to this order from this point forward	R
8	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	R
9	originalOrderID	Text (40)	The internal order ID that used to be assigned to this order until this modification happened. If the order kept its ID through the modification, then this value need not be included	C
10	initiator	Choice	Indicates who initiated the order modification: See entry for "initiator" in the Data Dictionary for acceptable values	R
11	nbbPrice	Price	The NBBO at the moment the modification took place	R
12	nbbQty	Unsigned		O
13	nboPrice	Price		R
14	nboQty	Unsigned		O
15	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
16	Quantity	Unsigned	When the initiator field is set to Firm or Market Maker, the order quantity. Conditional if the order represents a leg of a complex order; otherwise Required. When the initiator field is set to Exchange, the total quantity available on the local book at the conclusion of the modification. This must be provided for simple option orders (i.e. complexOrderID is null) when initiator is 'Firm' or 'MarketMaker'.	C
17	leavesQty	Unsigned	The quantity left open after the modification has	R

			Option Order Modified (OOM)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			occurred	
18	displayQty	Unsigned	The displayed quantity for this order. This must be provided for simple option orders (i.e. complexOrderID is null). Conditional if the order represents a leg of a complex order.	C
19	displayPrice	Price	The displayed price for this order. This must be provided on simple option orders (i.e. complexOrderID is null) when displayQty is greater than zero.	C
20	workingPrice	Price	The working price of the order	C
21	openCloseIndicator	Choice	the position of the order: either Open, Close, or Unspecified	R
22	orderType	Choice	The order type is one of several possible pre-defined order types. There are a few general order type codes, and several codes unique for each exchange. See the corresponding entry in the Data Dictionary for more details about order types.	R
23	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values. This must be provided for simple option orders (i.e. complexOrderID is null). Conditional if the order represents a leg of a complex order.	C
24	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details	C
25	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions	C
26	exchOriginCode	Choice	Exchange defined code designating the origin of the order, see data dictionary for list of acceptable values	R
27	executingFirm	Alphanumeric (8)	The OCC number of the executing/give-up firm	R
28	cmtaFirm	Alphanumeric (8)	The OCC number of the CMTA firm (only valid for CMTA trades)	C
29	member	Member Alias	The identifier for the member firm that is responsible for the order	R
30	mktMkrSubAccount	Text (20)	The sub-account for the market maker, only valid when Origin Code is Market Maker	C

		Option Order Modified (OOM)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
31	complexOrderID	Text (40)	The Order ID for the parent complex order, if this order represents a leg of a complex order. If the ID for the complex order also changed, then this would be the new Order ID for the complex order. This must be provided if the order represents a leg of a complex order.	C
32	complexOptionID	Text (40)	The optionID for the parent complex order, if this order represents a leg of a complex order. Not reported if the complex order's orderID is globally unique	C
33	routedOrderID	Text (40)	For customer-driven changes to the order, the ID assigned to this order by the routing firm when submitting the modification to the exchange. For the return of unexecuted liquidity previously routed away, the exchange-assigned ID used to route the order away. Except as noted above, not required for exchange-driven modifications. This must be provided for simple option orders (i.e. complexOrderID is null).	C
34	side	Choice	The side of the order. See entry for "side" in the Data Dictionary for acceptable values. Should be provided for firm or market maker updates to an order. Should be reported even if it has not changed from the prior version of the order. This must be provided when initiator is 'Firm' or 'MarketMaker'.	C
35	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The	C

			Option Order Modified (OOM)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	
36	routingParty	Text(8)	For customer-driven changes to the order, the ID string used to identify the entity that routed this order modification to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID string used to route the order away. Should match the value of the OOR event routingParty with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	C
37	session	Text(40)	For customer-driven changes to the order, the ID assigned to the specific session that the routing member used to route the order to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away. Should match the value of the OOR event session with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	C

Linkage Keys for **OOM**:

- **Order Key:** date, exchange, optionID, orderID
- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair)
- **Previous Order Key:** date, exchange, optionID, originalOrderID
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.2.2.2. Complex Option Order Modified Event

If the price or quantity changes on a complex order, a complex option order modified event needs to be submitted to CAT. If a change to the parent complex order causes attributes in the leg orders to change, then Order Modified events must be reported for each affected leg. Note that this only applies if a leg order actually exists at the time of the modification to the complex order. For exchanges that create leg orders at execution, only the complex order needs to be modified. However, if a change in net price to the complex order causes the price of the leg orders to change, changes to the leg order prices are not reportable to CAT.

If the internal order ID of the complex order changes, then modified reports must be generated for every leg that exists at the time of the modification, referencing the new order ID of the parent complex order.

The full state of the modified order must be reported, including fields that did not change value as a result of the modification.

Table 38: Complex Option Order Modified Event

		Complex Option Order Modified (OCOM)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OCOM	R
2	exchange	Exchange ID	The identifier for the exchange which has received this order	R
3	eventTimestamp	Timestamp	The date/time at which the modification was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
7	orderID	Text (40)	The internal order ID assigned to the complex order by the exchange	R
8	originalOrderID	Text (40)	The internal order ID that used to be assigned to this order until this modification happened. If the order kept its ID through the modification, then this value need not be included	C
9	initiator	Choice	Indicates who initiated the order modification: See entry for "initiator" in the Data Dictionary for acceptable values	R
10	price	Price	The net price of the order, which may be negative	C
11	quantity	Unsigned	The order quantity	R
12	leavesQty	Unsigned	The quantity left open after the modification has occurred	R
13	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
14	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation	C

#	Field Name	Data Type	Description	Include Key
			in the Data Dictionary for more details	
15	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions	C
16	member	Member Alias	The identifier for the member firm that is responsible for the order	R
17	routedOrderID	Text (40)	For customer-driven changes to the order, the ID assigned to this order by the routing firm when submitting the modification to the exchange. For the return of unexecuted liquidity previously routed away, the exchange-assigned ID used to route the order away. Except as noted above, not required for exchange-driven modifications	C
18	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C
19	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values. Should be provided for firm or market maker updates to an order. Should be reported even if it has not changed from the prior version of the order.	C
20	routingParty	Text(8)	For customer-driven changes to the order, the ID string used to identify the entity that routed this order modification to the exchange.	C

			Complex Option Order Modified (OCOM)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID string used to route the order away. Should match the value of the OOR event routingParty with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	
21	session	Text(40)	For customer-driven changes to the order, the ID assigned to the specific session that the routing member used to route the order to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away. Should match the value of the OOR event session with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	C

Linkage Keys for **OCOM**:

- **Order Key:** date, exchange, optionID, orderID
- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if pariedOrderId is populated in order attributes name value pair)
- **Route Link Key:** date, optionID, routedOrderID, exchange, routingParty, session
- **Previous Order Key:** date, exchange, optionID, originalOrderID

5.2.2.3. Stock Leg Modified Event

When a stock leg is modified, an event must be reported to CAT with the modified data elements. The full state of the modified order must be reported, including fields that did not change value as a result of the modification.

Table 39: Stock Leg Modified Event

			Option Stock Leg Modified	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OSLM	R
2	exchange	Exchange ID	The identifier for the exchange which has accepted this order	R
3	eventTimestamp	Timestamp	The date/time at which the modification was received	R

			Option Stock Leg Modified			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			or originated	
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text(10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	originalOrderID	Text (40)	The internal order ID that used to be assigned to this order until this modification happened. If the order kept its ID through the modification, then this value need not be included	C
9	initiator	Choice	Indicates who initiated the order modification: See entry for "initiator" in the Data Dictionary for acceptable values	R
10	nbbPrice	Price	The NBBO at the moment the stock leg was modified.	R
11	nbbQty	Unsigned		O
12	nboPrice	Price		R
13	nboQty	Unsigned		O
14	complexOrderID	Text (40)	The Order ID for the parent complex order. If the ID for the complex order also changed, then this would be the new Order ID for the complex order. This must be provided if the order represents a leg of a complex order.	R
15	complexOptionID	Text (40)	The optionID for the parent complex order. Not reported if the complex order's orderID is globally unique	C
16	price	Price	the limit price of the order, if applicable	C
17	displayPrice	Price	The displayed price for this order (required if displayQty is nonzero)	C
18	quantity	Unsigned	The order quantity	R
19	leavesQty	Unsigned	The number of shares left open after the modification has occurred	R
20	displayQty	Unsigned	The displayed quantity for this order	R

			Option Stock Leg Modified	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
21	orderType	Choice	The order type is one of several possible pre-defined order types. There are a few general order type codes, and several codes unique for each exchange. See the corresponding entry in the Data Dictionary for more details about order types	R
22	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
23	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details	C
24	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions	C
25	clearingFirm	Text (10)	Firm receiving the stock execution	O
26	member	Member Alias	The identifier for the member firm that is responsible for the order. This is the same member as in the complex order	R
27	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OSLM**:

- **Order Key:** date, exchange, symbol, orderID
- **Previous Order Key:** date, exchange, symbol, originalOrderID
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.2.2.4. Option Order Adjusted Event

This event supports changes to the price, quantity, working price, display price, and display quantity. All other order instructions are assumed to be unchanged.

Table 40: Option Order Adjusted Event

Option Order Adjusted (OOJ)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OOJ	R
2	exchange	Exchange ID	The identifier for the exchange which has received this order	R
3	eventTimestamp	Timestamp	The date/time at which the modification was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
7	orderID	Text (40)	The internal order ID used by the exchange to refer to this order from this point forward	R
8	originalOrderID	Text (40)	The internal order ID that used to be assigned to this order until this modification happened. If the order kept its ID through the modification, then this value need not be included	C
9	initiator	Choice	Indicates who initiated the order modification: See entry for "initiator" in the Data Dictionary for acceptable values	R
10	price	Price	The limit price of the order	C
11	displayPrice	Price	The displayed price for this order. This must be provided on simple option orders (i.e. complexOrderID is null) when displayQty is greater than zero.	C
12	workingPrice	Price	The working price of the order	C
13	Quantity	Unsigned	When the initiator field is set to Firm or Market Maker, the order quantity. Conditional if the order represents a leg of a complex order; otherwise Required. When the initiator field is set to Exchange, the total	C

			Option Order Adjusted (OOJ)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			quantity available on the local book at the conclusion of the modification.	
			This must be provided for simple option orders (i.e. complexOrderID is null) when initiator is 'Firm' or 'MarketMaker'.	
14	displayQty	Unsigned	The displayed quantity for this order. This must be provided for simple option orders (i.e. complexOrderID is null).	C
15	leavesQty	Unsigned	The quantity left open after the modification has occurred	C
16	nbbPrice	Price	The NBBO at the moment the stock leg was modified	R
17	nbbQty	Unsigned		O
18	nboPrice	Price		R
19	nboQty	Unsigned		O
20	complexOrderID	Text (40)	The Order ID for the parent complex order, if this order represents a leg of a complex order. If the ID for the complex order also changed, then this would be the new Order ID for the complex order. This must be provided if the order represents a leg of a complex order.	C
21	complexOptionID	Text (40)	The optionID for the parent complex order, if this order represents a leg of a complex order. Not reported if the complex order's orderID is globally unique	C
22	member	Member Alias	The identifier for the member firm that is responsible for the order	R
23	routedOrderID	Text (40)	For customer-driven changes to the order, the ID assigned to this order by the routing firm when submitting the modification to the exchange. For the return of unexecuted liquidity previously routed away, the exchange-assigned ID used to route the order away. Except as noted above, not required for exchange-driven modifications. This must be provided for simple option orders (i.e. complexOrderID is null).	C
24	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values. Should be provided for firm or market maker updates to an order. Should be reported even if it has not changed from the prior version of the order.	C

			Option Order Adjusted (OOJ)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			This must be provided when initiator is 'Firm' or 'MarketMaker'.	
25	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C
26	routingParty	Text(8)	For customer-driven changes to the order, the ID string used to identify the entity that routed this order modification to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID string used to route the order away. Should match the value of the OOR event routingParty with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	C
27	session	Text(40)	For customer-driven changes to the order, the ID assigned to the specific session that the routing member used to route the order to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away. Should match the value of the OOR event session with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	C

Linkage Keys for **OOJ**:

- **Order Key:** date, exchange, optionID, orderID

- **Cross Order Key:** date, exchange, orderID, pairedOrderId (if pariedOrderId is populated in order attributes name value pair)
- **Route Link Key:** date, optionID, routedOrderID, exchange, routingParty, session
- **Previous Order Key:** date, exchange, optionID, originalOrderID
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.2.2.5. Complex Option Order Adjusted Event

When a complex option is modified in such a way that only impacts the price and/or quantity, an instance of this event can be reported in place of the Complex Option Order Modified event.

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

For changes in quantity, both quantity and leavesQty are required (i.e., either both are reported or neither are reported).

Table 41: Complex Option Order Adjusted Event

Complex Option Order Adjusted (OCOJ)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OCOJ	R
2	exchange	Exchange ID	The identifier for the exchange which has received this order	R
3	eventTimestamp	Timestamp	The date/time at which the modification was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
7	orderID	Text (40)	The internal order ID assigned to the complex order by the exchange	R
8	originalOrderID	Text (40)	The internal order ID that used to be assigned to this order until this modification happened. If the order kept its ID through the modification, then this value need not be included	C
9	initiator	Choice	Indicates who initiated the order modification: See	R

		Complex Option Order Adjusted (OCOJ)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**	
			entry for "initiator" in the Data Dictionary for acceptable values		
10	price	Price	The net price of the order, which may be negative	C	
11	quantity	Unsigned	The order quantity	C	
12	leavesQty	Unsigned	The quantity left open after the modification has occurred	C	
13	member	Member Alias	The identifier for the member firm that is responsible for the order	R	
14	routedOrderID	Text (40)	For customer-driven changes to the order, the ID assigned to this order by the routing firm when submitting the modification to the exchange. For the return of unexecuted liquidity previously routed away, the exchange-assigned ID used to route the order away. Except as noted above, not required for exchange-driven modifications	C	
15	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C	
16	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values. Should be provided for firm or market maker updates to an order. Should be reported even if it has not changed from the prior version of the order.	C	

Complex Option Order Adjusted (OCOJ)				
#	Field Name	Data Type	Description	Include Key
17	routingParty	Text(8)	For customer-driven changes to the order, the ID string used to identify the entity that routed this order modification to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID string used to route the order away. Should match the value of the OOR event routingParty with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	C
18	session	Text(40)	For customer-driven changes to the order, the ID assigned to the specific session that the routing member used to route the order to the exchange. For the return of unexecuted liquidity previously routed away, optionally provide the exchange-assigned ID used to route the order away. Should match the value of the OOR event session with the same routedOrderID. Except as noted above, not required for exchange-driven modifications.	C

Linkage Keys for **OCOJ**:

- **Order Key:** date, exchange, optionID, orderID
- **Cross Order Key:** date, exchange, optionID, orderID, pairedOrderId (if pairedOrderId is populated in order attributes name value pair)
- **Route Link Key:** date, optionID, routedOrderID, exchange, routingParty, session
- **Previous Order Key:** date, exchange, optionID, originalOrderID,

5.2.2.6. Stock Leg Adjusted Event

When a stock leg is modified where it only impacts the price and/or quantity, an instance of this event can be reported in place of the Stock Leg Modified event.

For changes in quantity, both quantity and leavesQty are required (i.e., either both are reported or neither are reported).

Table 42: Stock Leg Adjusted Event

		Option Stock Leg Adjusted (OSLJ)		
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OSLJ	R
2	exchange	Exchange ID	The identifier for the exchange which has accepted this order	R
3	eventTimestamp	Timestamp	The date/time at which the modification was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	originalOrderID	Text (40)	The internal order ID that used to be assigned to this order until this modification happened. If the order kept its ID through the modification, then this value need not be included	C
9	initiator	Choice	Indicates who initiated the order modification: See entry for "initiator" in the Data Dictionary for acceptable values	R
10	price	Price	The limit price of the order	C
11	displayPrice	Price	The displayed price for this order	C
12	quantity	Unsigned	The order quantity	C
13	leavesQty	Unsigned	The quantity left open after the modification has occurred.	C
14	displayQty	Unsigned	The displayed quantity for this order	C
15	nbbPrice	Price	The NBBO at the moment the stock leg was modified.	R
16	nbbQty	Unsigned		O
17	nboPrice	Price		R
18	nboQty	Unsigned		O
19	complexOrderID	Text (40)	The Order ID for the parent complex order. If the ID for the complex order also changed, then this would	R

Option Stock Leg Adjusted (OSLJ)				
#	Field Name	Data Type	Description	Include Key
			be the new Order ID for the complex order. This must be provided if the order represents a leg of a complex order.	
20	complexOptionID	Text (40)	The optionID for the parent complex order. Not reported if the complex order's orderID is globally unique	C
21	member	Member Alias	The identifier for the member firm that is responsible for the order. This is the same member as in the complex order	R
22	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OSLJ**:

- **Order Key:** date, exchange, symbol, orderID
- **Previous Order Key:** date, exchange, symbol, originalOrderID
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderIDOptions

5.2.3.   Order Canceled Event

An order canceled event is used to report a cancelation of a simple option order or a complex option order. For complex options orders, if leg-level orders have been opened before a canceled event, then canceled events must be reported for each of the leg orders as well.

CAT also supports partial cancels. Partial canceled events for complex orders follow the same rule, if there are open leg-level orders before a canceled event, partial canceled events must also be reported for each of the legs.

Note that the order canceled events contains both the fields optionID and symbol. Both of these fields are conditional. If the order canceled event is for a stock leg order corresponding to a complex option order, then the symbol field is mandatory. If the order canceled event is for a simple option order, a complex option order, or an option leg order of a complex order, then the field optionID is mandatory.

Table 43: Option Order Canceled

#	Field Name	Data Type	Description	Include Key
Option Order Canceled (OOC)
1	type	Message Type	OOC	R
2	exchange	Exchange ID	The ID for the exchange reporting the order canceled	R
3	eventTimestamp	Timestamp	The date/time at which the cancellation was received or originated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option dictionary. Used if this cancel is for a simple option order or complex option order. Either optionID or symbol, but not both, must be provided.	C
7	symbol	Symbol	The stock symbol in the symbology of the listing exchange, or the reporter's symbology mapping as appropriate. Used only if this cancel is for the stock leg of a complex option order. Either optionID or symbol, but not both, must be provided.	C
8	orderID	Text (40)	The internal order ID assigned to the order by the exchange. If a leg is being canceled, the orderID will represent the leg order being canceled	R
9	cancelQty	Unsigned	The quantity being canceled	R
10	leavesQty	Unsigned	The quantity left open after the cancel event (zero for a full cancel)	R
11	initiator	Choice	Indicates who initiated the order cancellation: See entry for "initiator" in the Data Dictionary for	R

		Option Order Canceled (OOC)			
#	Field Name	Data Type	Description	Include Key
			acceptable values	
12	cancelReason	Choice	Code representing the reason why the order was canceled. The actual value of the code is exchange specific. See Data Dictionary for the list of allowed values	O
13	member	Member Alias	The identifier for the member firm that is responsible for the order	R
14	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OOC**:

- **Order Key:** date, exchange, optionID, orderID
- **Order Key:** date, exchange, symbol, orderID

5.2.4. Routing Orders

5.2.4.1.   Internal Routing and Floor Activity

Internal routes on the exchange are different from internal routes in a Broker Dealer. In particular, internal routes at a broker dealer are required to be reported to CAT, but internal routes at an exchange are not.

However, there are cases where knowing the system or process of where an order executed is useful, for example when orders are routed through various internal systems on the floor. These processes differ between exchanges and the use cases are incredibly diverse. Furthermore, there is no guidance in the

CAT requirements as to what is or is not supposed to be reported in these cases, so we need to be flexible in allowing a diverse set of items to be reported. These somewhat reportable data elements arrive in two forms.

First, an order may be executed with some additional information that was not available when it was placed (e.g., as part of an auction, or through some floor trading workstation). Thus, there is an element available on Trade Events (Execution Codes), which provides a way to add special exchange specific codes to an execution. The Execution Codes is a name/value pair field (like order Handling Instructions) and can provide additional execution information, like where a trade may have been executed on the floor, or supplemental execution/clearing information.

Additionally, the Note Event (reference Section 3.7.1), which contains either an Order ID or a Quote ID to link the note to a specific order or quote can be used to add specific instructions related to the order.

Some systems are composed of multiple subsystems, each having their own reporting and order identification requirements. In such cases, it may be extremely difficult or time consuming to coerce events into a single set of unique order IDs and reporting. Thus, an internal route event is also provided for reporting an order as it progresses between internal subsystems, and possibly changes internal order ID.

5.2.4.2. Option Route Event

External routes from an options exchange come in three basic forms: routing all or part of a simple option series order to an away market, routing two stock legs to be crossed, and routing a stock leg for execution. All of these events require certain pieces of information to enable linkage creation that can track the entire order lifecycle.

The following Option Route Event is used to report when an exchange routes a simple option order, or any leg of a complex option order.

Table 44: Option Route Event

Option Order Route (OOR)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OOR	R
2	exchange	Exchange ID	The identifier for the exchange which is routing the order away	R
3	eventTimestamp	Timestamp	The date/time at which the order was routed	R

			Option Order Route (OOR)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**	
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C	
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C	
6	symbol	Symbol	The stock symbol of the stock leg being routed away - only for routing stock legs. Either optionID or symbol, but not both, must be provided.	C	
7	optionID	Text (40)	The ID of the option being routed away. Either optionID or symbol, but not both, must be provided.	C	
8	orderID	Text (40)	The internal order ID of the order being routed away	R	
9	routingParty	Text (8)	The ID string used to identify the entity that is receiving this routed order	R	
10	routedOrderID	Text (40)	The ID of the routed order, as represented in the order message sent to the routing broker	R	
11	session	Text (40)	The ID of the session used to send the order to the routing broker	R	
12	side	Choice	The side of the order: See entry for "Side" in the Data Dictionary for acceptable values	R	
13	price	Price	The price of the order, if applicable. This must be provided when orderType indicates a limit order.	C	
14	quantity	Unsigned	The order quantity	R	
15	displayQty	Unsigned	The displayed quantity for this order	R	
16	orderType	Choice	The order type is one of several possible pre-defined order types. There are a few general order type codes, and several codes unique for each exchange. See the corresponding entry in the Data Dictionary for more details about order types	R	
17	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	R	
18	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R	
19	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the	C	

			Option Order Route (OOR)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**	
			Data Dictionary for more details		
20	result	Choice	The result of the route request. (A request can be ACK - Acknowledged, REJ - Rejected, or NR - No Response) See the data dictionary for a list of permissible values	O	
21	resultTimestamp	Timestamp	The date/time when the exchange received the result of the route request. This timestamp is not required if the value for the result field is No Response	O	
22	nbbPrice	Price	The NBBO at the moment just before routing this order	R	
23	nbbQty	Unsigned		O	
24	nboPrice	Price		R	
25	nboQty	Unsigned		O	
26	complexOrderID	Text (40)	The Order ID for the parent complex order, if this order represents a leg of a complex order. This must be provided if the order represents a leg of a complex order.	C	
27	complexOptionID	Text (40)	The optionID for the parent complex order, if this order represents a leg of a complex order. Not reported if the complex order's orderID is globally unique	C	
28	member	Member Alias	The identifier for the member firm that is responsible for the order	R	
29	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C	

Linkage Keys for **OOR**:

- **Order Key:** date, exchange, optionID, orderID
- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, optionID, routingParty, routedOrderID, exchange
- **Route Link Key:** date, symbol, routingParty, routedOrderID, exchange
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.2.4.3.   Complex Option Route Event

This is used to report when an exchange routes a complex option order to an external destination (e.g. an exchange receives a complex order from a firm and forwards it to a Floor Broker). Note that most exchanges do not route complex orders externally; this event only applies for exchanges that do.

Table 45: Complex Option Route Event

Complex Option Order Route (OCOR)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OCOR	R
2	exchange	Exchange ID	The ID for the exchange which is routing this order.	R
3	eventTimestamp	Timestamp	The date/time at which the order was routed.	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps.	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier.	C
6	optionID	Text (40)	The ID of the option being routed away.	R
7	orderID	Text (40)	The internal order ID of the order being routed away.	R
8	routingParty	Text (8)	The ID string used to identify the entity that is receiving this routed order.	R
9	routedOrderID	Text (40)	The ID of the routed order, as represented in the order message sent to the routing broker.	R
10	session	Text (40)	The ID of the session used to send the order to the destination.	R
11	side	Choice	The side of the order, for a complex order the values for side can be either "AsDirected" or "Opposite", see entry for "Side" in the Data	R

#	Field Name	Data Type	Description	Include Key
			Dictionary for acceptable values	
12	price	Price	The net price of the order, which may be negative.	C
13	quantity	Unsigned	The order quantity.	R
14	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values.	R
15	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details.	C
16	result	Choice	The result of the route request. (A request can be ACK - Acknowledged, REJ - Rejected, or NR - No Response) See the data dictionary for a list of permissible values.	O
17	resultTimestamp	Timestamp	The date/time when the exchange received the result of the route request. This timestamp is not required if the value for the result field is No Response.	O
18	isGloballyUnique	Boolean	If reported with a value of true, then the orderID is globally unique across all optionIDs for this exchange/date. This means that no other complex order can have the same orderID. Furthermore, leg events for this complex order must be reported with just the complexOrderID and not the complexOptionID.	O
19	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values.	C
20	member	Member Alias	The identifier for the member firm that is responsible for the order.	R
21	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays.

An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) | C |

			Complex Option Order Route (OCOR)		
#	Field Name	Data Type	Description		Include Key
			where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)		

Linkage Keys for **OCOR**:

- **Order Key:** date, exchange, optionID, orderID (if isGloballyUnique is false)
- **Route Link Key:** date, exchange, routingParty, routedOrderID

5.2.4.4. Internal Option Route Event

This event provides a means by which options (and legs of complex options) can be routed between internal systems.

Table 46: Internal Option Route Event

			Internal Option Route (OIR)	
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OIR	R
2	exchange	Exchange ID	The ID for the exchange which is routing this order	R
3	eventTimestamp	Timestamp	The date/time at which the order was routed	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol of the stock leg being routed away - only for routing stock legs. Either optionID or symbol, but not both, must be provided.	C
7	optionID	Text (40)	The ID of the option being routed away. Either optionID or symbol, but not both, must be provided.	C

		Internal Option Route (OIR)		
#	Field Name	Data Type	Description	Include Key
8	orderID	Text (40)	The internal order ID of the order being routed away	R
9	routingParty	Text (8)	The ID string used to identify the internal subsystem that is receiving this routed order. This value must match the value reported by the receiving subsystem in the `routingParty` field of their Order Accepted report	R
10	routedOrderID	Text (40)	The ID assigned to this order by the exchange when submitting the order to the subsystem. This value must match the value reported by the receiving subsystem in the `routedOrderID` field of their Order Accepted report	R
11	session	Text (40)	The ID assigned to the specific session used when sending the order from the sending subsystem to the receiving subsystem. This value must match the value reported by the receiving subsystem in the `session` field of their Order Accepted report	R
12	side	Choice	The side of the order: See entry for "Side" in the Data Dictionary for acceptable values	R
13	price	Price	The price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
14	quantity	Unsigned	The order quantity	R
15	displayQty	Unsigned	The displayed quantity for this order	R
16	orderType	Choice	The order type is one of several possible pre-defined order types. There are a few general order type codes, and several codes unique for each exchange. See the corresponding entry in the Data Dictionary for more details about order types	R
17	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	R
18	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
19	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details.	C
20	result	Choice	The result of the route request. (A request can be ACK - Acknowledged, REJ - Rejected, or NR - No Response) See the data dictionary for a list of	O

#	Field Name	Data Type	Description	Include Key
			Internal Option Route (OIR)	
			permissible values	
21	resultTimestamp	Timestamp	The date/time when the exchange received the result of the route request. This timestamp is not required if the value for the result field is No Response	O
22	complexOrderID	Text (40)	The Order ID for the parent complex order, if this order represents a leg of a complex order. This must be provided if the order represents a leg of a complex order.	C
23	complexOptionID	Text (40)	The optionID for the parent complex order, if this order represents a leg of a complex order. Not reported if the complex order's orderID is globally unique	C
24	member	Member Alias	The identifier for the member firm that is responsible for the order	R
25	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OIR**:

- **Order Key:** date, exchange, optionID, orderID
- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, optionID, routingParty, routedOrderID, session, exchange
- **Route Link Key:** date, symbol, routingParty, routedOrderID, session, exchange
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.2.4.5. Internal Complex Option Route Event

While complex orders are not routed between exchanges, they may be routed internally. This event provides a means by which complex options can be routed between internal systems.

Table 47: Internal Complex Option Route Event

			Internal Complex Option Route (OCIR)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OCIR	R
2	exchange	Exchange ID	The ID for the exchange which is routing this order	R
3	eventTimestamp	Timestamp	The date/time at which the order was routed	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID of the option being routed away	R
7	orderID	Text (40)	The internal order ID of the order being routed away	R
8	routingParty	Text (8)	The ID string used to identify the internal subsystem that is receiving this routed order. This value must match the value reported by the receiving subsystem in the `routingParty` field of their Order Accepted report	R
9	routedOrderID	Text (40)	The ID assigned to this order by the exchange when submitting the order to the subsystem. This value must match the value reported by the receiving subsystem in the `routedOrderID` field of their Order Accepted report	R
10	session	Text (40)	The ID assigned to the specific session used when sending the order from the sending subsystem to the receiving subsystem. This value must match the value reported by the receiving subsystem in the `session` field of their Order Accepted report	R
11	side	Choice	The side of the order, for a complex order the values for side can be either "AsDirected" or "Opposite", see entry for "Side" in the Data Dictionary for acceptable values	R
12	price	Price	The net price of the order, which may be negative.	C
13	quantity	Unsigned	The order quantity	R

			Internal Complex Option Route (OCIR)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
14	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
15	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details	C
16	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions	C
17	isGloballyUnique	Boolean	If reported with a value of true, then the orderID is globally unique across all optionIDs for this exchange/date. This means that no other complex order can have the same orderID. Furthermore, leg events for this complex order must be reported with just the complexOrderID and not the complexOptionID	O
18	exchOriginCode	Choice	Exchange defined code designating the origin of the order, see data dictionary for list of acceptable values	C
19	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	C
20	executingFirm	Alphanumeric(8)	The OCC number of the executing/give-up firm	C
21	cmtaFirm	Alphanumeric(8)	The OCC number of the CMTA firm (only valid for CMTA trades)	C
22	mktMkrSubAccount	Text (20)	The sub-account for the market maker, only valid when Origin Code is Market Maker	C
23	member	Member Alias	The identifier for the member firm that is responsible for the order	R
24	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T)	C

Internal Complex Option Route (OCIR)				
#	Field Name	Data Type	Description	Include Key
			where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	

Linkage Keys for **OCIR**:

- **Order Key:** date, exchange, optionID, orderID
- **Route Link Key:** date, optionID, routingParty, routedOrderID, session, exchange

5.2.4.6.   Modify Option Route Event

When an exchange initiates a modify or cancel/replace request on an option or stock leg order it has previously routed away, it must report its intent to modify the order, using a Modify Option Route Event.

If the request does not change the routed order ID, then both routedOrderID and routedOriginalOrderID must be the same.

Note that the Modify Option Route event contains both the fields optionID and symbol. Both of these fields are conditional. If the Modify Option Route event is for a stock leg order, then the symbol field is mandatory and optionID field is not necessary. If the Modify Option Route event is for a simple option order, or an option leg order of a complex order, then the field optionID is mandatory.

Table 48: Modify Option Route Event

Modify Option Route (OOMR)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OOMR	R
2	exchange	Exchange ID	The ID for the exchange modifying the routed order	R
3	eventTimestamp	Timestamp	The date/time when the exchange made the modify request	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C

		Modify Option Route (OOMR)		
#	Field Name	Data Type	Description	Include Key
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias. Either optionID or symbol, but not both, must be provided.	C
7	optionID	Text (40)	The ID of the option being routed away. Either optionID or symbol, but not both, must be provided.	C
8	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
9	routingParty	Text (8)	The ID string used to identify the entity that received this routed order	R
10	routedOrderID	Text (40)	The new routed ID for the order, which will be used to refer to the routed order after the modification (in FIX, ClOrdID - in OUCH, Replacement Order Token)	R
11	routedOriginalOrderID	Text (40)	The routed ID for the order being modified, as sent to the routing broker in the original route message, or the most recent modify message (in FIX OrigClOrdID, in OUCH Existing Order Token)	R
12	session	Text (40)	The ID assigned to the session used to send the modify request from the exchange to the routing broker- must also match the session in the original Order Route message for this order	R
13	price	Price	The limit price of the order, if applicable. This must be provided when orderType indicates a limit order.	C
14	quantity	Unsigned	The order quantity	R
15	displayQty	Unsigned	The displayed quantity for this order	R
16	orderType	Choice	The type of order being submitted (e.g., market, limit). See the corresponding entry in the Data Dictionary for more details about order types	R
17	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
18	handlingInstructions	Name/Value Pairs	Can include zero or more handling instructions, as described in Data Dictionary for Handling Instructions	C

			Modify Option Route (OOMR)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
19	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	R
20	result	Choice	The result of the modify request. (A request can be ACK - Acknowledged, REJ - Rejected, or NR - No Response) See the data dictionary for a list of permissible values	O
21	resultTimestamp	Timestamp	The date/time when the exchange received the result of the modify request. This timestamp is not required if the value for the result field is No Response	O
22	nbbPrice	Price	The national best bid price at the moment the trade occurred	R
23	nbbQty	Unsigned	The national best bid quantity at the moment the trade occurred	O
24	nboPrice	Price	The national best offer price at the moment the trade occurred	R
25	nboQty	Unsigned	The national best offer quantity at the moment the trade occurred	O
26	member	Member Alias	The identifier for the member firm that is responsible for the order	R
27	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OOMR**:

- **Order Key:** date, exchange, optionID, orderID
- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, optionID, routingParty, routedOrderID, exchange
- **Route Link Key:** date, symbol, routingParty, routedOrderID, exchange
- **Previous Route Link Key:** date, optionID, routingParty, routedOriginalOrderID, exchange
- **Previous Route Link Key:** date, symbol, routingParty, routedOriginalOrderID, exchange

5.2.4.7. Option Cancel Route Event

When an exchange initiates a cancel request on an order that has been previously routed away, it must report the intent to cancel, using an Option Cancel Route Event.

Note that the Option Cancel Route event contains both the fields `optionID` and symbol. Both of these fields are conditional. If the Option Cancel Route event is for a stock leg order, then the symbol field is mandatory and optionID field is not necessary. If the Option Cancel Route event is for a simple option order, or an option leg order of a complex order, then the field `optionID` is mandatory.

Table 49: Option Cancel Route Event

Option Cancel Route (OOCR)				
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OOCR	R
2	exchange	Exchange ID	The ID for the exchange canceling the routed order	R
3	eventTimestamp	Timestamp	The date/time when the cancel request was sent to the routing firm	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias. Either optionID or symbol, but not both, must be provided.	C
7	optionID	Text (40)	The ID of the option being routed away. Either optionID or symbol, but not both, must be provided.	C

			Option Cancel Route (OOCR)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
8	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
9	routingParty	Text (8)	The ID string used to identify the entity that received this routed order. This value will match the value on the Route event for the order being canceled	R
10	routedOrderID	Text (40)	The routed ID for the order being canceled - must also match the routedOrderID in the original Order Route message for this order	R
11	session	Text (40)	The session ID on which the cancel request is being made - must also match the session in the original Order Route message for this order	R
12	desiredLeavesQty	Unsigned	The desired number of shares remaining in the order after the cancel request has been issued. A value of zero indicates a full cancel	R
13	result	Choice	The result of the cancel request. (A request can be ACK - Acknowledged, REJ - Rejected, or NR - No Response) See the data dictionary for a list of permissible values	O
14	resultTimestamp	Timestamp	The date/time when the exchange received the result of the cancel request. This timestamp is not required if the value for the result field is No Response	O
15	member	Member Alias	The identifier for the member firm that is responsible for the order	R
16	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OOCR**:

- **Order Key:** date, exchange, optionID, orderID
- **Order Key:** date, exchange, symbol, orderID
- **Route Link Key:** date, optionID, routingParty, routedOrderID, exchange
- **Route Link Key:** date, symbol, routingParty, routedOrderID, exchange

5.2.5. Trades and Fills

All trades on an options exchange involving options are reported as two sided trades, with appropriate clearing information for each side. In the case where an order is routed away, the trade is still reported as a two-sided trade, but without an order on one side (that side will just have clearing information).

Trades off-exchange for non-option legs are reported as one-sided pass through fill events. Note the difference between a trade which the exchange transacted and a fill which the exchange is passing on. Both events are reportable, but they will be reported in different ways. The former as a two-sided trade, and the latter as either a one-sided fill.

5.2.5.1. Simple Option Trade Event

Simple option trade events are two-sided trade reports, providing details about both sides of the trade for an option. The same event is used for both simple options trades and trades for each leg of a complex option.

This section will deal only with simple option trades, the following section will demonstrate how the same event type will be used to report trades at the leg level of complex options.

Option Trade Event

Each option trade contains the following data elements.

Table 50: Option Trade Event

<table>
<tr><td colspan="5" align="center">**Option Trade (OT)**</td></tr>
<tr><td>**#**</td><td>**Field Name**</td><td>**Data Type**</td><td>**Description**</td><td>**Include Key**</td></tr>
<tr><td>1</td><td>type</td><td>Message Type</td><td>OT</td><td>R</td></tr>
<tr><td>2</td><td>exchange</td><td>Exchange ID</td><td>The ID of the participant reporting the trade event to CAT</td><td>R</td></tr>
<tr><td>3</td><td>eventTimestamp</td><td>Timestamp</td><td>The date/time of execution</td><td>R</td></tr>
</table>

			Option Trade (OT)	
#	Field Name	Data Type	Description	Include Key
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	tradeID	Text (40)	This ID will be used when a specific trade needs to be identified, for example in trade break and correction reports. The combination of date, exchange, optionID, and tradeID must be globally unique	R
7	optionID	Text (40)	The ID of the option being traded	R
8	quantity	Unsigned	Quantity of the trade	R
9	price	Price	Price of the trade	R
10	nbbPrice	Price	The NBBO for this particular option series at the moment the event takes place	R
11	nbbQty	Unsigned		O
12	nboPrice	Price		R
13	nboQty	Unsigned		O
14	saleCondition	Text (8)	Conditions under which trade was executed	C
15	executionCodes	Name / Value Pairs	Adds special exchange specific codes to an execution. Zero or more codes can be entered to provide additional execution information, like where a trade may have been executed on the floor. These codes apply to both sides of the trade	C
16	buyDetails	Side Trade Details	Information for the buy side of the trade. Format and element definitions for Buy Details are described in Side Trade Details in Table 54	R
17	sellDetails	Side Trade Details	Information for the sell side of the trade. Format and element definitions for Sell Details are described in Side Trade Details in – Table 54	R
18	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the	C

Option Trade (OT)				
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	

Side Trade Details

Each side of a trade contains information pertinent to the order and/or quote that contributed to the trade. The Side Trade Details captures those data elements.

Table 51: Side Trade Details

Side Trade Details				
#	**Field Name**	**Data Type**	**Description**	**Include Key**
16.*n*.1 / 17.*n*.1	side	Choice	The side of the executed trade: See entry for "Side" in the Data Dictionary for acceptable values	R
16.*n*.2 / 17.*n*.2	leavesQty	Unsigned	The quantity remaining unfilled after this trade event. Not required when used in a trade correction	C
16.*n*.3 / 17.*n*.3	openCloseIndicator	Choice	Indicates the position of the trade, applicable only when this side is an order	C
16.*n*.4 / 17.*n*.4	quoteID	Text (40)	The ID of the quote, only applicable only when this side of the execution is a market maker quote	C
16.*n*.5/ 17.*n*.5	orderID	Text (40)	The ID of the order, only applicable only when this side of the execution is an order	C
16.*n*.6 / 17.*n*.6	executingFirm	Alphanumeric (8)	The OCC number of the executing firm	R
16.*n*.7 / 17.*n*.7	floorBroker	Member Alias	The Member Alias of the floor broker handling the trade, if the trade is handled on the floor	C

			Side Trade Details		
#	Field Name	Data Type	Description		Include Key
16.*n*.8 / 17.*n*.8	cmtaFirm	Alphanumeric (8)	The OCC number of the CMTA firm (only valid for CMTA trades)		C
16.*n*.9 / 17.*n*.9	mktMkrSubAccount	Text (20)	The sub-account for the market maker, only valid when Origin Code is Market Maker		C
16.*n*.10 / 17.*n*.10	exchOriginCode	Choice	Exchange defined code designating the origin of the order, see data dictionary for list of acceptable values		R
16.*n*.11 / 17.*n*.11	liquidityCode	Choice	Specifies if this side of the trade was adding or removing liquidity. See entry for liquidityCode in the Data Dictionary for permitted values		O
16.*n*.12 / 17.*n*.12	executionCodes	Name/Value Pairs	Describes any execution codes, as described in Data Dictionary for Execution Codes. These codes would only apply only to this side of the trade		C
16.*n*.13 / 17.*n*.13	member	Member Alias	The identifier for the member firm that is responsible for the order		R
16.*n*.14 / 17.*n*.14	routedOrderID	Text (40)	For events representing an away trade, the exchange-assigned ID used to route the order away.		O

In some cases, an option trade may occur with neither a quoteID nor an orderID for one or both sides of the trade. In these cases, the quoteID/orderID can be omitted. However, the executionCodes must include NOBUYID and/or NOSELLID as appropriate.

Linkage Keys for **OT**:

- **Order Key:** date, exchange, optionID, buyDetails.orderID
- **Order Key:** date, exchange, optionID, sellDetails.orderID
- **Quote Key:** date, exchange, optionID, buyDetails.quoteID
- **Quote Key:** date, exchange, optionID, sellDetails.quoteID
- **Route Link Key:** date, symbol, exchange, buyDetails.routedOrderID
- **Route Link Key:** date, symbol, exchange, sellDetails.routedOrderID
- **Trade Key:** date, exchange, optionID, tradeID
- **Exchange/Firm Trade Key:** date, exchange, optionID, MOOTLINK, side

5.2.5.2. Stock Leg Fill Event

When a stock leg executes, it always executes at an away venue, which will report both sides of the trade. The options exchange, while possibly knowing both orders that crossed, did not actually perform the transaction. Thus, all transactions involving stock legs are reported as one-sided pass-along fills of the order, and contain the following data elements.

Table 52: Stock Leg Fill Event

#	Field Name	Data Type	Description	Include Key
	Option Stock Leg Fill (OSLF)			
1	type	Message Type	OSLF	R
2	exchange	Exchange ID	The ID of the exchange reporting the fill to CAT	R
3	eventTimestamp	Timestamp	The date/time when the fill was processed by the exchange	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	fillID	Text (40)	An identifier for the fill, unique per reporter/trade date. This ID should uniquely identify any fill for the given exchange, date, and symbol	R
7	symbol	Symbol	The symbol of the stock being filled	R
8	quantity	Unsigned	Quantity of the fill	R
9	price	Price	Price of the fill	R
10	saleCondition	Text (8)	Conditions under which trade was executed	C
11	executionCodes	Name / Value Pairs	Adds special exchange specific codes to an execution. Zero or more codes can be entered to provide additional execution information, like where a trade may have been executed on the floor	C
12	side	Choice	The side of the executed trade: See entry for "Side" in the Data Dictionary for acceptable values	R
13	leavesQty	Unsigned	The quantity remaining unfilled after this fill event	R
14	orderID	Text (40)	The ID of the stock leg order	R
15	clearingFirm	Text (10)	The Member Alias of the clearing firm	O
16	clearingNumber	Text (20)	DTCC clearing number for this side of the trade	O

Option Stock Leg Fill (OSLF)				
#	Field Name	Data Type	Description	Include Key
17	member	Member Alias	The identifier for the member firm that is responsible for the order. This is the same member as in the complex order	R
18	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OSLF**:

- **Order Key:** date, exchange, symbol, orderID
- **Fill Key:** date, exchange, symbol, fillID

5.2.6. Post Trade Allocation Event

In the event of a modified, canceled, or replaced post trade Allocation, only the final allocation should be reported to CAT.

The fields quoteID and orderID must reference the quote/order from the original trade that is being allocated. If the trade has neither a quoteID nor an orderID, then this event will include neither IDs as well (this implies that the executionCodes field from the original trade message contains either NOBUYID or NOSELLID).

Table 53: Post Trade Allocation Event

#	Field Name	Data Type	Description	Include Key
Post Trade Allocation
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OPTA	R
2	exchange	Exchange ID	The ID of the exchange reporting the fill to CAT	R
3	eventTimestamp	Timestamp	The date/time when the allocation happened	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID of the option being traded	R
7	tradeID	Text (40)	The ID for the trade that is being reallocated. This must match a previously reported trade	R
8	orderID	Text (40)	Order ID being allocated, only applicable when the allocation is related to an order. Both orderID and quoteID cannot be provided.	C
9	quoteID	Text (40)	The ID of the quote, only applicable when the allocation is related to a market maker quote. Both orderID and quoteID cannot be provided.	C
10	quantity	Unsigned	Quantity being allocated	R
11	price	Price	Price of the allocation	R
12	side	Choice	The side of the executed trade: See entry for "Side" in the Data Dictionary for acceptable values	R
13	receivingFirm	Alphanumeric (8)	The OCC number of the receiving firm	R
14	cmtaFirm	Alphanumeric (8)	The OCC number of the CMTA firm (only valid for CMTA trades)	C
15	openCloseIndicator	Choice	The position of the order: either Open, Close, or Unspecified	O
16	exchOriginCode	Choice	Exchange defined code designating the origin of the order, see data dictionary for list of acceptable values	O
17	mktMkrSubAccount	Text (20)	The sub-account for the market maker, only meaningful if exchOriginCode rolls up to Market Maker	O

Post Trade Allocation				
#	Field Name	Data Type	Description	Include Key
18	reason	Text (255)	Free format text fields, describing why allocation was done	O
19	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OPTA**:

- **Order Key:** date, exchange, optionID, orderID
- **Quote Key:** date, exchange, optionID, quoteID
- **Trade Key:** date, exchange, optionID, tradeID

5.3. Option Order Restatement Event

Options orders that persist across business days (e.g., GTC orders) must be restated each day before any other activity is reported for that symbol. The restatement is an explicit confirmation that the order is still active in the reporter's order book, and also provides an opportunity to use per-day unique order IDs for all orders.

The attributes of the order will be restated in terms of the order's current state, after any corporate actions have been processed. Pursuant to each exchange's rule book, some corporate action types dictate that persisted orders will be canceled or converted. If converted, the order restatement field values should reflect the adjusted values on the effective date (e.g., if a 2:1 split occurred, the quantity and price would reflect the resulting change).

The following fields will not be included if restating a complex option order, but are otherwise required: openCloseIndicator, orderType, exchOriginCode, coverage, executingFirm.

Table 54: Option Order Restatement Event

#	Field Name	Data Type	Description	Include Key
	Option Order Restatement (OORS)			
1	type	Message Type	OORS	R
2	exchange	Exchange ID	The identifier for the exchange which has received this order	R
3	eventTimestamp	Timestamp	The date/time when the order was restated	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange	R
8	originalOrderDate	Date	The most recent trading day for which the order was active. Note that this may not be the date when the order was originally accepted. If the order has been active for multiple trading days, this field must reference the previous trading day when the order was active	R
9	originalOrderID	Text (40)	The most recent internal order ID that was assigned to the order before the Restatement Event. If the orderID has not changed, then orderID and originalOrderID must be equivalent. Note this requirement is different from modification events	R
10	side	Choice	The side of the order: See entry for "Side" in the Data Dictionary for acceptable values	R
11	price	Price	The limit price of the order, if applicable. Adjusted following corporate action, if applicable	C
12	quantity	Unsigned	The order quantity, as adjusted for a corporate action, if applicable	R
13	displayQty	Unsigned	The display quantity, as adjusted for a corporate action, if applicable	R
14	displayPrice	Price	The displayed price for this order (required if displayQty is greater than zero)	C

			Option Order Restatement (OORS)	
#	Field Name	Data Type	Description	Include Key
15	workingPrice	Price	The working price of the order	C
16	leavesQty	Unsigned	The quantity of the order that remains open, as adjusted for a corporate action, if applicable	C
17	openCloseIndicator	Choice	the position of the order: either Open, Close, or Unspecified	C
18	orderType	Choice	The order type is one of several possible pre-defined order types. There are a few general order type codes, and several codes unique for each exchange. See the corresponding entry in the Data Dictionary for more details about order types	C
19	timeInForce	Choice	The Time-in-Force for the order (e.g., DAY, IOC, GTC). See the Data Dictionary for a complex list of acceptable values	R
20	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details	C
21	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order, that are not necessarily handling instructions	C
22	exchOriginCode	Choice	Exchange defined code designating the origin of the order, see data dictionary for list of acceptable values	C
23	coverage	Choice	Specifies whether the order is covered or uncovered. This field may also be filled in as unspecified. See the data dictionary for a list of acceptable values	C
24	executingFirm	Alphanumeric(8)	The OCC number of the executing/give-up firm	C
25	cmtaFirm	Alphanumeric(8)	The OCC number of the CMTA firm (only valid for CMTA trades)	C
26	member	Member Alias	The identifier for the member firm that is responsible for the order	R
27	mktMkrSubAccount	Text (20)	The sub-account for the market maker, only valid when Origin Code is Market Maker	C
28	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays.	C

			Option Order Restatement (OORS)		
#	Field Name	Data Type	Description		Include Key
			An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1.		
			The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)		

Linkage Keys for **OORS**:

- **Order Key:** date, exchange, optionID, orderID
- **Previous Order Key:** originalOrderDate, exchange, optionID, originalOrderID

5.4. Option Trade Break Event

When a trade is broken, an event is reported to CAT with the appropriate information. Note that CAT adds the event to the history of the order. The broken trade is not removed from the history, as it is something that actually happened and should be recorded.

Table 55: Option Trade Break Event

			Option Trade Break (OTB)	
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OTB	R
2	exchange	Exchange ID	The ID for the exchange on which the trade took place	R
3	eventTimestamp	Timestamp	The date/time of the break event	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory	R

			Option Trade Break (OTB)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
7	tradeDate	Date	The date on which the trade being broken occurred	R
8	tradeID	Text (40)	The ID for the trade that is being broken. This must match a previously reported trade	R
9	quantity	Unsigned	If the full quantity is being broken, then this field can be omitted. Otherwise, this represents the quantity of the original trade that is being broken	O
10	reason	Text (255)	Free format text field, with the reason for the break	O
11	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OTB**:

- **Trade Key:** tradeDate, exchange, optionID, tradeID

5.5.   Option Trade Correction Event

If a trade is corrected in any way, a correction event must be reported to CAT with all details of the trade, after having been corrected. This event must capture the entire state of the trade after having been corrected.

As with trade breaks, CAT will still keep the original trade, adding the correction to the audit trail of the trade being corrected.

Table 56: Option Trade Correction Event

		Option Trade Correction (OTC)		
#	Field Name	Data Type	Description	Include Key
1	type	Message Type	OTC	R
2	exchange	Exchange ID	The ID of the participant reporting the trade event to CAT	R
3	eventTimestamp	Timestamp	The date/time when the trade correction occurred	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C
6	tradeID	Text (40)	An identifier for the trade being corrected	R
7	refTradeID	Text (40)	The trade being referenced. Used to link corrections if trade corrections can assign new identifiers to trades. If included, refTradeID must reference a previously reported trade, or a previously reported trade correction that has a matching tradeID	C
8	optionID	Text (40)	The ID of the option being traded	R
9	quantity	Unsigned	Quantity of the trade	R
10	price	Price	Price of the trade	R
11	saleCondition	Text (8)	Conditions under which trade was executed	C
12	executionCodes	Name / Value Pairs	Adds special exchange specific codes to an execution. Zero or more codes can be entered to provide additional execution information, like where a trade may have been executed on the floor. These codes apply to both sides of the trade	C
13	executionTimestamp	Timestamp	The date/time of the execution, applicable only when the execution time was corrected	O
14	reason	Text (255)	Free format text field, describing the reason why the correction was made	O
15	buyDetails	Side Trade Details	Information for the buy side of the trade. Format and element definitions for Buy Details are described in Table 51: Side Trade Details.	O
16	sellDetails	Side Trade Details	Information for the buy side of the trade. Format and element definitions for Sell Details are described in Table 51: Side Trade Details.	O

Option Trade Correction (OTC)				
#	Field Name	Data Type	Description	Include Key
17	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **OTC**:

- **Order Key:** date, exchange, optionID, buyDetails.orderID
- **Order Key:** date, exchange, optionID, sellDetails.orderID
- **Route Link Key:** date, optionID, exchange, buyDetails.routedOrderID
- **Route Link Key:** date, optionID, exchange, sellDetails.routedOrderID
- **Quote Key:** date, exchange, optionID, buyDetails.quoteID
- **Quote Key:** date, exchange, optionID, sellDetails.quoteID
- **Trade Key:** date, exchange, optionID, tradeID
- **Trade Key:** date, exchange, optionID, refTradeID

5.6.   Option Floor Broker Events

The options floor participant event captures instances when an order routed by the matching engine to a floor participant is returned to the matching engine. The floor participant has the option to request the return of the order, or to permanently relinquish the order to the matching engine.

5.6.1. Floor Participant Event

Table 57: Floor Participant

#	Field Name	Data Type	Description	Include Key
	Floor Participant (OFP)			
1	type	Message Type	OFP	R
2	exchange	Exchange ID	The ID for the exchange that reported the event.	R
3	eventTimestamp	Timestamp	The date/time the matching engine was checked.	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps.	R
5	seqNumSub	Text (10)	A sequence number subsystem identifier assigned to the system that rejected the message. Required if different systems that reject messages do not share the same message sequencing process.	C
6	optionID	Text (40)	The ID previously assigned to this option in the reporter's option directory.	R
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange.	R
8	routingParty	Text (8)	The ID string used to identify the floor participant who sent this routed order.	R
9	routedOrderID	Text (40)	The ID assigned to this order when the floor participant submits the order to the exchange.	R
10	routedOriginalOrderID	Text (40)	The routedOrderID for the OFP being modified.	C
11	session	Text (40)	The name of the session used to send the order from the floor participant to the matching engine.	R
12	side	Choice	The side of the order: See entry for "side" in the Data Dictionary for acceptable values.	R
13	price	Price	Limit price for the event, which may be different than the limit price for the order. Required unless the Order Type precludes a price.	C
14	quantity	Unsigned	Quantity of the event. May be different from both the order qty and the leaves qty for the order.	R
15	displayQty	Unsigned	The displayed quantity for this event	R

			Floor Participant (OFP)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**	
16	displayPrice	Price	Display price for the event. This must be provided on simple option orders (i.e. complexOrderID is null) when displayQty is greater than zero.	C	
17	workingPrice	Price	Working Price of the event.	C	
18	orderType	Choice	See the corresponding entry in the Data Dictionary for more details about order types. Required if the event has a different orderType from the order.	C	
19	timeInForce	Choice	Time-in-Force for the event. See the Data Dictionary for a complete list of acceptable values.	R	
20	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details. Instructions presented here should include instructions added by the Floor Participant, if any.	C	
21	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions. Attributes presented here should include instructions added by the Floor Participant, if any.	C	
22	member	Member Alias	The identifier for the member firm that is responsible for the order	R	
23	nbbPrice	Price	NBBO at the moment just before the event is accepted by the matching engine.	R	
24	nbbQty	Unsigned		O	
25	nboPrice	Price		R	
26	nboQty	Unsigned		O	
27	complexOrderID	Text (40)	The Order ID for the parent complex order, if this event represents a leg of a complex order. This must be provided if the order represents a leg of a complex order.	C	
28	complexOptionID	Text (40)	The optionID for the parent complex order, if this event represents a leg of a complex order. Not reported if the complex order's orderID is globally unique	C	
29	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps	C	

			Floor Participant (OFP)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			in Eastern Time as well as the occurrence of US Holidays.	
			An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1.	
			The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	

Linkage Keys for **OFP**:

- **Order Key:** date, exchange, optionID, orderID
- **Cross Order Key:** date, exchange, optionID, orderID, pairedOrderId (if populated in order attributes name value pair)
- **Route Link Key:** date, optionID, routingParty, routedOrderID, session, exchange
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.6.2.   Complex Floor Participant Event

Table 58: Complex Floor Participant Event

			Complex Floor Participant (OCFP)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	OCFP	R
2	exchange	Exchange ID	The ID for the exchange.	R
3	eventTimestamp	Timestamp	The date/time the matching engine was checked.	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps.	R
5	seqNumSub	Text (10)	A sequence number subsystem identifier assigned to the system that rejected the message. Required if different systems that reject messages do not share the same message sequencing process.	C
6	optionID	Text (40)	The ID previously assigned to this option in the	R

		Complex Floor Participant (OCFP)		
#	Field Name	Data Type	Description	Include Key
			reporter's option directory	
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange.	R
8	routingParty	Text (8)	The ID string used to identify the entity or individual who sent this routed order.	R
9	routedOrderID	Text (40)	The ID assigned to this order by the routing firm when submitting the order to the exchange	R
10	routedOriginalOrderID	Text (40)	The routed ID for the OCFB being modified.	C
11	session	Text (40)	The name of the session used to send the order from the floor participant to the exchange.	R
12	side	Choice	The side of the order, for a complex order the values for side can be either "AsDirected" or "Opposite", see entry for "Side" in the Data Dictionary for acceptable values.	R
13	price	Price	The net price of the order, which may be negative.	C
14	quantity	Unsigned	Quantity of the event.	R
15	timeInForce	Choice	Time-in-Force for the event. See the Data Dictionary for a complete list of acceptable values.	R
16	handlingInstructions	Name / Value Pairs	The handling instructions field contains one or more instruction codes from the pre-defined list of order handling instructions. See the documentation in the Data Dictionary for more details. Instructions presented here should include instructions added by the Floor Participant, if any.	C
17	orderAttributes	Name/Value Pairs	Defines reportable attributes of an order that are not necessarily handling instructions. Attributes presented here should include instructions added by the Floor Participant, if any.	C
18	member	Member Alias	The identifier for the member firm that is responsible for the order	R
19	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps	C

	Complex Floor Participant (OCFP)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			in Eastern Time as well as the occurrence of US Holidays.	
			An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1.	
			The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	

Linkage Keys for **OCFP**:

- **Order Key:** date, exchange, optionID, orderID
- **Cross Order Key:** date, exchange, optionID, orderID, pairedOrderId (if populated in order attributes name value pair)
- **Route Link Key:** date, optionID, routingParty, routedOrderID, session, exchange
- **Complex Order Key:** date, exchange, [complexOptionID,] complexOrderID

5.6.3. Return to Floor Participant Event

Table 59: Return to Floor Participant

	Return to Floor Participant (ORFP)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	ORFP	R
2	exchange	Exchange ID	The ID for the exchange.	R
3	eventTimestamp	Timestamp	The date/time the matching engine was checked.	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps.	R
5	seqNumSub	Text (10)	A sequence number subsystem identifier assigned to the system that rejected the message. Required if different systems that reject messages do not share the same message sequencing process.	C
6	optionID	Text (40)	The ID previously assigned to this option in the	R

#	Field Name	Data Type	Description	Include Key
			reporter's option directory	
7	orderID	Text (40)	The internal order ID assigned to the order by the exchange. If a leg is being canceled, the orderID will represent the leg order being canceled	R
8	cancelQty	Unsigned	The quantity being canceled	R
9	leavesQty	Unsigned	The quantity left open after the cancel event (zero for a full cancel)	R
10	initiator	Choice	Indicates who initiated the order cancellation: See entry for "initiator" in the Data Dictionary for acceptable values	R
11	cancelReason	Choice	Code representing the reason why the order was returned to the Floor Participant. The actual value of the code is exchange specific. See Data Dictionary for the list of allowed values	O
12	member	Member Alias	The identifier for the member firm that is responsible for the order	R
13	cycleDate	Date	Set equal to the US business date upon which the daily trading cycle of an event ends. A trading cycle may include more than one trading session. In global trading scenarios, the trading cycle of an order may span multiple dates due to the CAT requirement for representing all event timestamps in Eastern Time as well as the occurrence of US Holidays. An event that occurs on a Global Market where the Eastern Time equivalent is a non-US business date including a holiday or weekend must set the Cycle Date equal to the next US business date. And an event that occurs on a Global Market where the Eastern Time equivalent is a US business date (T) where subsequent events for that event may occur on the next Eastern Time equivalent US business date (T+1) must set the Cycle Date equal to T+1. The Cycle Date must be populated for all orders in an options series for which the trading cycle begin date is prior to the trading cycle end date. The Cycle Date must be between the Event Date and T+1, inclusive. (Where T+1 means Trade Date plus the next Trade Date.)	C

Linkage Keys for **ORFP**:

- **Order Key:** date, exchange, optionID, orderID

5.7. Lifecycle Keys

The lifecycle keys for each event are summarized in the following table. The date component of each Lifecycle Key is typically derived from the event timestamp. However, when a cycle date is provided, it will be used as the date component of the Lifecycle Key, allowing events that occur on different calendar dates, but within the same cycle date, to be properly linked.

Table 60: Section 5 Lifecycle Keys

Section	Event	Lifecycle Keys
5.1.1	Quote	**Quote Key**: date, exchange, optionID, quoteID **Previous Quote Key**: date, exchange, optionID, originalQuoteID
5.1.2	Quote Cancel	**Quote Key**: date, exchange, optionID, quoteID
5.2.1.1	Simple Option Order Accepted	**Order Key**: date, exchange, optionID, orderID **Cross Order Key**: date, exchange, orderID, pairedOrderId (if populated in order attributes name value pair) **Route Link Key**: date, optionID, routingParty, routedOrderID, session, exchange **Complex Order Key**: date, exchange, [complexOptionID,] complexOrderID
5.2.1.2	Complex Option Order Accepted	**Order Key**: date, exchange, [optionID,] orderID **Cross Order Key**: date, exchange, [optionID], orderID, pairedOrderId (if populated in order attributes name value pair) **Route Link Key**: date, optionID, routingParty, routedOrderID, session, exchange
5.2.1.3	Stock Leg Order	**Order Key**: date, exchange, symbol, orderID **Complex Order Key**: date, exchange, [complexOptionID,] complexOrderID
5.2.2.1	Option Order Modified	**Order Key**: date, exchange, optionID, orderID **Cross Order Key**: date, exchange, orderID, pairedOrderId (if populated in order attributes name value pair) **Previous Order Key**: date, exchange, optionID, originalOrderID **Complex Order Key**: date, exchange, [complexOptionID,] complexOrderID **Route Link Key**: date, optionID, routedOrderID, exchange, routingParty, session
5.2.2.2	Complex Option Order Modified	**Order Key**: date, exchange, optionID, orderID **Cross Order Key**: date, exchange, optionID, orderID, pairedOrderId (if populated in order attributes name value pair) **Previous Order Key**: date, exchange, optionID, originalOrderID **Route Link Key**: date, optionID, routedOrderID, exchange, routingParty, session
5.2.2.3	Stock Leg Modified	**Order Key**: date, exchange, symbol, orderID

Section	Event	Lifecycle Keys
		Previous Order Key: date, exchange, symbol, originalOrderID
		Complex Order Key: date, exchange, [complexOptionID,] complexOrderID
5.2.2.4	Option Order Adjusted	**Order Key**: date, exchange, optionID, orderID
		Cross Order Key: date, exchange, optionID, orderID, pairedOrderId (if populated in order attributes name value pair)
		Previous Order Key: date, exchange, optionID, originalOrderID
		Complex Order Key: date, exchange, [complexOptionID,] complexOrderID
		Route Link Key: date, optionID, routedOrderID, exchange, routingParty, session
5.2.2.5	Complex Option Order Adjusted	**Order Key**: date, exchange, optionID, orderID
		Cross Order Key: date, exchange, optionID, orderID, pairedOrderId (if populated in order attributes name value pair)
		Previous Order Key: date, exchange, optionID, originalOrderID
		Route Link Key: date, optionID, routedOrderID, exchange
5.2.2.6	Stock Leg Adjusted	**Order Key**: date, exchange, symbol, orderID
		Previous Order Key: date, exchange, symbol, originalOrderID
		Complex Order Key: date, exchange, [complexOptionID,] complexOrderID
		Route Link Key: date, optionID, routedOrderID, exchange, routingParty, session
5.2.3	Option Order Canceled	**Order Key**: date, exchange, optionID, orderID
		Order Key: date, exchange, symbol, orderID
5.2.4.2	Option Route	**Order Key**: date, exchange, optionID, orderID
		Order Key: date, exchange, symbol, orderID
		Route Link Key: date, optionID, routingParty, routedOrderID, exchange
		Route Link Key: date, symbol, routingParty, routedOrderID, exchange
		Complex Order Key: date, exchange, [complexOptionID,] complexOrderID
5.2.4.3	Complex Option Route	**Order Key:** date, exchange, optionID, orderID
		Route Link Key: date, exchange, routingParty, routedOrderID
5.2.4.4	Internal Option Route	**Order Key**: date, exchange, optionID, orderID
		Order Key: date, exchange, symbol, orderID
		Route Link Key: date, optionID, routingParty, routedOrderID, session, exchange
		Route Link Key: date, symbol, routingParty, routedOrderID, session, exchange
		Complex Order Key: date, exchange, [complexOptionID,] complexOrderID
5.2.4.5	Internal Complex Option Route	**Order Key**: date, exchange, optionID, orderID
		Route Link Key: date, optionID, routingParty, routedOrderID, session,

Section	Event	Lifecycle Keys
		exchange
5.2.4.6	Modify Option Route	**Order Key**: date, exchange, optionID, orderID
		Order Key: date, exchange, symbol, orderID
		Route Link Key: date, optionID, routingParty, routedOrderID, exchange
		Route Link Key: date, symbol, routingParty, routedOrderID, exchange
		Previous Route Link Key: date, optionID, routingParty, routedOriginalOrderID, exchange
		Previous Route Link Key: date, symbol, routingParty, routedOriginalOrderID, exchange
5.2.4.7	Option Cancel Route	**Order Key**: date, exchange, optionID, orderID
		Order Key: date, exchange, symbol, orderID
		Route Link Key: date, optionID, routingParty, routedOrderID, exchange
		Route Link Key: date, symbol, routingParty, routedOrderID, exchange
5.2.5.1	Simple Option Trade	**Order Key**: date, exchange, optionID, buyDetails.orderID
		Order Key: date, exchange, optionID, sellDetails.orderID
		Quote Key: date, exchange, optionID, buyDetails.quoteID
		Quote Key: date, exchange, optionID, sellDetails.quoteID
		Trade Key: date, exchange, optionID, tradeID
5.2.5.2	Stock Leg Fill	**Order Key**: date, exchange, symbol, orderID
		Fill Key: date, exchange, symbol, fillID
5.2.6	Post Trade Allocation	**Order Key**: date, exchange, optionID, orderID
		Quote Key: date, exchange, optionID, quoteID
		Trade Key: date, exchange, optionID, tradeID
5.3	Option Order Restatement	**Order Key**: date, exchange, optionID, orderID
		Previous Order Key: originalOrderDate, exchange, optionID, originalOrderID
5.4	Option Trade Break	**Trade Key**: tradeDate, exchange, optionID, tradeID
5.5	Option Trade Correction	**Order Key**: date, exchange, optionID, buyDetails.orderID
		Order Key: date, exchange, optionID, sellDetails.orderID
		Route Link Key: date, optionID, exchange, buyDetails.routedOrderID,buyDetails
		Route Link Key: date, optionID, exchange, sellDetails.routedOrderID,
		Quote Key: date, exchange, optionID, buyDetails.quoteID
		Quote Key: date, exchange, optionID, sellDetails.quoteID
		Trade Key: date, exchange, optionID, tradeID

Section	Event	Lifecycle Keys
6.2.1	Floor Participant	**Order Key**: date, exchange, optionID, orderID **Cross Order Key**: date, exchange, optionID, orderID, pairedOrderId (if populated in order attributes name value pair) **Route Link Key**: date, optionID, routingParty, routedOrderID, session, exchange **Complex Order Key**: date, exchange, [complexOptionID,] complexOrderID
6.2.2	Complex Floor Participant	**Order Key**: date, exchange, optionID, orderID **Cross Order Key**: date, exchange, optionID, orderID, pairedOrderId (if populated in order attributes name value pair) **Route Link Key**: date, optionID, routingParty, routedOrderID, session, exchange **Complex Order Key**: date, exchange, [complexOptionID,] complexOrderID
6.2.3	Return to Floor Participant	**Order Key**: date, exchange, optionID, orderID

6. FINRA Reporting

6.1. TRF/ORF/ADF Transaction Data Event

Transactions in Eligible Securities reported to a FINRA trade reporting facility must be reported to CAT by FINRA.

Table 61: FINRA TRF/ORF ADF Transaction Data Event

	FINRA TRF/ORF/ADF Transaction Data Event (TRF)			
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	TRF	R
2	actionType	Choice	Indicates if this is a new event, a FINRA-initiated correction, or a firm-initiated correction. **This is a pass-through value and is not used for FINRA CAT processing. Any correction event must be submitted using the standard correction process.** See Data Dictionary: `actionType`	R
3	tradeReportDate	Date	Date the trade report was received by the reporting facility.	R
4	tradeReportTimestamp	Timestamp	Date and time the trade report was received by the reporting facility.	R
5	executionDate	Date	Date the execution occurred.	R
6	executionTimestamp	Timestamp	Date and time the execution occurred.	R
7	contraReportDate	Date	Date the contra party reported the trade.	C
8	contraReportTime	Time	Time the contra party reported the trade.	O
9	contraReportTimestamp	Timestamp	Date and time the contra party reported the trade.	C
10	contraExecutionTimestamp	Timestamp	Date and time the contra party reported that the execution took place.	C
11	assumedExecutionTimestamp	Timestamp	Date and time the trade is assumed to have been executed based on available information.	R
12	acceptTime	Time	Time the trade was accepted by the contra party.	O
13	acceptTimestamp	Timestamp	Date and time the trade was accepted by the contra party.	C

		FINRA TRF/ORF/ADF Transaction Data Event (TRF)		
#	Field Name	Data Type	Description	Include Key
14	declineTime	Time	Time the trade was declined by the contra party.	O
15	declineTimestamp	Timestamp	Date and time the trade was declined by the contra party.	C
16	cancellationTimestamp	Timestamp	Date and time the reporting party cancelled the trade.	C
17	lockedInTradeTimestamp	Timestamp	Date and time the locked-in trade report was received by the reporting facility.	C
18	tradeBreakTimestamp	Timestamp	Date and time the reporting party submitted their break request.	C
19	tradeBrokenTimestamp	Timestamp	Date and time the contra party submitted their break confirmation.	C
20	tradeSettlementDate	Date	Date on which the trade will settle.	C
21	issueSymbolId	Symbol	Character symbol of the traded issue.	R
22	marketCenterId	Choice	Reporting facility to which the trade was reported. See Data Dictionary: `marketCenterId`	R
23	relatedMarketCenterId	Choice	For the non-tape "riskless" leg of a riskless principal transaction, the facility or market where the first leg of the transaction was reported. See Data Dictionary: `relatedMarketCenterId`	C
24	reportedSideCode	Choice	Side of the trade (buy/sell/cross) from the perspective of the firm with the reporting obligation. See Data Dictionary: `reportedSideCode`	R
25	reportingSideMpid	Member Alias	MPID of the firm with the reporting obligation.	R
26	reportingExecutingMpid	Member Alias	MPID of the executing party.	R
27	contraSideReportingMpid	Member Alias	MPID of the contra-side firm that reported the trade.	C
28	contraExecutingMpid	Member Alias	MPID of the contra-side executing party.	C
29	reportingSideClearingNumber	Unsigned	Clearing number of the firm that cleared the trade for the reporting-side firm.	R

		FINRA TRF/ORF/ADF Transaction Data Event (TRF)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
30	reportingSideBranchSequenceIdentifier	Text (20)	Branch/sequence number of the reporting-side firm.	C
31	reportingSideCapacityCode	Choice	Capacity of the reporting-side firm. See Data Dictionary: `reportingSideCapacityCode`	C
32	reportingSideShortSaleCode	Choice	Identifies a short sale by the executing firm and indicates the type of short. See Data Dictionary: `reportingSideShortSaleCode`	C
33	contraSideClearingNumber	Unsigned	Clearing number of the firm that cleared the trade for the contra-side firm.	C
34	contraSideBranchSequenceIdentifier	Text (20)	Branch/sequence number of the contra-side firm.	C
35	contraSideCapacityCode	Choice	Capacity of the contra-side firm. See Data Dictionary: `contraSideCapacityCode`	C
36	contraSideShortSaleCode	Choice	Identifies a short sale by the contra firm and indicates the type of short. See Data Dictionary: `contraSideShortSaleCode`	C
37	executionQuantity	Unsigned	Number of shares traded.	R
38	executionPrice	Price	Unit price of the trade.	R
39	reportedShareQuantity	Unsigned	Number of shares traded as reported to the SIP.	C
40	reportedUnitPrice	Price	Unit price of the trade as reported to the SIP.	C
41	clearingPrice	Price	Trade price inclusive of commissions. This information is only currently available for reported trades to the Nasdaq TRF.	C
42	publishIndicatorCode	Choice	Identifies if the trade is media reportable or not (could differ from the mediaReportedFlag for odd lot trades). See Data Dictionary: `publishIndicatorCode`	R
43	mediaReportedFlag	Choice	Identifies if the trade was media reported or not (could differ from the publishIndicatorCode for odd lot trades).	R

		FINRA TRF/ORF/ADF Transaction Data Event (TRF)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			See Data Dictionary: `mediaReportedFlag`	
44	tradeStatusCode	Choice	Final status of the trade at the time it was reported. See Data Dictionary: `tradeStatusCode`	C
45	tradeSettlementModifier	Choice	Identifies a Reg NMS Settlement Type Sale Condition Code associated with a trade transaction. See Data Dictionary: `tradeSettlementModifier`	C
46	tradeThroughExemptionModifier	Choice	Further classification of the trade with regard to Trade Through Exemption. This is entered by the firm when it reports the trade. See Data Dictionary: `tradeThroughExemptionModifier`	C
47	tradeReportingModifier	Choice	Further classification of the trade with regard to Extended Hours/Sequence. This can either be entered by the firm or appended by the system. See Data Dictionary: `tradeReportingModifier`	C
48	sroRequiredModifier	Choice	Further classification of the trade with regard to SRO required detail. This can either be entered by the firm or appended by the system. See Data Dictionary: `sroRequiredModifier`	C
49	systemAppendedTradeReportingModifierFlag	Choice	Identifies if the Trade Reporting Modifier Code was entered by the reporting firm or appended by the reporting facility. See Data Dictionary: `systemAppendedTradeReportingModifierFlag`	R
50	originalModifierCode	Text (4)	Four-byte trade modifier as entered by the firm.	C
51	reversalFlag	Choice	Indicates that the trade report is reversal transaction. See Data Dictionary: `reversalFlag`	R
52	carryoverFlag	Choice	Indicates that the trade transaction was carried over (not accepted/declined by the contra firm on T+0) for processing.	C

		FINRA TRF/ORF/ADF Transaction Data Event (TRF)		
#	Field Name	Data Type	Description	Include Key
			See Data Dictionary: `carryoverFlag`	
53	tradeThroughExempt Flag	Choice	Indicates that the trade is trade through exempt. See Data Dictionary: `tradeThroughExemptFlag`	C
54	contraEntryFlag	Choice	Indicates that the contra party is the only side that reported the trade. See Data Dictionary: `contraEntryFlag`	C
55	explicitFeeFlag	Choice	Indicates if a Clearing Price was entered. See Data Dictionary: `explicitFeeFlag`	C
56	clearingFlag	Choice	Clearing and matching specifications of the trade transaction. See Data Dictionary: `clearingFlag`	R
57	specialTradeCode	Choice	Identifies special and step-out trades. See Data Dictionary: `specialTradeCode`	C
58	supervisoryEntryCod e	Choice	Indicates if a Market Operations Supervisor entered the trade message on behalf of the reporting side of the trade transaction. See Data Dictionary: `supervisoryEntryCode`	C
59	controlNumber	Text (30)	Unique identifier for the reporting side of each trade transaction.	R
60	reportingSideMemoT ext	Text (30)	Provides a link (via Control Number) to the original trade report, when a subsequent report is submitted to reallocate some of the trade volume to a different capacity. This is a free-form text field; participants can enter any information in this field.	C
61	tradeSourceCode	Choice	Trade Sources. See Data Dictionary: `tradeSourceCode`	R
62	contraControlNumber	Text (30)	Control Number for the contra party.	C
63	OEMemoTx	Text (10)	Memo text entered by firm.	C
64	reportTypeCode	Choice	Identifies whether this is a No/Was report. See Data Dictionary: `reportTypeCode`	C

		FINRA TRF/ORF/ADF Transaction Data Event (TRF)		
#	Field Name	Data Type	Description	Include Key
65	noWasLinkNumber	Text (30)	Link to first No transaction.	C
66	intendedMarketCenter	Choice	Intended Market Center. See Data Dictionary: `intendedMarketCenter`	C
67	tradeReferenceNumber	Text (20)	Trade Reference Number	C
68	priceOverrideCode	Choice	Identifies if a price validation test was overridden when the trade was entered into ACT. (When trades are entered into ACT, they are validated for reasonableness against a Price Validation Table. The Price Override widens the validation range). See Data Dictionary: `priceOverrideCode`	C
69	asOfFlag	Choice	Indicates as-of trade. See Data Dictionary: `asOfFlag`	R
70	lastUpdateDate	Date	Date the record was last updated.	R
71	lastUpdateTime	Timestamp	Date and time the record was last updated.	C
72	lockedInFlag	Choice	Locked-in flag. See Data Dictionary: `lockedInFlag`	C
73	noLinkControlNumber	Text (30)	Provides a link (via Control Number) to previous No transaction.	C
74	firmTradeModifierSettlementTypeCode	Choice	User Trade Modifier - Settlement Type (Settlement modifiers). See Data Dictionary: `firmTradeModifierSettlementTypeCode`	C
75	firmTradeModifierThroughExemptCode	Choice	Further classification of the trade with regard to Trade Through Exemption. This is entered by the firm when it reports the trade. See Data Dictionary: `firmTradeModifierThroughExemptCode`	C
76	firmTradeModifierLateCode	Choice	System Trade Modifier - Time Modifiers (TradeModifier 3 in the FIX Spec). See Data Dictionary: `firmTradeModifierLateCode`	C
77	finraTradeModifierSroCode	Choice	System Trade Modifier SRO - Updated by MPP System.	C

			FINRA TRF/ORF/ADF Transaction Data Event (TRF)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			See Data Dictionary: `finraTradeModifierSroCode`	
78	trfTradeModifierSroCode	Choice	User Trade Modifier - SRO - Updated by TRF. SRO detail sale condition. Required indicator if a trade falls under one of the following transaction types (otherwise the field must not be set). See Data Dictionary: `trfTradeModifierSroCode`	C
79	trfTradeModifierLateCode	Choice	System Trade Modifier - Time Modifiers - Updated by TRF. See Data Dictionary: `trfTradeModifierLateCode`	C
80	finraTradeModifierLateCode	Choice	System Trade Modifier - Time Modifier - Updated by MPP Engine. See Data Dictionary: `finraTradeModifierLateCode`	C
81	reportingObligationFlag	Choice	Identifies if the reporting-side firm had the reporting obligation for the trade under FINRA trade reporting rules. See Data Dictionary: `reportingObligationFlag`	C
82	tradeCorrectionClassCode	Choice	Trade Correction Classification. See Data Dictionary: `tradeCorrectionClassCode`	C
83	contraReportingObligationFlag	Choice	Identifies if the contra-side firm had the reporting obligation for the trade under FINRA trade reporting rules. See Data Dictionary: `contraReportingObligationFlag`	C
84	finraContraControlDate	Date	Control Date corresponding to FINRA Contra Control Number.	C
85	finraContraControlNumber	Text (30)	Control Number used for interaction between TRFs and FINRA; populated only when trade is matched by comparison. Will be unique for a trade report date and market center.	C
86	finraControlDate	Date	Control Date of the current version of the trade.	R
87	finraControlNumber	Text (30)	Control Number of the current version of the trade.	R

#	Field Name	Data Type	Description	Include Key
			FINRA TRF/ORF/ADF Transaction Data Event (TRF)	
88	firstTradeFinraControlDate	Date	Control Date of the first version of the trade.	R
89	firstTradeFinraControlNumber	Text (30)	Control Number of the first version of the trade.	R
90	previousTradeFinraControlDate	Date	FINRA Control Date of the previous version of the trade.	C
91	previousTradeFinraControlNumber	Text (30)	FINRA Control Number of the previous version of the trade.	C
92	positionTransferFlag	Choice	Special processing flag indicating that the transaction is for internal FINRA use only and should not be disseminated. See Data Dictionary: `positionTransferFlag`	C
93	trfContraControlNumber	Text (30)	Control Number used for interaction between TRFs and Firms; populated only when trade is matched by comparison. May not be unique for a given day.	C
94	trfControlNumber	Text (30)	Control Number used for interaction between Firms and TRFs. May not be unique for a given day.	C
95	referenceNumber	Text (20)	User-defined trade reference number.	C
96	firmTradeModifierSroCode	Choice	Further classification of the trade with regard to SRO required detail. This can either be entered by the firm or appended by the system. See Data Dictionary: `firmTradeModifierSroCode`	C
97	finraTradeModifierThroughExemptTime	Time	System Trade Thru Exempt Modifier Date and Time.	C
98	tradeModifierThroughExemptTime	Time	User Trade Thru Exempt Modifier Time.	O
99	tradeModifierSroTime	Time	Time associated with Prior Reference Price or Stopped Stock trade.	O
100	referenceReportingFacility	Text (6)	Reference Reporting Facility.	C
101	trfProcessingDate	Date	Date FINRA received the record from the reporting facility.	R

		FINRA TRF/ORF/ADF Transaction Data Event (TRF)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
102	recordUniqueIdentifier	Text (31)	FINRA-assigned unique identifier for each Reported Trade record.	R
103	recordLoadDate	Date	Date the record was created.	R
104	firstTradeFinraContraControlDate	Date	Control Date of the first trade in a chain of corrections on the contra side trade report.	C
105	firstTradeFinraContraControlNumber	Text (30)	Control Number of the first trade in a chain of corrections on the contra side trade report.	C
106	previousTradeFinraContraControlDate	Date	Control Date of the previous trade in a chain of corrections on the contra side trade report.	C
107	previousTradeFinraContraControlNumber	Text (30)	Control Number of the previous trade in a chain of corrections on the contra side trade report.	C
108	firmOriginalTrfControlNumber	Text (30)	Original Control Number provided by the TRF to the firm.	C
109	reportingSubmittingEntityId	Text (4)	Indicates the entity that initiated the submission. For a FINRA-initiated submission on behalf of the firm, this will be 'FNRA'. Otherwise, for a firm-initiated submission, it will be the firm MPID. For NC TRF, NQ TRF and NY TRF, this is always NQTC, NQTR or NYTR. For ADF and ORF it is the MPID of the submitting firm.	R
110	contraSubmittingEntityId	Text (4)	Indicates the entity that initiated the submission. For a FINRA-initiated submission on behalf of the firm, this will be 'FNRA'. Otherwise, for a firm-initiated submission, it will be the firm MPID. For NC TRF, NQ TRF and NY TRF, this is always NQTC, NQTR or NYTR. For ADF and ORF it is the MPID of the submitting firm.	C

6.2. OTC Halt/Resume Data

FINRA will report OTC Halt/Resume data to FINRA CAT with the following fields:

Table 62: FINRA Halt/Resume

			FINRA Halt/Resume (FHR)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	FHR	R
2	tradeDate	Date	Date on which message was disseminated; derived from the date portion of the `messageTimestamp`.	R
3	messageCategory	Choice	This field, along with the `haltMessageType`, identifies the message format. See Data Dictionary: `messageCategory`	R
4	haltMessageType	Choice	This field, along with the `messageCategory`, identifies the message format. See Data Dictionary: `haltMessageType`	R
5	sessionIdentifier	Choice	Indicates the market session of the message. See Data Dictionary: `sessionIdentifier`	R
6	retransmissionRequester	Text (2)	Indicates if the message is an original transmission or retransmission. If the message is a retransmission, this field indicates the two-character retransmission identifier of the intended data recipient. Values may include: **O (space)** An original transmission to all recipients **R (space)** A retransmission to all recipients **T (space)** A test cycle transmission to all recipients **Specific Vendor ID** Two-character value to be assigned on vendor-by-vendor basis. Contact FINRA for additional information. Note: Because the value could be any two-character value, this field will not be validated against a list of allowable values. Additionally, FINRA CAT will strip all leading and trailing spaces when storing the input data.	R
7	messageSequenceNumber	Unsigned	At the beginning of each operational cycle, this number will be set to '00000000' (for the Start of Day) for each data channel.	R
8	marketCenterOriginatorID	Choice	Market center or system that originated the action.	R

			FINRA Halt/Resume (FHR)		
#	**Field Name**	**Data Type**	**Description**		**Include Key**
			See Data Dictionary: `marketCenterOriginatorID`		
9	messageTimestamp	Timestamp	The date and time of the action (Halt, Quote Resume or Trade Resume). When the event is for a Halt, this will be the same as the haltActionTimestamp.		R
10	symbol	Symbol	Symbol of the issue being halted/resumed.		C
11	issueID	Integer	FINRA-assigned issue ID of the issue being halted/resumed.		C
12	haltActionCode	Choice	The type of action (i.e. halt, quote resume, trade resume). See Data Dictionary: `haltActionCode`		R
13	haltActionTimestamp	Timestamp	The date/time the halt was initiated.		R
14	haltReasonCode	Choice	The reason the security is being halted/resumed. See Data Dictionary: `haltReasonCode`		C

6.3.   Equity Best Bid and Offer Event

When an SRO display-only facility accepts a routed quote, an Equity Best Bid and Offer event is reported to CAT. If the quote is rejected, then the event is not reported to CAT.

Table 63: Equity Best Bid and Offer Event

			Equity Best Bid and Offer (EBBO)	
#	**Field Name**	**Data Type**	**Description**	**Include Key**
1	type	Message Type	EBBO	R
2	exchange	Exchange ID	The ID for the participant which has accepted this quote.	R
3	eventTimestamp	Timestamp	The date/time of quote receipt	R
4	sequenceNumber	Unsigned	The sequence number of the event, used to identify the sequence of events when multiple events have the same timestamps	C
5	seqNumSub	Text (10)	A sequence number subsystem identifier	C

		Equity Best Bid and Offer (EBBO)		
#	Field Name	Data Type	Description	Include Key
6	symbol	Symbol	The stock symbol, in either the symbology of the listing exchange or a valid alias	R
7	routingParty	Text (8)	The ID string used to identify the entity that routed the quote to the display-only facility	R
8	routedOrderID	Text (40)	The quote ID that the firm used in the API message when they sent the quote to the display only facility (e.g., in FIX it would be Tag 117, quoteID)	R
9	session	Text (40)	The ID assigned to the specific session that the routing member used to route the order to the exchange	R
10	lockedCrossedOverrideFlag	Boolean	Identifies whether a quote should be considered valid even if it will lock or cross the market. 'True' indicates that the quote is still valid 'False' indicates that the quote is not valid if it locks or crosses. If no value is provided, it's assumed to be false. Value provided by the submitting firm should be passed through.	C
11	bidPrice	Price	Price for the bid. Must be provided when the bidQty is provided. If the bidPrice is not provided, then the bidQty must not be provided. NOTE: in the absence of a bidPrice the most recently reported bidPrice remains in effect.	C
12	bidQty	Unsigned	Quantity of the bid in shares. Must be provided when the bidPrice is provided. If the bidQty is not provided, then the bidPrice must not be provided. NOTE: in the absence of a bidQty the most recently reported bidQty remains in effect.	C
13	askPrice	Price	Price for the ask. Must be provided when the askQty is provided. If the askPrice is not provided, then the askQty must not be provided. NOTE: in the absence of a askPrice the most recently reported askPrice remains in effect.	C
14	askQty	Unsigned	Quantity of the ask in shares. Must be provided when the askPrice is provided. If the askQty is not provided, then the askPrice	C

			Equity Best Bid and Offer (EBBO)		
#	**Field Name**	**Data Type**	**Description**	**Include Key**
			must not be provided.	
			NOTE: in the absence of a askQty the most recently reported askQty remains in effect.	
15	quoteCondition	Text(8)	Indicator used to determine whether a quote is eligible to participate in the NBBO.	C
			Value provided by the submitting firm should be passed through.	
16	quoteInstructions	Name/Value Pairs	Defines any additional instructions or attributes for the quote, as described in the Data Dictionary	C
17	quoteID	Text (40)	The internal order ID assigned to the quote by the Participant.	C
			If no internal identifier is assigned, then:	
			• The routedOrderID value can be repeated, provided it is unique by date, symbol and Participant.	
			• If no unique internal identifier is created, then this field can be left empty.	

Lifecycle keys for this event:

- **Route Link Key:** date, *symbol*, *routingParty*, *routedOrderID*, *session*, *exchange*

Currently the only SRO display-only facility is the FINRA ADF, which does not assign or maintain an quote identifier. Since top of book quotations cannot be canceled, cancel/replaced or executed, no quote link key will be assigned. Each quotation can be tracked by its route link key.

7.   Stock Exchange Event Examples

7.1.   Order Accepted Event Example

This section will illustrate examples for an order accepted event, an order modified event, and an order canceled event using the following scenario: A new order is routed to the exchange, accepted by the exchange, updated by the firm that sent the order, and is finally canceled by the exchange.
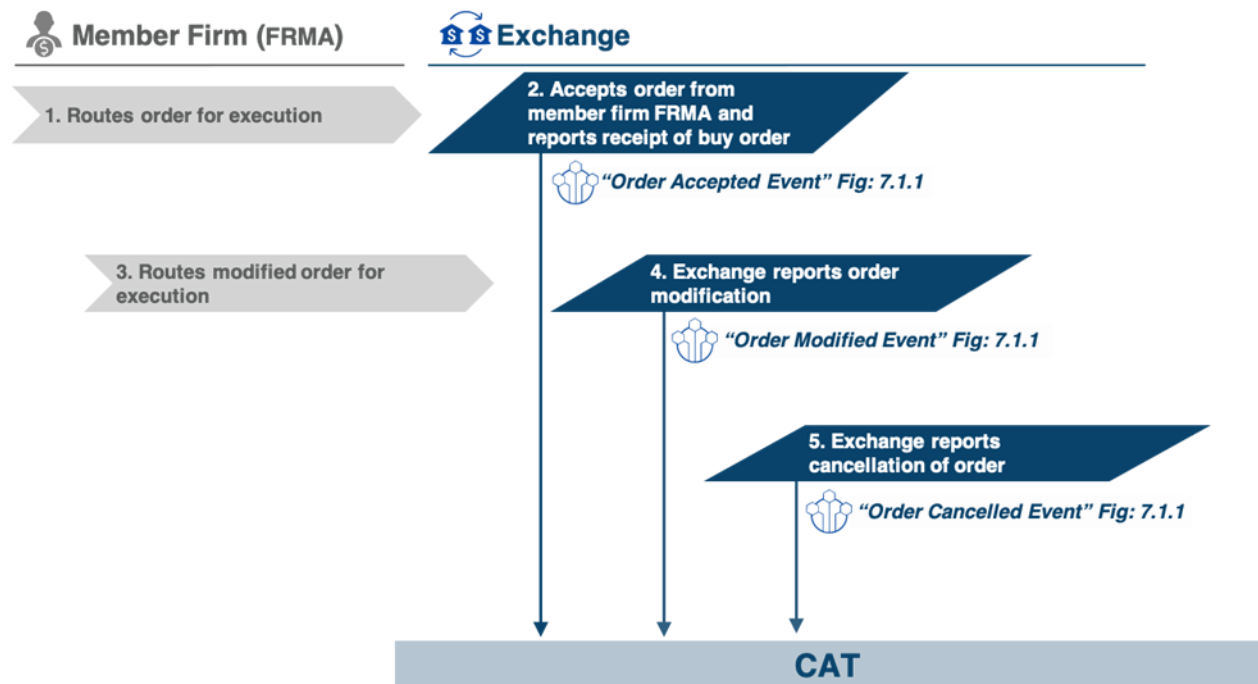
Figure 4: Order Event Lifecycle Example

Table 64: Order Event Lifecycle Example

#	Step	Reported Event	Comments
1	Member Firm Routes order for Execution	NA	• A member firm routes an order to Exchange "Exch1" over session ID 7 with the order ID of 2156. This order is a buy order for the symbol ABCD, with a quantity of 300

#	Step	Reported Event	Comments
2	Exchange accepts the order and reports an order accepted event to CAT	**_Order Accepted Event:_** type: EOA exchange: Exch1 eventTimestamp: 20170307T103242.123456789 sequenceNumber: 11133 symbol: ABCD orderID: 98765 routingParty: FRMA routedOrderID: 2156 session: 7 side: Buy price: 157.00 quantity: 300 displayQty: 300 displayPrice: 157.00 workingPrice: 157.00 orderType: LMT timeInForce: GTT capacity: Principal handlingInstructions: XTIME=20170315T123456.123456789 nbbPrice: 157.00 nbbQty: 100 nboPrice: 157.25 nboQty: 100 member: Mem01	• The exchange accepts the buy order and assigns it the internal order ID: 98765. • The ID that was used by the member firm is included as the Routed Order ID because Time in Force = GTC, the order expires at a particular time: requires XTIME • In handling instructions to provide the order's expire time. The NBBO is as the exchange saw it just before accepting the order. Note that after accepting the order, the aggregate NBB quantity would go up by 300 to account for this order, which is at the NBB price.
3	Member routes a modification of the order to the exchange	NA	• The member firm modifies their existing order, increasing the price to 157.01
4	Exchange modifies order	**_Order Modified Event:_** type: EOM exchange: Exch1 eventTimestamp: 20170307T103350.123456789 sequenceNumber: 11140 symbol: ABCD orderID: 99564 originalOrderID: 98765 initiator: Firm nbbPrice: 157.00 nbbQty: 400 nboPrice: 157.25 nboQty: 100 price: 157.01 displayPrice: 157.01 workingPrice: 157.01 side: Buy	• The exchange reports a firm-initiated modification to the order described in the previous section. In this case, the price of the order is increased to 157.01. • Some exchanges assign a new internal order ID after an update, in this case The new internal order ID is 99564

#	Step	Reported Event	Comments
		quantity: 300 displayQty: 300 leavesQty: 300 orderType: LMT timeInForce: GTT capacity: Principal handlingInstructions: XTIME=20170315T123456.123456789 member: Mem01	
5	Exchange cancels the order	*Order Canceled Event:* type: EOC exchange: Exch1 eventTimestamp: 20170307T103552.000001089 sequenceNumber: 11453 symbol: ABCD orderID: 99564 cancelQty: 300 leavesQty: 0 initiator: Exchange member: Mem01	• The order has passed its expiration time and is canceled by the exchange • Initiator value = exchange given that the XTIME has passed

7.1.1. JSON Examples

Order Accepted Event

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T103242.123456789",
  "sequenceNumber": 11133,
  "symbol": "ABCD",
  "orderID": "98765",
  "routingParty": "FRMA",
  "routedOrderID": "2156",
  "session": "7",
  "side": "Buy",
  "price": 157.00,
  "quantity": 300,
  "displayQty": 300,
  "displayPrice": 157.00,
  "workingPrice": 157.00,
  "orderType": "LMT",
  "timeInForce": "GTT",
  "capacity": "Principal",
  "handlingInstructions": "XTIME=20170315T123456.123456789",
  "nbbPrice": 157.00,
  "nbbQty": 100,
  "nboPrice": 157.25,
```

```
    "nboQty": 100,
    "member": "Mem01"
}
```

Order Modified Event

```
{
    "type": "EOM",
    "exchange": "Exch1",
    "eventTimestamp": "20170307T103350.123456789",
    "sequenceNumber": 11140,
    "symbol": "ABCD",
    "orderID": "99564",
    "originalOrderID": "98765",
    "side": "Buy",
    "quantity": 300,
    "displayQty": 300,
    "orderType": "LMT",
    "timeInForce": "GTT",
    "handlingInstructions": "XTIME=20170315T123456.123456789",
    "initiator": "Firm",
    "price": 157.01,
    "displayPrice": 157.01,
    "workingPrice": 157.01,
    "leavesQty": 300,
    "capacity": "Principal",
    "nbbPrice": 157.00,
    "nbbQty": 400,
    "nboPrice": 157.25,
    "nboQty": 100,
    "member": "Mem01"
}
```

Order Canceled Event

```
{
    "type": "EOC",
    "exchange": "Exch1",
    "eventTimestamp": "20170307T103552.000001089",
    "sequenceNumber": 11453,
    "symbol": "ABCD",
    "orderID": "99564",
    "cancelQty": 300,
    "leavesQty": 0,
    "initiator": "Exchange",
    "member": "Mem01"
}
```

7.2. Order Trade Event Example

This section will demonstrate a trade event example that occurs after a buy and sell order are matched. In this case, a sell order is accepted for a price of 157.20 and quantity of 100. A buy order is then accepted for a price of 157.20 and quantity of 100. The two orders are matched and a trade event is reported.

In this scenario, the exchange is required to report the following events to CAT:

1. Order Accepted Events from each of the orders; and
2. Order Trade Event
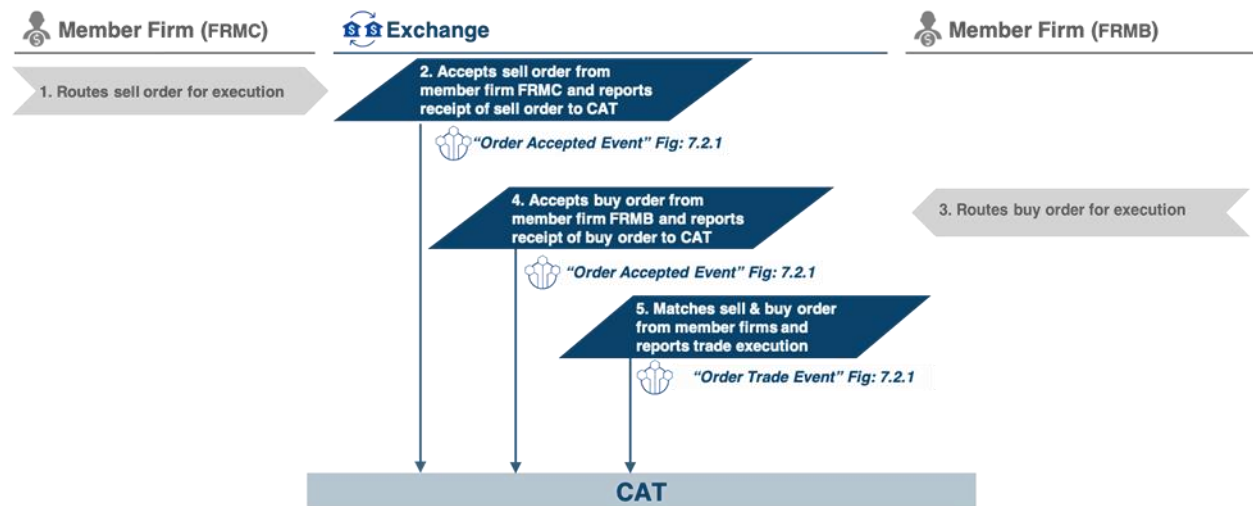
Figure 5: Order Trade Event Example

Table 65: Trade Event Example

#	Step	Reported Event	Comments
1	Member Firm FRMC Routes sell order for execution	NA	• A member firm routes a sell order to Exchange "Exch1" over session ID FRMC:123 with the order ID of 2156. This order is a sell order for the symbol ABCD, with a quantity of 100
2	Exchange accepts the sell order and reports an order accepted event to CAT	*Order Accepted Event:* type: EOA exchange: Exch1 eventTimestamp: 20170307T134000.123456	• The exchange accepts the sell order and assigns it the internal order ID: 10999. The order type is a limit order

#	Step	Reported Event	Comments
		sequenceNumber: 12345 symbol: ABCD orderID: 10999 routingParty: FRMC routedOrderID: 2156 session: FRMC:123 side: Sell price: 157.20 quantity: 100 displayQty: 100 displayPrice: 157.20 workingPrice: 157.20 orderType: LMT timeInForce: DAY capacity: Agency nbbPrice: 157.00 nbbQty: 100 nboPrice: 157.25 nboQty: 100 member: Mem01	with time in force = day. • The ID that was used by the member firm is included as the Routed Order ID The NBBO is as the exchange saw it just before accepting the order. Note that after accepting the order, the national best offer would change to account for this order, which is below the national best offer.
3	Member Firm FRMB Routes buy order for execution	NA	• A member firm FRMB routes a buy order to Exchange "Exch1" over session ID 7 with the order ID of 9150. This order is a buy order for the symbol ABCD, with a quantity of 100
4	Exchange accepts the buy order and reports an order accepted event to CAT	***Order Accepted Event:*** type: EOA exchange: Exch1 eventTimestamp: 20170307T134001.123456 sequenceNumber: 19190 symbol: ABCD orderID: 20263 routingParty: FRMB routedOrderID: 9150 session: 7 side: Buy price: 157.20 quantity: 100 displayQty: 0 workingPrice: 157.20 orderType: LMT timeInForce: DAY capacity: Principal nbbPrice: 157.00 nbbQty: 100 nboPrice: 157.20	• The exchange accepts the buy order and assigns it the internal order ID: 20263. The order type is a limit order with time in force = day. • The ID that was used by the member firm is included as the Routed Order ID • The NBBO is as the exchange saw it just before accepting the order.

#	Step	Reported Event	Comments
		nboQty: 100 member: Mem02	
5	Exchange matches buy and sell order and the trade is executed	***Order Trade Event:*** type: EOT exchange: Exch1 eventTimestamp: 20170307T134001.125456 sequenceNumber: 19191 symbol: ABCD tradeID: 19900422 quantity: 100 price: 157.20 saleCondition: E@ nbbPrice: 157.00 nbbQuantity: 100 nboPrice: 157.20 nboQuantity: 100 buyDetails side: Buy leavesQty: 0 orderID: 20263 clearingNumber: 5656 capacity: Principal liquidityCode: Removed member: Mem02 sellDetails side: Sell leavesQty: 0 orderID: 10999 clearingNumber: 7878 capacity: Agency liquidityCode: Added member: Mem01	• The buy and sell orders from the previous steps cross and the exchange initiates the trade, reporting an order trade event to CAT.

7.2.1. JSON Examples

<u>Order Accepted Event: Sell</u>

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T134000.123456",
  "sequenceNumber": 12345,
  "symbol": "ABCD",
  "orderID": "10999",
  "routingParty": "FRMC",
  "routedOrderID": "2156",
```

```
  "session": "FRMC:123",
  "side": "Sell",
  "price": 157.20,
  "quantity": 100,
  "displayQty": 100,
  "displayPrice": 157.20,
  "workingPrice": 157.20,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Agency",
  "nbbPrice": 157.00,
  "nbbQty": 100,
  "nboPrice": 157.25,
  "nboQty": 100,
  "member": "Mem01"
}
```

Order Accepted Event: Buy

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T134001.123456",
  "sequenceNumber": 19190,
  "symbol": "ABCD",
  "orderID": "20263",
  "routingParty": "FRMB",
  "routedOrderID": "9150",
  "session": "7",
  "side": "Buy",
  "price": 157.20,
  "quantity": 100,
  "displayQty": 0,
  "workingPrice": 157.20,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "nbbPrice": 157.00,
  "nbbQty": 100,
  "nboPrice": 157.20,
  "nboQty": 100,
  "member": "Mem02"
}
```

Order Trade Event

```
{
  "type": "EOT",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T134001.125456",
  "sequenceNumber": 19191,
  "symbol": "ABCD",
  "tradeID": "19900422",
  "quantity": 100,
  "price": 157.20,
```

```
    "saleCondition": "E@",
    "nbbPrice": 157.00,
    "nbbQty": 100,
    "nboPrice": 157.20,
    "nboQty": 100,
    "buyDetails": {
      "side": "Buy",
      "leavesQty": 0,
      "orderID": "20263",
      "clearingNumber": "5656"
      "capacity": "Principal",
      "liquidityCode": "Removed",
      "member": "Mem02"
    },
    "sellDetails": {
      "side": "Sell",
      "leavesQty": 0,
      "orderID": "10999",
      "clearingNumber": "7878"
      "capacity": "Agency",
      "liquidityCode": "Added",
      "member": "Mem01"
    }
}
```

7.3.   Order Route and Order Fill Event Example

This scenario illustrates the reporting requirements to CAT when an exchange routes an order to a routing broker-dealer for execution on an away exchange, and Exchange 1's subsequent reporting obligation on fills of the routed order.

In this scenario Exchange 1 receives and reports acceptance of an order, then routes the order to their routing broker dealer for execution on an away exchange. When an execution occurs on the away exchange, the routing broker reports the fill back to Exchange 1. The following events are reported:

1. Order Accepted Event of the original order,
2. The Order Route Event, and

3. The Order Fill Event.
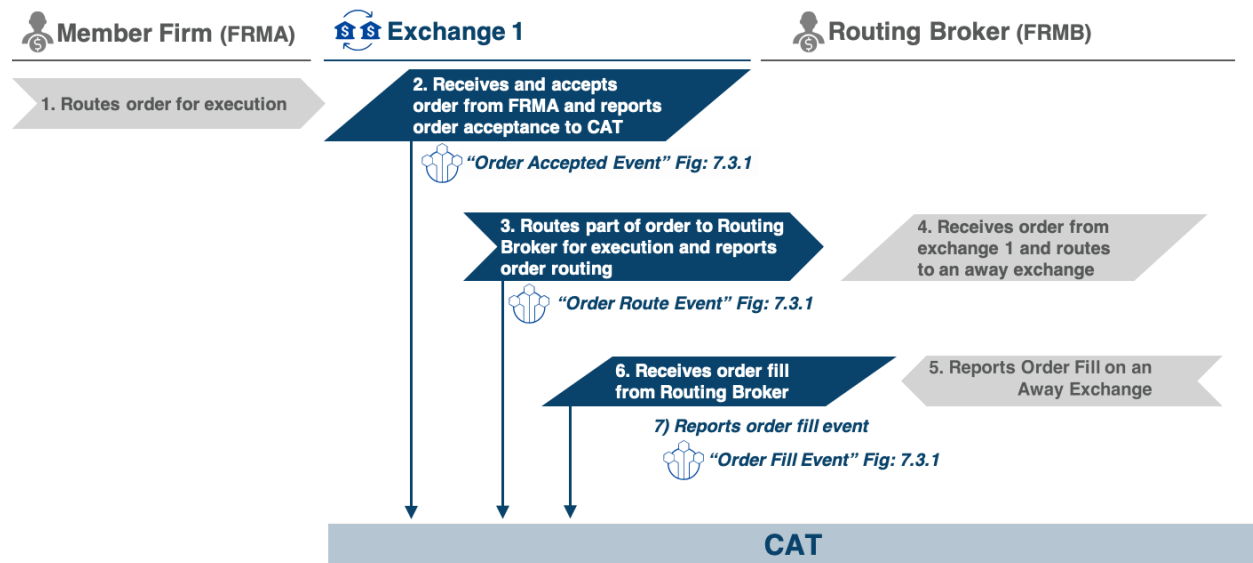
Figure 6: Order Route and Order Fill Event Example

Table 66: Order Route and Order Fill Event Example

#	Step	Reported Event	Comments
1	Member Firm FRMA Routes buy order for execution	NA	A member firm routes a buy order to Exchange "Exch1" over session ID 3 with the order ID of 567890. This order is a buy order for the symbol ABCD, with a quantity of 200 at the price of 157.25
2	Exchange accepts the buy order and reports an order accepted event to CAT	***Order Accepted Event:*** type: EOA exchange: Exch1 eventTimestamp 20170307T144010.123456789 sequenceNumber: 12345 symbol: ABCD orderID: 10001 routingParty: FRMA routedOrderID: 567890 session: 3 side: Buy price: 157.25 quantity: 200 displayQty: 100 displayPrice: 157.25	• The exchange accepts the buy order and assigns it the internal order ID: 10001. The order type is a limit order with time in force = day. • The ID that was used by the member firm is included as the Routed Order ID The NBBO is as the exchange saw it just before accepting the order.

#	Step	Reported Event	Comments
		workingPrice: 157.25 orderType: LMT timeInForce: DAY capacity: Principal nbbPrice: 157.00 nbbQty: 100 nboPrice: 157.25 nboQty: 100 member: Mem01	
3	Exch1 routes part of the order quantity to its routing broker for execution on an away exchange	**Route Order Event** type: EOR exchange: Exch1 eventTimestamp: 20170307T144010.123457789 sequenceNumber: 12346 symbol: ABCD orderID: 10001 routingParty: FRMB routedOrderID: E123456 session: 5 side: Buy price: 157.25 quantity: 100 displayQty: 0 orderType: LMT timeInForce: IOC capacity: Agency handlingInstructions: ISO|R2E=Exch2 result: ACK resultTimestamp: 20170307T144010.124457789 nbbPrice: 157.00 nbbQty: 100 nboPrice: 157.25 nboQty: 100 member: Mem01	• One hundred of the two hundred shares of the order in the previous step are routed to the exchange's routing broker FRMB for execution on an away exchange in order to meet the order protection rule • Routing Firm = FRMB • The Routed Order ID is the new order ID assigned by exchange A and sent to routing firm • Display quantity = 0, this is a non-displayed order • Time in force = IOC, hit the quote or cancel Handling instructions = ISO, inter-market sweep, routed to exchange Exch2
4	Routing broker routes the order to an away exchange		
5	Away exchange fills the order and sends a fill report back to the routing broker		
6	Routing broker receives order fill from away broker and reports order fill on an away exchange to Exch1		
7	Exch1 reports an order fill event	**Order Fill Event** type: EOF exchange: Exch1	The exchange reports the fill to the member firm that placed the order, and arranges for clearing to flip the shares. The actual trade

#	Step	Reported Event	Comments
		eventTimestamp: 20170307T144010.129456789 sequenceNumber: 15501 fillID: 192834 symbol: ABCD price: 157.25 saleCondition: E@ side: Buy quantity: 100 leavesQty: 100 orderID: 10001 clearingNumber: 9898 contraClearingNumber: 9899 routingParty: FRMB routedOrderID: E123456 session: 3 capacity: Principal member: Mem01	took place on the away exchange, and the transaction between the two firms is handled in clearing.

7.3.1. JSON Examples

<u>Order Accepted Event</u>

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T144010.123456789",
  "sequenceNumber": 12345,
  "symbol": "ABCD",
  "orderID": "10001",
  "routingParty": "FRMA",
  "routedOrderID": "567890",
  "session": "3",
  "side": "Buy",
  "price": 157.25,
  "quantity": 200,
  "displayQty": 100,
  "displayPrice": 157.25,
  "workingPrice": 157.25,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "nbbPrice": 157.00,
  "nbbQty": 100,
  "nboPrice": 157.25,
  "nboQty": 100,
  "member": "Mem01"
}
```

Order Route Event

```
{
  "type": "EOR",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T144010.123457789",
  "sequenceNumber": 12346,
  "symbol": "ABCD",
  "orderID": "10001",
  "routingParty": "FRMB",
  "routedOrderID": "E123456",
  "session": "5",
  "side": "Buy",
  "price": 157.25,
  "quantity": 100,
  "displayQty": 0,
  "orderType": "LMT",
  "timeInForce": "IOC",
  "capacity": "Agency",
  "handlingInstructions": "ISO|R2E=Exch2",
  "result": "ACK",
  "resultTimestamp": "20170307T144010.124457789",
  "nbbPrice": 157.00,
  "nbbQty": 100,
  "nboPrice": 157.25,
  "nboQty": 100,
  "member": "Mem01"
}
```

Order Fill Event

```
{
  "type": "EOF",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T144010.129456789",
  "sequenceNumber": 15501,
  "fillID": "192834",
  "symbol": "ABCD",
  "price": 157.25,
  "side": "Buy",
  "saleCondition": "E@",
  "quantity": 100,
  "leavesQty": 100,
  "orderID": 10001,
  "clearingNumber": "9898",
  "contraClearingNumber":"9899"
  "routingParty": "FRMB",
  "routedOrderID": "E123456",
  "session": "3",
  "capacity": "Principal",
  "member": "Mem01"
}
```

7.4.   Order Restatement Example

This series of examples shows a restatement of a GTC order before market open the following day. Also it is assumed that a stock split on the symbol ABCD has taken effect, and that this is reflected in the restatement.
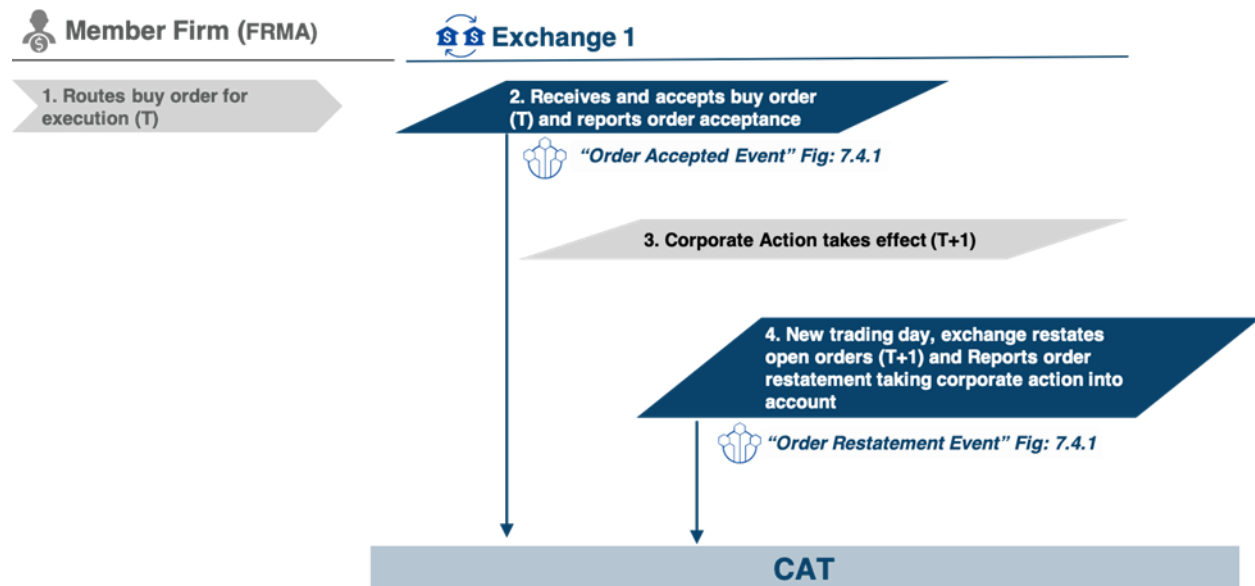
Figure 7: Order Restatement Example

Table 67: Order Restatement Example

#	Step	Reported Event	Comments
1	Member Firm FRMA Routes buy order for execution	NA	A member firm routes a buy order to Exchange "Exch1" over session ID 7 with the order ID of 9153. This order is a buy order for the symbol ABCD, with a quantity of 500 at the price of 156.50
2	Exchange accepts the buy order and reports an order accepted event to CAT	**Order Accepted Event:** type: EOA exchange: Exch1 eventTimestamp: 20170307T134000.123456789 sequenceNumber: 11190 symbol: ABCD orderID: 1201 routingParty: FRMA	• The exchange accepts the buy order and assigns it the internal order ID: 1201. The order type is a limit order with time in force = GTC. • The ID that was used by the member firm

#	Step	Reported Event	Comments
		routedOrderID: 9153 session: 7 side: Buy price: 156.50 quantity: 500 displayQty: 500 displayPrice: 156.50 workingPrice: 156.50 orderType: LMT timeInForce: GTC capacity: Agency nbbPrice: 157.00 nbbQty: 100 nboPrice: 157.25 nboQty: 100 member: Mem01	is included as the Routed Order ID • The NBBO is as the exchange saw it just before accepting the order.
3	Corporate action takes effect		A stock split event on the symbol ABCD takes effect 03/08/2017. This event has been reported to CAT by the listing exchange in its native CSV format since the corporate action was declared.
4	Exchanges restates open orders at the new trading day, reporting an Order Restatement Event taking the corporate action into account	**Order Restatement Event** type: EORS exchange: Exch1 eventTimestamp: 20170308T060000.123456789 sequenceNumber: 11000 symbol: ABCD orderID: 1202 originalOrderDate: 20170307 originalOrderID: 1201 side: Buy price: 78.25 quantity: 1000 displayQty: 1000 displayPrice: 78.25 workingPrice: 78.25 leavesQty: 1000 orderType: LMT timeInForce: GTC capacity: Agency member: Mem01	• This example shows the restatement of the GTC order (Order ID 1201) at market open the following day. In this example we also assume that a hypothetical stock split corporate action on the symbol ABCD has taken effect, and that none of the order has been filled. • Note that the Order ID can remain the same or be assigned anew, depending on how the exchange guarantees uniqueness within the same trading date. Also, the symbol mapping will possibly change from day to day. The symbol mapping for the new date is required. • Note that the quantity of the order has been doubled, and the price has

#	Step	Reported Event	Comments
			been halved to reflect the stock split.

7.4.1. JSON Examples

Order Accepted Event

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170307T134000.123456789",
  "sequenceNumber": 11190,
  "symbol": "ABCD",
  "orderID": "1201",
  "routingParty": "FRMA",
  "routedOrderID": "9153",
  "session": "7",
  "side": "Buy",
  "price": 156.50,
  "quantity": 500,
  "displayQty": 500,
  "displayPrice": 156.50,
  "workingPrice": 156.50,
  "orderType": "LMT",
  "timeInForce": "GTC",
  "capacity": "Agency",
  "nbbPrice": 157.00,
  "nbbQty": 100,
  "nboPrice": 157.25,
  "nboQty": 100,
  "member": "Mem01"
}
```

Order Restatement Event

```
{
  "type": "EORS",
  "exchange": "Exch1",
  "eventTimestamp": "20170308T060000.123456789",
  "sequenceNumber": 11000,
  "symbol": "ABCD",
  "orderID": "1202",
  "origOrderDate": "20170307",
  "origOrderID": "1201",
  "side": "Buy",
  "price": 78.25,
  "quantity": 1000,
  "displayQty": 1000,
  "displayPrice": 78.25,
  "workingPrice": 78.25,
  "leavesQty": 1000,
```

```
    "orderType": "LMT",
    "timeInForce": "GTC",
    "capacity": "Agency",
    "member": "Mem01"
}
```

7.5. Order Modified Example

This section will show how an order modified event is reported when the order type is changed by the initiating member firm from a limit order to a market order. This series of events will follow the submission of a limit order from a member firm to the exchange that is subsequently modified by the member firm.
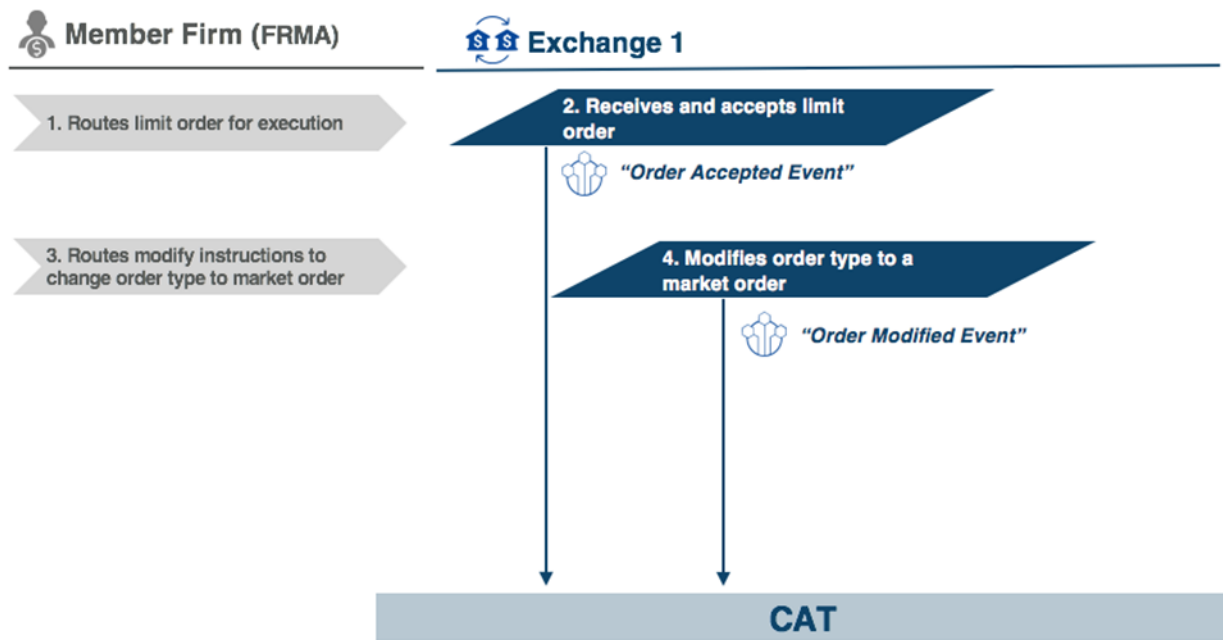
Figure 8: Order Modified Example

Table 68: Order Modified Example

#	Step	Reported Event	Comments
1	Member Firm Routes limit order for Execution		• A member firm routes an order to Exchange Exch1 over session ID 12 with the order ID of 1112. This order is a limit order for the symbol ABCD, with a quantity of 100

#	Step	Reported Event	Comments
2	Exchange accepts the order and reports an order accepted event to CAT	**_Order Accepted Event:_** type: EOA exchange: Exch1 eventTimestamp: 20170402T093001.123456789 sequenceNumber: 1001 symbol: ABCD orderID: 98222 routingParty: FRMA routedOrderID: 1112 session: 12 side: Buy price: 10.03 quantity: 100 displayQty: 100 displayPrice: 10.03 workingPrice: 10.03 orderType: LMT timeInForce: DAY capacity: Principal nbbPrice: 10.00 nbbQty: 100 nboPrice: 10.05 nboQty: 100 member: Mem01	• The exchange accepts the order and assigns it the internal order ID: 98222. • This is order is a limit order with a limit price of 10.03
3	Member Firm Routes modify instructions to Exchange to modify order to a Market Order		• routedOrderId = 1113 for modification to the firm order
4	Firm initiated new routedOrderId updates the order and reports an order modified event to CAT	**Order Modified Event:** type: EOM exchange: Exch1 eventTimestamp: 20170402T093055.123456789 sequenceNumber: 1091 symbol: ABCD orderID: 1_98222 originalOrderID: 98222 initiator: Firm side: Buy quantity: 100 displayQty: 100 displayPrice: 10.05 workingPrice: 10.05 leavesQty: 100 orderType: MKT timeInForce: DAY capacity: Principal nbbPrice: 10.00	• The exchange modifies the original order from a limit order to a market order (with no price) as initiated by FRMA • The modification results in a new order ID for the internal order. • In addition, the exchange reports to CAT the routedOrderId from the fix ClOrdId sent in to modify the order.

#	Step	Reported Event	Comments
		nbbQty: 100 nboPrice: 10.05 nboQty: 100 member: Mem01 routedOrderId: 1113	

7.5.1. JSON Examples

Order Accepted Event

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093001.123456789",
  "sequenceNumber": 1001,
  "symbol": "ABCD",
  "orderID": "98222",
  "routingParty": "FRMA",
  "routedOrderID": "1112",
  "session": "12",
  "side": "Buy",
  "price": 10.03,
  "quantity": 100,
  "displayQty": 100,
  "displayPrice": 10.03,
  "workingPrice": 10.03,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "nbbPrice": 10.00,
  "nbbQty": 100,
  "nboPrice": 10.05,
  "nboQty": 100,
  "member": "Mem01"
}
```

Order Modified Event

```
{
  "type": "EOM",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093055.123456789",
  "sequenceNumber": 1091,
  "symbol": "ABCD",
  "orderID": "1_98222",
  "originalOrderID": "98222",
  "initiator": "Firm",
  "side": "Buy",
  "quantity": 100,
  "displayQty": 100,
  "displayPrice": 10.05,
```

```
  "workingPrice": 10.05,
  "leavesQty": 100,
  "orderType": "MKT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "nbbPrice": 10.00,
  "nbbQty": 100,
  "nboPrice": 10.05,
  "nboQty": 100,
  "member": "Mem01",
  "routedOrderId": "1113"
}
```

7.6. Order Modified for because of Partial Fill at Away Exchange

This Example is for an Equity Order Modify event where the exchange routes the order to an away exchange with a better market, and partially executes. The Order Modified Event is for the liquidity returned to the exchange after a partial execution. This example is to show how to populate the routedOrderId in the Equity Order Modified event for this scenario.
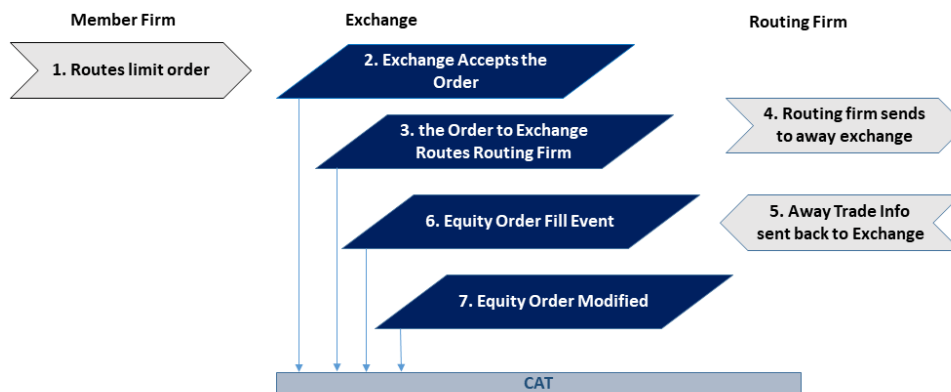
Figure 9: Order Modified Event due to a fill at an away exchange example

Table 69: Order Modified Example 2

#	Step	Reported Event	Comments
1	Member Firm Routes limit order for Execution		• A member firm routes an order to Exchange Exch1 over session ID 12 with the order ID of. ZUA7197070219. This order is a limit order for the symbol ABCD, with a quantity of 100
2	Exchange accepts the order and reports an order accepted event to CAT	***Order Accepted Event:*** type: EOA exchange: Exch1 eventTimestamp: 20170402T093001.123456789 sequenceNumber: 1001 symbol: ABCD orderID: 5882300 routingParty: FRMA routedOrderID: ZUA7197070219 session: 12 side: Buy price: 10.10 quantity: 100 displayQty: 100 displayPrice: 10.10 workingPrice: 10.10 orderType: LMT timeInForce: DAY capacity: Principal nbbPrice: 10.00 nbbQty: 100 nboPrice: 10.10 nboQty: 87 member: Mem01	• The exchange accepts the order and assigns it the internal order ID: 5882300. • This is order is a limit order with a limit price of 10.10
3	Exchange routes order to routing firm to send to an exchange with a better market	Equity Order Routed Event Type: EOR Exchange:Exch1 eventTimestamp: 20170402T093003.123456789 symbol: ABCD orderID : 5882300 routingParty : RouteFirm routedOrderId : 4827821 session: 12 side: Buy price: 10.10 quantity: 100 displayQty: 100	• routedOrderId = 4827821 created by exchange to send to routing firm

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY capacity: Principal result: ACK resultTimeStamp: 20170402T093003.123456799 member: Mem01, nbbPrice: 10.00 nboPrice: 10.10	
4	Routing firm sends firm to away exchange		
5	Routing Firm sends partial fill message back to exchange		
6	Trade occurred for 87 of the orders 100 contracts at the away exchange.	**Equity Order Fill Event** Type: Exch1 exchange: EOF eventTimestamp: 20170402T093005.123456799 fillId: 22 symbol: ABCD quantity: 87 price: 10.10 leavesQty = 13 orderID: 5882300 side: Buy clearingNumber: 355 contraClearingNumber: 888 routingParty: RouteFirm routedOrderId: 4827821 session: 12 capacity: Principal member: Mem01	
7	Exchange updates the order and reports an order modified event to CAT	**Order Modified Event:** type: EOM exchange: Exch1 eventTimestamp: 20170402T093055.123456789 symbol: ABCD orderID: 5882300 initiator: Firm nbbPrice: 10.00 nbbQty: 100 nboPrice: 10.05 nboQty: 13 Price: 10.10 quantity: 13 displayQty: 13 leavesQty: 13 orderType: LMT	• EOM event to change the original order quantity from 100 to 13. • The routedOrderId fields is populated with the routedOrderID sent to the routing firm in the EOR event.

#	Step	Reported Event	Comments
		timeInForce: DAY capacity: Principal member: Mem01 routedOrderId: 4827821	

7.6.1. JSON Examples

<u>Order Accepted Event</u>

```json
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093001.123456789",
  "sequenceNumber": 1001,
  "symbol": "ABCD",
  "orderID": "5882300",
  "routingParty": "FRMA",
  "routedOrderID": " ZUA7197070219",
  "session": "12",
  "side": "Buy",
  "price": 10.10,
  "quantity": 100,
  "displayQty": 100,
  "displayPrice": 10.10,
  "workingPrice": 10.10,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "nbbPrice": 10.00,
  "nbbQty": 100,
  "nboPrice": 10.10,
  "nboQty": 87,
  "member": "Mem01"
```

<u>Order Route Event</u>

```json
{
  "type": "EOR",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093003.123456789",
  "symbol": "ABCD",
  "orderID": "5882300",
  "routingParty": "RouteFirm",
  "routedOrderID": "4827821",
  "session": "12",
  "side": "Buy",
  "price": 10.10,
  "quantity": 100,
  "displayQty": 100,
  "orderType": "LMT",
  "timeInForce": "DAY",
```

```
  "capacity": "Principal",
  "result": "ACK",
  "resultTimestamp": "20170402T093003.123456799",
  "nbbPrice": 10.00,
  "nboPrice": 10.10,
  "member": "Mem01"
}
```

Order Fill Event

```
{
  "type": "EOF",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093005.123456799 ",
  "fillID": "22",
  "symbol": "ABCD",
  "price": 10.10,
  "side": "Buy",
  "quantity": 87,
  "leavesQty": 13,
  "orderID": 5882300,
  "clearingNumber": "355",
  "contraClearingNumber":"888"
  "routingParty": "RouteFirm",
  "routedOrderID": "4827821",
  "session": "12",
  "capacity": "Principal",
  "member": "Mem01"
}
```

Order Modified Event

```
{
  "type": "EOM",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093055.123456789",
  "symbol": "ABCD",
  "orderID": "5882300",
  "initiator": "Firm",
  "quantity": 13,
  "displayQty": 13,
  "leavesQty": 13,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "nbbPrice": 10.00,
  "nbbQty": 100,
  "nboPrice": 10.05,
  "nboQty": 100,
  "member": "Mem01",
  "routedOrderId": "4827821"
}
```

7.7. Order Adjusted Example

This section will show how an order adjusted event is reported when a change in the NBBO causes the working price of an order to change. This series of events will follow the route of a peg order followed by an adjustment of the working price.
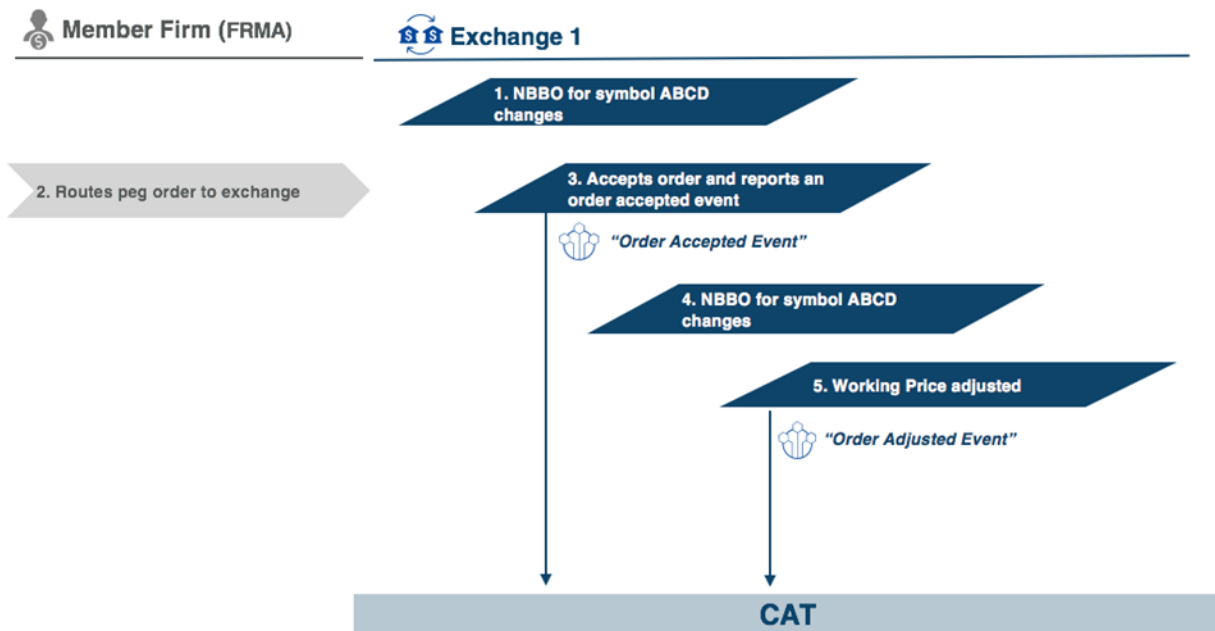
Figure 10: Order Adjusted Example

Table 70: Order Adjusted Example

#	Step	Reported Event	Comments
1	NBBO for symbol ABCD changes		• NBBO for symbol is updated to 10.00X10.05
2	Member Firm Routes order for Execution		• A member firm routes an order to Exchange Exch1 over session ID 12 with the order ID of 1112. This order is a mid-peg order for the symbol ABCD, with a quantity of 100

#	Step	Reported Event	Comments
3	Exchange accepts the order and reports an order accepted event to CAT	*Order Accepted Event:* type: EOA exchange: Exch1 eventTimestamp: 20170402T093001.123456789 sequenceNumber: 10001 symbol: ABCD orderID: 98222 routingParty: FRMA routedOrderID: 1112 session: 12 side: Buy price: 10:03 quantity: 100 displayQty: 0 workingPrice: 10.025 orderType: PEG timeInForce: DAY capacity: Principal handlingInstructions: AON nbbPrice: 10.00 nbbQty: 100 nboPrice: 10.05 nboQty: 100 member: Mem01	• The exchange accepts the buy order and assigns it the internal order ID: 98222. • This is order is a mid-peg order with a limit price of 10.03 • If there were no limit price, then the price field would not be included in JSON or blank in CSV
4	NBBO for symbol ABCD changes		• The NBBO for symbol ABCD changes from 10.00X10.05 to 10.01X10.05
5	Exchange updates the handling instructions for the peg order	*Order Adjusted Event:* type: EOJ exchange: Exch1 eventTimestamp: 20170402T093015.123456789 sequenceNumber: 10091 symbol: ABCD orderID: 98222 initiator: Exchange price: 10.03 workingPrice: 10.03 nbbPrice: 10.01 nbbQty: 100 nboPrice: 10.05 nboQty: 100 member: Mem01 handlingInstructions: FOK	• Because the NBBO has changed, the working price will be updated. • The orderID does not change, so originalOrderID does not need to be included. • Note, routedOrderId does not need to be reported since this is an exchange initiated event (initiator = "Exchange").

7.7.1. JSON Examples

<u>Order Accepted Event</u>

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093001.123456789",
  "sequenceNumber": 10001,
  "symbol": "ABCD",
  "orderID": "98222",
  "routingParty": "FRMA",
  "routedOrderID": "1112",
  "session": "12",
  "side": "Buy",
  "price": 10.03,
  "quantity": 100,
  "displayQty": 0,
  "workingPrice": 10.025,
  "orderType": "PEG",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "handlingInstructions": "AON",
  "nbbPrice": 10.00,
  "nbbQty": 100,
  "nboPrice": 10.05,
  "nboQty": 100,
  "member": "Mem01"
}
```

<u>Order Adjusted Event</u>

```
{
  "type": "EOJ",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093015.123456789",
  "sequenceNumber": "10091",
  "symbol": "ABCD",
  "orderID": "98222",
  "initiator": "Exchange",
  "price": 10.03,
  "workingPrice": 10.03,
  "nbbPrice": 10.01,
  "nbbQty": 100,
  "nboPrice": 10.05,
  "nboQty": 100,
  "member": "Mem01"
  "handlingInstructions": "FOK"
}
```

7.8. Order Adjusted Example Firm Initiated

The following example illustrates how the routedOrderID should be populated in an order adjusted event
if a firm routes in a change to the order to the exchange.
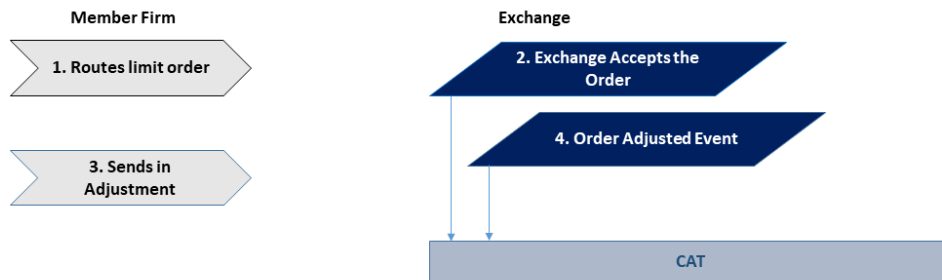
Figure 11: Order Adjusted due to a firm message example

#	Step	Reported Event	Comments
1	Firm routes buy limit peg order to exchange. Exchange Order Accepted Event created		
2	Exchange creates Equity Order Accepted Event	type: EOA exchange: Exch1 eventTimestamp: 20170402T093001.123456789 sequenceNumber: 12 symbol: TSLA orderID: 3127867394 routingParty: RFIRMA routedOrderID: 3543550 session: 12 side: Buy price: 10:03 quantity: 100 displayQty: 0 workingPrice: 10.025 orderType: PEG timeInForce: DAY capacity: Principal handlingInstructions: AON	

#	Step	Reported Event	Comments
		nbbPrice: 10.00 nbbQty: 100 nboPrice: 10.05 nboQty: 100 member: Mem01	
3	Firm sends in change to order to modify the quantity from 100 to 50..		
4	Firm adjusts quantity on peg order. Order Adjusted event sent to CAT with routedOrderId sent in from firm.	***Order Adjusted Event:*** type: EOJ exchange: Exch1 eventTimestamp: 20170402T093005.123456789 sequenceNumber: 44 symbol: TSLA orderID: 3127867394 initiator: Firm quantity: 50 workingPrice: 10.025 nbbPrice: 10.01 nbbQty: 100 nboPrice: 10.05 nboQty: 100 member: Mem01 routedOrderId: 3543551	Example of customer initiated order adjustment event with required routedOrderId

7.8.1. JSON Examples

<u>Order Accepted Event</u>

```
{
 "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093001.123456789",
  "sequenceNumber": 12,
  "symbol": "TSLA",
  "orderID": "3127867394",
  "routingParty": "RFIRMA",
  "routedOrderID": "3543550",
  "session": "12",
  "side": "Buy",
  "price": 10.03,
  "quantity": 100,
  "displayQty": 0,
  "workingPrice": 10.025,
  "orderType": "PEG",
  "timeInForce": "DAY",
  "capacity": "Principal",
```

```
  "handlingInstructions": "AON",
  "nbbPrice": 10.00,
  "nbbQty": 100,
  "nboPrice": 10.05,
  "nboQty": 100,
  "member": "Mem01"
}
```

Order Adjusted Event

```
{
  "type": "EOJ",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093005.123456789",
  "sequenceNumber": "44",
  "symbol": "TSLA",
  "orderID": "3127867394",
  "initiator": "Firm",
  "quantity": 50
  "workingPrice": 10.025,
  "nbbPrice": 10.01,
  "nbbQty": 100,
  "nboPrice": 10.05,
  "nboQty": 100,
  "member": "Mem01",
  "routedOrderId": 3543551
  }
```

7.9.   Order Adjusted Event because of Partial Execution at Away Exchange

This example shows the scenario where an order is partially filled at an away exchange instigating an option order adjusted event to change the quantity. The option order adjusted event has the routedOrderId populated with the value sent to the routing firm.
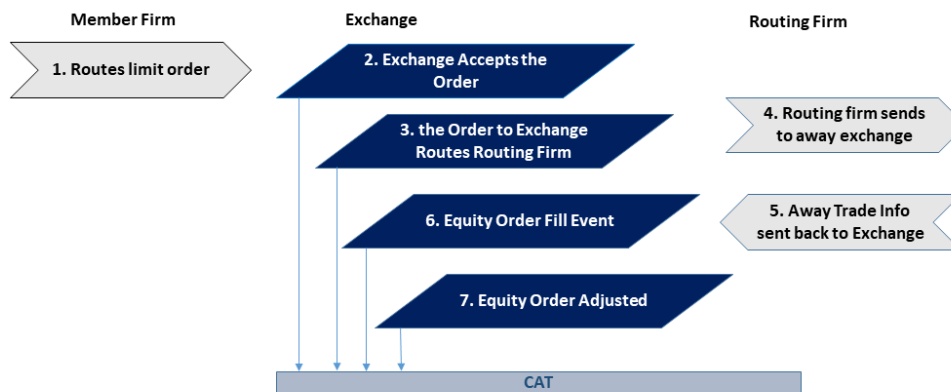
Figure 12: Order Adjusted due to a fill at and away exchange example

#	Step	Reported Event
1	Member Firm Routes limit order for Execution	
2	Exchange accepts the order and reports an order accepted event to CAT	***Order Accepted Event:*** type: EOA exchange: Exch1 eventTimestamp: 20170402T093001.123456789 sequenceNumber: 1001 symbol: ABCD orderID: 5882300 routingParty: FRMA routedOrderID: ZUA7197070219 session: 12 side: Buy price: 10.10 quantity: 100 displayQty: 100 displayPrice: 10.10 workingPrice: 10.10 orderType: LMT timeInForce: DAY capacity: Principal nbbPrice: 10.00

#	Step	Reported Event
		nbbQty: 100
		nboPrice: 10.10
		nboQty: 87
		member: Mem01
3	Exchange routes order to routing firm to send to an exchange with a better market	Equity Order Routed Event
		Type: EOR
		Exchange:Exch1
		eventTimestamp: 20170402T093003.123456789
		symbol: ABCD
		orderID : 5882300
		routingParty : RouteFirm
		routedOrderId : 4827821
		session: 12
		side: Buy
		price: 10.10
		quantity: 100
		displayQty: 100
		orderType: LMT
		timeInForce: DAY
		capacity: Principal
		result: ACK
		resultTimestamp: 20170402T093003.123456799
		member: MEM,
		nbbPrice: 10.00
		nboPrice: 10.10
4	Routing Firm sends order to away exchange.	
5	Routing Firm returns executed liquidity to the exchange.	
6	Trade occurred for 87 of the orders 100 contracts at the away exchange.	**Equity Order Fill Event**
		Type: Exch1
		exchange: EOF
		eventTimestamp: 20170402T093005.123456799
		fillId: 22
		symbol: ABCD
		quantity: 87
		price: 10.10
		leavesQty = 13
		orderID: 5882300
		side: Buy
		clearingNumber: 355

#	Step	Reported Event
		contraClearingNumber: 888
		routingParty: RouteFirm
		routedOrderId: 4827821
		session: 12
		capacity: Principal
		member: Mem01
7	An order adjust event is sent to CAT to represent the change in quantity.	**Order Adjusted Event:** type: EOJ exchange: Exch1 eventTimestamp: 20170402T093055.123456789 symbol: ABCD orderID: 5882300 initiator: Firm nbbPrice: 10.00 nbbQty: 100 nboPrice: 10.05 nboQty: 13 quantity: 13 capacity: Principal member: Mem01 routedOrderId: 4827821

7.9.1. JSON Examples

Order Accepted Event

```
{
  "type": "EOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093001.123456789",
  "sequenceNumber": 1001,
  "symbol": "ABCD",
  "orderID": "5882300",
  "routingParty": "FRMA",
  "routedOrderID": " ZUA7197070219",
  "session": "12",
  "side": "Buy",
  "price": 10.10,
  "quantity": 100,
  "displayQty": 100,
  "displayPrice": 10.10,
  "workingPrice": 10.10,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "nbbPrice": 10.00,
  "nbbQty": 100,
  "nboPrice": 10.10,
  "nboQty": 87,
  "member": "Mem01"
```

Order Route Event

```
{
  "type": "EOR",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093003.123456789",
  "symbol": "ABCD",
  "orderID": "5882300",
  "routingParty": "RouteFirm",
  "routedOrderID": "4827821",
  "session": "12",
  "side": "Buy",
  "price": 10.10,
  "quantity": 100,
  "displayQty": 100,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "capacity": "Principal",
  "result": "ACK",
  "resultTimestamp": "20170402T093003.123456799",
  "nbbPrice": 10.00,
  "nboPrice": 10.10,
  "member": "Mem01"
}
```

Order Fill Event

```
{
  "type": "EOF",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093005.123456799 ",
  "fillID": "22",
  "symbol": "ABCD",
  "price": 10.10,
  "side": "Buy",
  "quantity": 87,
  "leavesQty": 13,
  "orderID": 5882300,
  "clearingNumber": "355",
  "contraClearingNumber":"888"
  "routingParty": "RouteFirm",
  "routedOrderID": "4827821",
  "session": "12",
  "capacity": "Principal",
  "member": "Mem01"
}
```

Order Adjusted Event

```
{
  "type": "EOJ",
  "exchange": "Exch1",
  "eventTimestamp": "20170402T093055.123456789",
```

```
    "symbol": "ABCD",
    "orderID": "5882300",
    "initiator": "Firm",
    "quantity": 13,
    "capacity": "Principal",
    "nbbPrice": 10.00,
    "nbbQty": 100,
    "nboPrice": 10.05,
    "nboQty": 100,
    "member": "Mem01",
    "routedOrderId": "4827821"
}
```

8. Options Exchange Event Examples

8.1. Quote and Quote Cancel Events

Some exchanges use the term "order" to cover both quotes and non-quote orders. For the purpose of reporting to CAT, a quote is to be interpreted as an order/quote that qualifies as a market maker quote for the purposes of satisfying Section 6.4(d)(iii) of the CAT NMS Plan. That is the section which grants relief to market makers from reporting their quotes to CAT, leaving the exchanges themselves with the sole responsibility of reporting quotes to CAT. If such order/quotes received by the exchange would provide the market maker an exemption from reporting the quote, then the order/quote must be reported to CAT as a quote, not an order.

CAT accepts both one-sided and two-sided quotes.

8.1.1. Two-Sided Quotes Example

The following section will provide examples of reportable events for a two-sided market maker quote when it is posted as a new quote, updated by the market maker, then canceled by the market maker or the exchange. Both the new quote and the updated quote are expressed by the Quote Event, while the quote cancel is expressed by the Quote Cancel Event.
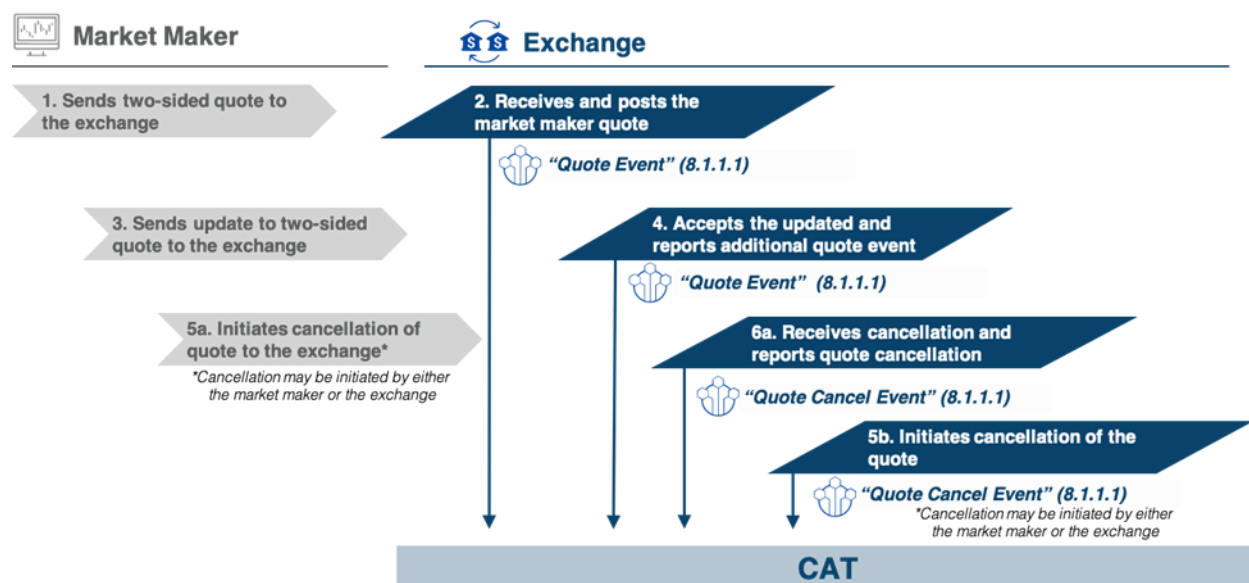
Figure 13: Two-Sided Quote Example

Table 71: Two-Sided Quote Example

#	Step	Reported Event	Comments
1	Market maker sends two-sided quote to the exchange	NA	• Market Maker sends updated two sided (buy/sell) quotes, updates them and cancels them
2.	Exchange 1 posts the market maker quote	**Quote Event** type: OQ exchange: Exch1 eventTimestamp: 20170113T132436.124039 sequenceNumber:1245 marketMaker: ABCD:A16 sentTimestamp: 20170113T132436.123456 optionID: 6779 quoteID: Q9876 onlyOneQuote: true, bidPrice: 2.40 bidQty: 10 askPrice: 2.43 askQty: 10	• The quote is a two-sided quote for an option with the ID: 6779 • The field market maker is the Member Alias assigned by the SRO to identify the market maker issuing the quote. In this case, the market maker ABCD has multiple users (e.g., acronyms used to differentiate users within the same MM), so the characters A16 denote the user or sub-account. • The sent timestamp denotes when the market maker sent the quote to the marketplace, while the event timestamp is when the exchange received the quote
3	Market maker sends an update to the two sided quote to the exchange		• The market maker sends an update raising the bid price of the original quote to 2.41
4	Exchange accepts the update and reports a quote event	**Quote Event** type: OQ exchange: Exch1 eventTimestamp: 20170113T132536.123486789 sequenceNumber: 1278 marketMaker: ABCD:A16 sentTimestamp: 20170113T132536.123456 optionID: 6779 quoteID: Q9941, onlyOneQuote: true,	• The quote event reported by the exchange effectively replaces the former quote, assigning a new quote ID • Note that the quote ID is new: Q9941. Because the MM has only one quote in this optionID, the originalQuoteID is not required.

#	Step	Reported Event	Comments
		bidPrice: 2.41 bidQty: 10 askPrice: 2.43 askQty: 10	• Bid Price is updated, however Bid Quantity, Ask Price, and Ask Quantity remain unchanged
5a	Market maker initiates cancellation of the quote		• Market maker sends a cancellation notice of its quote to the exchange
5b	Exchange receives the cancellation and reports an order cancellation event	**Quote Cancel Event** type: OQC exchange: Exch1 eventTimestamp: 20170113T133036.123486789 sequenceNumber: 1299 marketMaker: ABCD:A16 sentTimestamp: 20170113T133036.123456 optionID: 6779 quoteID: Q9941, onlyOneQuote: true, initiator: MarketMaker cancelReason: ALL	• The value for cancel initiator must always be either market maker or exchange. • The field cancel reason allows for more detail to explain the cancel. In this case ALL represents - Market Maker canceled all quotes. Refer to the data dictionary for more possible values.
6a/b	Exchange initiates cancellation of the quote	**Quote Cancel Event** type: OQC exchange: Exch1 eventTimestamp: 20170113T133105.123456789 sequenceNumber: 1308 marketMaker: ABCD:A16 quoteID: Q9941, onlyOneQuote: true, initiator: Exchange cancelReason: DIS	• This step represents an example where the exchange cancels the quote. • There is no Sent Timestamp value because the event was initiated by the exchange, not the market maker. • The field cancel reason allows for more detail to explain the cancel, possible values may be specified by the exchange. In this case DIS represents that the quote was canceled due to a lost connection. Refer to the data dictionary for more possible values

8.1.1.1. JSON Examples

<u>Quote Event (Step 2)</u>

```json
{
    "type": "OQ",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T132436.124039",
    "sequenceNumber": 1245,
    "marketMaker": "ABCD:A16",
    "sentTimestamp": "20170113T132436.123456",
    "optionID": "6779",
    "quoteID": "Q9876",
    "onlyOneQuote": true,
    "bidPrice": 2.40,
    "bidQty": 10,
    "askPrice": 2.43,
    "askQty": 10
}
```

<u>Quote Event (Step 4)</u>

```json
{
    "type": "OQ",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T132536.123486789",
    "sequenceNumber": 1278,
    "marketMaker": "ABCD:A16",
    "sentTimestamp": "20170113T132536.123456",
    "optionID": "6779",
    "quoteID": "Q9941",
    "onlyOneQuote": true,
    "bidPrice": 2.41,
    "bidQty": 10,
    "askPrice": 2.43,
    "askQty": 10,
}
```

<u>Quote Cancel Event (Step 6a)</u>

```json
{
    "type": "OQC",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T133036.123486789",
    "sequenceNumber": 1299,
    "marketMaker": "ABCD:A16",
    "sentTimestamp": "20170113T133036.123456",
    "optionID": "6779",
    "quoteID": "Q9941",
    ""onlyOneQuote": true,
    "initiator": "MarketMaker",
    "cancelReason": "A"
}
```

Quote Cancel Event (Step 5b)

```
{
    "type": "OQC",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T133105.123456789",
    "sequenceNumber": 1308,
    "marketMaker": "ABCD:A16",
    "quoteID": "Q9941",
    "onlyOneQuote": true,
    "initiator": "Exchange",
    "cancelReason": "DIS"
}
```

8.1.2. One-Sided Quotes Example

The following section will provide examples of reported events for a one-sided market maker quote when it is posted as a new quote, updated by the market maker, then canceled by the market maker or the exchange. Both the new quote and the update are expressed by the Quote Event, while the quote cancel is expressed by the Quote Cancel Event.
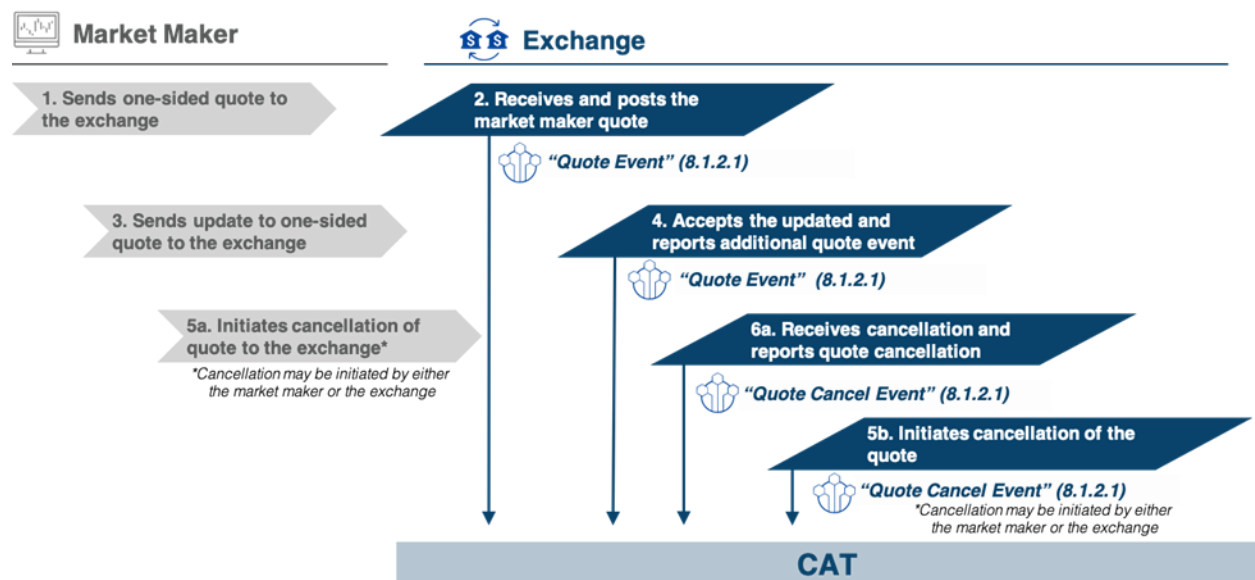
Figure 14: One-Sided Quotes Example

Table 72: One-Sided Quotes Example

#	Step	Reported Event	Comments
1	Market maker sends one-	NA	• Market Maker sends

#	Step	Reported Event	Comments
	sided quote to the exchange		one-sided quotes, updates them and cancels them in that sequence
2	Exchange 1 posts the market maker quote	**Quote Event** Type: OQ Exchange ID: Exch1 eventTimestamp: 20170113T142036.123486789 sequenceNumber: 1010 marketMaker: EFGH:A1 sentTimestamp: 20170113T142036.123456 optionID: 1208 quoteID: Q123456 onlyOneQuote: false bidPrice: 6.10 bidQty: 20	• The quote is a one-sided quote for an option with the ID: 1208 • The field market maker is the Member Alias assigned by the SRO to identify the market maker issuing the quote. In this case, the market maker EFGH has multiple users (e.g., acronyms used to differentiate users within the same MM), so the characters A1 denote the user or sub-account. • The sent timestamp denotes when the market maker sent the quote to the marketplace, while the event timestamp is when the exchange received the quote • The option ID is the ID of the option as assigned by the exchange
3	Market maker sends an update to the one sided quote to the exchange		• The market maker sends an update raising the quantity of the original quote to 30
4	Exchange accepts the update and reports a quote event	**Quote Event** Type: OQ Exchange ID: Exch1 eventTimestamp: 20170113T142536.123486789 sequenceNumber: 1038 marketMaker: EFGH:A1 sentTimestamp: 20170113T142536.123456 optionID: 1208 quoteID: Q22222 originalQuoteID: Q123456	• The quote event reported by the exchange effectively replaces the former quote, assigning a new quote ID • Note that the quote ID is new: Q22222, while the former quote ID is included in the field Original Quote ID. • Bid Quantity is

#	Step	Reported Event	Comments
		onlyOneQuote: false bidPrice: 6.10 bidQty: 30	updated, however Bid price is unchanged
5a	Market maker initiates cancellation of the quote		• Market maker sends a cancellation notice of its quote to the exchange
5b	Exchange receives the cancellation and reports an order cancellation event	**Quote Cancel Event** type: OQC exchange: Exch1 sentTimestamp: 20170113T143036.123456 eventTimestamp: 20170113T143036.123486789 sequenceNumber: 1142 marketMaker: EFGH:A1 optionID: 1208 quoteID: Q22222 onlyOneQuote: false initiator: MarketMaker cancelReason: ALL	• The value for cancel initiator must always be either market maker or exchange. • The field cancel reason allows for more detail to explain the cancel. In this case ALLrepresents - Market Maker canceled all quotes. Refer to the data dictionary for more possible values.
6a/b	Exchange initiates cancellation of the quote	**Quote Cancel Event** type: OQC exchange: Exch1 eventTimestamp: 20170113T143105.123456789 sequenceNumber: 1142 marketMaker: EFGH:A1 optionID: 1208 quoteID: Q22222 onlyOneQuote: false initiator: Exchange cancelReason: DIS	• This step displays an example where the quote is canceled by the exchange • There is no Sent Timestamp value because the event was initiated by the exchange, not the market maker. • The field cancel reason allows for more detail to explain the cancel, possible values may be specified by the exchange. In this case DIS represents that the quote was canceled due to a lost connection. Refer to the data dictionary for more possible values

8.1.2.1. JSON Examples

Quote Event (Step 2)

```
{
    "type": "OQ",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T142036.123486789",
    "sequenceNumber": 1010,
    "marketMaker": "EFGH:A1",
    "sentTimestamp": "20170113T142036.123456",
    "optionID": "1208",
    "quoteID": "Q123456",
    "onlyOneQuote": false,
    "bidPrice": 6.10,
    "bidQty": 20
}
```

Quote Event (Step 4)

```
{
    "type": "OQ",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T142536.123486789",
    "sequenceNumber": 1038,
    "marketMaker": "EFGH:A1",
    "sentTimestamp": "20170113T142536.123456",
    "optionID": "1208",
    "quoteID": "Q22222",
    "originalQuoteID": "Q123456",
    "onlyOneQuote": false,
    "bidPrice": 6.10,
    "bidQty": 30
}
```

Quote Cancel Event (Step 6a)

```
{
    "type": "OQC",
    "exchange": "Exch1",
    "sentTimestamp": "20170113T143036.123456",
    "eventTimestamp": "20170113T143036.123486789",
    "sequenceNumber": 1142,
    "marketMaker": "EFGH:A1",
    "optionID": "1208",
    "quoteID": "Q22222",
    "onlyOneQuote": false,
    "initiator": "MarketMaker",
    "cancelReason": "ALL"
}
```

Quote Cancel Event (Step 5b)

```
{
```

```
    "type": "OQC",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T143105.123456789",
    "sequenceNumber": 1142,
    "marketMaker": "EFGH:A1",
    "optionID": "1208",
    "quoteID": "Q22222",
    "onlyOneQuote": false,
    "initiator": "Exchange",
    "cancelReason": "DIS"
}
```

8.2. Option Order Event Examples

8.2.1. Simple Option Order Accepted Example

This example describes a Simple Option Order Accepted Event in which the exchange receives and accepts an order for a simple option. Note that in this example Complex Order ID is not provided because there is no parent complex order.
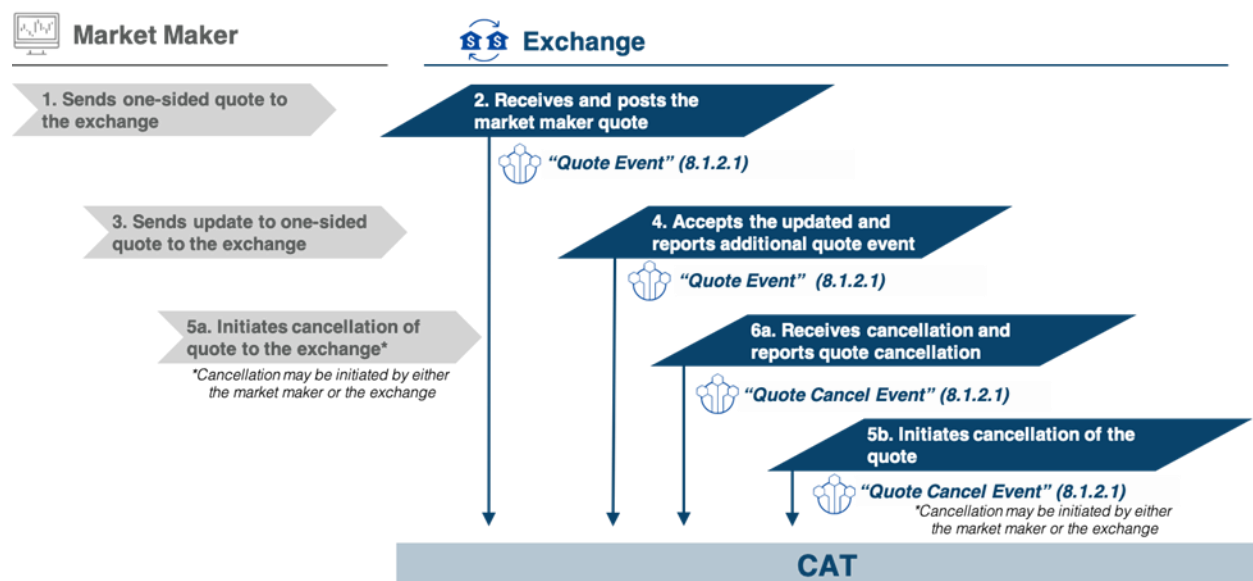
Figure 15: Simple Option Order Accepted Example

Table 73: Simple Option Order Accepted Example

#	Step	Reported Event	Comments
1	Member firm sends option order to the exchange	NA	• The order is routed over session ID 3, with a price of 18.59,

| #	Step	Reported Event	Comments
			quantity of 10, for the option defined by the exchange as Option ID 1208
2.	Exchange 1 accepts the order and reports a Simple Option Order Accepted Event	**Simple Option Oder Accepted Event:** type: OOA exchange: Exch1 eventTimestamp: 20170116T143105.123456789 sequenceNumber: 909 optionID: 1208 orderID: 123456 routingParty: FRMA routedOrderID: 98765 session: 3 side: Buy price: 18.59 quantity: 10 displayQty: 10 displayPrice: 18.59 workingPrice: 18.59 openCloseIndicator: Open orderType: LMT timeInForce: DAY exchOriginCode: C coverage: Uncovered executingFirm: 999 nbbPrice: 18.58 nbbQty: 10 nboPrice: 18.60 nboQty: 10 member: Mem01	• The option ID is the ID of the option as assigned by the exchange. • The Order ID is the ID of the order as assigned by the exchange, while the routed order ID is the order ID as defined by the member firm. • The origin code value of C represents that the order originated from a customer

8.2.1.1. JSON Example

<u>**Simple Option Order Accepted Event**</u>

```
{
  "type": "OOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170116T143105.123456789",
  "sequenceNumber": 909,
  "optionID": "1208",
  "orderID": "123456",
  "routingParty": "FRMA",
  "routedOrderID": "98765",
  "session": "3",
  "side": "Buy",
  "price": 18.59,
```

```
  "quantity": 10,
  "displayQty": 10,
  "displayPrice": 18.59,
  "workingPrice": 18.59,
  "openCloseIndicator": "Open",
  "orderType": "LMT",
  "timeInForce": "DAY",
  "exchOriginCode": "C",
  "coverage": "Uncovered",
  "executingFirm": "999",
  "nbbPrice": 18.58,
  "nbbQty": 10,
  "nboPrice": 18.60,
  "nboQty": 10,
  "member": "Mem01"
}
```

8.2.2. Complex Option Order Accepted Event Example

In the example below, the exchange only creates leg orders at the time an order is executed. Thus, an order on the complex option would have a report sent to CAT for an order accepted event at the parent level of the complex order. Any leg reports would wait until the leg orders are actually created when a trade occurs.

The examples in this section will use an order on the complex option with optionID 9843. This hypothetical complex option has two option series legs:

Complex Option – optionID: 9843

Table 74: Complex Option Order Example: Legs

optionID	side	ratio	primaryDeliverable	expirationDate	strikePrice	putCall	exerciseStyle	settlement
1491	Buy	1	XYZZY	21 Oct 2017	30.00	C	American	PM
1492	Sell	1	XYZZY	21 Oct 2017	32.50	C	American	PM

For this example, we suppose at 192411.121456789 on April 20, 2017 an order was accepted for 10 units of complex option 9843 at net price -65 per unit.
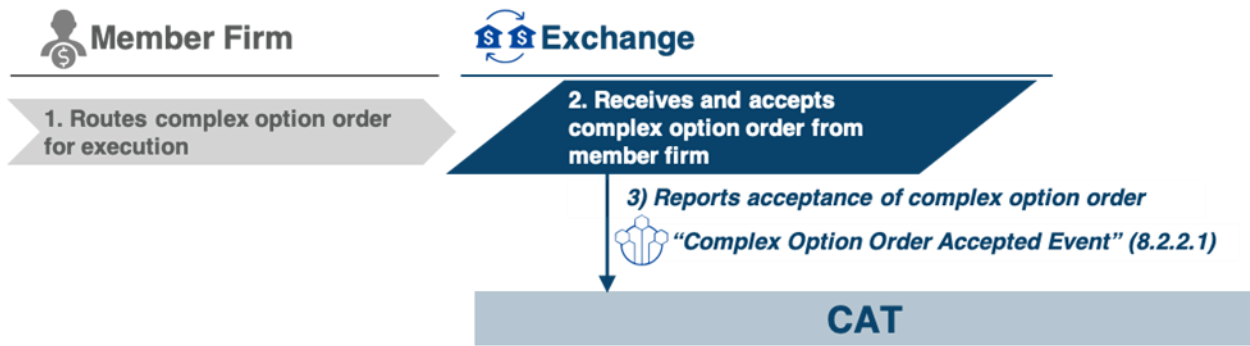
Figure 16: Complex Option Order Example

Table 75: Complex Option Order Example

#	Step	Reported Event	Comments
1	Market maker sends complex option order to the exchange	NA	• The order is routed over session ID 7, with a price of -65, quantity of 10, for the option defined by the exchange as Option ID 9843
2	Exchange 1 accepts the complex option order		
3	Exchange 1 reports a complex option order accepted event. Leg events are not reported until an execution happens, so the only event reported at this time is for the complex option order.	**Complex Option Order Accepted Event** type: OCOA exchange: Exch1 eventTimestamp: 20170420T142411.121456789 sequenceNumber: 909 optionID: 9843 orderID: 8473692 side: AsDirected routingParty: FRMA routedOrderID: 4567123 session: 7 price: -65.00 quantity: 10 timeInForce: DAY member: Mem01	• The option ID is the ID of the option as assigned by the exchange. • The Order ID is the ID of the order as assigned by the exchange, while the routed order ID is the order ID as defined by the member firm.

8.2.2.1. JSON Examples

__Complex Order Accepted Event (Step 3)__

```
{
  "type": "OCOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.121456789",
  "sequenceNumber": 909,
  "optionID": "9843",
  "orderID": "8473692",
  "side": "AsDirected",
  "routingParty": "FRMA",
  "routedOrderID": "4567123",
  "session": "7",
  "price": -65.00,
  "quantity": 10,
  "timeInForce": "DAY",
  "member": "Mem01"
}
```

8.3. Simple Option Order Modified Event

This example shows how to populate the routedOrderId for a firm initiated modification.
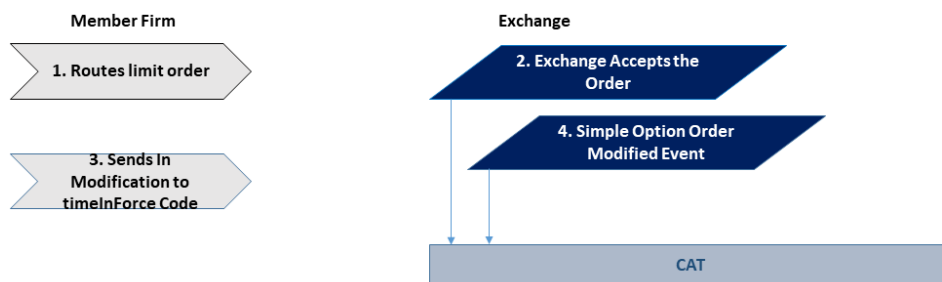
Figure 17: Simple Option Order Modify Event due to a firm change

#	Step	Reported Event	Comments
1	Member firm sends option order to the exchange	NA	• The order is routed over session ID 3, with a price of 18.59, quantity of 10, for the option defined by the exchange as Option ID 1208
2.	Exchange 1 accepts the order and reports a Simple Option Order Accepted Event	**Simple Option Oder Accepted Event:** type: OOA exchange: Exch1 eventTimestamp: 20170116T143105.123456789 sequenceNumber: 909 optionID: 1208 orderID: 123456 routingParty: FRMA routedOrderID: 98765 session: 3 side: Buy price: 18.59 quantity: 10 displayQty: 10 displayPrice: 18.59 workingPrice: 18.59 openCloseIndicator: Open orderType: LMT timeInForce: DAY exchOriginCode: C coverage: Uncovered executingFirm: 999 nbbPrice: 18.58 nbbQty: 10 nboPrice: 18.60 nboQty: 10 member: Mem01	• The option ID is the ID of the option as assigned by the exchange. • The Order ID is the ID of the order as assigned by the exchange, while the routed order ID is the order ID as defined by the member firm. • The origin code value of C represents that the order originated from a customer
3	Member firm sends in a request to change the timeInForce for the order from DAY to GTC		
4	An Option Order Modify Event is sent in to CAT from the exchange.	type: OOM exchange: Exch1 eventTimestamp: 20170116T143110.123456789 sequenceNumber: 912 optionID: 1208 orderID: 3312629458 coverage: Uncovered originalOrderID: 123456 initiator: Firm nbbPrice: 18.58	• Note that the inbound routedOrderId (Fix value ClOrdID Tag 11) sent in from the member firm is on the OOM event.

#	Step	Reported Event	Comments
		nbbQty: 10	
		nboPrice: 18.60	
		nboQty: 10	
		price: 18.59	
		quantity: 10	
		displayQty: 10	
		displayPrice: 18.59	
		workingPrice: 18.59	
		openCloseIndicator: Open	
		orderType: LMT	
		timeInForce: GTC	
		exchOrigCode: C	
		executingFirm: 999	
		member: Mem01	
		routedOrderId: 98766:	

8.3.1. JSON Example

Simple Option Order Accepted Event

```json
{
  "type": "OOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170116T143105.123456789",
  "sequenceNumber": 909,
  "optionID": "1208",
  "orderID": "123456",
  "routingParty": "FRMA",
  "routedOrderID": "98765",
  "session": "3",
  "side": "Buy",
  "price": 18.59,
  "quantity": 10,
  "displayQty": 10,
  "displayPrice": 18.59,
  "workingPrice": 18.59,
  "openCloseIndicator": "Open",
  "orderType": "LMT",
  "timeInForce": "DAY",
  "exchOriginCode": "C",
  "coverage": "Uncovered",
  "executingFirm": "999",
  "nbbPrice": 18.58,
  "nbbQty": 10,
  "nboPrice": 18.60,
  "nboQty": 10,
  "member": "Mem01"
}
```

Simple Option Order Modified Event

```
{
  "type": "OOM",
  "exchange": "Exch1",
  "eventTimestamp": "20170116T143110.123456789",
  "sequenceNumber": 912,
  "optionID": "1208",
  "orderID": "3312629458",
  "OriginalOrderID": 123456,
  "price": 18.59,
  "quantity": 10,
  "displayQty": 10,
  "displayPrice": 18.59,
  "workingPrice": 18.59,
  "openCloseIndicator": "Open",
  "orderType": "LMT",
  "timeInForce": "GTC",
  "exchOriginCode": "C",
  "coverage": "Uncovered",
  "executingFirm": "999",
  "nbbPrice": 18.58,
  "nbbQty": 10,
  "nboPrice": 18.60,
  "nboQty": 10,
  "member": "Mem01",
  "routedOrderId": "98766"
}
```

8.4. Simple Option Order Modified Event Created As a Result of Partial Execution at Away Exchange

This example shows how to populate the Simple Option Order Modify Event in the scenario where an order is routed to an away exchange. At the away exchange, the order is partially executed, leaving quantity returned to the exchange for the order. The Option Order Modify event is created showing this change in order quantity.
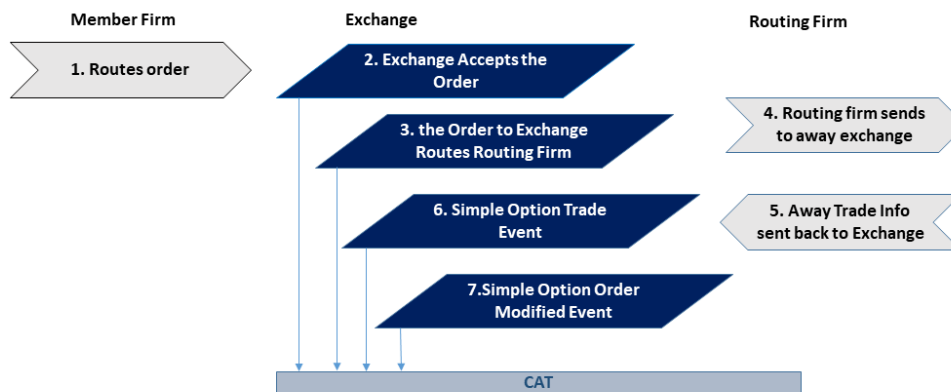
Figure 18: Simple Option Order Modification Event due to execution at away exchange

#	Step	Reported Event	Comments
1	Member firm sends option order to the exchange	NA	• The order is routed over session ID 3, with a price of 18.59, quantity of 10, for the option defined by the exchange as Option ID 1208
2.	Exchange 1 accepts the order and reports a Simple Option Order Accepted Event	**Simple Option Oder Accepted Event:** type: OOA exchange: Exch1 eventTimestamp: 20170116T143105.123456789 sequenceNumber: 909 optionID: 1208 orderID: 123456 routingParty: FRMA routedOrderID: 98765 session: 3 side: Buy price: 18.59 quantity: 10 displayQty: 10	• The option ID is the ID of the option as assigned by the exchange. • The Order ID is the ID of the order as assigned by the exchange, while the routed order ID is the order ID as defined by the member firm. • The origin code value of C represents that the order originated from a customer

#	Step	Reported Event	Comments
		displayPrice: 18.59 workingPrice: 18.59 openCloseIndicator: Open orderType: LMT timeInForce: DAY exchOriginCode: C coverage: Uncovered executingFirm: 999 nbbPrice: 18.56 nbbQty: 10 nboPrice: 18.59 nboQty: 4 member: Mem01	
3	Option order is routed to an exchange with a better Market	**OOR event** type: OOR exchange: Exch1 eventTimestamp: 20170116T143110.123456789 sequenceNumber: 911 optionID: 1208 orderID: 123456 routingParty: RoutingFirm routedOrderID: 4823326 session: 3 side: Buy price: 18.59 quantity: 10 displayQty: 10 orderType: LMT coverage: Uncovered timeInForce: DAY nbbPrice: 18.56 nbbQty: 10 nboPrice: 18.59 nboQty: 4 member: Mem01	• The order is routed to an exchange with a better offer
4	Routing Firm sends the order to the away exchange with a better market.		
5	Routing Firm returns a message with the remaining quantity on the order.		
6	Option order is partially executed at the away exchange, prompting an order trade event with the side routed away populated.	**Option Trade Event:** type: OT exchange: Exch1 eventTimestamp: 20170116T143111.123456789 sequenceNumber: 915 tradeID: 12345	• <u>Quantity of 4 trades at the nbo price of 18.59 at the away exchange</u>

#	Step	Reported Event	Comments
		optionID: 1208 quantity: 4 price: 18.59 nbbPrice: 18.56 nbbQty: 10 nboPrice: 18.59 nboQty: 4 Sell Side Details side: Sell executingFirm: 987 exchOriginCode: F member: BATS Buy Side Details side: Buy leavesQty: 6 openCloseIndicator: Open orderID: 123456 executingFirm: 551 exchOriginCode: C liquidityCode: Removed member: Mem01 routedOrderID: 4823326	
7	Option Order Modified Event created to reflect the reduced quantity from an order executed at an away exchange	type: OOM exchange: Exch1 eventTimestamp: 20170116T143111.123456999 sequenceNumber: 920 optionID: 1208 orderID: 123456 coverage: Uncovered originalOrderID: 123456 initiator: Firm nbbPrice: 18.56 nbbQty: 10 nboPrice: 18.60 nboQty: 10 price: 18.59 quantity: 6 displayQty: 6 displayPrice: 18.59 workingPrice: 18.59 openCloseIndicator: Open orderType: LMT timeInForce: DAY exchOrigCode: C member: Mem01 routedOrderId: 4823326:	Option order modify event created for quantity change from 10 to 6. Note the routedOrderId is the routedOrderId sent from the exchange to the routing firm on the OOR event.

8.4.1. JSON Examples

<u>Simple Option Order Accepted Event</u>

```
{
  "type": "OOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170116T143105.123456789",
  "sequenceNumber": 909,
  "optionID": "1208",
  "orderID": "123456",
  "routingParty": "FRMA",
  "routedOrderID": "98765",
  "session": "3",
  "side": "Buy",
  "price": 18.59,
  "quantity": 10,
  "displayQty": 10,
  "displayPrice": 18.59,
  "workingPrice": 18.59,
  "openCloseIndicator": "Open",
  "orderType": "LMT",
  "timeInForce": "DAY",
  "exchOriginCode": "C",
  "coverage": "Uncovered",
  "executingFirm": "999",
  "nbbPrice": 18.56,
  "nbbQty": 10,
  "nboPrice": 18.59,
  "nboQty": 4,
  "member": "Mem01"
}
```

<u>Option Order Route Event</u>

```
{
  "type": "OOR",
  "exchange": "Exch1",
  "eventTimestamp": "20170116T143110.123456789",
  "sequenceNumber": 911,
  "optionID": "1208",
  "orderID": "123456",
  "routingParty": "RoutingFirm",
  "routedOrderID": "4823326",
  "session": "3",
  "side": "Buy",
  "price": 18.59,
  "quantity": 10,
  "displayQty": 10,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "coverage": "Uncovered",
  "executingFirm": "999",
  "nbbPrice": 18.56,
```

```
    "nbbQty": 10,
    "nboPrice": 18.59,
    "nboQty": 4,
    "member": "Mem01"
}
```

Option Trade Event

```
{
    "type": "OT",
    "exchange": "Exch1",
    "eventTimestamp": "20170116T143111.123456789",
    "sequenceNumber": 915,
    "tradeID": "12345",
    "optionID": "1208",
    "quantity": 4,
    "price": 18.59,
    "nbbPrice": 18.56,
    "nbbQty": 10,
    "nboPrice": 18.59,
    "nboQty": 4,
    "sellDetails": {
        "side": "Sell",
        "leavesQty": 6,
        "executingFirm": "987",
        "exchOriginCode": "F",
        "member": "BATS"
    },
    "buyDetails": {
        "side": "Buy",
        "leavesQty": 6,
        "openCloseIndicator": "Open",
        "orderID": "4823326",
        "executingFirm": "551",
        "exchOriginCode": "C",
        "liquidityCode": "Removed",
        "member": "Mem01"
    }
}
```

8.5.   Simple Option Trade Event Examples

The below section will provide an example of a trade event for an option series where a broker order is executed against an existing market maker quote.
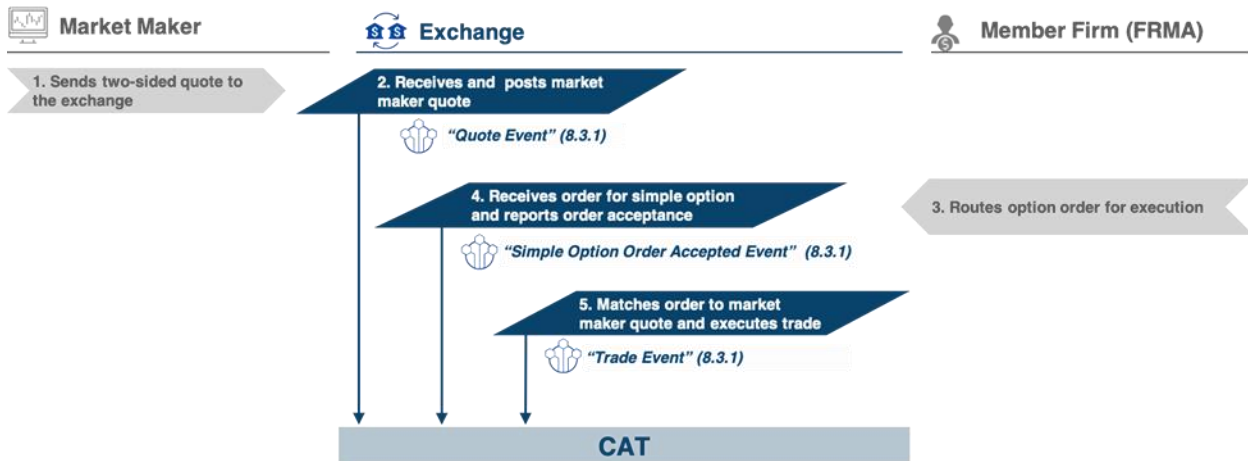
Figure 19: Simple Option Trade Event Example

Table 76: Simple Option Trade Event Example

#	Step	Reported Event	Comments
1	Market maker sends two-sided quote to the exchange	NA	• This scenario displays complete lifecycle of a simple options from Quote to Trade
2.	Exchange 1 posts the market maker quote	**Quote Event** type: OQ exchange: Exch1 sentTimestamp: 20170113T132036.123456 eventTimestamp: 20170113T132036.123486789 sequenceNumber: 1245 marketMaker: ABCD:A16 optionID: 6779 quoteID: Q9876 onlyOneQuote: true bidPrice: 2.40 bidQty: 10 askPrice: 2.43 askQty: 10	• The quote is a two-sided quote for an option with the ID: 6779 • The field market maker is the Member Alias assigned by the SRO to identify the market maker issuing the quote. In this case, the market maker ABCD has multiple users (e.g., acronyms used to differentiate users within the same MM), so the characters A16 denote the user or sub-account. • The sent timestamp denotes when the market maker sent the quote to the marketplace, while the event timestamp

#	Step	Reported Event	Comments
			is when the exchange received the quote
3	Member firm sends option order to the exchange	NA	• The order is routed over session ID 7, with a price of 2.43, quantity of 4, for the option defined by the exchange as Option ID 6779
4	Exchange 1 accepts the order and reports a Simple Option Order Accepted Event	**Simple Option Order Accepted Event:** type: OOA exchange: Exch1 eventTimestamp: 20170113T132209.123486789 sequenceNumber: 1300 optionID: 6779 orderID: 56789 routingParty: FRMA routedOrderID: 98654 session: 7 side: Buy price: 2.43 quantity: 4 displayQty: 4 displayPrice: 2.43 workingPrice: 2.43 openCloseIndicator: Open orderType: LMT timeInForce: DAY exchOriginCode: C coverage: Uncovered executingFirm: 999 nbbPrice: 2.40 nbbQty: 10 nboPrice: 2.43 nboQty: 10 member: Mem01	• The option ID is the ID of the option as assigned by the exchange. • The Order ID is the ID of the order as assigned by the exchange, while the routed order ID is the order ID as defined by the member firm. • The origin code value of C represents that the order originated from a customer
5	Exchange 1 matches order to market maker quote and executes trade	**Option Trade Event:** type: OT exchange: Exch1 eventTimestamp: 20170113T132211.123456789 sequenceNumber: 1421 tradeID: 12345 optionID: 6779 quantity: 4 price: 2.43 nbbPrice: 2.42 nbbQty: 10	

#	Step	Reported Event	Comments
		nboPrice: 2.43 nboQty: 10 saleCondition: "O " Sell Side Details side: Sell leavesQty: 6 quoteID: Q9876 executingFirm: 987 mktMkrSubAccount: ABC123 exchOriginCode: M liquidityCode: Added member: ABCD:A16 Buy Side Details side: Buy leavesQty: 0 openCloseIndicator: Open orderID: 56789 executingFirm: 999 exchOriginCode: C liquidityCode: Removed member: Mem01	

8.5.1.   JSON Examples

Quote Event

```
{
    "type": "OQ",
    "exchange": "Exch1",
    "sentTimestamp: "20170113T132036.123456",
    "eventTimestamp: "20170113T132036.123486789",
    "sequenceNumber": 1245,
    "marketMaker": "ABCD:A16",
    "optionID": "6779",
    "quoteID": "Q9876",
    "onlyOneQuote": true,
    "bidPrice": 2.40,
    "bidQty": 10,
    "askPrice": 2.43,
    "askQty": 10
}
```

Simple Option Order Accepted Event

```
{
  "type": "OOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170113T132209.123486789",
```

```
    "sequenceNumber": 1300,
    "optionID": "6779",
    "orderID": "56789",
    "routingParty": "FRMA",
    "routedOrderID": "98654",
    "session": "7",
    "side": "Buy",
    "price": 2.43,
    "quantity": 4,
    "displayQty": 4,
    "displayPrice": 2.43,
    "workingPrice": 2.43,
    "openCloseIndicator": "Open",
    "orderType": "LMT",
    "timeInForce": "DAY",
    "exchOriginCode": "C",
    "coverage": "Uncovered",
    "executingFirm": "999",
    "nbbPrice": 2.40,
    "nbbQty": 10,
    "nboPrice": 2.43,
    "nboQty": 10,
    "member": "Mem01"
}
```

Option Trade Event

```
{
    "type": "OT",
    "exchange": "Exch1",
    "eventTimestamp": "20170113T132211.123456789",
    "sequenceNumber": 1421,
    "tradeID": "12345",
    "optionID": "6779",
    "quantity": 4,
    "price": 2.43,
    "nbbPrice": 2.42,
    "nbbQty": 10,
    "nboPrice": 2.43,
    "nboQty": 10,
    "saleCondition": "O ",
    "sellDetails": {
      "side": "Sell",
      "leavesQty": 6,
      "quoteID": "Q9876",
      "executingFirm": "987",
      "mktMkrSubAccount": "ABC123",
      "exchOriginCode": "M",
      "liquidityCode": "Added",
      "member": "ABCD:A16",
      "executionCodes":{
              "INTLIQ":"A",
              "SUBLIQ":"S"
                }
```

```
  },
  "buyDetails": {
    "side": "Buy",
    "leavesQty": 0,
    "openCloseIndicator": "Open",
    "orderID": "56789",
    "executingFirm": "999",
    "exchOriginCode": "C",
    "liquidityCode": "Removed",
    "member": "Mem01",
    "executionCodes":{
            "INTLIQ":"A",
            "SUBLIQ":"S"
            }

  }
}
```

Example CSV Corresponding – Options Trade Event:

```
OT,Exch1,20170113T132211.123456789,1421,,12345,6779,4,2.43,2.42,10,2.43,10, O
,,Buy,0,Open,,56789,999,,,,C,Removed,INTLIQ=A|SUBLIQ=S,Mem01,Sell,6,,
Q9876,,987,,,ABC123,M,Added,INTLIQ=A|SUBLIQ=S,ABCD:A16
```

8.6.   Complex Options Trade Events Examples

In all cases, complex option trades are reported to CAT only at the leg level. There is no roll-up trade reported at the complex order level. For example, an order on the complex option (ID 9851) below would have had corresponding orders reported to CAT for each of the underlying legs. As the following examples will show, trades on this complex option will report by leg, with each leg trade event corresponding to an order event on the leg that is in turn attached to a parent-level complex order event.

Complex Option – optionID: 9851

Table 77: Complex Options Trade Events Example: Legs

optionID	side	ratio	primaryDeliverable	expirationDate	strikePrice	putCall	exerciseStyle	settlement
1491	Buy	1	XYZZY	21 Oct 2017	30.00	C	American	PM
1492	Sell	1	XYZZY	21 Oct 2017	32.50	C	American	PM
XYZZY	Buy	100						

This section follows a series of trade events on the complex option described above, along with examples of the quotes and orders that would be referenced in those trades.

- A new market maker quote is posted for the option leg 1491
- A new market maker quote is posted for the option leg 1492

- An order is placed for quantity 10 of the complex option 9851

- A trade on the first option leg 1491 is reported (10 contracts)

- A trade on the second option leg 1492 is reported (10 contracts)

- A fill on the stock leg XYZZY is reported (1,000 shares)
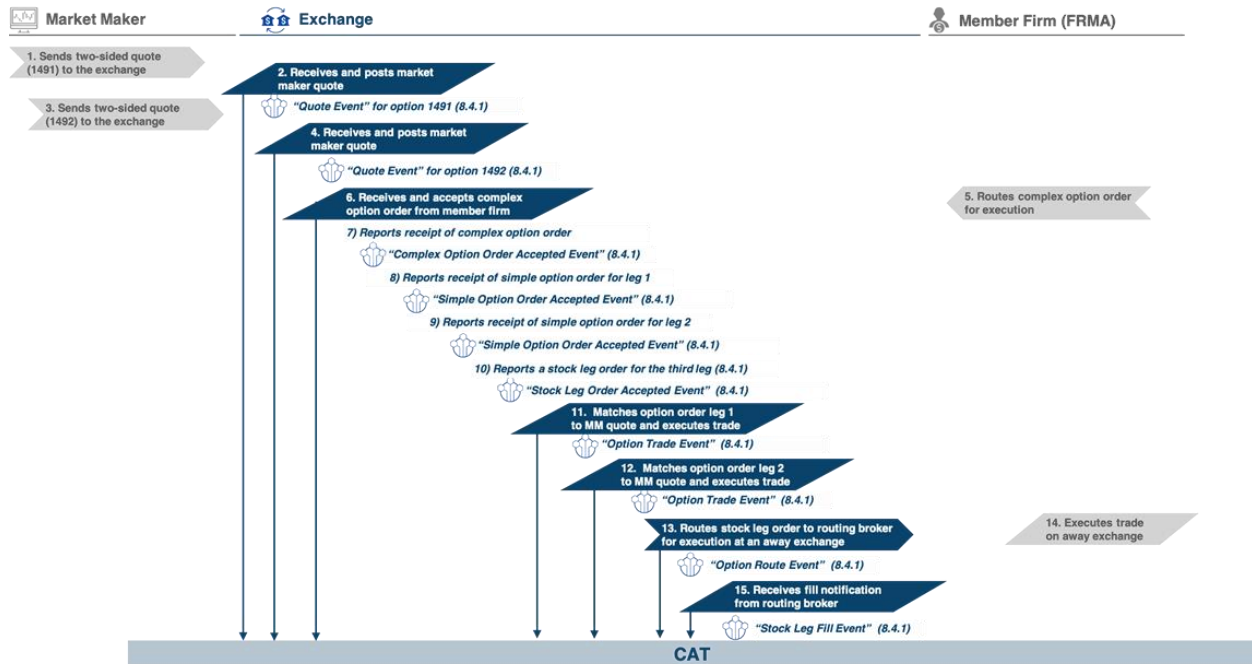
Figure 20: Complex Options Trade Events Example

Table 78: Complex Options Trade Events Example

#	Step	Reported Event	Comments
1	Market maker sends two-sided quote to the exchange	NA	• Quote is for the option the exchange identifies as option ID 1491
2.	Exchange 1 posts the market maker quote	**Quote Event** type: OQ exchange: Exch1 sentTimestamp: 20170420T142036.123456 eventTimestamp: 20170420T142036.123486789 sequenceNumber: 1112 marketMaker: ABCD:AA optionID: 1491	• The quote is a two-sided quote for an option with the option ID: 1491 • The field market maker is the Member Alias assigned by the SRO to identify the market maker issuing the quote. In this case, the market maker ABCD has

#	Step	Reported Event	Comments
		quoteID: 12345 onlyOneQuote: true bidPrice: 1.90 bidQty: 10 askPrice: 2.00 askQty: 10	multiple users (e.g., acronyms used to differentiate users within the same MM), so the characters AA denote the user or sub-account. • The sent timestamp denotes when the market maker sent the quote to the marketplace, while the event timestamp is when the exchange received the quote
3	Market maker sends two-sided quote to the exchange	NA	• Quote is for the option the exchange identifies as option ID 1492
4	Exchange 1 posts the market maker quote	**Quote Event** type: OQ exchange: Exch1 sentTimestamp: 20170420T142036.124456 eventTimestamp: 20170420T142036.124486789 sequenceNumber: 1125 marketMaker: ABCD:AA mktMkrSubAccount: A16 optionID: 1492 quoteID: 67890 onlyOneQuote: true bidPrice: 1.00 bidQty: 10 askPrice: 1.10 askQty: 10	• The quote is a two-sided quote for an option with the ID: 1492 • The field market maker is the Member Alias assigned by the SRO to identify the market maker issuing the quote. In this case, the market maker ABCD has multiple users (e.g., acronyms used to differentiate users within the same MM), so the characters A16 denote the user or sub-account. • The sent timestamp denotes when the market maker sent the quote to the marketplace, while the event timestamp is when the exchange received the quote
5	Member Firm (FRMA) sends complex option order to the exchange	NA	• The order is routed over session ID 7, with a price of -30.90, quantity of 10, for the option defined by the exchange as Option ID 9851

#	Step	Reported Event	Comments
6	Exchange 1 accepts the complex option order	*Shown in steps 7, 8, and 9*	
7	Exchange 1 reports a complex option order accepted event	**Complex Option Order Accepted Event** type: OCOA exchange: Exch1 eventTimestamp: 20170420T142411.121456789 sequenceNumber: 909 optionID: 9851 orderID: 8473692 side: AsDirected routingParty: FRMA routedOrderID: 4567123 session: 7 price: -30.90 quantity: 10 timeInForce: DAY member: Mem01	• The option ID is the ID of the complex option as assigned by the exchange. • The Order ID is the ID of the order as assigned by the exchange, while the routed order ID is the order ID as defined by the member firm.
8	Exchange 1 reports a simple option order accepted event for the first leg	**Simple Option Order Accepted Event** type: OOA exchange: Exch1 eventTimestamp: 20170420T142411.121456790 sequenceNumber: 909 optionID: 1491 orderID: 84736921 side: Buy quantity: 10 displayQty: 0 openClose: Open orderType: LEG timeInForce: DAY exchOriginCode: C coverage: Uncovered executingFirm: 999 complexOrderID: 8473692 complexOptionID: 9851 nbbPrice: 1.90 nbbQty: 10 nboPrice: 2.00 nboQty: 10 member: Mem01	• This section describes the Simple Option Order Accepted Event for Leg 1 corresponding to the complex option order described above. • Note that in this Simple Option Order Accepted Event for Leg 1, the Routed Order ID is the same as reported in the parent complex order, however, the order ID for this leg is unique.
9	Exchange 1 reports a simple option order accepted event for the second leg	**Simple Option Order Accepted Event** type: OOA exchange: Exch1 eventTimestamp: 20170420T142411.121456791	• This section describes the Simple Option Order Accepted Event for Leg 2 corresponding to the complex

#	Step	Reported Event	Comments
		sequenceNumber: 909 optionID: 1492 orderID: 84736922 side: Sell quantity: 10 displayQty: 0 openClose: Open orderType: LEG timeInForce: DAY exchOriginCode: C coverage: Uncovered executingFirm: 999 complexOrderID: 8473692 complexOptionID: 9851 nbbPrice: 1.00 nbbQty: 10 nboPrice: 1.10 nboQty: 10 member: Mem01	option order described above. • Note that in this Simple Option Order Accepted Event for Leg 2, the Routed Order ID is the same as reported in the parent complex order, however, the order ID for this leg is unique.
10	Exchange 1 reports a stock leg order accepted event for the third leg	**Stock Leg Order Accepted Event:** type: OSL exchange: Exch1 eventTimestamp: 20170420T142411.121456793 sequenceNumber: 909 symbol: XYZZY orderID: 84736923 side: Buy price: 29.90 quantity: 1000 displayQty: 0 orderType: LMT timeInForce: DAY clearingFirm: FRMA complexOrderID: 8473692 complexOptionID: 9851 nbbPrice: 29.84 nbbQty: 10 nboPrice: 29.90 nboQty: 10 member: Mem01	• This section describes the Stock Leg Order Accepted Event for Leg 3 corresponding to the complex option order described above.
11	Exchange 1 matches order for leg 1 to a market maker quote and executes trade	**Option Trade Event:** type: OT exchange: Exch1 eventTimestamp: 20170420T142411.123456795 sequenceNumber: 456 tradeID: 194378 optionID: 1491	• This event describes a trade on the first leg (option 1491) of the complex option 9851. In this case, the trade event fills all of the (buy) quantity requested by the order, and all of the (sell) quantity

#	Step	Reported Event	Comments
		quantity: 10 price: 2.00 nbbPrice: 1.90 nbbQty: 10 nboPrice: 2.00 nboQty: 10 saleCondition: O Sell Side Details side: Sell leavesQty: 0 quoteID: 12345 executingFirm: 987 mktMkrSubAccount: ABC123 exchOriginCode: M liquidityCode: Added member: ABCD:AA Buy Side Details side: Buy leavesQty: 0 openCloseIndicator: Open orderID: 84736921 executingFirm: 999 exchOriginCode: C liquidityCode: Removed member: Mem01	offered by the market maker. Note that the order for the first option leg (created as a result of the complex order) is referenced in the buy side details, while the market maker quote for the underlying option (1491) of the first leg is referenced in the sell side details.
12	Exchange 1 matches order for leg 2 to a market maker quote and executes trade	**Option Trade Event:** type: OT exchange: Exch1 eventTimestamp: 20170420T142411.123456796 sequenceNumber: 1209 tradeID: 194379 optionID: 1492 quantity: 10 price: 1.00 nbbPrice: 1.00 nbbQty: 10 nboPrice: 1.10 nboQty: 10 saleCondition: O Sell Side Details side: Sell leavesQty: 0 openCloseIndicator: Open orderID: 84736922 executingFirm: 999 exchOriginCode: C liquidityCode: Removed	• This event describes a trade on the second leg (option 1492) of the complex option 9851. Similarly, this trade event fills all of the (sell) quantity of the leg order generated as a result of the complex order. This trade has executed in ratio, as defined in complex option, to the trade on the first leg. Note that on this leg, the broker who placed the order is on the sell side, while the market maker is on the buy side.

#	Step	Reported Event	Comments
		member: Mem01 Buy Side Details side: Buy leavesQty: 0 quoteID: 67890 executingFirm: 987 mktMkrSubAccount: ABC123 exchOriginCode: M liquidityCode: Added member: ABCD:AA	
13	Exchange 1 routes stock leg order to the routing broker for execution on an away exchange	**Option Route Event** type: OOR exchange: Exch1 eventTimestamp: 20170420T142411.121656785 sequenceNumber: 2059 symbol: XYZZY orderID: 84736923 routingParty: FRMC routedOrderID: 8999999 session: 9 side: Buy price: 29.90 quantity: 1000 displayQty: 0 orderType: LMT coverage: Uncovered timeInForce: DAY result: ACK resultTimestamp: 20170420T142411.122656789 nbbPrice: 29.84 nbbQty: 10 nboPrice: 29.90 nboQty: 10 complexOrderID: 8473692 complexOptionID: 9851 member: Mem01	• This event describes a route on the stock leg (Symbol = XYZZY) of the complex option 9851 to a routing broker for execution on an away exchange.
14	Routing broker routes to the away exchange, and receives a fill report when the order executes		
15	Exchange 1 receives fill notification from the routing broker	**Stock Leg Fill Event** type: OSLF exchange: Exch1 eventTimestamp: 20170420T142412.125656789	

#	Step	Reported Event	Comments
		sequenceNumber: 2088 fillID: 95321 symbol: XYZZY quantity: 1000 price: 29.90 saleCondition: OB side: Buy leavesQty: 0 orderID: 84736923 clearingFirm: FRMA clearingNumber: 123 member: Mem01	

8.6.1. JSON Examples

Quote Event (Step 2)

```
{
    "type": "OQ",
    "exchange": "Exch1",
    "sentTimestamp: "20170420T142036.123456",
    "eventTimestamp: "20170113T142036.123486789",
    "sequenceNumber": 1112,
    "marketMaker": "ABCD:AA",
    "optionID": "1491",
    "quoteID": "12345",
    "onlyOneQuote": true,
    "bidPrice": 1.90,
    "bidQty": 10,
    "askPrice": 2.00,
    "askQty": 10
}
```

Quote Event (Step 4)

```
{
    "type": "OQ",
    "exchange": "Exch1",
    "sentTimestamp: "20170420T142036.124456",
    "eventTimestamp: "20170113T142036.124486789",
    "sequenceNumber": 1125,
    "marketMaker": "ABCD:AA",
    "optionID": "1492",
    "quoteID": "67890",
    "onlyOneQuote": true,
    "bidPrice": 1.00,
    "bidQty": 10,
    "askPrice": 1.10,
    "askQty": 10
}
```

Complex Option Order Accepted Event (Step 7)

```
{
  "type": "OCOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.121456789",
  "sequenceNumber": 909,
  "optionID": "9851",
  "orderID": "8473692",
  "side": "AsDirected",
  "routingParty": "FRMA",
  "routedOrderID": "4567123",
  "session": "7",
  "price": -30.90,
  "quantity": 10,
  "timeInForce": "DAY",
  "member": "Mem01"
}
```

Simple Option Order Accepted Event (Step 8)

```
{
  "type": "OOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.121456789",
  "sequenceNumber": 909,
  "optionID": "1491",
  "orderID": "84736921",
  "side": "Buy",
  "quantity": 10,
  "displayQty": 0,
  "openCloseIndicator": "Open",
  "orderType": "LEG",
  "timeInForce": "DAY",
  "exchOriginCode": "C",
  "coverage": "Uncovered",
  "executingFirm": "999",
  "nbbPrice": 1.90,
  "nbbQty": 10,
  "nboPrice": 2.00,
  "nboQty": 10,
  "complexOrderID": "8473692",
  "complexOptionID": "9851",
  "member": "Mem01"
}
```

Simple Option Order Accepted Event (Step 9)

```
{
  "type": "OOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.121456789",
  "sequenceNumber": 909,
  "optionID": "1492",
  "orderID": "84736922",
```

```
  "side": "Sell",
  "quantity": 10,
  "displayQty": 0,
  "openCloseIndicator": "Open",
  "orderType": "LEG",
  "timeInForce": "DAY",
  "exchOriginCode": "C",
  "coverage": "Uncovered",
  "executingFirm": "999",
  "nbbPrice": 1.00,
  "nbbQty": 10,
  "nboPrice": 1.10,
  "nboQty": 10,
  "complexOrderID": "8473692",
  "complexOptionID": "9851",
  "member": "Mem01"
}
```

Stock Leg Order Accepted Event (Step 10)

```
{
  "type": "OSL",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.121456789",
  "sequenceNumber": 909,
  "symbol": "XYZZY",
  "orderID": "84736923",
  "side": "Buy",
  "price": 29.90,
  "quantity": 1000,
  "displayQty": 0,
  "orderType": "LMT",
  "timeInForce": "DAY",
  "clearingFirm": "FRMA",
  "nbbPrice": 29.84,
  "nbbQty": 10,
  "nboPrice": 29.90,
  "nboQty": 10,
  "complexOrderID": "8473692",
  "complexOptionID": "9851",
  "member": "Mem01"
}
```

Option Trade Event (Step 11)

```
{
  "type": "OT",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.123456789",
  "sequenceNumber": 456,
  "tradeID": "194378",
  "optionID": "1491",
  "quantity": 10,
  "price": 2.00,
  "nbbPrice": 1.90,
```

```
      "nbbQty": 10,
      "nboPrice": 2.00,
      "nboQty": 10,
      "saleCondition": "O ",
      "sellDetails": {
        "side": "Sell",
        "leavesQty": 0,
        "quoteID": "12345",
        "executingFirm": "987",
        "mktMkrSubAccount": "ABC123",
        "exchOriginCode": "M",
        "liquidityCode": "Added",
        "member": "ABCD:AA"
      },
      "buyDetails": {
        "side": "Buy",
        "leavesQty": 0,
        "openCloseIndicator": "Open",
        "orderID": "84736921",
        "executingFirm": "999",
        "exchOriginCode": "C",
        "liquidityCode": "Removed",
        "member": "Mem01"
      }
}
```

Option Trade Event (Step 12)

```
{
  "type": "OT",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.123456789",
  "sequenceNumber": 1209,
  "tradeID": "194379",
  "optionID": "1492",
  "quantity": 10,
  "price": 1.00,
  "nbbPrice": 1.00,
  "nbbQty": 10,
  "nboPrice": 1.10,
  "nboQty": 10,
  "saleCondition": "O",
  "sellDetails": {
    "side": "Sell",
    "leavesQty": 0,
    "orderID": "84736922",
    "openCloseIndicator": "Open",
    "executingFirm": "999",
    "exchOriginCode": "C",
    "liquidityCode": "Removed",
    "member": "Mem01",
    "executionCodes" :{
            "INTLIQ":"A",
            "SUBLIQ":"S"
            }
```

```
    },
  "buyDetails": {
    "side": "Buy",
    "leavesQty": 0,
    "quoteID": "67890",
    "executingFirm": "987",
    "mktMkrSubAccount": "ABC123",
    "exchOriginCode": "M",
    "liquidityCode": "Added",
    "member": "ABCD:AA",
    "executionCodes":{
            "INTLIQ": "A",
            "SUBLIQ": "S"
               }}
}
```
Example CSV Corresponding to Step 12 – Options Trade Event:

OT,Exch1,20170420T142411.123456789,1209,,194379,1492,10,1.0,1.0,10,1.10,10,,
,Buy,0,Open,,84736922,999,,,,C,Removed,INTLIQ=A|SUBLIQ=S,Mem01,Sell,0,,
67890,,687,,,,M,Added,INTLIQ=R|SUBLIQ=S,ABCD:AA

Option Route Event (Step 13)

```
{
  "type": "OOR",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.121656789",
  "sequenceNumber": 2059,
  "symbol": "XYZZY",
  "orderID": "84736923",
  "routingParty": "FRMC",
  "routedOrderID": "8999999",
  "session": "9",
  "side": "Buy",
  "price": 29.90,
  "quantity": 1000,
  "displayQty": 0,
  "orderType": "LMT",
  "coverage": "Uncovered",
  "timeInForce": "DAY",
  "result": "ACK",
  "resultTimestamp": "20170420T142411.122656789",
  "nbbPrice": 29.84,
  "nbbQty": 10,
  "nboPrice": 29.90,
  "nboQty": 10,
  "complexOrderID": "8473692",
  "complexOptionID": "9851",
  "member": "Mem01"
}
```

Stock Leg Fill Event (Step 14)

```
{
```

```
  "type": "OSLF",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142412.125656789",
  "sequenceNumber": 2088,
  "fillID": "95321",
  "symbol": "XYZZY",
  "quantity": 1000,
  "price": 29.90,
  "saleCondition": "OB",
  "side": "Buy",
  "leavesQty": 0,
  "orderID": "84736923",
  "clearingFirm": "FRMA",
  "clearingNumber": "123",
  "member": "Mem01"
}
```

8.7. Complex Option Order Modify Event Example

This example shows how to populate the Complex Option Order Modify Event with the routedOrderId because of a firm change to the order.
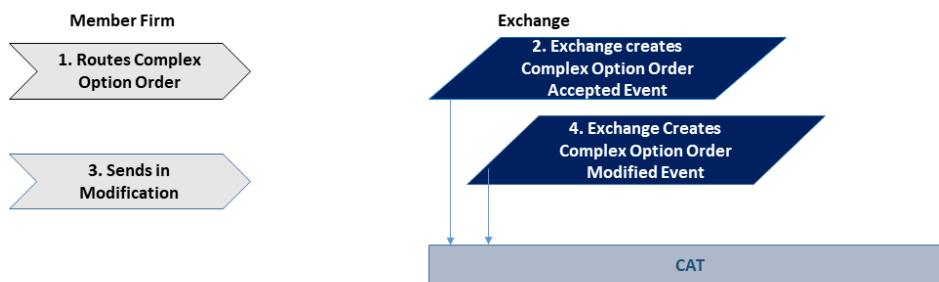
Figure 21: Complex Option Modify Event Example

#	Step	Reported Event	Comments
1	Member firm sends complex option order to the exchange	NA	
2.	Exchange 1 accepts the order and reports a Simple Complex Option Order Accepted Event	**Complex Option Order Accepted Event** type: OCOA exchange: Exch1 eventTimestamp: 20170420T142411.121456789 sequenceNumber: 909 optionID: 9851 orderID: 8473692	• The legs would be represented in OOA events as shown in example 8.9

#	Step	Reported Event	Comments
		side: AsDirected routingParty: FRMA routedOrderID: 4567123 session: 7 price: -30.90 quantity: 10 timeInForce: DAY member: Mem01	
3	Member firm sends in a new routedOrderId modifying the timeInForce value to "GTC". A complex order modify event is created to represent this scenario	NA	
4	The Exchange submits a Complex Option Order Modified Event to CAT.	**Complex Option Oder Modified Event:** type: OCOM exchange: Exch1 eventTimestamp: 20170420T142415.121456789 sequenceNumber: 922 optionID: 9851 orderID: 5790176 originalOrderID: 8473692 initiator: "Firm" price: -30.9 quantity: 10 leavesQty: 10 timeInForce "GTC" member: Mem01 routedOrderID = 4567124	• The order was modified by the firm to change from a DAY order to a GTC order. Note that the inbound routedOrderId (Fix value ClOrdID Tag 11) sent in from the member firm is on the OCOM event.

8.7.1. JSON Examples

Complex Option Order Accepted Event (Step 7)

```
{
  "type": "OCOA",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142411.121456789",
  "sequenceNumber": 909,
  "optionID": "9851",
  "orderID": "8473692",
  "side": "AsDirected",
  "routingParty": "FRMA",
  "routedOrderID": "4567123",
```

```
  "session": "7",
  "price": -30.90,
  "quantity": 10,
  "timeInForce": "DAY",
  "member": "Mem01"
}

{
  "type": "OCOM",
  "exchange": "Exch1",
  "eventTimestamp": "20170420T142415.121456789",
  "sequenceNumber": 922,
  "optionID": "9851",
  "orderID": "5790176",
  "originalOrderID: 8473692
  "routedOrderID": "4567124",
  "price": -30.90,
  "quantity": 10,
  "timeInForce": "GTC",
  "member": "Mem01"
}
```

9.   Submission Process

This section has been removed for security purposes.

10.   Feedback and Corrections

This section has been removed for security purposes.

11.   Testing

This section has been removed for security purposes.

12. Additional Information

Additional information is available from the CAT Public Website or the Service Desk. Details are provided below.

12.1. Public Website

Public Website (http://www.catnmsplan.com) is to provide primary information about CAT. The content includes: Link to SEC Rule 613, Press Releases, Technical Specifications, User Manuals, FAQs, Training Materials and Contact info.

12.2. FINRA CAT Help Desk

The FINRA CAT Helpdesk is the primary source for answers to questions about CAT, including questions regarding: clock synchronization, firm reporting responsibilities, interpretive questions, technical specifications for reporting to CAT and more. The FINRA CAT Helpdesk can be reached by phone at 888-696-3348 or e-mail at help@finracat.com.

Appendices

Appendix A. Clock Synchronization Requirement

In previous sections, details are described regarding the Order Events and data elements. Timestamp, as one of the required data elements for each order event, must be correctly recorded by Participants at a predefined granularity. This section provides detailed requirements and a recommended approach on how Participants should manage clock synchronization.

In order to comply with CAT NMS Plan requirements of Clock Synchronization and correctly record the Timestamp fields for order events, Participants are required synchronize Business Clocks, at a minimum, to within 100 microseconds of the time maintained by the National Institute of Standards and Technology (NIST).

The tolerance includes:

- Difference between the NIST standard and a time provider's clock;
- Transmission delay from the source; and
- Amount of drift in the Participant's clock.

In order to ensure the accuracy of timestamps for Reportable Events, Participants are anticipated to adopt policies and procedures to verify such required synchronization each Trading Day (1) before the market opens, and (2) periodically throughout the Trading Day. Participants are recommended to keep documentation which provides details of their Business Clock synchronization process, and the resulting log files from the implementation of such processes.

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 Synchronization User Guide to be published separately.

Note: The tolerance for clock synchronization does not impact the amount of time allowed for CAT reporting. CAT does NOT require reporters to report order information within 100 microseconds of receiving an order.

Appendix B. Error Codes

An error code is a machine-parseable description of why a file or record was rejected. This differs from an error description, which is intended for human consumption. The following is a listing of errors codes for data ingestion and linkage processing.

B.1. Data Ingestion Errors

The tables below contain error messages that are associated with Data Ingestion.

Table 79: Ingestion Error Codes

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.INGEST,MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.010	Required field is missing	Required field is missing	ERROR
2	OE.INGEST,MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.020	Numeric value expected	Bad value for a numeric data type	ERROR
3	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.030	Integer Value expected	Bad value for an integer	ERROR
4	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.040	Unsigned Integer expected	Bad value for an unsigned integer	ERROR
5	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.050	Boolean Value expected	Bad value for a Boolean	ERROR
6	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.060	Invalid JSON format	Not in JSON format	ERROR
7	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.070	Exceeds maximum length of field	Invalid character length of a text or alpha numeric data type	ERROR
8	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.080	Invalid Timestamp Format	Invalid timestamp format	ERROR
9	FT.INGEST, RME.INGEST	.085	Invalid Time Format	Invalid time format	ERROR
10	OE.INGEST, MD.REC, OD.REC, MMD.REC,	.090	Invalid Date	Invalid date format	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
	FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST		Format		
11	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME. INGEST, BBO.INGEST	.100	Value is not listed as a valid choice	Value is not listed as a valid choice	ERROR
12	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.110	JSON record has invalid Field Name	JSON record has invalid Field Name	ERROR
13	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.120	Text or alphanumeric type has an illegal character	Text or alphanumeric type has an illegal character	ERROR
14	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME. INGEST, BBO.INGEST	.130	Invalid name value pair data	NameValue value does not follow documented format	ERROR
15	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME. INGEST, BBO.INGEST	.140	Numeric value is missing required fraction digits	Numeric value is missing required fraction digits	ERROR
16	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME. INGEST, BBO.INGEST	.150	Numeric value is missing required whole digits	Numeric value is missing required whole digits	ERROR
17	OE.INGEST, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.160	CSV record has invalid number of fields	When, for tokenizing, a CSV line results in less tokens than required.	ERROR
18	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.170	Number of rows with errors exceed 10% of Row Count of Data File	Number of errors exceed 10% of Row Count of Data File	ERROR
19	OE.INGEST, FT.INGEST, RME.INGEST, BBO.INGEST	.180	Record Offset referenced in Correction file is Invalid	Record Offset referenced in Correction file is Invalid	ERROR
20	OE.COUNT, MD.COUNT, OD.COUNT, MMD.COUNT, FT.COUNT, OTH.COUNT, RME.INGEST, BBO.INGEST	.190	File Record Count does not match metadata	File Record Count does not match metadata	ERROR
21	INT.META	.200	Mismatch in meta file	Mismatch in Metadata as compared to file name	ERROR
22	OE.INGEST, FT.INGEST, RME.INGEST, BBO.INGEST	.210	Invalid Symbol	Equity Symbol is Incorrect	WARNING
23	OE.INGEST, MD.REC, MMD.REC, RME.INGEST, BBO.INGEST	.220	Invalid Member ID	Member ID is invalid	WARNING
24	FILE.NAME	.230	File Name is	File Name is Invalid (Invalid Format, Duplicate, File Name	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
			Invalid	too Long, File Name for future date)	
25	INT.META	.240	Replacement File Not Permitted	A replacement file for OrderEvents, FinraTransactions, and RejectMessageEvents file kinds is not permitted after T+4 @ 8 AM.	ERROR
26	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.250	Unknown message type	The message type specified in the record is unknown	ERROR
27	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME. INGEST, BBO.INGEST	.260	Sub-fields in Name/Value have value errors	Sub-fields in Name/Value have value errors	ERROR
28	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME. INGEST, BBO.INGEST	.270	Invalid array value for declared type	Invalid array value for declared type	ERROR
29	OE.INGEST, MD.REC, OD.REC, MMD.REC, FT.INGEST, OTH.REC, RME.INGEST, BBO.INGEST	.280	Expected CSV format is invalid	Expected CSV format is invalid	ERROR
30	OE.INGEST, RME. INGEST	.290	Numeric value is out of range	Numeric value is out of the allowed range as defined by the Data Dictionary	ERROR
31	FILE.TIMEOUT	.1050	Time out waiting for meta file		ERROR
32	FILE.TIMEOUT	.1060	Time out waiting for data file		ERROR
33	FILE.NAME	.1070	File is not compressed		ERROR

Table 80: Conditional Validation Error Codes

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.INGEST, RME.INGEST	.2000	Invalid reporter	*Event(s): All Equity and Options Events, RME* reporter on the event must match the CAT Reporter ID in the file name	ERROR
2	OE.INGEST	.2010	Missing price	*Event(s): EOA, EOR, EIR, EMR, EORS* price must be provided and greater than or equal to zero when orderType indicates a Limit order. *Event(s): EOM*	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
				price must be provided and greater than zero when orderType indicates a Limit order and initiator is 'Firm' or 'MarketMaker'.	
3	OE.INGEST	.2020	Missing or Invalid displayPrice	*Event(s): EOA, EOM, EOJ, EORS* displayPrice must be provided and greater than or equal to zero when displayQty is provided and is greater than zero.	ERROR
4	OE.INGEST	.2030	Missing routedOrderID	*Events: EOM, EOJ* routedOrderID must be provided when initiator is 'Firm' or 'MarketMaker'.	ERROR
5	OE.INGEST	.2040	Missing routingParty	*Events: EOM, EOJ* routingParty must be provided when initiator is 'Firm' or 'MarketMaker'.	ERROR
6	OE.INGEST	.2050	Missing session	*Events: EOM, EOJ* session must be provided when initiator is 'Firm' or 'MarketMaker'.	ERROR
7	OE.INGEST	.2060	Missing side	*Events: EOM, EOJ* side must be provided when initiator is 'Firm' or 'MarketMaker'.	ERROR
8	OE.INGEST	.2070	Missing displayQty	*Events: EOJ* displayQty must be provided when displayPrice is provided.	ERROR
9	OE.INGEST	.2080	Missing quantity	*Events: EOJ* quantity must be provided when initiator is 'Firm' or 'MarketMaker'.	ERROR
10	OE.INGEST	.2090	Invalid orderID	*Events: EOT* buyDetails.orderID must be provided when and only when the 'NOBUYID' does not exist in any executionCodes field for the event (including executionCodes, buyDetails.executionCodes, and sellDetails.executionCodes). sellDetails.orderID must be provided when and only when the 'NOSELLID' does not exist in any executionCodes field for the event (including executionCodes, buyDetails.executionCodes, and	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
				sellDetails.executionCodes).	
11	OE.INGEST	.2100	Missing side	*Events: EOT* buyDetails.side must be provided if buyDetails.orderID is provided. sellDetails.side must be provided if sellDetails.orderID is provided.	ERROR
12	OE.INGEST	.2110	Missing member	*Events: EOT* buyDetails.member must be provided if buyDetails.orderID is provided. sellDetails.member must be provided if sellDetails.orderID is provided.	ERROR
13	OE.INGEST	.2120	Missing capacity	*Events: EOT* buyDetails.capacity must be provided if buyDetails.orderID is provided. sellDetails.capacity must be provided if sellDetails.orderID is provided.	ERROR
14	OE.INGEST	.2130	Missing clearingNumber	*Events: EOT* buyDetails.clearingNumber must be provided if buyDetails.orderID is provided. sellDetails.clearingNumber must be provided if sellDetails.orderID is provided.	ERROR
15	OE.INGEST	.2140	Missing quoteID or askQuoteID	*Events: OQ, OQC* At least one of quoteID or askQuoteID must be provided when onlyOneQuote flag is 'False'	ERROR
16	OE.INGEST	.2150	Missing bidPrice and askPrice	*Events: OQ* At least one of bidPrice or askPrice must be provided.	ERROR
17	OE.INGEST	.2160	Missing complexOrderID	*Events: OOA, OSL, OOM, OSLM, OOJ, OSLJ, OOR, OIR, OFP* complexOrderID must be provided if complexOptionID is provided.	ERROR
18	OE.INGEST	.2170	Missing or Invalid displayPrice	*Events: OOA, OOM, OOJ, OFP* displayPrice must be provided and greater than or equal to zero on simple option orders (i.e.	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
				complexOrderID is not populated) when displayQty is provided and is greater than zero.	
19	OE.INGEST	.2180	Missing price	*Events: OOA OOR, OIR, OOMR* price must be provided and greater than or equal to zero on simple option orders (i.e. complexOrderID is not populated) when orderType indicates a Limit order. Validation does not apply to Market orders. *Events: OOM* price must be provided and greater than or equal to zero on simple option orders (i.e. complexOrderID is not populated) when orderType indicates a Limit order and initiator is 'Firm' or 'MarketMaker'.	ERROR
20	OE.INGEST	.2200	Missing routingParty	*Events: OOA* routingParty must be provided for simple options (i.e. when complexOrderID is not populated). *Events: OOM, OOJ* routingParty must be provided for simple options (i.e. when complexOrderID is not populated) when initiator is 'Firm' or 'MarketMaker'.	ERROR
21	OE.INGEST	.2210	Missing session	*Events: OOA* session must be provided for simple options (i.e. when complexOrderID is not populated). *Events: OOM, OOJ* session must be provided for simple options (i.e. when complexOrderID is not populated) when initiator is 'Firm' or 'MarketMaker'.	ERROR
22	OE.INGEST	.2220	Missing timeInForce	*Events: OOM* timeInForce must be provided for simple options (i.e. when complexOrderID is not populated).	ERROR
23	OE.INGEST	.2230	Missing displayQty	*Events: OOM, OOJ*	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
				`displayQty` must be provided for simple options (i.e. when `complexOrderID` is not populated).	
24	OE.INGEST	.2240	Missing routedOrderID	*Events: OOM, OOJ* `routedOrderID` must be provided for simple options (i.e. when `complexOrderID` is not populated) when `initiator` is 'Firm' or 'MarketMaker'.	ERROR
25	OE.INGEST	.2250	Missing quantity	*Events: OOM, OOJ* `quantity` must be provided for simple options (i.e. when `complexOrderID` is not populated) when `initiator` is 'Firm' or 'MarketMaker'.	ERROR
26	OE.INGEST	.2260	Missing side	*Events: OOM, OOJ* `side` must be provided when `initiator` is 'Firm' or 'MarketMaker'	ERROR
27	OE.INGEST	.2270	Missing optionID or symbol	*Events: OOC, OOR, OIR, OOMR, OOCR* Exactly one of `optionID` or `symbol` must be provided.	ERROR
28	OE.INGEST	.2280	Both orderID and quoteID provided	*Events: OPTA* Both `optionID` and `quoteID` cannot be provided. *Events: OT* For buyDetails, both `buyDetails.optionID` and `buyDetails.quoteID` cannot be provided. For sellDetails, both `sellDetails.optionID` and `sellDetails.quoteID` cannot be provided.	ERROR
29	OE.INGEST, RME.INGEST	.2290	Invalid cycleDate	*Events: All Options Events, NOTE, RME, SHD, STE* When provided, `cycleDate` must be a Trade Date between the Event Date and Trade Date + 1, inclusive of both dates.	ERROR
30	BBO.INGEST	.2300	Invalid combination of bidPrice and bidQty	*Events: EBBO* If one of bidPrice or bidQty is provided, then both must be provided.	ERROR
31	BBO.INGEST	.2310	Invalid combination of	*Events: EBBO*	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/Error
			askPrice and askQty	If one of askPrice or askQty is provided, then both must be provided.	

B.2. Reference Data Validation Errors

FINRA CAT will begin validating reference data at a later time.

The tables below contain error messages that are associated with Reference Data Validation.

Table 81: `MemberDictionary` Member Reference Data Validation Error Codes

The following reference data errors may be generated for a `MemberDictionary` file when invalid conditions are detected within the file. To resolve these errors, the Participant must provide a replacement `MemberDictionary` file with the correct information.

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/Error
1	MD.REF	.500	Member Alias assigned to multiple Firms	*Event(s): MDE* A `memberAlias` may not be assigned to more than one Firm (`ID`) for the same exchange and trade date.	ERROR
2	MD.REF	.510	Member Details provided for missing Member Alias	*Event(s): MADE* Each `memberAlias` reported on a MADE record must correspond to a `memberAlias` reported on an MDE record for the same exchange and trade date.	ERROR

Table 82: `MarketMakerDictionary` Member Reference Data Validation Error Codes

The following reference data errors may be generated for a `MarketMakerDictionary` file when the provided member alias data does not exist in the Member Dictionary or the provided symbol is invalid.

If the error was caused by incorrect data submitted in the MemberDictionary file, the Participant must:

a) submit a replacement `MemberDictionary` file with the correct information

   AND

b) submit a replacement `MarketMakerDictionary` file for reprocessing.

If the error was caused by incorrect data submitted in the MarketMakerDictionary file, the participant must:

a) submit a replacement MarketMakerDictionary file with the correct information.

If the error was caused by an incorrect symbol, the Participant must:

a) Determine if the symbol that was provided was correct.

b) If the symbol provided by the Participant was correct and should be in the Equity Symbol Master, contact the FINRA CAT Helpdesk for assistance in resolving the issue.

c) If the symbol provided by the Participant was incorrect, submit corrected records for reprocessing.

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	MMD.REF	.520	Market Maker not found in Member Dictionary	*Event(s): MMDE* The marketMaker is invalid. The marketMaker must correspond to a valid memberAlias in the Member Dictionary for the same exchange and trade date.	ERROR
2	MMD.REF	.530	Invalid Symbol	*Event(s): MMDE* The symbol is invalid. The symbol must correspond to a valid symbol for the same trade date.	ERROR

Table 83: `OrderEvents` Member Reference Data Validation Error Codes

The following reference data errors may be generated for an OrderEvents file when the provided member alias does not exist in the Member Dictionary or the provided symbol/option ID is invalid.

If the error was caused by incorrect data submitted in the MemberDictionary file, the Participant must:

a) submit a replacement MemberDictionary file with the correct information
   AND

b) resubmit the rejected OrderEvents records using the corrections/replacement process described in Section 10.9.

If the error was caused by incorrect data submitted in the OptionsDictionary file, the Participant must:

a) submit a replacement `OptionsDictionary` file with the correct information

AND

b) resubmit the rejected `OrderEvents` records using the corrections/replacement process described in Section 10.9.

If the error was caused be incorrect data submitted in the OrderEvents file, the participant must:

a) resubmit the rejected `OrderEvents` records using the corrections/replacement process described in Section 10.9.

If the error was caused by an incorrect symbol, the Participant must:

a) Determine if the symbol that was provided was correct.

b) If the symbol provided by the Participant was correct and should be in the Equity Symbol Master, contact the FINRA CAT Helpdesk for assistance in resolving the issue.

c) If the symbol provided by the Participant was incorrect, submit corrected records for reprocessing.

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.REF	.540	Market Maker not found in Member Dictionary	*Event(s): OQ, OQC* The `marketMaker` is invalid. The `marketMaker` must correspond to a valid `memberAlias` in the Member Dictionary for the same exchange and trade date.	ERROR
2	OE.REF	.545	Member not found in Member Dictionary	*Event(s): All Equities and Options Events that include* `member` The `member` is invalid. The `member` must correspond to a valid `memberAlias` in the Member Dictionary for the same exchange and trade date.	ERROR
3	OE.REF	.550	Routing Party not found in Member Dictionary	*Event(s): All Equities and Options Events that include* `routingParty` The `routingParty` is invalid. The `routingParty` must correspond to a valid `memberAlias` in the Member Dictionary for the same exchange and trade date.	ERROR
4	OE.REF	.555	Floor Broker not found in Member Dictionary	*Event(s): OT* The `floorBroker` is invalid. The `floorBroker` must correspond to a valid `memberAlias` in the Member Dictionary for the same exchange and trade date.	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
5	OE.REF	.560	Invalid Symbol	*Event(s): All Equity Events, STE* The `symbol` is invalid. The `symbol` must correspond to a valid `symbol` for the same trade date.	ERROR
6	OE.REF	.565	Option ID not found in Options Dictionary	*Event(s): All Option Events, STE* The `optionID/complexOptionID` must correspond to a valid `optionID` in the Options Dictionary (provided via an OSDE or CODE record) for the same exchange and trade date.	ERROR

Table 84: `FinraTransactions` Reference Data Validation Error Codes

The following reference data errors may be generated for a `FinraTransactions` file when the provided member alias data does not exist in the Member Dictionary or the provided symbol is invalid.

If the error was caused by incorrect data submitted in the MemberDictionary file, the Participant must:

a) submit a replacement `MemberDictionary` file with the correct information

AND

b) resubmit the rejected `FinraTransactions` records using the corrections/replacement process described in Section 10.9.

If the error was caused be incorrect data submitted in the FinraTransactions file, the participant must:

a) resubmit the rejected `FinraTransactions` records using the corrections/replacement process described in Section 10.9.

If the error was caused by an incorrect symbol, the Participant must:

a) Determine if the symbol that was provided was correct.

b) If the symbol provided by the Participant was correct and should be in the Equity Symbol Master, contact the FINRA CAT Helpdesk for assistance in resolving the issue.

c) If the symbol provided by the Participant was incorrect, submit corrected records for reprocessing.

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	FT.REF	.570	Reporting Executing MPID not found in Member Dictionary	*Event(s): TRF* The `reportingExecutingMpid` is invalid. The `reportingExecutingMpid` must correspond to a valid `memberAlias` in the Member Dictionary for the same exchange and execution date.	ERROR
2	FT.REF	.575	Contra Executing MPID not found in Member Dictionary	*Event(s): TRF* The `contraExecutingMpid` is invalid. The `contraExecutingMpid` must correspond to a valid `memberAlias` in the Member Dictionary for the same exchange and execution date.	ERROR
3	FT.REF	.580	Invalid Symbol	*Event(s): TRF* The `symbol` is invalid. The `symbol` must correspond to a valid `symbol` for the same execution date (for TRF events).	ERROR

Table 85: `OTCHalts` Reference Data Validation Error Codes

The following reference data errors may be generated for an `OTCHalts` file when the provided symbol is invalid.

If the error was caused by an <u>incorrect symbol</u>, the Participant must:

a) Determine if the symbol that was provided was correct.

b) If the symbol provided by the Participant was correct and should be in the Equity Symbol Master, contact the FINRA CAT Helpdesk for assistance in resolving the issue.

c) If the symbol provided by the Participant was incorrect, submit a replacement `OTCHalts` file with the correct information.

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OTH.REF	.590	Invalid Symbol	*Event(s): FHR* The `symbol` is invalid. The `symbol` must correspond to a valid symbol for the same trade date.	ERROR

B.3 Linkage Discovery Errors

Linkage Discovery errors are generated by performing event comparisons that result in the identification of unlinked events. See §10.10 for information on the Linkage Discovery process.

Unlinked error codes are assigned based on a processing order when determining the reason for an unlinked event. The process begins with the check associated with the codes having the lowest sequence value. When the "Multiple Fields did not Match" reason is assigned, it is because a determination could not be made. In such cases, it is possible that the unlink reason is because the other party's event was not reported or had a processing error which prevented the event from participating in Linkage Discovery. In cases when linkage did not occur between venues, separate error codes will be assigned to the CAT Reporter whose record did not link and the CAT Reporter that was named.

Table 86: Duplicate Record Error Codes

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.INTRAEXCHLNK	.301	Duplicate Event	*Event(s): All Equity and Option Events, FHR, TRF* The Exchange or FINRA event has already been received by CAT. The first instance of the event is retained; all subsequent submissions are rejected. This rejection is not repairable.	WARNING

Table 87: Intravenue Linkage Error Codes

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.INTRAEXCHLNK	.5000	Missing a parent	The event in question does not have a required parent.	ERROR
2	OE.INTRAEXCHLNK	.5001	Trade Event – Order/Quote not found	The Trade Event side details reference an Order Key/Quote Key that does not exist in CAT because it was not reported or was rejected.	ERROR
3	OE.INTRAEXCHLNK	.5002	Paired Orders - Corresponding Paired Order Not found	The paired order in orderAttributes name/value pair does not match another order.	ERROR
4	OE.INTRAEXCHLNK	.5003	Originating event not found for long Lived order	This is for the order restatement event errors specifically. Occurs if OORS event is received, and the events from the previous day(s) are not found.	ERROR
5	OE.INTRAEXCHLNK	.5004	Matching trade not found	A post trade allocation/supplemental trade event refers to a trade that cannot be located	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
6	OE.INTRAEXCHLNK	.5005	Late record, correction, or file replacement received after correction window (received after t+3 at 8:00am)	Warning will be retired as of June 15, 2022. Any input received after the correction window	WARNING
7	OE.INTRAEXCHLNK	.5007	Duplicate Trade Key	More than one Trade event was reported with the same Trade Key on the current CAT Processing Date. All events associated with the duplicate Trade Key will be rejected.	ERROR
8	OE.INTRAEXCHLNK	.5009	Duplicate Quote Key	More than one New Quote event were reported with the same Quote Key on the current CAT Processing Date. All events associated with the duplicate Quote Key will be rejected.	ERROR
9	OE.INTRAEXCHLNK	.5011	Duplicate Order Key	More than one primary order event and/or secondary order event which reassigned an Order Key was reported with the same Order Key on the current CAT Processing Date. All events associated with the duplicate Order Key will be rejected.	ERROR
10	OE.INTRAEXCHLNK	.5012	Duplicate Fulfillment Key	More than one Order Fulfillment events or Fulfillment Amendment events which assigned a new Fulfillment key were reported with the same Fill Key on the current CAT Processing Date. All events with a duplicate Fulfillment Key will be rejected	ERROR

Table 88: Intervenue Linkage Error Codes (Reported by Exchange)

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.INTERVENUELNK	.6004	*routedOrderID* not found	The routedOrderID on the exchange Order Route event does not match to a corresponding routedOrderID on the industry member order	ERROR
2	OE.INTERVENUELNK	.6006	*routingParty* did not match	A matching *routedOrderID* was identified; however, the routedOrderID on the exchange Order Route event does not match to a corresponding *senderIMID* on the industry member order	ERROR
3	OE.INTERVENUELNK	.6008	*symbol* did not match OR *optionID* did not	A matching *routedOrderID* was identified, however the *symbol* [for equity events] or *optionID* [for option events] on the exchange Order Route	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
			match	event does not match to a corresponding *symbol* or *optionID* on the industry member order	
4	OE.INTERVENUELNK	.6010	*session* did not match	A matching *routedOrderID* was identified, however, the *session* on the exchange Order Route event does not match to a corresponding session on the industry member order	ERROR
5	OE.INTERVENUELNK	.6012	Multiple fields did not match	A matching routedOrderID was identified, however, the symbol, senderIMID or a combination of fields on the exchange Order Route event does not match to corresponding field(s) on the industry member order	ERROR
6	OE.INTERVENUELNK	.6014	*destination* did not match	A matching *routedOrderID* was identified in an industry member order; however, the *ExchangeID* on the Order Route event did not match the *destination* on the corresponding industry member order.	ERROR
7	OE.INTERVENUELNK	.6016	Duplicate Route Linkage Key on Route to Firm	Unlinked due to duplicated Route Linkage Key on an outbound Route from an Exchange.	ERROR
8	OE.INTERVENUELNK	.6018	Duplicate Route Linkage Key on Accept/Modify	Unlinked due to a duplicated Route Linkage Key on an Accept/Modify even from an Exchange.	ERROR
9	OE.INTERVENUELNK	.6020	Duplicate Exchange/Firm Trade Key	More than one Trade event was reported with the same Exchange/Firm Trade Key on the current CAT Processing Date. All events associated with the duplicate Exchange/Firm Trade Key will be rejected.	ERROR
10	OE.INTERVENUELNK	.6022	*tapeTradeID* did not match	The *MOOTLINK* value (provided via the *executionCodes* MOOTLINK Name/Value pair) on the exchange Option Trade event does not match to a corresponding *tapeTradeID* on the industry member trade. *Effective December 5, 2022.*	ERROR
11	OE.INTERVENUELNK	.6024	*marketCenterID* did not match	A matching *tapeTradeID* was identified, however, the *exchangeID* on the exchange Option Trade event does not match to a corresponding *marketCenterID* on the industry member trade. *Effective December 5, 2022.*	ERROR
12	OE.INTERVENUELNK	.6026	*side* in *buyDetails* did not match	A matching *tapeTradeID* was identified, however, the *side* in *buyDetails* on the exchange Option Trade event does not match to a corresponding *side* in *buyDetails* on the industry member trade. *Effective December 5, 2022.*	ERROR
13	OE.INTERVENUELNK	.6028	*side* in *sellDetails*	A matching *tapeTradeID* was identified,	ERROR

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
			did not match	however, the *side* in *sellDetails* on the exchange Option Trade event does not match to a corresponding *side* in *sellDetails* on the industry member trade. *Effective December 5, 2022.*	

Table 89: Intervenue Linkage Error Codes (Reported by Firm)

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.INTERVENUELNK	.7005	*Named routedOrderID* not found	The *routedOrderID* reported by the Industry Member on the Order Route event does not match to a corresponding *routedOrderID* on the exchange order.	ERROR
2	OE.INTERVENUELNK	.7007	*Named routingParty* did not match	A matching *routedOrderID* was identified; however, the *senderIMID* on industry member order *did not match the routingParty on the exchange order*	ERROR
3	OE.INTERVENUELNK	.7009	*Named symbol* did not match OR *Named optionID* did not match	A matching routedOrderID was identified, however the *symbol* [for equity events] or *optionID* [for option events] did not match on the corresponding *symbol/optionID* on the exchange order	ERROR
4	OE.INTERVENUELNK	.7011	*Named session* did not match	A matching *routedOrderID* was identified, however, the *session* did not match the *session* on the corresponding exchange order.	ERROR
5	OE.INTERVENUELNK	.7013	Named Multiple fields did not match	A matching routedOrderID was identified, however, the symbol, senderIMID or a combination of fields reported on the Order Route event did not match the symbol or routingParty on the corresponding exchange order.	ERROR
6	OE.INTERVENUELNK	.7015	Named *destination* did not match	Named in an industry member order but the *destination* on the industry member order route did not match the *ExchangeID* reported on the corresponding Order Route event.	ERROR
7	OE.INTERVENUELNK	.7017	Named *tapeTradeID* did not match	The *tapeTradeID* reported by the Industry Member on the Trade event did not match the unique identifier (e.g. MOOTLINK) provided on the exchange trade.	Error
8	OE.INTERVENUELNK	.7019	Named *marketCenterID* did not match	A matching *tapeTradeID* was identified; however, the *marketCenterID* reported on the Industry Member Trade event did not match the exchange ID on the exchange Trade Event.	Error

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
9	OE.INTERVENUELNK	.7021	Named *side* in buyDetails did not match	A matching *tapeTradeID* was identified; however, the *side* reported on the **buy side** of the Industry Member Trade event did not match the side on the exchange Trade Event.	Error
10	OE.INTERVENUELNK	.7023	Named *side* in sellDetails did not match	A matching *tapeTradeID* was identified; however, the *side* reported on the **sell side** of the Industry Member Trade event did not match the side on the exchange Trade Event.	Error

Table 90: Off-Exchange Trade Linkage Error Codes (Reported by Exchange)

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.TRADELNK	.4002	Matching *tapeTradeID* cannot be found	The unique identifier (e.g., Branch Sequence Number, Compliance ID) provided on the TRF/ADF/ORF Trade Report did not match the tapeTradeID reported by the Industry Member on a Trade event	ERROR
2	OE.TRADELNK	.4004	*marketCenterId* cannot be found	A matching *tapeTradeID* was identified, but Market Center Id provided on the TRF/ADF/ORF Trade Report did not match the marketCenterId reported by the Industry Member on a Trade event	ERROR
3	OE.TRADELNK	.4006	*symbol* cannot be found	A matching *tapeTradeID* was identified, but the *symbol* provided on the TRF/ADF/ORF Trade Report did not match the symbol reported by the Industry Member on a Trade event	ERROR
4	OE.TRADELNK	.4010	*Reporting or Contra IMID* cannot be found	A matching *tapeTradeID* was identified, but the *Reporting or Contra IMID* provided on the TRF/ADF/ORF Trade Report did not match the CATReporterIMID reported by the Industry Member on a Trade event	ERROR
5	OE.TRADELNK	.4012	Multiple fields did not match	A TRF/ADF/ORF Trade Report with a matching unique identifier (e.g. Branch Sequence Number) was found however symbol, MarketCenterID, CATReporterIMID or a combination of fields provided on the TRF/ADF/ORF Trade Report did not match the corresponding fields in the Industry Member on a Trade event	ERROR

Table 91: Off-Exchange Trade Linkage Error Codes (Reported by TRF)

#	Error Prefix	Error Code	Error Code Description	Explanation	Warning/ Error
1	OE.TRADELNK	.5003	*Named* - Matching *tapeTradeID* cannot be found	The *tapeTradeID* reported by the Industry Member on a Trade event did not match to a corresponding *tapeTradeID* Compliance ID in the TRF/ADF/ORF Trade Report	ERROR
2	OE.TRADELNK	.5005	*Named - marketCenterId* cannot be found	A matching *tapeTradeID* was identified, but marketCenterId reported by Industry Member did not match the Execution Time on the TRF/ADF/ORF trade report	ERROR
3	OE.TRADELNK	.5007	*Named - symbol* cannot be found	A matching *tapeTradeID* was identified, but the *symbol* reported by Industry Member did not match the *symbol* on the TRF/ADF/ORF trade report	ERROR
4	OE.TRADELNK	.5009	*Named* - Multiple fields did not match	A TRF/ADF/ORF Trade Report with a matching unique identifier (such as Branch Sequence Number) was found however symbol, MarketCenterID, CATReporterIMID or a combination of fields reported by Industry Member did not match to the corresponding fields on the TRF/ADF/ORF trade report	ERROR
5	OE.TRADELNK	.5011	*Named – CATReporterIMID* cannot be found	A matching *tapeTradeID* was identified, but the CATReporterIMID reported by Industry Member did not match the *Reporting or Contra IMID* on the TRF/ADF/ORF trade report	ERROR

B.4.   Error Prefix Definition

Table 92: Error Prefix Definitions

#	Error Prefix	Definition
1	FILE.NAME	File name validation errors
2	FILE.TIMEOUT	Data and corresponding acknowledgement
3	FT.INGEST	Error on FINRA TRF/ADF/ORF file validation
4	BBO.INGEST	Error on Best Bid and Offer file validations.
5	FT.REF	Member or Symbol Reference Date validation error on FinraTransactions file
6	INT.META	Error on metadata file validation against its corresponding data file name.
7	MD.REC	Error on Member Dictionary file validation
8	MD.REF	Member Reference Data validation error on MemberDictionary file
9	OD.REC	Error on Options Dictionary file validation
10	MMD.REC	Error on Market Maker Dictionary file validation
11	MMD.REF	Member or Symbol Reference Data validation error on

		MarketMakerDictionary file
12	OE.INGEST	Error on Order Events file validation
13	OE.INTRAEXCHLNK	Error or warning in Order Events during Intra Exchange Linkage Validation
14	OE.INTERVENUELNK	Error during linkage between Industry Member Order Events and Exchange Order Events (applicable to option and equity exchanges)
15	OE.TRADELNK	Error during linkage between Industry Member Order Events and TRF reported data
16	OE.REF	Member, Symbol, or OptionID Reference Data validation error on OrderEvents file
17	OTH.REC	Error on OTC Halts/Resumes file validation
18	OTH.REF	Symbol Reference Data validation on OTCHalts file

Appendix C. Placeholder

The previous content of Appendix C has been removed because it is not applicable to the FINRA CAT Plan Participant Technical Specifications. The heading is being retained to maintain the structure of the Appendix. This section may be repurposed in the future.

Appendix D. CAT Date Definitions and Reporting Guidelines

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

Table 93: Key Date Terms

Term	Definition	Usage
Event Timestamp	The date and time the event occurred.	*eventTimestamp* is a field defined on every CAT event. Used to assign the CAT Trading Day.
Event Date	The date portion of the Event Timestamp.	Part of all Route Linkage Keys, the TRF Linkage Key, and the MOOT Linkage Key. Used to link records within the Event Date.
File Generation Date	The date the file was generated or reported. File Naming convention requires that the TRADE DATE (as defined below) be used in the File Name.	Used to guarantee uniqueness for a file across dates.
CAT Trading Day	Trading Day for Plan Participants is defined as beginning at midnight immediately following a Trade Date and ending immediately prior to midnight on the next Trade Date. Weekends and holidays are not considered a Trading Day. Refer to Section 9.7 and the table below for more information, including examples demonstrating the calculation of CAT Trading Day, Submissions Due Date and Corrections Due Date.	Used to calculate the submission due date and corrections due date. For an event occurring on CAT Trading Day T: **Submissions Due By:** CAT Trading Day + 1 @ 8:00AM ET **Corrections Due By:** CAT Trading Day + 3 @ 8:00AM ET
Trade Date	Trade Date for Plan Participants is defined as beginning at midnight immediately following a Trade Date and ending immediately prior to midnight on the next Trade Date. Weekends and holidays are not considered a Trade Date. An event occurring on a weekend or holiday will be assigned to the next Trade Date.	Used to calculate the due date of data delivered to Regulatory Users. **Due Date for Data and Associated Lifecycle Assignment delivery to Regulatory Users:** Trade Date + 5 8:00AM ET Used to calculate summaries and present feedback on the CAT Reporter Portal representing events for the same Trade Date, regardless of when the events were reported.
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.	Used to identify late submissions and late repairs. Used to calculate summaries and present feedback on the CAT Reporter Portal representing events reported on the CAT Processing Date, regardless of the Event Date.

Term	Definition	Usage
Cycle Date	The exchange's effective business date. "DAY" orders are effective until close of <u>regular</u> business on the Trading Day. Date format YYYYMMDD. This must be a Trade Date.	Used to support linkage.
Order Key Date	The date and time the OrderID was assigned.	*orderKeyDate* is a field defined on Order events, and other events which specify an Order Key. Used to support uniqueness of an Order Key. If time is not needed to guarantee a unique Order Key, the time portion may be populated with zeros.
Trade Key Date	The date and time the TradeID was assigned.	*tradeKeyDate* is a field defined on Trade events. Used to support uniqueness of a Trade Key. If time is not needed to guarantee a unique Trade Key, the time portion may be populated with zeros.
Quote Key Date	The date and time the QuoteID was assigned.	*quoteKeyDate* is a field defined on Quote events. Used to support uniqueness of a Quote Key. If time is not needed to guarantee a unique Quote Key, the time portion may be populated with zeros.

Table 94: Event Scenarios

#	Event Timestamp	Event Date	Trade Date	Cycle Date	CAT Trading Day	Submission Due	Corrections Due
Weekend Scenario							
1	Sun, 11/15/20 20:16:00 ET	11/15/2020	11/16/2020	11/16/2020	11/16/2020	11/17/20, 8:00 AM ET	11/19/20 8:00 AM ET
2	Mon, 11/16/20 00:00:01 ET	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/17/20, 8:00 AM ET	11/19/20 8:00 AM ET
3	Mon, 11/16/20 03:00:00 ET	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/17/20, 8:00 AM ET	11/19/20 8:00 AM ET
4	Mon, 11/16/20 09:30:01 ET	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/17/20, 8:00 AM ET	11/19/20 8:00 AM ET
5	Mon, 11/16/20 16:35:00 ET	11/16/2020	11/16/2020	11/16/2020	11/16/2020	11/17/20, 8:00 AM ET	11/19/20 8:00 AM ET
Mid-week (Regular) Scenario							
6	Mon, 11/16/20 20:16:00 ET	11/16/2020	11/16/2020	11/17/2020	11/16/2020	11/17/20, 8:00 AM ET	11/19/20 8:00 AM ET
7	Tues, 11/17/20 03:00:00 ET	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/18/20, 8:00 AM ET	11/20/20 8:00 AM ET
8	Tues, 11/17/20 09:35:00 ET	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/18/20, 8:00 AM ET	11/20/20 8:00 AM ET
9	Tues, 11/17/20 16:45:00 ET	11/17/2020	11/17/2020	11/17/2020	11/17/2020	11/18/20, 8:00 AM ET	11/20/20 8:00 AM ET
Holiday Scenario (Thanksgiving, Thursday 11/26/2020)							
10	Wed, 11/25/20 20:30:05 ET	11/25/2020 *11/26 holiday	11/25/2020	11/27/2020	11/25/2020	11/27/20 8:00 AM ET	12/1/20 8:00 AM ET
11	Thur, 11/26/20 01:00:00 ET	11/26/2020	11/27/2020	11/27/2020	11/27/2020	11/27/20 8:00 AM ET	12/1/20 8:00 AM ET
12	Thur, 11/26/20 09:14:00 ET	11/26/2020	11/27/2021	11/27/2020	11/27/2020	11/27/20 8:00 AM ET	12/1/20 8:00 AM ET
13	Thur, 11/26/20 22:00:00 ET	11/26/2020	11/27/2021	11/27/2020	11/27/2020	11/27/20 8:00 AM ET	12/1/20 8:00 AM ET
14	Fri, 11/27/20 01:00:00 ET	11/27/2020	11/27/2021	11/27/2020	11/27/2020	11/30/20 8:00 AM ET	12/2/20 8:00 AM ET
15	Fri, 11/27/20 11:00:00 ET	11/27/2020	11/27/2021	11/27/2020	11/27/2020	11/30/20 8:00 AM ET	12/2/20 8:00 AM ET

Appendix E. Placeholder

The previous content of Appendix E has been removed because it is not applicable to the FINRA CAT Plan Participant Technical Specifications. The heading is being retained to maintain the structure of the Appendix. This section may be repurposed in the future.

Appendix F. Data Dictionary

Each field presented in this technical specification is defined below in terms data type, related message types, description, and allowed values.

Table 95: Data Dictionary

Field Name	Data Type	Description
acceptTime	Time	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Time the trade was accepted by the contra party.
acceptTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the trade was accepted by the contra party.
actionType	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates if this is a new event, a FINRA-initiated correction, or a firm-initiated correction. **Allowed Values** **NEW** New Record **COR** Correction Record **FCOR** Firm Correction Record (indicates the FINRA submission of an update or correction of data made by a firm)
askPrice	Price	*Event(s): Equity Best Bid and Offer Event (EBBO), Quote (OQ)* The price being asked for the option in a quote.
askQuoteID	Text (40)	*Event(s): Option Quote (OQ), Option Quote Cancel (OQC)* Contains the quote ID for the ask for two-sided quote reporting.
askQty	Unsigned	*Event(s): Equity Best Bid and Offer Event (EBBO), Quote (OQ)* The quantity being asked for the option in a quote.
asOfFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates as-of trade. **Allowed Values** **Y** Trade Reported As-Of **N** Trade Reported on Execution Date
assumedExecutionTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the trade is assumed to have been executed based on available information.
ats	Boolean	*Reference Data: Member Alias Detail Entry (MADE)* Indicates that the memberAlias is an ATS.
awayExchange	Exchange ID	*Event(s): Self-Help Declaration (SHD)* Exchange ID of the exchange affected by the self-help event.

Field Name	Data Type	Description
bidPrice	Price	*Event(s): Equity Best Bid and Offer Event (EBBO), Option Quote (OQ)* The price being bid for the option (can be zero in two-sided quote) in a quote event.
bidQty	Unsigned	*Event(s): Equity Best Bid and Offer Event (EBBO), Option Quote (OQ)* The quantity being bid for the option (can be zero in two-sided quote) in a quote event.
buyDetails	Side Trade Details	*Event(s): Order Trade Event, Trade Correction Event, Option Trade Event, Options Trade Correction Event* Object in a trade event that contains information for the buy side of the trade. Format and element definitions for Buy Details are described in Trade Side Details. For side trade details for equities, please refer to section 4.5. For side trade details for options, please refer to section 5.2.5.1.
cancellationTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the reporting party cancelled the trade.
cancelQty	Unsigned	*Event(s): Order Canceled Event, Options Order Canceled Event* The quantity being canceled in Order Cancel Event and Options Order Canceled 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 canceled, the cancelQty could contain either 300 or 0.
cancelReason	Choice	*Event(s): Order Canceled Event, Quote Cancel Event, Options Order Canceled Event* Expresses the cancellation reason for a quote or order with one of the below accepted values. Additional values may be added by request. **Allowed Values** **IOC** Immediately canceled **EXP** Expired **REQ** Explicit request to cancel the order **DIS** Session disconnected **ALL** Market Maker Canceled All Quotes **Allowed Values: Cboe Legacy (C1) Only** *active 3/29/2019 - 10/4/2019* **NOTHING_DONE** **USER** **SYSTEM** **LOST_CONNECTION** **INSUFFICIENT_QUANTITY** **SPECIAL_ADJUSTMENT** **QRM_REMOVED** **INSUFFICIENT_QUANTITY_BUY_SIDE** **INSUFFICIENT_QUANTITY_SELL_SIDE** **WASH_TRADE_PREVENTION** **QUOTE_UPDATE_CONTROL** **FAILOVER** **QUOTE_IN_TRIGGER** **INVALID_SESSION_ID**

Field Name	Data Type	Description
cancelReason *(continued)*		**SAL_IN_PROGRESS** **CROSS_IN_PROGRESS** **INVALID_NBBO** **NOT_WITHIN_NBBO** **TRADE_THROUGH_CBOE** **INSUFFICIENT_CUSTOMER_ORDER_QUANTITY** **INSUFFICIENT_CROSS_ORDER_SIZE** **INSUFFICIENT_CROSS_ORDER_DOLLAR_AMOUNT** **SELL_SHORT_RULE_VIOLATION** **CANCEL_ON_RSS** **CALL_BID_EXCEEDS_UNDERLYING_PRICE** **PUT_BID_EXCEEDS_STRIKE_PRICE** **LIMIT/EXECUTION_PRICE_WOULD_BE_DEBIT** **LIMIT/EXECUTION_PRICE_EXCEEDS_MAX_VALUE** **NO_USER_ACTIVITY** **BROKER_OPTION** **CANCEL_PENDING** **CROWD_TRADE** **DUPLICATE_ORDER** **EXCHANGE_CLOSED** **GATE_VIOLATION** **INVALID_ACCOUNT** **INVALID_AUTOEX_VALUE** **INVALID_CMTA** **INVALID_FIRM** **INVALID_ORIGIN_TYPE** **INVALID_POSITION_EFFECT** **INVALID_PRICE** **INVALID_PRODUCT** **INVALID_PRODUCT_TYPE** **INVALID_QUANTITY** **INVALID_SIDE** **INVALID_SUBACCOUNT** **INVALID_TIME_IN_FORCE** **INVALID_USER** **LATE_PRINT** **NOT_FIRM** **MISSING_EXEC_INFO** **NO_MATCHING_ORDER** **NON_BLOCK_TRADE** **NOT_NBBO** **COMM_DELAYS** **ORIGINAL_ORDER_REJECTED** **OTHER** **PROCESSING_PROBLEMS** **PRODUCT_HALTED** **PRODUCT_IN_ROTATION**

Field Name	Data Type	Description
cancelReason *(continued)*		**STALE_EXECUTION**
		STALE_ORDER
		ORDER_TOO_LATE
		TRADE_BUSTED
		TRADE_REJECTED
		ORDER_TIMEOUT
		REJECTED_LINKAGE_TRADE
		SATISFACTION_ORD_REJ_OTHER
		UNKNOWN_ORDER
		INVALD_EXCHANGE
		TRANSACTION_FAILED
		NOT_ACCEPTED
		SUSPENDED
		AWAY_EXCHANGE_CANCEL
		LINKAGE_CONDITIONAL_FIELD_MISSING
		LINKAGE_EXCHANGE_UNAVAILABLE
		LINKAGE_INVALID_MESSAGE
		LINKAGE_INVALID_DESTINATION
		LINKAGE_INVALID_PRODUCT
		LINKAGE_SESSION_REJECT
		Allowed Values: Cboe
		Admin — Admin
		CloseOnly — Options only - attempt to open a position when a series is in a "close only" status
		Consent — Both parties agreed to break trade
		DefaultRiskNotSet — Options only - risk configuration is incomplete
		Duplicate — Duplicate
		Erroneous — Clearly erroneous
		Expired — GTC orders
		FailedToQuote — Could not reflect on SUMO
		FloorError
		NoGlobalLiquidity — Ran out of liquidity to execute against
		Halted — Halted
		IncorrectDataCenter — Tried to send order to DR site
		TooLate — Too late to cancel
		OrderRateThreshold — Exceeded order rate threshold
		LockOrCross — Order would lock or cross NBBO
		MaxSizeExceeded — Exceeded client specific maximum order size
		NoLiquidity — Ran out of liquidity to execute against
		OrderUnknown — Supplied order id doesn't match a known order
		Pending — Can't modify an order that is routed away
		WaitingForTape — Waiting for first trade before allowing executions
		RouteUnavailable — Route unavailable
		QuoteUnavailable — Quote unavailable
		Short — short price violation
		TradeThrough — order would have caused a trade-through

Field Name	Data Type	Description	
cancelReason *(continued)*			violation
		User	user requested
		WouldWash	Execution would Wash Trade
		WouldRemove	AddLiquidityOnly order would have removed liquidity
		Symbol	symbol not supported
		Other	unforeseen reason
		BulkOrder	Cancel due to BulkOrder (BOE)
		OrdersDisallowed	order entry disallowed
		MassCancelSingleAck	mass cancel with single ack option
		RiskMgmtFirmLevel	Risk Management Trigger Hit at "Firm" Level
		NoOddLotIPOs	On IPO day opening print must be at least as large as a round lot - No odd lots
		MarketAccessLimit	(US) Market Access Risk limit exceeded in router
		MaxOpenOrdersExceeded	exceeded maximum open orders permitted
		MismatchedRemainder	remainder on incoming request does not match remainder in our system
		Reload	restatement for reserve reload
		RiskMgmtSymbolLevel	Risk Management Trigger Hit at "Symbol/OSI" Level
		RiskMgmtGroupLevel	Risk Management Trigger Hit at "Group" Level
		LimitUpDown	LU/LD (e.g., tried to rest through the LU/LD bands)
		WouldRemoveUnSlide	AddLiquidityOnly order tried to unslide but would have resulted in removing liquidity
		MarketCrossed	Crossed Market Protection
		InReplay	message received during replay
		Persist	GTC order done for today (will get restated next trading day)
		SessionEnd	canceled automatically at end of regular or extended trading session based on customer send coding
		ClearingFailure	Trade Failed to Clear
		GroupLevelRiskManagement	Risk Management Trigger Hit at "Group" Level
		Allowed Values: BOX	
		TraderCanceled	
		Eliminated	
		EliminatedOutOfLimits	
		EliminatedDueToUnpricedLeg	
		CancelledBySupervisor	
		CancelPending	
		EliminatedByCircuitBreaker	
		EliminatedOnDisconnection	
		EliminatedByMarketControl	
		EliminatedDueToTradingRestriction	
		EliminatedDueToTradeLimitExceeded	
		EliminatedDueToTradeActivityLimitExceeded	

Field Name	Data Type	Description
cancelReason *(continued)*		EliminatedDueToMaximumNbTriggersLimitExceeded
		EliminatedDueToDrillThroughProtection
		EliminatedDueToMMProtection
		Allowed Values: MEMX
		0 Other - This order was canceled for some other reason not listed.
		1 UserRequestedCancel - The client sent a OrderCancelRequest or OrderMassCancelRequest for this order
		4 EndOfTrading - The order was sent with the DAY time in force set, and the DAY trading session completed.
		5 LimitUpLimitDown - The price of the order fell outside market LULD bands, and the re-pricing modifier was not specified on the order.
		6 Halted - The market on the order's security was halted.
		7 ExchangeSupervisory - Operational or supervisory actions taken by MEMX resulted in the cancellation of this order.
		8 OrderExpired - The order was sent with an expiration time and had the "good for time" time in force set, and the supplied expiration time passed.
		9 LockOrCrossBook - The order was not externally routable, and market conditions would have resulted in this order crossing or locking the order book
		10 SelfTradePrevention - This or another associated order's specified self trade prevention behavior triggered the cancellation of this order.
		11 InsufficientQuotes - The order was cancelled because there are insufficient quotes on the book for the symbol.
		12 NonCompliantPrice - The order was cancelled because the price in the order was non-compliant.
		13 ParticipantDisconnect - The participant directed that their orders should be canceled when the trading system detects a disconnection, and the participant disconnected.
		14 OrderNotBookable – The Order is not of bookable type (this may include market orders, IOC, FOK, etc)
		15 TradeProtectionLimits - The price of the order fell outside market trade protection limits rule, and the re- pricing modifier was not specified on the order.
		16 UnableToRoute – The Order was canceled because it was externally routable but could not be routed.
		17 FirmDisabled – The order was cancelled because the firm was disabled.
		18 MPIDDisabled – The order was cancelled because the MPID was disabled.
		19 AccountDisabled – The order was cancelled because the Account was disabled.
		20 NotionalExposureRiskBreached – The order was cancelled because a Notional Exposure Risk Rule was breached.
		Allowed Values: MIAX
		MIAMI_0004 UserCanceled
		MIAMI_0005 HelpDeskCanceled
		MIAMI_0006 WdCanceled
		MIAMI_0007 CrossSameMpidCanceled

Field Name	Data Type	Description	
cancelReason *(continued)*		**MIAMI_0009**	OversizedAuctionCanceled
		MIAMI_0010	ReintroduceCanceled
		MIAMI_0018	TimeInForceCanceled
		MIAMI_0019	NonTradeableCanceled
		MIAMI_0020	CanceledOnClosing
		MIAMI_0021	ProductHalted
		MIAMI_0022	UserPurged
		MIAMI_0023	MpidDeleted
		MIAMI_0024	MpidPermissionDeleted
		MIAMI_0025	RiskPurged
		MIAMI_0026	SystemPurged
		MIAMI_0027	InternalPurged
		MIAMI_0029	GtcSpinCanceled
		MIAMI_0030	LuldCanceled
		MIAMI_0031	RpmBlockedMpidCanceled
		MIAMI_0032	ComplexTradingSuspendedForCloudCanceled
		MIAMI_0033	ComplexFeatureDisabledForUnderlyingCanceled
		MIAMI_0034	ComplexStrategyNonTradeableCanceled
		MIAMI_0035	ComplexStrategyLegWithWideMbboCanceled
		MIAMI_0036	ComplexStrategyLegWithPrimeAuctionCanceled
		MIAMI_0037	ComplexStrategyLegWithRouteTimerCanceled
		MIAMI_0038	ComplexStrategyLegWithLiqRefreshTimerCanceled
		MIAMI_0039	ComplexIneligiblePriceCanceled
		MIAMI_0040	ComplexStrategyAuctionInProgressCanceled
		MIAMI_0041	ComplexOrderExhaustedDcMbboAfterEndOfComplexTimeCanceled
		MIAMI_0042	ComplexStrategyPreOpenCanceled
		MIAMI_0045	ComplexCollarPriceProtectionCanceled
		MIAMI_0046	DerivedOrderFeatureDisableCanceled
		MIAMI_0047	DerivedOrderStrategyNotFreeTradingCanceled
		MIAMI_0048	DerivedOrderStrategyTopChangeCanceled
		MIAMI_0049	DerivedOrderStrategyTopLockCanceled
		MIAMI_0050	DerivedOrderReplaceCanceled
		MIAMI_0051	DerivedOrderWorseSameSideMbboCanceled
		MIAMI_0052	DerivedOrderLeanMbboWorseAbboCanceled
		MIAMI_0053	DerivedOrderLeanMbboChangeCanceled
		MIAMI_0054	DerivedOrderComponentNotFreeTradingCanceled
		MIAMI_0055	DerivedOrderWideMarketCanceled
		MIAMI_0056	DerivedOrderSystemIssueCanceled
		MIAMI_0057	DerivedOrderTraded
		MIAMI_0058	SspCanceled
		MIAMI_0059	ComplexStrategyLegWithLiqExposureTimerCanceled
		MIAMI_0060	MpppCanceled
		MIAMI_0061	ComplexManagedProtectionOverrideCanceled
		MIAMI_0062	ComplexMiaxStrategyPriceProtectionAssigned
		MIAMI_0064	SellMarketOrderInZeroBidWideNbboCanceled
		Allowed Values: MIAX Pearl	

Field Name	Data Type	Description
cancelReason *(continued)*		**PEARL_0004** UserCanceled
		PEARL_0005 HelpDeskCanceled
		PEARL_0007 CrossSameMpidCanceled
		PEARL_0012 RoutedToAwayMarket
		PEARL_0018 TimeInForceCanceled
		PEARL_0019 NonTradeableCanceled
		PEARL_0021 ProductHalted
		PEARL_0029 GtcSpinCanceled
		PEARL_0030 LuldCanceled
		PEARL_0031 RpmBlockedMpidCanceled
		PEARL_0032 PriceProtectionCanceled
		PEARL_0033 UserPurged
		PEARL_0034 SystemPurged
		PEARL_0035 PostOnlyLockingManagedCanceled
		PEARL_0036 IrpAssigned
		PEARL_0037 SspCanceled
		PEARL_0038 MpppCanceled
		Allowed Values: MIAX PEARL Equities
		PEARLEQ_0001 UserMeo
		PEARLEQ_0002 UserFoi
		PEARLEQ_0003 UserPurgePort
		PEARLEQ_0004 HelpDesk
		PEARLEQ_0005 MFP
		PEARLEQ_0006 ACOD
		PEARLEQ_0007 ACOSF
		PEARLEQ_0008 CRM
		PEARLEQ_0009 OrderExpired
		PEARLEQ_0010 PostOnlyCancelSymbolNotTrading
		PEARLEQ_0011 ACOCR
		PEARLEQ_0012 CrmNetNotional
		PEARLEQ_0013 MinQtyCancelSymbolNotTrading
		PEARLEQ_0014 PacMassCancel
		PEARLEQ_0015 PacBlacklist
		PEARLEQ_0016 CrmOpenOrderGrossNotional
		PEARLEQ_0017 CrmOpenOrderNetNotional
		PEARLEQ_0018 RpmOrderRate
		PEARLEQ_0019 PurgeGroupUserPurgePort
		PEARLEQ_0020 PurgeGroupMFP
		PEARLEQ_0117 PacOrderReturnedAfterPacOrderAcceptEndTime
		PEARLEQ_0118 PeggedOrderInvalidAdjustedReferencePrice
		PEARLEQ_0119 ReplaceViolatesMarketImpactCollar
		PEARLEQ_0100 SelfTradeProtection
		PEARLEQ_0101 TimeInForce
		PEARLEQ_0102 PostOnlyLockingCrossingMbbo
		PEARLEQ_0103 TradingCollarProtection
		PEARLEQ_0104 RePriceFrequencyNoPriceSliding

Field Name	Data Type	Description
cancelReason *(continued)*		**PEARLEQ_0105** RePriceFrequencyOnce
		PEARLEQ_0106 RePriceFrequencyOnceButCancelIfCrossedAtEntry
		PEARLEQ_0107 IsoSellShortRegShoLockCrossNbbo
		PEARLEQ_0108 LimitOrderPriceProtection
		PEARLEQ_0109 RouteToPrimaryListingMarketRejected
		PEARLEQ_0110 UnexpectedCancelByPrimaryListingMarket
		PEARLEQ_0111 RoutedOrderTimeOut
		PEARLEQ_0112 PacUnsolicitedBlacklist
		PEARLEQ_0113 PacMarketOrderDuringTrading
		PEARLEQ_0114 PacOrderReturnedDuringPacBlacklist
		PEARLEQ_0115 PLEAcceptedCancelOfRejectedReplace
		PEARLEQ_0116 ReplaceDuringPacBlacklist
		PEARLEQ_9002 ReserveDisplayPartUpdateReason_Execution
		PEARLEQ_9003 ReserveDisplayPartUpdateReason_Update
		Allowed Values: MIAX Emerald
		EMLD_0004 UserCanceled
		EMLD_0005 HelpDeskCanceled
		EMLD_0006 WdCanceled
		EMLD_0007 CrossSameMpidCanceled
		EMLD_0009 OversizedAuctionCanceled
		EMLD_0010 ReintroduceCanceled
		EMLD_0018 TimeInForceCanceled
		EMLD_0019 NonTradeableCanceled
		EMLD_0020 CanceledOnClosing
		EMLD_0021 ProductHalted
		EMLD_0022 UserPurged
		EMLD_0023 MpidDeleted
		EMLD_0024 MpidPermissionDeleted
		EMLD_0025 RiskPurged
		EMLD_0026 SystemPurged
		EMLD_0027 InternalPurged
		EMLD_0029 GtcSpinCanceled
		EMLD_0030 LuldCanceled
		EMLD_0031 RpmBlockedMpidCanceled
		EMLD_0032 ComplexTradingSuspendedForCloudCanceled
		EMLD_0033 ComplexFeatureDisabledForUnderlyingCanceled
		EMLD_0034 ComplexStrategyNonTradableCanceled
		EMLD_0035 ComplexStrategyLegWithWideMbboCanceled
		EMLD_0036 ComplexStrategyLegWithPrimeAuctionCanceled
		EMLD_0039 ComplexIneligiblePriceCanceled
		EMLD_0040 ComplexStrategyAuctionInProgressCanceled
		EMLD_0041 ComplexOrderExhaustedDcMbboAfterEndOfComplexTimeCanceled
		EMLD_0042 ComplexStrategyPreOpenCanceled
		EMLD_0045 ComplexCollarPriceProtectionCanceled
		EMLD_0046 DerivedOrderFeatureDisableCanceled
		EMLD_0047 DerivedOrderStrategyNotFreeTradingCanceled

Field Name	Data Type	Description
cancelReason *(continued)*		**EMLD_0048** DerivedOrderStrategyTopChangeCanceled
		EMLD_0049 DerivedOrderStrategyTopLockCanceled
		EMLD_0050 DerivedOrderReplaceCanceled
		EMLD_0051 DerivedOrderWorseSameSideMbboCanceled
		EMLD_0052 DerivedOrderLeanMbboWorseAbboCanceled
		EMLD_0053 DerivedOrderLeanMbboChangeCanceled
		EMLD_0054 DerivedOrderComponentNotFreeTradingCanceled
		EMLD_0055 DerivedOrderWideMarketCanceled
		EMLD_0056 DerivedOrderSystemIssueCanceled
		EMLD_0057 DerivedOrderTraded
		EMLD_0058 SspCanceled
		EMLD_0059 ComplexStrategyLegWithLiqExposureTimerCanceled
		EMLD_0060 PostOnlyLockingManagedCanceled
		EMLD_0061 ComplexManagedProtectionOverrideCanceled
		EMLD_0062 ComplexMiaxStrategyPriceProtectionAssigned
		EMLD_0063 MpppCanceled
		EMLD_0064 SellMarketOrderInZeroBidWideNbboCanceled
		Allowed Values: CHX
		A001_02A New SNAP Order Reject - Order Terms are not valid for SNAP
		A001_02B New SNAP Order Reject - Invalid market condition
		A001_07 Cancel Order, SNAP auction end
		A001_11 SNAP Auction - Cancel of Satisfy/Route Order
		A001_13 SNAP Auction - Reject of Satisfy/Route Order
		A001_15 Cancel Order on SNAP Auction - Resting
		U400_01 order reject-invalid content
		U400_04 order reject-invalid trading session
		U400_05 order reject-invalid market state
		U400_06 order reject-invalid market conditions
		U400_07 order message cannot be parsed
		U400_08 order from PMM not is registered stock
		U400_09 order from PMM did not include position
		U400_10 order from PMM with position/side discrepancy
		U400_11 IOC Order Reject-No PM LS
		U400_14 Market IOC orders not allowed during extended sessions
		U400_17 New AOO reject
		U415_01 ME DAS Order Cancel on Restart
		U430_01 satisfy cross reject-not regular-way settlement
		U430_02 satisfy cross reject-short sale test failure
		U430_03 satisfy cross reject-NBBO trade through
		U430_04 satisfy cross reject-insufficient satisfy volume available
		U430_05 satisfy cross reject-outside crossed NBBO
		U430_06 satisfy cross reject-crossed market
		U431_01 yield cross reject-not regular-way settlement
		U431_02 yield cross reject-short sale test failure
		U431_03 yield cross reject-NBBO trade through
		U431_04 yield cross reject-unwilling to yield appropriate side

Field Name	Data Type	Description	
cancelReason *(continued)*		**U431_05**	yield cross reject-outside crossed NBBO
		U431_06	yield cross reject-crossed market
		U432_01	cross reject-too late for cash settlement
		U432_02	cross reject-short sale test failure
		U432_03	cross reject-NBBO trade through
		U432_04	cross reject-outside crossed NBBO
		U432_05	cross reject-crossed market
		U432_06	cross reject-CHX trade through
		U432_07	cross reject-CHX lock-insufficient size out
		U432_09	Cross Reject - Price is outside the band
		U432_10	For cross order rejected price at trade-at
		U433_01	order reject-outside crossed market NBBO
		U433_02	order reject-crossed market
		U433_03	order cancel-unable to display remaining volume
		U433_04	FOK/IOC Cancel-No Match Opportunity
		U436_01	midpoint cross reject-market crossed
		U436_02	midpoint cross reject-market halted
		U437_01	order cancel-TIF expired
		U441_01A	reject incoming order-NBBO trade through
		U441_01B	cancel resting undisplayed order-NBBO trade through
		U441_02	Post Only Cancel
		U441_03	Quote Only
		U441_05	order was canceled because received reject message from away market
		U441_06	SSH Violation
		U441_07	New incoming order get canceled because of order's limit price cross price band (reserved, un-displayed order)
		U441_08	Resting order get canceled because of order's limit price cross price band (reserved, un-displayed order)
		U441_09	Order was canceled because of stale order.
		U450_01	cancel order activity
		U450_03	cancel reject-order not found
		U451_01	cancel change reject-market halted
		U451_02	cancel change-cancel original order
		U451_06	cancel change reject-order not open
		U451_08	cancel change reject-order not found
		U451_11	Reject cancel replace to MKT of DAY order
		U480_02	order canceled on halt
		U482_02	close time expiration-cancel order activity
		U482_05	manual close-cancel order activity
		U482_06	Order gets canceled because of trading pause.
		U485_05	Manual Open-Cancel Opening Crosses
		U485_06	Primary Quote Open-Cancel Opening Crosses
		U490_02	open timer expiration-cancel opening cross order activity
		U491_02	firm disconnect-cancel order activity
		U495_01	ME DAS Order Cancel on Disconnect
		U496_01	ME DAS Order Cancel on DAS Instruction

Field Name	Data Type	Description	
cancelReason *(continued)*		**U497_01**	Manual Unsolicited Order Cancel
		U498_01	Unsolicited cancel because of MTP Cancel Incoming (N)
		U498_02	Unsolicited cancel because of MTP Cancel Resting (O)
		U498_03	Unsolicited cancel of the incoming order because of MTP Cancel Both (B)
		U498_04	Unsolicited cancel of the resting order because of MTP Cancel Both (B)
		U499_01	Unsolicited Cancel or Reject because Kill Switch Flag is ON
		U499_02	Unsolicited cancel because of Kill Switch Cancel Request
		U900_03	ME receives an Order Cancel from ORS
		U900_05	ME receives an Order Reject from ORS
		U900_06	ME receives an internal Order Reject from ORS
		Allowed Values: IEX	
		AdminCancel	Order was administratively canceled
		ExceededMaxSnapshots	Cancel sent by router when orders are not filled within time constraint
		IexOrderCollar	Order cannot be executed outside of collar boundaries
		InvalidBookPrice	Order cannot be validly priced
		InvalidOrderQty	Invalid quantity for market maker peg order
		MPIDDisabled	
		OrderExceedsLimit	Order canceled because of constraints on IEX router
		OrderSizeLessThanMinQty	Order with Minimum Quantity can no longer be satisfied
		RouterConstraint	Routable Order cannot be routed outside of collar boundaries
		SelfTradePrevention	Order Canceled by SelfTradePrevention
		UnmatchedIneligibleToRest	Unmatched order, ineligible to rest on IEX
		Allowed Values: Nasdaq - PHLX, NOM, NOBO	
		1	AUTOPURGE
		2	POD
		3	FIRM
		4	REASSIGN
		5	HALT
		6	AIQ
		7	MANUPURGE
		8	OPENPURGE
		9	REPRICE
		10	SUSPEND
		11	LIQUIDITY TAKER
		12	RAPID FIRE VOL
		13	ZAP DELETE
		14	KILLSWITCH AUTO
		15	KILLSWITCH CMD LINE
		16	KILLSWITCH TRADEINFO

Field Name	Data Type	Description	
cancelReason *(continued)*		**17**	notPermitted
		18	badStopPrice
		19	systemClosed
		20	invalidDisplay
		21	invalidType
		22	invalidFirm
		23	invalidClearing
		24	halt
		25	invalidTime
		26	invalidCross
		27	invalidMpid
		28	invalidMinSize
		29	alreadyOpened
		30	restrictedSymbol
		31	closeCross
		32	invalidSymbol
		33	testmode
		34	invalidPrice
		35	tiedToStockNotAllowed
		36	invalidSize
		37	limitTooDeep
		38	featureNotSupported
		39	systemError
		40	invalidAttribute
		41	suspend
		42	notFreeTrading
		43	nbboTooWide
		44	changeContractsNoOrder
		45	changeContractsInvalid
		46	reentry
		47	killswitch_reentry
		48	postOnlyReprice
		49	undLULD
		50	invalidPreOpenIoc
		51	userCancel
		52	ioc
		53	timeout
		54	unsolictedOutReentry
		55	routeRequest
		56	staleOrder
		57	sppLimit
		58	auctionInProgress
		59	engineCancel
		60	tooLateToAct
		61	noAuction
		62	invalidTIF
		63	aonNotAllowed

Field Name	Data Type	Description	
cancelReason *(continued)*		**64**	bboCross
		65	purge
		66	orderExpired
		67	aiq
		68	cnbboLimit
		69	noBbo
		70	mktOrder
		71	treasuryOptionsNotAllowed
		72	openingCancel
		73	executionNotPossible
		74	badCapacity
		75	optionNotOpen
		76	openDelay
		77	liquidityTaker
		78	killSwitch
		79	adminCancel
		80	systemCancel
		81	brokerOption
		82	invalidCrossSurrender
		83	cod
		84	eodCancel
		OTHER	Other
		Allowed Values: Nasdaq – NOBO, Mercury	
		in addition to values defined above	
		1017	KILLSWITCH_USER
		1018	notPermitted
		1020	systemClosed
		1021	invalidDisplay
		1022	invalidType
		1023	invalidFirm
		1024	invalidClearing
		1025	halt
		1026	invalidTime
		1027	invalidCross
		1028	invalidMpid
		1029	invalidMinSize
		1030	alreadyOpened
		1031	restrictedSymbol
		1032	closeCross
		1033	invalidSymbol
		1034	testmode
		1035	invalidPrice
		1036	tiedToStockNotAllowed
		1037	invalidSize
		1038	limitTooDeep
		1039	featureNotSupported

Field Name	Data Type	Description	
cancelReason *(continued)*		**1040**	systemError
		1041	invalidAttribute
		1042	suspend
		1043	notFreeTrading
		1044	nbboTooWide
		1045	changeContractsNoOrder
		1046	changeContractsInvalid
		1047	reentry
		1048	killswitchReentry
		1049	postOnlyReprice
		1050	undLULD
		1051	invalidPreOpenIoc
		1052	userCancel
		1053	ioc
		1054	timeout
		1055	unsolictedOutReentry
		1056	routeRequest
		1057	staleOrder
		1058	sppLimit
		1059	auctionInProgress
		1060	engineCancel
		1061	tooLateToAct
		1062	noAuction
		1063	invalidTIF
		1064	aonNotAllowed
		1065	bboCross
		1066	purge
		1067	orderExpired
		1068	aiq
		1069	cnbboLimit
		1070	noBbo
		1071	mktOrder
		1072	treasuryOptionNotAllowed
		1073	openingCancel
		1074	executionNotPossible
		1075	invalidCapacity
		1076	optionNotOpen
		1077	openDelay
		1078	liquidityTaker
		1079	killswitchPurge
		1080	adminCancel
		1081	systemCancel
		1082	brokerOption
		1083	invalidSide
		1084	invalidSpread
		1085	invalidAuctionType
		1086	invalidFormat

Field Name	Data Type	Description	
cancelReason *(continued)*		**1087**	frozen
		1088	requestPending
		1089	cancelUp
		1090	cancelDown
		1091	postOnlyTaker
		1092	invalidState
		1093	tooManyAuctions
		1094	invalidAuctionParams
		1095	rejectedReplace
		1096	massCancel
		1097	invalidReprice
		1098	price
		1099	size
		1100	nbboLimit
		1101	impliedExec
		1102	tooManyImplieds
		1103	complexInstrExists
		1104	exceededMaxComplexInstr
		1105	firmExceededMaxComplexInstr
		1106	invalidPtaContracts
		1107	invalidMatchId
		1108	invalidTradeId
		1109	invalidCrossId
		1110	invalidClientId
		1111	dnttNotAllowed
		1112	instrumentClosed
		1113	atrLimitReached
		1114	invalidISO
		1115	invalidStepupPrice
		1116	threeTickLimitReached
		1117	pending
		1118	pennyNbboRestriction
		1119	invalidDntt
		1120	invalidInstrType
		1121	invalidOrderType
		1122	invalidALO
		1123	invalidFlashInst
		1124	invalidPrefParty
		1125	invalidReserveInfo
		1126	invalidPersist
		1127	invalidShortSaleInd
		1128	invalidProduct
		1129	invalidScope
		1130	invalidOpenClose
		1131	invalidToken
		1132	invalidKillAction
		1133	invalidLegCount

Field Name	Data Type	Description	
cancelReason *(continued)*		**1134**	invalidLegType
		1135	invalidLegRatio
		1136	invalidCrossType
		1137	prefNotAllowed
		1138	orderNotFound
		1139	actionNotAllowed
		1140	instrumentState
		1141	qccNotAllowed
		1142	qccWithStockNetPriceNotAllowed
		1143	qccWithMultiOptLegNotAllowed
		1144	invalidDestination
		1145	maxRoutesAttempted
		1146	destinationNotAvailable
		1147	minQtyNotSatisfied
		1148	sorRespTimeout
		1149	invalidAllocSplits
		1150	qccWithStockPriceNotAllowed
		1151	tooManyStockTradeAttempts
		1152	notTob
		1153	cod
		1154	poolExhausted
		1155	eodCancel
		Allowed Values: Nasdaq –NOBO	
		in addition to values defined above	
		1019	InvalidStopPrice *(NOBO Only)*
		1187	rfaReentry *(NOBO Only)*
		Allowed Values: Nasdaq –Mercury	
		in addition to values defined above	
		1019	badStopPrice
		1156	unAuthorizedGiveup
		1157	invalidTriggerId
		1158	invalidAccount
		1159	invalidAccountNoKill
		1160	invalidAccountFirm
		1161	beforeGtc
		1162	afterNothingDone
		1163	invalidRoutingStrategy
		1164	invalidTargetFirm
		1165	time
		1166	minReserveOrderNotFullfilled
		1167	closingCancel
		1168	portRateBreached
		1169	invalidTraderId
		1170	stopOrderMissingPreviousTradePrice
		1171	stopPriceOnlyAllowedForStopOrder
		1172	firmSuspended
		1173	traderSuspended
		1174	portSuspended
		1175	invalidInvestmentDecision
		1176	invalidExecutionDecision

Field Name	Data Type	Description	
cancelReason *(continued)*		**1177**	invalidDea
		1178	invalidPartyRoleQualifier
		1179	instrumentExpired
		1180	invalidBrokerPct
		1181	invalidExecutionSourceCode
		1182	prmGroupBlocked
		1183	prmLimitsMissing
		1184	prmGroupProductBlocked
		1185	prmMaxOrderVolume
		1186	prmMaxOrderValue
		1188	maxOrderValue
		1189	invalidPrmGroup
		1190	prmProductOpenOrderVol
		1191	prmProductOpenDelta
		1192	prmProductOpenVega
		1193	prmProductTradedVol
		1194	prmProductTradedDelta
		1195	prmProductTradedVega
		1196	prmProductTotalVol
		1197	prmProductTotalDelta
		1198	prmProductTotalVega
		1199	firmExceededMaxQuoteRequest
		1200	circuitBreaker
		1201	quoteRequestInProgress
		1202	invalidEvent
		1203	invalidMatchEventId
		1205	invalidRfaInstruction
		1206	rfaInstructionWithRfaId
		1207	tobRepriced
		1208	invalidPrmLimit
		1209	invalidPrmActionBlock
		1210	prmGroupUnblocked
		1211	prmProductUnblocked
		1212	missingClearingAccount
		1213	free_10001
		1214	orej_system_error
		1215	orej_duplicate_order_id
		1216	orej_invalid_time_for_acceptance
		1217	orej_not_open_for_trading
		1218	orej_unacceptable_volume
		1219	orej_invalid_auction_response_attribute
		1220	orej_limit_too_far_below_bid
		1221	orej_limit_too_far_above_ask
		1222	orej_giveup_override_not_allowed
		1223	orej_aon_replace_not_allowed
		1224	orej_opg_after_opening
		1225	orej_off_floor_acct_not_allowed
		1226	orej_invalid_volume
		1227	orej_mkt_is_invalid
		1228	orej_fok_is_invalid
		1229	orej_auction_response_not_allowed
		1230	orej_post_only_reprice
		1231	free_10019
		1232	free_10020
		1233	free_10021
		1234	orej_invalid_limit_price
		1235	orej_invalid_stop_price
		1236	orej_buy_stop_lteq_bid
		1237	orej_sell_stop_gteq_ask
		1238	free_10026

Field Name	Data Type	Description	
cancelReason *(continued)*		**1239**	orej_mm_must_be_limit
		1240	orej_firm_must_be_limit
		1241	orej_bd_must_be_limit
		1242	free_10030
		1243	orej_aon_not_allowed_for_mm
		1244	orej_aon_not_allowed_for_firm
		1245	orej_aon_not_allowed_for_bd
		1246	free_10034
		1247	free_10035
		1248	free_10036
		1249	free_10037
		1250	free_10038
		1251	orej_missing_account_id
		1252	free_10040
		1253	free_10041
		1254	orej_restricted_option
		1255	orej_invalid_open_close
		1256	orej_mm_only
		1257	orej_must_be_straight_cancel
		1258	orej_target_not_found
		1259	orej_target_cancel_pending
		1260	orej_target_filled
		1261	orej_target_cancelled
		1262	free_10050
		1263	orej_target_not_open
		1264	free_10052
		1265	orej_cancel_buy_sell_mismatch
		1266	orej_cancel_symbol_mismatch
		1267	orej_repl_symbol_mismatch
		1268	orej_cancel_volume_mismatch
		1269	orej_cancel_price_mismatch
		1270	orej_cancel_origin_mismatch
		1271	orej_cancel_mm_mismatch
		1272	free_10060
		1273	free_10061
		1274	free_10062
		1275	orej_cancel_bad_leaves_volume
		1276	free_10064
		1277	orej_missing_mm_badge
		1278	free_10066
		1279	free_10067
		1280	orej_mm_badge_not_allowed
		1281	free_10069
		1282	orej_broker_option
		1283	orej_stale_order
		1284	orej_listed_routing_only
		1285	orej_in_trading_halt
		1286	free_10074
		1287	free_10075
		1288	orej_unknown_clearing_firm
		1289	orej_mar_too_many_routes
		1290	orej_mar_duplicate_order
		1291	orej_mar_exch_direct_not_allowed
		1292	orej_mar_exch_direct_cust_only
		1293	orej_luld
		1294	orej_suspend
		1295	orej_killswitch
		1296	orej_liquidity_taker
		1297	free_10085
		1298	free_10086

Field Name	Data Type	Description	
cancelReason *(continued)*		**1299**	free_10087
		1300	free_10088
		1301	orej_tltc
		1302	free_10090
		1303	orej_purge
		1304	free_10092
		1305	orej_aiq
		1306	orej_reentry_required
		1307	orej_nbbo_too_wide
		1308	orej_invalid_msg_type
		1309	orej_required_tag_missing
		1310	free_10098
		1311	free_10099
		1312	free_10100
		1313	orej_invalid_firm
		1314	orej_invalid_cross_surrender
		1315	orej_invalid_br_seqno
		1316	orej_invalid_side
		1317	orej_invalid_kind
		1318	orej_off_floor_req_exch
		1319	orej_off_floor_req_multacc
		1320	orej_invalid_multacc
		1321	orej_off_floor_req_multiacc
		1322	orej_invalid_strike_price
		1323	orej_invalid_order_type
		1324	orej_invalid_cust_firm
		1325	free_10113
		1326	orej_invalid_send_time
		1327	orej_invalid_tif
		1328	free_10116
		1329	orej_invalid_aon
		1330	orej_iso_aon_is_invalid
		1331	orej_opg_co_not_allowed
		1332	orej_opg_iso_not_allowed
		1333	orej_invalid_qualifier
		1334	free_10122
		1335	orej_invalid_orig_mkt
		1336	orej_invalid_option_symbol
		1337	orej_cancel_cmta_mismatch
		1338	orej_cancel_supp_mismatch
		1339	orej_cancel_crosstype_mismatch
		1340	orej_cancel_openclose_mismatch
		1341	orej_cancel_execbroker_mismatch
		1342	orej_cancel_fbnum_mismatch
		1343	orej_supp_id_too_long
		1344	orej_invalid_mm_badge
		1345	free_10133
		1346	free_10134
		1347	free_10135
		1348	free_10136
		1349	free_10137
		1350	free_10138
		1351	free_10139
		1352	free_10140
		1353	orej_invalid_strategy
		1354	orej_invalid_leg_ratio
		1355	orej_duplicate_leg_ref_id
		1356	orej_invalid_num_legs
		1357	free_10145
		1358	orej_invalid_non_conforming_ratio

Field Name	Data Type	Description	
cancelReason *(continued)*		**1359**	orej_price_violates_spp_limit
		1360	orej_feature_not_supported
		1361	free_10149
		1362	orej_open_delay
		1363	orej_preopen_ioc
		1364	orej_iso_must_be_limit
		1365	orej_invalid_security_type
		1366	free_10154
		1367	orej_invalid_cl_order_id
		1368	orej_invalid_orig_cl_order_id
		1369	orej_invalid_ifi
		1370	orej_invalid_exec_inst
		1371	orej_invalid_route_inst
		1372	orej_iso_opg_is_invalid
		1373	orej_poss_dup
		1374	free_10162
		1375	free_10163
		1376	orej_invalid_exp
		1377	orej_invalid_leg_ref_id
		1378	orej_cancel_clearing_mismatch
		1379	orej_iso_not_allowed
		1380	orej_invalid_handling_inst
		1381	orej_opg_stop_limit_not_allowed
		1382	orej_auction_eligibility_mismatch
		1383	orej_cannot_change_stop_class
		1384	orej_exp_day_invalid
		1385	orej_invalid_prin_agency
		1386	orej_invalid_stock_leg
		1387	orej_auction_in_progress
		1388	orej_invalid_nwt_price
		1389	orej_invalid_auction_id
		1390	orej_invalid_cross_specs
		1391	orej_straight_cxl_not_allowed
		1392	orej_cxl_replace_not_allowed
		1393	orej_invalid_num_orders
		1394	orej_order_ids_same
		1395	orej_must_improve_price
		1396	orej_msg_too_late_to_process
		1397	orej_no_auction
		1398	orej_nbbo_crossed
		1399	orej_attribute_mismatch
		1400	orej_symbol_not_open
		1401	orej_exch_direct_must_be_limit
		1402	orej_invalid_max_floor
		1403	orej_invalid_min_quantity
		1404	orej_invalid_underlying
		1405	orej_invalid_risk_request
		1406	orej_wait_iso_not_allowed
		1407	orej_opg_aon_not_allowed
		1408	orej_buy_market_order
		1409	orej_bbo_invalid
		1410	free_10198
		1411	orej_reserve_not_allowed
		1412	orej_postonly_not_allowed
		1413	orej_invalid_floor_brk
		1414	orej_invalid_priv_ref
		1415	orej_invalid_effective_time
		1416	orej_invalid_good_til_date
		1417	orej_invalid_cross_client_order_id
		1418	orej_invalid_num_sides

Field Name	Data Type	Description	
cancelReason *(continued)*		**1419**	orej_invalid_display_when
		1420	orej_invalid_price_prot_scope
		1421	orej_invalid_auction_inst
		1422	orej_invalid_stepup_price
		1423	orej_invalid_stepup_price_type
		1424	orej_invalid_spec_order_type
		1425	orej_invalid_exposure
		1426	orej_invalid_broker_pct
		1427	orej_invalid_price_delta
		1428	orej_must_be_limit
		1429	orej_must_be_routable
		1430	orej_must_persist
		1431	orej_must_be_aon
		1432	orej_opg_stop_not_allowed
		1433	orej_reserve_modification_invalid
		1434	orej_invalid_entitlement_req_id
		1435	orej_invalid_no_party_entitlements
		1436	orej_invalid_list_update_action
		1437	orej_invalid_no_party_details
		1438	orej_invalid_party_detail_id
		1439	orej_invalid_party_detail_role
		1440	orej_invalid_id_source
		1441	orej_invalid_security_id
		1442	orej_invalid_alloc_id
		1443	orej_invalid_alloc_trans_type
		1444	orej_invalid_trade_date
		1445	orej_invalid_no_allocs
		1446	orej_invalid_alloc_shares
		1447	orej_invalid_no_execs
		1448	orej_invalid_exec_id
		1449	orej_exec_broker_required
		1450	orej_invalid_shares
		1451	orej_invalid_display_range
		1452	orej_postonly_replace
		1453	orej_invalid_maturity_date
		1454	orej_invalid_security_exchange
		1455	orej_too_many_auctions
		1456	orej_mar_cust_limit_qty
		1457	orej_mar_cust_limit_notional
		1458	orej_mar_cust_limit_agg_qty
		1459	orej_mar_cust_limit_agg_notional
		1460	orej_invalid_match_id
		1461	orej_invalid_pta_account
		1462	orej_invalid_pta_contracts
		1463	orej_invalid_client_id
		1464	orej_preferencing_not_allowed
		1465	orej_invalid_stock_leg_giveup
		1466	orej_invalid_contra_side_short_sell
		1467	orej_pta_not_allowed
		1468	orej_qcc_invalid_stock_ratio
		1469	orej_cancel_strategy_mismatch
		1470	orej_destination_not_available
		1471	orej_invalid_underlying_price
		1472	orej_invalid_underlying_qty
		1473	orej_invalid_rfp_id
		1474	orej_invalid_root_parties
		1475	away_status_New
		1476	away_status_PartiallyFilled
		1477	away_status_Filled
		1478	away_status_Done

Field Name	Data Type	Description	
cancelReason *(continued)*		**1479**	away_status_Canceled
		1480	away_status_Replaced
		1481	away_status_PendingCancel
		1482	away_status_Stopped
		1483	away_status_Rejected
		1484	away_status_Suspended
		1485	away_status_PendingNew
		1486	away_status_Calculated
		1487	away_status_Expired
		1488	away_status_Accepted
		1489	away_status_PendingReplace
		1490	away_status_Restated
		1491	away_status_Trade
		1492	away_status_TradeCancel
		1493	away_status_TradeCorrect
		1494	alloc_status_Accepted
		1495	alloc_status_BlockLevelReject
		1496	alloc_status_PartialAccept
		1497	alloc_status_NotYetProcessed
		1498	invalidTimeOfAgreement
		1499	invalidTradeReportId
		1500	invalidTradeReportRefId
		1501	invalidAgencyCross
		1502	invalidHandlingInstr
		1503	invalidEqualLeg
		1504	invalidMinBlockTradeSize
		1505	invalidDeferralThreshold
		1506	invalidTradePublishIndicator
		1507	invalidMaximumTradeReportSize
		1508	invalidTradeType
		1509	flexInstrExists
		1510	invalidCircuitBreakerId
		1511	invalidPriceProtectionTableCode
		1512	invalidStrikePrice
		1513	invalidExpirationDate
		Allowed Values: Nasdaq - ISE, GEMINI, Mercury Options	
		1	AUTOPURGE
		2	POD
		3	FIRM
		4	REASSIGN
		5	HALT
		6	AIQ
		7	MANUPURGE
		8	OPENPURGE
		9	REPRICE
		10	SUSPEND
		11	LIQUIDITY TAKER
		12	RAPID FIRE VOL
		13	ZAP DELETE
		14	KILLSWITCH AUTO
		15	KILLSWITCH CMD LINE
		16	KILLSWITCH TRADEINFO
		17	KILLSWITCH USER

Field Name	Data Type	Description	
cancelReason *(continued)*		**18**	notPermitted
		19	invalidStopPrice
		20	systemClosed
		21	invalidDisplay
		22	invalidType
		23	invalidFirm
		24	invalidClearing
		25	halt
		26	invalidTime
		27	invalidCross
		28	invalidMpid
		29	invalidMinSize
		30	alreadyOpened
		31	restrictedSymbol
		32	closeCross
		33	invalidSymbol
		34	testmode
		35	invalidPrice
		36	tiedToStockNotAllowed
		37	invalidSize
		38	limitTooDeep
		39	featureNotSupported
		40	systemError
		41	invalidAttribute
		42	suspend
		43	notFreeTrading
		44	nbboTooWide
		45	changeContractsNoOrder
		46	changeContractsInvalid
		47	reentry
		48	killswitchReentry
		49	postOnlyReprice
		50	undLULD
		51	invalidPreOpenIoc
		52	userCancel
		53	ioc
		54	timeout
		55	unsolictedOutReentry
		56	routeRequest
		57	staleOrder
		58	sppLimit
		59	auctionInProgress
		60	engineCancel
		61	tooLateToAct
		62	noAuction
		63	invalidTIF
		64	aonNotAllowed

Field Name	Data Type	Description	
cancelReason *(continued)*		65	bboCross
		66	purge
		67	orderExpired
		68	aiq
		69	cnbboLimit
		70	noBbo
		71	mktOrder
		72	treasuryOptionNotAllowed
		73	openingCancel
		74	executionNotPossible
		75	invalidCapacity
		76	optionNotOpen
		77	openDelay
		78	liquidityTaker
		79	killswitchPurge
		80	adminCancel
		81	systemCancel
		82	brokerOption
		83	invalidSide
		84	invalidSpread
		85	invalidAuctionType
		86	invalidFormat
		87	frozen
		88	requestPending
		89	cancelUp
		90	cancelDown
		91	postOnlyTaker
		92	invalidState
		93	tooManyAuctions
		94	invalidAuctionParams
		95	rejectedReplace
		96	massCancel
		97	invalidReprice
		98	price
		99	size
		100	nbboLimit
		101	impliedExec
		102	tooManyImplieds
		103	complexInstrExists
		104	exceededMaxComplexInstr
		105	firmExceededMaxComplexInstr
		106	invalidPtaContracts
		107	invalidMatchId
		108	invalidTradeId
		109	invalidCrossId
		110	invalidClientId
		111	dnttNotAllowed

Field Name	Data Type	Description	
cancelReason *(continued)*		**112**	instrumentClosed
		113	atrLimitReached
		114	invalidISO
		115	invalidStepupPrice
		116	threeTickLimitReached
		117	pending
		118	pennyNbboRestriction
		119	invalidDntt
		120	invalidInstrType
		121	invalidOrderType
		122	invalidALO
		123	invalidFlashInst
		124	invalidPrefParty
		125	invalidReserveInfo
		126	invalidPersist
		127	invalidShortSaleInd
		128	invalidProduct
		129	invalidScope
		130	invalidOpenClose
		131	invalidToken
		132	invalidKillAction
		133	invalidLegCount
		134	invalidLegType
		135	invalidLegRatio
		136	invalidCrossType
		137	prefNotAllowed
		138	orderNotFound
		139	actionNotAllowed
		140	instrumentState
		141	qccNotAllowed
		142	qccWithStockNetPriceNotAllowed
		143	qccWithMultiOptLegNotAllowed
		144	invalidDestination
		145	maxRoutesAttempted
		146	destinationNotAvailable
		147	minQtyNotSatisfied
		148	sorRespTimeout
		149	invalidAllocSplits
		150	qccWithStockPriceNotAllowed
		151	tooManyStockTradeAttempts
		152	notTob
		153	cod
		154	poolExhausted
		155	eodCancel
		156	CLOSEPURGE
		157	PRICE_LIMIT
		158	ORDER_SIZE

Field Name	Data Type	Description	
cancelReason *(continued)*		**159**	SPP_LIMIT
		160	EXECUTION_NOT_POSSIBLE
		OTHER	OTHER
		Allowed Values: Nasdaq Equities – NSDQ, PSX, BX	
		1	User requested cancel. Sent in response to a Cancel Order Message or a Replace Order Message
		2	Immediate or Cancel order.
		3	Timeout. The Time In Force for this order has expired
		4	Supervisory.
		5	This order cannot be executed because of a regulatory restriction
		6	Self-Match Prevention.
		7	System cancel.
		8	Cross-canceled. Non-bookable cross orders that did not execute in the cross.
		9	Order canceled due to insufficient quantity
		10	This order cannot be executed because of Market Collars
		11	Halted. The on-open order was canceled because the symbol remained halted after the opening cross-completed.
		13	Closed. Any DAY order that was received after the closing cross is complete in a given symbol will receive this cancel reason.
		15	Administrative cancel
		16	Post Only Cancel. This Post Only order was canceled because it would have been price slid for NMS.
		17	Post Only Cancel. This Post Only order was canceled because it would have been price slid due to a contra side displayed order on the book
		18	Direct Listing with Capital Raise amt exceeded
		19	Open Protection
		20	Discretion
		21	Cross Supervisory
		22	Managed Orders
		23	Cancel On Disconnect
		24	User Modified
		25	Oddlot
		26	User Replaced
		27	User Split
		28	System Downtick
		29	Market Collar
		30	Late Cancel
		31	Quality Cancel
		32	Forced Cancel
		33	Reject Cancel
		ADMIN	for an administrative cancel
		FEATURE	in the service of a customer-requested feature
		OTHER	OTHER

Field Name	Data Type	Description
capacity	Choice	*Event(s): Order Accepted Event, Order Route Event, Order Modified Event, Order Trade Event, Order Fill Event, Order Modify Route Event, Order Restatement Event* Specifies the capacity of a given order or side of a trade. **Allowed Values** **Agency** **Principal** **RisklessPrincipal** **Allowed Values: NYSE Equities** **ErrorAccount**
carryoverFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates that the trade transaction was carried over (not accepted/declined by the contra firm on T+0) for processing. **Allowed Values** **C** Carryover
clearingFirm	Text (10)	*Event(s): Stock Leg Order Event, Stock Leg Fill Event* The Member Alias of the clearing firm.
clearingFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Clearing and matching specifications of the trade transaction. **Allowed Values** **A** Nasdaq AGU for Clearing **C** Customer (no matching, no clearing) **G** Automatic Give Up (Auto Lock-in and Clearing) **N** No Clearing **Q** QSR (no matching, no clearing) **R** Risk Update Only (not sent to clearing) **S** Self-clearing (no matching, no clearing) **U** AGU Clearing, Non-risk Eligible **Y** Clearing ACT Only: **L** Do not match; send to clearing (locked-in) received via external system interface only. **Z** Do not match; send to clearing (locked-in).
clearingNumber	Text (20)	*Event(s): Order Trade Event, Order Fill Event, Stock Leg Fill Event* DTCC clearing number reported for each side of a stock trade or for the reporting side of a fill event.
clearingPrice	Price	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Trade price inclusive of commissions. This information is only currently available for reported trades to the Nasdaq TRF.

Field Name	Data Type	Description
cmtaFirm	Alphanumeric (8)	*Event(s): Simple Option Order Accepted Event, Option Order Modified Event, Option Trade Event, Post Trade Allocation Event, Options Order Restatement Event* The OCC number of the CMTA firm (only valid for CMTA trades).
complexOptionID	Text (40)	*Event(s): Simple Option Order Accepted Event, Option Order Adjusted Event, Stock Leg Order Event, Option Order Modified Event, Stock Leg Modified Event, Option Route Event* When present in an event, the complexOptionD will contain the same value as the optionID field from the Complex Order Accepted event to which this event is associated.
complexOrderID	Text (40)	*Event(s): Simple Option Order Accepted Event, Option Order Adjusted Event, Stock Leg Order Event, Option Order Modified Event, Stock Leg Modified Event, Option Route Event* When present in an event, the complexOrderID identifies the complex option order that is the parent order for an leg orders. Note that this will be the same value as the orderID field from the Complex Order Accepted event.
contraClearingNumber	Unsigned	*Event(s): Order Fill Event* DTCC clearing number for contra side of a trade.
contraControlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Number for the contra party.
contraEntryFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates that the contra party is the only side that reported the trade. **Allowed Values** **O** Contra Entry
contraExecutingMpid	Member Alias	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* MPID of the contra-side executing party.
contraExecutionTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the contra party reported that the execution took place.
contraReportDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date the contra party reported the trade.
contraReportingObligationFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Identifies if the contra-side firm had the reporting obligation for the trade under FINRA trade reporting rules. **Allowed Values** **Y** Contra Firm Has Reporting Obligation **N** Contra Firm Does Not Have Reporting Obligation
contraReportTime	Time	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Time the contra party reported the trade.
contraReportTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the contra party reported the trade.
contraSideBranchSequenceIdentifier	Text (20)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Branch/sequence number of the contra-side firm.

Field Name	Data Type	Description
contraSideCapacityCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Capacity of the contra-side firm. **Allowed Values** **A** Agency **P** Principal **R** Riskless Principal
contraSideClearingNumber	Unsigned	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Clearing number of the firm that cleared the trade for the contra-side firm.
contraSideReportingMpid	Member Alias	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* MPID of the contra-side firm that reported the trade.
contraSideShortSaleCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Identifies a short sale by the contra firm and indicates the type of short. **Allowed Values** **SS** Short Sale **SX** Short Sale Exempt
contraSubmittingEntityId	Text (4)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates the entity that initiated the submission. For a FINRA-initiated submission on behalf of the firm, this will be 'FNRA'. Otherwise, for a firm-initiated submission, it will be the firm MPID. For NC TRF, NQ TRF and NY TRF, this is always NQTC, NQTR or NYTR. For ADF and ORF it is the MPID of the submitting firm.
controlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Unique identifier for the reporting side of each trade transaction.
coverage	Choice	*Event(s): Simple Option Order Accepted Event, Option Order Modified Event, Option Route Event, Complex Option Route (OCOR), Modify Option Route Event, Options Order Restatement Event* Specifies whether an option order is covered or uncovered. Field may also be filled in as unspecified. **Allowed Values** **Covered** **Uncovered** **Unspecified**
cycleDate	Date	*Event(s): All Options Exchange Events, Note (NOTE), Self-Help Declaration (SHD), Supplemental Trade Event (STE)* The Trade Date upon which the trading cycle of an event ends. The trading cycle refers to the period of time when an order is eligible to trade and may include one or more trading sessions.
declaredTimestamp	Timestamp	*Event(s): Self-Help Declaration (SHD)* Date and time self-help was declared.
declineTime	Time	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Time the trade was declined by the contra party.
declineTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the trade was declined by the contra party.

Field Name	Data Type	Description
definedMMDEData	Name Value Pairs	*Event(s): Market Maker Dictionary Entry (MMDE)*
		A list of key/value pairs, providing machine parseable exchange specific regulatory context data for the Equity Market Maker.

Allowed Values: Nasdaq Equities – NSDQ, PSX, BX

MMSTATE — Market Maker Status for Intraday Changes. Value must be one of the following

O	Open
C	Closed
W	Withdrawn
E	Excused Withdrawn
S	Suspended
D	Deleted
N	None

Allowed Values: IEX

MMRegistrationEvent — Registration event codes for intraday Market Maker status changes. When provided, it must be one of the following values (e.g. MMRegistrationEvent=S):

A	Accidental Termination
B	Reinstate Accidental
E	Reinstate Regulatory
R	Reinstate Excused
S	Start of Day
T	Reinstate Voluntary
V	Voluntary Termination
W	Excused Withdrawal
X	Regulatory Termination

Field Name	Data Type	Description
definedNoteData	Name Value Pairs	*Event(s): Note (NOTE)*
		A list of key/value pairs, providing machine parseable data for the notation. The attributes must be defined in this specification.

Allowed Values: Cboe Legacy (C1) Only
active 3/29/2019 - 10/4/2019

SubNoteType — Requires a Choice value (e.g SubNoteType=XXX) where XXX must be one of the following choices.

SELECTED	PAR Order Select Time and NBBO at the time
RECEIVED	PAR Order Received Time and NBBO at the time
TRADED	PAR Order Trade Time and NBBO at the time
REPRESENT	PAR Order represent time and NBBO at the time

UID — A unique number assigned by the originating system to identify the row in SBT_ORDER_HIST. The value must be Unsigned (e.g. UID=12345).

RemQty — Quantity remaining after the fill. The value must be Unsigned (e.g., RemQty=700).

RouteSrc — The source of the route as a text field (Text<40>) of workstation name, PAR broker, etc (e.g.,

Field Name	Data Type	Description
definedNoteData *(continued)*		RouteSrc=ABC123).
		RouteDest — The destination of the route as a text field (Text<40>) of workstation name, PAR broker, etc (e.g., RouteSrc=ABC123).
		RouteSrcType — The location type where the order is routed from. The value is one of the following integer values (e.g., RouteSrcType=3):
		0 Unspecified
		1 CMI
		3 TE
		4 PAR
		5 BOOTH_OMT
		6 CROWD_OMT
		7 HELP_DESK_OMT
		8 OHS
		9 LINKAGE
		10 DISPLAY
		11 Broker Dealer (Stock orders derived from CPS Cross)
		12 Broker Dealer (Stock Orders derived from CPS Market Order Split)
		RouteDestType — The location type where the order is routed to. The value is one of the same as described in RouteSrcType.
		RouteRes — Indicates the reason for the route. The value is one of the integer values (e.g., RouteRes=7) from the following list:
		1 VOLUME_CHECK
		2 AUTO_EXECUTION
		3 DIRECT_ROUTE
		4 ALTERNATE_ROUTE
		5 DISCRETIONARY_OR_NH_ORDER
		6 ALL_ROUTING_ATTEMPT_FAILED
		For reroute attempts:
		7 HAL_REROUTING
		8 REROUTING_TO_SENDER
		9 REROUTING_TO_DEFAULT_OMT
		10 LINKAGE_ROUTE
		For PAR print requests:
		11 PAR_PRINT_ORDER_INTRA_DAY
		12 PAR_PRINT_ORDER_END_OF_DAY
		13 PAR_PRINT_CANCEL
		14 PAR_PRINT_CANCEL_REPLACE
		For PAR order reroute TA and TB:
		15 MANUAL_REROUTE_ORDER_TA
		16 MANUAL_REROUTE_ORDER_TB
		17 MANUAL_REROUTE_ORDER_BOOK
		18 MANUAL_REROUTE_ORDER_AUCTION
		19 CANCEL_FOLLOW_ORDER

Field Name	Data Type	Description
definedNoteData *(continued)*		For PAR order and fill timeouts: **20** MANUAL_ORDER_TIMEOUT **21** MANUAL_ORDER_FILL_TIMEOUT **22** CABINET_ORDER **23** SIMPLE_FILL_REJECT **24** COMPLEX_FILL_REJECT **25** CANCEL_REQUEST_ON_RSS **26** NBBO_REJECT **27** TRADE_NOTIFICATION_BUNDLE_TIMEOUT **28** TRADE_NOTIFICATION_ACK_TIMEOUT **29** TRADE_NOTIFICATION_REJECT **30** FILL_REPORT_DROP_COPY **31** CANCEL_REPORT_DROP_COPY **32** PREMIUM_EXCEEDS_REASONABILITY **33** VOLUME_DEVIATION_CHECK_FAILED_ALL_LEVELS **34** VOLUME_DEVIATION_CHECK_PASSED_LEVEL_1 **35** VOLUME_DEVIATION_CHECK_PASSED_LEVEL_2 **36** VOLUME_DEVIATION_CHECK_PASSED_LEVEL_3 **37** CANCEL_REQUEST_ON_FALLBACK **38** TOO_MANY_ROUTES **39** PRODUCT_STATE_ROUTE **40** VOLUME_MAINTENANCE_MISMATCH **41** FORCED_LOGOFF_PAR **42** MANUAL_REROUTE_ORDER_SR **46** MANUAL_REROUTE_ORDER_FR **302** LINKAGE_STALE_EXECUTION
	BBOBP	BBO bid price; the value is of type Price.
	BBOBS	BBO bid size; the value is of type Unsigned.
	BBOAP	BBO ask price; the value is of type Price.
	BBOAS	BBO ask size; the value is of type Unsigned.
	NBBOBP	NBBO bid price; the value is of type Price.
	NBBOBV	NBBO bid exchange volume; the value is of type Unsigned.
	NBBOAP	NBBO ask price; the value is of type Price.
	NBBOAV	NBBO ask exchange volume; the value is of type Unsigned.
	DSMBP	Derived Spread Market bid price; the value is of type Price
	DSMBS	Derived Spread Market bid size; the value is of type Unsigned
	DSMAP	Derived Spread Market ask price; the value is of type Price
	DSMAS	Derived Spread Market: The (Integer)
	BBP	Book bid price; the value is of type Price.
	BBS	Book bid size; the value is of type Unsigned.
	BAP	Book ask price; he value is of type Price.
	BAS	Book ask size; the value is of type Unsigned.

Field Name	Data Type	Description
definedNoteData *(continued)*		

		AuctionType	The type of auction; the value is one of the following integers

	0	Auction Unspecified
	1	AUCTION_INTERNALIZATION (AIM/Complex AIM)
	2	AUCTION_STRATEGY
	3	AUCTION_REGULAR_SINGLE
	4	AUCTION_HAL
	5	AUCTION_SAL
	8	AUCTION_DAIM (for Directed AIM)
	-4	AUCTION_HALO
	-8	AUCTION_NEW_HAL

AucTradeQty	auction trade quantity; the value will be Unsigned
AucEarlyTerm	indicates if an auction ended early; the value is Boolean (true or false)
AuctionID	Optional field of type UNSIGNED
ActTime	The actual time at which activity happened on PAR or ME; the value will be Timestamp

Allowed Values: Cboe Options
active 10/7/2019 – present

BBOBP	BBO bid price; the value is of type Price.
BBOBS	BBO bid size; the value is of type Unsigned.
BBOAP	BBO ask price; the value is of type Price.
BBOAS	BBO ask size; the value is of type Unsigned.
NBBOBP	NBBO bid price; the value is of type Price.
NBBOBV	NBBO bid exchange volume; the value is of type Unsigned.
NBBOAP	NBBO ask price; the value is of type Price.
NBBOAV	NBBO ask exchange volume; the value is of type Unsigned.
BBP	Book bid price; the value is of type Price.
BBS	Book bid size; the value is of type Unsigned.
BAP	Book ask price; he value is of type Price.
BAS	Book ask size; the value is of type Unsigned.
SubNoteType	Requires a Choice value (e.g SubNoteType=XXX) where XXX must be one of the following choices.

SELECTED	PAR Order Select Time and NBBO at the time
RECEIVED	PAR Order Received Time and NBBO at the time
TRADED	PAR Order Trade Time and NBBO at the time
REPRESENT	PAR Order represent time and NBBO at the time

UID	A unique number assigned by the originating system to identify the row in SBT_ORDER_HIST. The value must be Unsigned (e.g. UID=12345).
RouteDest	The destination of the route as a text field (Text<40>) of workstation name, PAR broker, etc (e.g., RouteSrc=ABC123).

Field Name	Data Type	Description
definedNoteData *(continued)*		**Allowed Values: NYSE**
		Cabinet
		FLEX
		FLEXPCT
		FloorTrade
		FloorTradeNamesLater
		FloorTradeNamesLaterAllocation
		Allowed Values: BOX
		ST Requires a choice from the following list:
		InOrderBook
		Executed
		Exposed
		ToOla
		Directed
		CancelPending
		Eliminated
		TraderCancelled
		EliminatedOutOfLimit
		EliminatedByCircuitBreaker
		EliminatedOnDisconnection
		EliminatedByMarketControl
		EliminatedDueToUnpricedLeg
		EliminatedDueToTradingRestriction
		CancelledBySupervisor
		Received
		EliminatedDueToTradeLimitExceeded
		EliminatedDueToTradeActivityLimitExceeded
		EliminatedDueToMaximumNbTriggersLimitExceeded
		EliminatedDueToDrillThroughProtection
desiredLeavesQty	Unsigned	*Event(s): Order Cancel Route Event, Option Cancel Route Event*
		The desired number of shares remaining in the order after the cancel request has been issued for a routed order. A value of zero indicates a full cancel.
displayPrice	Price	*Event(s): Order Accepted Event, Order Modified Event, Order Restatement Event, Simple Option Order Accepted Event, Option Order Modified Event, Options Order Restatement Event*
		The displayed price for an order.
displayQty	Unsigned	*Event(s): Order Accepted Event, Order Route Event, Order Modified Event, Order Modify Route Event, Order Restatement Event, Simple Option Order Accepted Event, Stock Leg Order Event, Option Order Modified Event, Stock Leg Modified Event, Option Route Event, Modify Option Route Event, Options Order Restatement Event*
		The displayed quantity for an order.
eventTimestamp	Timestamp	*Event(s): All*
		eventTimestamp generally refers to when an event occurred, however this is subjective depending on the event. Refer to the events definitions to see what this timestamp represents within the context of that event.

Field Name	Data Type	Description
exchange	Exchange ID	*Event(s): All Stock Exchange Events, All Options Exchange Events, Supplemental Trade Event (STE), Reject Message Event (RME), Equity Best Bid and Offer Event (EBBO)*
		The exchange ID of the exchange associated with the event being reported. Refer to each individual event definition for more specific details.
exchangeInternalID	Text (40)	*Event(s): Reject Message Event (RME)*
		The internal ID assigned to the order or quote by the exchange.
exchOriginCode	Choice	*Event(s): Simple Option Order Accepted Event, Complex Option Order Accepted Event, Option Order Modified Event, Internal Complex Option Route Event, Option Trade Event, Options Order Restatement Event, Post Trade Allocation Event*
		Exchange-specific codes that specify the origin of an order. CAT will map all of these exchange-defined codes to either C - Customer, F - Firm, or M - Market Maker internally. Only the exchange specific codes as defined below need to be included in this field.
		Below are the accepted values for each exchange, with their description, and their mapping to C, F, or M in CAT in parentheses.
		Note that some values are marked as "C/M," C/M will map to customer unless an order has mktMkrSubAccount, when it will map to M.
		Allowed Values: Cboe Legacy (C1)
		active 3/29/2019 – 10/4/2019
		B Broker Dealer (C)
		C Customer (C)
		D Customer Floor Broker Workstation (C)
		E Customer Internal (C)
		F Firm (F)
		H Firm Internal (F)
		I In Crowd Market Maker (M)
		J Firm Floor Broker Workstation (F)
		K Broker Dealer Floor Broker Workstation (C)
		L B/Ds that are billed as 'Firm' but clear in the 'C' range at OCC (C)
		M Market Maker (M)
		N Away Market Maker (M)
		R Broker Dealer Internal (C)
		U MM from FBW (C/M)
		W Broker Dealer Floor Broker Workstation (C/M)
		X Customer BD (C/M)
		Z N,Y from FBW (C/M)
		Allowed Values: NYSE Options
		C Customer (C)
		F Firm (F)
		BD Broker Dealer (C/M)
		M Market Maker (M)
		P Professional Customer (C)
		Allowed Values: Cboe

Field Name	Data Type	Description
exchOriginCode *(continued)*		**B** Broker Dealer (C)
		C Customer (C)
		F Firm (F)
		J Joint Back Office (F)
		L Non TPH Affilliate (C)
		M Market Maker (M)
		N NonRegMarketMaker (M)
		U ProCustomer (C)
		Allowed Values: BOX
		6 Public Customer (C)
		7 Broker Dealer (F)
		8 Market Maker (M)
		W Broker Customer (C)
		X Away Affiliated Market Maker (M)
		T Professional Customer
		Y Away Broker or Floor Broker (F)
		Z Away Market Maker or Floor Market Maker (M)
		V Away Broker Customer or Floor Broker Customer (C)
		Allowed Values: MIAX
		1 Market Maker (M)
		2 Away MM (M)
		3 Broker Dealer (F)
		4 Firm (F)
		5 Pri Customer (C)
		6 Non Pri Customer (C)
		Allowed Values: MIAX Pearl
		1 Market Maker (M)
		2 Away MM (M)
		3 Broker Dealer (F)
		4 Firm (F)
		5 Pri Customer (C)
		6 Non Pri Customer (C)
		Allowed Values: MIAX Emerald
		1 Market Maker (M)
		2 Away MM (M)
		3 Broker Dealer (F)
		4 Firm (F)
		5 Pri Customer (C)
		6 Non Pri Customer (C)
		Allowed Values: NASDAQ Options - NOBO, PHLX, NOM, ISE, GEMX, MRX
		1 Customer (C)

Field Name	Data Type	Description
exchOriginCode *(continued)*		**2** Firm (F)
		3 Floor MM (M)
		4 Off Floor MM (M)
		5 Broker Dealer (C)
		6 Professional Customer (C)
		7 Proprietary Customer (C)
		8 Retail Customer (C)
		9 JBO (F)
		10 Broker Dealer Firm (F)
executingFirm	Alphanumeric (8)	*Event(s): Simple Option Order Accepted Event, Option Order Modified Event, Option Trade Event, Options Order Restatement Event* The OCC number of the executing firm.
executionCodes	Name / Value Pairs	*Event(s): Order Trade Event, Order Fill Event, Trade Correction Event, Option Trade Event, Stock Leg Fill Event, Options Trade Correction Event* Codes that provide a way to augment executions with specific information about the execution. The Execution Codes field has the same formatting as Order Handling Instructions, where zero or more codes can be entered to provide additional execution information, like where a trade may have been executed on the floor. Each code is separated by a single pipe symbol (ASCII decimal 124, hex 7C). Codes which require a value will include that value immediately after the code Field Name and a single equal sign (ASCII decimal 61, hex 3D). All instructions that apply to the order are to be included.

Allowed Values: Boolean
presence indicates truth

NonMediaTrade	Presence of this instruction on an EOT event indicates that the details of this particular record either went to tape as part of a single-priced trade process, such as an opening or closing auction; or that the details of this event did not go to tape. The use of an EOF event implies that the details were not sent to tape, and this Name/Value pair should not be used on EOF events.
FLOOR	Presence of the value on an Options Trade (OT) event indicates that the trade occurred on the Exchange Floor in Open Outcry. Presence of the value on an Equity Trade (EOT) event indicates that the trade occurred on the Exchange Floor between a Designated Market Maker and/or a single or multiple Brokers. *This value may be optionally reported by Plan Participants in the Production Environment beginning on September 29, 2022. Plan Participants must begin reporting this executionCode no later than November 14, 2022.*

Allowed Values

AUC	If the trade happened as part of an auction, this code identifies the auction by name (e.g., AUC=CROSS)
ASOF	The trade is being reported as- of another date. This option requires a Date value (e.g. ASOF=20171218).
BulkTradeType	Value identifiying the aggregate print sent to tape or an opening, re-opening or closing trade as well as the underlying execution reports for all of the orders that executed as part of the single-priced trade event. This value

Field Name	Data Type	Description
executionCodes *(continued)*		must be reported for all single-priced trade events. Valid Values:
		O Opening single-priced trade
		H Re-opening single-priced trade
		I IPO single-priced trade
		C Closing single-priced trade
		R Continuous market trade with multiple parties on one or both sides
		N Not related to a single-priced trade event (this value is implied if this Name/Value pair is not provided)
	BulkTradeID	Value that links together the aggregate print sent to tape or an opening, re-opening or closing trade and the underlying execution reports for all of the orders that executed as part of the single-priced trade event.
	childOrderID	Requires value, e.g. childOrderID = 123456789
	CORR	Boolean. Indicates that the trade was entered as a correction to a previously reported trade.
	MOOTLINK	Required for manual floor trades reported to FINRA CAT as MOOT events. This field contains the identifier that will be used for linkage to the IM MOOT event.
	NOBUYID	Indicates that there is neither a quoteID nor an orderID associated with the buy side of the trade.
	NOSELLID	Indicates that there is neither a quoteID nor an orderID associated with the sell side of the trade.
	PCTP	Executions for FLEXPCT orders are reported, with the price as the final dollar value of the trade. However, the price was determined as a percentage execution. The original trade percentage value is reported using the PCTP execution code, which requires a Numeric(10,8) value, where 94.5% would be reported as PCTP=94.5.
	PCTO	Executions for FLEXPCT trades are reported using the optionID of the percentage product. However, the final execution happens with a different optionID that is not percentage based. This final optionID is a Text<40> field, and is reported in the trade with the PCTO execution code (e.g., PCTO=OPTIONID1234).
	PRVRSL	Boolean. Indicates that the trade was entered to reverse a partial quantity of a previously reported trade.
	REFTRADEID	Required for trades marked as a reversal, partial reversal or correction of a previously reported trade, this field contains the trade being referenced. REFTRADEID must reference a previously reported trade, or a previously reported trade correction that has a matching tradeID.
	REFTRDDATE	Required for trades marked as a reversal, partial reversal or correction of a previously reported trade, this field requires a Date value of the original trade date (e.g., REFTRDDATE =20210305)
	RVRSL	Boolean. Indicates that the trade was entered to reverse a previously reported trade in its entirety.
	Allowed Values Cboe Legacy (C1)	
	active 3/29/2019 – 10/4/2019	
	TradeType	This code requires a choice value (e.g., TradeType=N)

Field Name	Data Type	Description
executionCodes *(continued)*		where N is a value from the following list:
		B Blocktrade
		R Regular Trade
		F Intermarket Sweep
		L No Print Linkage Trade
		M Manual Trade
		P Par Trade
		X Cross Product Leg Trade
		S Cross Product Cross Trade
		I Cross Product AIM Cross Trade
		H Handheld Trade
		Q Par to Market Maker Trade
		1 Regular trade reversal
		2 No Print Linkage Trade Reversal
		3 No Print Linkage Trade Manual
		T Two-Day Trade
	TradeSource	This code requires a choice value (e.g., TradeSource=PAR) where the value is one of the three following choices:
		PAR
		System
		Manual
	FirmTradeRptTime	Shows the Firm Trade Report Time (applies to Block trade and manual trades, time the firm/market maker reports the floor trade), requires a timestamp (e.g., FirmTradeRptTime=20170108T023000.123456789). Note that the timestamp must be in the CAT timestamp format described in section 1.5 of the tech specs
	FirmTradeTime	Shows the Firm Trade Time - applies to manual trades - Market Makers have an option to specify when they did the trade on the floor. Requires a timestamp (e.g., FirmTradeTime=20170108T023000.123456789). Note that the timestamp must be in the CAT timestamp format described in section 1.5 of the tech specs
	TradeRptTime	Shows the Tape Report Time (when the system reports to OPRA i.e. when the GUI user hits the send button) applies to manual and block trades only. Requires a timestamp. (e.g., TradeRptTime=20170108T023000.123456789). Note that the timestamp must be in the CAT timestamp format described in section 1.5 of the tech specs
	EndorseTime	(Floor only) In the case of a Names Later transaction, $TIME is the time this execution was endorsed by this side. If not specified, assume to be equal to FirmTradeRptTime.(e.g.EndoreTime= 111500.123456789.)This timestamp must be in the CAT time format described in section 1.5 of the tech specs
	NamesLater	(Floor only) If present, this specifies that this side is reporting Names Later. EndorseTime will differ from FirmTradeRptTime. (e.g. NamesLater=Y)
	BBOBP	CBOE BBO Bid Price at the time of the trade. Requires a price value. (e.g., BBOBP=12.25)
	BBOBS	CBOE BBO Bid Size at the time of the trade. Requires an

Field Name	Data Type	Description	
executionCodes *(continued)*			integer value. (e.g., BBOBS=400)
		BBOAP	CBOE BBO ask price at the time of the trade. Requires a price value. (e.g., BBOAP=12.50)
		BBOAS	CBOE BBO ask size at the time of the trade. Requires an integer value. (e.g., BBOAS=200)
		BDATE	Shows the business date. Requires a date value expressed as YYYYMMDD (e.g., BDATE=20170112).
		FloorActivityType	Types of Floor Execution; Choice fields:
			Unspecified
			TradeWithAllExecution
			TradeWithBookExecution
			SwapExecution
			COAExecution
			InCrowdExecution
			RepresentedInCrowd
			TradeInitiatedInCrowd
			TradeEndorsement
		Allowed Values: Cboe	
		DACClosePrice	Closing price for the underlying. Accepts a price value expressed as ##.#### (e.g. 12.3456).
		DeltaRefPrice	The value of the underlying as known by the submitter of the order. Accepts a price value expressed as XX.XXXX (e.g. 12.3456).
		DeltaValue	The multiplier applied to the difference between the referencePrice and the closing price of the option's underlying value (specified per leg in the case of a complex order). Accepts a value from -1.0000 to 1.0000.
		FirmTradeRptTime	Shows the Firm Trade Report Time (applies to Block trade and manual trades, time the firm/market maker reports the floor trade), requires a timestamp (e.g., FirmTradeRptTime=20170108T023000.123456789). Note that the timestamp must be in the CAT timestamp format described in section 1.5 of the tech specs
		INTLIQ	Liquidity classification internal to Cboe. Requires a choice value (e.g., INTLIQ=X) from the following list:
			A added
			R removed
			X routed
			B both order washed/removed some liquidity then got booked
			D externally removed
			c conditionally added
			C auction
			Q options wait order
			P RemovedPending
		SUBLIQ	Cboeinternal subliquidity indicator. This is filled in on executions once the code offering the best price to the member is selected. Requires a choice value (e.g., SUBLIQ=N) from the following list:
			A halt auction

Field Name	Data Type	Description		
executionCodes *(continued)*			b	AIM – Automated Improvement Mechanism
			B	SUM (Options only – step up auctions mechanism)
			c	Cboe Market Close
			C	close auction
			D	dark book
			E	retail price improvement (BYX Equities: Retail Order vs. Retail Price Improving Order)
			f	Floor Order
			G	SetterNoSize
			h	halt queued
			H	hidden
			I	hidden improved
			J	joiner
			k	BrokerPreferencing
			K	hidden reserve (hidden portion of a reserve order)
			m	hidden midpoint (US Equities: Hidden midpoint execution)
			M	MiddayCross
			n	CLNK
			N	normal
			O	open auction
			o	open queued
			P	IPO auction
			p	Periodic Auction (applicable for Cboe-BYX only)
			q	QCC (Options only - Qualified Contingent Cross)
			R	bolt route
			r	Persisted (GTC restatement)
			s	SAM Auction
			S	setter
			T	dark Book IOC
			u	ClosingCross
			U	Turner
			v	ClosingCrossBrokerPref
			V	visible improved
			x	Multilateral Compression Trade of Proprietary Product
			y	Related Futures Cross (RFC)
			z	Position Compression Cross (PCC)
		TradeRptTime		Shows the Tape Report Time (when the system reports to OPRA i.e. when the GUI user hits the send button) applies to manual and block trades only. Requires a timestamp. (e.g., TradeRptTime=20170108T023000.123456789). Note that the timestamp must be in the CAT timestamp format described in section 1.5 of the tech specs
		Allowed Values: BOX		
		TT		Indicates when the trade was done. Requires a choice value from the following list:

Field Name	Data Type	Description	
executionCodes *(continued)*			**Opening**
			MarketOperation
			ContinuousTrading
			GuaranteedAuction
			SolicitationAuction
			FacilitationAuction
			ExecutedAway
			FloorTrade
		STI	Indicates the trade type. Requires a choice value from the following list:
			RegularTrade
			As-of-Trade
			Block Trade
			Late Trade
			Hidden Trade
			Price Volume Adjustment
			Exchange For Risk
			Basis Swap
			IsoInbound
			GdoTradeThrough
			PipSweep
			USContingent
			Pip
			Crossed
			FloorTrade
		SID	Indicate the Strategy id. Value associated will be blank or will contain the Strategy Identification in the format of Text(10).
		SOT	Indicates the strategy order type. Requires a choice value from the following list:
			IMPROVE **INITO** **MBF** **EXPOSED** **CROSS** **CONTINGENT**
		STID	Indicate the Strategy Trade Id. Value associated will be blank or will contain the Strategy Identification
		STT	Indicates the strategy trade type. Requires a choice value from the following list:
			Opening **MarketOperation** **ContinuousTrading** **GuaranteedAuction** **SolicitationAuction** **FacilitationAuction** **ExecutedAway** **FloorTrade**
		SV	Indicate the Strategy Verb. Value associated will be blank or will contain B (for Buy), S (for Sell). Note: allowed values included "Sell" or "Buy" as part of back processing only for trade dates 3/29/19 to 6/21/19. They were active

Field Name	Data Type	Description
executionCodes *(continued)*		between the processing dates of 7/26/19 to 8/30/19.

<table>
<tr><td colspan="3">Allowed Values: MIAX</td></tr>
<tr><td colspan="2">AUC</td><td>Indicates an auction. Requires one of the values from the following list:</td></tr>
</table>

	1	Opening
	2	Reopening
	3	Closing
	4	Routing
	5	LiquidityRefresh
	6	PairedPrime
	7	CustomerCrossPrime
	8	QualifiedContingentCrossPrime
	9	LiquidityExposure
	C	ImmediateUncrossing
	I	IIPOpening
	L	CLEP
	P	RIPReEvalutionCross
	R	RIPReEvalution
	U	URIPAuctionOnArrival
	Y	IIPOpeningCross

Allowed Values: MIAX Emerald

AUC — Indicates an auction. Requires one of the values from the following list:

	1	Opening
	2	Reopening
	3	Closing
	6	PairedPrime
	7	CustomerCrossPrime
	8	QualifiedContingentCrossPrime
	C	ImmediateUncrossing
	I	IIPOpening
	L	CLEP
	P	RIPReEvalutionCross
	R	RIPReEvalution
	U	URIPAuctionOnArrival
	Y	IIPOpeningCross

Allowed Values: CHX

TradeType — Name value pair, which requires value to be one of the following choices from the following list:

	CSP	CSS entered correspondent trades
	AWA	Away Market Executions
	CHX	ECHX Trade
	MAN	Manual
	DRP	Drop copy away market execution

Field Name	Data Type	Description		
executionCodes *(continued)*			**NAM**	Recovery required
			RCV	Recovery of NAME/NAME trade
			AWE	Away sent electronically thru CHX systems
			AWM	Away sent manually thru CHX systems
			RPT	Allocation report
			AWF	Away market trades cleared by CHX
			VEN	Away market clearing flip - non-ORS
			AAW	IB Alternative Away Market Execution
			AOR	ORS Away market clearing flip
			RPS	Riskless Principal Second Component Trade
			SNAP	Sub-second Non-displayed Auction Process (SNAP) Trade
		executionID	For OrderFill, this is the execution ID received from the routing vendor. The value is of type Text<40>	
		executionMarket	For OrderFill - requires a choice value from the following list:	
			XCHI	Chicago Stock Exchange
			XNYS	New York Stock Exchange
			XASE	American Stock Exchange
			ARCX	NYSE ARCA
			XBOS	Boston Stock Exchange
			XPHL	Philadelphia Stock Exchange
			XCIS	National Stock Exchange
			XADF	FINRA ADF
			XCBO	Chicago Board Options Exchange
			XNAS	NASDAQ Stock Exchange
			BATS	Cboe BZXStock Exchange
			BATY	Cboe BYZ - Exchange, Inc.
			EDGA	Cboe EDGA
			EDGX	Cboe EDGX
			IEXG	Investors Exchange
		Allowed Values: NYSE Options		
		Cabinet		
		COA	Auction Type	
		Complex		
		CUBE Auction	Part of back processing only for trade dates 3/29/19 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19. .	
		CUBEAuction		
		Flex		
		Man		
		Open Auction	Part of back processing only for trade dates 3/29/19 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.	
		OpenAuction		
		Allowed Values: NYSE Equities		

Field Name	Data Type	Description
executionCodes *(continued)*		**CROSS**
		Allowed Values: IEX
		A — Member adds liquidity against a Retail Liquidity Provider order
		C — Closing Auction on IEX
		D — Execution of displayed Continuous Book interest in a cross or auction
		H — Halt Auction Opening on IEX
		I — Continuous Trade on IEX
		L — Traded with Displayed Liquidity
		M — Added
		O — Opening Auction on IEX
		P — IPO Auction Opening on IEX
		Q — Removes liquidity during a crumbling quote
		R — Retail order removes liquidity
		S — Self Trade on IEX
		T — Removed
		X — Opening Match on IEX
		Allowed Values: NASDAQ ISE, GEMX, MRX, NOBO
		liquidityCode — Name value pair, requires one of the following values from the following list:
		0 — None
		1 — Maker
		2 — Taker
		4 — Response
		5 — Hidden
		6 — OpeningRotation
		7 — Cross
		8 — FlashedOrder
		9 — FlashResponse
		10 — RoutedOut
		11 — TradeReport
		12 — ComboMakerAgainstCombo
		13 — ComboTakerAgainstCombo
		14 — ComboResponseAgainstCombo
		15 — ComboHiddenAgainstCombo
		16 — ComboOpeningRotation
		17 — ComboCross
		18 — ComboTakerAgainstRegular
		19 — RegularMakerAgainstCombo
		20 — ComboTakerAgainstIO
		21 — RegularTakerAgainstIO
		22 — IOMakerAgainstCombo
		23 — IOMakerAgainstRegular
		24 — RegularMakerAgainstIOParticipant

Field Name	Data Type	Description	
executionCodes *(continued)*		**25**	IOParticipantTakerAgainstRegular
		26	BrokenPriceImprovement
		27	BrokenFacilitation
		28	BrokenSolicitation
		29	ComboBrokenPriceImprovement
		30	ComboBrokenFacilitation
		31	ComboBrokenSolicitation
		32	Block
		33	BlockResponse
		34	DirectedResponse
		35	Facilitation
		36	FacilitationResponse
		37	PriceImprovement
		38	PriceimprovementResponse
		39	Solicitation
		40	SolicitationResponse
		41	QualifiedContingentCross
		42	CustomerToCustomer
		43	ComboFacilitation
		44	ComboFacilitationResponse
		45	ComboPriceImprovement
		46	ComboPriceImprovementResponse
		47	ComboSolicitation
		48	ComboSolicitationResponse
		49	ComboQualifiedContingentCross
		50	ComboCustomerToCustomer
		51	SweepRoutedOut
		52	SweepTradeReport
		53	ComboTakerAgainstRegularThruNbbo
		54	ComboTakerAgainstIOThruNbbo
		55	SimpleExposureOrderInitiatorUponReceipt
		56	SimpleExposureOrderInitiator
		57	SimpleExposureOrderResponder
		OTHER	Other
	BuyMatchId	Unsigned value	
	SellMatchId	Unsigned value	
	AuctionId	Unsigned value	
	TradeSource	Name value pair, requires one of the following values from the following list:	
		0	AUTO_EXECUTION
		1	OPENING
		2	FLASH
		3	EXPOSURE
		4	BLOCK
		5	PIM
		6	PIM_COMBO
		7	FAC

Field Name	Data Type	Description
executionCodes *(continued)*		**8** FAC_COMBO **9** SOL **10** SOL_COMBO **11** CCC **12** CCC_COMBO **13** QCC **14** QCC_COMBO **15** MANUAL **16** NOS **17** OPENING_UNCROSS **18** UNCROSS **OTHER** OTHER
		Allowed Values: NASDAQ – PHLX, NOM, NOBO
		TradeSource Name value pair, requires one of the following values from the following list: **1** AUTOEX **2** DET **3** EBOOK **4** NOS **5** FBMS **6** SWEEP **7** QUOTE_M **8** CO_SWEEP **9** LEGGING **10** COMPLEX **11** OPENING **12** COLA **13** COCRA **14** PIXL_AUTO **15** PIXL_STOP **16** QCC **17** QCC_FBMS **FLEX** FLEX **OTHER** OTHER
		BuyMatchId Unsigned value **SellMatchId** Unsigned value **AuctionId** Unsigned value
		Allowed Values: Nasdaq – NOBO *in addition to values defined above*
		TradeSource Name value pair, requires one of the following values from the following list: **20** AUTO_EXECUTION **21** OPENING **23** EXPOSURE **24** BLOCK

Field Name	Data Type	Description
executionCodes *(continued)*		**25** PIM
		26 PIM_COMBO
		27 FAC
		28 FAC_COMBO
		29 SOL
		30 SOL_COMBO
		31 **CCC**
		32 CCC_COMBO
		33 QCC
		34 QCC_COMBO
		35 MANUAL
		36 NOS
		37 OPENING_UNCROSS
		38 UNCROSS
		Allowed Values: LTSE
		L Continuous Trade on LTSE
		S Self Trade on LTSE
		O Opening Auction on LTSE
		C Closing Auction on LTSE
		H Halt Auction Opening on LTSE
		N IPO Auction Opening on LTSE
executionDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Date the execution occurred.
executionPrice	Price	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Unit price of the trade.
executionQuantity	Unsigned	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Number of shares traded.
executionTimestamp	Timestamp	*Event(s): Order Trade Correction, Option Trade Correction*
		When a trade is reported, the time of the trade is reported as the eventTimestamp. The executionTimestamp is used in a correction event if the time of the trade needs to be changed.
		Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)
		Date and time the execution occurred.
exerciseStyle	American	*Reference Data: Option Series Dictionary Entry (OSDE)*
		Specifies the exercise style of the Option Series in Simple Option Series Dictionary Entry.
		Allowed Values
		American
		European
expirationDate	Date	*Reference Data: Option Series Dictionary Entry (OSDE)*
		The date an options contract will expire, taking the format: YYYYMMDD.

Field Name	Data Type	Description
explicitFeeFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Indicates if a Clearing Price was entered.
		Allowed Values
		Y Explicit Fee Trade
fillID	Text (40)	*Event(s): Supplemental Trade Event (STE), Order Fill Event, Stock Leg Fill Event*
		A unique identifier for the transaction. The combination of reporter, date, symbol, side, and fillID should be unique.
finraContraControlN umber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Control Number used for interaction between TRFs and FINRA; populated only when trade is matched by comparison. Will be unique for a trade report date and market center.
finraControlDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Control Date of the current version of the trade.
finraControlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Control Number of the current version of the trade.
finraTradeModifierLa teCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		System Trade Modifier - Time Modifier - Updated by MPP Engine.
		Allowed Values
		T Executed Outside Normal Market Hours
		U Executed Outside Normal Market Hours and Reported Late
		Z Executed During Normal Market Hours and Reported Late
finraTradeModifierSr oCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		System Trade Modifier SRO - Updated by MPP System.
		Allowed Values
		B Weighted Average Price for Trade Disseminated to CTA SIP
		I Odd Lot Trade
		P Prior Reference Price
		V Contingent Trade
		W Weighted Average Price for Trade Disseminated to UTP SIP
		X Exercise of OTC Option
finraTradeModifierTh roughExemptTime	Time	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		System Trade Thru Exempt Modifier Time.
firmOriginalTrfContr olNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Original Control Number provided by the TRF to the firm.
firmTradeModifierLat eCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		System Trade Modifier - Time Modifiers (TradeModifier 3 in the FIX Spec).
		Allowed Values
		T Executed Outside Normal Market Hours
		U Executed Outside Normal Market Hours and Reported Late
		Z Executed During Normal Market Hours and Reported Late

Field Name	Data Type	Description
firmTradeModifierSettlementTypeCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* User Trade Modifier - Settlement Type (Settlement modifiers). **Allowed Values** **@** Regular settlement **C** Cash settlement **N** Next day settlement **R** Seller settlement
firmTradeModifierSroCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Further classification of the trade with regard to SRO required detail. This can either be entered by the firm or appended by the system. **Allowed Values** **1** Stop stock (regular trade) **A** Acquisition **B** Bunched Trade **D** Distribution **E** Automatic execution (system) **H** Intraday trade detail (system) **I** Odd lot **K** Rule 155 Amex/Rule 127 NYSE **M** Market Center close price (system) **O** Odd lot **P** Prior reference price **Q** Market center open price (system) **R** Away from market sale **S** Split trade **V** Contingent trade **W** Average price trade **X** Exercise of OTC option

Field Name	Data Type	Description
firmTradeModifierThr oughExemptCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Further classification of the trade with regard to Trade Through Exemption. This is entered by the firm when it reports the trade. **Allowed Values** <table><tr><td>**2**</td><td>NASD Self Help Indicator</td></tr><tr><td>**3**</td><td>Intermarket Sweep - Outbound</td></tr><tr><td>**4**</td><td>Derivatively Price</td></tr><tr><td>**5**</td><td>Market Center Reopen</td></tr><tr><td>**6**</td><td>Market Center Closing</td></tr><tr><td>**7**</td><td>Error Correction</td></tr><tr><td>**8**</td><td>Print Protection</td></tr><tr><td>**9**</td><td>Correct Consolidated Close Price as per Listing Market</td></tr><tr><td>**F**</td><td>Intermarket Sweep</td></tr><tr><td>**J**</td><td>NASD Subpenny Indicator</td></tr><tr><td>**O**</td><td>Market Center Open</td></tr><tr><td>**V**</td><td>NASD Contingent Indicator</td></tr></table>
firstTradeFinraContr aControlDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Date of the first trade in a chain of corrections on the contra side trade report.
firstTradeFinraContr aControlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Number of the first trade in a chain of corrections on the contra side trade report.
firstTradeFinraContr olDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Date of the first version of the trade.
firstTradeFinraContr olNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Number of the first version of the trade.
floorBroker	Member Alias	*Event(s): Option Trade Event* The Member Alias of the executing floor broker.
groupID	Text (40)	*Reference Data: Complex Option Dictionary Entry (CODE)* An identifier supplied by the user/reporter.
haltActionCode	Choice	*Event(s): FINRA Halt/Resume (FHR)* Indicates the action being taken. **Allowed Values** <table><tr><td>**H**</td><td>Trading Halt</td></tr><tr><td>**Q**</td><td>Quotation Resumption</td></tr><tr><td>**T**</td><td>Trading Resumption</td></tr><tr><td>**X**</td><td>Quotation and Trading Resumption</td></tr></table>
haltActionTimestamp	Timestamp	*Event(s): FINRA Halt/Resume (FHR)* The date/time the halt was initiated.

Field Name	Data Type	Description
haltMessageType	Choice	*Event(s): FINRA Halt/Resume (FHR)*
		Identifies the message format, in conjunction with the `messageCategory`.
		Allowed Values
		2 Closing Trade Summary
		A General Administrative Message
		H Trading Action (Security)
		M Trading Action (Extraordinary Market)
haltReasonCode	Choice	*Event(s): FINRA Halt/Resume (FHR)*
		Indicates the reason for the halt/resume.
		Allowed Values
		C11 Trade Halt Concluded by Other Regulatory Authority; Quotes/Trades to Resume
		C13 Quote Only Resume for EMC and MWCB Quote
		C14 Quote and Trade Resume for EMC and MWCB
		CXL Cancel
		D1 Security Deleted from OTCE
		H10 Halt - SEC Trading Suspension
		H12 Halt - SEC Revocation
		O1 Halt - Component/Derivative of Exchange-Listed Security
		T3 Halt – News and Resumption Times
		U1 Halt – Foreign Market/Regulatory
		U2 Halt – Component/Derivative of Exchange-Listed Security
		U3 Halt – Extraordinary Events
		U4 Extraordinary Market Condition (EMC)Halt
		U5 Market-wide Circuit Breaker Halt
handlingInstructions	Name / Value Pairs	*Event(s): Order Accepted Event, Order Route Event, Order Modified Event, Order Modify Route Event, Order Restatement Event, Simple Option Order Accepted Event, Complex Option Order Accepted Event, Complex Option Order Modified Event, Stock Leg Order Event, Option Order Modified Event, Stock Leg Modified Event, Option Route Event, Complex Option Route (OCOR), Modify Option Route Event, Options Order Restatement Event*
		The order handling instructions field is a way to provide multiple instruction codes in a somewhat flexible manner. This field will contain zero or more order instruction codes, each separated by a single pipe symbol (ASCII decimal 124, hex 7C). Codes which require a value will include that value immediately after the code Field Name and a single equal sign (ASCII decimal 61, hex 3D).
		All instructions that apply to the order are to be included.
		Allowed Values: Boolean
		presence indicates truth
		AON All or None
		AUC Auction Eligible
		DNR Do Not Route
		FOK Fill or Kill

Field Name	Data Type	Description	
handlingInstructions *(continued)*		**IOC**	Immediate or Cancel
		ISB	Intermarket Sweep Book
		ISO	Intermarket Sweep
		NH	Not Held
		OPG	At the Opening
		PSO	Post Only
		WTP	Wash Trade Prevention
		Note: Some exchanges have special values to indicate handling of ISO orders. All ISO orders must be marked with the boolean ISO value. Thus, if an exchange denotes an ISO order with some custom attribute, it must also be marked with the common ISO value.	
		Allowed Values: Name Value Pairs	
		MIN	Minimum Quantity - requires an Integer value, representing he minimum quantity allowed to be executed in a single transaction (e.g., MIN=1000).
		WD	With Discretion Price - requires a Numeric value, representing the discretion price (e.g, WD=12.50)
		STP	Stop Price - requires a Numeric value representing the stop price (e.g., STP=17.95)
		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.
		XTIME	Expire Time - requires a Time value, representing the time that the order expires. The value must in a valid Timestamp format.
		R2E	Route to Exchange - requires Exchange ID (e.g., R2E=G). The desired route destination is not the party receiving the actual route. The party receiving the route does not have discretion as to where to route the order. It must be routed to a specific exchange.
		R2M	Route to Industry Member - requires Member Alias (e.g., R2E=ABC123). The desired route destination is not the party receiving the actual route. The party receiving the route does not have discretion as to where to route the order. It must be routed to a specific industry member.
		R2O	Route to Other - requires Text(20) (e.g., R2O=Somebody). The desired route destination is not the party receiving the actual route. The party receiving the route does not have discretion as to where to route the order. It must be routed to an entity who is neither an exchange nor an industry member (i.e., the entity does not have a CAT reporting responsibility).
		Allowed Values: Cboe Legacy (C1)	
		active 3/29/2019 – 10/4/2019	
		MIT	Market if touched, becomes a market order if the price is touched. Requires a price value (e.g, MIT=20.53).
		AucResp	A response to an auction, the remainder is canceled at the end of the auction. Requires a integer value representing the auction ID being responded to. (e.g., AucResp=1234).
		Reserve	Reserve, only a portion of the order is displayed. Requires

Field Name	Data Type	Description	
handlingInstructions *(continued)*			an integer value representing quantity. (e.g., Reserve=300).
		PMM	Preferred market maker, requires a text (text, 10) value representing the acronym of the preferred market maker. (e.g., PMM=FRMA)
		AIM	Automated Improvement Mechanism. Requires a choice value (e.g., AIM=AIM) selected from the following list
		AIM	standard AIM
		AIQ	QCC Primary Order
		AIS	Sweep and AIM primary order
		AIR	Re-route if cannot AIM primary order
		ARE	Contra order to AIM. Requires a text (text 20) value representing the primary order ID. (e.g., ARE=AB54321)
		AREOUT	Contra order to AIM where the user can opt out. Requires a text (text 20) value representing the primary order ID. (e.g., ARE=AB54321)
		Designation	Order designation, requires a choice value (e.g., Designation=4) from the following list:
		1	Tied Hedge
		2	SPXCOMBO
		3	Tied Hedge and Cash Spread
		4	SPXCOMBO and Cash Spread
		5	Cash Spread
		UHI	User handling instruction, requires a choice value (e.g., UHI=4) from the following list:
		1	Do Not Auction
		2	Held
		3	Solicited Order
		4	Held and Solicited
		5	Held and no COA
		6	Electronic Only
		7	Electronic Only and Solicited
		8	Electronic Only and no COA
		Allowed Values: Cboe	
		ExecInst	Provides additional values for execution instructions that aren't already present in orderType or other handlingInstructions values. Requires a choice value (e.g., ExecInst=U) from the following list:
		N	No special instructions
		s	sweep
		M	hidden peg to midpoint
		L	alternative midpoint peg to less aggressive midpoint or 1 tick inside of NBBO
		m	midpoint peg no lock hidden peg to midpoint but duck at or beyond limit
		d	displayed peg order with discretion to the midpoint
		g	AllOrNone
		I	midpoint match (EDGX)
		Q	market maker peg order

Field Name	Data Type	Description		
handlingInstructions *(continued)*			v	Dart dark route before outbound
			w	DoNotDart opt of Dart
			x	ImproveOnly Cboe only IOC that only matches better than NBBO
			y	TAISO
			z	DarkScan hit scan fast DLPs first
			t	DarkScanWithoutDart
			r	LateAuction late limit on open/close
			U	route peg order
			u	DartOnly route only to a dark venue
			F	FastDart
			S	SuperDart
			f	ISO
			R	PrimaryPeg
			h	Minimum
			1	Not Held
			P	MarketPeg
			X	MidpointSwapOrder
			e	Midpoint Discretionary Order with Quote Depletion Protection
		AutoMatchLimit	Auto Match any price improvement up to this price on a two-sided auction. Requires a PRICE datatype	
		AutoMatchMkt	Auto Match any price improvement on a two-sided auction. Boolean – true if present	
		LastPriority	The B/D does not want their full entitlement at the final auction price. Boolean – true if present	
		RetailPriority	Retail orders are given priority. Boolean – true if present	
		FloorTraderType	Type of Trader; Choice Field	
			Unspecified	
			PAROfficial	
			PARBroker	
			InCrowdMarketMaker	
		AllowExposure	Expose auction order. Boolean – true if present	
		WorkStationID	Work Station Identifier Name/Value Pair Alphanumeric(4)	
		Reserve	Number of shares of a reserve order to display. Requires an UNSIGNED value	
		ExtExecInst	Requires a choice value from the following list:	
			N	None
			T	Retail Price Improving
			P	Retail Order - Price Improvement Only
			R	Retail Order
			S	Retail Order NoFlagCLC
			X	Retail Priority Order
			Y	Retail Priority Order NoFlagCLC
		MaxRemovePct	The max percentage an order is allowed to remove before booking. Requires an Unsigned (e.g., MaxRemovePct=10)	
		MaxRemovePercent	*The max percentage an order is allowed to remove before booking. Requires an Unsigned (e.g.,*	

Field Name	Data Type	Description
handlingInstructions *(continued)*		*MaxRemovePct=10). Part of back processing only for trade dates 3/29/2019 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.*
		AttributedOrder — Requires a choice value from the following list:
		N None
		Y Attributed
		R Retail
		C AttributedClientIdOnly
		Z AttributedBoth
		DisplayRange — This will be of type Unsigned, and is used for a "random replenishment" reserve order. The reload quantity is randomly selected using Reserve +/- displayRange e.g. Reserve of 1000, displayRange of 200, reload quantity will be randomly selected from 800, 900, 1000, 1100, or 1200.
		Allowed Values: Cboe Equities
		TifMod — Supplemental time-in-force information. Requires a choice value (e.g., TifMod=1) from the following list:
		1 include early and pre-market trading sessions
		2 include pre-market session
		3 include early, pre-, and post-market sessions
		4 include pre-, and post-market sessions
		For session times, see the Hours of Operation section of the *Cboe US Equities Binary Order Entry ("BOE") Specification* and *Cboe US Equities FIX Specification* and documents available at https://www.cboe.com/us/equities/support/technical/.
		Allowed Values: Cboe Options
		TifMod — Supplemental time-in-force information. Requires a choice value (e.g., TifMod=1) from the following list:
		1 include pre-market session
		5 GTH-Eligible (Options only)
		3 *Part of back processing only for trade dates 3/29/2019 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.*
		For session times, see the Hours of Operation section of the *Cboe Options Exchanges Binary Order Entry Specification ("BOE Specification")* and *US Options FIX Specification ("FIX Specification)* documents available at https://www.cboe.com/us/options/support/technical/.
		Allowed Values: BOX
		EP — Requires Member Alias (e.g., EP=910).
		IML — Indicate he Inter Market Linkage Behavior for the order. Requires a choice value from the following list:
		FLASH
		ROUTING
		NONE

Field Name	Data Type	Description		
handlingInstructions *(continued)*			**NBBO**	
			ISO	
			CONTINGENT	
			NOFLASH	
		PT	Indicate BOX Price Term for the order. Requires a choice value from the following list:	
			PIP	
			SOLICITATION	
			FACILITATION	
			CROSS	
			DIRECTED	
			PREF	
			FLOOR	
		OT	Indicate the order type for auction phase. Requires a choice value from the following list:	
			IMPROVE	
			INITO	
			EXPOSED	
			CROSS	
			CONTINGENT	
			MBF	
			GTD	Indicates Date in YYYYMMDD Format
			QT	Requires a choice value from the following list:
			MINIMUM	
			SURRENDER	
			MIP	
			AQ	Indicate the additional quantity when QT is either MINIMUM or SURRENDER. Requires an unsigned integer value (e.g, AQ=1000)
			AP	This will be field of type Price
			AT	Requires a choice value from the following list:
			PIP	
			SOLICITATION	
			FACILITATION	
			CROSS	
			FIXED	
			FLOOR	
		AID	This will contain a "UNSIGNED" number that will allow BOX to track "Auction Phase Number" (e.g., AID=123456)	
		Allowed Values: CHX		
		ExecInst	Requires a choice value (e.g., ExecInst=f) from the following list:	
			5	Held
			E	DNI - Do not increase
			F	DNR - Do not reduce
			K	Cancel on Trading Halt
			X	TALG - Trade Along

Field Name	Data Type	Description
handlingInstructions *(continued)*		**y** Trade At Intermarket Sweep (TAISO)
		q Always Quote
		l Midpoint Cross
		v Stock-Option (for cross order only)
		TradeThruExemptReason Requires a choice value (e.g., TradeThruExemptReason=2) from the following list:
		1 Benchmark
		2 QCT Qualified Contingent Trade
		3 Bonafide Error Indicator
		PriceSliding Requires a choice value (e.g., PriceSliding=L) from the following list:
		L CHX Only – Slide limit price on lock NBBO
		S CHX Only – Slide limit price on lock or cross NBBO
		MatchTradePrevention Requires a choice value (e.g., MatchTradePrevention=N) from the following list:
		I MTP Inactivate
		N MTP Cancel Newest
		O MTP Cancel Oldest
		B MTP Cancel Both
		MTPSublevelInd Requires a choice value (e.g., MTPSublevelInd=1) from the following list:
		[0-9,A-Z,a-z]
		Allowed Values: NYSE Options
		ALO
		AON
		C2C
		Cabinet
		ClearTheBook
		COA Auction Type
		ComplexOnly
		CUBEAUCF
		CUBEAUCPI
		CUBEAUCS
		Flex
		FLEXPCT
		FloorTrade
		FloorTradeNamesLater
		FloorTradeNamesLaterAllocation
		IO Imbalance Offset
		ISO
		NOW
		NR Non-Routable
		ND Non-Displayed
		PNP
		PNP+
		PNPB
		PNPLO

Field Name	Data Type	Description
handlingInstructions *(continued)*		**QCC**
		RoutableIOC
		Stop Requires a Price value (e.g., Stop=42.42)
		StopLimit Requires a Price value (e.g., StopLimit=42.42)
		Allowed Values: NYSE Equities
		355
		945
		945-355
		ALL
		ALO
		AOC
		BrokerConfirm
		CCO
		CCO-PartialFill
		ClosOffset
		CORE
		CORE_LATE
		DIR
		DirectedTo_ATS Boolean value used when an order contains customer instructions to be routed to OneChronos to participate in periodic 'auctions'.
		DLP
		DMP
		DPO
		DPP
		IDO
		ImblOffset
		ISO
		LPEG
		MPEG
		MPL
		NoIOI
		NoMPL
		NoMPL-IOI
		Non-Display
		Non-Routable
		NonRoutableIOC
		PO
		POST
		PPEG
		PRE
		PRE_CORE
		QCT
		Retail
		RoutableIOC
		RPI

Field Name	Data Type	Description
handlingInstructions *(continued)*		**Tracking**
		TradeAtISO
		Allowed Values: NOBO, PHLX, NOM, ISE, GEMX, MRX
		Boolean Values
		PostOnly
		PostOnlyPrice
		WAIT
		AllowFlash
		AllowExposure
		DNR
		DNTT — Do not trade through
		DNA — Do not Auction
		AO — Auction Only
		Name Value Pairs
		DMM — STRING; DMM Name
		PMM — *STRING; PMM Name – Part of back processing only for trade dates 3/29/19 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.*
		DisplayWhen — For reserve orders, requires one of the following
		1 Immediate
		2 onExhaust
		RefreshMax — UNSIGNED; Contracts
		RefreshMin — UNSIGNED; Contracts
		InitDispContracts — UNSIGNED; Contracts [Initial Display Contracts for reserve orders]
		Reserve — *UNSIGNED; Contracts [Initial Display Contracts for reserve orders] – Part of back processing only for trade dates 3/29/19 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.*
		RoutingStrategy — Must be one of the following
		SRCH
		FIND
		SEEK
		RespAuctionId — UNSIGNED; auctionId
		MIN — UNSIGNED; Contracts
		OrderSource — Must be one of the following
		FIX
		OTTO
		SQF
		FBMS_FIX
		FBMS
		PRECISE_FIX
		QUO
		BrokerPct — NUMERIC<3,4>; Percentage
		EffectiveTime — TIME
		StepUpPrice — PRICE

Field Name	Data Type	Description		
handlingInstructions *(continued)*		StepUpPriceType	Must be one of the following	
			1	Market
			2	Limit
		DMA	DMA Name [for route event], where 'DMA Name' can have values from the following list:	
			CITI	
			WEX	
			MLGW	
			GSG	
			GSW	*Part of back processing only for trade dates 3/29/19 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.*
			OTHER	
		DestExch	Dest Exch [for route event], where 'DestExch' can have values from the following list;:	
			11	AMEX
			12	BOXE
			13	CBOE
			14	EDGO
			15	GMNI
			16	ISEX
			17	MCRY
			18	MIAX
			19	NYSE
			20	MPRL
			21	NSDQ
			22	NOBO
			23	CBC2
			24	PHLX
			25	BATS
			26	EMLD
			1	BNY
			2	CHBC
			3	LBKI
			4	FOGS
			OTHER	OTHER
		Allowed Values: ISE, GEMX, and MRX *in addition to values defined above*		
		CrossType	Value must be one of the values from the following list:	
			1	None
			2	Close
			3	Open
			4	PriceImp
			5	QCC
			6	Solicit
			7	Facilit

Field Name	Data Type	Description

handlingInstructions *(continued)*		**8** Flash
		  9 Block
		  10 Exposure
		  11 Cust
		OTHER

		Allowed Values: PHLX, NOM, NOBO *in addition to values defined above*

		CrossType Value must be one of the values from the following list::
		  1 None
		  2 Close
		  3 Open
		  4 Complex
		  5 Open Complex
		  6 Close Complex
		  7 PIXL
		  8 QCC
		  9 SOLICIT
		  10 Complex PIXL
		  11 Complex SOLICIT
		OTHER

		Allowed Values: Nasdaq – NOBO, Mercury *in addition to values defined above*

		CrossType Value must be one of the values from the following list::
		  31 None
		  32 Close
		  33 Open
		  34 PriceImp
		  35 QCC
		  36 Solicit
		  37 Facilit
		  39 Block
		  40 Exposure
		  41 Cust

		RfaId Value must be an integer. (e.g. RfaId=1234)

		RfaInstruction Value must be one of the values from the following list (e.g. RfaInstruction=B)
		  B Booked
		  C Cancel

		Allowed Values: BX, PSX, NSDQ

		ChildCancelReason Value must be one of the values from the following list:
		  1 User Requested Cancel
		  2 Immediate or Cancel order.
		  3 Timeout. The Time In Force for this order has expired

Field Name	Data Type	Description		
handlingInstructions *(continued)*			4	Supervisory.
			5	This order cannot be executed because of a regulatory restriction
			6	Self-Match Prevention.
			7	System cancel.
			8	Cross-canceled. Non-bookable cross orders that did not execute in the cross.
			9	Order canceled due to insufficient quantity
			10	This order cannot be executed because of Market Collars
			11	Halted. The on-open order was canceled because the symbol remained halted after the opening cross-completed.
			13	Closed. Any DAY order that was received after the closing cross is complete in a given symbol will receive this cancel reason.
			15	Administrative cancel
			16	Post Only Cancel. This Post Only order was canceled because it would have been price slid for NMS.
			17	Post Only Cancel. This Post Only order was canceled because it would have been price slid due to a contra side displayed order on the book
			18	Direct Listing with Capital Raise amt exceeded
			19	Open Protection
			20	Discretion
			21	Cross Supervisory
			22	Managed Orders
			23	Cancel On Disconnect
			24	User Modified
			25	Oddlot
			26	User Replaced
			27	User Split
			28	System Downtick
			29	Market Collar
			30	Late Cancel
			31	Quantity Cancel
			32	Forced Cancel
			33	Reject Cancel
			ADMIN	for an administrative cancel
			FEATURE	in the service of a customer-requested feature
			OTHER	
		Display	Value must be one of the values from the following list:	
			1	Attributable-Price to Display
			2	Anonymous-Price to Comply
			3	Non-Display
			4	Post-Only
			5	Imbalance-Only (for opening and closing cross only)

Field Name	Data Type	Description		
handlingInstructions *(continued)*			**6**	Mid-Point
			7	Mid-Point Post Only
			8	Post-Only and Attributable – Price to Display
			9	Retail Order Type 1
			10	Retail Order Type 2
			11	Retail Price Improvement Order
			12	RoundLotOnly
			13	Latent
			14	HiddenFromReserve
			15	Conformant
			OTHER	Other
		DLCR	Direct Listing with Capital Raise	
		DMA	DMA Name [for route event], where 'DMA Name' can have following values:	
			GSET	
			MSCO	
			OTHER	
		EMOC	Extended Market On Close	
		ExecBroker	Value must be one of the values from the following list:	
			BCRT	
			BCST	
			BDRK	
			BMOP	
			BSCN	
			BSKN	
			BSKP	
			BSTG	
			BTFY	
			DOTA	
			DOTD	
			DOTM	
			DOTI	
			MOPP	
			TFTY	
			SCAN	
			SKIP	
			SKNY	
			SAVE	
			QSAV	
			QTFY	
			DOTZ	
			LIST	
			CART	
			SOLV	
			QSLV	
			ESCN	
			MOPB	

Field Name	Data Type	Description		
handlingInstructions *(continued)*			**RFTY**	
			QRTY	
			INET	
			ISAM	
			ISBX	
			ISBY	
			ISBZ	
			ISCX	
			ISIX	
			ISNA	
			ISNX	
			ISNY	
			ISPA	
			ISPX	
			ISCN	
			ISLT	
			PCRT	
			PMOP	
			PSCN	
			PSKN	
			PSKP	
			PSTG	
			PTFY	
			QCST	
			QDRK	
			STGY	
			TFYB	
			TFYX	
			XCST	
			XDRK	
			ALL	
			BNET	
			ISCB	
			ISLF	
			ISMI	
			ISMX	
			ISNQ	
			MIDP	
			QNET	
			SCAR	
			XNET	
			OTHER	
	ExecInst	Value must be one of the values from the following list:		
			1	Midpoint Peg
			2	No Peg
			3	Market Peg
			4	Quoting Peg

Field Name	Data Type	Description
handlingInstructions *(continued)*		**5** Primary Peg
		6 INAV pegging
		7 means Intermarket Sweep Order (ISO)
		8 means Trade-at Intermarket Sweep Order
		9 means Reactive Trade Now
		10 means Reactive Trade Now opt-out
		MELO for a Midpoint ELO order
		RPI for a Retail Price Improvement Program order
		SUPL for a Supplemental order
		RSRV = <Maxfloor>
		XCTBL Value must be one of the values from the following list:
		Y
		N
		Allowed Values: MEMX
		PegO Peg Offset, only on Primary Peg Orders. Requires a value for the offset +x.xx or -x.xx. (e.g. PegO=0.05, PegO=-0.05)
		RML Retail Midpoint Liquidity
		RMO Retail Midpoint Order
		RP Re-Price
		RSV Reserve
		Allowed Values: MIAX PEARL Equities
		RouteOnce Order will route upon arrival if marketable against away quotes and then, depending on time-in-force, will rest on the MIAX PEARL book.
		ReRoutable Order will route upon arrival if marketable against away quotes and then rest on the MIAX PEARL book. If an away market subsequently locks or crosses the order, the order will route again.
		RoutingStrategy Routing strategy. Requires a choice value from the following list (e.g., RoutingStrategy=2):
		2 OrderProtection
		3 PrimaryAuction
		Allowed Values: IEX
		DisplayRange Specifies a quantity range for random replenishment of reserve orders. (e.g. DisplayRange=100)
		Reserve Quantity to display for reserve orders (Max Floor). (e.g. Reserve=500)
ID	Text (20)	*Reference Data: Member Dictionary Entry (MDE), Member Alias Detail Entry (MADE)* The CRD number of the firm.

Field Name	Data Type	Description
initiator	Choice	*Event(s): Order Modified Event, Order Canceled Event, Quote Cancel Event, Option Order Modified Event, Complex Option Order Modified Event, Stock Leg Modified Event, Option Order Canceled Event* Indicates who initiated a cancel or modification request. If an order/quote is implicitly modified or canceled via an unsolicited action (e.g., peg order price change or cancelation due to timeout), then the initiator is the exchange itself. If an order/quote is modified or canceled as a result of an explicit request from the party that sent the order/quote, then the initiator is the firm/market maker that sent the explicit modify/cancel request. Thus, all explicit modify/cancel requests will have an initiator of either Firm or MarketMaker, as appropriate and all implicit, unsolicited modify/cancel actions will have an initiator of Exchange. **Allowed Values** **Firm** **Exchange** **MarketMaker**
intendedMarketCenter	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Intended Market Center. **Allowed Values** **D** ADF
isGloballyUnique	Boolean	*Event(s): Complex Option Accepted (OCOA), Complex Option Route (OCOR), Complex Option Internal Route (OCIR)* Indicates that the orderID is globally unique across all optionIDs for the exchange/date. This means that no other complex order can have the same orderID. Furthermore, leg events for this complex order must be reported with just the complexOrderID and not the complexOptionID.
issueID	Integer	*Event(s): FINRA Halt/Resume (FHR)* Indicates the issue being halted/resumed.
issueSymbolId	Symbol	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Character symbol of the traded issue.
kind	Choice	*Reference Data: Option Series Dictionary Entry (OSDE), Complex Option Dictionary Entry (CODE)* Specifies if an option is a simple, complex, flex, or percentage denominated flex option. For the value FLEXPCT, the strike price and order prices of the option are in percentages. **Allowed Values** **Complex** **Standard** **Non-Standard** **FLEX** **FLEXPCT**
lastUpdateDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date the record was last updated.

Field Name	Data Type	Description
lastUpdateTime	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the record was last updated.
leavesQty	Unsigned	*Event(s): Order Canceled Event, Order Trade Event, Order Fill Event, Order Cancel Route Event, Order Restatement Event, Option Order Canceled Event, Option Cancel Route Event, Option Trade Event, Stock Leg Fill Event, Options Order Restatement Event* The quantity remaining unfilled after the event. The meaning of this field is subjective depending on the event, refer to each individual event definition for more detail.
legType	Choice	*Reference Data: Complex Option Dictionary Entry (CODE)* For a Complex Option Dictionary Entry, this field defines the type of each leg. **Allowed Values** **Equity** **Index** **Option**
liquidityCode	Choice	*Event(s): Order Trade Event, Option Trade Event* Included in the side trade details for options and equity trade events, represents whether a given side was adding or removing liquidity. **Allowed Values** **Added** **Removed** **RoutedOut** **Opening-ReopeningAuction** **ClosingAuction** **CrossOrderExecution** **Other** **Allowed Values: MIAX PEARL Equities** **RoutingOrderProtection** Liquidity protection indicator for routed or away trades. **Allowed Values: NASDAQ – BX, PSX, NSDQ** **AfterHoursClose** **Midpoint-ELO**
lockedCrossOverride Flag	Boolean	*Event(s): Equity Best Bid and Offer (EBBO)* Identifies whether a quote should be considered valid even if it will lock or cross the market. 'True' indicates that the quote is still valid 'False' indicates that the quote is not valid if it locks or crosses.

Field Name	Data Type	Description
lockedInFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Locked-in flag. **Allowed Values** **A** Automatic Give Up (trade report on another firm's behalf) **Q** Qualified Special Representative (trade sent to clearing on another firm's behalf) **Y** Locked-in Trade
lockedInTradeTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the locked-in trade report was received by the reporting facility.
marketCenterId	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Reporting facility to which the trade was reported. **Allowed Values** **C** Nasdaq TRF Chicago **D** ADF **N** NYX-TRF **L** Nasdaq-TRF **O** OTC-TRF (ORF)
marketCenterOriginatorID	Choice	*Event(s): FINRA Halt/Resume (FHR)* Identifies the market center or system that originated the halt/resume action. **Allowed Values** **E** Market Center Independent (Message Generated by Data Feed Handler) **F** OTC Bulletin Board (OTCBB) and Other OTC Security **U** OTC Bulletin Board (OTCBB) **u** Other OTC Security (OOTC)
marketMaker	Member Alias	*Event(s): Quote Event (OQ), Quote Cancel Event* *Reference Data: Market Maker Dictionary Entry (MMDE)* The Member Alias assigned by the SRO as identified in the Member Dictionary Entry (MDE) memberAliases field. In the case where a market maker has multiple users (e.g., acronyms used to differentiate users within the same MM), there would be a separate Member Alias given to each user or sub-account.
marketMakerStatus	Choice	*Reference Data: Market Maker Dictionary Entry (MMDE)* The status of the member/symbol for the reporting date. **Allowed Values** **Active** Market Maker becomes active in the symbol **Inactive** Market Maker has become inactive in the symbol

Field Name	Data Type	Description
marketMakerType	Choice	*Reference Data: Market Maker Dictionary Entry (MMDE)*
		A list of exchange defined values for the Equity Market Maker distinguishing between types or designations of market makers. Below are the common allowed values that are available to all exchanges.
		Allowed Values
		MM Market Maker *(default value)*
		DMM Designated Market Maker
		LMM Lead Market Maker
		SLP Secondary Liquidity Provider
		SLMM Secondary Liquidity Market Maker
mediaReportedFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Identifies if the trade was media reported or not (could differ from the publishIndicatorCode for odd lot trades).
		Allowed Values
		Y Media Reported
		N Not Media Reported
memberAlias	Member Alias	*Reference Data: Member Alias Detail Entry (MADE)*
		The member alias for which the MADE record is being reported.
memberAliases	Array of Member Alias	*Reference Data: Member Dictionary Entry (MDE)*
		A list of member aliases for an SRO member.
messageCategory	Choice	*Event(s): FINRA Halt/Resume (FHR)*
		Identifies the message format, in conjunction with the `haltMessageType`.
		Allowed Values
		A Administrative Messages
		C System Control Messages
		T Trade Related Messages
messageSequenceNumber	Integer	*Event(s): FINRA Halt/Resume (FHR)*
		At the beginning of each operational cycle, this number will be set to 00000000 (for the Start of Day) for each data channel.
messageTimestamp	Timestamp	*Event(s): FINRA Halt/Resume (FHR)*
		The date/time of the corresponding action (halt/resume).
mktMkrSubAccount	Text (20)	*Event(s): Simple Option Order Accepted Event, Option Order Modified Event, Option Trade Event, Option Order Restatement Event, Post Trade Allocation Event*
		The sub-account for the market maker. This is a text field and will be treated as pass through data - not validated.
name	Text	*Reference Data: Member Alias Detail Entry (MADE)*
		The doing-business-as (DBA) name corresponding to the member alias.

Field Name	Data Type	Description
nbbPrice	Price	*Event(s): Order Accepted, Order Route, Order Modified, Order Trade, Order Modify Route, Simple Option Order Accepted, Stock Leg Order, Option Order Modified, Stock Leg Modified, Option Route, Modify Option Route, Simple Option Trade* The national best bid price at the moment the event. 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	Unsigned	*Event(s): Order Accepted, Order Route, Order Modified, Order Trade, Order Modify Route, Simple Option Order Accepted, Stock Leg Order, Option Order Modified, Stock Leg Modified, Option Route, Modify Option Route, Simple Option Trade* The national best bid quantity at the moment the event. 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 info.
nboPrice	Price	*Event(s): Order Accepted, Order Route, Order Modified, Order Trade, Order Modify Route, Simple Option Order Accepted, Stock Leg Order, Option Order Modified, Stock Leg Modified, Option Route, Modify Option Route, Simple Option Trade* The national best offer price at the moment the event. 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	Unsigned	*Event(s): Order Accepted, Order Route, Order Modified, Order Trade, Order Modify Route, Simple Option Order Accepted, Stock Leg Order, Option Order Modified, Stock Leg Modified, Option Route, Modify Option Route, Simple Option Trade* The national best offer quantity at the moment the event. 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.
noLinkControlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Provides a link (via Control Number) to previous No transaction.
note	Text (255)	*Event(s): Note (NOTE)* Free form text provided by the exchange to describe the notation of the event.
noteType	Choice	*Event(s): Note (NOTE)* For a note event, classifies the type of note. **Allowed Values** **MISC** **Allowed Values: BOX** **StateChanged** **Allowed Values: Cboe Legacy (C1) Only** *active 3/29/2019 – 10/4/2019* **CBOE:1** Order Route Event (When an order is routed between

Field Name	Data Type	Description
noteType *(continued)*		internal CBOE systems). The source and destination will indicate more details.
		CBOE:2 Cross Order Route Event
		CBOE:3 Auction Start
		CBOE:4 Auction End
		CBOE:5 PAR_BROKER_USED_MKT_DATA
		CBOE:6 PAR_BROKER_MKT_DATA
		CBOE:7 PAR_BROKER_LEG_MKT
		CBOE:8 PAR_MANUAL_MARKET_DATA
		Allowed Values: Cboe Options
		active beginning on 10/7/2019
		CBOE:1 Order Route Event (When an order is routed between internal CBOE systems). The source and destination will indicate more details.
		CBOE:6 PAR_BROKER_MKT_DATA
		CBOE:7 PAR_BROKER_LEG_MKT
		CBOE:8 PAR_MANUAL_MARKET_DATA
		Allowed Values: NYSE Options
		Floor
		Allowed Values: NYSE Equities
		CrossingSession
noWasLinkNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Link to first No transaction
oeMemoTx	Text (10)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Memo text entered by firm.
onlyOneQuote	Boolean	*Event(s): Quote Event (OQ), Quote Cancel Event* True if the system allows only one quote for the particular market maker; false otherwise.
openCloseIndicator	Choice	*Event(s): Simple Option Order Accepted, Options Modified, Post Trade Allocation, Options Restatement or sideDetail of Option Trade events. (When this field is present in the sideDetails of an options trade event, it is applicable only when the side of the trade is an order)* Indicates the position of the order. **Allowed Values:** **Open** **Close** **Unspecified**
optionID	Text (40)	*Reference Data: Option Series Dictionary Entry (OSDE), Complex Option Dictionary Entry (CODE)* *Event(s): All events for Options Exchanges, Note (NOTE), Supplemental Trade Event (STE), Reject Message Event (RME)* The unique ID assigned to this option by the reporter. None of any two simple/complex/flex options should receive the same ID.

Field Name	Data Type	Description
optionsSymbol	Text (14)	*Reference Data: Option Series Dictionary Entry (OSDE)*
		The option class or symbol for the series (as known by OCC).
orderAttributes	Name/Value Pairs	*Event(s): Order Accepted, Order Modified, Order Restatement, Simple Option Order Accepted, Complex Option Order Accepted, Complex Option Order Modified, Stock Leg Order, Option Order Modified, Complex Order Modified, Stock Leg Modified, Option Order Restatement*
		The order attributes field is a way to provide attributes of an order that are not necessarily the same as handling instructions.
		For example, the rank price of an order, or the participant with the best bid.

Allowed Values

childOrderID	Requires value, e.g. childOrderID = 123456789
FBT	Floor Broker Trade; Boolean value where presence indicates that the event is the result of a Floor Broker Trade. This can be used by an exchange to report an OOA event when a floor trade is executed. Firms are not currently required to report the corresponding event. The result is linkage errors that cannot be repaired. The presence of this flag will exclude the event from linkage feedback and error rate calculation until such time as the corresponding events are required to be submitted by the firm.
NBBPAR	Participant at the best bid - requires a Participant ID, representing the participant at the best bid (e.g, NBBPAR=Par1)
NBOPAR	Participant at the best offer - requires a Participant ID, representing the participant at the best bid (e.g, NBOPAR=Par1)
pairedOrderId	Requires Text(40). In addition to the standard Text data type restrictions, Participants should avoid using the "at symbol," @ (ASCII decimal 64, hex 40). Participant-provided value that that will be present on the OOA, OCOA, OOM and OCOM events that are part of a customer-submitted cross order. The pairedOrderId must uniquely identify the paired orders within the Trade Date and Exchange.
replacedOrderDate	Used when a new order is entered to replace a previously entered erroneous order. Reference to a date of a previously reported order that has a matching orderID. Requires a Date value, e.g. replacedOrderDate =20210930
replacedOrderID	Used when a new order is entered to replace a previously entered erroneous order. Reference to a previously reported order that has a matching orderID. Requires a Text(40) value, e.g. replacedOrderID = 123456789ABC
RNKP	Rank Price - requires a Price value, representing the price used to rank the order in the book (e.g., RNKP=10.25).

Allowed Values: Cboe Legacy (C1) Only
active 3/29/2019 – 10/4/2019

MPID	Market participant ID, requires an alphanumeric(8) value. (e.g., MPID=A12345)
MeetExchangeID	Meet Exchange ID, requires a text(8) value. (e.g., MeetExchangeID=B76543)
Branch	Branch ID, requires a alphanumeric(8) value. (e.g., Branch=ABCD5)

Field Name	Data Type	Description	
orderAttributes *(continued)*		**BranchSeqNbr**	The branch sequence number, requires an integer(10) value. (e.g., BranchSeqNbr=500321)
		CorrespFirm	The corresponding firm, requires an alphanumeric(8) value. (e.g., CorrespFirm=987765B)
		UserID	The user ID. Requires a text(8) value. (e.g., UserID=4321A)
		Extensions	Order Extensions. Requires a text(256) value.
		NBBOProtection	Specifies if the order is NBBO protected. Requires a Boolean value from one of the following choices: true, false. (e.g., NBBOProtection=false).
		Allowed Values: Cboe	
		AckSubLiquidity	This is a subset of the SubLiquidity values. Better prices are offered (in some cases) if an order is at the NBBO. This tells the member on order entry if their order did that. Requires a choice value (e.g., AckSubLiquidity=N) from the following list:
			B Bolt
			G SetterNoSize
			J Joiner
			N Normal
			r Persisted (GTC restatement)
			S Setter
			U Turner
		AddLiquidityOnly	Values used for "Post Only" orders. Requires a choice value (e.g., AddLiquidityOnly=A) from the following list:
			A Add only, don't remove liquidity
			B Bypass removing hidden peg
			R Allow removal
			L don't remove at limit
		AllowPriceSlide	Describes what to do with an order if it locks/crosses with the NBBO. Requires a choice value (e.g., AllowSidePrice=M) from the following list:
			S allow slide and nerf
			R no nerf and no slide
			L allow slide no nerf
			P price adjust
			m multiple price adjust
			M slide nerf unnerf when possible
			H hide not slide
			N don't re-scrape book at limit
			D Slide Price
			E Slide Price but no Nerf
			X Don't Slide Don't Reject
			C Bolt but no Nerf

Field Name	Data Type	Description		
orderAttributes *(continued)*			**K**	Cancel Back
			B	Bolt
		AuctionType	Auction type, used for fee purposes. Requires a choice value (e.g., AuctionType=H) from the following list:	
			O	open
			C	close
			H	halt
			I	IPO
			N	none
			G	GTHOpen
			V	Volatility
			U	ClosingCross
			P	Position Compression Cross (PCC)
			R	Related Futures Cross (RFC)
		BookLiquidity	Signifies whether the order is being added to the book. Requires a choice value from the following list:	
			A	Booked
			R	Not Booked
			X	Routed
			B	Booked Remainder
			Q	Wait
			C	Auction
			P	RemovedPending
		DeltaRefPrice	The value of the underlying as known by the submitter of the order. (Optionally present on a DAC order). Accepts a price value.	
		DeltaValue	The multiplier applied to the difference between the referencePrice and the closing price of the option's underlying value (specified per leg in the case of a complex order). (Optionally present on a DAC order). Accepts a value from -1.0000 to 1.0000.	
		Display	Display. Requires a choice value (e.g., Display=V) from the following list:	
			V	visible
			I	invisible
		Executable	Further describes the status of an order if it is/ is not yet live or executable. Can be updated with a modify event. Requires a choice value (e.g. Executable=W) from the following list:	
			E	order is executable
			P	order is route pending
			W	order in a wait state
			O	open auction MOO/LOO/LLOO + pre-open RHO
			C	close auction MOC/LOC/LLOC
			U	queued
			T	order is stop pending
			S	suspended
			Q	non executable visible quote
			D	pending queued

Field Name	Data Type	Description		
orderAttributes *(continued)*			I	Periodic Auction
			A	Step Up
			b	BAM Auction
			c	COA (Options only - Complex Order Auction - order is not currently executable as auction is not complete)
			q	QCC
			f	FOA – Flex Order Auction
			s	SAMAuction
			u	Closing Cross
			F	Floor
			L	Floor Local
			p	Position Compression Cross (PCC)
			r	Related Futures Cross (RFC)
		MODR	Modify reason, requires a choice value (e.g., MODR=+) from the following list: (Note that in this list the acceptable values are surrounded by quotes because the list contains non alphanumeric values)	
			'P'	peg adjustment
			'C'	Cboe Market Close
			'+'	price was un-slid
			'L'	liquidity flag was changed (resting order routed away or fully delivered)
			'R'	user reduce (no loss of priority)
			'D'	adjustment of discretion price ONLY no loss in priority (midpoint discretionary peg orders)
			'U'	user other
			'-'	an external NBBO change (sip) caused some sort of change in the order
			'^'	Reroute (order lifted from book to reroute)
			'B'	un-bolt OR bolt-expire
			'W'	wash
			'T'	wait order
			'!'	reload of displaySize and loss of priority
			'K'	working price slid back to display price due to another market locking our protected quote
			'S'	stop order
			'A'	order routed away due to ROOC e.g. a few minutes before an open/close/ipo/halt auction
			'E'	sweep SWPA or SWPB order after route plan has been developed
			'@'	Trading At Last
			'X'	Executable Status
			'Y'	Recovery
			'F'	Floor Order
			'2'	Clearing Failure
			'r'	FloorUserCanceled
			'q'	FloorEquityLegMatch
			'p'	Periodic Auction (applicable for Cboe-BYX only)

Field Name	Data Type	Description		
orderAttributes *(continued)*		**PriceType**	Types or Prices. Allowed Values:	
			Unspecified	
			Cabinet	
			SubCabinet	
			CashSpread	
			DeltaAdjust (for Delta Adjust at Close order types)	
		PWASH	Prevent wash, more information about wash prevention. Requires a choice value (e.g., PWASH=P) from the following list:	
			N	do not prevent (none)
			F	prevent same firm match
			C	prevent clearing firm match
			P	prevent port-owner match
		REJA	Reject action, provides further information on action if the order can't be executed on entry. Requires a choice value (e.g., REJA=W) from the following list:	
			O	outbound
			R	reject
			Z	BZX only
			J	BYX only
			N	NASDAQ only
			A	ARCA only
			C	NSX only
			M	CHX only
			X	PHLX only
			K	BEX only
			E	ISE only
			U	AMEX only
			D	EDGA only
			G	EDGX only
			Y	NYSE only
			T	TRACO only
			L	FLOW only
			W	CBSX only
			V	DATA only
			H	CTWO only
			S	NOBX only
			F	MIAX only
			g	GMNI only
			r	Dark Reject
			a	Dark Auto
			x	Dark Self Cross
			P	Periodic
			t	Wait
			p	Primary Only
			b	BXE Only
			c	CXE Only
			q	TRQX Only

Field Name	Data Type	Description		
orderAttributes *(continued)*			**h**	XHFT Only
			l	CboeSelect
			e	PERL Only
			m	MERC Only
			i	IEX Only
			d	EMLD Only
			l	LTSE
		REROUTE	Reroute, specifies whether or not we can reroute an order (route it a second time after it has been booked), if the NBBO goes locked or crossed. Requires a choice value (e.g. REROUTE=N) from the following list:	
			N	none
			L	onLock
			C	onCross
			K	onLockOddLot
		RESTA	Resting action, specifies whether this order will go onto the Cboebook or be routed away to post on somebody else's book. Requires a choice value (e.g., RESTA=I) from the following list:	
			I	Integrated, will rest on the Cboe book (though may not be resting at the point of the OA if it is a routed order, may never rest if it is a routed IOC)
			A	PostAway, will rest on another exchange's book, looking like a routed order that hasn't come back to Cboe
			D	Dark
			E	Expose
			T	Stepup
			F	Floor
		ROUTESTRAT	The route strategy used internally in the Cboe system. Requires a choice value (e.g., ROUTESTRAT=O) from the following list:	
			O	default, let the router select the strategy
			F	failover strategy for use when the router has a NoQuote condition
			L	legacy (emulate the behavior of the old router)
			C	cycle (sequentially route walking depth of book)
			K	dark liquidity scan
			T	toggle (causes the router to cycle through various other strategies on a per-order basis)
			B	ParT (Parallel Top)
			S	ParD (Parallel Depth), exhaust price level before proceeding
			2	Par2D (Parallel Depth including multiple price levels)
			M	Slim (predefined set of markets, DRT and then ALL)
			m	SlimPlus (Slim, but send to BYX before scraping the local book)
			R	Trim, scrape local book on way in (predefined set of markets, DRT, and then another predefined set

Field Name	Data Type	Description		
orderAttributes *(continued)*				of markets)
			r	Trim, but don't scrape local book on way in
			P	Trim2
			p	Trim2, but don't scrape local book on way in
			Q	Trim3
			q	Trim 3, but don't scrape local book on way in
			G	MidPoint routing
			b	SWEEPB (Route to market centers to remove least amount of protected quote shares so order can post. No executions occur is order size too small to completely remove all protected quotes)
			i	Book + IOC/(Day effective 10/21/14) Nasdaq
			t	Book + DRT + IOC/(Day effective 10/17/14) NYSE
			x	Book + IOC/(Day effective 10/17/14) NYSE
			f	Book + IOC LavaFlow
			a	ISO Sweep of all protected markets (similar to CboeParallel T)
			o	ROBB
			c	ROCO
			l	ROUC
			Z	RMPT
			z	IOCM
			u	Dark lit
			W	Lit sweep
			D	Directed
			A	ALLB
			n	CLNK
		RTLM	Route to listing market, specifies whether the order can be routed to the opening auction, the closing auction, or both on the listing exchange. Requires a choice value (e.g., RTLM=O) from the following list:	
			N	none
			O	only on the open
			C	only on the close
			B	both (on the open or close)
			H	Halt
		Allowed Values: Cboe – BYX *in addition to values defined above*		
		CrossTradeFlag	Requires a choice value (e.g., CrossTradeFlag=1) from the following list:	
			1	PeriodicAuctionOnly
			2	PeriodicAuctionEligible
		LockOrderForAuction	Requires a choice value (e.g., lockOrderForAuction=T) from the following list:	
			F	False (Do not lock the order)
			T	True (PeriodicAuctionEligible order is locked for cancel/modify once an action starts)

Field Name	Data Type	Description
orderAttributes *(continued)*		**Allowed Values: BOX**
		ST Requires a choice from the following list:
		InOrderBook
		Executed
		Exposed
		ToOla
		Directed
		CancelPending
		TraderCancelled
		Eliminated
		EliminatedOutOfLimit
		EliminatedByCircuitBreaker
		EliminatedOnDisconnection
		EliminatedByMarketControl
		EliminatedDueToUnpricedLeg
		EliminatedDueToTradingRestriction
		CancelledBySupervisor
		Received
		EliminatedDueToTradeLimitExceeded
		EliminatedDueToTradeActivityLimitExceeded
		EliminatedDueToMaximumNbTriggersLimitExceeded
		EliminatedDueToDrillThroughProtection
		Allowed Values: CHX
		SettlementType Requires a choice value (e.g., SettlementType=0) from the following list:
		0 REG - Regular Way
		1 CASH - Cash
		2 NXT - Next Day
		3 T+2 - Trade Date + 2
		4 T+3 - Trade Date + 3
		5 T+4 - Trade Date + 4
		6 FUT - Future
		7 WI - When and If Issued
		8 SO - Sellers Option
		9 T+5 - Trade Date + 5
		S SLR - Settlement Days
		FutureSettlementDate Requires value (e.g., FutureSettlementDate=YYYYMMDD) when SettlementType is 6 or S. Value is a date in format YYYYMMDD.
		FutureSettlementDays Requires value (e.g., FutureSettlementDays=4) when settlementType is S. Value is an integer. It is the number of settlement days.
		ExpireSeconds Requires value (e.g., ExpireSeconds=3) when timeInForce is GFS. Value is an integer. It is the number seconds for the good-till-seconds order.
		ExpireDate Requires value (e.g., ExpireDate=YYYYMMDD) when timeInForce code is GTD. Value is an integer. It is the

Field Name	Data Type	Description		
orderAttributes *(continued)*			date for the good-till-date order.	
		PegDiff	Requires value (e.g., PegDiff=2) for SNAP Auction market peg order. Value is an integer. It is the number of ticks for the symbol.	
		CancelOnSNAPAuctionFlag	Requires value (e.g., CancelOnSNAPAuctionFlag=Y) for an order.	
			Y	When a SNAP Auction is invoked, the order will not participate in the SNAP Auction
			N	When a SNAP Auction is invoked, the order will participate in the SNAP Auction
		SNAPMinExecRequiredFlag	Requires value (e.g., SNAPMinExecRequiredFlag=Y) for a SNAP Auction order.	
			Y	Minimum SNAP Auction threshold required
			N	Minimum SNAP Auction threshold not required
		SNAPConvertToAOOFlag	Requires value (e.g., SNAPConvertToAOOFlag=Y) for a SNAP Auction order.	
			Y	Convert to SNAP Auction Only Order if a SNAP Auction has already started by another order.
			N	Cancel Order if a SNAP Auction has already started by another order.
		SNAPAOOOneAndDoneFlag	Requires value (e.g., SNAPAOOOneAndDoneFlag=Y) for a SNAP Auction order.	
			Y	SNAP Auction Only Order will only participate in one SNAP Auction, then it will be canceled.
			N	SNAP Auction Only Order will participate in every SNAP Auction.
		CreationTimestamp	Requires value when the eventTimestamp is different from the creation timestamp. (e.g., CreationTimestamp=20180415T143055.123456789)	
		SNAPAuctionOrder	Requires a choice value (e.g., SNAPAuctionOrder=s) from the following list:	
			s	SNAP Auction Order. Order used to potentially initiate a SNAP Auction.
		Allowed Values: NYSE Options		
		BOLD		
		ClearTheBook	Requires value (e.g. ClearTheBook=281474976714831)	
		Covered		
		Exposed		
		PackageLinkID	Value is provided when PackageLinkID is not null. Requires value (e.g. PackageLinkID=<value>)	
		ProactiveIns		
		Reserve		
		STP		
		STP-C	STP - Cancel Both	
		STP-D	STP - Cancel Decrement	
		STP-N	STP - Cancel Newest	
		STP-O	STP - Cancel Oldest	

Field Name	Data Type	Description
orderAttributes *(continued)*		**Allowed Values: NYSE ARCAOP** *ONLY*
		PublishQuantity — Value is provided when published qty MaxFloor is > 0. Requires value (e.g.PublishQuantity=100)
		Allowed Values: NYSE Equities
		72DCross
		BOrder
		BrokerOrder
		CROWD
		DMM-Manual
		dOrderAucPrice — Requires value, e.g. dOrderAucPrice = 100
		MMID — Requires value, e.g.: MMID=CSLM
		ProactiveIns
		QOrder
		Reserve — Requires value, e.g. Reserve = 100
		RMO
		SOrder
		STP
		STP-C
		STP-D
		STP-N
		STP-O
		YGOrder
		SelfTrade — Part of back processing only for trade dates 3/29/2019 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.
		MinQty — Requires Unsigned value (e.g., MinQty=1000)
		MFS — <MinQty>; Requires Unsigned value (e.g., MFS=1000)
		PriceOffset — <Price_offset>; Requires Price value (e.g., PriceOffset=0.01)
		MinTriggerSize — <OppSideMinSizeTriggerValue>; Requires Unsigned value (e.g., MinTriggerSize=1000)
		MinPegSize — <MinPegSize>; Requires Unsigned value (e.g., MinPegSize=1000)
		MaxDiscVol — <MaxDiscVol>; Requires Unsigned value (e.g., MaxDiscVol=1000)
		CeilingFloorPrice — <Peg_Price> ; Requires Price value (e.g., CeilingFloorPrice=0.01)
		DiscPriceRange — <disc_price_range>; Requires Price value (e.g., DiscPriceRange=0.01)
		TypeOfInterest — Requires a choicevalue from the following list:
		DOTR **CO** **EQAA** **EQBB** **EQDA** **EQDB**

Field Name	Data Type	Description
orderAttributes *(continued)*		**EQGA** **RQGB** **SQAA** **SQBB** **SQDA** **SQDB** **DSQCC** **SQDC**

Allowed Values: IEX		
RoutingStrategy		Allowed values from the following list:
	u	Router
	s	Router Basic
MinQtyInstruction		Allowed values from the following list:
	C	Composite
	M	Minimum Execution Size with Cancel Remaining
	A	Minimum Execution Size with AON Remaining
AntiInternalizationGroupId		Used for wash trade prevention. Allowed any two alphanumeric characters or the two-character string "--". [A-Za-z0-9][A-Za-z0-9] Depending upon the value used, these will be used to identify orders which have elected to not trade with identically marked orders from the same firm. The lower case and upper case characters are two distinct values. For example, "a1" and "A1" will be two distinct values. "--" Represents free to trade with anyone.
AIQ		(Anti-Internalization Qualifier) Allowed Values from the following list:
	CO	Cancel Older order (existing value)
	CN	Cancel Newest Order
	CB	Cancel Both Orders
	CS	Cancel Smallest Orders
	DL	Decrement Larger Order
PegDifference		Accepts a Price value.

Allowed Values: NASDAQ – NOBO, PHLX, NOM, ISE, GEMX, MRX	
Persist	Boolean
PrimarySide	Boolean
PrivateReference	Text<20>
BrokerText	Text<6>
BranchSeqNum	Text<20>
Text	Text<64>
FloorBrk	Text<6>
Tag1AcctId	Text<32>
tag1AcctId	Text<32> - Part of back processing only for trade dates 3/29/2019 to 6/21/19. This value was accepted between the processing dates of 7/26/19 to 8/30/19.
CrossClOrderId	Text<64>
CrossOrderId	Text<64>

Field Name	Data Type	Description		
orderAttributes *(continued)*		**StortSaleInd**	Value must be on of the following	
			1	SHORT SALE
			2	SHORT SALE EXEMPT
		StockCapacity	Value must be one of the following	
			1	Agent
			2	Principal
			3	Riskless Principal
		Allowed Values: NASDAQ – BX, PSX, NSDQ		
		AIQ	Anti-Internalization Flag; Value must be one of the following:	
			B	Cancel Both
			D	DecrementBoth
			N	Disabled
			O	Cancel Oldest
			W	Cancel Newest
			Y	DecrementBothNoDetails
		AIQGroupID	Order Identifier used to prevent two orders with the same identifier from executing against each other. Value must be 2-character alphanumeric.	
		CrossType	Value must be one of the following	
			0	None
			1	Open
			2	Halt
			3	Close
			4	Pause
			5	Supplemental
			6	Retail
			7	ELO
			8	After-Hours
		CustomerType	Value must be one of the following	
			1	Retail Designated
			2	Non Retail Designated
		LULDFLAG	Value must be one of the following	
			C	LULD Closing Cross Order
			I	LULD Reprices *(note that this is a lowercase "L")*
			L	LULD
		OriginalChildOrderID = <ORDERID>		
		PEGOFFSET	Peg offset; Requires a Price value. (Ie. PEGOFFSET=0.01, PEGOFFSET=-0.001)	
		Allowed Values: LTSE		
		AntiInternalizationGroupId	Used for wash trade prevention. Allowed any two alphanumeric characters or the two-character string "--". Depending upon the value used, these will be used to identify orders which have elected to not trade with identically marked orders from the same firm. The alphanumeric characters are distinct values. "--" represents free to trade with anyone.	

Field Name	Data Type	Description	
orderAttributes *(continued)*			
		Allowed Values: MEMX	
		R	Boolean; Presence indicates that an order is designated as a Retail Order.
		RDM	Reserve Display Method
		1	Initial
		3	Randomized by Size (e.g. RDM=3)
		RRT	Reserve Replenishment Time - Replenishment time:
		1	Immediate
		2	Random (e.g. RRT=1)
		RPF	RePrice Frequency:
		0	Single Reprice
		2	Continuous (e.g. RPF=0)
		RBH	Reprice Behavior:
		1	RepriceLockCancelCross
		2	RepriceLockREpriceCross (e.g. RBH=1)
		STP	Self Trade Prevention; Requires a choice value (e.g., STP=0) from the following list:
		0	CancelNewest
		1	CancelOldest
		2	DecrementAndCancel
		3	CancelBoth
		4	CancelSmallest
		Allowed Values: MIAX PEARL Equities	
		STP	Self Trade Protection; Requires a choice value (e.g., STP=1) from the following list:
		1	N/A
		2	STP Cancel Newest
		3	STP Cancel Oldest
		4	STP Cancel Both
		5	STP Decrement and Cancel
		Display	Requires a choice value (e.g., Display =1) from the following list:
		1	All or part of the order can be displayed
		0	The order can never be displayed
		PriceSlide	Requires a choice value (e.g., PriceSlide =2) from the following list:
		1	N/A
		2	NoPriceSliding
		3	Once
		4	OnceButCancelIfCrossedAtEntry
		5	MultipleTimes
		Attributable	Requires a choice value (e.g., Attributable=3) from the following list:
		1	NotAttributable
		2	AttributedToFirmMpid
		3	AttributedToRetail

Field Name	Data Type	Description
orderID	Text (40)	*Event(s): Order Accepted, Route, Modified, Canceled, Trade (sideDetails), Fill, Cancel Route, Modify Route and Restatement events, Simple Option Order Accepted, Complex Option Order Accepted, Stock Leg Order, Option Route, Complex Option Route (OCOR), Option Order Modified, Complex Option Order Modified, Option Order Canceled, Modify Option Route, Option Cancel Route, Simple Option Trade, Stock Leg Fill, Option Order Restatement and Options Post Trade Allocation events, Note (NOTE)*
		The internal order ID assigned to the order by the exchange.
orderType	Choice	*Event(s): Order Accepted, Order Routed, Order Modified, Order Restatement, Order Modify Route, Simple Option Order Accepted, Complex Option Order Accepted, Stock Leg Order, Option Order Modified, Complex Option Order Modified, Option Route, Option Order Restatement, Modify Option Route events*
		The order type defines the type of order being placed, and must be exactly one of the permitted values. Some values are exchange specific. This document details the technical specifications for what is reported in this field, not necessarily how to determine what value to be included in each report. See the CAT website for exchange-specific guidance on how to determine which values to use for reporting specific orders.
		Note: An asterisk (*) indicates that the value represents a Limit Order.
		Allowed Values:
		AMPEG Alt Midpoint Peg - pegs to less aggressive of midpoint or 1 tick inside the NBBO
		CAB Cabinet
		LMT Limit*
		LOB Limit or Better*
		LOC Limit on Close*
		LOO Limit on Open*
		MIT Market If Touched
		MKT Market
		MOC Market on Close
		MOO Market on Open
		MDPEG Midpoint Discretionary Peg - a primary peg, but has discretion to the midpoint of the NBBO
		MPEG Midpoint Peg
		MMPEG Market Maker Peg - will peg at 8%, 20%, or 28% of the NBBO depending on symbol and time of day (follows the LULD bands). Designed to allow MMs to satisfy their quoting obligations without stub orders
		PPEG Primary Peg
		RPEG Market Peg
		RTPEG Route Peg - Non-displayed primary peg order that only interacts with orders that are about to be routed out with size <= peg order size
		SOL Solicitation
		STL Stop Limit*
		STP Stop

Field Name	Data Type	Description
orderType *(continued)*		**Allowed Values: NYSE Options**
		AutoMatch
		LimitCross *
		Allowed Values: NYSE Equities
		LDPEG
		LimitCross *
		Peg
		Allowed Values: IEX
		CDPEG CorporateDiscretionary; discretionary Peg marked as corporate buyback (10b-18).
		DLMT Discretionary Limit*
		DPEG Discretionary Peg
		OPEG Offset Peg
		RDPEG RetailDiscretionary; discretionary Peg marked as retail order.
		RLP RetailLiquidityDiscretionary; discretionary Peg marked as retail liquidity provider.
		RLPM RetailLiquidityMidpoint
		RMPEG RetailMidpoint; midpoint Peg marked as retail order.
		Allowed Values: MIAX PEARL Equities
		MidPointPegAvailWhenLocked Order is available to trade when the market is locked
		MidPointPegUnavailWhenLocked Order is not available to trade when the market is locked
		PrimaryPegAvailWhenLocked Primary PEG order is available to trade when the market is locked.
		PrimaryPegUnavailWhenLocked Primary PEG order is <u>not</u> available to trade when the market is locked.
originalAskQuoteID	Text (40)	*Event(s): Option Quote (OQ)* <mark>NEED DESCRIPTION</mark>
originalModifierCode	Text (4)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Four-byte trade modifier as entered by the firm.
originalOrderDate	Date	*Event(s): Order Restatement, Option Order Restatement* This field represents the most recent trading day for which the order was active. Note that this may not be the date when the order was originally accepted. If the order has been active for multiple trading days, this field must reference the most recent trading day when the order was active.
originalOrderID	Text (40)	*Event(s): Order Modified, Order Restatement, Option Order Modified Event, Complex Option Order Modified Event, Stock Leg Modified, Option Order Restatement* The most recent internal order ID before the modify / replacement created a new order ID.
originalQuoteID	Text (40)	*Event(s): Quote Event (OQ)* The most recent quoteID of the existing quote before being updated or replaced.

Field Name	Data Type	Description
Participant ID	Text (40)	Valid Participant ID values. Note that participants will use their Participant ID as their Reporter ID.
		Allowed Values
		BZX Cboe BZX Equities
		BZXOP Cboe BZX Options
		BYX Cboe BYX Exchange
		BOX BOX Options Exchange
		C2 Cboe C2 Options
		CBOE Cboe Exchange
		CHX NYSE CHX
		EDGA Cboe EDGA Exchange
		EDGX Cboe EDGX Equities
		EDGXOP Cboe EDGX Options
		FINRA Financial Industry Regulatory Authority
		GEMX Nasdaq GEMX
		MRX Nasdaq MRX
		ISE Nasdaq ISE
		IEX Investor's Exchange
		MIAMI Miami International Securities Exchange
		PEARL MIAX PEARL
		EMLD MIAX Emerald
		BX Nasdaq BX Equities
		NOBO Nasdaq BX Options
		PHLX Nasdaq PHLX Options
		PSX Nasdaq PHLX Equities
		NSDQ The NASDAQ Stock Market
		NOM Nasdaq Options Market
		NSX NYSE National
		NYSE The New York Stock Exchange
		AMEROP NYSE American Options
		AMER NYSE American
		ARCAOP NYSE ARCA Options
		ARCA NYSE ARCA Equities
		LTSE Long Term Stock Exchange
		PEARLEQ MIAX PEARL Equities
		BSTX Boston Security Token Exchange
		MEMX Members Exchange
positionTransferFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Special processing flag indicating that the transaction is for internal FINRA use only and should not be disseminated.
		Allowed Values
		3 Section 3 Fees
		A Audit Trail Only
		N None
		P Position Transfer

Field Name	Data Type	Description
previousTradeFinraContraControlDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Date of the previous trade in a chain of corrections on the contra side trade report.
previousTradeFinraContraControlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Number of the previous trade in a chain of corrections on the contra side trade report.
previousTradeFinraControlDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* FINRA Control Date of the previous version of the trade.
previousTradeFinraControlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* FINRA Control Number of the previous version of the trade.
priceOverrideCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Identifies if a price validation test was overridden when the trade was entered into ACT. (When trades are entered into ACT, they are validated for reasonableness against a Price Validation Table. The Price Override widens the validation range). **Allowed Values** **O** Subscriber Override* **V** Supervisory Contract Override **X** Supervisory Override *(default) Value set by the ACT System for all CQS Issues if not "X" or "V"
price	Price	*Event(s): Order Accepted, Route, Modified, Modify Route or Restatement events, Simple Option Order Accepted, Complex Option Order Accepted, Stock Leg Order, Option Order Modified, Complex Option Order Modified, Option Route, Complex Option Route (OCOR), Modify Option Route, Option Order Restatement* The limit price of the order. For a complex option, this is the net price of the order, which can be either positive, negative, or zero. Event(s): Order Trade, Order Fill, Trade Break, Trade Correction Trade/fill price of the trade/fill. Event(s): Post Trade Allocation The price of the allocation.
primaryDeliverable	Symbol	*Reference Data: Option Series Dictionary Entry (OSDE)* The symbol for the primary deliverable component of the option, in the symbology of the listing exchange for that symbol. Alternatively, if a symbol dictionary is provided, a valid alias could be used.
publishIndicatorCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Identifies if the trade is media reportable or not (could differ from the mediaReportedFlag for odd lot trades). **Allowed Values** **Y** Media Report Eligible **N** Not Media Report Eligible

Field Name	Data Type	Description
putCall	Choice	*Reference Data: Option Series Dictionary Entry (OSDE)*
		Specifies if this simple option or option leg is a put or call.
		Allowed Values
		Put
		Call
quantity	Unsigned	*Event(s): Order Accepted, Route, Modified, Canceled, Trade, Fill, Modify Route, Order Restatement events; Simple Option Order Accepted, Complex Option Order Accepted, Stock Leg Order, Option Order Modified, Complex Option Order Modified, Stock Leg Modified, Option Route, Complex Option Route (OCOR), Option Order Canceled, Simple Option Trade, Stock Leg Fill, Modify Option Route, Option Order Restatement events*
		The quantity of the order.
quoteCondition	Text (8)	*Event(s): Equity Best Bid and Offer Event (EBBO)*
		Indicator used to determine whether a quote is eligible to participate in the NBBO.
quoteID	Text (40)	*Event(s): Note (NOTE), Equity Best Bid and Offer Event (EBBO), Options Quote, Quote Cancel, and Options Trade (sideDetails) events*
		The ID assigned to this quote by the exchange to uniquely identify the quote.
		For two-sided quote reporting where each side has its own quote ID, this will be the buy side quote ID.
quoteInstructions	Name/Value Pairs	*Event(s): Equite Best Bid and Offer Event (EBBO)*
		Represents any additional instructions or attributes for the quote.
		Allowed Values
		Codes to be provided.
ratio	Unsigned	*Reference Data: Complex Option Dictionary Entry (CODE)*
		The ratio quantity of a complex option leg, relative to other legs. Ratios must already be reduced to the smallest units possible.
reason	Text (255)	*Event(s): Trade Break, Trade Correction, Option Trade Break, Option Trade Correction, Post Trade Allocation*
		Free format text field, with reason for the trade break or correction.
recordLoadDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Date the record was created.
recordUniqueIdentifier	Text (31)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		FINRA-assigned unique identifier for each Reported Trade record.
referenceNumber	Text (20)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		User-defined trade reference number.
referenceReportingFacility	Text (6)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Reference Reporting Facility.
rejectContext	Name/Value Pairs	*Event(s): Reject Message Event (RME)*
		A list of key/value pairs, providing machine parseable data for the notation. The attributes are not defined in the spec, and can be any values as long as they conform to the format for a list of name/value pairs.
		Any additional information can be provided in this field. For example, the entire rejected message in Tag=Value format.
rejectReason	Choice	*Event(s): Reject Message Event (RME)*

Field Name	Data Type	Description
rejectReason *(continued)*		Code representing the reason why the order was rejected. Codes are exchange-specific.
		The following values will be effective in the Production environment on December 5, 2022, in conjunction with the availability of the Reject Message Event.
		Allowed Values: BOX
		Syntax
		Technical
		Business
		Regulation
		Unknown
		Allowed Values: CBOE
		D Duplicate ID
		G Ran out of liquidity to execute against
		H Halted
		I Tried to send order to DR site
		J Too late to cancel
		K Exceeded Order Rate Threshold
		L Order would lock or Cross NBBO
		M Exceeded Client Specified Maximum Order Size
		N Ran out of liquidity to execute against
		O Supplied Order ID doesnt match a known order
		P Cant modify an order that is routed away
		Q Waiting for first trade before allowing executions
		R Route unavailable
		S Short price violation
		T Order would have caused a trade through violation
		V Execution would cause a Wash Trade
		W AddLiquidityOnly Order would have removed liquidity
		X Order Expired
		Y Symbol not supported
		c Only Closing transactions for this symbol allowed
		d Order Entry disallowed
		g No odd lot IPOs
		o Exceeded maximum open orders permitted
		q Quote Unavailable
		u Tried to rest through LULD bands
		w AddLiquidityOnly Order tried to unslide but would have resulted in removing liquidity
		x Crossed Market Protection
		z Session End
		Allowed Values: IEX
		BrokerCredit
		BrokerOption
		DuplicateOrder

Field Name	Data Type	Description
rejectReason *(continued)*		EntryTimeIsNotToday
		ExceededMaxNotionalPerOrder
		ExceededMaxSharesPerOrder
		ExchangeClosed
		InvalidAIQGroup
		InvalidAuctionOrder
		InvalidDisplayRange
		InvalidExecInst
		InvalidGoodTillTimeOrder
		InvalidMaxFloor
		InvalidMinQtyInstruction
		InvalidOrderQty
		InvalidPegDifference
		InvalidPrice
		InvalidTagCombinationForAIQ
		InvalidTagCombinationForCorporateDiscretionary
		InvalidTagCombinationForDirected
		InvalidTagCombinationForDiscretionaryLimit
		InvalidTagCombinationForDiscretionaryPeg
		InvalidTagCombinationForFOK
		InvalidTagCombinationForIOC
		InvalidTagCombinationForISO
		InvalidTagCombinationForMarketMakerPeg
		InvalidTagCombinationForMarketOrder
		InvalidTagCombinationForMarketPeg
		InvalidTagCombinationForMidpointPeg
		InvalidTagCombinationForMinQty
		InvalidTagCombinationForOffsetPeg
		InvalidTagCombinationForPeggedOrder
		InvalidTagCombinationForPrimaryPeg
		InvalidTagCombinationOrSessionForOrder
		InvalidTargetForRouteDirected
		ISONotAllowed
		MarketOrdersNotAllowed
		MissingLocate
		MPIDUnknownOrDisabled
		NoLiveOrderFound
		OnlyTestSymbolsAllowed
		OrderAlreadyInPendingStatus
		OrderExceedsLimit
		OrderHasNotChanged
		OrderInvalidInCurrentMarketSession
		OrderInvalidInPreMarketSession
		OrderLockedIn
		OrderParametersDoNotMatch
		PostMarketNotAllowed
		PreMarketNotAllowed

Field Name	Data Type	Description
rejectReason *(continued)*		RecoveryInProgress
		RetailOrdersNotAllowed
		RouteDirectedNotAllowed
		SymbolHalted
		SymbolNotActive
		SystemError
		TooLateToCancel
		TooLateToEnter
		UnexpectedExpireTime
		UnknownBroker
		UnknownSymbol
		UnsupportedAmendment
		UnsupportedOrderParameters
		Allowed Values: LTSE
		Allowed Values: MEMX
		1 InvalidSymbol
		2 ExchangeClosed
		3 OrderExceedsLimit
		6 DuplicateOrder
		18 InvalidPriceIncrement
		19 NoNBBOAvailable
		20 NotionalValueExceedsThreshold
		22 BlockSellShortRiskRuleViolated
		23 HardToBorrowSecurityRiskRuleViolated
		27 MaxNotionalValuePerOrderRiskRuleViolated
		99 Other
		100 MissingSymbol
		101 MissingLocateReqd
		102 InvalidLocateReqd
		103 MissingClOrdId
		104 InvalidClOrdId
		105 MissingSide
		106 InvalidSide
		107 MissingOrderQty
		108 InvalidOrderQty
		109 MissingOrderType
		110 InvalidOrderType
		111 MissingTimeInForce
		112 InvalidTimeInForce
		113 MissingOrderCapacity
		114 InvalidCapacity
		115 MissingExecInst
		116 MissingLimitPrice

Field Name	Data Type	Description	
rejectReason *(continued)*		**117**	InvalidLimitPrice
		118	MissingMaxFloor
		119	InvalidMaxFloor
		120	MissingReserveReplenishAmountType
		121	InvalidReserveReplenishAmountType
		122	MissingReserveReplenishTimeType
		123	InvalidReserveReplenishTimeType
		124	MissingRandomReplenishmentValue
		125	InvalidRandomReplenishmentValue
		126	InvalidRandomReplenishValueForReserveType
		127	MissingRepriceFrequencyType
		128	InvalidRepriceFrequencyType
		129	MissingRepriceBehaviorType
		130	InvalidRepriceBehaviorType
		131	InvalidRepriceBehaviorForRepriceFrequency
		132	MissingCustomerCapacityType
		133	InvalidCustomerCapacityType
		134	MissingExpireTime
		135	InvalidExpireTime
		136	MissingPegType
		137	InvalidPegType
		138	InvalidModifierForOrderType
		139	InvalidModifiersCombination
		140	InvalidTradingSessionForOrderType
		141	InvalidTimeInForceForOrderType
		142	InvalidModifierForPegType
		143	InvalidMinQty
		144	InvalidExecInst
		145	InvalidMpid
		146	SymbolHaltedOrPaused
		147	BlockISORiskRuleViolated
		148	BlockSessionRiskRuleViolated
		149	BlockNonTestSymbolsRiskRuleViolated
		150	MaxSharesPerOrderRiskRuleBreach
		151	PricePercentCollarRiskRuleViolated
		152	PriceValueCollarRiskRuleViolated
		153	MaxADVPercentPerOrderRiskRuleBreach
		154	DailyGrossNotionalExposureRiskRuleBreach
		155	DailyNetNotionalExposureRiskRuleBreach
		156	MaxNumDuplicateOrdersRiskRuleBreach
		157	MaxOrderRateRiskRuleBreach
		158	RestrictedSecurityRiskRuleViolated
		159	InvalidSelfTradePreventionConfiguration
		160	InvalidSelfTradePreventionType
		161	InvalidRiskGroupId
		162	FirmDisabled
		163	MPIDDisabled

Field Name	Data Type	Description	
rejectReason *(continued)*		**164**	AccountDisabled
		165	CannotTradeNonTestSymbol
		166	MissingFirm
		167	MissingAccount
		168	MissingMPID
		169	MissingRiskGroup
		170	DailyMarketOrderGrossNotionalExposureRiskRuleBreach
		171	DailyMarketOrderNetNotionalExposureRiskRuleBreach
		172	MissingDispMethodType
		173	MissingFirmRiskSetting
		174	InvalidAccountMPIDToFirm
		175	InvalidPegOffsetValue
		176	InvalidDispMethodType
		177	MissingCancelGroupId
		178	InvalidCancelGroupId
		179	MissingSTPGroupId
		180	InvalidSTPGroupId
		181	InvalidLnkId
		Allowed Values: MIAX Emerald Option	
		EMLD_ERR_0001	InvalidRequest
		EMLD_ERR_0002	UndefinedError
		EMLD_ERR_0003	NotPermitted
		EMLD_ERR_0004	InvalidAction
		EMLD_ERR_0005	InvalidForMpid
		EMLD_ERR_0006	InvalidEnumValue
		EMLD_ERR_0007	InvalidState
		EMLD_ERR_1000	InvalidUnderlying
		EMLD_ERR_1001	InvalidProduct
		EMLD_ERR_1002	InvalidTimeInForce
		EMLD_ERR_1003	TimeInForceConflict
		EMLD_ERR_1004	IncompatibleTifIso
		EMLD_ERR_1005	InvalidSize
		EMLD_ERR_1006	InvalidOpenClose
		EMLD_ERR_1007	InvalidSide
		EMLD_ERR_1008	InvalidPrice
		EMLD_ERR_1009	InvalidOrdType
		EMLD_ERR_1010	IncompatibleOrdTypeTIF
		EMLD_ERR_1011	IncompatibleOrdTypeISO
		EMLD_ERR_1012	InvalidAwayMarketRoutingPolicy
		EMLD_ERR_1013	InvalidClearingAccount
		EMLD_ERR_1014	InvalidMinSize
		EMLD_ERR_1015	InvalidLiquidityType
		EMLD_ERR_1016	InvalidQuoteType
		EMLD_ERR_1017	InvalidOrderQty
		EMLD_ERR_1018	InvalidParticipantType
		EMLD_ERR_1019	InvalidCoveredOrUncovered

Field Name	Data Type	Description	
rejectReason *(continued)*		**EMLD_ERR_1020**	InvalidClOrdID
		EMLD_ERR_1021	InvalidOrigClOrdID
		EMLD_ERR_1022	InvalidWait
		EMLD_ERR_1023	InvalidForAssignedMM
		EMLD_ERR_1024	InvalidToChange
		EMLD_ERR_1025	InvalidDFCStatus
		EMLD_ERR_1026	NotInLOW
		EMLD_ERR_1027	InvalidWhenRouting
		EMLD_ERR_1028	InvalidOrderState
		EMLD_ERR_1029	DuplicateClOrdID
		EMLD_ERR_1030	DuplicateOrderID
		EMLD_ERR_1031	DuplicateClientMessageID
		EMLD_ERR_1032	InvalidTargetMessageID
		EMLD_ERR_1033	UnknownOrder
		EMLD_ERR_1034	UnknownMpid
		EMLD_ERR_1035	InvalidMpid
		EMLD_ERR_1036	InvalidFirmCode
		EMLD_ERR_1037	QuoteOutsideAcceptanceWindow
		EMLD_ERR_1038	NoSuchEvent
		EMLD_ERR_1039	RestrictedToClosing
		EMLD_ERR_1040	NonTradeable
		EMLD_ERR_1041	MMNotRegisteredForUnderlying
		EMLD_ERR_1042	InvalidTifAocWhenOptionIsNotInAuction
		EMLD_ERR_1043	InvalidTifOpgWhenOptionIsNotInOpening
		EMLD_ERR_1044	InvalidTifIocWhenOptionIsNotTrading
		EMLD_ERR_1045	InvalidTifFokWhenOptionIsNotTrading
		EMLD_ERR_1046	SystemClosedForTrading
		EMLD_ERR_1047	InvalidISOWhenOptionIsOpening
		EMLD_ERR_1048	NotPermittedPrice
		EMLD_ERR_1049	NotPermittedSide
		EMLD_ERR_1050	Accepted
		EMLD_ERR_1051	PreLQW
		EMLD_ERR_1052	InvalidDFC
		EMLD_ERR_1053	WrongCloud
		EMLD_ERR_1054	TooLateToCancel
		EMLD_ERR_1055	InvalidCancel
		EMLD_ERR_1056	MomTooWideForMarket
		EMLD_ERR_1057	MomLimitTooInferior
		EMLD_ERR_1058	InvalidOrderID
		EMLD_ERR_1059	InvalidMarketOrderForLuldUnderlying
		EMLD_ERR_1060	InvalidAttributableIndicator
		EMLD_ERR_1061	InvalidMvpTicks
		EMLD_ERR_1062	InvalidCancelOnDisconnect
		EMLD_ERR_1063	InvalidOrderClass
		EMLD_ERR_1064	InvalidPrimeRole
		EMLD_ERR_1065	InvalidPrimeStrategy
		EMLD_ERR_1066	InvalidNumContraItems

Field Name	Data Type	Description	
rejectReason *(continued)*		**EMLD_ERR_1067**	InvalidPairedOriginValue
		EMLD_ERR_1068	InvalidAllocID
		EMLD_ERR_1069	InvalidAutoMatchOrdType
		EMLD_ERR_1070	InvalidAutoMatchPrice
		EMLD_ERR_1071	InvalidLastAction
		EMLD_ERR_1072	InvalidIndirectCancel
		EMLD_ERR_1073	WideMarket
		EMLD_ERR_1074	InvalidWhenPostOnlyOrdType
		EMLD_ERR_1075	InvalidWhenPostOnlyTif
		EMLD_ERR_1100	PairedPrimeFunctionalityIsSuspended
		EMLD_ERR_1101	CustomerCrossPrimeFunctionalityIsSuspended
		EMLD_ERR_1102	OptionIsNotInFreeTrading
		EMLD_ERR_1103	OptionIsAboutToCloseTrading
		EMLD_ERR_1104	LockedOrCrossedNbbo
		EMLD_ERR_1105	CrossedNbbo
		EMLD_ERR_1106	AuctionPriceDoesntImproveNbboOnContraSide
		EMLD_ERR_1107	ManagedInterestOnAgencyOrderSide
		EMLD_ERR_1108	ManagedInterestOnAtLeastOneSideOfMbbo
		EMLD_ERR_1110	PriceLocksMbboWithPriorityCustomerInterest
		EMLD_ERR_1111	PriceLocksMbboWithOrderInterest
		EMLD_ERR_1112	CrossedSameMpid
		EMLD_ERR_1113	QualifiedContingentCrossPrimeFunctionalityIsSuspended
		EMLD_ERR_1114	SmallSizeWithPennyNbbo
		EMLD_ERR_1115	PriceIsWorseThanSameSideNbboForIsoPairedPrime
		EMLD_ERR_1119	PriceIsOutsideOfNbbo
		EMLD_ERR_2000	MassQuoteCancelInProgress
		EMLD_ERR_2001	UnderlyingHaltInProgress
		EMLD_ERR_2002	**P**AllQuotesCanceled
		EMLD_ERR_2003	Arm2MpidUnderlyingProtectionInEffect
		EMLD_ERR_2004	Arm2FirmProtectionInEffect
		EMLD_ERR_2005	OccKillSwitchProtectionInEffect
		EMLD_ERR_2006	NotRequested
		EMLD_ERR_3000	RiskProtectionInEffect
		EMLD_ERR_3001	InvalidAllowableEngagementPercentage
		EMLD_ERR_3002	InvalidCountingPeriod
		EMLD_ERR_3003	NoSuchArmSetting
		EMLD_ERR_3004	InvalidArmSettingSource
		EMLD_ERR_3005	InvalidArm2CountingPeriod
		EMLD_ERR_3006	InvalidArm2ThresholdCount
		EMLD_ERR_3007	NoSuchArm2Setting
		EMLD_ERR_3010	RpmBlockedMpid
		EMLD_ERR_3020	SspBlocked
		EMLD_ERR_3021	InvalidSspScope
		EMLD_ERR_3022	SspNotEnabledForMpid
		EMLD_ERR_4000	SystemStateMalformattedTime
		EMLD_ERR_4001	SystemStateTimeInPast
		EMLD_ERR_4500	ComplexInvalidStrategy

Field Name	Data Type	Description	
rejectReason *(continued)*		**EMLD_ERR_4501**	ComplexTradingSuspendedForCloud
		EMLD_ERR_4502	ComplexOrderFeatureDisabledForUnderlying
		EMLD_ERR_4503	ComplexAppOrdersDisabledForUnderlying
		EMLD_ERR_4504	ComplexStrategyNotTradeable
		EMLD_ERR_4505	InvalidNumProductLegs
		EMLD_ERR_4506	InvalidComplexPriceProtection
		EMLD_ERR_4507	InvalidAuctionOnArrival
		EMLD_ERR_4508	InvalidBookMatchOnly
		EMLD_ERR_4509	InvalidLegRefId
		EMLD_ERR_4510	ComplexVerticalSpreadPriceProtection
		EMLD_ERR_4511	ComplexCalendarSpreadPriceProtection
		EMLD_ERR_4512	OutsidePriceRangeForStrategy
		EMLD_ERR_4513	StrategyNotQuoteEligible
		EMLD_ERR_4514	CMomPricedThrough
		EMLD_ERR_4515	StrategyNotDefined
		EMLD_ERR_4516	ComplexMarketOrdersDisabledForUnderlying
		EMLD_ERR_4517	ComplexPrimeOrderFeatureDisabled
		EMLD_ERR_4518	ComplexC2cOrderFeatureDisabled
		EMLD_ERR_4519	ComplexQccOrderFeatureDisabled
		EMLD_ERR_4520	ComplexParityPriceProtection
		EMLD_ERR_5000	UnknownPurgeOriginator
		EMLD_ERR_5100	InvalidStockClearingAccount
		EMLD_ERR_5101	InvalidStockLegCapacityIndicator
		EMLD_ERR_5102	InvalidSellShortStockLeg
		Allowed Values: MIAX MIAMI Option	
		MIAMI_ERR_0001	InvalidRequest
		MIAMI_ERR_0002	UndefinedError
		MIAMI_ERR_0003	NotPermitted
		MIAMI_ERR_0004	InvalidAction
		MIAMI_ERR_0005	InvalidForMpid
		MIAMI_ERR_0006	InvalidEnumValue
		MIAMI_ERR_0007	InvalidState
		MIAMI_ERR_1000	InvalidUnderlying
		MIAMI_ERR_1001	InvalidProduct
		MIAMI_ERR_1002	InvalidTimeInForce
		MIAMI_ERR_1003	TimeInForceConflict
		MIAMI_ERR_1004	IncompatibleTifIso
		MIAMI_ERR_1005	InvalidSize
		MIAMI_ERR_1006	InvalidOpenClose
		MIAMI_ERR_1007	InvalidSide
		MIAMI_ERR_1008	InvalidPrice
		MIAMI_ERR_1009	InvalidOrdType
		MIAMI_ERR_1010	IncompatibleOrdTypeTIF
		MIAMI_ERR_1011	IncompatibleOrdTypeISO
		MIAMI_ERR_1012	InvalidAwayMarketRoutingPolicy
		MIAMI_ERR_1013	InvalidClearingAccount

Field Name	Data Type	Description	
rejectReason *(continued)*		**MIAMI_ERR_1014**	InvalidMinSize
		MIAMI_ERR_1015	InvalidLiquidityType
		MIAMI_ERR_1016	InvalidQuoteType
		MIAMI_ERR_1017	InvalidOrderQty
		MIAMI_ERR_1018	InvalidParticipantType
		MIAMI_ERR_1019	InvalidCoveredOrUncovered
		MIAMI_ERR_1020	InvalidClOrdID
		MIAMI_ERR_1021	InvalidOrigClOrdID
		MIAMI_ERR_1022	InvalidWait
		MIAMI_ERR_1023	InvalidForAssignedMM
		MIAMI_ERR_1024	InvalidToChange
		MIAMI_ERR_1025	InvalidDFCStatus
		MIAMI_ERR_1026	NotInLOW
		MIAMI_ERR_1027	InvalidWhenRouting
		MIAMI_ERR_1028	InvalidOrderState
		MIAMI_ERR_1029	DuplicateClOrdID
		MIAMI_ERR_1030	DuplicateOrderID
		MIAMI_ERR_1031	DuplicateClientMessageID
		MIAMI_ERR_1032	InvalidTargetMessageID
		MIAMI_ERR_1033	UnknownOrder
		MIAMI_ERR_1034	UnknownMpid
		MIAMI_ERR_1035	InvalidMpid
		MIAMI_ERR_1036	InvalidFirmCode
		MIAMI_ERR_1037	QuoteOutsideAcceptanceWindow
		MIAMI_ERR_1038	NoSuchEvent
		MIAMI_ERR_1039	RestrictedToClosing
		MIAMI_ERR_1040	NonTradeable
		MIAMI_ERR_1041	MMNotRegisteredForUnderlying
		MIAMI_ERR_1042	InvalidTifAocWhenOptionIsNotInAuction
		MIAMI_ERR_1043	InvalidTifOpgWhenOptionIsNotInOpening
		MIAMI_ERR_1044	InvalidTifIocWhenOptionIsNotTrading
		MIAMI_ERR_1045	InvalidTifFokWhenOptionIsNotTrading
		MIAMI_ERR_1046	SystemClosedForTrading
		MIAMI_ERR_1047	InvalidISOWhenOptionIsOpening
		MIAMI_ERR_1048	NotPermittedPrice
		MIAMI_ERR_1049	NotPermittedSide
		MIAMI_ERR_1050	Accepted
		MIAMI_ERR_1051	PreLQW
		MIAMI_ERR_1052	InvalidDFC
		MIAMI_ERR_1053	WrongCloud
		MIAMI_ERR_1054	TooLateToCancel
		MIAMI_ERR_1055	InvalidCancel
		MIAMI_ERR_1056	MomTooWideForMarket
		MIAMI_ERR_1057	MomLimitTooInferior
		MIAMI_ERR_1058	InvalidOrderID
		MIAMI_ERR_1059	InvalidMarketOrderForLuldUnderlying
		MIAMI_ERR_1060	InvalidAttributableIndicator

Field Name	Data Type	Description	
rejectReason *(continued)*		MIAMI_ERR_1061	InvalidMvpTicks
		MIAMI_ERR_1062	InvalidCancelOnDisconnect
		MIAMI_ERR_1063	InvalidOrderClass
		MIAMI_ERR_1064	InvalidPrimeRole
		MIAMI_ERR_1065	InvalidPrimeStrategy
		MIAMI_ERR_1066	InvalidNumContraItems
		MIAMI_ERR_1067	InvalidPairedOriginValue
		MIAMI_ERR_1068	InvalidAllocID
		MIAMI_ERR_1069	InvalidAutoMatchOrdType
		MIAMI_ERR_1070	InvalidAutoMatchPrice
		MIAMI_ERR_1071	InvalidLastAction
		MIAMI_ERR_1072	InvalidIndirectCancel
		MIAMI_ERR_1073	WideMarket
		MIAMI_ERR_1080	InvalidTifSaoWhenOptionIsNotInSettlementAuction
		MIAMI_ERR_1100	PairedPrimeFunctionalityIsSuspended
		MIAMI_ERR_1101	CustomerCrossPrimeFunctionalityIsSuspended
		MIAMI_ERR_1102	OptionIsNotInFreeTrading
		MIAMI_ERR_1103	OptionIsAboutToCloseTrading
		MIAMI_ERR_1104	LockedOrCrossedNbbo
		MIAMI_ERR_1105	CrossedNbbo
		MIAMI_ERR_1106	AuctionPriceDoesntImproveNbboOnContraSide
		MIAMI_ERR_1107	ManagedInterestOnAgencyOrderSide
		MIAMI_ERR_1108	ManagedInterestOnAtLeastOneSideOfMbbo
		MIAMI_ERR_1110	PriceLocksMbboWithPriorityCustomerInterest
		MIAMI_ERR_1111	PriceLocksMbboWithOrderInterest
		MIAMI_ERR_1112	CrossedSameMpid
		MIAMI_ERR_1113	QualifiedContingentCrossPrimeFunctionalityIsSuspended
		MIAMI_ERR_1114	SmallSizeWithPennyNbbo
		MIAMI_ERR_1115	PriceIsWorseThanSameSideNbboForIsoPairedPrime
		MIAMI_ERR_1116	IsoPrimeIsDisabled
		MIAMI_ERR_1119	PriceIsOutsideOfNbbo
		MIAMI_ERR_2000	MassQuoteCancelInProgress
		MIAMI_ERR_2001	UnderlyingHaltInProgress
		MIAMI_ERR_2002	AllQuotesCanceled
		MIAMI_ERR_2003	Arm2MpidUnderlyingProtectionInEffect
		MIAMI_ERR_2004	Arm2FirmProtectionInEffect
		MIAMI_ERR_2005	OccKillSwitchProtectionInEffect
		MIAMI_ERR_2006	NotRequested
		MIAMI_ERR_3000	RiskProtectionInEffect
		MIAMI_ERR_3001	InvalidAllowableEngagementPercentage
		MIAMI_ERR_3002	InvalidCountingPeriod
		MIAMI_ERR_3003	NoSuchArmSetting
		MIAMI_ERR_3004	InvalidArmSettingSource
		MIAMI_ERR_3005	InvalidArm2CountingPeriod
		MIAMI_ERR_3006	InvalidArm2ThresholdCount
		MIAMI_ERR_3007	NoSuchArm2Setting
		MIAMI_ERR_3010	RpmBlockedMpid

Field Name	Data Type	Description	
rejectReason *(continued)*		MIAMI_ERR_3020	SspBlocked
		MIAMI_ERR_3021	InvalidSspScope
		MIAMI_ERR_3022	SspNotEnabledForMpid
		MIAMI_ERR_4000	SystemStateMalformattedTime
		MIAMI_ERR_4001	SystemStateTimeInPast
		MIAMI_ERR_4500	ComplexInvalidStrategy
		MIAMI_ERR_4501	ComplexTradingSuspendedForCloud
		MIAMI_ERR_4502	ComplexOrderFeatureDisabledForUnderlying
		MIAMI_ERR_4503	ComplexAppOrdersDisabledForUnderlying
		MIAMI_ERR_4504	ComplexStrategyNotTradeable
		MIAMI_ERR_4505	InvalidNumProductLegs
		MIAMI_ERR_4506	InvalidComplexPriceProtection
		MIAMI_ERR_4507	InvalidAuctionOnArrival
		MIAMI_ERR_4508	InvalidBookMatchOnly
		MIAMI_ERR_4509	InvalidLegRefId
		MIAMI_ERR_4510	ComplexVerticalSpreadPriceProtection
		MIAMI_ERR_4511	ComplexCalendarSpreadPriceProtection
		MIAMI_ERR_4512	OutsidePriceRangeForStrategy
		MIAMI_ERR_4513	StrategyNotQuoteEligible
		MIAMI_ERR_4514	CMomPricedThrough
		MIAMI_ERR_4515	StrategyNotDefined
		MIAMI_ERR_4516	ComplexMarketOrdersDisabledForUnderlying
		MIAMI_ERR_4517	ComplexPrimeOrderFeatureDisabled
		MIAMI_ERR_4518	ComplexC2cOrderFeatureDisabled
		MIAMI_ERR_4519	ComplexQccOrderFeatureDisabled
		MIAMI_ERR_4520	ComplexParityPriceProtection
		MIAMI_ERR_4521	ComplexEnhancementsPhase1Disabled
		MIAMI_ERR_4522	RelatedFuturesCrossDisabled
		MIAMI_ERR_4523	RelatedFuturesCrossNotForProprietaryProduct
		MIAMI_ERR_4524	RelatedFuturesCrossForNonComboStrategy
		MIAMI_ERR_5000	UnknownPurgeOriginator
		MIAMI_ERR_5100	InvalidStockClearingAccount
		MIAMI_ERR_5101	InvalidStockLegCapacityIndicator
		MIAMI_ERR_5102	InvalidSellShortStockLeg
		MIAMI_ERR_5103	InvalidStockLegType
		Allowed Values: MIAX PEARL Equity	
		PEARLEQ_COR_0000	Unknown
		PEARLEQ_COR_0001	TooLateToCancel
		PEARLEQ_COR_0002	UnknownOrder
		PEARLEQ_COR_0003	BrokerOption
		PEARLEQ_COR_0004	PreviousStillPending
		PEARLEQ_COR_0005	RejectedByPrimaryListingMarket
		PEARLEQ_CRD_0000	Unknown
		PEARLEQ_CRD_0001	OrderNotFound
		PEARLEQ_CRD_0002	NotReserveOrder
		PEARLEQ_CRD_0003	SymbolNotHalted

Field Name	Data Type	Description	
rejectReason *(continued)*		**PEARLEQ_FRR_0000**	Unknown
		PEARLEQ_FRR_0001	UnknownSymbol
		PEARLEQ_FRR_0002	ExchangeClosed
		PEARLEQ_FRR_0003	OrderExceedsLimit
		PEARLEQ_FRR_0004	TooLateToEnter
		PEARLEQ_FRR_0005	DuplicateOrder
		PEARLEQ_FRR_0006	StaleOrder
		PEARLEQ_FRR_0007	UnsupportedOrderCharacteristic
		PEARLEQ_FRR_0008	BrokerOption
		PEARLEQ_FRR_0009	UnknownOrder
		PEARLEQ_FRR_0010	TooLateToCancel
		PEARLEQ_FRR_0011	CancelOrReplaceAlreadyPending
		PEARLEQ_FRR_0012	UnknownID
		PEARLEQ_FRR_0013	UnknownSecurity
		PEARLEQ_FRR_0014	UnsupportedMsgType
		PEARLEQ_FRR_0015	SystemNotAvailable
		PEARLEQ_FRR_0016	MatchingEngineNotAvailable
		PEARLEQ_FRR_0017	InvalidTag
		PEARLEQ_FRR_0018	TagNotDefinedForMessage
		PEARLEQ_FRR_0019	UndefinedTag
		PEARLEQ_FRR_0020	TagWithoutValue
		PEARLEQ_FRR_0021	ValueOutOfRange
		PEARLEQ_FRR_0022	IncorrectDataFormat
		PEARLEQ_FRR_0023	CompIDIssue
		PEARLEQ_FRR_0024	SendingTimeAccuracyIssue
		PEARLEQ_FRR_0025	InvalidMsgType
		PEARLEQ_FRR_0026	RequiredTagMissing
		PEARLEQ_FRR_0027	Other
		PEARLEQ_MRR_0000	Unknown
		PEARLEQ_MRR_0001	InvalidSymbol
		PEARLEQ_MRR_0002	CloudNotAvailable
		PEARLEQ_MRR_0003	InvalidMpid
		PEARLEQ_MRR_0004	NotPermittedMpid
		PEARLEQ_MRR_0005	InvalidClOrdId
		PEARLEQ_MRR_0006	InvalidTargetClOrdId
		PEARLEQ_MRR_0007	InvalidAccount
		PEARLEQ_MRR_0008	InvalidClearingAccount
		PEARLEQ_MRR_0009	RequestNotPermitted
		PEARLEQ_MRR_0010	MaxOrderSize
		PEARLEQ_MRR_0011	InvalidPrice
		PEARLEQ_MRR_0012	InvalidSize
		PEARLEQ_MRR_0013	ExceededMaxLimitNotionalValue
		PEARLEQ_MRR_0014	IsoOrdersNotAllowed
		PEARLEQ_MRR_0015	ShortSaleOrdersNotAllowed
		PEARLEQ_MRR_0016	DupOrderCheckRejected
		PEARLEQ_MRR_0017	CrmSessionBlocked
		PEARLEQ_MRR_0018	MfpSessionBlocked

Field Name	Data Type	Description	
rejectReason *(continued)*		**PEARLEQ_MRR_0019**	InvalidSelfTradeProtectionGroup
		PEARLEQ_MRR_0020	ExceededTestSymbolThrottle
		PEARLEQ_MRR_0021	CrmNetNotionalSessionBlocked
		PEARLEQ_MRR_0022	InvalidCloud
		PEARLEQ_MRR_0023	MpidMaxOrderSize
		PEARLEQ_MRR_0024	MpidExceededMaxLimitNotionalValue
		PEARLEQ_MRR_0025	MpidIsoOrdersNotAllowed
		PEARLEQ_MRR_0026	MpidShortSaleOrdersNotAllowed
		PEARLEQ_MRR_0027	CrmGrossNotionalOpenOrderSessionBlocked
		PEARLEQ_MRR_0028	CrmNetNotionalOpenOrderSessionBlocked
		PEARLEQ_MRR_0029	SessionShortSaleExemptOrdersNotAllowed
		PEARLEQ_MRR_0030	MpidShortSaleExemptOrdersNotAllowed
		PEARLEQ_MRR_0031	MpidMarketOrderNotPermitted
		PEARLEQ_MRR_0032	SessionMarketOrderNotPermitted
		PEARLEQ_MRR_0033	MpidRestrictedSecurity
		PEARLEQ_MRR_0034	SessionRestrictedSecurity
		PEARLEQ_MRR_0035	RpmOrderRateSessionBlocked
		PEARLEQ_MRR_0036	ExceededSessionAdvThreshold
		PEARLEQ_MRR_0037	ExceededMpidAdvThreshold
		PEARLEQ_MRR_0038	MpidRestrictedShortSaleSecurity
		PEARLEQ_MRR_0039	SessionRestrictedShortSaleSecurity
		PEARLEQ_MRR_0040	MpidNonAgencyOrderNotAllowed
		PEARLEQ_MRR_0041	SessionNonAgencyOrderNotAllowed
		PEARLEQ_MRR_0042	BlockedBySessionOrderRateLimit
		PEARLEQ_MRR_0043	BlockedByMpidOrderRateLimit
		PEARLEQ_MRR_0044	BlockedByMpidSymbolOrderRateLimit
		PEARLEQ_MRR_0045	MassCancelInvalidPurgeGroup
		PEARLEQ_MRR_0046	InvalidLocateAccount
		PEARLEQ_MRR_0047	MpidConfigurationMissing
		PEARLEQ_ORR_0000	Unknown
		PEARLEQ_ORR_0001	InvalidMpid
		PEARLEQ_ORR_0002	InvalidSymbol
		PEARLEQ_ORR_0003	DuplicateClOrdId
		PEARLEQ_ORR_0004	InvalidClOrdId
		PEARLEQ_ORR_0005	UnknownOrigClOrdId
		PEARLEQ_ORR_0006	InvalidOrigClOrdId
		PEARLEQ_ORR_0007	InvalidSize
		PEARLEQ_ORR_0008	NotInLow
		PEARLEQ_ORR_0009	UnexpectedError
		PEARLEQ_ORR_0014	InvalidCancelReasonValue
		PEARLEQ_ORR_0015	InvalidPriceValue
		PEARLEQ_ORR_0016	InvalidPriceIncrement
		PEARLEQ_ORR_0019	OrderOriginMismatch
		PEARLEQ_ORR_0021	DuplicateOrderId
		PEARLEQ_ORR_0022	InvalidOrderType
		PEARLEQ_ORR_0023	InvalidRequestOrigin
		PEARLEQ_ORR_0024	InvalidSellType

Field Name	Data Type	Description	
rejectReason *(continued)*		PEARLEQ_ORR_0025	CancelAlreadyPending
		PEARLEQ_ORR_0026	InvalidWhenRouting
		PEARLEQ_ORR_0027	ReplaceAlreadyPending
		PEARLEQ_ORR_0028	InvalidOrderCapacity
		PEARLEQ_ORR_0029	InvalidTimeInForce
		PEARLEQ_ORR_0030	InvalidRoutingInstruction
		PEARLEQ_ORR_0031	InvalidSelfTradeProtectionLevel
		PEARLEQ_ORR_0032	InvalidSelfTradeProtectionInstruction
		PEARLEQ_ORR_0033	InvalidPriceSlidingAndRePriceFrequency
		PEARLEQ_ORR_0034	InvalidUsePriceSlidingAndRePriceFrequency
		PEARLEQ_ORR_0035	InvalidUsePostOnly
		PEARLEQ_ORR_0036	InvalidUseISO
		PEARLEQ_ORR_0038	InvalidUseDisplayed
		PEARLEQ_ORR_0040	InvalidAvailableWhenLocked
		PEARLEQ_ORR_0041	InvalidUseAvailableWhenLocked
		PEARLEQ_ORR_0042	MarketOrderPriceProtectionTriggered
		PEARLEQ_ORR_0043	InvalidRoutingStrategy
		PEARLEQ_ORR_0044	InvalidUseRoutingStrategy
		PEARLEQ_ORR_0045	InvalidUseRoutingInstruction
		PEARLEQ_ORR_0046	InvalidAttributable
		PEARLEQ_ORR_0048	InvalidUseLocateRequired
		PEARLEQ_ORR_0049	InvalidSelfTradeProtectionGroup
		PEARLEQ_ORR_0050	InvalidUseSelfTradeProtectionGroup
		PEARLEQ_ORR_0051	InvalidUseSelfTradeProtectionInstruction
		PEARLEQ_ORR_0052	InvalidUseMarketOrderPriceProtection
		PEARLEQ_ORR_0053	InvalidUseMarketOrderTradingCollarCustomValue
		PEARLEQ_ORR_0054	InvalidUseLimitOrderPriceProtection
		PEARLEQ_ORR_0055	LimitOrderPriceProtectionTriggered
		PEARLEQ_ORR_0056	InvalidForCurrentSymbolTradingStatus
		PEARLEQ_ORR_0057	IpoDayPrimaryExchangeNotOpenYet
		PEARLEQ_ORR_0058	InvalidUseMinQty
		PEARLEQ_ORR_0059	InvalidChangeToMinQty
		PEARLEQ_ORR_0060	InvalidChangeMaxFloorQty
		PEARLEQ_ORR_0061	InvalidMaxFloorQty
		PEARLEQ_ORR_0062	InvalidDisplayRangeQty
		PEARLEQ_ORR_0063	InvalidUseOrderType
		PEARLEQ_ORR_0064	FeatureDisabled
		PEARLEQ_ORR_0065	InvalidUseAttributable
		PEARLEQ_ORR_0066	InvalidPACPrimaryListingMarket
		PEARLEQ_ORR_0067	TooLateForPacOrder
		PEARLEQ_ORR_0068	PacOrdersNotAllowedWhileBlacklisted
		PEARLEQ_ORR_0069	UnknownOrderId
		PEARLEQ_ORR_0070	CancelByOrderIdNotAllowed
		PEARLEQ_ORR_0071	PacBlacklistCancelNotApplicable
		PEARLEQ_ORR_0072	ExceededMaxNotionalValue
		PEARLEQ_ORR_0073	LimitPriceMoreAggressiveThanMarketImpactCollar
		PEARLEQ_ORR_0074	InvalidPurgeGroup

Field Name	Data Type	Description	
rejectReason *(continued)*		**PEARLEQ_ORR_0075**	InvalidPegOffset
		PEARLEQ_ORR_0100	BlockedByCrmTradeGrossNotionalFirm
		PEARLEQ_ORR_0101	BlockedByCrmTradeGrossNotionalMpid
		PEARLEQ_ORR_0102	BlockedByCrmTradeGrossNotionalSession
		PEARLEQ_ORR_0103	BlockedByHelpDeskOrMfpMpidOrFirm
		PEARLEQ_ORR_0104	BlockedByHelpDeskOrMfpSession
		PEARLEQ_ORR_0105	BlockedByUserPurgePort
		PEARLEQ_ORR_0106	BlockedByCrmTradeNetNotionalFirm
		PEARLEQ_ORR_0107	BlockedByCrmTradeNetNotionalMpid
		PEARLEQ_ORR_0108	BlockedByCrmTradeNetNotionalSession
		PEARLEQ_ORR_0109	BlockedByCrmOpenOrderGrossNotionalFirm
		PEARLEQ_ORR_0110	BlockedByCrmOpenOrderGrossNotionalMpid
		PEARLEQ_ORR_0111	BlockedByCrmOpenOrderGrossNotionalSession
		PEARLEQ_ORR_0112	BlockedByCrmOpenOrderNetNotionalFirm
		PEARLEQ_ORR_0113	BlockedByCrmOpenOrderNetNotionalMpid
		PEARLEQ_ORR_0114	BlockedByCrmOpenOrderNetNotionalSession
		PEARLEQ_ORR_0115	BlockedByRpmOrderRateFirm
		PEARLEQ_ORR_0116	BlockedByRpmOrderRateMpid
		PEARLEQ_ORR_0117	BlockedByRpmOrderRateSession
		PEARLEQ_ORR_0118	PurgeGroupBlockedByHelpDeskOrMfpMpidOrFirm
		PEARLEQ_ORR_0119	PurgeGroupBlockedByUserPurgePort
		Allowed Values: MIAMI PEARL Option	
		PEARL_ERR_0000	Accepted
		PEARL_ERR_0001	InvalidRequest
		PEARL_ERR_0002	UndefinedError
		PEARL_ERR_0003	NotPermitted
		PEARL_ERR_0004	InvalidAction
		PEARL_ERR_0005	InvalidForMpid
		PEARL_ERR_0007	InvalidState
		PEARL_ERR_0008	InvalidOptionKind
		PEARL_ERR_0009	InvalidBulkBinaryOrderItemRequestType
		PEARL_ERR_1000	InvalidUnderlying
		PEARL_ERR_1001	InvalidProduct
		PEARL_ERR_1002	InvalidTimeInForce
		PEARL_ERR_1004	IncompatibleTifIso
		PEARL_ERR_1006	InvalidOpenClose
		PEARL_ERR_1007	InvalidSide
		PEARL_ERR_1008	InvalidPrice
		PEARL_ERR_1009	InvalidOrdType
		PEARL_ERR_1011	IncompatibleOrdTypeISO
		PEARL_ERR_1012	InvalidOrderHandlingInstruction
		PEARL_ERR_1013	InvalidClearingAccount
		PEARL_ERR_1014	InvalidAccount
		PEARL_ERR_1017	InvalidOrderQty
		PEARL_ERR_1018	InvalidParticipantType
		PEARL_ERR_1019	InvalidCoveredOrUncovered

Field Name	Data Type	Description	
rejectReason *(continued)*		**PEARL_ERR_1020**	InvalidClOrdID
		PEARL_ERR_1021	InvalidOrigClOrdID
		PEARL_ERR_1024	InvalidToChange
		PEARL_ERR_1025	InvalidDFCStatus
		PEARL_ERR_1026	NotInLOW
		PEARL_ERR_1027	InvalidWhenRouting
		PEARL_ERR_1028	InvalidOrderState
		PEARL_ERR_1029	DuplicateClOrdID
		PEARL_ERR_1030	DuplicateOrderID
		PEARL_ERR_1033	UnknownOrder
		PEARL_ERR_1034	UnknownMpid
		PEARL_ERR_1035	InvalidMpid
		PEARL_ERR_1036	InvalidFirmCode
		PEARL_ERR_1039	RestrictedToClosing
		PEARL_ERR_1040	NonTradeable
		PEARL_ERR_1044	InvalidTifIocWhenOptionIsNotTrading
		PEARL_ERR_1046	SystemClosedForTrading
		PEARL_ERR_1047	InvalidISOWhenOptionIsOpening
		PEARL_ERR_1051	WrongCloud
		PEARL_ERR_1053	InvalidCancel
		PEARL_ERR_1054	IncompatibleTifPostOnly
		PEARL_ERR_1056	InvalidAutoReplace
		PEARL_ERR_1057	IncompatibleOrdTypePostOnly
		PEARL_ERR_1058	DuplicateClientOrderId
		PEARL_ERR_1059	InvalidTargetClientOrderId
		PEARL_ERR_1060	InvalidClientOrderId
		PEARL_ERR_1061	AutoReplaceNothingToCancel
		PEARL_ERR_1062	InvalidCmta
		PEARL_ERR_1063	SspBlocked
		PEARL_ERR_1064	SspNotEnabledForMpid
		PEARL_ERR_1070	MomTooWideForMarket
		PEARL_ERR_1071	MomTooWideForSellMarketZeroBid
		PEARL_ERR_1072	MomBuyLimitTooAggressive
		PEARL_ERR_1073	MomSellLimitTooAggressive
		PEARL_ERR_1074	MomMaxOpenContracts
		PEARL_ERR_1075	MomMaxOpenOrders
		PEARL_ERR_1076	InvalidOrderID
		PEARL_ERR_1077	InvalidMarketOrderForLuldUnderlying
		PEARL_ERR_1078	InvalidMvpTicks
		PEARL_ERR_1079	InvalidCancelOnDisconnect
		PEARL_ERR_1080	InvalidTifSaoWhenOptionIsNotInSettlementAuction
		PEARL_ERR_3000	RiskProtectionInEffect
		PEARL_ERR_3001	InvalidAllowableEngagementPercentage
		PEARL_ERR_3002	InvalidCountingPeriod
		PEARL_ERR_3003	NoSuchArmSetting
		PEARL_ERR_3004	InvalidArmSettingSource
		PEARL_ERR_3005	InvalidArm2CountingPeriod

Field Name	Data Type	Description
rejectReason *(continued)*		**PEARL_ERR_3006** InvalidArm2ThresholdCount
		PEARL_ERR_3007 NoSuchArm2Setting
		PEARL_ERR_3010 RpmBlockedMpid
		PEARL_ERR_3012 AllBinaryOrdersCanceled
		PEARL_ERR_3013 Arm2MpidUnderlyingProtectionInEffect
		PEARL_ERR_3014 Arm2FirmProtectionInEffect
		PEARL_ERR_3015 OccKillSwitchProtectionInEffect
		PEARL_ERR_4000 SystemStateMalformattedTime
		PEARL_ERR_4001 SystemStateTimeInPast
		Allowed Values: NASDAQ Equities
		Allowed Values: NYSE
		0
		1 Invalid SenderCompID
		2 Invalid SenderSubID
		3 Invalid SendingTime
		4 Invalid TargetCompID
		5 Invalid TargetSubId
		6 Invalid OnBehalfOfCompID
		7 Invalid OnBehalfOfSubID
		8 Invalid DeliverToCompID
		9 Invalid DeliverToSubID
		10 Invalid Account
		11 Invalid ClOrdID
		12 Invalid ExecInst
		13 Invalid IDSource
		14 Invalid OrderQty
		15 Invalid OrdType
		16 Invalid Price
		17 Invalid Order Capacity
		18 Invalid Security ID
		19 Invalid Side
		20 Invalid Symbol/Series
		21 Invalid Text
		22 Invalid TimeInForce
		23 Invalid Settlement Type
		24 Invalid FutSettDate
		25 Invalid SymbolSfx
		26 Invalid Open/Close
		27 Invalid StopPx
		28 Invalid Client ID
		29 Invalid MinQty
		30 Invalid MaxFloor
		31 Invalid LocateReqd
		32 Invalid ExpireTime

Field Name	Data Type	Description	
rejectReason *(continued)*		33	Invalid SecurityType
		34	Invalid MaturityMonthYear
		35	Invalid PutOrCall
		36	Invalid StrikePrice
		37	Invalid CoveredOrUncovered
		38	Invalid CustomerOrFirm
		39	Invalid MaturityDay
		40	Invalid PegDifference
		41	Invalid SellersDays
		42	Invalid TradingSessionID
		43	Invalid NoTradingSessions
		44	Invalid DiscretionInst
		45	Invalid DiscretionOffset
		46	Invalid PriceType
		47	Invalid ClearingFirm
		48	Invalid ClearingAccount
		49	Invalid PartyID
		50	Invalid Optional Data
		51	Invalid CrossID
		52	Invalid StrategyIndicator
		53	Invalid TradeID
		54	Invalid NoSelfTrade
		55	Invalid CAPStrategy
		56	Invalid SpecialOrdType
		57	Invalid RoutingInst
		58	Invalid OffsetPrice
		59	Invalid ExtendedExecInst
		60	Invalid IntroducingBadgeID
		61	Invalid BillTo
		62	Invalid ParentFirmClOrdID
		63	Invalid ParentFirmExchangeOrdID
		64	Invalid ParentFirm
		65	Invalid InterestType
		66	Invalid DisplayInd
		67	Invalid PegInd
		68	Invalid CeilingFloorPrice
		69	Invalid MinPegQty
		70	Invalid DOrderAuctionPrice
		71	Invalid DiscMaxVol
		72	Invalid DicsRouteInd
		73	Invalid MinimumTriggerVol (MTV)
		74	Invalid Attributed Quote
		75	Invalid Proactive If Locked
		76	System not available
		77	System full (MENG_RATE_EXCEEDED)
		78	Throttle Reject
		79	Symbol/Series Halted

Field Name	Data Type	Description	
rejectReason *(continued)*		80	No symbol/series permission
		81	Price Too Far Outside
		82	MWCB Halt
		83	Market Closed
		84	Symbol/Series Closed
		85	LULD Cancel Instruction
		86	No Price Slide Inst During SSR
		87	Invalid StockLegGiveUp
		88	Invalid NoLegs
		89	Invalid LegPositionEffect
		90	Invalid LegSymbol
		91	Invalid LegCFICode
		92	Invalid LegMaturityDate
		93	Invalid LegStrikePrice
		94	Invalid LegContractMultiplier
		95	Invalid LegRatioQty
		96	Invalid LegSide
		97	Invalid LegRefID
		98	Unsupported Order Type
		99	UROUT
		100	Primary Market Not Available
		101	No NBBO/PBBO for Peg
		102	No Market for Market Order
		103	Marketable Price
		104	Done for Day
		105	Credit Limit Violation
		106	Cancel Remaining IOC
		107	Too Late to Cancel
		108	Invalid PossResend
		109	Cancel Pending
		110	Symbol/Series already opened
		111	Firm Bulk Cancel
		112	OnBehalfOfCompID Blocked
		113	ClearingFirm Blocked
		114	Cancel/Replace Pending
		115	Modify Pending
		116	Cannot Flip Imbalance
		117	Cannot Increase Imbalance
		118	Pending Cancel - Imbalance Freeze
		119	Pending Replace - Imbalance Freeze
		120	Pending Modify - Imbalance Freeze
		121	Pending Cancel - Routed Interest
		122	Pending Replace - Routed Interest
		123	Pending Modify - Routed Interest
		124	Pending - Auction Running
		125	Duplicative Order Check
		126	Cancelled by Exchange

Field Name	Data Type	Description	
rejectReason *(continued)*		**127**	New Order
		128	Fill
		129	Partial Fill
		130	Reduced
		131	Replaced
		132	No Market for Cross
		133	STP Cancel*
		134	Invalid PossDupe
		135	TPID Blocked
		136	Invalid Bulk Cancel
		137	Pending Bulk Cancel
		138	Symbol/Series Not Open
		139	Symbol/Series Suspended
		140	Symbol IPO Halt
		141	Invld Inst During Imbalance Freeze
		142	Invld Inst After Cutoff Time
		143	Cancelled by Primary Market
		144	Pending - Imbalance Freeze
		145	No RLP Permission
		146	Invalid Instruction for IOC's
		147	System full (CG_RATE_EXCEEDED)
		148	Pending Cancel - Auction Running
		149	Pending Modify - Auction Running
		150	Pending Replace - Auction Running
		151	Invld Inst for Pending Order
		152	SSH Price below NBB on ISO
		153	IOC Received while Auction Running
		154	Pending - Session Transition
		155	Pend Cancel - Session Transition
		156	Pend Modify - Session Transition
		157	Pend Replace - Session Transition
		158	Invalid For Tick Pilot
		159	Invalid MMID
		160	Invalid MPID
		161	Invalid CancelInsteadOfReprice
		162	Invalid RetailIndicator
		163	SenderCompID Not Active
		164	MPID Blocked
		165	Invalid Timestamp
		166	Invalid Permission for SenderCompID
		167	Invalid UserData
		168	Pillar Risk Mitigation
		169	No Last Sale for Peg
		170	Symbol Pending Closing Auction
		171	Extreme Closing Order Imbalance
		172	Invalid Multi-Message
		173	Invalid Request Targeting Manual SenderCompID

Field Name	Data Type	Description	
rejectReason *(continued)*		**174**	Invalid DMMRejectReason
		175	Pending - Pending Auction State
		176	Pending Cancel – Pending Auction State
		177	Pending Modify – Pending Auction State
		178	Pending Replace – Pending Auction State
		179	Cancelled - DMM Manual Order Re-price
		180	Too early to open
		181	Too early to close
		182	Symbol not frozen by Auction Request
		183	Symbol is frozen by DBK GUI
		184	Too Late - Auction Running
		185	Too Late - Symbol Transition
		186	No Eligible Crossing Interest
		187	Book is locked/crossed
		188	No interest exists
		189	Imbalance too large
		190	SSH price below SSR filing price
		191	Symbol Already Closed
		192	Opening template opened
		193	Closing template opened
		194	PRIN entered on auction template
		195	Mandatory Indication submitted
		196	Pending Crowd exists
		197	No consolidated last sale
		198	Paired qty exceeds max trade parameter
		199	LULD or MWCB timer running
		200	Locking/Crossing Away Quote
		201	Cross Not Eligible
		202	Reserved for future use
		203	Pending Acceptance (for Ack on order arrival)
		204	Rejected Cancel by DMM
		205	Cancelled by DMM
		206	Price is outside allowable range
		207	Auction Validation In Progress
		208	Invalid ManualActionID
		209	Invalid AuctionSellIndicator
		210	Invalid IntradaySellShortQty
		211	Indication Template is Open
		212	No Prev Closing Price
		213	Cancelled due to Trading Collars
		214	Underlying is in LULD State
		215	Invalid ManualResponseType
		216	No NYSE last sale
		217	Symbol Direct Listing State
		218	DMM GUI Reduction in Manual Order Qty
		219	Cross Eligible
		220	Dry Run

Field Name	Data Type	Description	
rejectReason *(continued)*		**221**	Unsupported by BrokerPlex
		222	Cross Blocked by BBO/PBBO
		223	Risk - Single Ord Max Qty
		224	Risk - Single Ord Max Notional
		225	Risk - Gross Credit Breach
		226	Risk - Kill Switch
		227	Invalid RouteToBroker
		228	Spread Too Wide
		229	Expire FOK
		230	Locks displayed interest
		231	MMQuote Price lock/cross contra side NBBO
		232	Invalid Leg Symbol
		233	Duplicate Leg Symbol
		234	Symbol Not In Underlying
		235	Leg ratios not in the most reduced form
		236	Option leg ratio too high
		237	Stock leg ratio too low
		238	Complex series already exists
		239	Number of legs incorrect
		240	Cancel - does not set NBBO inst
		241	Cancel - avoid reprice inst
		242	Allow reprice once, then cancel inst
		243	Invalid AllocationPct
		244	InvalidMMQuoteType
		245	Invalid MMSentTime
		246	Series Expired
		247	Invalid GiveUpMMID
		248	Invalid NoSides
		249	Pending TO Acceptance
		250	DMM API Request Rejected
		251	Invalid BulkAction
		252	Invalid CancelScope
		253	No Legal Width Spread
		254	Invalid TargetCancelMPID
		255	Invalid TargetCancelSender CompID
		256	Clear the Book Prev. Entered
		257	Timer Expired - API Allocation
		258	Invalid Number of Quotes
		259	Invalid OrderID
		260	Risk Control Event
		261	TO Rejected
		262	Cancelled - Corporate Action
		263	Too Late to Replace
		264	Invalid RefDelta
		265	Invalid StockPrice
		266	Reserved for future use
		267	Invalid TiedToStock

Field Name	Data Type	Description	
rejectReason *(continued)*		**268**	Too Late to Allocate
		269	Customer Interest on BBO
		270	IDO Cannot be Modified
		271	Cross Outside BBO
		272	Pending TO Approval
		273	Invalid LegOpenClose
		274	Invalid RiskControlType
		275	Invalid RiskControlActivation
		276	Invalid BreachActionRequest
		277	Invalid IOCAttribution
		278	Invalid RiskActionType
		279	Invalid USDLimit
		280	IDO Already Exists
		281	Invalid TimeLimit
		282	Invalid PercentageLimit
		283	Invalid CountLimit
		284	Risk - Roll Transact Breach
		285	Risk - Roll Vol Breach
		286	Risk - Roll Pct Breach
		287	Risk - Roll GRMP Breach
		288	Risk - MM Arbitrage Breach
		289	Risk - MM Intrinsic Breach
		290	IDO Must Exist
		291	Invalid Allocation tag <insert invalid tag number>
		292	Invalid Trade tag <insert invalid tag number>
		293	Arbitrage Check
		294	Intrinsic Value Check
		295	Credit Debit Check
		296	Invalid Risk User
		297	Invalid Risk Entity
		298	Invalid Flex Series Already Exists
		299	Invalid Flex Series Key
		300	Invalid Clear the Book
		301	Invalid StockQty
		302	Invalid PackageLinkID
		303	Complex Max Series Breach
		304	Invalid Flex EOD tag <insert invalid tag number>
		305	Invalid PercentagePrice
		306	Invalid PercentageStrike
		307	Cancel Remaining GTX
		308	COA Not Running
		309	Invalid OrdStatus
		310	MMID Blocked
		400	Repriced
		800	Broker Reject
		999	Unknown Issue Encountered

Field Name	Data Type	Description
relatedMarketCenterId	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* For the non-tape "riskless" leg of a riskless principal transaction, the facility or market where the first leg of the transaction was reported. **Allowed Values** **0** ADF/ORF **1** Nasdaq TRF **2** FINRA/Nasdaq TRF Chicago **3** NYSE TRF **A** NYSE American, LLC **B** Nasdaq BX **C** NYSE National, Inc **E** MEMX Exchange **F** Foreign Mkt **G** Cboe BYX Exchange, Inc. **H** Cboe BZX Exchange, Inc. **I** International Securities Exchange **J** Cboe EDGA Exchange, Inc. **K** Cboe EDGX Exchange, Inc. **L** LTSE Exchange **M** NYSE Chicago **N** New York Stock Exchange, LLC (NYSE) **O** Unknown Market Center **P** NYSE Arca, Inc. **Q** Nasdaq Stock Market, LLC **U** Unspecified Mult Mkt Trades **V** Investors' Exchange, LLC. (IEX) **W** CBoe Stock Exchange, Inc. **X** Nasdaq PSX LLC **Y** MIAX Pearl Exchange
reportedShareQuantity	Unsigned	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Number of shares traded as reported to the SIP.
reportedSideCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Side of the trade (buy/sell/cross) from the perspective of the firm with the reporting obligation. **Allowed Values** **B** Buy Side **S** Sell Side **X** Crossed Trade
reportedUnitPrice	Price	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Unit price of the trade as reported to the SIP.

Field Name	Data Type	Description
reporter	Reporter ID	*Event(s): Note (NOTE), Self-Help Declaration (SHD)*
		Reference Data: Market Maker Dictionary Entry (MMDE), Member Dictionary Entry (MDE), Member Alias Detail Entry (MADE), Option Series Dictionary Entry (OSDE), Complex Option Dictionary Entry (CODE)
		Reporter ID of the entity reporting the events or reference data.
reportingExecutingM pid	Member Alias	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		MPID of the executing party.
reportingObligationFl ag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Identifies if the reporting-side firm had the reporting obligation for the trade under FINRA trade reporting rules.
		Allowed Values
		Y Reporting Firm Has Reporting Obligation
reportingSideBranch SequenceIdentifier	Text (20)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Branch/sequence number of the reporting-side firm.
reportingSideCapacit yCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Capacity of the reporting-side firm.
		Allowed Values
		A Agency
		P Principal
		R Riskless Principal
reportingSideClearin gNumber	Unsigned	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Clearing number of the firm that cleared the trade for the reporting-side firm.
reportingSideMemoT ext	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Provides a link (via Control Number) to the original trade report, when a subsequent report is submitted to reallocate some of the trade volume to a different capacity. This is a free-form text field; participants can enter any information in this field.
reportingSideMpid	Member Alias	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		MPID of the firm with the reporting obligation.
reportingSideShortS aleCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Identifies a short sale by the executing firm and indicates the type of short.
		Allowed Values
		SS Short Sale
		SX Short Sale Exempt
reportingSubmitting EntityId	Text (4)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Indicates the entity that initiated the submission. For a FINRA-initiated submission on behalf of the firm, this will be 'FNRA'. Otherwise, for a firm-initiated submission, it will be the firm MPID.
		For NC TRF, NQ TRF and NY TRF, this is always NQTC, NQTR or NYTR.
		For ADF and ORF it is the MPID of the submitting firm.

Field Name	Data Type	Description
reportTypeCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Identifies whether this is a No/Was report. **Allowed Values** **N** No **W** Was
result	Choice	*Event(s): Order Route, Order Cancel Route, Order Modify Route; Option Route, Complex Option Route (OCOR), Modify Option Route, Option Cancel Route* The result of the Route, Cancel Route or Modify Route request communicated to the exchange. **Allowed Values** **ACK** Acknowledged **REJ** Rejected **NR** No Response **UNSOL** Unsolicited: only valid for an unsolicited cancel route
resultTimestamp	Timestamp	*Event(s): Order Route, Order Cancel Route, Order Modify Route; Option Route, Complex Option Route (OCOR), Modify Option Route, Option Cancel Route* The date/time the result of Route, Modify Route, or Cancel Route request was received.
retransmissionRequester	Text (2)	*Event(s): FINRA Halt/Resume (FHR)* Indicates if the message is an original transmission or retransmission. If the message is a retransmission, this field indicates the two-character retransmission identifier of the intended data recipient.
reversalFlag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates that the trade report is reversal transaction. **Allowed Values** **Y** Reversal **N** Not a Reversal
revokedTimestamp	Timestamp	*Event(s): Self-Help Declaration (SHD)* Date and time the self-help was revoked. If self-help is not revoked by the end of the day, this field may be left unreported or can be set to the closing time. However, another self-help event must be reported for the next day.

Field Name	Data Type	Description
routedOrderID	Text (40)	*Event(s): Order Accepted, Order Modified, Simple Option Order Accepted, Complex Option Order Accepted, Stock Leg Order, Option Order Modified, Complex Option Order Modified, Stock Leg Modified*
		The ID assigned to this order by the routing firm when submitting the order to the exchange.
		Event(s): Equity Order Modified, Equity Order Adjusted, Option Order Modified, Option Order Adjusted
		For the return of unexecuted liquidity previously routed away, the exchange-assigned ID used to route the order away.
		Event(s): Order Modify Route (EOR), Modify Option Route (OOMR), Complex Option Route (OCOR)
		The routedOrderID as represented in the original or most recent Route/Modify Route message sent to the routing broker.
		Event(s): Reject Message Event (RME)
		The routedOrderID as represented in the message that was rejected.
		Event(s): Equity Best Bid and Offer Event (EBBO)
		The quote ID that the firm used in the API message when they sent the quote to the display only facility.
routedOriginalOrderID	Text (40)	*Event(s): Order Modified, Option Order Modified, Complex Option Order Modified, Stock Leg Modified*
		The routedOrderID for the order, as sent by the routing broker in the original route message, or the most recent modify message (in FIX OrigClOrdId, in OUCH Existing Order Token).
		Event(s): Order Modify Route, Modify Option Route events
		The routedOrderID as represented in the original or most recent Route/Modify Route message sent to the routing broker.
		Event(s): Reject Message Event (RME)
		The ID for the order being modified, as sent by the routing broker in the original route message, or the most recent modify message (in FIX OrigClOrdID, in OUCH Existing Order Token).

Field Name	Data Type	Description
routingParty	Text (8)	A string used to identify the entity on the other side of an accepted or route event.
		Event(s): Order Accepted, Simple Option Order Accepted, Complex Option Order Accepted
		In the events above, this is the unique identifier for the firm that sent the order to the exchange.
		Event(s): Order Route (EOR), Order Fill (EOF), Order Modify Route (EMR), Order Cancel Route (ECR), Option Route, Complex Option Route (OCOR), Modify Option Route (OOMR), Option Cancel Route (OOCR)
		In the events above, this is the firm to which the exchange routed the order.
		Event(s): Order Modified (EOM), Order Adjusted (EOJ), Option Order Modified (OOM), Complex Option Order Modified (OCOM), Option Order Adjusted (OOJ), Complex Option Order Adjusted (OCOJ)
		In the events above, this value can be either the customer that sent the order to the exchange or the firm to which the exchange routed the order.
		When the initiator value is Firm or Market Maker, report the unique identifier for the firm that sent the order to the exchange.
		When the initiator value is Exchange and the event represents routed quantity returned unexecuted, report the firm to which the exchange routed the order.
		Event(s): Reject Message Event (RME)
		The ID string used to identify the entity that routed the rejected message to the exchange.
		Event(s): Equity Best Bid and Offer (EBBO)
		The ID string used to identify the entity that routed the quote to the display-only facility
saleCondition	Text (8)	*Event(s): Supplemental Trade Event (STE), Order Trade, Order Fill, Trade Correction, Simple Option Trade, Stock Leg Fill, Option Trade Correction*
		Indicates a special condition under which a trade was reported.
		The first character must be either 'E' or 'O' indicating whether the following characters are to be interpreted as OPRA sale condition codes for options or UTP/CTS sale condition codes for equities. 'E' stands for the UTP/CTS, while 'O' stands for the OPRA.
		The following characters will use the single-character codes as defined in the OPRA, UTP, and CTS specifications - one character code for as many conditions as apply. Note that the <space> character is a valid code.
		Allowed Values: Second character if first character is O (OPRA Values) *effective through 11/1/2019*
		blank Indicates that the transaction was a regular sale and was made without stated conditions
		A Transaction previously reported (other than as the last or opening report for the particular option contract) is not to be canceled
		B Transaction is being reported late and is out of sequence, i.e. later transactions have been reported for the particular option contract.
		C Transaction is the last reported for the particular option contract and is now canceled.
		D Transaction is being reported late, but is in the correct sequence, i.e. no later transactions have been reported for the particular option contract.
		E Transaction was the first one (opening) reported for this day for the particular option contract. Although later transactions have

Field Name	Data Type	Description
saleCondition *(continued)*		been reported, this transaction is not to be canceled.
		F Transaction is a late report of the opening trade and is out of sequence: i.e. other transactions have been reported for the particular option contract.
		G Transaction was the only one reported this day for the particular option contract and is now to be canceled
		H Transaction is a late report of the opening trade, but is in the correct sequence, i.e., no other transactions have been reported for this particular option contract.
		I Transaction was executed electronically. This prefix appears solely for information; process as a regular transaction.
		J Transaction is a reopening of an option contract in which trading has been previously halted. This prefix appears solely for information; process as a regular transaction.
		K Transaction is an option contract for which the terms have been adjusted to reflect a stock dividend, stock split, or similar event. This prefix appears solely for information; process as a regular transaction.
		L Transaction represents a trade in two options in the same option class (a buy and sell in the same class). This prefix appears solely for information; process as a regular transaction.
		M Transaction represents a trade in two options in the same option class (a buy and sell in a put and a call). This prefix appears solely for information; process as a regular transaction
		N Transaction is the execution of a sale at a price agreed upon by the floor personnel involved, where a condition of the trade is that it be reported following a non-stopped trade of the same series at the same price.
		O Cancel stopped transaction
		P Transaction represents the option portion of an order involving a single option leg (buy or sell of a call or put) and stock. The prefix appears solely for information; process as a regular transaction.
		Q Transaction represents the buying of a call and the selling of a put for the same underlying stock or index. This prefix appears solely for information; process as a regular transaction
		R Transaction was the execution of an order that was 'stopped' at a price that did not constitute a Trade-Through on another market at the time of the stop.
		S Transaction was the execution of an order identified as an Intermarket Sweep Order
		T Transaction reflects the execution of a 'benchmark trade'.
		X Transaction is Trade Through Exempt. The transaction should be treated like a regular sale.
		Allowed Values: Second character if first character is O (OPRA Values) *effective beginning 11/4/2019*
		blank Indicates that the transaction was a regular sale and was made without stated conditions.
		A Transaction previously reported (other than as the last or opening report for the particular option contract) is now to be canceled.
		B Transaction is being reported late and is out of sequence; i.e., later transactions have been reported for the particular option

Field Name	Data Type	Description	
saleCondition *(continued)*			contract.
		C	Transaction is the last reported for the particular option contract and is now canceled.
		D	Transaction is being reported late, but is in the correct sequence; i.e., no later transactions have been reported for theparticular option contract.
		E	Transaction was the first one (opening) reported this day for the particular option contract. Although later transactions have been reported, this transaction is now to be canceled.
		F	Transaction is a late report of the opening trade and is out of sequence; i.e., other transactions have been reported for the particular option contract.
		G	Transaction was the only one reported this day for the particular option contract and is now to be canceled.
		H	Transaction is a late report of the opening trade, but is in the correct sequence; i.e., no other transactions have been reported for the particular option contract.
		I	Transaction was executed electronically. Prefix appears solely for information; process as a regular transaction.
		J	Transaction is a reopening of an option contract in which trading has been previously halted. Prefix appears solely for information; process as a regular transaction.
		S	Transaction was the execution of an order identified as an Intermarket Sweep Order. Process like normal transaction.
		a	Transaction was the execution of an electronic order which was "stopped" at a price and traded in a two sided auction mechanism that goes through an exposure period. Such auctions mechanisms include and not limited to Price Improvement, Facilitation or Solicitation Mechanism.
		b	Transaction was the execution of an Intermarket Sweep electronic order which was "stopped" at a price and traded in a two sided auction mechanism that goes through an exposure period. Such auctions mechanisms include and not limited to Price Improvement, Facilitation or Solicitation Mechanism marked as ISO.
		c	Transaction was the execution of an electronic order which was "stopped" at a price and traded in a two sided crossing mechanism that does not go through an exposure period. Such crossing mechanisms include and not limited to Customer to Customer Cross and QCC with a single option leg.
		d	Transaction was the execution of an Intermarket Sweep electronic order which was "stopped" at a price and traded in a two sided crossing mechanism that does not go through an exposure period. Such crossing mechanisms include and not limited to Customer to Customer Cross.
		e	Transaction represents a non-electronic trade executed on a trading floor. Execution of Paired and Non-Paired Auctions and Cross orders on an exchange floor are also included in this category.
		f	Transaction represents an electronic execution of a multi leg order traded in a complex order book
		g	Transaction was the execution of an electronic multi leg order which was "stopped" at a price and traded in a two sided auction mechanism that goes through an exposure period in a complex order book. Such auctions mechanisms include and not limited

Field Name	Data Type	Description	
saleCondition *(continued)*			to Price Improvement, Facilitation or Solicitation Mechanism.
		h	Transaction was the execution of an electronic multi leg order which was "stopped" at a price and traded in a two sided crossing mechanism that does not go through an exposure period. Such crossing mechanisms include and not limited to Customer to Customer Cross and QCC with two or more options legs.
		i	Transaction represents a non-electronic multi leg order trade executed against other multi-leg order(s) on a trading floor. Execution of Paired and Non-Paired Auctions and Cross orders on an exchange floor are also included in this category.
		j	Transaction represents an electronic execution of a multi Leg order traded against single leg orders/ quotes.
		k	Transaction was the execution of an electronic multi leg stock/options order which was "stopped" at a price and traded in a two sided auction mechanism that goes through an exposure period in a complex order book. Such auctions mechanisms include and not limited to Price Improvement, Facilitation or Solicitation Mechanism.
		l	Transaction was the execution of an electronic multi leg order which was "stopped" at a price and traded in a two sided auction mechanism that goes through an exposure period and trades against single leg orders/ quotes. Such auctions mechanisms include and not limited to Price Improvement, Facilitation or Solicitation Mechanism.
		m	Transaction represents a non-electronic multi leg order trade executed on a trading floor against single leg orders/ quotes. Execution of Paired and Non-Paired Auctions on an exchange floor are also included in this category.
		n	Transaction represents an electronic execution of a multi leg stock/options order traded in a complex order book.
		o	Transaction was the execution of an electronic multi leg stock/options order which was "stopped" at a price and traded in a two sided crossing mechanism that does not go through an exposure period. Such crossing mechanisms include and not limited to Customer to Customer Cross.
		p	Transaction represents a non-electronic multi leg order stock/options trade executed on a trading floor in a Complex order book. Execution of Paired and Non-Paired Auctions and Cross orders on an exchange floor are also included in this category.
		q	Transaction represents an electronic execution of a multi Leg stock/options order traded against single leg orders/ quotes.
		r	Transaction was the execution of an electronic multi leg stock/options order which was "stopped" at a price and traded in a two sided auction mechanism that goes through an exposure period and trades against single leg orders/ quotes. Such auctions mechanisms include and not limited to Price Improvement, Facilitation or Solicitation Mechanism.
		s	Transaction represents a non-electronic multi leg stock/options order trade executed on a trading floor against single leg orders/ quotes. Execution of Paired and Non-Paired Auctions on an exchange floor are also included in this category.
		t	Transaction represents execution of a proprietary product non-electronic multi leg order with at least 3 legs. The trade price may be outside the current NBBO.

Field Name	Data Type	Description	
saleCondition *(continued)*		**u**	Transaction represents an execution in a proprietary product done as part of a multilateral compression. Trades are executed outside of regular trading hours at prices derived from end of day markets. Trades do not update Open, High, Low, and Closing Prices.
		v	Transaction represents a trade that was executed outside of regular market hours. Trades do not update Open, High, Low, and Closing Prices.
		Allowed Values: Second character if first character is E (UTP and CTS Values)	
		@	Regular Sale
		blank	No Sale Condition required within the category it appears (Long Trade Format Only)
		A	Acquisition
		B	Bunched Trade or Average Price Trade
		C	Cash Sale
		D	Distribution
		E	Automatic Execution
		F	Intermarket Sweep
		G	Bunched Sold Trade
		H	Price Variation Trade
		I	Odd Lot Trade
		K	Rule 155 Trade (AMEX)
		L	Sold Last
		M	Market Center Official Close
		N	Next Day Trade (Next Day Clearing)
		O	Opening Prints / Market Center Opening Trade
		P	Prior Reference Price
		Q	Market Center Official Open
		R	Seller
		S	Split Trade
		T	Form T (Extended Hours Trade)
		U	Extended Trading Hours (Sold Out of Sequence)
		V	Contingent Trade
		W	Average Price Trade
		X	Cross Trade
		Y	Yellow Flag Regular Trade
		Z	Sold (out of Sequence)
		1	Stopped Stock (Regular Trade)
		4	Derivatively Priced
		5	Re-Opening Prints (Market Center Reopening Trade)
		6	Closing Prints (Market Center Closing Trade)
		7	Qualified Contingent Trade (QCT)
		8	Placeholder for 611 Exempt
		9	Corrected Consolidated Close (per listing market)

Field Name	Data Type	Description
sellDetails	Order Trade Side Details	*Event(s): Order Trade, Trade Correction, Simple Option Trade, Option Trade Correction*
		Information for the sell side of the trade. Format and element definitions for sellDetails are described in sideTradeEvent in section 4.5.
sentTimestamp	Timestamp	*Event(s): Quote Event (OQ), Quote Cancel Event*
		The date/time when the market maker sent the quote or quote cancel to the exchange.
sequenceNumber	Unsigned	*Event(s): All Stock Exchange Events, All Options Exchange Events, Note (NOTE), Reject Message Event (RME), Equity Best Bid and Offer Event (EBBO)*
		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[8], 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 3.1: Timestamps and Sequence Numbers.
seqNumSub	Text (10)	*Event(s): All Options Events, Note (NOTE), Reject Message Event (RME), Equity Best Bid and Offer Event (EBBO)*
		A sequence number subsystem identifier.
session	Text (40)	*Event(s): Order Accepted, Order Route, Order Modified, Order Adjusted, Order Fill, Order Cancel Route, Order Modify Route, Simple Option Order Accepted, Complex Option Order Accepted, Option Order Modified, Complex Option Order Modified, Option Order Adjusted, Complex Option Order Adjusted, Option Route, Complex Option Order Route, Modify Option Route, Option Cancel Route, Reject Message Event (RME), Equity Best Bid and Offer Event (EBBO)*
		The name/ID of the session being used to send the order (from the routing firm to the exchange, or from the exchange to the routing broker). If this event represents a leg of a complex order, the Session must be the same as reported in the parent complex order.
		For modification and adjustment events, the value is for the firm that routed to the exchange when the initiator is Firm or Market Maker. When the initiator is Exchange and the event represents routed liquidity returned unexecuted, then the value is what the exchange used to route the order away.
sessionIdentifier	Choice	*Event(s): FINRA Halt/Resume (FHR)*
		Indicates the market session of the message.
		Allowed Values
		A All Market Sessions
		U US Market Sessions

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[8] For purposes of 24-hour trading, a "day" is considered to be a single cycle date. See the definition of `cycleDate` for details.

Field Name	Data Type	Description	
settlement	Choice	*Reference Data: Option Series Dictionary Entry (OSDE)*	
		Specifies the settlement of option in Simple Option Series Dictionary Entries.	
		Allowed Values	
		AM	At the open
		PM	At the close
		Asian	European/PM settlement, but the exercise settlement value is the arithmetic average of the closing prices of the underlying index on 12 pre-determined, consecutive monthly observation dates.
		Cliquet	European/PM settlement, but the exercise settlement value is the greater of zero, or [(closing price of the underlying index on the initial trade date) * (sum of the monthly capped returns)] + strike price.
side	Choice	*Reference Data: Complex Option Dictionary Entry (CODE)*	
		Event(s): Supplemental Trade Event (STE), Order Accepted, Order Route, Order Modified, Order Adjusted, Order Trade, Order Fill, Order Restatement, Trade Correction, Simple Option Order Accepted, Complex Option Order Accepted, Stock Leg Order, Option Route, Complex Option Order Route, Option Order Modified, Complex Option Order Modified, Option Order Adjusted, Complex Option Order Adjusted, Option Trade, Stock Leg Fill, Post Trade Allocation	
		Side of the event. Note that AsDirected and Opposite are only used for complex option order accepted events.	
		Allowed Values	
		Buy	
		Sell	
		Short	
		Exempt	
		Cross	
		CrossExempt	
		CrossShort	
		CrossShortExempt	
		AsDirected	
		Opposite	

Field Name	Data Type	Description
specialTradeCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Identifies special and step-out trades. **Allowed Values** **S** Step-Out Trade The following codes are only applicable to Nasdaq-TRF and ORF trades: **A** Step-Out Trade with Section 3 Fee **B** Special and Step-Out trade with Section 3 Fee **F** Fee Transfer – Occurred on Nasdaq **I** Step-In trade **J** Special and Step-In Trade **O** Fee Transfer – Occurred on Another Market **Q** Step-Out of Nasdaq Exchange Trade **X** Special and Step-Out Trade – Instructs the NSCC not to include the trade in CNS **Y** Special Trade – Instructs the NSCC not to include the trade in CNS settlement
sroRequiredModifier	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Further classification of the trade with regard to SRO required detail. This can either be entered by the firm or appended by the system. **Allowed Values** **1** Stop stock (regular trade) **A** Acquisition **B** Bunched Trade **D** Distribution **E** Automatic execution (system) **H** Intraday trade detail (system) **I** Odd lot **K** Rule 155 Amex/Rule 127 NYSE **M** Market Center close price (system) **O** Odd lot **P** Prior reference price **Q** Market center open price (system) **R** Away from market sale **S** Split trade **V** Contingent Trade **W** Average price trade **X** Exercise of OTC option

Field Name	Data Type	Description
status	Choice	*Reference Data: Member Dictionary Entry (MDE)* The status of the member on the reporting date. **Allowed Values**
		Active — An active member of the SRO (ID must be CRD)
		Inactive — An inactive member of the SRO (ID must be CRD)
		NonMember — An entity that is not a member of the SRO. For example, if the routing broker dealer is not a member of the exchange, it would be listed here (ID must be CRD).
		Internal — Some internal part of the SRO system (a utility or facility) which will be used in reportable events.
		Other — Another entity (e.g., foreign firm) without a CRD number.
statusTime	Timestamp	*Reference Data: Market Maker Dictionary Entry (MMDE)* Time of change in market maker's status. If one record for a member alias and symbol combination is provided, it is assumed to be active for the entire day. For market making initiations not at the open, provide the start time
strikePrice	Numeric(10,8)	*Reference Data: Option Series Dictionary Entry (OSDE)* In Simple Option Series Dictionary Entries, this field is the pre-arranged transaction price if the option is exercised. Note that if option kind = FLEXPCT, this will be the percentage.
supervisoryEntryCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates if a Market Operations Supervisor entered the trade message on behalf of the reporting side of the trade transaction. **Allowed Values**
		D — Supervisory Entry for Service Desk Participant
		S — Supervisory Entry for Non-Service Desk Participant
symbol	Symbol	*Event(s): All Stock Exchange Events, All Options Stock Leg Events, Note (NOTE), FINRA Halt/Resume (FHR), Supplemental Trade Event (STE), Reject Message Event (RME), Equity Best Bid and Offier Event (EBBO)* *Reference Data: Market Maker Dictionary Entry (MMDE), Complex Option Dictionary Entry (CODE)* The stock symbol. Note that for all events of stock exchange, or options stock leg related events, this field may be in either the symbology of the listing exchange or a valid alias. However, in Symbol Entry, or stock leg of Complex Option Dictionary entry, this must be in the symbology of the listing exchange.
Symbol Entry Pairs	Name/Value Pairs	This is a data type. Currently, this data type must be used for the field "attributes" found in the reference data element: Symbol Entry.
		Allowed Values
		TPG — Tick Pilot Group (Choice) - requires one of the defined values (e.g., TPG=TG2) from the following list: **CTRL** Control Group **TG1** Test Group 1 **TG2** Test Group 2 **TG3** Test Group 3

Field Name	Data Type	Description
systemAppendedTra deReportingModifier Flag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Identifies if the Trade Reporting Modifier Code was entered by the reporting firm or appended by the reporting facility. **Allowed Values** **Y** System Appended **N** Not System Appended
testSeriesFlag	Boolean	*Event(s): Option Series Dictionary Entry (OSDE)* Indicates that the entry represents a test symbol.
timeInForce	Choice	*Event(s): Order Accepted, Order Route, Order Modified, Order Modify Route, Order Restatement, Simple Option Order Accepted, Complex Option Order Accepted, Complex Option Order Modified, Stock Leg Order, Option Order Modified, Option Route, Complex Option Order Route (OCOR), Modify Option Route, Option Order Restatement* Specifies the Time-In-Force for an order. Supported TIF values are listed below. **Allowed Values** **AOK** Auction or Kill **CLO** At the Close **DAY** A day order **IOC** Immediate or Cancel **GTC** Good till Canceled **GTT** Good till Time (requires XTIME in handlingInstructions) **GTD** Good till Date **GTX** Good till Crossing **FOK** Fill or Kill **OPG** At the Open **REG** Regular Hours Only **WCO** While Connected **Allowed Values: Cboe** **EXT** Extended Day **Allowed Values:CHX** **AOO** Auction-only order **GFS** Good for Seconds **Allowed Values: IEX** **SYS** System Hours **EXT** Day + Extended Hours **Allowed Values: NASDAQ Equities** **AHC** After Hours Close **CLO** On Close **EXT** Extended Days **OPG** On Open

Field Name	Data Type	Description
timeInForce *(continued)*		
		Allowed Values: MIAX
		SAO SettlementAuctionOnly
		Allowed Values: LTSE
		SYS System Session ("SYS"). Orders entered into the System marked SYS may trade during System Hours and expire at the end of the Post-Market Session.
tradeBreakTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the reporting party submitted their break request.
tradeBrokenTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the contra party submitted their break confirmation.
tradeCorrectionClassCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Trade Correction Classification. **Allowed Values** **A** Audit Trail Only **B** Both T & C **C** Clearing **T** Tape
tradeDate	Date	The date on which a trade occurred.
tradeID	Text (40)	*Event(s): Supplemental Trade Event (STE), Order Trade, Trade Break, Trade Correction, Option Trade, Post Trade Allocation, Option Trade Break, Option Trade Correction* An identifier for the trade, unique for the given exchange, date, and Symbol/OptionID.
tradeModifierSroTime	Time	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Time associated with Prior Reference Price or Stopped Stock trade.
tradeModifierThroughExemptTime	Time	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* User Trade Thru Exempt Modifier Time.
tradeReferenceNumber	Text (20)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Trade Reference Number
tradeReportDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date the trade report was received by the reporting facility.
tradeReportingModifier	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Further classification of the trade with regard to Extended Hours/Sequence. This can either be entered by the firm or appended by the system. **Allowed Values** **L** Sold last (late reported) **T** Pre- or Post-market Trade **U** Pre- or Post-market Trade Reported Out-of-Sequence (late) **Z** Sold Out-of-Sequence (late)
tradeReportTimestamp	Timestamp	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date and time the trade report was received by the reporting facility.

Field Name	Data Type	Description
tradeSettlementDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Date on which the trade will settle.
tradeSettlementModif ier	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Identifies a Reg NMS Settlement Type Sale Condition Code associated with a trade transaction.
		Allowed Values
		@ Regular settlement
		C Cash settlement
		N Next day settlement
		R Seller settlement
tradeSourceCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Trade Sources.
		Allowed Values
		B Batch File
		C CTCI
		F FIX to MPP
		J FIX to ACT
		K QIX to ACT
		M Mass Cancel or Mass Correction
		Q QIX
		S FINRA Supervisor
		W Web
tradeStatusCode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)*
		Final status of the trade at the time it was reported.
		Allowed Values
		A Accepted; Locked-in Trade
		B Broken
		C Canceled
		D Declined
		E Errored
		F Forced Matched; Locked-in Trade
		G One-sided Submission
		H Hanging Trade
		I Inhibited (by clearing firm)
		K Rejected Sizable Trade
		L Automatic Locked-in Trade at the end of T + 1
		M Matched; Locked-in Trade (also used for AGU and PSA trades)
		N No Portion of No/Was Trade
		R Locked-In Trade; Received via an execution system interface for NQ TRF
		T Trade Reporting Only; Not for clearing submission
		X As-Of Open or As-Of Spilt Trade; not forwarded to NSCC, but is available for query

Field Name	Data Type	Description
tradeThroughExempt Flag	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Indicates that the trade is trade through exempt. **Allowed Values** **Y** Trade Through Exemption **N** No Trade Through Exemption
tradeThroughExempt ionModifier	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Further classification of the trade with regard to Trade Through Exemption. This is entered by the firm when it reports the trade. **Allowed Values** **2** NASD Self Help Indicator **3** Intermarket Sweep - Outbound **4** Derivatively Price **5** Market Center Reopen **6** Market Center Closing **7** Error Correction **8** Print Protection **9** Correct Consolidated Close Price as per Listing Market **F** Intermarket Sweep **J** NASD Subpenny Indicator **O** Market Center Open **V** NASD Contingent Indicator
trfContraControlNum ber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Number used for interaction between TRFs and Firms; populated only when trade is matched by comparison. May not be unique for a given day.
trfControlNumber	Text (30)	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Control Number used for interaction between Firms and TRFs. May not be unique for a given day.
trfProcessingDate	Date	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* Date FINRA received the record from the reporting facility.
trfTradeModifierLate Code	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* System Trade Modifier - Time Modifiers - Updated by TRF. **Allowed Values** **T** Executed Outside Normal Market Hours **U** Executed Outside Normal Market Hours and Reported Late **Z** Executed During Normal Market Hours and Reported Late
trfTradeModifierSroC ode	Choice	*Event(s): FINRA TRF/ORF/ADF Transaction Data (TRF)* User Trade Modifier - SRO - Updated by TRF. SRO detail sale condition. **Allowed Values** **I** Odd Lot Trade **V** Contingent Trade **W** Weighted Average Price

Field Name	Data Type	Description
type	Message Type	*Event(s): All* Specifies the event type. **General Events** **NOTE** Note **SHD** Self Help Declaration **STE** Supplemental Trade Event **RME** Reject Message Event **Equities Events** **EOA** Order Accepted **EOR** Order Route **EIR** Internal Order Route **EOM** Order Modified **EOJ** Order Adjusted **EOC** Order Canceled **EOT** Order Trade **EOF** Order Fill **ECR** Order Cancel Route **EMR** Order Modify Route **EORS** Order Restatement **ETB** Trade Break **ETC** Trade Correction **Options Events** **OQ** Quote **OQC** Quote Cancel **OOA** Simple Option Order Accepted **OCOA** Complex Option Order Accepted **OSL** Stock Leg Order **OOM** Option Order Modified **OCOM** Complex Option Order Modified **OSLM** Stock Leg Modified **OOJ** Option Order Adjusted **OCOJ** Complex Option Order Adjusted **OSLJ** Stock Leg Adjusted **OOC** Option Order Canceled **OOR** Option Route **OCOR** Complex Option Route **OIR** Internal Option Route **OCIR** Internal Complex Option Route **OOMR** Modify Option Route **OOCR** Option Cancel Route **OT** Simple Option Trade **OSLF** Stock Leg Fill **OPTA** Post Trade Allocation

Field Name	Data Type	Description	
type *(continued)*		OORS	Option Order Restatement
		OTB	Option Trade Break
		OTC	Option Trade Correction
		FINRA Events	
		EBBO	Equity Best Bid and Offer
		FHR	FINRA Halts/Resumes
		TRF	FINRA TRF/ORF/ARF Transaction Data
		Reference Data	
		MDE	Member Dictionary Entry
		MADE	Member Alias Detail Entry
		CODE	Complex Options Dictionary Entry
		OSDE	Options Series Dictionary Entry
		MMDE	Market Maker Dictionary Entry
undefinedNoteData	Name/Value Pairs	*Event(s): Note (NOTE)* A list of key/value pairs, providing machine parseable data for the notation in a Note Event. The attributes are not defined in the specs, and can be any values as long as they conform to the format for a list of name/value pairs.	
underlyingType		*Reference Data: Option Series Dictionary Entry (OSDE)* This field specifies whether a simple option series has an equity or index as its underlying. The underlying type mapping is consistent with the same mapping used at OCC (e.g., ETF is treated as Equity and WCO is treated as Index). **Allowed Values** **Equity** **Index**	
version	Version	This is a data type, not a field. Digits and decimals are the only allowed characters. The first character must be a digit group followed by any number of optional pairs of decimals and digit groups.	
workingPrice	Price	*Event(s): Order Accepted, Order Restatement, Simple Option Order Accepted, Option Order Modified, Option Order Restatement* The working price of the order.	

Appendix G. CATFT (fileX) Token Service Instructions and Examples

This section has been removed for security purposes.

Appendix H. Plan Processor Best Practices

This section has been removed for security purposes.

Appendix I. Historical Summary of Document Revisions

Version	Date	Author	Description
1.0	5/14/2017	Thesys CAT	Initial release.
1.1	6/2/2017	Thesys CAT	Incorporates feedback from version 1.0. - Various minor changes to correct typos, and make clarifications. - Sale Condition - Added the Supplemental Trade Event to provide a way for sale condition to be reported independently of the trade/fill event itself. In addition, the saleCondition in all the trade/fill events was marked as conditional. - Changed "style" to "exerciseStyle" for clarity - Changed timestamp format from UTC to Eastern (kept alternative timestamp format). - sequenceNumber changed from Required to Conditional - result and resultTimestamp changed from Required to Optional - Removed price from trade break event. Clarified definition of quantity in trade break event to allow for partial trade break. - Made buy/sell details on a trade correction optional - for simpler cases where only the price/qty are changed - Added executionTimestamp and reason as optional fields to trade correction events. - Fixed some Message Type typos and mismatches between tables. - Fixed inconsistent use of cancelReason and cancelReasonCode so all uses reference cancelReason. - Changed clearingFirm in stock leg from a validated MemberAlias to a free form Text(10) - as explained by SRO this field is received in the order from the BD and is passed thru to the firm executing the stock leg - there is no validation of this field. Also, changed to be optional. - exchOriginCode removed from complex option stock leg events - timeInForce, handlingInstructions, and orderAttributes added as conditional fields for complex option order modify event - liquidityCode is optional for option trades because some option exchanges do not track and report add/remove of liquidity. - Stock Leg Fill Event - renamed tradeID to fillID; removed quoteID; changed orderID to required; clearingFirm changes as mentioned above; clearingNumber is now optional - Post Trade Allocation - added optional fields as requested: openCloseIndicator, exchOriginCode, mktMkrSubAccount, reason - Upload directory will be the date for the events being reported - leavesQty in side details is not required when used in conjunction with a trade correction - cmtaFirm and mktMkrSubAccount are now conditional rather than optional - Modified Events - optional fields changed from optional to conditional since they are required if their value changes, and is more consistent with the definition of conditional than optional.

Version	Date	Author	Description
			• Substantial updates to data dictionary, including additions to orderType, executionCodes, handlingInstructions, and orderAttributes based on SRO feedback.
1.2	6/20/2017	Thesys CAT	• Minor changes to correct typos and add clarification • Data Dictionary - reformat; address typos and inconsistencies • Add ETF to issueType; add issueType to examples • Update JSON/CSV schema • Clarified orderID for option cancel and stock leg fill • Supplemental Trade Event - side is conditional on fillID • Clarifications in feedback section • Updated tables for FINRA reporting formats: sections 6.3, C.4, and D
1.3	7/6/2017	Thesys CAT	• aliases were overloaded - separated into memberAliases and symbolAliases • Clarify Inactive status for member dictionary • Add Asian and Cliquet to option settlement • Add definition of receipt time • Add symbol and optionID to the Note Event • Option trades may not have quoteID/orderID on one or both sides of a trade • Provide JSON field names for metadata file • Call out single-line restrictions on JSON/CSV files • Clarification and examples for JSON/CSV schema and conversions • Describe the Symbol Master upload file • Updated details and diagrams for connectivity changes • Clarify definition of Record Index for feedback and correction files • Add CBOE Note Event details • Clarify support for FLEX PCT trades • Defined values for ParticipantID/ExchangeID
1.5	12/07/2017	Thesys CAT	• Optionally allow space as separator in Timestamp • XTIME requires Timestamp • Add "type" field to Metadata • Update data dictionary with SRO-assigned values • Define Symbol Alias data type • Increase length of companyName field • Add symbol market move scenarios • Corrections and clarifications to text and examples • add executionCodes to option side-trade details • Update descriptions for FINRA reported OTCBB and TRF • Add FINRA halt/resume • Clarified encoding for file submissions • Placed length limit of filename group • Increase length of fileID and origFileID for metadata

Version	Date	Author	Description
			- Add information about upcoming change in encryption process - Clarified format for hashes in metadata - Removed support for VPN access - Clarified SFTP upload procedures - Add "final" stage for file processing - Provide fileName instead of fileID for certain integrity failures - Clarification for cancelQty - Added cancelReason values for BOX, MIAX, Pearl, and CHX - Added definedNoteData values for NYSE - Added exchOriginCode values for NYSE, Bats, MIAX, and Pearl - Added executionCodes values for BOX, MIAX, CHX, and NYSE - Added general handlingInstructions, and specific ones for BOX, CHX, and NYSE, - Added liquidityCode values to support extended codes for NYSE - Added noteType values for NYSE - Added/Updated orderAttributes values for BATS, BOX, CHX, and NYSE - Added general orderType values AMPEG, LOO, MOO, MDPEG, MMPEG, RTPEG, SOL and specific values of CHX and NYSE - Changed Participant ID values for NYSE National and NYSE American - Added CrossExempt to side values - Added general timeInForce values AOK, CLO, GTX, OPG, REG, WCO and specific values for CHX - Clarified the delivery timeline for the file submission functionalities via Reporter Portal - Update FINRA OTCBB/TRF field definitions - Restrict correction records to the original fileID - Provide full equity master file to participants - Define encoding as ISO-8859-1 - Clarify underlyingType mappings - PTA event: add quoteID; clarify quoteID/orderID fields - Support complex orders in option restatement - Clarify executingBroker definition - Redefine the GROUP filename component - Indicate when finished sending a batch of files - Add complexOptionID to leg events - quoteID globally unique by reporter/date/optionID/quoteID - New upload/encryption process - Clarify initiator field definition - Modified events now require full state of order - Modify and clarify file submission process - Update Participant ID definitions
1.6	2/16/2018	Thesys CAT	- Add lifecycle keys for each event - New events: Order Adjusted, Option Order Adjusted, Complex Order Adjusted, Stock Leg Adjusted

Version	Date	Author	Description
			• Unified and clarified definitions for originalOrderID in modified, adjusted, and restatement events
			• Remove confusing text about a missing or empty value for the session field being used as a default value.
			• Updated corporate action reporting formats specified in Appendix C.
			• File ID no longer required in .meta file, and origFileNumber replaces origFileId for file replacement and corrections.
			• Reverting to the original specification, regarding the .final file. Based on SRO feedback, in version 1.7 of the input spec changes will be made to simplify the automation of file submission from the SRO perspective.
			• Clarify NBBO values when the NBBO may be unavailable
			• Ease restriction on routingFirm so it can be any text string, not just a Member Alias.
			• Clarify what is submitted for both JSON and CSV formats when a data field is not reported.
			• Correct events which were missing fields displayPrice, displayQty, and leavesQty.
			• Added type as first column in FINRA OTC corporate actions, TRF, OTCBB, and Halt/Resume records.
			• Changed type from Numeric to Unsigned in FINRA TRF and OTCBB events.
			• Increased max length for some text fields in daily events to make them consistent.
			• Time is a JSON Number
1.6.1		Thesys CAT	• Change max length of Symbol to 20.
			• Fix typo in NYSE Corporate Actions event.
			• Remove symbology and normalization feedback stages these are contained in the ingestion feedback.
			• Added CBOE executionCode FirmTradeTime.
			• Add isGloballyUnique to complex accepted event, and relax requirement on complexOptionID if the orderID is globally unique.
			• Add the file kinds NASDDaily, BATSDaily, NYSEDaily, and FINRADaily to the file submission process. These file kinds subsume Halt/Resume and Corporate Actions.
			• Add clarification of semantics of a successful file replacement.
1.7	07/24/2018	Thesys CAT	• Updates to per-SRO member dictionary values
			• Added member field to explicitly identify the member on orders and trades.
			• Clarified requirement for marking ISO orders in handlingInstruction
			• Added sequence number subsystem
			• Change routingFirm to routingParty for clarity of intent
			• Add Internal Route events
			• Add Bulk Print Event
			• Clarify field requirements

Version	Date	Author	Description
			• Make fields conditional regarding complex options and option legs • Remove NASD TRF • Added file submission schedule • Add refTradeID to trade correction events • Add display Qty/Price to quote events • Remove executingBroker • Add floorBroker • beginDate is optional in the expected field for symbol master updates • Update type info for amount and amountCode in NASD daily records
1.7.1	09/09/2018	Thesys CAT	• Update symbol master management • ASE is to be used only for adding a new symbol • USE is to be used for only updating fields (no longer can be used for transfer) • SMRST is for restating and/or verifying an existing symbol • SMXFR is for transferring a symbol to a new listing participant • Update appendix E (symbol master transfer topics)
1.7.2	3/6/2019	CAT NMS, LLC	• Update encryption requirements • Change connectivity requirements from SFTP to S3 Upload • Add Disaster Recovery information • Add MIAX Emerald options exchange specifications • Add appendix G with sample transmission of Participant files to S3 buckets
2.0.0	5/10/2019	FINRA CAT	• General Format Modifications • Table numbers added • Font changes • Data dictionary changed from list to table format • Typographical errors corrected • Revised grammar as necessary • File compression has been limited to BZIP2 (.bz2) • Equities Submissions specifications have been greyed out. • PP SLA Requirements have been updated with new options files submission times • Data flow Architecture diagram updated to show the ability of PP's to pull feedback files from the Plan Processor AWS S3 location • Connectivity section updated to show new architecture of mandated S3 Direct Links (required by Nov.) • Physical locations of the feedback subdirectories identified for each Plan Reporter ID • Added AWS S3 Direct Download Process • Disaster Recovery Information updated. • Feedback and corrections flow chart for visualization of the process has been added.

Version	Date	Author	Description
			• Physical locations of the feedback subdirectories identified for each CAT Reporter • FieldName and FieldValue have been added to the feedback JSON format. • Error Codes for the correction feedback loop added in Appendix B • Data Dictionary Updates • Added Plan Participant best practices appendix
2.0.0 Enhanced	6/7/2019	FINRA CAT	• Corrected data type for name/value pair to add JSON object to match verbiage of name/value description in section 1.4.1 • Marked equity event sections 4.1 (EOA event), 4.2 (EOR event) and 4.8 (EOF event) with a black font since they are applicable for the June release • Section 5.2.2.3 definition for OSLM (option stock leg modified) event was changed to swap place the seqNumber attribute ahead of the seqNumSub attribute • Enhanced OT record samples to include Side Trade Details in Section 8.3.1 • Enhanced OT record samples to include Side Trade Details in Section 8.4.1 • In section 9.1.2 the compressedHash field description was changed to be consistent with the Include Key column which mandates that this field is populated. • Section 10.1 now articulates that all feedback files will be compressed using bz2 • Modify section 10 JSON feedback examples to be in sync with document verbiage and added more descriptive language for feedback files. • Modify document in section 10 to eliminate statements indicating that the entire file will be rejected if it contains an invalid message type • Sections 6, 10.9.1 and 10.10 have been marked with a grey font since they are not applicable to the June release • Added new error codes in Appendix B • Appendix F – Data Dictionary ◆ Add new value 'd' for orderAttributes name 'REJA' for Cboe non legacy options exchanges ◆ Change data type for cancelReason to Choice from text(255) ◆ Change data type of the orderAttributes value for name NBBOProtection to Boolean from choice for Cboe (C1 Legacy) ◆ Add new values for definedNoteData field for name AuctionType for Cboe (C1 Legacy) ◆ Add new values for oderAttributes names AckSubLiquidity and RESTA for Cboe non legacy options exchanges ◆ Add new value for handlingInstructions name TifMod for Cboe non legacy options exchanges ◆ Divide ExecutionCode Attribute name/values between Cboe non legacy options exchanges and Cboe (C1 Legacy)

Version	Date	Author	Description
			◆ Added valid temporary name value pairs for executionCodes, handlingInstructions, and orderAttributes to support back processing data received from 3/29/2019 – 6/21/2019
2.1.0	9/24/2019	FINRA CAT	• Section 4.2: Remove duplicative rows from Table 20, which describes the Equity Order Route event type • Removed section 9.3 with obsolete diagram of token exchange • Section 9.5: Update connectivity section to show private line connection details • Section 10.11.1 Feedback and Correction: Enhanced the description to state a reference data error can only be corrected by resubmitting the entire file after correcting the error • Section 10.11.1 Feedback and Correction: Enhance the correction processing section to state that the record offset in the feedback file for correction processing will reference the original file and not the correction file. • Appendix F: Data Dictionary modifications • Appendix G: Update for utilizing CATFT (fileX) for token retrieval and file transfer
3.0.0	11/19/2019	FINRA CAT	• Section 4: Add routedOrderId to EOM, EOJ. Added routedOrderId to side details on EOT and ETC. These attributes were added to facilitate equity linkage discovery • Section 4.15: Added new link route keys for EOM, EOJ, EOT and ETC events • Section 5: Add routedOrderID to OOM, OCOM, OOJ, OCOJ, OT and OTC option events. All of these attributes were added to events to facilitate option linkage discovery • Section 5.6 – Added new keys for Cross order and order route • Section 7 – Added examples for stock events with routedOrderId • Section 8 – Added examples for option events with routedOrderId • Section 9.1.2: Change to mandate isKindDone is populated with "true" after transmission of a fileKind is complete for the trade date. • Section 10: Changed the directory structure for feedback files • Section 10.9.3: Added to demonstrate feedback for Intra Exchange Linkage Discovery phase • Appendix B Error Codes: Added error codes for Intra Exchange Linkage Discovery phase • Appendix F Data Dictionary: Update orderAttributes to include the pairedOrderId to facilitate linkage for cross orders. Update to data dictionary for cancelReason field and add orderType values for IEX. Updates to Cboe values due to migration to Bats technology • Fixed typo in appendix G – CATFT Token Service instructions and examples • General verbiage and grammatical corrections
3.0.1	2/25/2019	FINRA CAT	• Removed optnId from cross order key for OOA and OOM events • Section 8.4 page 174: Fixed typo in example for OT event with routedOrderId for partially executed away trade

Version	Date	Author	Description
			• Appendix D FINRA Trade Reporting Facility (TRF) Fields: Added Related Market Center Id for MIAX PEARL Equities
			• Appendix F Data Dictionary: Enhance the orderAttributes definition for pairedOrderId to state the following: The Paired Order ID must uniquely identify the paired orders within the Trade Date and Exchange
			• Appendix F Data Dictionary: Added new order attribute name value pair for IEX for AIQ (Anti-Internalization Qualifier)
			• Appendix F Data Dictionary: Added new Plan Participant ID for MIAX PEARL Equities
			• Appendix F Data Dictionary: Removed orderAttribute Auction type 'c' for Cboe
			• Appendix F Data Dictionary: Removed legacy origin codes of 'P' and 'Y' from legacy Cboe possible exchangeOriginCode fields
3.1.0	3/10/2020 – 4/15/2020	FINRA CAT	*The following changes were presented to TWG on 3/13:* • Marked sections pertaining to equities with a black font from grey font in anticipation of on boarding LTSE and BSTX equity exchanges • Added Cross Order linkage key to EOA, EOM, and EOJ events • Section 10: Added clarification that if an entire file is rejected because it exceeded the ten percent threshold, then it must be corrected with a replacement file, not a correction file • Appendix F: Added BSTX – Boston Security Token Exchange as a Participant Id • Appendix G: Added new landing directories for equities exchanges *The following changes were presented to TWG on 4/16:* • Updated description of OOM, OOJ, EOM, and EOJ to clarify. • Updated definition of 'quantity' on OOM, OOJ, EOM, and EOJ to clarify. • Appendix F: Updated orderAttributes to add REJA name/value pair for LTSE for Cboe equity exchanges. Added handlingInstructions to add LTSE for NASDAQ equities.
3.1.0-r1	05/29/2020 – 06/05/2020	FINRA CAT	• Appendix F: Added executionCodes and orderAttributes values to support introduction of new Cboe Delta Adjust at Close order type. • Appendix F: Added handlingInstructions allowed value of 'e' for Cboe (Midpoint Discretionary Order with Quote Depletion Protection) • Appendix F: Added handlingInstructions allowed value of 'CUBEAUCS' for NYSE Options (Solicitation CUBE) • Appendix G: Updated format for clarity • §2.3 and §9.2 updated to include clarifications on the submission of the Options Dictionary containing products not included in OCC data. • §4 Equities Route Events (EOR, ECR, and EMR) and §5 Options Route Events (OOR, OOMR, OOCR) updated to remove session from event Route Link Keys as the session is not provided by Industry Members.
3.2.0	7/10/2020	FINRA	*Administrative updates:*

Version	Date	Author	Description
		CAT	• Moved Change Log contents prior to version 3.1.0 to Appendix I (change NOT tracked) • Renamed Change Log to "Summary of Document Revisions" to reduce confusion between document changes and Change Requests • Began reformatting of Appendix F: Data Dictionary (changes NOT tracked) • Updated XTIME in examples to reflect full timestamp format • Added OCOA and OCIR to events for exchOriginCode in Data Dictionary *Spec updates:* • §4 Events for Stock Changes; Appendix F: Add routingParty and session to EOM and EOJ events • §5 Events for Options Exchanges: Added new Floor Broker Events (Cboe) • §10.9: Intra Exchange Order Event Feedback o Moved to §10.10 o Updated to include Intervenue linkage feedback and TRF Trade linkage feedback • Appendix B: Added B.2.2 (Intervenue feedback error codes) and B.2.3 (Trade Linkage feedback error codes) • Appendix F: Data Dictionary: o Added orderAttributes and executionCodes values for LTSE o Updated definitions of routingParty and session to clarify use in modified and adjusted events • Corrected quoteID to remove Stock Leg Fill event, which does not include the quoteID field
3.2.0-r1	7/17/2020	FINRA CAT	*Administrative updates:* • Continued reformatting of Appendix F: Data Dictionary (changes NOT tracked) • Updated description of session for EOR to remove reference to matching the value reporting by the routing firm (IM do not provide session) • Added OOJ event for complexOrderID and complexOptionId in Data Dictionary *Spec updates:* • Appendix F: Data Dictionary: o Added cancelReason, handlingInstructions, and orderAttributes values for MEMX o Added 'DerivedOrderTraded' cancelReason for MIAX and MIAX Emerald o Added cancelReason, handlingInstructions, liquidityCode, orderAttributes, and orderType values for MIAX PEARL Equities o Appendix G updated to clarify placement of feedback if a reporter is not identified in the file name and the reporter has both equities and options buckets
3.2.1	8/7/2020	FINRA CAT	*Administrative updates:*

Version	Date	Author	Description
			• Updated §10.1 to provide distinct paths for Options feedback vs. Equities feedback; also corrected types in the path originally provided
			Spec updates:
			• Appdenix F: added MEMX to Participant ID list.
			• Introduced Equity Market Maker (EMM) reporting; updated the following sections:
			o NEW! §2.4 Market Maker Information
			o §9 File Submission Process
			o NEW! §10.8 Feedback and Corrections for Market Maker Dictionary
			o §10.13 Corrections
			o Appendix B.1: Data Ingestion Errors
			o Appendix B.3: Error Prefix Defintion
			o Appendix F: Data Dictionary
			▪ Added: definedMMDEData, marketMakerStatus, marketMakerType, statusTime
			▪ Updated: marketMaker, type
3.2.1-r1	8/31/2020	FINRA CAT	*Spec updates:* • Appendix F: Added new values for NOBO in cancelReasons, executionCodes, and handlingInstructions
3.2.2	9/25/2020	FINRA CAT	*Administrative updates:* • Updated two references to linkageFailureFileCount in §10.11.3 to linkageErrorFileCount (as defined in §10.11.2.1) • Moved pre-3.2.0 changes from the main change log to the Appendix I historical change log *(changes not tracked)* *Spec updates:* • To support intervenue linkage (firm-to-exchange, firm-to-TRF): o Appdenix B: Added intervenue link errors for destination did not match. o Appendix B: Repurposed OE.TRADELNK error codes 4004 and 5005, previously identified as a mismatched eventTimestampe, to use for mistmatched marketCenterId. o Appendix B: Added OE.TRADELNK error codes 4010 and 5011 for reporting or contra IMID cannot be found. • Appendix F: Added 'SYS' `timeInForce` code for LTSE
3.2.2-r1	10/21/2020	FINRA CAT	*Spec updates:* • Appendix F: Added new `cancelReason` name/value pairs for MEMX. • Appendix F: Added new name/value pairs for Cboe Position Compression Cross and Related Futures Cross in `executionCodes` > `SUBLIQ` and `orderAttributes` > `AuctionType` and `executable`.
3.2.2-r2	11/10/2020	FINRA CAT	*Administrative updates:* • Updated §10.11.3 for Intravenue Linkage example to include the Linkage Key in the description field. This is the current

Version	Date	Author	Description
			behaviour for Intravenue Linkage feedback but was not previously documented here.
			Spec updates:
			• Updated §10.11.2.2.1 Intravenue and Intervenue Linking element 1.n.4 to indicate that the Linkage Key is provided as part of the description field.
			• Updated §10.11.3 for Intervenue Linkage example to include the Linkage Key in the description field.
3.2.2-r3	11/18/2020	FINRA CAT	*Spec updates:*
			• Appendix F: Added new `orderAtrribute` of `R` for MEMX Retail Orders.
3.2.2-r4	12/2/2020	FINRA CAT	*Spec updates:*
			• Appendix F: Added new `cancelReason` of `PEARLEQ_0012` for MIAX PEARL Equities.
			• Appendix F: Added new `orderAttributes` of `FBT` (Floor Broker Trade) for all exchanges.
3.2.2-r5	1/11/2021	FINRA CAT	*Spec updates:*
			• Appendix F: Added new `cancelReason` of `MIAMI_0059` for MIAX.
4.0.0	2/22/2021	FINRA CAT	********Round 1 of Release 7 Edits********
			Spec Updates:
			Changes for Release 7 to support transition of data submission by equities exchanges from FINRA RSA feed format to CAT specified format, including:
			• Removed Bulk Print event type and all corresponding references.
			• Added `side` field to EOM, OOM, and OOJ event types; clarified definition of `side` field for EOJ.
			• New name/value pairs for the submission of single-priced auction trades such as openings, re-openings and closings
			• Side field added to modify events.
			• Changed several elements for `sideDetails` for equities from required to conditional.
			• EOF contraClearingNumber from required to optional.
			• EOT sideDetails 'side' from required to conditional.
			• Appendix F:
			○ Added `executionCodes` Allowed Values/Name Value Pairs for `NonMediaTrade`, `BulkTradeType`, `BulkTradeID`.
			○ Updated description of `side` to include newly relevant events.
			○ Remove `type` of BulkPrint
4.0.0	2/22/2021	FINRA CAT	********Round 2 of Release 7 Edits********
			Administrative Updates:
			• Executive Summary, Introduction, and CAT Overview - revised to align with IM Spec and remove duplicate information.
			• Change Log - Moved pre-Release 7 items to Appendix I.

Version	Date	Author	Description
			• §1.4 Fundamental Data Types – moved Data Validation paragraph above Name Value Pairs section.
			• §9 Submission and §10 Feedback and Corrections – removed outdated references to web GUI/portal for uploading of data
			• §10 Feedback and Corrections – updated to clarify use of Replacement Files (see 10.10.2).
			• Appendix F: Data Dictionary - provided quick links via alphabet and to commonly used terms; updated format to clearing show the events lists for each field (not tracked).
			• Reconciled the following events with the Data Dictionary and made updates as applicable:
			o Member Dictionary Entry (MDE)
			o Option Series Dictionary Entry (OSDE)
			o Complex Option Series Dictionary Entry (CODE)
			o Market Maker Dictionary Entry (MMDE)
			o Note (NOTE)
			o Self-Help Declaration (SHD)
			o Supplemental Trade Event (STE)
			Included addition of the following to the Data Dictionary: groupID, ID, optionsSymbol, seqNumSub
			• Throughout - cleaned up references to web-based functionality that isn't provided by CAT.
			Spec Updates:
			• Revised throughout to reflect provision of Equity Symbol and Corporate Action Reference Data by FINRA:
			o §2.2 Equity Symbols – ungreyed.
			o §2.2.# - all 2.2 subsections remove *except* for CAT Symbol Master and Corporate Actions.
			o §2.2 - updated to reflect provision of Equity Symbol and Corporate Action data by FINRA.
			o §3.2 Symbology - ungreyed; edited to remove reference to Symbol Dictionary.
			o §9 Submission Process - removed references to Symbol Master, Symbol Dictionary, and exchange-specific Corporate Action files where applicable.
			o §10 Feedback and Corrections - greyed out Symbol Master content removed.
			o §10 Feedback and Corrections - greyed out Symbol Dictionary content removed.
			o Appendix C - removed exchange-specific Corporate Actions schemas.
			o Appendix E - removed market move examples; these are obsolete given that equities symbol information will be provided by FINRA, which already takes market moves into consideration.
			o Appendix F: Data Dictionary - removed the following terms that appeared in the removed Reference DataL listingParticipantId, issueType, beginDate, endDate, companyName, IPO, test, attributes, listedSymbol, symbolAlias.
			o Throughout - updated description of 'symbol' to remove references to Symbol Dictionary.

Version	Date	Author	Description
			o Throughout - removed references to "Symbol Dictionary", "Symbol Master", and "Symbol Entry". • Revised throughout to reflect FINRA Plan Participant reporting of TRF and OTC Halts data: o §6.1 TRF/ORF/ADF - ungreyed. o §6.1 FINRA TRF - added new TRF spec. o §6.3 OTC Halts - ungreyed. o §6.3 OTC Halts - updated. o §9 Submission Process - added FINRA Transactions (TRF) and OTCHalts file kinds where applicable o §10 Feedback and Corrections - ungreyed TRF/ORF/ADF content removed; updated as needed. o §10 Feedback and Corrections - added section for OTC Halts. o Appendix B: Errors Codes - error prefix list and ingestion error codes updated to reflect new TRF and OTC Halts file processing. o Appendix D - removed greyed out TRF spec. o Appendix F: Data Dictionary - added new fields for TRF and OTC Halts, including allowed values. • Per request from Plan Participants: o For EOT and OT, set routedOrderID to Optional. o For EOM and EOJ, clarified description of routedOrderID, routingParty, and session.
4.0.0-r1	3/24/2021	FINRA CAT	*Administrative Updates:* • Fix typo in Appenidix F: Data Dictionary `orderAttributes` > `PairedOrderID` to lowercase 'p'. • Document updated to reconcile changes from versions 3.2.2-r4 and 3.2.2-r5. *(Changes not tracked since they were previously approved.)* *Spec Updates:* • Updated §10.9.2.2.2. Table 96: Linkage Error Feedback <u>for Off-Exchange Trade Reports to reflect additional information to be provided for Off-Exchange events Linkage Error Feedback. (Effective June 1, 2021)</u> • Updated Appendix F: Data Dictionary to: o Add `childOrderID` to `orderAttributes` for all exchanges. o Add Allowed Values for NYSE Equities for: `capacity`, `handlingInstructions`, `orderAttributes`, `orderType` o Add Allowed Values for NASDAQ Equities for: `cancelReasons`, `handlingInstructions`, `liquidityCode`, `orderAttributes`
4.0.0-r2	4/5/2021	FINRA CAT	*Spec Updates:* • Updated Appendix F: Data Dictionary as follows: For Cboe-BYX: o Added `orderAttributes` of `CrossTradeFlag` and `LockOrderForAuction` o Added new allowed value 'p' for `executionCodes` > `SUBLIQ`

Version	Date	Author	Description
			For <u>FINRA</u> o Added allowed values for `finraTradeModifierSroCode`, `firmTradeModifierSroCode`, `tradeSourceCode` o Updated format of `finraTradeModifierThroughExemptTime` from Timestamp to Time For IEX: o Added new allowed values for `cancelReason`, `executionCodes`, `orderAttributes`, and `orderType` For NASDAQ: o Added allowed values for `cancelReason`, `definedMMDEData`, and `orderAttributes`
4.0.0-r3	4/20/2021	FINRA CAT	*Administrative Updates:* • Rewrote content of Section 10: Feedback and Corrections for consistency and clarity. • Update Section 9.6 Submission Feedback to remove duplicative content and refer to Section 10. • Updated NASDAQ `orderAttributes` of PegOffet to PEGOFFSET to match expected implementation. • Removed definitions of MPEG and PPEG in NYSE Equities `handlingInstructions`. *Spec Updates:* • Updated Section 10 Feedback and Corrections (specifically 10.8.1.1) to reflect submission of 'FCOR' record type. • Updated Appendix F: Data Dictionary to add 'FCOR' record type. • Updated Appendix F: Data Dictionary for NYSE Equities `orderAttributes` to add MMID.
4.0.0-r4	4/20/2021	FINRA CAT	*Administrative Updates:* • Corrected the following items that were introduced in previous versions of the spec: o Cboe `handlingInstructions`: ExecInst 'H' to 'h'. o NYSE Options `handlingInstructions` 'PNP' to 'PNP+'. (Note that PNP appears twice; PNP is still a valid value.) o Cboe `orderAttributes`: ROUTESTRAT 'N' to 'n'. o Removed duplicate NYSE Equities `orderAttributes`. *Spec Updates:* • Updated Appendix F: Data Dictionary for NYSE Equities `handlingInstructions` to add AOC and DIR and remove NALO. • Updated Appendix F: Data Dictionary to add `executionCodes` of `childOrderId` for all participants.
4.0.0-r5	5/4/2021	FINRA CAT	*Administrative Updates:* • *Spec Updates:* • Updated Appendix F: Data Dictionary as follows:

Version	Date	Author	Description
			o BOX `definedNoteData`: `ST` values of TraderCanceled and CanceledBySupervisor updated to include two 'l's to match implementation. Update approved by BOX. o Cboe `handlingInstructions`: ExecInst 'h', defined as Minimum Not Held, updated to 'h' Minimum and '1' Not Held'. o Cboe `orderAttributes`: AllowPriceSlide – added line break between values 'C' and 'K'. o IEX `orderType`: RLPM added. o NYSE Equities `executionCodes` – removed Auction, Close, and Open values per NYSE request.
4.0.0-r6	6/1/2021	FINRA CAT	*Spec Updates:* • FINRA Transaction event (TRF) `tradeStatusCode` changed to a Conditional field.

4.0.0-r7	6/16/2021	FINRA CAT	*Spec Updates:*
			• Updated Appendix F: Data Dictionary to add the following for NASDAQ Equities:
			  o `orderAttributes` (**OriginalChildOrderID**)
			  o `orderAttributes`: CrossType value (**8**)
			  o `handlingInstructions` (**ChildCancelReason** and **RSRV**)
			  o `liquidityCodes` (**AfterHoursClose**)
			  o `timeInForce` (**AHC**)
			• Updated Appendix F: Data Dictionary to add the following for MIAX PEARL Equities:
			  o `cancelReasons` (**PEARLEQ_0013, 9002, and 9003**)

4.1.0	6/1/2021	FINRA CAT	*Administrative Updates:* • Updated Table 1: Summary of Document Revisions to move items prior to 4.1.0 to Appendix I. *(change not tracked)* • Reconciled list of Options Events in Section 5. *Spec Updates for Plan Participant Release 7b:* • Added new Member Alias Detail Entry (MADE) event in Section 2.1 Member Information for reporting of ATSs and non-member firms. Updated Data Dictionary accordingly. • Added test flag to Option Series Dictionary Entry (OSDE). • Added `side` to OCOM and OCOJ events. • Added `routingParty` and `session` to OOM, OOJ, OCOM, OCOJ. • Added new Option Complex Order Route (OCOR) event for routing of a complex order to an external destination. *Spec Updates for Release CR-20 (Two-sided Option MM Quotes):* • Added `askQuoteID` and `originalAskQuoteID` to OQ event. Added `askQuoteID` to OQC event.
4.1.0-r1	6/15/2021	FINRA CAT	*Spec Updates for Plan Participant Release 7b:* • Updated Section 10.6 and Appendix B.1 to reflect conditional validations that will be enforced. Updated Section 10.7 and Appendix B.2 to reflect duplicate validations that will be enforced, including duplication of event data and linkage keys.

Version	Date	Author	Description
4.1.0-r2	7/14/2021	FINRA CAT	*Spec Updates for Release CR-21 (Plan Participant 24-Hour Trading):* • Updated Section 9.7 CAT Reporting Hours • Added Appendix D: CAT Date Definitions and Reporting Guidelines *Spec Updates for Release CR-## (Linkage of IM MOOT and Plan Participant OT):* • Appendix F: Added new `executionCodes` of `MOOTLINK`. • Appendix B: Added new codes for MOOTLINK linkage errors. *Spec Updates for Release CR-## (Trade Reversals):* • Appendix F: Added new `executionCodes` of `CORR`, `PRVRSL`, `REFTRADEID`, `REFTRDDATE`, and `RVRSL`. *Spec Updates for Cboe SUBLIQ* Appendix F: Added new `executionCode` > `SUBLIQ` value of `x` (Effective no later than 7/9/2021 in CT and 7/28/2021 in PROD.)
4.1.0-r3	7/28/2021	FINRA CAT	*Administrative Updates:* • Appendix F: Data Dictionary updated to clarify definition of `marketMaker`. *Spec Updates for Release CR-21 (Plan Participant 24-Hour Trading):* • Section 3.1 Timestamps and Sequence Numbers updated to reflect use of `cycleDate` for 24-hour trading. • Section 3.7 Common Events updated to add `cycleDate` for all common events. • Section 5 Events for Options Exchanges updated to add `cycleDate` to all Options events. • Section 5.7 Lifecycle Keys updated to add note about use of `cycleDate`. • Appedix F: Data Dictionary updated to clarify definition of `sequenceNumber`. *Spec Updates for PP Release 7b:* • Section 2.5 market Maker Information and 9.2 File Submission Schedule updated to change submission deadline of Market Maker Dictionary to T+1 @ 4 AM. • Section 10.8 Corrections, Deletions, and Replacements updated to indicate that full replacement files cannot be submitted after T+4 @ 8 AM for Order Events and FINRA transactions (TRF). *Spec Updates for NYSE Options on Pillar Trading Platform:* • Appendix F: Data Dictionary updated with new `definedNoteData`, `executionCodes`, `handlingInstructions`, and `orderAttributes`. *Spec Updates for Release CR-## (Linkage of IM MOOT and Plan Participant OT):* • Appendix B: Added/updated codes for MOOTLINK *side* intervenue linkage errors. **ADDITIONAL UPDATE ON 8/9/2021** Updates made in revision 4.1.0-r3 for the NYSE Pillar Migration inadvertently resulted in the use of `orderAttributess:Reserve` as both a Boolean and a Name/Value Pair for the NYSE Options Markets.

Version	Date	Author	Description
			Because this cannot be supported, FINRA CAT and NYSE agreed to the following approach: - Leave `Reserve` as a Boolean value for all NYSE Options markets (AMEROP and ARCAOP). - Remove `Reserve` as a Name/Value Pair for the NYSE Options markets. Add `PublishQuanity` as a Name/Value Pair for NYSE ARCAOP only, using the same definition provided for the Reserve Name/Value Pair. This allows ARCAOP to use *either* `Reserve` or `PublishQuanity` during the transition phase. `PublishQuantity` will be open to AMEROP at a later time when that market is really to migrate to Pillar.
4.1.0-r4	8/25/2021	FINRA CAT	*Administrative Updates:* - Section 3.3 updated to clarify that NBBO fields are optional on order leg events. - Updated Sections 5.2 and 5.2.1.2 to clarify the requirement for leg level order events. - Updated Section 5.2.1.2 to include special handling for QCC orders. *Spec Updates for Plan Participant Release 7b:* Appendix B updated to move the Duplicate Exchange/Firm Trade Key from OE.<u>INTRA</u>EXCHLNK.5010 to OE.<u>INTER</u>VENUELNK.6020.
4.1.0-r5	10/6/2021	FINRA CAT	*Spec Updates:* `routingParty` updated throughout from Text (20) to Text (8) to closer align with the format of IM-related data used for linkage against the `routingParty` field. - Order of new fields on the following events have been modified to match implementation: OOM, OCOM, OOJ, OCOJ. - Added clarification to cycleDate throughout that the value should be between Event Date and T+1, inclusive. Appendix F: Data Dictionary updated to include `handlingInstruction` of XCTBL for BX, PSX and NSDQ, inadvertently omitted from prior specification. Removed duplicative `handlingInstruction` section for BX, PSX and NSDQ.
4.1.0-r6	10/19/2021	FINRA CAT	*Administrative Updates:* - Sections 1.4 and 9.1.3.1 updated to add clarification on submission of non-required fields at the end of a CSV record. *Spec Updates for NYSE Options on Pillar Trading Platform:* - Appendix F: Data Dictionary updated with new `orderAttributes` of `ClearTheBook`. *Spec Updates for Plan Participant Release 7b:* - Appendix B updated to change Intravenue Error code 5006 to 5011 and 5008 to 5012 (to eliminate conflict with IM error codes). *Spec Updates for NASDAQ:* - Added new values for `handlingInstructions:Display` *Spec Updates for IEX (added 10/8):* Added new values for `handlingInstructions` ('Reserve' and 'DisplayRange')
4.1.0-r7	12/1/2021	FINRA	*Administrative Updates:*

Version	Date	Author	Description
		CAT	*The following updates have been made to the Data Dictionary to correct errors and omissions from previous versions of the document:* • For `definedNoteData > ST`: ○ BOX values 'TradeCanceled' and 'CanceledBySupervisor' update to 'TradeCancelled' and 'CancelledBySupervisor' • For `cancelReason`: ○ BOX value 'CanceledBySupervisor' updated to 'CancelledBySupervisor' • For `handlingInstructions`: ○ NADSAQ (BX, PSX, NSDQ) `ChildCancelReason` updated values 76, 77, 79, 82, 89, and 100 to 23-28, respectively; added values 1, 29-33 ○ NASDAQ (BX, PSX, NSDQ) `display` value 'Other' updated to 'OTHER' ○ ARCAOP/AMEROP value 'FlexPCT' updated to 'FLEXPCT' ○ Cboe `cancelReason` value 'FloorError' added ○ Cboe `execInst` value '1' added • For `orderAttributes`: ○ Cboe `ST` value 'Eliminated' added *Spec Updates:* • Updated `quoteId` on OQ event from Required to Conditional • Added `saleCondition` values 'u' and 'v' • Added information about OAUTH in Appendix G • Appendix B updated to change error code FILE.NAME.240 to INT.META.240 • Added PEARLEQ `cancelReasons` values 'PEARLEQ_0014', 'PEARLEQ_0015', 'PEARLEQ_0109', 'PEARLEQ_0110', 'PEARLEQ_0111', and 'PEARLEQ_0112' • Added MEMX `handlingInstructions` values 'RML' and 'RMO' Added `orderAttributes` values 'replacedOrderDate' and 'replacedOrderID'
4.1.0-r8	12/15/2021	FINRA CAT	*Administrative Updates:* • Added clarification to Appendix G regarding OAUTH POST request The following updates have been made to the Data Dictionary to correct errors and omissions from previous versions of the document: • Update `handlingInstructions > tifMod` for Cboe Equities and Options to remove trading session times and point to documentation on the Cboe website. *(Approved with version 4.0.0-r1)* • Add Allowed value for FINRA for `contraReportingObligationFlag` *(Approved with version 4.0.0-r1)* *Spec Updates:* Added IEX `definedMMDEData` Name/Value pair of `MMRegistrationEvent`
4.1.0-r9	2/15/2022	FINRA CAT	*Spec Updates:*

Version	Date	Author	Description
			Added NYSE Equities `handlingInstructions` Name/Value pair of `DirectedTo_ATS` Added MIAX PEARLEQ `handlingInstructions` Name/Value pair of `RoutingStrategy`
4.1.0-r10	3/7/2022	FINRA CAT	*Spec Updates:* Added CBOE BYX `orderAttributes` > `MODR` value of 'p' for Periodic Auction
4.1.0-r11	3/18/2022	FINRA CAT	*Spec Updates for Plan Participant Reference Data Validations:* • Updated Section 10 throughout as necessary to reflect new Reference Data Validation processing stage and feedback generation • Added Section 10.7 documenting Reference Data Validation feedback format • Added Appendix Section B.2 documenting Reference Data Validation errors *Spec Updates for Plan Participant Conditional Data Validations:* • Added Error Code 2290 for *cycleDate* validation
4.1.0-r12	4/4/2022	FINRA CAT	*Administrative Updates:* • Removed all references to the submission of the OTCBB file kind and submission of OTCBB event data to CAT *Spec Updates for Plan Participant Reference Data Validations:* • Grayed out changes made in version 4.1.0-r11eference Data Validations will be implemented at a later date • Clarified Data Ingestion Conditional Validations in Appendix B1 *Spec Updates:* Added NASDAQ NOBO Request for Prism (RFP) cancelReason value of '1187' and handlingInstructions values of 'RfaId' and 'RfaInstruction'
4.1.0-r13	4/29/2022	FINRA CAT	*Administrative Updates:* • Updated format of event definition tables for consistency and usability (changes not tracked) • Moved Change Log content for Releases 4.1.0 through 4.1.0-r8 to Appendix I (changes not tracked) *Spec Updates:* • Updated Errors 2010, 2020, 2170, and 2180 to allow submission of 'zero' • Updated Warning 5005 to indicate that it will be retired effective June 15, 2022 • Added MIAX PEARL `cancelReason` value of 'PEARL_0038' • Added MIAX PEARLEQ `cancelReason` values of 'PEARLEQ_0113' through 'PEARLEQ_0116' Added CBOE `executionCodes` > `SUBLIQ` and `orderAttributes` > `AckSubLiquidity` value of 'G'
4.1.0-r14	7/8/2022	FINRA CAT	*Spec Updates:* • Updated definition of Error 2180 • Added `executionCode` value of 'FLOOR'