# CAT Industry Member Reporting Scenarios

5/10/2019 Version 2.0

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# **Executive Summary**

This document is a companion document to <u>the CAT Reporting Technical Specifications for Industry</u> <u>Members ("Technical Specifications")</u> and is provided to assist Industry Members in implementing the reporting requirements laid out in the Technical Specifications. This document illustrates the specific reporting requirements for a variety of order handling execution scenarios for both equities and options Eligible Securities (as defined in the CAT NMS Plan). The scenarios illustrate the reporting requirements for Phases 2a and 2b. Additional scenarios will be added for Phases 2c and 2d when the Technical Specifications are published for those phases.

The reporting scenarios are presented in a separate document from the Technical Specifications to provide the greatest flexibility in the ability to modify or add scenarios as new questions are presented and trading practices evolve. It is expected that changes and additions will be necessary for reporting scenarios with greater frequency than changes to the Technical Specifications that would be required when record format, field value changes, etc., occur. By maintaining a separate reporting scenarios document, reporting scenarios may be clarified or added without the need for a new version of the Technical Specifications.

This document contains interpretive guidance for Industry Member CAT Reporters with respect to how the Technical Specifications must be implemented. As such, any changes to this document are subject to the same review and approval process by the Operating Committee, pursuant to the CAT NMS Plan, as the Technical Specifications.

This document represents a phased approach to industry reporting. Please note that a proposed amendment to the CAT NMS Plan will be filed with the Securities and Exchange Commission ("Commission") to reflect the phased approach for the Industry member CAT reporting described in the Technical Specifications. The proposed amendment will be subject to the approval of the Commission.

Version	Date	Author	Description
1.0	10/30/2018	Thesys CAT	Initial Publication
1.01	2/22/19	CAT NMS, LLC	Re-publish v1.0 (as v1.01) to reflect transition from Thesys CAT
1.1 DRAFT 1	2/28/19	CAT NMS, LLC	Made conforming changes with v1.1 of the IM Technical Specifications Order Events Document
			Removed options representative order scenarios (previously scenarios 3.2.1 and 3.5.3)
			Updated Scenario 2.4.5 with new FAQ number
			Updated Scenario 2.6.6 to reflect an exchange route in Step 3
1.1 DRAFT 2	3/29/2019	CAT NMS, LLC	Moved existing ATS Scenarios to Section 2.6 Moved existing OTC Scenarios to Section 2.7

Version	Date	Author	Description
			Added Scenarios 2.6.1, 2.6.4, 2.6.5, 2.7.2, 2.7.3, and 3.2.2
			Removed scenario 2.2.5
			Changed Scenario 2.7.1 (previously 2.2.4)
			Updated Scenario 2.2.1 description to remove reference to Step 10
			Updated Scenario 2.3.1 description to reflect Riskless Principal capacity
			Updated Scenario 2.4.4 to remove handlingInstructions SMT in Steps 3 and 4
			Updated Scenario 2.8.2 (previously 2.6.2) to reflect a route form Broker 1 in Step 3
			Updated Scenario 2.6.2 (previously Scenario 2.2.3) to reflect the correct leaves quantity in Step 9
			Updated Scenario 2.6.3 (Previously 2.4.5) to remove Display ATS from the title
			Updated Scenario 2.6.6 (previously Scenario 2.4.6) to reflect the correct quantity in Step 6
1.1 Final	4/29/2019	CAT NMS, LLC	Made conforming changes with V1.1 of the IM Technical Specifications Order Events Document
			Added New Section 4
			Added Scenarios 2.1.6, 2.4.6 and 2.8.3
			Changed scenario 2.8.2 (Previously 2.6.2)
			Removed Scenario 3.2.1
			Updated Scenario 2.6.1 to reflect multiple modifications
			Created Section 2.4 for Representative Order scenarios
			Created Section 2.5 for Internal Route scenarios
			Created Section 2.10 for Electronic Duplicate scenarios
			Created Section 2.11 for Child Order scenarios
			Created Section 2.12 for Clearing Firm scenarios
			Created Section 3.5 for Option Internal Route and Child Order scenarios
			Created Section 3.6 for Complex Option Order scenarios
			Re-aligned existing scenarios within new and existing sections
			Updated Capacity in scenario 2.13.2 (previously 2.8.10)
			Corrected JSON and CSV examples in Section 2.12 (previously section 2.9)
			Corrected errors within the document

# 1. Introduction

This document is organized by product, and then within each product, by general handling scenario, such as order receipt and routing, order execution, etc.

For each scenario, a description of the scenario along with a diagram is provided and then is followed by specific Event Reports illustrating the correct values to be populated for each field.

# 2. Equity Scenarios and Examples

This section illustrates sample equity reporting scenarios. Each scenario will include a brief description including the reportable CAT events, a flow chart, and step-by-step reporting responsibilities.

# 2.1. Order Route Scenarios

This section illustrates the CAT reporting requirements when an order is received or originated, and is subsequently routed away from the firm for execution.

# 2.1.1. New Principal Order Routed to an Exchange and Executed

This scenario illustrates the CAT reporting requirements when an Industry Member originates a new principal order, routes the order to an exchange, and the order is executed on the exchange.



Industry Member Broker 1 is required to report:

- The origination of a principal order (New Order event)
- The route to an exchange (Order Route event)

The execution will be reported by the exchange.

#	Step	Reported Event	Comments
1	Broker 1 originates a New Order	Broker 1 reports a New Order event	
		type: MENO	
		orderKeyDate: 20180501T000000	
		orderID: O12345	
		symbol: XYZ	
		eventTimestamp:	
		20180501T153035.234456	
		manualFlag: false	
		deptType: T	
		side: B	
		price: 10.00	
		quantity: 1000	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		custDspIntrFlag: false	

#	Step	Reported Event	Comments
		firmDesignatedID: PRO001 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes the order to Exch 1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234556 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	Since Broker 1 is routing to a national securities exchange, <i>session</i> must be populated.
3	Exch 1 accepts the order from Broker 1	Exch 1 reports a Participant <b>Order</b> Accepted event	
4	Exch 1 executes the full quantity of the order	Exch 1 reports a Participant <b>Trade</b> event	



- The receipt of the customer order (New Order event)
- The route of the customer order to the exchange (Order Route event)

In this scenario, since the execution is passed back directly to the customer, no Order Fulfillment event is required to be reported.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180417T000000 orderID: 011111 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to exchange EXCH1	Broker 1 (IMID = FRMA) reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: 011111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 500 orderType: LMT	Since Broker 1 is routing to a national securities exchange, <i>session</i> must be populated. In phase 2c, since the values in the <i>handlingInstructions</i> field have not changed from the New Order to the Order Route, Broker 1 may use a value of "RAR" in the <i>handlingInstructions</i> field to indicate the order was "routed as received". Alternatively, firms have the option to re-state all <i>handlingInstructions</i> values.

#	Step	Reported Event	Comments
		timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions:	
4	The Exchange accepts the order from Broker 1	EXCH1 reports a Participant <b>Order</b> Accepted event	
5	The Exchange executes a partial quantity (200) of the order	EXCH1 reports a Participant <b>Trade</b> event	
6	The Exchange executes a partial quantity (300) of the order	EXCH1 reports a Participant <b>Trade</b> event	

# 2.1.2. Customer Order Routed to an Exchange as Agent

This scenario illustrates the CAT reporting requirements when an Industry Member routes a customer order to an exchange on an agency basis.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to the exchange (Order Route event)

In this scenario, since the execution is passed back directly to the customer, no Order Fulfillment event is required to be reported.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO	
		orderKeyDate: 20180417T000000	
		orderID: 011111	
		symbol: XYZ	
		eventTimestamp:	

#	Step	Reported Event	Comments
		20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to exchange EXCH1	Broker 1 (IMID = FRMA) reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions:	Since Broker 1 is routing to a national securities exchange, <i>session</i> must be populated. In phase 2c, since the values in the <i>handlingInstructions</i> field have not changed from the New Order to the Order Route, Broker 1 may use a value of "RAR" in the <i>handlingInstructions</i> field to indicate the order was "routed as received". Alternatively, firms have the option to re-state all <i>handlingInstructions</i> values.
4	The Exchange accepts the order from Broker 1	EXCH1 reports a Participant Order Accepted event	
5	The Exchange executes a partial quantity (200) of the order	EXCH1 reports a Participant <b>Trade</b> event	
6	The Exchange executes a partial quantity (300) of the order	EXCH1 reports a Participant <b>Trade</b> event	

# 2.1.3. Order Routed between Two Industry Members and Subsequently Executed on an Exchange

This scenario illustrates the CAT reporting requirements when an order is routed from one Industry Member to another prior to execution on an Exchange.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to Broker 2 (Order Route event)

- The receipt of the order from Broker 1 (Order Accepted event)
- The route of Broker 1's order to the exchange (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Broker 1 routes the order to Broker 2	Broker 1 reports an <b>Order Route</b> event	
		type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234556 manualFlag: false senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: AO222 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY	
		tradingSession: REG isoInd: NA	
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an <b>Order</b> Accepted event	
		type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143031.323556 manualFlag: false receiverIMID: FRMB senderIMID: FRMA senderIMID: FRMA senderType: F routedOrderID: AO222 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	

#	Step	Reported Event	Comments
5	Broker 2 routes the order to exchange EXCH1	Broker 2 reports an <b>Order Route</b> event type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143031.324556 manualFlag: false senderIMID: FRMB destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: Es6:AA side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	Since Broker 2 is routing the order to a national securities exchange, <i>session</i> must be populated.
6	The Exchange accepts the order from Broker 2	EXCH1 reports a Participant <b>Order</b> Accepted event	
7	The Exchange executes the order	EXCH1 reports a Participant <b>Trade</b> event	

# 2.1.4. Order Routed to Multiple Destinations and Filled

This scenario illustrates the CAT reporting requirements when a customer order is routed to multiple destinations. In this scenario, the order is partially routed to another Industry Member followed by an exchange, and is partially routed to an ATS.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route to Broker 2 (Order Route event)
- The route to ATS 3 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The route to Exchange 1 (Order Route event)

Industry Member ATS 3 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The matching and execution of Broker 1's order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS002 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	Broker 1 reports an <b>Order</b> Route event	
		type: MEOR orderKeyDate: 20180417T000000	

#	Step	Reported Event	Comments
		orderID: O45678	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.234556	
		manualFlag: false	
		senderIMID: FRMA	
		destination: FBMB	
		destinationType: F	
		routedOrderID: ABO4561	
		side: B	
		price: 10.00	
		guantity: 2000	
		orderType: LMT	
		timeInForce: DAV	
		trading Sossion: PEC	
		Broker 1 reports an <b>Order Route</b>	
4	Broker 1 routes the	event	
	order to ATS 3		
		type: MEOR	
		orderKevDate:	
		20180417T000000.0000	
		orderID: O45678	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.234556	
		manualFlag: false	
		senderIMID: FRMA	
		destination: ATSC	
		destinationType: F	
		routedOrderID: ACO4562	
		side: B	
		price: 10.00	
		quantity: 3000	
		orderType: I MT	
		timeInForce: DAY	
		trading Session: BEG	
		isoInd: NA	
<i>_</i>	Dupling O para statu	Broker 2 reports an <b>Order</b>	
5	order from Broker 1	Accepted event	
		type: MEOA	
		orderKeyDate: 20180417T000000	
		orderID: O21234	
		symbol: XYZ	
		eventTimestamp:	

#	Step	Reported Event	Comments
		20180417T153035.334556 manualFlag: false receiverIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: ABO4561 affiliateFlag: false deptType: A side: B price: 10.00 quantity: 2000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	
6	Broker 2 routes the order to Exchange 1	Broker 2 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O21234 symbol: XYZ eventTimestamp: 20180417T153035.334656 manualFlag: false senderIMID: FRMB destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 2000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	Since Broker 2 is routing the order to a national securities exchange, <i>session</i> must be populated.
7	Exchange 1 accepts the order from Broker 2	EXCH1 reports a Participant <b>Order</b> Accepted event	
8	Exchange 1 executes the order	EXCH1 reports a Participant <b>Trade</b> event	
9	ATS 3 accepts the order from Broker 1	ATS 3 reports an Order Accepted event	

#	Step	Reported Event	Comments
		type: MEOA	
		orderKeyDate: 20180417T000000	
		orderID: O31235	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.334557	
		manualFlag: false	
		receiverIMID: ATSC	
		senderIMID: FRMA	
		senderType: F	
		routedOrderID: ACO4562	
		affiliateFlag: false	
		deptType: A	
		side: B	
		price: 10.00	
		guantity: 3000	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
		custDspIntrFlag: false	
		seaNum: 10987	
		atsDisplavInd: N	
		displavPrice: 0	
		workingPrice: 10.02	
		displayQty: 0	
		atsOrderType: Fb	
		nbbPrice: 9.99	
		nboPrice:10.02	
		nbboSource: S	
		nbboTimestamp:	
		20180417T153035.334527	
10	ATO O match a a	ATS 3 reports a <b>Trade event</b>	
10	Broker 1's order with		
	a sell order (ID:	type: MEOT	
	21945)	tradeKeyDate: 20180417T000000	
		tradeID: T4562111	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.334657	
		manualFlag: false	
		quantity: 3000	
		price: 10.00	
		capacity: A	
		tapeTradeID: TP12345	
		marketCenterID: DN	
		negotiatedTradeSide: NA	

#	Step	Reported Event	Comments
		buyDetails:	
		orderKeyDate:	
		20180417T000000	
		orderID: O31235	
		side: B	
		sellDetails:	
		orderKeyDate:	
		20180417T000000	
		orderID: 21945	
		side: SL	
		seqNum: 12007	
		nbbPrice: 10.00	
		nboPrice: 10.02	
		nbboSource: S	
		nbboTimestamp:	
		20180417T153035.334457	

#### 2.1.5. Order Routed from an Exchange through a Routing Broker to another Exchange

This scenario illustrates the CAT reporting requirements when an exchange routes an order through its affiliated Industry Member routing broker to another exchange.



Industry Member Broker 1 is required to report:

- The receipt of the order from Exchange 1 (Order Accepted event)
- The route of the order to Exchange 2 (Order Route event)

Exchange 1 is required to report the following as outlined in the <u>CAT Reporting Technical Specifications</u> for Plan Participants:

- The route of the order to its routing broker (Participant Route event)
- The fill of the routed order (Participant Fill event)

Exchange 2 is required to report the following as outlined in the <u>CAT Reporting Technical Specifications</u> for Plan Participants:

- The receipt of the order from Broker 1 (Participant Order Accepted event)
- Matching and execution of Broker 1's order (Participant Trade event)

#	Step	Reported Event	Comments
1	Exchange 1 routes an order to its routing broker, Broker 1.	Exchange 1 reports a Participant <b>Route event</b>	
2	Broker 1 accepts the order from Exchange 1	Broker 1 reports an <b>Order</b> Accepted event	
		type: MEOA orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.234456 manualFlag: false receiverIMID: FIRM1 senderIMID: FIRM1 senderIMID: Exch1 senderType: E routedOrderID: S2O12345 affiliateFlag: true deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG	
		isoInd: NA custDspIntrFlag: false	
3	Broker 1 routes the order to Exchange 2	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20170801T000000 orderID: 012345 symbol: XYZ eventTimestamp: 20170801T143031.234456 manualFlag: false senderIMID: FIRM1 destination: Exch2 destinationType: E routedOrderID: S9012345 session: 1109 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY	Since Broker 1 is routing the order to a national securities exchange, <i>session</i> must be populated.

#	Step	Reported Event	Comments
		tradingSession: REG isoInd: NA	
4	Exchange 2 receives the order from Broker 1	Exchange 2 reports a Participant <b>Order Accepted event</b>	
5	Exchange 2 crosses Broker 1's order	Exchange 2 reports a Participant <b>Trade event</b>	
6	Exchange 1 receives the fill	Exchange 1 reports a Participant <b>Fill</b> <b>Event</b>	

# 2.1.6. Customer Order Facilitated via a Firm Agency Account Where a Route can be Directly Associated with the Customer Order

This scenario illustrates the CAT reporting requirements when an Industry Member facilitates a single customer order via a firm agency account, commonly referred to as an "agency flip" scenario.

In this example, the Industry Member receives a customer order and then generates a firm order in its agency account, which is sent to the market. In this instance, the Industry Member's order handling and/or reporting system allows the route sent to the street to be directly associated with the customer order. Since the firm's system maintains the direct association between the customer order and the actions taken to facilitate that order, the firm is not required to report a separate representative order.

Customer 1	Broker 1		Exch 1
1. Sends order to Broker 1	2. Accepts customer order		5. Accepts order from Broker 1
	Reports "New Order" Event		6. Executes 300 Shares
	Account	K I	7. Executes 700 shares
	4. Routes firm order to Exchange		
	Reports "Order Route" Event		

- The receipt of the customer order (New Order event)
- The route of the order from its agency account (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	

#	Step	Reported Event	Comments
#	Step Broker 1 accepts the customer order	Reported EventBroker 1 reports a New Order eventtype: MENO orderKeyDate: 20180417T000000orderID: 012345 symbol: XYZ eventTimestamp: 20180417T153035.234456manualFlag: false deptType: A 	Comments
		affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 2 generates a firm order	N/A	Since the Industry Member's system maintains a direct association between the customer order and the route sent to the street on behalf of the customer, a representative order is not required.
4	Broker 1 routes the order to an exchange	Broker 1 reports an <b>Order Route</b> event	
		type: MEOR orderKeyDate: 20180417T000000 orderID: R04826 symbol: XYZ eventTimestamp: 20180417T153036.234556 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 1000 orderType: LMT	

#	Step	Reported Event	Comments
		timeInForce: DAY tradingSession: REG isoInd: NA	
5	The Exchange accepts the order from Broker 1	EXCH1 reports a Participant Order Accepted event	
6	The Exchange partially executes the order (300 shares)	EXCH1 reports a Participant <b>Trade</b> event	
7	The Exchange executes the remainder of the order (700 shares)	EXCH1 reports a Participant <b>Trade</b> event	

#### 2.2. Trade Scenarios

This section illustrates the CAT reporting requirements when the execution of a customer/client order is required to be reported for public dissemination purposes, and the use a Trade event is required.

#### 2.2.1. Agency Order Cross

This scenario illustrates the CAT reporting requirements when an Industry Member matches a Customer Buy order with a Sell order received from another Industry Member.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The receipt of the order from Broker 2 (Order Accepted event)
- The matching and execution of both orders (Trade event)

Industry Member Broker 2 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 1 (Order Route event)

Broker 1's customer order was fully executed, while Broker 2's customer order was partially executed.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1.	NA	
2	Broker 1 receives the Buy order from the customer	Broker 1 (IMID=FRMA) reports a New Order event type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer sends a Sell order to Broker 2	NA	
4	Broker 2 receives the Sell order from the customer	Broker 2 (IMID=ABCD) reports a New Order event type: MENO orderKeyDate: 20170801T000000 orderID: O555 symbol: XYZ eventTimestamp: 20170801T143031.523456 manualFlag: false deptType: A side: SL price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC555 accountHolderType: A	

#	Step	Reported Event	Comments
		affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
5	Broker 2 routes the Sell order to Broker 1	Broker 2 reports an Order Route event type: MEOR orderKeyDate: 20170801T000000 orderID: O555symbol: XYZ eventTimestamp: 20170801T143031.134456 manualFlag: false senderIMID: ABCD destination: FRMA destinationType: F routedOrderID: ABCDXYZ555 side: SL price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
6	Broker 1 receives the order from Broker 2	Broker 1 reports an Order Accepted event type: MEOA orderKeyDate: 20170801T000000 orderID: O12347 symbol: XYZ eventTimestamp: 20170801T143031.234456 manualFlag: false receiverIMID: FRMA senderIMID: ABCD senderType: F routedOrderID: ABCDXYZ555 affiliateFlag: false deptType: A side: SL price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	

#	Step	Reported Event	Comments
		custDspIntrFlag: false	
7	Broker 1 matches and crossed the Buy and	Broker 1 reports a <b>Trade event</b>	
	Sell orders	type: MEOT	
		tradeKeyDate: 20170801T000000	
		tradeID: TXYZ124	
		symbol: XYZ	
		eventTimestamp:	
		20170801T143031.253456	
		manualFlag: false	
		quantity: 300	
		price: 10.01	
		capacity: A	
		tapeTradeID: TRF123	
		marketCenterID: DN	
		negotiatedTradeSide: NA	
		buyDetails:	
		orderKeyDate:	
		201708011000000	
		orderID: 012345	
		orderID: 012347	
		SIGE. OL	

# 2.2.2. Internalized Trade against Proprietary Account

This scenario illustrates the CAT reporting requirements when an Industry Member executes a customer order against its own proprietary account.



- The receipt of the customer order (New Order event)
- The execution of the customer order against its proprietary account (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 executes the order against its own proprietary account	Broker 1 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ555 symbol: XYZ eventTimestamp: 20180416T153035.253456 manualFlag: false quantity: 500 price: 10.00 capacity: P tapeTradeID: TRF123 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20180416T000000 orderID: O12345 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	The buyDetails reflect the details of customer order O12345. The sellDetails capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments

# 2.3. Fulfillment Scenarios

This section illustrates Phase 2a reporting requirements when the execution of a customer/client order is not required to be reported for public dissemination purposes, and the use of an Order Fulfillment event, rather than a Trade event, is required. Additional representative order scenarios can be found under section 2.4.

#### 2.3.1. Route to a Foreign Broker-Dealer

This scenario illustrates the CAT reporting requirements when an Industry Member routes an order to a foreign broker-dealer. Since the foreign broker dealer is not a CAT reporter and the execution was not reported for public dissemination purposes in the United States, the Industry Member must report an Order Fulfillment event to represent the outcome of the customer order.



Industry Member Broker 1 is required to report:

- The receipt of customer order (New Order event)
- The route of the customer order to the foreign broker-dealer (Order Route event)
- The outcome of the customer order (Order Fulfillment event)

When reporting Order Fulfillment events for orders that were routed to a foreign broker-dealer, firmDetails are not required.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order event</b> type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180501T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: FOR custDspIntrFlag: false firmDesignatedID: EFGHO001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the customer order to a non-reporting foreign broker-dealer	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234556 manualFlag: false senderIMID: FRMA destination: destinationType: N side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: FOR isolnd: NA	When routing to a foreign broker- dealer, <i>destinationType</i> must be populated as 'N', and <i>tradingSession</i> must be populated as 'FOR'. <i>destination</i> is not required when routing to a foreign broker-dealer.
4	Non-reporting Foreign Broker-Dealer accepts and executes the order	NA	
5	Broker 1 reports an Order Fulfillment event to show the outcome of the customer order	Broker 1 reports an <b>Order</b> <b>Fulfillment event</b> type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FRGN123 symbol: XYZ	The <i>fulfillmentLinkType</i> must be populated with a value of 'FOR' to indicate that the order was routed to a foreign destination, and that firmDetails are not required.

#	Step	Reported Event	Comments
		eventTimestamp:	
		20180501T153045.234556	
		fulfillmentLinkType: FOR	
		quantity: 1000	
		price: 10.00	
		capacity: A	
		clientDetails:	
		orderKeyDate:	
		20180501T000000	
		orderID: O12345	
		side: B	

# 2.3.2. Order Fulfillment Amendment

This scenario illustrates the CAT reporting requirements when an Industry Member amends the price of a customer fill that was reported to CAT on a previous day.

Broker 1		
1. On T, Filled a Customer Order and Reported an Order Fulfillment to CAT		
	Reported "Order Fulfillment" Event	
	2. On T+1, Amends the Fill for the Customer Order	
	Reports "Order Fulfillment Amendment" Ever	

For the purpose of this example, details of order handling on the original day are not included.

- The fill of the customer order on a Riskless Principal basis on Day T (Order Fulfillment event)
- The amendment of the price of the customer fill on day T+1 (Order Fulfillment Amendment event)

#	Step	Reported Event	Comments
1	On day T, Broker 1 accepted a customer order and filled the	Broker 1 (IMID = FRMA) reports an <b>Order Fulfillment event</b>	
	order on a Riskless Principal basis	type: MEOF fillKeyDate: 20180417T000000 fulfillmentID: AABB1231 symbol: XYZ eventTimestamp: 20180417T153035.326456	
		manualFlag: false fulfillmentLinkType: Y quantity: 500	

#	Step	Reported Event	Comments
		price: 9.99 capacity: R clientDetails: orderKeyDate: 20180417T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20180417T000000 orderID: O999 side: SL	
2	On T+1, Broker 1 amends the price of the customer fill	On T+1, Broker 1 reports an Order Fulfillment Amendment event type: MEFA fillKeyDate: 20180418T000000 fulfillmentID: AACC1231 priorFillKeyDate: 20180417T000000 priorFulfillmentID: AABB1231 symbol: XYZ eventTimestamp: 20180418T104501.123456 manualFlag: false quantity: 500 capacity: R price: 9.98 fulfillmentLinkType: Y clientDetails: orderKeyDate: 20180417T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20180417T000000 orderID: O999 side: SL	In this example, Broker 1 assigns a new Fulfillment Key with <i>fulfillmentID</i> AACC1231 when the Order Fulfillment event is amended. The <i>fillKeyDate</i> must be populated with the date that the new Fulfillment Key was assigned. The Prior Fill Key with <i>fulfillmentID</i> AABB1231 must be populated in the <i>priorFulfillmentID</i> field, and the <i>priorFillKeyDate</i> must be populated with the date the Fulfillment Key was assigned in the original Order Fulfillment event.

# 2.4. Representative Order Scenarios

This section illustrates the CAT reporting requirements when an Industry Member generates a representative order in its agency account to facilitate a single customer order.

#### 2.4.1. Fill of a Single Customer Order on a Riskless Principal Basis

This scenario illustrates the CAT reporting requirements when an Industry Member fills a customer order on a Riskless Principal basis. In this example, Industry Member Broker 1 generates a representative order to facilitate the execution of a customer order, and routes the order to an exchange for execution.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of a representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- The fill of the customer order on a Riskless Principal basis (an Order Fulfillment Event)

In phase 2a, explicit linkage between the customer order and the representative order is required, since the representative order was originated specifically to represent a single customer order and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system.

#	Step	Reported Event	Comments
1	The customer sends an order to Broker 1	N/A	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: T side: B	

#	Step	Reported Event	Comments
		price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C12345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20170801T000000 orderID: 012350 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C0005 accountHolderType: P affiliateFlag: false aggregatedOrders: 012345@20170801T000000 negotiatedTradeFlag: false representativeInd: Y	The <i>representativeInd</i> field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The <i>aggregatedOrders</i> field must be populated.
4	Broker 1 routes the representative order to an exchange	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false	

#	Step	Reported Event	Comments
		senderIMID: BRK1 destination: Exch1 destinationType: E routedOrderID: S9O12350 session: 1109 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
5	Exchange 1 accepts the order	Exchange 1 reports a Participant Order Accepted event	
6	Exchange 1 matches and crosses the order	Exchange 1 reports a Participant <b>Trade event</b>	
7	Broker 1 fills the customer order on a Riskless Principal basis	Broker 1 reports an Order Fulfillment event Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: Y quantity: 500 price: 10.00 capacity: R clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: SL	The <i>fulfillmentLinkType</i> field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. firmDetails are required.

# 2.4.2. Fill of Multiple Customer Orders on a Riskless Principal Basis

This scenario illustrates the CAT reporting requirements when an industry member generates a proprietary order to facilitate the execution of more than one customer order on a Riskless Principal basis.
In this scenario, Industry Member Broker A receives two customer orders to buy XYZ at 10.01, and generates a single representative order that will be used to facilitate the execution of these two customer orders. The representative order is routed to an exchange where it is executed. Upon execution of the representative order, the Industry Member fills each of the customer orders on a Riskless Principal basis.



Industry Member Broker A is required to report:

- The receipt of each customer order (New Order events)
- The generation of a representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- The fill of each customer order on a Riskless Principal basis (Order Fulfillment events)

The execution of the representative order is reported by the exchange.

Since the representative order was generated to represent more than one customer order, explicit linkage between the representative order and the customer orders is not required until Phase 2c.

#	Step	Reported Event	Comments
1	Customers 1 sends a Buy order to Broker A	NA	
2	Broker A receives the Buy order from Customer 1	Broker A reports a <b>New Order event</b> type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.01 quantity: 500	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer 2 sends a Buy order to Broker A	NA	
4	Broker A receives the Buy order from Customer 2	Broker A reports a <b>New Order event</b> type: MENO orderKeyDate: 20170801T000000 orderID: O12350 symbol: XYZ eventTimestamp: 20170801T143030.723456 manualFlag: false deptType: A side: B price: 10.01 quantity: 700 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C456 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
5	Broker A generates a representative order	Broker A reports a <b>New Order event</b> type: MENO orderKeyDate: 20170801T000000 orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: A side: B	The <i>representativeInd</i> field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. The <i>aggregatedOrders</i> field is not required to be populated until Phase 2c.

#	Step	Reported Event	Comments
		price: 10.01 quantity: 1200 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP123 accountHolderType: P affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YF	
6	Broker A routes the representative order to an exchange for execution	Broker A reports an Order Route event type: MEOR orderKeyDate: orderID: RPO555 symbol: XYZ eventTimestamp: 20170801T143031.623456 manualFlag: false senderIMID: BRKA destination: EXCH1 destinationType: E routedOrderID: S12O555 session: 1112 side: B price: 10.01 quantity: 1200 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	
7	The exchange receives the order from Broker A	Exchange 1 reports a <b>Participant</b> Order Accepted event	
8	Execution of the order occurs on the exchange	Exchange 1 reports a <b>Participant</b> Trade event	
9, 10	Broker A fills each individual customer order on a Riskless Principal basis	Broker A reports an Order Fulfillment event (1 of 2) type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: F055501	The <i>fulfillmentLinkType</i> field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. firmDetails are not required until Phase 2c.

# Step Reported Event	Comments
#StepReported Eventsymbol: XYZ eventTimestamp: 20170801T143044 manualFlag: false quantity: 500 price: 10.01 capacity: R fulfillmentLinkType clientDetails: orderKeyDate: 20170801T000 orderID: 0123 side: BBroker A reports a Fulfillment event type: MEOF fillKeyDate: 201708 symbol: XYZ eventTimestamp: 20170801T143044 manualFlag: false quantity: 700 price: 10.01 capacity: R fulfillmentLinkType clientDetails: orderKeyDate: 20170801T143044 manualFlag: false quantity: 700 price: 10.01 capacity: R fulfillmentLinkType clientDetails: orderKeyDate: 20170801T000 orderID: 0123 side: B	Comments       1.123456       : YF       000       15       n Order       (2 of 2)       801T000000       502       0.323456       : YF       000       50

## 2.4.3. Fill of a Single Customer Order on an Average Price Basis

This scenario illustrates the CAT reporting requirements when an Industry Member works a customer order through an average price account and generates one or more representative orders that are routed to an exchange. The Industry Member then fills the customer order on an average price basis.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of a representative order in an average price account (New Order event)
- Each route of the representative order (Order Route events)
- The fill of the customer order at an average price (Order Fulfillment event)

Since the customer order was filled at an average price, explicit linkage between the representative order and the customer order is not required until Phase 2c.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false	

#	Step	Reported Event	Comments
		negotiatedTradeFlag: false	
		representativeInd: N	
3	Broker 1 generates a representative order from its average price account	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180417T000000 orderID: R04826 symbol: XYZ eventTimestamp: 20180417T153035.534456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: AVG0123 accountHolderType: V affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: YF	The <i>representativeInd</i> field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. The <i>aggregatedOrders</i> field is not required to be populated until Phase 2c.
4	Broker 1 routes 300 shares of the representative order to exchange EXCH1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: R04826 symbol: XYZ eventTimestamp: 20180417T153036.234556 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: XYZO555 session: s5 side: B price: 10.00 quantity: 300 orderType: LMT timeInForce: DAY tradingSession: REG	

#	Step	Reported Event	Comments
		isoInd: NA	
5	The Exchange accepts the order from Broker 1	EXCH1 reports a Participant <b>Order</b> Accepted event	
6	The Exchange executes the order	EXCH1 reports a Participant <b>Trade</b> event	
7	Broker 1 routes 200 shares of the representative order to exchange EXCH1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: R04826 symbol: XYZ eventTimestamp: 20180417T153036.234566 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: XYZ0888 session: s5 side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
8	The Exchange accepts the order from Broker 1	EXCH1 reports a Participant <b>Order</b> Accepted event	
9	The Exchange executes a partial quantity (200) of the order	EXCH1 reports a Participant <b>Trade</b> event	
10	Broker 1 fills the customer order from its average price account	Broker 1 reports an <b>Order</b> <b>Fulfillment event</b> type: MEOF fillKeyDate: 20180417T000000 fulfillmentID: AABB1231 symbol: XYZ eventTimestamp: 20180417T153037.326456 manualFlag: false fulfillmentLinkType: YF quantity: 500 price: 10.00	The <i>fulfillmentLinkType</i> field must be populated with a value of 'YF' to indicate that the order is a representative order, and that explicit linkage is not required until Phase 2c. firmDetails are not required until Phase 2c.

#	Step	Reported Event	Comments
		capacity: A	
		clientDetails:	
		orderKeyDate: 20180417T000000	
		orderID: O12345	
		side: B	

## 2.4.4. Fill of a Single Customer Order from a Pre-Existing Principal Order

This scenario illustrates the CAT reporting requirements when an industry member fills a single customer order from a pre-existing principal order as a result of a Manning Obligation. In this scenario, the Industry Member originates a new principal order and routes it to an exchange. Before the principal order is executed, the Industry Member receives a customer order. Upon execution of the principal order, the Industry Member fills the customer order on a Riskless Principal basis.



Industry Member Broker 1 is required to report:

- The origination of the principal order (New Order event)
- The route of the principal order to an exchange (Order Route event)
- The receipt of the customer order (New Order event)
- The fill of the customer order on a Riskless Principal basis (Order Fulfillment event)

In phase 2a, explicit linkage between the customer order and the principal order is required when the customer order is filled from a pre-existing principal order.

#	Step	Reported Event	Comments
1	Broker 1 originates a new principal order	Broker 1 reports a <b>New Order event</b> type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456	The <i>representativeInd</i> field must be populated with a value of 'N' to indicate that this was not a representative order, as the principal order was not generated to facilitate the execution of a customer order. The <i>aggregatedOrders</i> field must not be populated.

#	Step	Reported Event	Comments
		manualFlag: false	
		deptType: T	
		side: B	
		price: 10.00	
		quantity: 1000	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		custDspIntrFlag: false	
		firmDesignatedID: PRO001	
		accountHolderType: P	
		aggregatedOrders:	
		affiliateFlag: false	
		negotiatedTradeFlag: false	
		representativeInd: N	
2	Broker 1 routes the	Broker 1 reports an Order Route	
2	principal order to Exch 1	event	
		type: MEOR	
		orderKeyDate: 20180501T000000	
		orderID: 012345	
		symbol: XYZ	
		eventTimestamp:	
		20180501T153035.234556	
		manualFlag: false	
		senderIMID: FRMA	
		destination: EXCH1	
		destination lype: E	
		routedOrderID: AO123	
		session: s5	
		side: B	
		price: 10.00	
		quantity: 1000	
		order Type: LMT	
		include NA	
		ISOING. NA	
3	Exch 1 accepts the	Exch 1 reports a Participant Order	
	principal order from Broker 1	Acceptea event	
4	Customer sends an	NA	
		Broker 1 reports a New Order event	
5	Broker 1 accepts the	DIOREI I TEPOIIS A NEW OIGEI EVEIII	
		type: MENO	
		orderKeyDate: 20180501T000000	

#	Step	Reported Event	Comments
		orderID: O34567 symbol: XYZ eventTimestamp: 20180501T153035.634456 manualFlag: false deptType: T side: B price: 10.00 quantity: 800 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
6	Exch 1 executes the full quantity of the principal order	Exch 1 reports a Participant <b>Trade</b> event	
7	Broker 1 executes the customer order on a Riskless Principal basis with the shares acquired from the pre- existing principal order	Broker 1 reports an Order Fulfillment event type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FXYZ111 symbol: XYZ eventTimestamp: 20180501T153035.653456 manualFlag: false fulfillmentLinkType: YP quantity: 800 price: 10.00 capacity: R clientDetails: orderKeyDate: 20180501T000000 orderID: O34567 side: B firmDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: SL	The <i>fulfillmentLinkType</i> field must be populated with a value of 'YP' to indicate that the customer order is being filled from a pre-existing principal order, and that explicit linkage is required in Phase 2a. firmDetails are required.

# 2.4.5. Fill of a Single Customer Order from a Pre-Existing Principal Order with a Better Price than the Representative Order

This scenario illustrates the CAT reporting requirements when an Industry Member generates a representative order to facilitate the execution of a customer order, but ultimately fills the customer order from an existing principal order that was executed at a better price than the representative order.



Industry Member Broker 1 is required to report:

- The origination of the principal order (New Order event)
- The route of the principal order to the exchange (Order Route event)
- The receipt of the customer order (New Order event)
- The generation of the representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- The fill of the customer order from the principal order (Order Fulfillment event)

In phase 2a, explicit linkage between the customer order and representative order that was generated to facilitate the customer order through the *aggregatedOrders* field in the New Order event. Explicit linkage is required between the customer order and the principal order that was used to fill the customer order through the firmDetails on the Order Fulfillment event.

#	Step	Reported Event	Comments
1	Broker 1 creates a new principal order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.123456 manualFlag: false	The <i>representativeInd</i> field must be populated with a value of 'N' to indicate that this was not a representative order, as the principal order was not generated to facilitate the execution of a customer order. The <i>aggregatedOrders</i> field must not be populated.

#	Step	Reported Event	Comments
		deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: GTC tradingSession: REG custDspIntrFlag: false firmDesignatedID: PRO001 accountHolderType: P affiliateFlag: false aggregatedOrders: negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes principal order to the exchange	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234556 manualFlag: false senderIMID: BRKR1 destination: EXCH1 destinationType: E routedOrderID: AO123 session: s5 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: GTC tradingSession: REG isolnd: NA	
3	Exch 1 accepts the order from Broker 1	Exch 1 reports a Participant <b>Order</b> Accepted event	
4	Customer sends an order to Broker 1	NA	
5	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order event</b> type: MENO orderKeyDate: 20180501T000000 orderID: OB6789 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180501T153040.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 800 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
6	Broker 1 generates a representative order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180501T000000 orderID: OF54321 symbol: XYZ eventTimestamp: 20180501T153040.123656 manualFlag: false deptType: A side: B price: 10.00 quantity: 800 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PR002 accountHolderType: P affiliateFlag: false aggregatedOrders: OB6789@20180501T000000 negotiatedTradeFlag: false representativeInd: Y	The <i>representativeInd</i> field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. The <i>aggregatedOrders</i> field must be populated.
7	Broker 1 routes the representative order to the exchange	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180501T000000 orderID: OF54321	

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180501T153040.134556 manualFlag: false senderIMID: BRKR1 destination: EXCH1 destinationType: E routedOrderID: AO678 session: s5 side: B price: 10.00 quantity: 800 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
8	Exch 1 accepts the representative order from Broker 1	Exch 1 reports a Participant <b>Order</b> Accepted event	
9	Exch 1 executes the principal order @ 9.95	Exch 1 reports a Participant <b>Trade</b> event	
10	Exch 1 executes the representative order @ 9.96	Exch 1 reports a Participant <b>Trade</b> event	
11	Broker 1 fills customer the customer order on a Riskless Principal basis with the shares acquired from the pre- existing principal order.	Broker 1 reports an Order Fulfillment event type: MEOF fillKeyDate: 20180501T000000 fulfillmentID: FXYZ001 symbol: XYZ eventTimestamp: 20180501T153042.123456 manualFlag: false fulfillmentLinkType: YP quantity: 800 price: 9.95 capacity: P clientDetails: orderKeyDate: 20180501T000000 orderID: OB6789 side: B firmDetails: orderKeyDate: 20180501T000000 orderID: 012345	The <i>fulfillmentLinkType</i> field must be populated with a value of 'YP' to indicate that the customer order is being filled from a pre-existing principal order, and that explicit linkage is required in Phase 2a. firmDetails are required.

#	Step	Reported Event	Comments
		side: SL	

### 2.4.6. Fill of a Single Customer Order with Multiple Executions Print for Print

This scenario illustrates the CAT reporting requirements when an Industry Member generates a representative order in its agency account to facilitate a single customer order. The representative order is routed out to the market and receives multiple fills, which are passed back to the customer's account on a print for print basis.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of the representative order (New Order event)
- The route of the representative order to the exchange (Order Route event)
- Each print for print fill of the customer order (Order Fulfillment event)

In phase 2a, explicit linkage between the customer order and the representative order is required, since the representative order was originated specifically to represent a single customer order and there is: 1) an existing direct electronic link in the firm's system between the order being represented and the representative order, and 2) any resulting executions are immediately and automatically applied to the represented order in the firm's system.

#	Step	Reported Event	Comments
1	The customer sends an order to Broker 1	N/A	

#	Step	Reported Event	Comments
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C12345 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 generates a representative order	Broker 1 reports a <b>New Order</b> event type: MENO orderKeyDate: 20170801T000000	The <i>representativeInd</i> field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase
		orderID: O12350	2a.
		symbol: XYZ eventTimestamp: 20170801T143030.623456	The <i>aggregatedOrders</i> field must be populated.
		manualFlag: false deptType: T side: B	
		price: 10.00	
		quantity: 1000	
		orderType: LMT	
		timeInForce: DAY	
		custDspIntrFlag: false	
		firmDesignatedID: C0005	
		accountHolderType: P	
		affiliateFlag: false	
		aygregaleuorders: 012345@20170801T000000	
		negotiatedTradeFlag: false	

#	Step	Reported Event	Comments
		representativeInd: Y	
4	Broker 1 routes the representative order to an exchange	Broker 1 reports an <b>Order Route</b> event	
		type: MEOR	
		orderKeyDate: 20170801T000000	
		orderID: O12350	
		symbol: XYZ	
		eventTimestamp:	
		201708011143031.123456	
		senderIMID: BBK1	
		destination: Exch1	
		destinationType: E	
		routedOrderID: S9O12350	
		session: 1109	
		side: B	
		price: 10.00	
		quantity: 500	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
5	Exchange 1 accepts the	Exchange 1 reports a Participant	
	order	Order Accepted event	
6	Exchange 1 partially executes the order (300 shares)	Exchange 1 reports a Participant <b>Trade event</b>	
7	Broker 1 fills the	Broker 1 reports an Order	The fulfillmentl inkType field must be
1	customer order print for	Fulfillment event	populated with a value of 'Y' to
	print		indicate that the order is a
		fillKeyDate: 20170801T000000	linkage is required in Phase 2a.
		fulfillmentID: FO12350	firmDetails are required.
		symbol: XYZ	
		eventTimestamp:	
		20170801T143036.123456	
		manualFlag: false	
		fulfillmentLink lype: Y	
		quantity: 300	
		capacity: A	
		clientDetails:	
		orderKeyDate:	
		20170801T000000	
		orderID: O12345	

#	Step	Reported Event	Comments
		side: B firmDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: SL	
8	Exchange 1 executes the remainder of the order (700 shares)	Exchange 1 reports a Participant <b>Trade event</b>	
9	Broker 1 fills the customer order print for print	Broker 1 reports an Order Fulfillment event Type: MEOF fillKeyDate: 20170801T000000 fulfillmentID: FO12350 symbol: XYZ eventTimestamp: 20170801T143036.123456 manualFlag: false fulfillmentLinkType: Y quantity: 700 price: 10.00 capacity: A clientDetails: orderKeyDate: 20170801T000000 orderID: O12345 side: B firmDetails: orderKeyDate: 20170801T000000 orderID: O12350 side: SL	The <i>fulfillmentLinkType</i> field must be populated with a value of 'Y' to indicate that the order is a representative order, and that explicit linkage is required in Phase 2a. firmDetails are required.

## 2.5. Internal Route Scenarios

# 2.5.1. Customer Order Internally Routed to another Desk and Subsequently Executed Against a Firm Proprietary Account

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the sales desk to the trading desk, and the order is subsequently executed against a firm proprietary account. The sales desk and trading desk are separated by information barriers.



- The receipt of the customer order (New Order event)
- The internal route from the sales desk to the trading desk (Order Internal Route Accepted event)
- The principal execution (Trade event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 (IMID = BRKA) reports a New Order event	
		type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O side: B price: 10.01 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false infoBarrierID: AB12 negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 internally routes the order from the sales desk to the trading desk	Broker 1 reports an <b>Order Internal</b> <b>Route Accepted event</b> type: MEIR	The trading desk, upon receipt of the internal route, assigns a new Order Key with <i>order1D</i> O999.

#	Step	Reported Event	Comments
		orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O12345 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T infoBarrierID: CD34 side: B price: 10.01 quantity: 500 orderType: LMT	The Parent Order Key with <i>orderID</i> O12345 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Order Internal Route Accepted event with the New Order event.
4	The trading desk fills the customer on a Principal basis	Broker 1 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO999 symbol: XYZ eventTimestamp: 20170801T143035.123456 manualFlag: false quantity: 500 price: 10.01 capacity: P tapeTradeID: TRF9090 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O999 side: B sellDetails: side: SL firmDesignatedID: P123 accountHolderType: P	For this Trade event, the buyDetails reflect the details of customer order O999. The sellDetails capture the FDID of the firm proprietary account from which the customer order was filled.

### 2.5.2. Customer Order Internally Routed to Multiple Desks and Subsequently Executed

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the sales desk to multiple desks within the Industry Member. Each destination desk subsequently fills the order against a firm proprietary account.



Industry Member Broker 1 is required to report the following for each desk:

- At the Sales Desk
  - The receipt of the customer order (New Order)
- At the Trading Desk
  - The receipt of the internal route from the sales desk (Order Internal Route Accepted event)
  - The principal execution (Trade event)
- At the Arbitrage Desk
  - The receipt of the internal route from the sales desk (Order Internal Route Accepted event)
  - The principal execution (Trade event)
- At the Program Trading Desk
  - The receipt of the internal route from the sales desk (Order Internal Route Accepted event)
  - The principal execution (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Sell order to Broker 1	NA	
2	Broker 1 accepts the customer order at the sales desk	Broker 1 reports a <b>New Order</b> event	

#	Step	Reported Event	Comments
		type: MENO orderKeyDate: 20170801T000000 orderID: O11111 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O side: SL price: 10.02 quantity: 2000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C5678 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 internally routes the order from the sales desk to the trading desk	Broker 1 reports an Order Internal Route Accepted event type: MEIR orderKeyDate: 20170801T000000 orderID: O9996 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O11111 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T side: SL price: 10.02 quantity: 2000 orderType: LMT	The trading desk, upon receipt of the internal route, assigns a new Order Key with <i>orderID</i> 09996. The Parent Order Key with <i>orderID</i> 011111 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Order Internal Route Accepted event with the New Order event.
4	The trading desk partially fills order O9996 on a Principal basis	Broker 1 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO9996 symbol: XYZ	For this Trade event, the sellDetails reflect the details of customer order O9996. The buyDetails capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		eventTimestamp: 20170801T143035.123456 manualFlag: false quantity: 1000 price: 10.02 capacity: P tapeTradeID: T9996 marketCenterID: DN negotiatedTradeSide: NA buyDetails: side: B firmDesignatedID: PROP246 accountHolderType: P sellDetails: orderKeyDate: 20170801T000000 orderID: O9996 side: SL	
5	Broker 1 internally routes 400 of the remaining 1000 shares from the trading desk to the arbitrage desk	Broker 1 reports an Order Internal Route Accepted event type: MEIR orderKeyDate: 20170801T000000 orderID: O9997 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O9996 eventTimestamp: 20170801T143036.123456 manualFlag: false deptType: T receivingDeskType: AR side: SL price: 10.02 quantity: 400 orderType: LMT	The arbitrage desk, upon receipt of the internal route, assigns a new Order Key with <i>orderID</i> 09997. The Parent Order Key with <i>orderID</i> 09996 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Order Internal Route Accepted event with the parent Order Internal Route Accepted event.
6	The arbitrage desk fills order O9997 on a Principal basis.	Broker 1 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO9997 symbol: XYZ eventTimestamp: 20170801T143037:122234 manualFlag: false	For this Trade event, the sellDetails reflect the details of customer order O9997. The buyDetails capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		quantity: 400 price: 10.02 capacity: P tapeTradeID: T9997 marketCenterID: DN negotiatedTradeSide: NA buyDetails: side: B firmDesignatedID: PROP321 accountHolderType: P sellDetails: orderKeyDate: 20170801T000000 orderID: O9997 side: SL	
7	Broker 1 internally routes the 600 remaining shares from the trading desk to the program trading desk	Broker 1 reports an Order Internal Route Accepted event type: MEIR orderKeyDate: 20170801T000000 orderID: O1118 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O9996 eventTimestamp: 20170801T143038.123456 manualFlag: false deptType: T receivingDeskType: PT side: SL price: 10.02 quantity: 600 orderType: LMT	The program trading desk, upon receipt of the internal route, assigns a new Order Key with <i>orderID</i> 01118. The Parent Order Key with <i>orderID</i> 09996 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Order Internal Route Accepted event with the parent Order Internal Route Accepted event.
8	The program trading desk fills order O1118 on a Principal basis	Broker 1 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20170801T000000 tradeID: TO99981 symbol: XYZ eventTimestamp: 20170801T143038:125566 manualFlag: false quantity: 600 price: 10.02 capacity: P	For this Trade event, the sellDetails reflect the details of customer order O1118. The buyDetails capture the FDID of the firm proprietary account from which the customer order was filled.

#	Step	Reported Event	Comments
		tapeTradeID: T9998	
		marketCenterID: DN	
		negotiatedTradeSide: NA	
		buyDetails:	
		side: B	
		firmDesignatedID: PROP555	
		accountHolderType: P	
		sellDetails:	
		orderKeyDate:	
		20170801T000000	
		orderID: O1118	
		side: SL	

## 2.5.3. Internal Route and Execution, Leaves Quantity Routed Externally

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes an order to another desk where it is partially executed. The remainder of the order is routed to another Industry Member for execution.

Customer 1	Broker 1		Broker 2
1. Sends order to Broker 1. Buy 5000 XYZ	<ul> <li>2. Creates customer order A at Sales Desk</li> <li>Reports "New Order" Event</li> <li>3. Routes Order A to Trading Desk</li> <li>Reports "Order Internal Route" Event</li> <li>4. Partial Principal Fill of the Order for 4000 shares (Internalized)</li> <li>Reports "Trade" Event</li> <li>5. Trading Desk Routes remaining 1000 shares to Broker 2</li> <li>Reports "Order Route" Event</li> </ul>	/	6. Accepts Order from Broker 1 Reports "Order Accepted" Event 7. Executes order for remaining 1000 shares Reports "Trade" Event

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The receipt of the internal route from the sales desk (Order Internal Route Accepted event)
- The partial execution of the customer order (Trade event)
- The route of the remaining shares to Broker 2 (Order Route event)

- Receipt of the order from Broker 1 (Order Accepted event)
- The execution of Broker 1's order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	

#	Step	Reported Event	Comments
2	Broker 1 accepts the customer order at the sales desk	Broker 1 reports a New Order event type: MENO orderKeyDate: 20170801T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: O side: B price: 10.01 quantity: 5000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C0001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 internally routes the order from the sales desk to the trading desk	Broker 1 reports an Order Internal Route Accepted event type: MEIR orderKeyDate: 20170801T000000 orderID: T12333 symbol: XYZ parentOrderKeyDate: 20170801T000000 parentOrderID: O34567 eventTimestamp: 20170801T143031.123456 manualFlag: false deptType: T receivingDeskType: T side: B price: 10.01 quantity: 5000 orderType: LMT	The trading desk, upon receipt of the internal route, assigns a new order ID T12333 to the order. This ID will be used to refer to the order in the subsequent trade event. The order ID from the New Order event, O34567, must be populated in the <i>parentOrderID</i> field. The <i>parentOrderID</i> links the Order Internal Route Accepted event with the New Order event.
4	The trading desk partially executes the order on a principal basis	<i>Broker 1 reports a <b>Trade event</b></i> type: MEOT tradeKeyDate: 20170801T000000	For this Trade event, the buyDetails reflect the details of customer order T12333. The sellDetails capture the FDID of the firm proprietary account from which the customer order was

#	Step	Reported Event	Comments
		tradeID: TO9123 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false quantity: 4000 price: 10.01 capacity: P tapeTradeID: TRF1234 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20170801T000000 orderID: T12333 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	filled.
5	Broker 1 routes the leaves quantity to Broker 2	Broker 1 reports an <b>Order Route</b> event type: MEOR orderKeyDate: 20170801T000000 orderID: T12333 symbol: XYZ eventTimestamp: 20170801T143033.123456 manualFlag: false senderIMID: BRKA destination: FIRMB destinationType: F routedOrderID: FA12333 side: B price: 10.01 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	
6	Broker 2 accepts the order from Broker 1	Broker 2 reports an <b>Order</b> Accepted event type: MEOA orderKeyDate: 20170801T000000	

#	Step	Reported Event	Comments
		orderID: B12345 symbol: XYZ eventTimestamp: 20170801T143033.523456 manualFlag: false receiverIMID: FIRMB senderIMID: BRKA senderType: F routedOrderID: FA12333 affiliateFlag: false deptType: T side: B price: 10.01 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	
7	Broker 2 matches and executes Broker 1's buy order B12345 order against sell order C45678	Broker 2 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ001 symbol: XYZ eventTimestamp: 20170801T143034.253456 manualFlag: false quantity: 1000 price: 10.01 capacity: A tapeTradeID: TRF123 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20170801T000000 orderID: B12345 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: C45678 side: SL	

### 2.5.4. Order Received and Routed Manually, Electronically Captured at Subsequent Desk

This scenario illustrates the CAT reporting requirements when an order is received manually at a branch, then and manually routed to the trading desk. Upon receipt, the trading desk immediately enters the order into an electronic order management system for further handling.

Customer 1	Broker 1	Exchange 1
1. Calls a representative at Broker 1	2. Manual creates ticket for Customer Order Reports "New Order" Event 3. Order A to is called in to the Trading Desk which enter trade into system immediately upon receipt.	5. Accepts order from Broker 1
	Reports "Order Internal Route" Event 4. Trading Desk Routes Order to EXCH1 Reports "Order Route" Event	

Industry Member Broker 1 is required to report:

- The manual receipt of the customer order (a New Order event)
- The manual receipt and subsequent electronic entry of the internal route from the branch (Order Internal Route Accepted event)
- The electronic route of the order to the exchange (Order Route event)

Industry Members are required to report both an *eventTimestamp* and an *electronicTimestamp* for orders that are received manually and subsequently entered into an electronic system. If the order was received and systematized simultaneously, the values for the *eventTimestamp* and the *electronicTimestamp* may be the same. If the order is not systematized, an *electronicTimestamp* is not required.

#	Step	Reported Event	Comments
1	Customer calls an order to Broker 1	NA	
2	The branch receives the customer order and manually creates an order ticket	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180417T000000 orderID: O24680 symbol: XYZ eventTimestamp: 20180417T153015.00 manualFlag: true electronicTimestamp: deptType: O side: B price: 10.00 quantity: 1000 orderType: LMT	The <i>eventTimestamp</i> on the New Order event must capture the time at which the customer called Broker 1 in step 1 (with granularity to at least seconds). <i>electronicTimestamp</i> is not required, since the order was never systematized by Broker 1 at the branch.

#	Step	Reported Event	Comments
		timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: FDID00234 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	The branch calls the order into the trading desk, which enters the order into an electronic system immediately upon receipt	Broker 1 reports an Order Internal Route Accepted event type: MEIR orderKeyDate: 20180417T000000 orderID: O24680 symbol: XYZ eventTimestamp: 20180417T153016.112345 manualFlag: true electronicTimestamp: 20180417T153016.112345 deptType: T receivingDeskType: T side: B price: 10.00 quantity: 1000 orderType: LMT	The trading desk does not assign a new orderID to the Order Internal Route Accepted event. Since the Trading Desk received the order manually and subsequently entered the order into an electronic system, the trading desk is required to report both an <i>eventTimestamp</i> and an <i>electronicTimestamp</i> . However, since the trading desk simultaneously received and entered the order, the <i>eventTimestamp</i> and <i>electronicTimestamp</i> may reflect the same value.
4	The order is routed to EXCH1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000orderID: O24680 symbol: XYZ eventTimestamp: 20180417T153016.112545 manualFlag: false senderIMID: BRKR1 destination: EXCH1 destinationType: E routedOrderID: RTO24680 session: s18 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY	

#	Step	Reported Event	Comments
		tradingSession: REG isoInd: NA	
5	EXCH1 accepts the order from Broker 1	EXCH1 reports a Participant <b>Order</b> Accepted event	

### 2.5.5. Industry Member Utilizes Multiple Systems at One Desk

This scenario illustrates the CAT reporting requirements when an Industry Member has multiple trading systems utilized at a single desk. In this scenario, the desk transfers the order into another internal application used within the desk in order to route the order to an exchange. Since the desk handling the order does not change, the Industry Member is not required to report movement of an order between two systems within the same desk or department.

Customer 1	Broker 1		Exchange 1
1. Sends order to Broker 1. Buy 1000 XYZ	<ul> <li>Creates customer Order A at Desk 1</li> <li>Reports "New Order" Event</li> <li>Desk 1 moves order to another system on the desk</li> <li>A. Routes Order A to the exchange Reports "Order Route" Event</li> </ul>	/	5. Accepts Order A from Broker 1

- The receipt of the customer order (New Order event)
- The route of the customer order to the exchange (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	NA	
2	Broker 1 accepts the customer order at Desk	Broker 1 reports a <b>New Order</b> event	
		type: MENO	
		orderKeyDate: 20180417T000000	
		orderID: O23456	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.234456	
		manualFlag: false	
		deptType: A	
		side: B	
		price: 10.00	
		quantity: 1000	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Desk 1 transmits the order to a different internal system	NA	
4	Desk 1 routes the order to the exchange	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.334456 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: RT23456 session: s2 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
5	Exchange 1 accepts order from Broker 1	NA	

# 2.6. Order Modification Scenarios

### 2.6.1. Customer Order and Modifications

This scenario illustrates the CAT reporting requirements when a customer places an order with an Industry Member and modifies the order multiple times.



- The receipt of the customer order (New Order event)
- The customer modifications (Order Modified event for each modification instruction)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer sends the modification request to the Broker 1	NA	
4	The customer order is modified at the firm	Broker 1 reports an Order Modified event	Upon receipt of the modification, Broker 1 assigns a new Order Key

#	Step	Reported Event	Comments
			with orderID OM12322.
		type: MEOM orderKeyDate: 20180417T000000 orderID: OM12322 symbol: XYZ	The Prior Order Key with <i>orderID</i> O12321 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Modified event with the New Order event.
		priorOrderKeyDate: 20180417T000000 priorOrderID: O12321 eventTimestamp: 20180417T143035.236456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false	Since the modification was received from a non-CAT reporting customer, the <i>receiverIMID</i> , <i>senderIMID</i> , <i>senderType</i> , and <i>routedOrderID</i> fields are not required.
5	Customer sends another modification request to the Broker 1	NA	
6	The customer order is modified at the firm	Broker 1 reports an <b>Order Modified</b> event	Upon receipt of the modification, Broker 1 assigns a new Order Key with <i>orderID</i> OM12323.
		type: MEOM orderKeyDate: 20180417T000000 orderID: OM12323 symbol: XYZ priorOrderKeyDate: 20180417T0000000 priorOrderID: O12322 eventTimestamp: 20180417T143041.046151 manualFlag: false receiverIMID: senderIMID: senderIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.01	The Prior Order Key with <i>orderID</i> O12322 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Modified event with the prior Order Modified.

#	Step	Reported Event	Comments
		quantity: 1000	
		leavesQty: 1000	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		custDspIntrFlag: false	

## 2.6.2. Customer Initiated Modification of an Order Previously Routed to an Exchange

This scenario illustrates the CAT reporting requirements when a customer initiates a modification on an order that the Industry Member had previously routed to an exchange.



- The receipt of customer order (New Order event)
- The route to the exchange (Order Route event)
- The customer modification (Order Modified event)
- The route of the modification to the exchange (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: A side: B	

#	Step	Reported Event	Comments
		price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: IN004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to EXCH1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O12321 symbol: XYZ eventTimestamp: 20180417T143030.236456 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: RTAO12321 session: s6 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
4	EXCH1 accepts the order from Broker 1	Exchange 1 reports a Participant Order Accepted event	
5	Customer initiates the modification	ΝΑ	
6	Broker 1 modifies the customer order per the customer's instructions	Broker 1 reports an Order Modified event type: MEOM orderKeyDate: 20180417T000000 orderID: OM12322 symbol: XYZ priorOrderKeyDate: 20180417T000000	Upon receipt of the modification, Broker 1 assigns a new Order Key with <i>orderID</i> OM12322. The Prior Order Key with <i>orderID</i> O12321 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received
#	Step	Reported Event	Comments
---	--	---	--
		priorOrderID: O12321 eventTimestamp: 20180417T143031.236456 manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false	from a non-CAT reporting customer, the <i>receiverIMID, senderIMID</i> , <i>senderType</i> , and <i>routedOrderID</i> fields are not required
7	Broker 1 routes the modification to EXCH1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: OM12322 symbol: XYZ eventTimestamp: 20180417T143031.254456 manualFlag: false senderIMID: FRMA destinationType: E routedOrderID: RTAO555 session: s6 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	
8	EXCH1 updates the order	Exchange 1 reports a Participant Order Modified event	

# 2.6.3. Customer Initiated Modification of Order Previously Routed to another Industry Member

This scenario illustrates the CAT reporting requirements when a customer initiates a modification on an order that was previously routed to another Industry Member.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)
- The customer modification (Order Modified event)
- The route of the modification to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The modification from Broker 1 (Order Accepted event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: I MT	

#	Step	Reported Event	Comments
		timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to Broker 2	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234556 manualFlag: false senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: AO222 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an Order Accepted event type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143035.323556 manualFlag: false receiverIMID: FRMB senderIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: AO222 affiliateFlag: false deptType: A side: B	

#	Step	Reported Event	Comments
		price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Customer initiates the modification	ΝΑ	Customer amends order to price of \$10.00
6	Broker 1 modifies the order per the customer's instructions	Broker 1 reports an Order Modified event type: MEOM orderKeyDate: 20180417T000000 orderID: O23456M symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O23456 eventTimestamp: 20180417T143032.224333 manualFlag: false receiverIMID: senderIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	Upon receipt of the modification, Broker 1 assigns a new Order Key with <i>orderID</i> O23456M. The Prior Order Key with <i>orderID</i> O23456 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received from a non-CAT reporting customer, the <i>receiverIMID</i> , <i>senderIMID</i> , <i>senderType</i> , and <i>routedOrderID</i> fields are not required.
7	Broker 1 routes the modification to Broker 2	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456M symbol: XYZ eventTimestamp: 20180417T143032.234333 manualFlag: false	

#	Step	Reported Event	Comments
		senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: MAO222 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
8	Broker 2 modifies the order per the customer's instructions	Broker 2 reports an Order Modified event type: MEOM orderKeyDate: 20180417T000000 orderID: O34567M symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O34567 eventTimestamp: 20180417T143035.524333 manualFlag: false receiverIMID: FRMB senderIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: MAO222 initiator: C side: B price: 10.00 quantity: 1000 leavesQty: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	Upon receipt of the modification, Broker 1 assigns a new Order Key with orderID O34567M. The Prior Order Key with orderID O34567 must be populated in the priorOrderID field. The Prior Order Key links the Order Modified event with the Order Accepted event.

#### 2.6.4. System Driven Modification of Previously Routed Order

This scenario illustrates the CAT reporting requirements when an Industry Member uses a trading algorithm<sup>1</sup>, which modifies an order that was previously routed to another Industry Member. In this scenario, since the order modification was initiated by the trading algorithm and not by the original customer, the routing Industry Member Broker 1 does not need to report the modification to CAT, as the modification is captured by the receiving Industry Member Broker 2.

Customer 1 1. Sends order to Broker 1	Broker 1 2. Accepts Customer Order A Reports "New Order" Event 3. Routes Order A to Broker 2 using programmed algorithm system Reports "Order Route" Event		Broker 2     4 Accepts Order from Broker 1     Reports "Order Accepted" Event     6. Modifies Order received from     Broker 1     Reports "Order Modified" Event
	5. Algorithm modifies order route per programmed strategy		

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The modification from Broker 1 (Order Modified event)

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate:20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A side: B	

<sup>&</sup>lt;sup>1</sup> Trading Algorithm is defined in Appendix F of <u>the CAT Reporting Technical Specifications for Industry Members ("Technical Specifications"</u>)

#	Step	Reported Event	Comments
		price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PR001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes 500 shares of the order to Broker 2	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234556 manualFlag: false senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: AO222 side: B price: 9.98 quantity: 500 orderType: LMT timeInForce: GTT =20180417T143036.000000 tradingSession: REG handlingInstructions: isoInd: NA	In Phase 2c, Broker 1 will be required to populate 'SMT' in the <i>handlingInstructions</i> field to indicate that the order was routed out by a Smart Router.
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an Order Accepted event type: MEOA orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T143035.323556 manualFlag: false receiverIMID: FRMB senderIMID: FRMA	

#	Step	Reported Event	Comments
		senderType: F routedOrderID: AO222 affiliateFlag: false deptType: A side: B price: 9.98 quantity: 500 orderType: LMT timeInForce: GTT=20180417T143036.000000 tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	Broker 1's trading algorithm reduces the quantity to 300 shares	NA	
6	Broker 2 modifies the order per Broker 1's instruction	Broker 2 reports an Order Modified event type: MEOM orderKeyDate: 20170417T000000 orderID: O34567M symbol: XYZ priorOrderKeyDate: 20170417T000000 priorOrderID: O34567 eventTimestamp: 20180417T143035.524333 manualFlag: false receiverIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: AO223 initiator: C side: B price: 9.98 quantity: 300 leavesQty: 300 orderType: LMT timeInForce: GTT=20180417T143036.000000 tradingSession: REG isoInd: NA custDspIntrFlag: false	Upon receipt of the modification, Broker 1 assigns a new Order Key with <i>orderID</i> O34567M. The Prior Order Key with <i>orderID</i> O34567 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Modified event with the Order Accepted event.

#### 2.6.5. Manual Route, Followed by an Electronic Modification

This scenario illustrates Phase 2a reporting requirements when an Industry Member routes an order manually, then sends an electronic message to modify the material terms of the order.



Industry Member Broker 1 is required to report:

- The electronic receipt of the customer order (New Order event)
- The manual route of the order to Broker 2 (Order Route event)
- The electronic customer modification (Order Modified event)
- The electronic route of the modification order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The manual receipt of the route from Broker 1 (Order Accepted event)
- The electronic modification from Broker 1 (Order Modified event)

Industry Members are required to report both an *eventTimestamp* and an *electronicTimestamp* for orders that are received manually and subsequently entered into an electronic system. If the order was received and systematized simultaneously, the values for the *eventTimestamp* and the *electronicTimestamp* may be the same. If the order is not systematized, an *electronicTimestamp* is not required.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456	

#	Step	Reported Event	Comments
3	Broker 1 calls Broker 2 to route the order	manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N <i>Broker 1 reports an Order Route</i> <i>event</i> type: MEOR orderKeyDate: 20180417T000000 orderID: 023456 symbol: XYZ eventTimestamp: 20180417T143058 manualFlag: true electronicTimestamp: senderIMID: BRK1 destination: BRK2 destinationType: F routedOrderID: side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	The <i>eventTimestamp</i> on the Order Route event must capture the time at which Broker 1 called Broker 2 in step 2 (with granularity to at least seconds). <i>electronicTimestamp</i> is not required, since the route was never systematized by Broker 1. <i>routedOrderID</i> is not required on orders routed manually.
4	Broker 2 receives the order and immediately enters the order into an electronic system.	Broker 2 reports an Order Accepted event Type: MEOA orderKeyDate: 20180417T000000 orderID: B2O908 symbol: XYZ eventTimestamp: 20180417T143059.123456 manualFlag: true	Since Broker 2 received the order manually and subsequently entered the order into an electronic system, Broker 2 is required to report both an <i>eventTimestamp</i> and an <i>electronicTimestamp</i> . However, since Broker 2 simultaneously received and entered the order, the <i>eventTimestamp</i> and

#	Step	Reported Event	Comments
		electronicTimestamp: 20180417T143059.123456 receiverIMID: BRK2 senderIMID: BRK1 senderType: F affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	electronicTimestamp may reflect the same value.
5	Customer initiates the modification to reduce the order quantity.	NA	
6	Broker 1 electronically modifies the order per the customer's instructions, and routes the modification electronically to Broker 2	Broker 1 reports an Order Modified event type: MEOM orderKeyDate: 20180417T000000 orderID: O34567M symbol: XYZ priorOrderKeyDate: 20170417T000000 priorOrderID: O23456 eventTimestamp: 20180417T143110.123456 manualFlag: false receiverIMID: senderIMID: senderIMID: senderIMID: senderType: routedOrderID: initiator: C side: B price: 10.00 quantity: 900 leavesQty: 900 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	Upon receipt of the modification, Broker 1 assigns a new Order Key with <i>orderID</i> O34567M. The Prior Order Key with <i>orderID</i> O23456 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received from a non-CAT reporting customer, the <i>receiverIMID</i> , <i>senderIMID</i> , <i>senderType</i> , and <i>routedOrderID</i> fields are not required.

#	Step	Reported Event	Comments
		Broker 1 reports an Order Route	
		event	
		orderKeyDate: 201804171000000	
		symbol: XYZ	
		eventTimestamp:	
		20180417T143110.129456	
		manualFlag: false	
		senderIMID: BRKR1	
		destination: BRKB2	
		destinationType: F	
		routedOrderID: RTO34567	
		side: B	
		price: 9.99	
		quantity: 900	
		timeInForce: DAY	
		tradingSession: BEG	
		isolnd: NA	
7	Broker 2 modifies the	Broker 2 reports an Order Modified	I have receipt of the modification
<i>'</i>	order per the	event	Broker 1 assigns a new Order Key
	customer's instructions.		with orderID 099101.
		type: MEOM	The Prior Order Key with orderID
		orderKeyDate: 201804171000000	B2O908 must be populated in the
		Symbol: XXZ	Key links the Order Modified event
		priorOrderKeyDate	with the Order Accepted event.
		20180417T000000	
		priorOrderID: B2O908	
		eventTimestamp:	
		20180417T143110.140456	
		manualFlag: false	
		receiverIMID: BRK2	
		routedOrderID: PTO24567	
		initiator: C	
		price: 9.99	
		quantity: 900	
		leavesQty: 900	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
		custDspIntrFlag: false	

#### 2.6.6. Order Routing via Smart Router Provided by another Industry Member

This scenario illustrates CAT reporting requirements when an introducing firm receives a customer order and enters it directly to a Smart Router provided by another Industry Member. The Smart Router provided by the industry member does not need to report to CAT when all of the following conditions apply:

- The Industry Member providing the order routing system has no discretion over the order once it is entered into the Industry Member's order-routing system. The order routing destination ("Destination Market Center") must either be directed by the originating Industry Member or be subject to the pre-determined algorithm of the routing system agreed to by the originating Industry Member. The Industry Member providing the order routing system would have no involvement relating to the routing of the order, other than providing the routing mechanism.
- 2) The originating Industry Member must have established a relationship with the Destination Market Center, including meeting any and all applicable requirements to route orders to that destination. The originating Industry Member understands that the Industry Member providing the order routing system has no involvement with respect to the order in any way, except for providing a routing mechanism. No pre-established relationship between the Industry Member providing the order routing system and the Destination Market Center would be necessary for the originating Industry Member to access the routing destination.
- 3) The Destination Market Center views the order as coming directly from the originating Industry Member, not the Industry Member providing the order routing system, for all purposes, but not limited to, CAT reporting, trade reporting, applicable fees, etc.
- 4) The originating Industry Member, rather than the member providing the order routing system, identifies itself as the routing firm for purposes for the SEC Rule 606 (formerly SEC Rule 11Ac1-6).



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order through a Smart Router (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

The Industry Member providing the order routing system is not required to report to CAT.

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	NA	
2	Broker 1 (as the introducing firm) accepts the customer order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180417T000000 orderID: 034567 symbol: XYZ eventTimestamp: 20180417T151018.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: FDID358 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 enters the order into the smart router	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20180417T151018.125456 manualFlag: false senderIMID: BRKR1 destination: BRKR2 destinationType: F routedOrderID: SR1112 side: B price: 10.00	In Phase 2c, Broker 1 will be required to populate 'SMT' in the <i>handlingInstructions</i> field to indicate that the order was routed out by a Smart Router.

#	Step	Reported Event	Comments
		quantity: 1000	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
		handlingInstructions:	
		nandinginst detons.	
4	Broker 2 accents the	Broker 2 reports an Order	
	order from Broker 1 via the smart router	Accepted event	
		type: MEOA	
		orderKevDate: 20180417T000000	
		orderID: B26789	
		symbol: XYZ	
		eventTimestamp.	
		20180417T151018 155456	
		manualFlag: false	
		receiverIMID: BBKB2	
		senderIMID: BBKB1	
		senderType: F	
		routedOrderID: SB1112	
		affiliato Elag: falso	
		deptTupo: T	
		deptrype. I	
		price: 10.00	
		quantity: 1000	
		order Type: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
		custDspIntrFlag: false	
	Duckey O west the	Broker 2 reports a <b>Trade event</b>	
5	Broker 2 matches Broker 1's order with		
	sell order B2O1234 and	type: MEOT	
	executes	tradeKeyDate: 20180417T000000	
		tradeID: TB21567	
		symbol: XYZ	
		eventTimestamp:	
		20180417T151018.255456	
		manualFlag: false	
		quantity: 1000	
		price: 10.00	
		capacity: A	
		tapeTradeID: TRFB12321	
		negotiatedTradeSide: NA	
		buyDetails:	
5	Broker 2 matches Broker 1's order with sell order B2O1234 and executes	custDspIntrFlag: false Broker 2 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20180417T000000 tradeID: TB21567 symbol: XYZ eventTimestamp: 20180417T151018.255456 manualFlag: false quantity: 1000 price: 10.00 capacity: A tapeTradeID: TRFB12321 negotiatedTradeSide: NA buyDetails:	

#	Step	Reported Event	Comments
		orderKeyDate: 20180417T000000 orderID: B26789 side: B sellDetails: orderKeyDate: 20180417T000000 orderID: B2O1234 side: SL	

# 2.6.7. Modification to an Order Previously Routed to an Exchange that requires the use of the Original Routed Order ID

This scenario illustrates CAT reporting requirements when an Industry Member routes an order to an exchange that requires the use of the original routed order ID for a modification to an order that was previously routed to that exchange. This scenario is only applicable to orders modified and resent to exchanges with a requirement to reuse the Routed Order ID. In these instances, the routing firm must designate on the Order Route event that the Routed Order ID is duplicated.

This reporting scenario applies to orders originated by the firm as well as orders received from customers and from other Industry Members. The example documented in this scenario represents an order originated by the firm.



Industry Member Broker 1 is required to report:

- The origination of a principal order (New Order event)
- The route to an exchange (Order Route event)
- The order modification (Order Modified event)
- The route of the modification to the exchange (Order Route event)

#	Step	Reported Event	Comments
1	Broker 1 originates order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O2500-0 symbol: XYZ eventTimestamp: 20180417T143030.234456 manualFlag: false deptType: T side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP55 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
2	Broker 1 routes the order to EXCH1	Broker 1 reports an <b>Order Route</b> event	Since Broker 1 is routing the order to a national securities exchange,
		type: MEOR orderKeyDate: 20180417T000000 orderID: O2500-0 symbol: XYZ eventTimestamp: 20180417T143030.236456 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E routedOrderID: ROID-001 session: s6 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA dupROIDCond: false	

#	Step	Reported Event	Comments
3	EXCH1 accepts the order from Broker 1	Exchange 1 reports a Participant Order Accepted event	
4	order from Broker 1 Broker 1 modifies the order	Order Accepted eventBroker 1 reports an Order Modified eventtype: MEOM orderKeyDate: 20180417T000000orderID: O2500-1 symbol: XYZ priorOrderKeyDate: 20180417T000000 priorOrderID: O2500-0 eventTimestamp: 20180417T143031.236456 manualFlag: false receiverIMID: senderIMID: senderIMID: 	Upon receipt of the modification, Broker 1 assigns a new Order Key with orderID 02500-1. The Prior Order Key with orderID 02500-0 must be populated in the priorOrderID field. The Prior Order Key links the Order Modified event with the New Order event.
5	Broker 1 routes the modification to EXCH1	representativeInd: N Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: OM12322 symbol: XYZ eventTimestamp: 20180417T143031.254456 manualFlag: false senderIMID: FRMA destination: EXCH1 destinationType: E	<ul> <li>Since Broker 1 is routing to an exchange which requires the reuse of the original Routed Order ID:</li> <li>The <i>routedOrderID</i> is populated with the same value as what was originally sent to the exchange</li> <li>The <i>dupROIDCond</i> field is set to true. When true, CAT will allow the duplicated Route Linkage Key.</li> </ul>
		routedOrderID: ROID-001 session: s6 side: B price: 10.00 quantity: 1000	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA dupROIDCond: true	
6	EXCH1 updates order	Exchange 1 reports a Participant Order Modified event	

# 2.7. Cancellation Scenarios

#### 2.7.1. Full cancellation of a Customer Order

This scenario illustrates the CAT reporting requirements when a customer cancels an order placed with an Industry Member on the same day that it was created.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The customer cancellation (Order Cancelled event)



Note that for illustration purposes, actions taken by the Broker between the receipt of the original order and the customer cancellation are not included.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.234456 manualFlag: false deptType: A	

#	Step	Reported Event	Comments
		side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer sends the cancel instruction to Broker 1	NA	
4	Broker 1 cancels the customer order	Broker 1 reports an Order Cancelled event type: MEOC orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.323556 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: C	

# 2.7.2. Partial Cancellation of an Order

The following scenario illustrates the CAT reporting requirements when a customer partially cancels an order placed with an Industry Member on the same day that it was created. The Industry Member may report the partial cancellation using either an Order Cancelled event or an Order Modified event. This scenario illustrates the reporting requirements using an Order Cancelled event.

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The customer's partial cancellation (Order Cancelled event)

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	NA	

#	Step	Reported Event	Comments
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUS004 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Customer partially cancels initial order	NA	
4	Broker 1 partially cancels the order per the customer's instruction	Broker 1 reports an Order Cancelled event type: MEOC orderKeyDate: 20180417T000000 orderID: O45678 symbol: XYZ eventTimestamp: 20180417T153036:123456 manualFlag: false cancelQty: 400 leavesQty: 600 initiator: C	

# 2.7.3. Cancellation of a Routed Order

This scenario illustrates the CAT reporting requirements when a customer cancels an order that was previously routed to another Industry Member.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the customer order to Broker 2 (Order Route event)
- The customer cancellation of the order (Order Cancelled event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The cancellation of the order (Order Cancelled event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1.	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUS1234 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Broker 1 routes the order to Broker 2	Broker 1 reports an <b>Order Route</b> event	
		type: MEOR orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ eventTimestamp: 20180417T150335.244456 manualFlag: false senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: RO56575XYZ side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an Order Accepted event type: MEOA orderKeyDate: 20180417T000000 orderID: OB12345 symbol: XYZ eventTimestamp: 20180417T150335.344456 manualFlag: false receiverIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: RO56575XYZ affiliateFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	

#	Step	Reported Event	Comments
5	Customer cancels the order	NA	
6	Broker 1 cancels the order per the customer's instruction	Broker 1 reports an Order Cancelled event type: MEOC orderKeyDate: 20180417T000000 orderID: O56575 symbol: XYZ eventTimestamp: 20180417T150336.123456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: C	
7	Broker 1 notifies Broker 2 that the order was cancelled	NA	
8	Broker 2 cancels the order per the customer's instruction	Broker 2 reports an Order Cancelled event type: MEOC orderKeyDate: 20180417T000000 orderID: OB12345 symbol: XYZ eventTimestamp: 20180417T150336.423456 manualFlag: false cancelQty: 1000 leavesQty: 0 initiator: C	

# 2.8. ATS Reporting Scenarios

#### 2.8.1. ATS Cross with One Order on Each Side

This scenario illustrates the CAT reporting requirements when a firm's ATS receives two Industry Member subscriber orders and crosses them.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The receipt of the order from Broker 2 (Order Accepted event)
- The Cross of Broker 1's order with Broker 2's order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends a BUY order to Broker 1.	NA	
2	Broker 1 receives the BUY order from the customer	Broker 1 (IMID=FRMA) reports a <b>New Order event</b>	
		type: MENO	
		orderKeyDate: 20170801T000000	
		orderID: O12345	
		symbol: XYZ	
		eventTimestamp:	
		20170801T143031.123456	
		manualFlag: false	
		deptType: A	
		side: B	
		price: 10.01	
		quantity: 300	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		custDspIntrFlag: false	

#	Step	Reported Event	Comments
		firmDesignatedID: INC123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the BUY order to ATS A	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false senderIMID: FRMA destination: ATSA destination: ATSA destinationType: F routedOrderID: ABCDXYZ555 side: B price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	
4	ATS A accepts the buy order routed from Broker 1	ATS A (IMID = ATSA) reports an Order Accepted event type: MEOA orderKeyDate: 20170801T000000 orderID: O88855 symbol: XYZ eventTimestamp: 20170801T143032.523456 manualFlag: false receiverIMID: ATSA senderIMID: BRKA senderType: F routedOrderID: ABCDXYZ555 affiliateFlag: false deptType: ATS side: B price: 10.01 quantity: 300 orderType: LMT	

#	Step	Reported Event	Comments
		timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1240 atsDisplayInd: N displayPrice: 0 workingPrice: 10.01 displayQty: 0 atsOrderType: P2 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20170801T143032.523456	
5	Customer sends a SELL order to Broker 2	NA	
6	Broker 2 receives the SELL order from the customer	Broker 2 (IMID=FRMB) reports a New Order event type: MENO orderKeyDate: 20170801T000000 orderID: O555 symbol: XYZ eventTimestamp: 20170801T143031.523456 manualFlag: false deptType: A side: SL price: 10.01 quantity: 300 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INC555 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
7	Broker 2 routes the SELL order to ATS A	Broker 2 reports an Order Route event type: MEOR orderKeyDate: 20170801T000000 orderID: O555	

#	Step	Reported Event	Comments
		symbol: XYZ	
		eventTimestamp:	
		20170801T143032.123456	
		manualFlag: false	
		senderIMID: FRMB	
		destination: ATSA	
		destinationType: F	
		routedOrderID: ABCDXYZ556	
		side: SL	
		price: 10.01	
		quantity: 300	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
8	ATS A accepts the	ATS A (IMID = ATSA) reports an	
	SELL order routed from Broker 2	Order Accepted event	
		type: MEOA	
		orderKeyDate: 20170801T000000	
		orderID: 088856	
		symbol: XYZ	
		eventTimestamp:	
		201708011143032.523456	
		receiverimiD: ATSA	
		senderType: E	
		routedOrderID: ABCDXX7556	
		affiliateElag: false	
		dentType: ATS	
		side: SI	
		price: 10.01	
		quantity: 300	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
		custDspIntrFlag: false	
		seqNum: 1240	
		atsDisplayInd: N	
		displayPrice: 0	
		workingPrice: 10.01	
		displayQty: 0	
		atsOrderType: P2	
		nbbPrice: 10.00	
		nboPrice: 10.03	
		nddoSource: S	

#	Step	Reported Event	Comments
		nbboTimestamp: 20170801T143032.523456	
9	ATS A performs the cross, and the orders are executed.	ATS A reports an <b>Trade event</b> with O88855 and O88856 on the sides type: MEOT tradeKeyDate: 20170801T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20170801T143033.523456 manualFlag: false quantity: 300 price: 10.01 capacity: A tapeTradeID: BRSEQ8000 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O88855 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: O88856 side: SL seqNum: 1241 nbbPrice: 10.02 nbboSource: S nbboTimestamp: 20170801T143033.523456	The MEOT reported by ATSA must link to the related media trade report through the <i>tapeTradeID</i> field. ATSA is <b>not</b> required to link to any non- media trade reports.

# 2.8.2. ATS Cross with Multiple Orders on One Side

This scenario illustrates the CAT reporting requirements when an ATS matches as agent the orders of multiple customers on one side with the order of one customer on the other side. If the matches occur in a single execution or a "single event" (e.g., with the press of a button or pursuant to an automated execution algorithm), and the transaction is reported to the tape as a single transaction (e.g., a single cross), the ATS may report an MEOT event, followed by subsequent MEOTS events.

Sequential executions, even those occurring very close in time, would not be considered a single event and must be reported as separate MEOTs.

This scenario illustrates reporting requirements when using an MEOTS event.



Industry Member Broker 1 is required to report:

- The receipt of Customer 4's order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A is required to report:

- The receipt of Customer 1's order (New Order event)
- The receipt of Customer 2's order (New Order event)
- The receipt of Customer 3's order (New Order event)
- The receipt of Broker 1's order (Order Accepted event)
- Matching of Broker 1's order with Customer 1's Order, Customer 2's Order and Customer 3's Order, and execution (Trade event)
- Side Details of Customer 1's Order (Trade Supplement Event)
- Side Details of Customer 2's Order (Trade Supplement Event)
- Side Details of Customer 3's Order (Trade Supplement Event)

#	Step	Reported Event	Comments
1	Customer 1 sends a Buy order to ATS A	NA	
2	ATS A accepts the customer order	ATS A reports a <b>New Order event</b> type: MENO orderKeyDate: 20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: ATS side: B	

#	Step	Reported Event	Comments
		price: 10.00	
		quantity: 500	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		custDspIntrFlag: false	
		firmDesignatedID: INS001	
		accountHolderType: A	
		affiliateFlag: false	
		negotiatedTradeFlag: false	
		representativeInd: N	
		seqNum: 1201	
		atsDisplayInd: N	
		displayPrice: 0	
		workingPrice: 10.00	
		displayQty: 0	
		atsOrderType: P1	
		nbbPrice: 9.99	
		nboPrice: 10.03	
		nbboSource: S	
		nbboTimestamp:	
		20180416T153035.234455	
3	Customer 2 sends a	NA	
	Buy order to ATS A		
4	ATS A accepts the customer order	ATS A reports a <b>New Order event</b>	
		type: MENO	
		orderKeyDate: 20180416T000000	
		orderID: O123999	
		symbol: XYZ	
		eventTimestamp:	
		20180416T153035.334456	
		manualFlag: false	
		deptType: ATS	
		side: B	
		price: 10.00	
		quantity: 300	
		order Type: LIVIT	
		firmDesignatedID: INS567	
		accountHolderType: A	
		affiliateFlag: false	
		negotiatedTradeFlag: false	
		representativeInd: N	
		segNum: 1235	
		atsDisplavInd: N	
		displayPrice: 0	

#	Step	Reported Event	Comments
		workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.334454	
5	Customer 3 sends a Buy order to ATS A	NA	
6	ATS A accepts the customer order	ATS A reports a New Order event type: MENO orderKeyDate: 20180416T000000 orderID: O12500 symbol: XYZ eventTimestamp: 20180416T153035.334456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 400 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS789 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1236 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.334454	
7	Customer 4 sends a Sell order to Broker 1	NA	
8	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	

#	Step	Reported Event	Comments
		type: MENO orderKeyDate: 20180416T000000 orderID: O8000 symbol: XYZ eventTimestamp: 20180416T153036.334456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST-IN200 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false	
9	Broker 1 routes the order to ATS A	Broker 1 (IMID = BRKA) reports an Order Route event type: MEOR orderKeyDate: 20180416T000000 orderID: O8000 symbol: XYZ eventTimestamp: 20180416T153036.500456 manualFlag: false senderIMID: BRKA destination: ATSA destinationType: F routedOrderID: ATSAXYZ8000 side: SL price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
10	ATS A accepts the order routed from Broker 1	ATS A (IMID = ATSA) reports an Order Accepted event type: MEOA orderKeyDate: 20180416T000000 orderID: O88855	

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180416T153036.544456 manualFlag: false receiverIMID: ATSA senderIMID: BRKA senderType: F routedOrderID: ATSAXYZ8000 affiliateFlag: false deptType: ATS side: SL price: 10.00 quantity: 1200 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false seqNum: 1240 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P2 nbbPrice: 10.03 nboSource: S nbboTimestamp: 20180416T153035.444454	
11	ATS A matches Broker 1's order with Customer 1's order, Customer 2's Order and Customer 3's Order, and executes.	ATS A reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 manualFlag: false quantity: 1200 price: 10.00 capacity: A tapeTradeID: BRSEQ9000 marketCenterID: DN negotiatedTradeSide: NA sellDetails: orderID: O88855 orderKeyDate: 20180416T000000	Since there was only one order on the sell side, ATSA would only populate the sell details in its MEOT. A separate MEOTS will be reported for every order related to the buy side of the trade.

#	Step	Reported Event	Comments
		side: SL seqNum: 1241 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20180416T153037.494450	
12	ATS A reports a Trade Supplement event with the side details of Customer 1's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID 012345 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ buyDetails: orderID: 012345 orderKeyDate: 20180416T000000 side: B quantity: 500	
13	ATS A reports a Trade Supplement event with the side details of Customer 2's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID O123999 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ buyDetails: orderID: O123999 orderKeyDate: 20180416T000000 side: B quantity: 300	
14	ATS A reports a Trade Supplement event with the side details of Customer 3's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID 012500 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 buyDetails: orderID: 012500 orderKeyDate: 20180416T000000	

#	Step	Reported Event	Comments
		side: B quantity: 400	

### 2.8.3. ATS Cross with Multiple Orders on Each Side

This scenario illustrates the CAT reporting requirements when an ATS matches as agent the orders of multiple customers on one side with the orders of multiple customers on the other side. If the matches occur in a single execution or a "single event" (e.g., with the press of a button or pursuant to an automated execution algorithm), and the transaction is reported to the tape as a single transaction (e.g., a single cross), the ATS may report an MEOT event, followed by subsequent MEOTS events.

Sequential executions, even those occurring very close in time, would not be considered a single event and must be reported as a separate MEOT.

This scenario illustrates reporting requirements when using an MEOTS event.



Industry Member Broker 1 is required to report:

- The receipt of Customer 4's order (New Order event)
- The route of the order to the ATS (Order Route events)

Industry Member Broker 2 is required to report:

- The receipt of Customer 5's order (New Order event)
- The route of the order to the ATS (Order Route events)

Industry Member ATS A is required to report:
- The receipt of Customer 1's order (New Order event)
- The receipt of Customer 2's order (New Order event)
- The receipt of Customer 3's order (New Order event)
- The receipt of Broker 1's order (Order Accepted event)
- The receipt of Broker 2's order (Order Accepted event)
- Matching of Broker 1's order and Broker 2's order with Customer 1's Order, Customer 2's Order and Customer 3's Order, and execution (Trade event)
- Side Details of Customer 1's Order (Trade Supplement Event)
- Side Details of Customer 2's Order (Trade Supplement Event)
- Side Details of Customer 3's Order (Trade Supplement Event)
- Side Details of Broker 1's Order (Trade Supplement Event)
- Side Details of Broker 2's Order (Trade Supplement Event)

#	Step	Reported Event	Comments
1	Customer 1 sends a Buy order to ATS A	NA	
2	ATS A accepts the customer order	ATS A reports a <b>New Order event</b>	
		type: MENO	
		orderKeyDate: 20180416T000000	
		orderID: O12345	
		symbol: XYZ	
		eventTimestamp:	
		201804161153035.234456	
		manualFlag: false	
		dept lype: AIS	
		Side: B	
		price. 10.00	
		quantity. 500	
		timelnForce: DAV	
		trading Session: REG	
		custDenIntrElag: false	
		firmDesignatedID: INS001	
		accountHolderType: A	
	affiliateElag: false		
negotiatedTradeFlag: false representativeInd: N			
	seqNum: 1201		
		atsDisplayInd: N	
		displayPrice: 0	
		workingPrice: 10.00	
		displayQty: 0	
		atsOrderType: P1	
		nbbPrice: 9.99	

#	Step	Reported Event	Comments
		nboPrice: 10.03	
		nbboSource: S	
		nbboTimestamp:	
		20180416T153035.234455	
3	Customer 2 sends a Buy order to ATS A	NA	
4	ATS A accepts the	ATS A reports a New Order event	
		type: MENO	
		orderKeyDate: 20180416T000000	
		orderID: 0123999	
		symbol: XYZ	
		eventTimestamp:	
		20180416T153035.334456	
		manualFlag: false	
		deptType: ATS	
		side: B	
		price: 10.00	
		quantity: 300	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		custDspIntrFlag: false	
		firmDesignatedID: INS567	
		accountHolderType: A	
		affiliateFlag: false	
		negotiatedTradeFlag: false	
		representativeInd: N	
		seqNum: 1235	
		atsDisplayInd: N	
		displayPrice: 0	
		workingPrice: 10.00	
		displayQty: 0	
		atsOrderType: P1	
		nbbPrice: 10.00	
		nboPrice: 10.03	
		nbboSource: S	
		nbbo limestamp:	
		201804101155055.554454	
5	Customer 3 sends a	NA	
Ŭ	Buy order to ATS A		
6	ATS A accepts the customer order	ATS A reports a <b>New Order event</b>	
		type: MENO	
		orderKeyDate: 20180416T000000	
		orderID: O12500	
		symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180416T153035.334456 manualFlag: false deptType: ATS side: B price: 10.00 quantity: 400 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS789 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N seqNum: 1236 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P1 nbbPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.334454	
7	Customer 4 sends a Sell order to Broker 1	NA	
8	Broker 1 accepts the customer order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180416T000000 orderID: O8000 symbol: XYZ eventTimestamp: 20180416T153036.334456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST-IN200 accountHolderType: A	

#	Step	Reported Event	Comments
		affiliateFlag: false	
		negotiatedTradeFlag: false	
9	Broker 1 routes the	Broker 1 (IMID = BRKA) reports an	
Ũ	order to ATS A	Order Route event	
		type: MEOR	
		orderKeyDate: 20180416T000000	
		orderID: O8000	
		symbol: XYZ	
		eventTimestamp:	
		201804161153036.500456	
		manualFlag: false	
		senderIMID: BRKA	
		destination: ATSA	
		nouled Orderid. ATSAX 128000	
		guantity: 1000	
		orderType: LMT	
		timeInForce: DAY	
		trading Session: BEG	
		isolnd: NA	
10	ATC A accorto the	ATS A (IMID = ATSA) reports an	
10	order routed from Broker 1	Order Accepted event	
		type: MEOA	
		orderKeyDate: 20180416T000000	
		orderID: 088855	
		symbol: XYZ	
		eventTimestamp:	
		201804161153036.544456	
		receiverIMID: ATSA	
		senderTwpa: E	
		routedOrderID: ATSAXV78000	
		affiliateFlag: false	
		dentType: ATS	
		side: SL	
		price: 10.00	
		quantity: 1000	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	

#	Step	Reported Event	Comments
		custDspIntrFlag: false seqNum: 1240 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: P2 nbbPrice: 10.00 nboPrice: 10.03 nbboSource: S nbboTimestamp: 20180416T153035.444454	
11	Customer 5 sends a Sell order to Broker 2	NA	
12	Broker 2 accepts the customer order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180416T000000 orderID: O8005 symbol: XYZ eventTimestamp: 20180416T153036.334456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST-IN300 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false	
13	Broker 2 routes the order to ATS A	Broker 2 (IMID = BRKB) reports an Order Route event type: MEOR orderKeyDate: 20180416T000000 orderID: O8005 symbol: XYZ eventTimestamp: 20180416T153036.500456 manualFlag: false senderIMID: BRKB	

#	Step	Reported Event	Comments
		destination: ATSA	
		destinationType: F	
		routedOrderID: ATSAXYZ8000	
		side: SL	
		price: 10.00	
		quantity: 200	
		orderType: I MT	
		timeInForce: DAY	
		trading Session: BEG	
		isolnd: NA	
		ATS A (IMID = ATSA) reports an	
14	ATS A accepts the	Order Accepted event	
	Broker 2		
	DIOKEIZ		
		orderKeyDate: 20180416T00000	
orderID: O88856			
		symbol: XYZ	
		eventTimestamp:	
		20180416T153036 544456	
		manualFlag: false	
		receiverIMID: ATSA	
		senderIMID: BBKB	
		senderType: F	
		routedOrderID: ATSAXY78000	
		affiliateFlag: false	
		dentType: ATS	
		side: SI	
		price: 10.00	
		quantity: 200	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: BEG	
		isoInd: NA	
		custDspIntrFlag: false	
		seaNum: 1241	
		atsDisplayInd: N	
displayPrice: 0			
	workingPrice: 10.00 displayQty: 0		
		atsOrderType: P2	
		nbbPrice: 10.00	
		nboPrice: 10.03	
		nbboSource: S	
		nbboTimestamp:	
		20180416T153035.444454	
15	ATS A matches Broker	ATS A reports a <b>Trade event</b>	Since there was more than one
	1's order and Broker 2's		order on both the buy side and the

#	Step	Reported Event	Comments
	order with Customer 1's order, Customer 2's Order and Customer 3's Order, and executes.	type: MEOT tradeKeyDate: 20180416T00000 tradeID: TXYZ100 symbol: XYZ eventTimestamp: 20180416T153037.494456 manualFlag: false quantity: 1200 price: 10.00 capacity: A tapeTradeID: BRSEQ9000 marketCenterID: DN negotiatedTradeSide: NA seqNum: 1241 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: SIP nbboTimestamp: 20180416T153037.494456	sell side, the side details for all related orders will be captured in separate MEOTS events.
16	ATS A reports a Trade Supplement event with the side details of Customer 1's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID 012345 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ buyDetails: orderID: 012345 orderKeyDate: 20180416T000000 side: B quantity: 500	
17	ATS A reports a Trade Supplement event with the side details of Customer 2's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID O123999 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ buyDetails: orderID: O123999 orderKeyDate: 20180416T153035.334456 side: B	

#	Step	Reported Event	Comments
		quantity: 300	
18	ATS A reports a Trade Supplement event with the side details of Customer 3's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID O12500 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ buyDetails: orderID: O12500 orderKeyDate: 20180416T000000 side: B quantity: 400	
19	ATS A reports a Trade Supplement event with the side details of Broker 1's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID O88855 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ sellDetails: orderID: O88855 orderKeyDate: 20180416T000000 side: B quantity: 1000	
20	ATS A reports a Trade Supplement event with the side details of Broker 2's order	ATS A reports a <b>Trade Supplement</b> event with side details for orderID O88856 type: MEOTS tradeKeyDate: 20180416T000000 tradeID: TXYZ100 symbol: XYZ sellDetails: orderID: O88856 orderKeyDate: 20180416T000000 side: B quantity: 200	

#### 2.8.4. Order Modification of a PEG Order

This scenario illustrates how an Order Adjusted Event is reported when either a display ATS or a nondisplay ATS reprices a peg order.

In accordance with <u>CAT FAQ H1</u>, each time an Industry Member reprices a peg order based on a market move (i.e., when there is a change in the national best bid or offer or the best bid or offer on a particular exchange, as applicable based on the terms of the order), the Industry Member must report a price modification of the peg order to the CAT pursuant to Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan, if the price is modified.

If the Industry Member does not reprice a peg order when the market moves, the Industry Member does not need to report a modification of the peg order to the CAT since the order was not modified by either the customer or the Industry Member. For example, for both displayed and non-displayed alternative trading systems (ATSs), if an ATS's matching engine reprices a peg order when the market moves, the price modification must be reported to the CAT. If a matching engine does not reprice a peg order when the market moves, there market moves, there is no requirement to report a price modification to the CAT.

In this scenario, Industry Member Broker 1 routes a customer midpoint PEG order to ATS A. ATS A gives the order a working price upon receipt. Then the NBBO changes while the order stays open on the book. The ATS reprices the order, which must be reported to CAT.



Industry Member Broker 1 is required to report:

- The receipt of customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A is required to report:

- The receipt of the PEG order from Broker 1 (Order Accepted event)
- The modification of the price due to NBBO changes (Order Adjusted Event)

Since only a price change is being reported, ATSA is required to represent the current state of all price fields in its Order Adjusted event. The quantity fields are not required.

#	Step	Reported Event	Comments
1	Customer sends a PEG order to Broker 1	ΝΑ	
2	Broker 1 accepts the customer order	Broker 1 reports a New Order Event type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: M custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the PEG order to ATS A	Broker 1 reports an Order Route Event type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false senderIMID: BRK1 destination: ATSA destinationType: F routedOrderID: S12O12345 side: Buy price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	In Phase 2c, ATSA will be required to populate a value of 'M' in the <i>handlingInstructions</i> field on its Order Route event.

#	Step	Reported Event	Comments
		handlingInstructions:	
4	The ATS accepts the order from Broker 1	ATS A reports an Order Accepted Event type: MEOA orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false receiverIMID: ATSA senderIMID: BRK1 senderType: F routedOrderID: S12O12345 affiliateFlag: false deptType: ATS side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions: M custDspIntrFlag: false seqNum: 1008 atsDisplayInd: N displayPrice: 0 workingPrice: 10.07 displayQty: 0 atsOrderType: MPEG nbbPrice: 10.05 nbbQty: 500 nboRice: S nbboTimestamp: 20170801T143031.123456	Upon receipt of the order, the ATS assigns a working price based on the market condition. The ATS must capture the NBBO, the source of NBBO, as well as a timestamp indicating the time that the NBBO was captured.
5	The NBBO changes	NA	The NBBO changed to 10.05 X 10.08
6	The ATS reprices the working price of the order	The ATS reports an Order Adjusted Event type: MEOJ orderKeyDate: 20170801T000000	The ATS must use the Order Adjusted event for price adjustments as the result of an action by its matching engine.
		orderID: O1001	new Order Key with <i>orderID</i> O1001

#	Step	Reported Event	Comments
		symbol: XYZ priorOrderKeyDate: 20170801T000000 priorOrderID: O999 eventTimestamp: 20170801T143031.623456 manualFlag: false initiator: F price: 10.10 seqNum: 1200 atsDisplayInd: N displayPrice: 0 workingPrice: 10.065 nbbPrice: 10.05 nboPrice: 10.08 nbboSource: S nbboTimestamp: 20170801T143031.603456	when the order is adjusted. The orderKeyDate must be populated with the date that the new Order Key was assigned. The Prior Order Key with orderID O999 must be populated in the priorOrderID field. The Prior Order Key links the Order Adjusted event with the Order Accepted event. Since only a price change is being reported, ATSA is required to represent the current state of all price fields. The quantity fields are not required.

## 2.8.5. Receipt of PEG Order, Followed by Change in NBBO with No Modification on the Order

In accordance with <u>CAT FAQ H1</u>, each time an Industry Member reprices a peg order based on a market move (i.e., when there is a change in the national best bid or offer or the best bid or offer on a particular exchange, as applicable based on the terms of the order), the Industry Member must report a price modification of the peg order to the CAT pursuant to Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan, if the price is modified.

If the Industry Member does not reprice a peg order when the market moves, the Industry Member does not need to report a modification of the peg order to the CAT since the order was not modified by either the customer or the Industry Member. For example, for both displayed and non-displayed alternative trading systems (ATSs), if an ATS's matching engine reprices a peg order when the market moves, the price modification must be reported to the CAT. If a matching engine does not reprice a peg order when the market moves, there market moves, there is no requirement to report a price modification to the CAT.

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

Customer 1	ATS A
1. Sends an order to Broker 1	4. Accepts routed PEG Order from Broker 1
	Reports "Order Accepted" Event
Broker 1	5. NBBO Changes
Receives the customer order	
oorts "New Order" Event	6. ATS A takes no action on the order
3. Routes the PEG Order to ATS A	
Reports "Order Route" Event	— I

Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A report:

• The receipt of the PEG order from Broker 1 (Order Accepted Event)

#	Step	Reported Event	Comments
1	Customer sends a PEG order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> Event	
		type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: R custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Broker 1 routes the PEG order to ATS A	Broker 1 reports an Order Route Event type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false senderIMID: BRK1 destination: ATSA destinationType: F routedOrderID: S12O12345 side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions:	In Phase 2c, ATSA will be required to populate a value of 'M' in the <i>handlingInstructions</i> field on its Order Route event.
4	The ATS accepts the routed order from Broker 1	ATS A reports an Order Accepted Event type: MEOA orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false receiverIMID: ATSA senderIMID: BRK1 senderType: F routedOrderID: S12O12345 affiliateFlag: false deptType: ATS side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions: M custDspIntrFlag: false	Upon receipt of the order, the ATS assigns a working price based on the market condition. The ATS must capture the NBBO, the source of NBBO, as well as a timestamp indicating the time that the NBBO was captured.

#	Step	Reported Event	Comments
#	Step	Reported Event seqNum: 1008 atsDisplayInd: N displayPrice: 0 workingPrice: 10.00 displayQty: 0 atsOrderType: PPEG nbbPrice: 9.98 nbbQty: 500 nboPrice: 10.02 nboQty: 300	Comments
		nbboSource: S nbboTimestamp: 20170801T143031.123456	
5	The NBBO changes	NA	The NBBO changes to 9.99 x 10.03
6	The ATS does not re- price the order	NA	Since the ATS did not re-price the order, an MEOJ is not required.

#### 2.8.6. Crossing of PEG Order after a Change in NBBO with No Modification on the Order

In accordance with <u>CAT FAQ H1</u>, each time an Industry Member reprices a peg order based on a market move (i.e., when there is a change in the national best bid or offer or the best bid or offer on a particular exchange, as applicable based on the terms of the order), the Industry Member must report a price modification of the peg order to the CAT pursuant to Section 6.3(d) of the CAT NMS Plan, as applied to Industry Members by Section 6.4(d)(i) of the CAT NMS Plan, if the price is modified.

If the Industry Member does not reprice a peg order when the market moves, the Industry Member does not need to report a modification of the peg order to the CAT since the order was not modified by either the customer or the Industry Member. For example, for both displayed and non-displayed alternative trading systems (ATSs), if an ATS's matching engine reprices a peg order when the market moves, the price modification must be reported to the CAT. If a matching engine does not reprice a peg order when the market moves, there market moves, there is no requirement to report a price modification to the CAT.

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



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the ATS (Order Route event)

Industry Member ATS A must report:

- The receipt of the PEG order from Broker 1 (Order Accepted event)
- The receipt of the Market order from Broker 2 (Order Accepted event)
- The Cross of Broker 1's order with Broker 2's order (Trade event)

#	Step	Reported Event	Comments
1	Customer 1 sends a PEG order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> Event	
		type: MENO orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: BEG	

#	Step	Reported Event	Comments
		handlingInstructions: M custDspIntrFlag: false firmDesignatedID: C123 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the PEG order to ATS A	Broker 1 reports an Order Route Event type: MEOR orderKeyDate: 20170801T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20170801T143030.623456 manualFlag: false senderIMID: BRK1 destination: ATSA destinationType: F routedOrderID: S12O12345 side: B price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions:	In Phase 2c, ATSA will be required to populate a value of 'M' in the <i>handlingInstructions</i> field on its Order Route event.
4	The ATS accepts the routed order from Broker 1	ATS A reports an Order Accepted Event type: MEOA orderKeyDate: 20170801T000000 orderID: O999 symbol: XYZ eventTimestamp: 20170801T143031.123456 manualFlag: false receiverIMID: ATSA senderIMID: BRK1 senderType: F routedOrderID: S12O12345 affiliateFlag: false deptType: ATS side: B	Upon receipt of the order, the ATS assigns a working price based on the market condition. The ATS must capture the NBBO, the source of NBBO, as well as a timestamp indicating the time that the NBBO was captured.

#	Step	Reported Event	Comments
		price: 10.10 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions: M custDspIntrFlag: false seqNum: 1008 atsDisplayInd: N displayPrice: 0 workingPrice: 9.95 displayQty: 0 atsOrderType: MPEG nbbPrice: 9.85 nbbQty: 500 nboPrice: 10.00 nboQty: 300 nbboSource: S nbboTimestamp: 20170801T143031.123456	
5	The NBBO changes	NA	The NBBO changed to 9.90 X 10.00
6	The ATS does not re- price the order	NA	Since the ATS did not re-price the order, an MEOJ is not required.
7	Customer 2 sends a PEG order to Broker 2	NA	
8	Broker 2 accepts the customer order	Broker 2 reports a New Order Event type: MENO orderKeyDate: 20170801T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20170801T143032.123456 manualFlag: false deptType: A side: B quantity: 500 orderType: MKT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: C124 accountHolderType: A affiliateFlag: false	

#	Step	Reported Event	Comments
		negotiatedTradeFlag: false	
		representativeInd: N	
9	Broker 2 routes the	Broker 2 reports an Order Route	
-	MKT order to ATS A	Event	
		orderKeyDate: 201708011000000	
		symbol: XXZ	
		eventTimestamp:	
		20170801T143032.623456	
		manualFlag: false	
		senderIMID: BRK2	
		destination: ATSA	
		destinationType: F	
		routedOrderID: S12O12346	
		side: B	
		quantity: 500	
		orderType: MKT	
		timeInForce: DAY	
		tradingSession: REG	
		ISOING. NA	
10	The ATS accepts the	ATS A reports an Order Accepted	
10	routed order from Broker 2	Event	
		type: MEOA	
		orderKeyDate: 20170801T000000	
		orderID: 09910	
		symbol: XYZ	
		event limestamp:	
		manualFlag: false	
		receiverIMID: ATSA	
		senderIMID: BRK2	
		senderType: F	
		routedOrderID: S12O12346	
		affiliateFlag: false	
		deptType: ATS	
		side: B	
		quantity: 500	
		tradinoSession: REG	
		isolnd NA	
		custDspIntrFlag: false	
		seqNum: 1008	

#	Step	Reported Event	Comments
		atsDisplayInd: N displayPrice: 0 workingPrice: displayQty: 0 atsOrderType: MKT nbbPrice: 9.90 nbbQty: 500 nboPrice: 10.00 nboPrice: 300 nbboSource: S nbboTimestamp: 20170801T143033.123456	
11	ATS A matched and crossed the Buy and Sell orders	ATS A reports a <b>Trade event</b> type: MEOT tradeID: TXYZ124 tradeKeyDate: 20170801T000000 symbol: XYZ eventTimestamp: 20170801T143033.523456 manualFlag: false quantity: 500 price: 9.95 capacity: A tapeTradeID: TRF123 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20170801T000000 orderID: O999 side: B sellDetails: orderKeyDate: 20170801T000000 orderID: O9910 side: SL	In this Trade Event, the Buy side details reflect the customer order O999, and the Sell side details reflect the routed order O9910

## 2.8.7. Display Modifications of a Display ATS

Display modifications can be reported to CAT using the Order Adjusted event. This scenario illustrates the CAT reporting requirements when an order is partially executed on an ATS, and as a result the display size of the order changes. In this scenario, an order is routed to an ATS for execution.

This example illustrates the display modification reporting, and does not reflect subsequent order handling.

Customer 1		ATS A
1. Sends an order to Broker 1		4. Accepts routed order from Broker 1
Broker 1 2. Receives the customer order Reports "New Order" Event		<ul> <li>5. Partially executed the order</li> <li>Reports "Trade" Event</li> <li>6. Updates display size for remaining shares</li> </ul>
3. Route the order to ATS Reports "Order Route" Event	/	Reports "Order Adjusted" Event

Industry Member Broker 1 is required to report:

- Receipt of the customer order (New Order event)
- The route of the order to ATS A (Order Route event)

Industry Member ATS A is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The partial execution of the order (Trade event)
- The update to the display size post execution (Order Adjusted event)

Since only a quantity change is being reported, ATSA is required to represent the current state of all quantity fields in its Order Adjusted event. The price fields are not required.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1 with a display quantity of 1000	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a New Order event type: MENO orderKeyDate: 20170801T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20170801T143030.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 10000 minQty: 100	The order was received from the customer with a display quantity instruction, which is represented in the h <i>andlingInstructions</i> field with a Name/Value pair of 'DISQ=1000'.

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: RSVIDISQ=1000 custDspIntrFlag: true firmDesignatedID: CUS999 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 routes the order to ATS A	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20170801T000000 orderID: O34567 symbol: XYZ eventTimestamp: 20170801T143030.323456 manualFlag: false senderIMID: BRKR1 destination: ATSA destinationType: F routedOrderID: RTO34567 side: B price: 10.00 quantity: 10000 minQty: 100 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions:	In Phase 2c, Broker 1 will be required to populate a value of 'RSV' and a Name/Value Pair of "DISQ=1000" in the <i>handlingInstructions</i> field on its Order Route event.
4	ATS accepts the order from Broker 1	ATS A reports an Order Accepted event type: MEOA orderKeyDate: 20170801T000000 orderID: O27272 symbol: XYZ eventTimestamp: 20170801T143030.343456 manualFlag: false receiverIMID: ATSA senderIMID: BRKR1	

#	Step	Reported Event	Comments
		senderType: F	
		routedOrderID: RTO34567	
		affiliateFlag: false	
		deptType: ATS	
		side: B	
		price: 10.00	
		quantity: 10000	
		minQty: 100	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
		handlingInstructions:	
		RSVIDISQ=1000	
		custDspIntrFlag: false	
		seqNum: 15019	
		atsDisplayInd: Y	
		displayPrice: 10.00	
		workingPrice: 10.00	
		displayQty: 1000	
		atsOrderType: RSVA	
		nbbPrice: 9.96	
		nboPrice: 10.02	
		nbboSource: S	
		nbboTimestamp:	
		20170801T143030.343456	
5	ATS partially executes	ATS A reports a <b>Trade event</b>	
	the order	type: MEOT	
		tradeKeyDate <sup>,</sup> 20170801T000000	
		tradeID: TO555	
		symbol: XYZ	
		eventTimestamp:	
		20170801T143030.543456	
		manualFlag: false	
		quantity: 800	
		price: 10.00	
		capacity: A	
		tapeTradeID: TTI23456	
		marketCenterID: DN	
		negotiatedTradeSide: NA	
		buvDetails:	
		orderKevDate:	
		20170801T000000	
		orderID: 027272	
		side: B	
		sellDetails:	

#	Step	Reported Event	Comments
		orderKeyDate: 20170801T000000 orderID: O54321 side: SL seqNum: 15201 nbbPrice: 10.00 nboPrice: 10.02 nbboSource: S nbboTimestamp: 20170801T143030.543455	
6	ATS updates the order with new display size	ATS A reports an Order Adjusted event type: MEOJ orderKeyDate: 20170801T000000 orderID: 027273 symbol: XYZ priorOrderKeyDate: 20170801T000000 priorOrderID: 027272 eventTimestamp: 20170801T143030.543856 manualFlag: false initiator: F quantity: 1000 minQty: 100 leavesQty: 9200 seqNum: 15285 atsDisplayInd: Y displayQuantity: 200 nbbPrice: 10.02 nbboSource: S nbboTimestamp: 20170801T143030.543855	The ATS must use the Order Adjusted event for price adjustments as the result of an action by its matching engine. In this example, the ATS assigns a new Order Key with <i>orderID</i> 027273 when the order is adjusted. The <i>orderKeyDate</i> must be populated with the date that the new Order Key was assigned. The Prior Order Key with <i>orderID</i> 027272 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Adjusted event with the Order Accepted event. Since only a quantity change is being reported, ATSA is required to represent the current state of all quantity fields. The price fields are not required.

### 2.9. OTC Reporting Scenarios

#### 2.9.1. Trade Negotiated through an Inter-Dealer Quotation System

This scenario illustrates the CAT reporting requirements when a Market Maker executes an order as the result of a negotiation with another Industry Member through an inter-dealer quotation system ("IDQS").

In this scenario, Market Maker 1 is quoting symbol XYZ on an IDQS to buy 1000 shares at 1.15. IDQS participant and Industry Member Broker 2 sends a message through the inter-dealer quotation system to

Market Maker 1 and begins a negotiation. Broker 2 ultimately accepts a counter offer from Market Maker 1 and executes the trade (3,000 shares at 1.14), and reports the trade to the ORF.



Industry Member Market Maker 1 is required to report the following in phase 2a:

- A proprietary new buy order for 3,000 shares (New Order event)
- An execution linking to the ORF trade report (Trade event)

Industry Member Broker 2 must report the following in phase 2a:

- A new proprietary sell order for 3,000 shares (New Order event)
- An execution linking to the ORF trade report (Trade event)

The Industry Member IDQS will be required to report the following in phase 2a:

• The receipt of Market Maker 1's quote (Quote Received event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *negotiatedTradeSide* fields present and marked properly. Both Trade events reported by Marker Maker 1 and Broker 2 must link to the same ORF report.

In phase 2c, Market Maker 1 will be required to report an MENQ reflecting the quote that was sent to the IDQS, and will be required to populate a quoteID in its MEOT linking to the quoteID in its MENQ event. In phase 2c, Broker 2 will be required to populate a quoteID in its MEOT linking to the MEQR reported by the IDQS.

The negotiation between Market Maker 1 and Broker 2 is not reportable to CAT.

#	Step	Reported Event	Comments
1	Market Maker 1 sends a quote to the IDQS	NA	In phase 2c, Market Marker 1 will be required to report a New Quote event.
			The <i>quoteID</i> for this MENQ would be Q1234 in phase 2c.

#	Step	Reported Event	Comments
2	The IDQS receives the quote from Market Maker 1	IDQS (IMID = IDQS) reports a <b>Quote Received event</b> type: MEQR quoteKeyDate: 20180501T000000 quoteID: Q6789 symbol: XYZ receivedQuoteID: Q1234 eventTimestamp: 20180501T153035.234456 receiverIMID: IDQS senderIMID: MMA onlyOneQuoteFlag: false bidPrice: 1.15 bidQty: 1000 mpStatusCode: open unsolicited: B	In Phase 2c, the IDQS will be required to link the Quote Received event to the New Quote event reported by Market Maker 1 through the <i>receivedQuoteID</i> field.
3	The trade is negotiated between Market Maker 1 and Broker 2	NA	Negotiations are not reportable to CAT.
4	Market Maker 1 generates a new proprietary order	Market Maker 1 (IMID = MMA) reports a New Order event type: MENO orderKeyDate: 20180501T000000 orderID: 012345 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP1 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
5	Market Maker 1 reports the execution	Market Maker 1 reports a <b>Trade</b> event type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123	The negotiatedTradeSide must be marked as NBUY (negotiated Buy). Side details are not required for the contra-side (sell side)

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true quoteKeyDate: quotelD: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: N negotiatedTradeSide: NBUY buyDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: B	populate a <i>quoteID</i> of Q1234 linking to its New Quote event.
6	Broker 2 generates a new proprietary order	Broker 2 (IMID = BRKB) reports a New Order event type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
7	Broker 2 reports the execution	Broker 2 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true	The <i>negotiatedTradeSide</i> must be marked as NSELL (negotiated Sell). Side details are not required for the contra-side (buy side). In phase 2c, BRK2 will be required to populate a <i>quoteID</i> of Q6789 linking to the Quote Received event reported by the IDQS.

#	Step	Reported Event	Comments
		quoteKeyDate:	
		quoteID:	
		quantity: 3000	
		price: 1.14	
		capacity: P	
		tapeTradeID: ORF1234	
		marketCenterID: N	
		negotiatedTradeSide: NSELL	
		sellDetails:	
		orderKeyDate:	
		20180501T000000	
		orderID: O12346	
		side: SL	

# 2.9.2. Customer Order Executed as the result of a Negotiation through an Inter-Dealer Quotation System

This scenario illustrates the CAT reporting requirements when a Market Maker receives a customer order then submits an unsolicited displayed (bid) quote to an inter-dealer quotation system ("IDQS"), and the order is executed as the result of a negotiation.



Industry Member Market Maker 1 is required to report the following in phase 2a:

- The receipt of the customer order (New Order event)
- The execution of the customer order linking to the ORF trade report (Trade event)

Industry Member Broker 2 must report the following to CAT in phase 2a:

• A new proprietary sell order (New Order event)

• An execution linking to the ORF trade report (Trade event)

The Industry Member IDQS will be required to report the following to CAT for phase 2a: The receipt of Market Maker 1's quote (Quote Received event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *negotiatedTradeSide* fields present and marked properly. Both Trade events reported by Marker Maker 1 and Broker 2 must link to the same ORF report.

In phase 2c, Market Maker 1 will be required to report an MENQ reflecting the quote that was sent to the IDQS, and will be required to populate a quoteID in its MEOT linking to the quoteID in its MENQ event. In phase 2c, Broker 2 would be required to populate a quoteID in its MEOT linking to the MEQR reported by the IDQS.

#	Step	Reported Event	Comments
1	Customer 1 sends an order to Market Maker 1	NA	
2	Market Maker 1 receives the order from Customer 1	Market Maker 1 (IMID = MMA) reports a New Order event type: MENO orderKeyDate: 20180501T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153034.234456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: CUST1 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Market Maker 1 sends a quote to the IDQS	NA	Market Maker 1 will be required to report a New Quote event in Phase 2c. The <i>quoteID</i> for this MENQ would be Q1234 in phase 2c.

#	Step	Reported Event	Comments
4	The IDQS receives a quote from Market Maker 1	IDQS (IMID = IDQS) reports a <b>Quote Received event</b> type: MEQR quoteKeyDate: 20180501T000000 quoteID: Q6789 symbol: XYZ receivedQuoteID: Q1234 eventTimestamp: 20180501T153035.534456 receiverIMID: IDQS senderIMID: MMA onlyOneQuoteFlag: false bidPrice: 1.14 bidQty: 3000 mpStatusCode: open unsolicited: B	In Phase 2c, the IDQS will be required to link the Quote Received event to the New Quote event reported by Market Maker 1 through the <i>receivedQuoteID</i> field.
5	A trade is negotiated between Market Maker 1 and Broker 2 through the IDQS	NA	
6	Market Maker 1 reports the execution	Market Maker 1 reports a <b>Trade</b> event type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true quoteKeyDate: 20180501T000000 quoteID: quantity: 3000 price: 1.14 capacity: A tapeTradeID: ORF1234 marketCenterID: N negotiatedTradeSide: NBUY buyDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: B	The negotiatedTradeSide must be marked as NBUY (negotiated Buy). Side details are not required for the contra-side (sell side). In phase 2c, MMA will be required to populate a <i>quoteID</i> of Q1234 linking to its New Quote Event.
6	Broker 2 generates a new proprietary order	Broker 2 (IMID = BRKB) reports a <b>New Order event</b>	

#	Step	Reported Event	Comments
		type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
7	Broker 2 reports the execution	Broker 2 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: N negotiatedTradeSide: NSELL sellDetails: orderKeyDate: 20180501T000000 orderID: O12346 side: SL	The negotiatedTradeSide must be marked as NSELL (negotiated Sell). Side details are not required for the contra-side (buy side). In phase 2c, BRK2 will be required to populate a <i>quoteID</i> of Q6789 linking to the Quote Received event reported by the IDQS.

#### 2.9.3. Trade Negotiated over the Phone

This scenario illustrates the CAT reporting requirements when a Market Maker executes a customer order as the result of a negotiation with another Industry Member over the phone. In this scenario, Market Maker 1 displays an unpriced quote on an IDQS indicating general interest in buying security XYZ. Broker 2 calls Market Maker 1 and negotiates a trade.

Market Maker 1 reports its side of the trade to the ORF as the executing party, and Broker 2 reports its side of the trade to the ORF as the contra party. The two sides of the trade are matched by the ORF and sent for clearing.



Industry Member Market Maker 1 is required to report the following in phase 2a:

- A proprietary new buy order (New Order event)
- An execution linking to its ORF trade report (Trade event)

Industry Member Broker 2 is required to report the following in phase 2a:

- A new proprietary sell (New Order event)
- An execution linking to its ORF trade report (Trade event)

All of the New Order and Trade events occurring as a result of the negotiation must have the *negotiatedTradeFlag* and *negotiatedTradeSide* fields present and marked properly. Both Trade events reported by Marker Maker 1 and Broker 2 must link to their ORF report.

The negotiation between Market Maker 1 and Broker 2 is not reportable to CAT. The unpriced quote sent by Market Maker 1 to the IDQS would not be reportable to CAT by either party.

#	Step	Reported Event	Comments
1	Market Maker 1 sends an unpriced quote to the IDQS	NA	
2	IDQS receives the unpriced quote from Market Maker 1	NA	

#	Step	Reported Event	Comments
3	Trade is negotiated between Market Maker 1 and Broker 2	ΝΑ	
4	Market Maker 1 generates a new proprietary order	Market Maker 1 (IMID = MMA) reports a New Order event type: MENO orderKeyDate: 20180501T000000 orderID: 012345 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: B price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP1 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
5	Market Maker 1 reports the execution	Market Maker 1 reports a Trade event type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: A tapeTradeID: ORF1234 marketCenterID: N negotiatedTradeSide: NBUY buyDetails: orderKeyDate: 20180501T000000 orderID: O12345 side: B	The negotiatedTradeSide must be marked as NBUY (negotiated Buy). Side details are not required for the contra-side (sell side). In Phase 2c, the <i>quoteID</i> would be left blank, as the unpriced quote sent by Market Maker 1 to the IDQS would not be reportable to CAT by either party.

#	Step	Reported Event	Comments
6	Broker 2 generates a new proprietary order	Broker 2 (IMID = BRKB) reports a <b>New Order event</b>	
		type: MENO orderKeyDate: 20180501T000000 orderID: O12346 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: false deptType: T side: SL price: 1.14 quantity: 3000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: PROP2 accountHolderType: P affiliateFlag: false negotiatedTradeFlag: true representativeInd: N	
7	Broker 2 reports the execution	Broker 2 reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20180501T000000 tradeID: TR123 symbol: XYZ eventTimestamp: 20180501T153039.234456 manualFlag: true quoteKeyDate: quoteID: quantity: 3000 price: 1.14 capacity: P tapeTradeID: ORF1234 marketCenterID: N negotiatedTradeSide: NSELL sellDetails: orderKeyDate: 20180501T000000 orderID: O12346 side: SL	The negotiatedTradeSide must be marked as NSELL (negotiated Sell). Side details are not required for the contra-side (buy side). In Phase 2c, the <i>quoteID</i> would be left blank, as the unpriced quote sent by Market Maker 1 to the IDQS would not be reportable to CAT by either party.

### 2.10. Electronic Duplicate Scenarios

#### 2.10.1. Manual Order Route Followed by Electronic Route, Merged Event

This scenario illustrates the CAT reporting requirements when an Industry Member manually routes an order to another Industry Member and follows up with an electronic route message. In this scenario, both parties report a 'merged' event.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

• The receipt of the order from Broker 1 (Order Route event)

When reporting a 'merged' event, Industry Members are required to report both the *eventTimestamp* and the *electronicTimestamp*, along with a *routedOrderID*. The *electronicDupFlag* must be set to 'false' and the *manualFlag* must be set to 'true' on a 'merged' event.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.123456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000	

#	Step	Reported Event	Comments
		orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 calls Broker 2 to route the order		
4	Broker 2 verbally accepts the order		
5	Broker 1 creates an electronic order route message and sends the message to Broker 2	Broker 1 (IMID = FRMA) reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: 20180417T143040.123456 senderIMID: FRMA destination: FRMB destination: FRMB destinationType: F routedOrderID: RT5678 side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	Broker 1 reports a merged event for the Order Route event. <i>electronicDupFlag</i> must be set to 'false' on merged events. The <i>eventTimestamp</i> on the Order Route event must capture the time at which Broker 1 called Broker 2 in step 3 (with granularity to at least seconds). The <i>electronicTimestamp</i> must be the time at which the electronic route was sent and must be reported to millisecond granularity.
6	Broker 2 accepts the electronic order route message	Broker 2 (IMID = FRMB) reports an Order Accepted event type: MEOA orderKeyDate: 20180417T000000 orderID: O34567	Broker 2 reports a merged event for the Order Accepted event. <i>electronicDupFlag</i> must be set to 'false' on merged events. The <i>eventTimestamp</i> on the Order Accepted event must capture the
		symbol: XYZ eventTimestamp: 20180417T143036	time at which Broker 2 agreed to take the order from Broker 1 in step 4 (with granularity to at least seconds).
#	Step	Reported Event	Comments
---	------	--	---
		manualFlag: true electronicDupFlag: false electronicTimestamp: 20180417T143040.126456 receiverIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: RT5678 affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	The <i>electronicTimestamp</i> must be the time at which the electronic route was received and must be reported to millisecond granularity.

#### 2.10.2. Manual Order Route, Electronic Duplicate Order

This scenario illustrates the Phase 2a reporting requirements when an Industry Member manually routes an order but is unable to merge the manual and electronic copies of the order into a single message for CAT Reporting.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The manual route to Broker 2 (Order Route event)
- The electronic route message sent to Broker 2 (Order Route event with *electronicDupFlag* populated as 'true')

Industry Member Broker 2 is required to report:

• The receipt of the route from Broker 1 (Order Accepted event)

• The receipt of the electronic route message from Broker 1 (Order Accepted event with *electronicDupFlag* populated as 'true')

When reporting the electronic duplicate event, the *electronicDupFlag* must be populated as 'true', and the *manualFlag* must be populated as 'true'. The *routedOrderID* field is not required on the events reflecting the manual route by Broker 1 and the manual receipt by Broker 2, but is required on the events reflecting the receipt of the duplicate electronic message. The *orderID* on the event reflecting the manual order receipt by Broker 2 must not be the same as the *orderID* on the event reflecting the receipt of the duplicate electronic message.

Although the *manualFlag* is populated as 'true' on electronic duplicate events, an *electronicTimestamp* is not required, as the manual event and the systemization of the event are captured in separate events.

In phase 2a, the Industry Members are not required to populate the *manualOrderID* field. This field is required in phase 2c. When the *manualOrderID* field is populated, the *manualOrderKeyDate* must also be populated in order to generate a Manual Order Key to link to the electronic duplicate event to the original manual event.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.123456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Broker 1 calls Broker 2 to route the order	Broker 1 (IMID = FRMA) reports an <b>Order Route event</b>	<i>routedOrderID</i> is not required on orders routed manually.
		type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	electronicTimestamp is not required, as the systemization of the route is being captured in a separate event.
4	Broker 2 verbally accepts order	Broker 2 (IMID = FRMB) reports an <b>Order Accepted event</b>	<i>routedOrderID</i> is not required on orders received manually.
		type: MEOA orderKeyDate: 20180417T000000 orderID: O34567E symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: receiverIMID: FRMB senderIMID: FRMA senderIMID: FRMA senderType: F routedOrderID: affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY	electronicTimestamp is not required, as the systemization of the order is being captured in a separate event.

#	Step	Reported Event	Comments
		tradingSession: REG	
		isolnd: NA	
		custDspIntrFlag: false	
_		Broker 1 (IMID = FRMA) reports an	The <i>electronicDupFlag</i> must be set
5	Broker 1 creates an	Order Route event	to 'true', indicating that this event is
	message and sends to		the electronic copy of a previously
	Broker 2	type: MEOR	reported event.
		orderKeyDate: 20180417T000000	
		orderID: O23456	electronicTimestamp is not required
		symbol: XYZ	when <i>electronicDupFlag</i> is 'true'.
		eventTimestamp:	
		201804171143040.123456	routedOrderID is required when
		electronicDupFlag: true	electronic Dupriag is true .
		electronicTimestamp:	The orderID on the duplicative
		senderIMID: FRMA	electronic message must match the
		destination: FRMB	internal orderID.
		destinationType: F	
		routedOrderID: RT5678	Linkage is not being attempted until
		side: B	Phase 2c.
		price: 9.99	
		quantity: 1000	
		order lype: LMI	
		isolnd: NA	
c	Proker 0 eccents the	Broker 2 (IMID = FRMB) reports an	The <i>electronicDupFlag</i> must be set
0	electronic order route	Order Accepted event	to 'true', indicating that this event is
	message		the electronic copy of a previously
		type: MEOA	reported event.
		orderKeyDate: 20180417T000000	
		orderID: 034567FIX	electronic limestamp is not required
		symbol: XYZ	when electronic bup hag is true .
		event limestamp:	routedOrderID is required when
		manualFlag: true	electronicDupFlag is 'true'.
		electronicDupFlag: true	
		electronicTimestamp:	The internal orderID is different than
		receiverIMID: FRMB	the manual Order Accepted event.
		senderIMID: FRMA	The Industry Member assigns a new
		senderType: F	orderID upon receipt of the
		routedOrderID: RT5678	cicellonie messaye.
		manualOrderKeyDate:	Optional in Phase 2a. the Industry
		20180417T000000	Member may capture the
		manualOrderID: O34567E	manualOrderID (O34567E) to
			reference the manual order that was
		aeptiype: A	

#	Step	Reported Event	Comments
		side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	previously reported. When <i>manualOrderID</i> is populated, <i>manualOrderKeyDate</i> must also be populated.

#### 2.10.3. Manual Order, One Side Reports Merged Event

This scenario illustrates the Phase 2a reporting requirements when an Industry Member manually routes an order to anther Industry Member. The routing Industry Member chooses to report a single 'merged' order event with both an *eventTimestamp* and an *electronicTimestamp*, and the receiving Industry Member reports separate events for the receipt of the manual order and the receipt of the electronic message.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Broker 2 (Order Route event)
- When reporting a 'merged' event, Broker 1 is required to report both the *eventTimestamp* and the *electronicTimestamp*, along with a *routedOrderID*. The *electronicDupFlag* must be set to 'false' and the *manualFlag* must be set to 'true' on the 'merged' event.

Industry Member Broker 2 is required to report:

• The manual receipt of the order from Broker 1 (Order Accepted event)

• The receipt of the electronic route message from Broker 1 (Order Accepted event with *electronicDupFlag* populated as 'true')

When reporting the electronic duplicate event, Broker 2 is required to populate the *electronicDupFlag* as 'true', and the *manualFlag* as 'true'. The *routedOrderID* field is not required on the event reflecting the manual receipt of the order, but is required on the event reflecting the receipt of the duplicate electronic message. The *orderID* on the event reflecting the manual order receipt by Broker 2 must not be the same as the *orderID* on the event reflecting the receipt of the duplicate electronic message.

Although the *manualFlag* is populated as 'true' on electronic duplicate events, an *electronicTimestamp* is not required, as the manual event and the systemization of the event are captured in separate events.

In phase 2a, the Broker 2 is not required to populate the *manualOrderID* field on electronic duplicate events. This field is required in phase 2c. When the *manualOrderID* field is populated, the *manualOrderKeyDate* must also be populated in order to generate a Manual Order Key to link to the electronic duplicate event to the original manual event.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143035.123456 manualFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Broker 1 calls Broker 2 to route the order		
4	Broker 2 verbally accepts the order route	Broker 2 (IMID = FRMB) reports an <b>Order Accepted event</b>	<i>routedOrderID</i> is not required on orders received manually.
		type: MEOA orderKeyDate: 20180417T000000 orderID: O34567E symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: receiverIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	electronicTimestamp is not required, as the systemization of the order is being captured in a separate event.
5	Broker 1 creates an electronic order route message and sends to Broker 2	Broker 1 (IMID = FRMA) reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T143036 manualFlag: true electronicDupFlag: false electronicTimestamp: 20180417T143040.123456 senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: RT5678 side: B price: 9.99	Broker 1 reports a merged event for the Order Route. <i>electronicDupFlag</i> must be set to 'false' on merged events. The <i>eventTimestamp</i> on the Order Route event must capture the time at which Broker 1 called Broker 2 in step 3 (with granularity to at least seconds). The electronicTimestamp must be the time at which the electronic route was sent and must be reported to millisecond granularity.

#	Step	Reported Event	Comments
		quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
6	Broker 2 accepts the electronic order route message	Broker 2 (IMID = FRMB) reports an Order Accepted event type: MEOA orderKeyDate: 20180417T000000 orderID: O34567FIX symbol: XYZ eventTimestamp: 20180417T143040.126456 manualFlag: true electronicDupFlag: true electronicTimestamp: receiverIMID: FRMB senderIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: RT5678 manualOrderKeyDate: 20180417T000000 manualOrderID: O34567E affiliateFlag: false deptType: A side: B price: 9.99 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	The <i>electronicDupFlag</i> must be set to 'true', indicating that this event is the electronic copy of a previously reported event. <i>electronicTimestamp</i> is not required when <i>electronicDupFlag</i> is 'true'. <i>routedOrderID</i> is required when <i>electronicDupFlag</i> is 'true'. The internal <i>orderID</i> is different than the manual Order Accepted event. The Industry Member assigns a new orderID upon receipt of the electronic message. Optional in Phase 2a, the Industry Member may capture the <i>manualOrderID</i> (O34567E) to reference the manual order that was previously reported. When <i>manualOrderID</i> is populated, <i>manualOrderID</i> is populated, <i>manualOrderKeyDate</i> must also be populated.

# 2.11. Child Order Scenarios

#### 2.11.1. Industry Member Creates Child Orders and Routes

This scenario illustrates the CAT reporting requirements when an Industry Member receives a customer order and splits the customer order into multiple child orders before further handling. This scenario illustrates the reporting requirements for generating child orders, and does not reflect further order handling.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The generation of each child order (Child Order event)
- The route of each child order (Order Route event)

Industry Members Broker 2 and 3 are required to report:

• The receipt of each order from Broker 1 (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.123456 manualFlag: false deptType: A side: B price: 10.00 quantity: 5000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: ID09876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	

#	Step	Reported Event	Comments
3	Broker 1 generates two child orders from the customer order.	Broker 1 reports a <b>Child Order</b> event	Upon generation of the child order, Broker 1 assigns a new Order Key with <i>orderID</i> C12345.
	Order 1 of 2, C12345 for 1500.	type: MECO orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323456 side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY tradingSession: REG	The Parent Order Key with <i>orderID</i> O11235 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Child Order event with the New Order event.
4	Broker 1 generates two child orders from the customer order. Order 2 of 2, C22345 for 3500	Broker 1 reports a Child Order event type: MECO orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp:	Upon generation of the child order, Broker 1 assigns a new Order Key with <i>orderID</i> C22345. The Parent Order Key with <i>orderID</i> O11235 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Child Order event with the New Order event.
		201804241113018.323457 side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY tradingSession: REG	
5	Broker 1 routes Child Order C12345 to Broker 2	Broker 1 reports an <b>Order Route</b> event	
		type: MEOR orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ eventTimestamp: 20180424T113018.343456 manualFlag: false	

#	Step	Reported Event	Comments
		senderIMID: BRKR1 destination: FRM2 destinationType: F routedOrderID: RTC1 side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
6	Broker 1 routes Child Order C22345 to Broker 3	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113018.343457 manualFlag: false senderIMID: BRKR1 destination: FRM3 destinationType: F routedOrderID: RTC2 side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	
7	Broker 2 accepts the order from Broker 1	Broker 2 reports an Order Accepted event type: MEOA orderKeyDate: 20180424T000000 orderID: O28765 symbol: XYZ eventTimestamp: 20180424T113018.543456 manualFlag: false receiverIMID: FRM2 senderIMID: BRKR1 senderType: F routedOrderID: RTC1	

#	Step	Reported Event	Comments
		affiliateFlag: false deptType: T side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	
8	Broker 3 accepts the order from Broker 1	Broker 3 reports an Order Accepted event type: MEOA orderKeyDate: 20180424T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180424T113018.543458 manualFlag: false receiverIMID: FRM3 senderIMID: BRKR1 senderType: F routedOrderID: RTC2 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	

## 2.11.2. Industry Member Creates Multiple Branches of Child Orders

This scenario illustrates the CAT reporting requirements when an order is handled at multiple desks within an Industry Member, and each desk has chosen to work an order by splitting the original order into multiple child orders. This scenario illustrates the reporting requirements for generating child orders, and does not reflect further order handling.



Industry Member Broker 1 must report the following for each desk:

- At the Sales Desk:
  - The receipt of the customer (New Order event)
  - The generation of each child order (Child Order events)
- At the Arbitrage Desk:
  - The receipt of the internal route from the sales desk (Order Internal Route Accepted event)
  - The generation of each child order (Child Order events)
  - The route of each child order (Order Route event)
- At the Trading Desk:
  - The receipt of the internal route from the Sales Desk (Order Internal Route Accepted event)
- At the Program Trading desk:
  - The receipt of the internal route from the Trading Desk (Order Internal Route Accepted event)

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.123456 manualFlag: false deptType: A side: B price: 10.00	

#	Step	Reported Event	Comments
		quantity: 5000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: ID09876 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3, 4	Broker 1 creates 2 child orders from Order A	Broker 1 reports a Child Order event (1 of 2) type: MECO orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323456 side: B price: 10.00 quantity: 1500 orderType: LMT timeInForce: DAY tradingSession: REG <i>Broker 1 reports a Child Order</i> event (2 of 2) type: MECO orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: O11235 eventTimestamp: 20180424T113018.323457 side: B price: 10.00 quantity: 3500 orderType: LMT timeInForce: DAY tradingSession: REG	Upon generation of each child order, Broker 1 assigns a new Order Key with orderIDs C12345 and C22345. The Parent Order Key with orderID O11235 must be populated in the parentOrderID field on each Child Order event. The Parent Order Key links the Child Order events with the New Order event.

#	Step	Reported Event	Comments
5	Child Order 1 is internally routed to the Arbitrage Desk	Broker 1 reports an Order Internal Route Accepted event type: MEIR orderKeyDate: 20180424T000000 orderID: C12345 symbol: XYZ eventTimestamp: 20180424T113018.323656 manualFlag: false deptType: T receivingDeskType: AR side: B price: 10.00 quantity: 1500 orderType: LMT	Broker 1 does not assign a new orderID to the Order Internal Route Accepted event.
6	Child Order 2 is internally routed to the Trading Desk	Broker 1 reports an Order Internal Route Accepted event type: MEIR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113018.323657 manualFlag: false deptType: T receivingDeskType: T side: B price: 10.00 quantity: 3500 orderType: LMT	Broker 1 does not assign a new orderID to the Order Internal Route Accepted event.
7	The Arbitrage Desk splits the order and creates three child orders	Broker 1 reports a Child Order event (1 of 3) type: MECO orderKeyDate: 20180424T000000 orderID: AC112345 symbol: XYZ parentOrderKeyDate: 20180424T000000 parentOrderID: C12345 eventTimestamp: 20180424T113018.324656 side: B	Upon generation of each child order, Broker 1 assigns a new Order Key with <i>orderIDs</i> AC112345 and AC122345 and AC132345. The Parent Order Key with <i>orderID</i> C12345 must be populated in the <i>parentOrderID</i> field on each Child Order event. The Parent Order Key links the parent Order Internal Route Accepted event.

#	Step	Reported Event	Comments
		price: 10.00	
		quantity: 400	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		5	
		Broker 1 reports a Child Order	
		event (2 of 3)	
		type: MECO	
		orderKeyDate: 20180424T000000	
		orderID: AC122345	
		symbol: XYZ	
		parentOrderKeyDate:	
		20180424T000000	
		parentOrderID: C12345	
		eventTimestamp:	
		20180424T113018.324657	
		side: B	
		price: 10.00	
		quantity: 500	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		Broker 1 reports a Child Order	
		event (3 of 3)	
		type: MECO	
		orderKevDate: 20180424T000000	
		orderID: AC132345	
		symbol: XYZ	
		parentOrderKeyDate:	
		20180424T000000	
		parentOrderID: C12345	
		eventTimestamp:	
		20180424T113018.324658	
		side: B	
		price: 10.00	
		quantity: 600	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		Broker 1 reports an Order Route	
8	I he Arbitrage Desk	event (1 of 3)	
	to an exchange	. ,	
		type: MEOR	

#	Step	Reported Event	Comments
		orderKeyDate: 20180424T000000	
		orderID: AC112345	
		symbol: XYZ	
		eventTimestamp:	
		20180424T113018.325656	
		manualFlag: false	
		senderIMID: BRKR1	
		destination: EXCH1	
		destinationType: E	
		routedOrderID: RTAC11	
		session: s5	
		side: B	
		price: 10.00	
		quantity: 400	
		order Type: LMT	
		tradingSession: REG	
		ISOIND: NA	
		Broker 1 reports an <b>Order Route</b>	
		event (2 of 3)	
		type: MEOR	
		orderKeyDate: 20180424T000000	
		orderID: AC122345	
		symbol: XYZ	
		eventTimestamp:	
		20180424T113018.325657	
		manualFlag: false	
		senderIMID: BRKR1	
		destination: EXCH2	
		destinationType: E	
		routedOrderID: RTAC12	
		session: s6	
		side: B	
		price: 10.00	
		quantity: 500	
		oraer Type: LMT	
		Broker 1 reports an <b>Order Route</b>	
8	(cont'd from above)	event (3 of 3)	
		type: MEOR	
		orderKeyDate: 20180424T000000	
		orderID: AC132345	

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180424T113018.325658 manualFlag: false senderIMID: BRKR1 destination: EXCH3 destinationType: E routedOrderID: RTAC13 session: s7 side: B price: 10.00 quantity: 600 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	
9	Exchange 1 accepts the order from Broker 1	EXCH1 reports a Participant <b>Order</b> Accepted event	
10	Exchange 2 accepts the order from Broker 1	EXCH2 reports a Participant <b>Order</b> Accepted event	
11	Exchange 3 accepts the order from Broker 1	EXCH3 reports a Participant Order Accepted event	
12	The Trading Desk splits the order and sends to two different Program Trading Desks	Broker 1 reports an Order Internal Route Accepted event (1 or 2) type: MEIR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ eventTimestamp: 20180424T113018.343657 manualFlag: false deptType: T receivingDeskType: PT side: B price: 10.00 quantity: 2000 orderType: LMT Broker 1 reports an Order Internal Route Accepted event (2 or 2) type: MEIR orderKeyDate: 20180424T000000 orderID: C22345 symbol: XYZ	Broker 1 does not assign a new orderID to the Order Internal Route Accepted event.

#	Step	Reported Event	Comments
		eventTimestamp: 20180424T113018.343658 manualFlag: false deptType: T receivingDeskType: PT side: B price: 10.00 quantity: 1500 orderType: LMT	

## 2.12. Clearing Firm Scenarios

#### 2.12.1. Order Routed and Executed via a Clearing Firm

This example illustrates the CAT reporting requirements when an introducing firm enters a customer order into a clearing firm's system, and the clearing firm executes the order from a proprietary account. Both the introducing firm and clearing firm are Industry Members.



Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the clearing firm (Order Route event)

The Clearing Firm is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

#	Step	Reported Event	Comments
1	Customer sends the order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ	

#	Step	Reported Event	Comments
#	Step	Heported EventeventTimestamp:20180417T153035.234456manualFlag: falsedeptType: Aside: Bprice: 10.00quantity: 1000orderType: LMTtimeInForce: DAYtradingSession: REGcustDspIntrFlag: falsefirmDesignatedID: A8B7C6accountHolderType: AaffiliateFlag: falsenegotiatedTradeFlag: falserepresentativeInd: N	Comments
3	Broker 1 routes the order to the clearing firm	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.334456 manualFlag: false senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: RT23456 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	
4	The clearing firm accepts the order from Broker 1	Clearing firm reports an Order Accepted event type: MEOA orderKeyDate: 20180417T000000 orderID: O3A1B2C symbol: XYZ eventTimestamp: 20180417T153036.334456 manualFlag: false	

#	Step	Reported Event	Comments
		receiverIMID: FRMB senderIMID: FRMA senderType: F routedOrderID: RT23456 affiliateFlag: false deptType: T side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	
5	The clearing firm executes the order	Clearing firm reports a <b>Trade event</b> type: MEOT tradeKeyDate: 20180417T000000 tradeID: TO3A1B2C symbol: XYZ eventTimestamp: 20180417T153037.534456 manualFlag: false quantity: 1000 price: 10.00 capacity: P tapeTradeID: TRFAO556 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20180417T000000 orderID: O3A1B2C Side: B sellDetails: Side: SL firmDesignatedID: PROPF accountHolderType: O	The buyDetails reflect the details of customer order O3A1B2C. The sellDetails capture the FDID of the firm proprietary account from which the customer order was filled.

## 2.12.2. Direct Order Routing via a Clearing Firm's System

This scenario illustrates the CAT reporting requirement when an introducing firm receives a customer order and, using its clearing firm's system, directs the order to an exchange for execution. The clearing firm does not participate in any order routing or handling instructions, but only provides the technology to the introducing firm to route the order.



Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to Exchange 1 (Order Route event)

The clearing firm does not have CAT reporting obligations in this scenario. The exchange follows CAT reporting guidelines as outlined in the <u>CAT Reporting Technical Specifications for Plan Participants.</u>

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	NA	
2	Broker 1 accepts the order from the customer	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: 4e3f2g1h accountHolderType: A affiliateFlag: false	
		negotiatedTradeFlag: false representativeInd: N	
3	Through the clearing firm's system, Broker 1 enters and directs the order to Exchange 1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T0000000 orderID: O23456	

#	Step	Reported Event	Comments
		symbol: XYZ	
		eventTimestamp:	
		20180417T153036.234456	
		manualFlag: false	
		senderIMID: FRMA	
		destination: EXCH1	
		destinationType: E	
		routedOrderID: RT23456	
		session: s2	
		side: B	
		price: 10.00	
		quantity: 1000	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		isoInd: NA	
4	Exchange 1 accepts the order from Broker 1	Exchange 1 reports a Participant Order Accepted event	

## 2.12.3. Order Routing via an Algorithm Provided by the Clearing Firm

This scenario illustrates the CAT reporting requirements when an introducing firm receives a customer order and enters it into a clearing firm's system. The clearing firm's system automatically determines the routing destination based on pre-defined criteria developed by the clearing firm. The clearing firm makes the determination as to where the order is routed. The introducing firm does not direct the order. Both the introducing firm and the clearing firm are Industry Members.



Introducing Firm Broker 1 is required to report:

- The receipt of the customer order (New Order event)
- The route of the order to the clearing firm ( Order Route event)

The Clearing Firm is required to report:

- The receipt for the order from the introducing firm (Order Accepted event)
- The route of the order to Exchange 1 (Order Route event)

The exchange follows CAT reporting guidelines as outlined in the <u>CAT Reporting Technical Specifications</u> for Plan Participants.

#	Step	Reported Event	Comments
1	Customer sends an order to Broker 1	NA	
2	Broker 1, as the introducing firm, accepts the order from the customer	Broker 1 (IMID = FRMA) reports a New Order event type: MENO orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.234456 manualFlag: false deptType: A side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: FDID2222 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	
3	Broker 1 enters the order into the clearing firm's system	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O23456 symbol: XYZ eventTimestamp: 20180417T153035.334456 manualFlag: false senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: RT23456 side: B price: 10.00 quantity: 1000 orderType: LMT timeInForce: DAY	

#	Step	Reported Event	Comments
		tradingSession: REG	
		isoInd: NA	
4	The clearing firm	Clearing firm (FRMB) reports an	
7	accepts the order	Order Accepted event	
	routed from Broker 1		
		type: MEOA	
		orderKeyDate: 20180417T000000	
		orderID: O3A1B2C	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153036.334456	
		manualFlag: false	
		receiverIMID: FRMB	
		senderIMID: FRMA	
		senderType: F	
		routedOrderID: RT23456	
		affiliateFlag: false	
		deptType: T	
		side: B	
		price: 10.00	
		quantity: 1000	
		orderType: LMT	
		tradingSession: REG	
		ISOIND: NA	
		custDspintr-lag: talse	
5	The clearing firm's	Clearing firm (FRMB) reports an	
0	system algorithm	Order Route event	
	determines to route the order out to Exchange 1		
	5	orderKeyDate: 20180417T000000	
		orderID: O3A1B2C	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153038.334456	
		manualFlag: false	
		senderIMID: FRMB	
		destination: EXCH1	
		destinationType: E	
		routedOrderID: BEO34567	
		session: EA:16	
		side: B	
		price: 10.00	
		quantity: 1000	
		orderType: LMT	
		timeInForce: DAY	

#	Step	Reported Event	Comments
		tradingSession: REG isoInd: NA	
6	Exchange 1 receives the order from clearing firm	Exchange 1 (EXCH1) reports the Participant <b>Order Accepted event</b>	

## 2.13. Additional Reporting Scenarios

#### 2.13.1. GTC Order Routed to Exchange, Modified by Customer

The following scenario illustrates the CAT reporting requirements when an Industry Member receives a multi-day order from a customer, and routes the order to an exchange as a DAY order.

When the Industry Member receives the order from the customer, the order is reported to CAT as a GTC order. When the Industry Member routes the order to the exchange for execution, the order is routed as a "DAY" order, and must be reported to CAT as a "DAY" on the Order Route event reported by the Industry Member as well as relevant Participant events as outlined in the <u>CAT Reporting Technical Specifications</u> for Plan Participants. The Industry Member must submit an Order Route event every day that the order is sent to the exchange until the order is executed or cancelled.

On T+1, the customer modifies the GTC order. Broker 1 must report an Order Modified event with the original order date and an Order Route event for the modification on the exchange.



Industry Member Broker 1 is required to report:

- The receipt of the customer GTC order on T (New Order event)
- The route of the order to the exchange on T as a "DAY" order (Order Route event)
- The route of the order to the exchange on T+1 (start of day) as the order was not executed or cancelled on T (Order Route event)
- The modification of the customer order on T+1 (during market hours) (Order Modified event)

• The route of the modification to the exchange on T+1 (Order Route event)

#	Step	Reported Event	Comments
1	Customer sends a new GTC order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event	
		type: MENO	
		orderKeyDate: 20180417T000000	
		orderID: O76543	
		symbol: XYZ	
		eventTimestamp:	
		201804171153035.123456	
		dentType: A	
		side: Buv	
		price: 9.50	
		quantity: 1000	
		orderType: LMT	
		timeInForce: GTC	
		tradingSession: REG	
		custDspIntrFlag: false	
		firmDesignatedID: FDI345	
		accountHolderType: A	
		negotiatedTradeFlag: false	
		representativeInd: N	
3	Broker 1 routes the	Broker 1 reports an Order Route	
0	order to Exchange 1 as a DAY order	event	
		type: MEOR	
		orderKeyDate: 20180417T000000	
		orderID: 076543	
		symbol: XYZ	
		20180417T153035 124456	
		manualFlag: false	
		senderIMID: BROKER1	
		destination: EXCH1	
		destinationType: E	
		routedOrderID: RT91234	
		session: s1t2	
		side: Buy	
		price: 9.50	
		quantity. 1000 orderType: LMT	
		timeInForce: DAY	

#	Step	Reported Event	Comments
		tradingSession: REG isoInd: NA	
4	Exchange 1 accepts the order from Broker 1	Exchange 1 reports a Participant Order Accepted event	
5	At close of business on T, the order on the exchange expires		
6	At start of day T+1, Broker 1 routes the order to Exchange 1 as a DAY order	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180417T000000 orderID: O76543 symbol: XYZ eventTimestamp: 20180418T093000.00000 manualFlag: false senderIMID: BROKER1 destination: EXCH1 destinationType: E routedOrderID: RT91235 session: s1t2 side: Buy price: 9.50 quantity: 1000 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA	The orderKeyDate reflects the date and time the Order Key was assigned, which is the previous day. Since Broker 1 is routing the order to a national securities exchange, session is required.
7	Exchange 1 accepts the order from Broker 1	Exchange 1 reports a Participant Order Accepted event	
8	On T+1, the customer modifies the GTC order, reducing share quantity	NA	
9	Broker 1 modifies the order per the customer's instructions	Broker 1 reports an Order Modified event type: MEOM orderKeyDate: 20180418T000000 orderID: OM87654 symbol: XYZ priorOrderID: O76543 priorOrderKeyDate: 20180417 eventTimestamp: 20180418T103045.123456	Upon receipt of the modification, Broker 1 assigns a new Order Key with <i>orderID</i> OM87654. The Prior Order Key with <i>orderID</i> O76543 must be populated in the <i>priorOrderID</i> field. The Prior Order Key links the Order Modified event with the New Order event. Since the modification was received from a non-CAT reporting customer, the <i>receiverIMID</i> , <i>senderIMID</i> , <i>senderType</i> , and <i>routedOrderID</i> fields.

#	Step	Reported Event	Comments
		manualFlag: false receiverIMID: senderIMID: senderType: routedOrderID: initiator: Customer side: Buy price: 9.50 quantity: 900 leavesQty: 900 orderType: LMT timeInForce: GTC tradingSession: REG custDspIntrFlag: false	are not required.
10	Broker 1 routes the modified order to Exchange 1	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180418T000000 orderID: OM87654 symbol: XYZ eventTimestamp: 20180418T103045.323456 manualFlag: false senderIMID: BROKER1 destination: EXCH1 destinationType: E routedOrderID: RT91236 session: s1t2 side: Buy price: 9.50 quantity: 900 orderType: LMT timeInForce: DAY tradingSession: REG isolnd: NA	
11	Exchange 1 accepts modified order from Broker 1	Exchange 1 reports a Participant <b>Order Modified event</b>	

## 2.13.2. Dividend Reinvestment

The following scenario illustrates the reporting requirements for an Industry Member whose customers participate in a dividend reinvestment program. Industry Member Broker 1 aggregates dividend reinvestment investment program (DRIP) orders for participating customers, rounds up to the next whole

share, and creates a new order to purchase shares that need to allocate to customers. This order is routed to the street, executed, and allocated to the participating customers. The remaining fractional share is allocated to the proprietary account of Broker 1.

Post Trade Allocation events for allocations to sub-accounts are not reportable until Phase 2c.



Industry Member Broker 1 is required to report:

- The order created to acquire shares for all customers participating in the dividend reinvestment program (New Order event)
- The route of the order to Broker 2 (Order Route event)

Industry Member Broker 2 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

Once the fractional inventory reaches a whole share threshold, Broker 1 would follow standard procedures for sales from proprietary accounts if actions were taken to flatten fractional share inventory.



Industry Member Broker 1 is required to report:

- The whole share order (New Order event)
- The route of the order to Broker 3 (Order Route event)

Industry Member Broker 3 is required to report:

- The receipt of the order from Broker 1 (Order Accepted event)
- The execution of the order (Trade event)

#	Step	Reported Event	Comments
1	Broker 1 aggregates the orders for DRIP participant customers into a single order	ΝΑ	
2	Broker 1 originates an order rounded up to the nearest whole share	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.543458 manualFlag: false deptType: A side: B price: 10.00 quantity: 113 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: DIV custDspIntrFlag: false firmDesignatedID: ID09876 accountHolderType: V affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	The broker must populate a value of 'DIV' in the <i>handlingInstructions</i> field to indicate that the order if part of a Dividend Reinvestment acquisition
3	Broker 1 routes the order to Broker 2	Broker 1 reports an Order Route event type: MEOR orderKeyDate: 20180424T000000 orderID: O11235 symbol: XYZ eventTimestamp: 20180424T113018.545458 manualFlag: false senderIMID: FRMA destination: FRMB destinationType: F routedOrderID: OBB12345 side: B price: 10.00 quantity: 113 orderType: LMT timeInForce: DAY tradingSession: REG	In phase 2c, since the values in the <i>handlingInstructions</i> field have not changed from the New Order to the Order Route, FRMA may populate "RAR" in the <i>handlingInstructions</i> field indicating the order was "routed as received". Alternatively, firms have the option to re-state all <i>handlingInstructions</i> values.

#	Step	Reported Event	Comments
		isoInd: N	
		handlingInstructions:	
4	Broker 2 accepts the	Broker 2 reports an Order	
•	order from Broker 1	Accepted event	
		type: MEOA	
		orderKeyDate: 20180424T000000	
		orderID: 028765	
		symbol: XYZ	
		20180424T113018 943458	
		manualElag: false	
		receiverIMID: FRMB	
		senderIMID: FRMA	
		senderType: F	
		routedOrderID: OBB12345	
		affiliateFlag: false	
		deptType: T	
		side: B	
		price: 10.00	
		quantity: 113	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		ustDsplntrFlag: false	
5	Broker 2 executes the	Broker 2 reports a Trade event	
0	full quantity of order		
		type: MEOT	
		tradeKeyDate: 20180424T000000	
		tradeID: BBB12345	
		symbol: XYZ	
		event limestamp:	
		manualFlag: false	
		quantity: 113	
		price: 10.00	
		capacity: A	
		tapeTradeID: BAA89898	
		marketCenterID: DN	
		negotiatedTradeSide: NA	
		buyDetails:	
		orderKeyDate:	
		20180424T000000	
		orderID: U28/65	
		SIGE: B	
		sendetails:	

#	Step	Reported Event	Comments
		orderKeyDate:	
		orderID: BQ445	
		side: SL	
6	Broker 1 allocates the shares to its customers	NA	
7	Broker 1 originates an order from its firm account to flatten its fractional share inventory	Broker 1 reports a New Order event type: MENO orderKeyDate: 20180427T000000 orderID: OD56391 symbol: XYZ eventTimestamp: 20180427T113015.123456 manualFlag: false deptType: T side: SL price: 10.00 quantity: 1 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: DIVACC05 accountHolderType: P	
		negotiatedTradeFlag: false representativeInd: N	
8	Broker 1 routes the order to Broker 3	Broker 1 reports an <b>Order Route</b> event	
		type: MEOR orderKeyDate: 20180427T000000 orderID: OD56391 symbol: XYZ eventTimestamp: 20180427T113015.125456 manualFlag: false senderIMID: FRMA destination: BROKER3 destinationType: F routedOrderID: O23C565 side: SL price: 10.00 quantity: 1 orderType: LMT	

#	Step	Reported Event	Comments
		timeInForce: DAY tradingSession: REG isoInd: N	
9	Broker 3 accepts the order from Broker 1	Broker 3 reports an <b>Order</b> Accepted event	
		type: MEOA orderKeyDate: 20180427T000000 orderID: O31234 symbol: XYZ eventTimestamp: 20180427T113015.135456 manualFlag: false receiverIMID: BROKER3 senderIMID: FRMA senderType: F routedOrderID: O23C565 affiliateFlag: false deptType: T side: SL price: 10.00 quantity: 1 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA custDspIntrFlag: false	
10	Broker 3 executes the	Broker 2 reports a <b>Trade event</b>	
		type: MEOT tradeKeyDate: 20180427T000000 tradeID: T1A0008 symbol: XYZ eventTimestamp: 20180427T113015.235456 manualFlag: false quantity: 1 price: 10.00 capacity: A tapeTradeID: ABC171722 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20180427T000000 orderID: O45329	

#	Step	Reported Event	Comments
		side: B	
		sellDetails:	
		orderKeyDate: 20180427T000000 orderID: O31234 side: SL	

## 2.13.3. Routing of the Equity Leg of a Complex Option to another Industry Member

This scenario illustrates the CAT reporting requirements when Industry Member Broker 1 splits the equity leg of complex option orders received from customers. Upon determining the price at which the equity legs must be executed, the Industry Member routes the equity legs to Industry Member Broker 2, who crosses the orders.

This scenario illustrates the requirements for reporting the equity leg of a complex option, and does not include reporting requirements for the complex option orders or option legs.



Industry Member Broker 1 is required to report:

- The receipt of the equity orders from its customers (New Order events)
- The route of the equity orders to Broker 2 (Order Route events)

Industry Member Broker 2 is required to report:

- The receipt of the equity leg order (Sell) from Broker 1 (Order Accepted event)
- The receipt of the equity leg order (Buy) from Broker 1 (Order Accepted event)
- The execution of the orders (Trade Event)

#	Step	Reported Event	Comments
1	Customer 1 sends a complex option order to Broker 1	NA	
2	Customer 2 sends a complex option order to	NA	

#	Step	Reported Event	Comments
	Broker 1		
3 Broker 1 accep	Broker 1 accepts the	Broker 1 reports a New Order event	
	splits the equity leq	type: MENO	
		orderKeyDate: 2080417T000000	
		orderID: CO12345	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.123456	
		manualFlag: false	
		deptType: A	
		side: B	
		price: 10.00	
		quantity: 200	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		handlingInstructions: OPT	
		custDspIntrFlag: false	
		firmDesignatedID: INS345	
		accountHolderType: A	
		affiliateFlag: false	
		negotiatedTradeFlag: false	
		representativeInd: N	
4	Broker 1 accepts the customer order and	Broker 1 reports a <b>New Order event</b>	
	splits the equity leg	type: MENO	
		orderKeyDate: 20180417T000000	
		orderID: CO6789	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.523456	
		manualFlag: false	
		deptType: A	
		side: SL	
		price: 10.00	
		quantity: 200	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		nandlingInstructions: OPT	
		tirmDesignatedID: INS999	
		accountHolder I ype: A	
		anniateriag: talse	
		negotiated I rade-lag: false	
		representativeInd: N	
#	Step	Reported Event	Comments
---	---	---	--
5	Broker 1 routes the equity leg orders to Broker 2	Broker 1 (IMID = BRKA) reports an Order Route event (1 of 2) type: MEOR orderKeyDate: 20180417T000000 orderID: CO12345 symbol: XYZ eventTimestamp: 20180417T153035.553456 manualFlag: false senderIMID: BRKA destination: BRKB destinationType: F routedOrderID: RTCO12345 side: B price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions: Broker 1 (IMID = BRKA) reports an Order Route event (2 of 2) type: MEOR orderKeyDate: 20180417T000000 orderID: CO6789 symbol: XYZ eventTimestamp: 20180417T153035.553456 manualFlag: false senderIMID: BRKA destination: BRKB destinationType: F routedOrderID: RTCO6789 side: SL price: 10.00 quantity: 200 orderType: LMT timeInForce: DAY tradingSession: REG isoInd: NA handlingInstructions:	In phase 2c, since the values in the handlingInstructions field have not changed from the New Order to the Order Route, BRKA may populate "RAR" in the handlingInstructions field indicating the order was "routed as received". Alternatively, firms have the option to re-state all handlingInstructions values.

#	Step	Reported Event	Comments
6	Broker 2 accepts the	Broker 2 (IMID = BRKB) reports an	
0	order from Broker 1	Order Accepted event	
		type: MEOA	
		orderKeyDate: 20180417T000000	
		orderID: RTB910	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.853456	
		manualFlag: false	
		receiverIMID: BRKB	
		senderIMID: BRKA	
		senderType: F	
		routedOrderID: RTCO12345	
		affiliate-lag: false	
		deptType: T	
		side: B	
		price: 10.00	
		quantity: 200	
		isolad: NA	
		bandlingInstructions: OPT	
		custDepIntrElag: false	
7	Broker 2 accepts the	Broker 2 (IMID = BRKB) reports an	
,	routed order from Broker 1	Order Accepted event	
		type: MEOA	
		orderKeyDate: 20180417T000000	
		orderID: RTB909	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.853456	
		manual-lag: false	
		affiliateElan: false	
		dentType: T	
		side: SI	
		price: 10.00	
		quantity: 200	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	

#	Step	Reported Event	Comments
		isoInd: NA	
		handlingInstructions: OPT	
		custDspIntrFlag: false	
8	Broker 2 crosses the	Broker 2 reports a <b>Trade event</b>	
	Duy and Gen orders	type: MEOT	
		tradeKeyDate: 20180417T000000	
		tradeID: TXYZ123	
		symbol: XYZ	
		eventTimestamp:	
		20180417T153035.883456	
		manualFlag: false	
		quantity: 200	
		price: 10.00	
		capacity: A	
		tapeTradeID: TRF123	
		marketCenterID: DN	
		negotiatedTradeSide: NA	
		buyDetails:	
		orderKeyDate:	
		20180417T000000	
		orderID: RTB910	
		side: B	
		sellDetails:	
		orderKeyDate:	
		20180417T000000	
		orderID: RTB909	
		side: SL	

# 2.14. JSON and CSV Examples

This provides an illustration of the different reporting formats of JSON and CSV.

#### 2.14.1. JSON Representation

Below is a JSON representation using the example in section 2.2.2 Internalized Trade against Proprietary Account.

#	Step	Reported Event	Comments
1	Customer sends a Buy order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Order</b> event type: MENO	{ "type": "MENO", "orderKeyDate": "20180416T000000",

#	Step	Reported Event	Comments
		orderKeyDate:20180416T000000 orderID: O12345 symbol: XYZ eventTimestamp: 20180416T153035.234456 manualFlag: false deptType: T side: B price: 10.00 quantity: 500 orderType: LMT timeInForce: DAY tradingSession: REG custDspIntrFlag: false firmDesignatedID: INS001 accountHolderType: A affiliateFlag: false negotiatedTradeFlag: false representativeInd: N	<pre>"orderID":"O12345", "symbol": "XYZ", "eventTimestamp": "20180416T153035.234456", "manualFlag": false, "deptType": "T", "side": "B", "price": "10.00", "quantity": "500", "orderType": "LMT", "timeInForce": "DAY", "tradingSession": "REG", "tradingSession": "INS001", "accountHolderType": "A", "affiliateFlag": false, "negotiatedTradeFlag": false, "representativeInd": "N" }</pre>
3	Broker 1 executes the order against own proprietary account	Broker 1 reports a Trade event type: MEOT tradeKeyDate: 20180416T000000 eventTimestamp: 20180416T153035.253456 manualFlag: false symbol: XYZ tradeID: TXYZ555 quantity: 500 price: 10.00 capacity: P tapeTradeID:TRF123 marketCenterID: DN negotiatedTradeSide: NA buyDetails: orderKeyDate: 20180416T000000 orderID: O12345 side: B sellDetails: side: SL firmDesignatedID: PROP123 accountHolderType: P	<pre>{     "type": "MEOT",     "tradeKeyDate":     "20180416T000000",     "eventTimestamp":     "20180416T153035.253456",     "manualFlag": false,     "symbol": "XYZ",     "tradeID": "TXYZ555",     "quantity": "500",     "price": "10.00",     "capacity": "P",     "tapeTradeID": "TRF123",     "marketCenterID": "DN",     "negotiatedTradeSide": "NA",     "buyDetails":[     {         "OrderKeyDate":         "20180416T000000",         "orderID": "O12345",         "side": "SL",         "firmDesignatedID":         "PROP123",         "accountHolderType": "P"     } ] </pre>

### 2.14.2. CSV Representation

Below is the corresponding CSV representation of the same sample events.

Step 2: New Order Event

,,,MENO,,20180416T000000,O12345,XYZ,20180416T153035.234456, false,,,T,,,B,10.00,500,,LMT,DAY,REG,,false,INS001,A,false,,,false,N,,,,,,,,,,,,

Step 3: Trade Event

,,,,MEOT,,20180416T000000,TXYZ555,XYZ, 20180416T153035.253456,false,,,,,,500,10.00,P,TRF123,DN,NA,O12345@20180416T000000@B@ @,@@SL@123FPAEXC@P,,,,,,,,

# 3. Option Scenarios and Examples

This section illustrates reporting scenarios for single leg electronic option events in scope for Phase 2b. Each example includes a process flow table and sample reporting values.

## 3.1. Option Order Origination and Route Scenarios

### 3.1.1. New Principal Option Order Routed to Exchange and Executed

This scenario illustrates the CAT reporting requirements when an Industry Member originates a new principal option order electronically, and electronically routes the order to an exchange where it is executed.



- The origination of a principal option order (New Option Order event)
- The route to an exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Broker 1 originates an order from its proprietary account	Broker 1 reports a <b>New Option</b> Order event	
		type: MONO	
		orderKeyDate: 20180516T000000	
		orderID: OFP544	
		optionID: ABCD 191220C00095000	
		eventTimestamp:	
		20180516T133031.127	
		deptType: T	
		side: B	
		price: 9.95	
		quantity: 20	
		orderType: LMT	
		timeInForce: DAY	
		tradingSession: REG	
		firmDesignatedID: 123FPAEXC	
		accountHolderType: P	
		affiliateFlag: false	
		openCloseIndicator: Open	
		representativeInd: N	

#	Step	Reported Event	Comments
2	Broker 1 routes the option order to Exch 1	Broker 1 reports an <b>Option Order</b> Route event	
		type: MOOR orderKeyDate: 20180516T000000 orderID: OFP544 optionID: ABCD 191220C00095000eventTimestamp: 20180516T133031.129 senderIMID: AEXC destination: OEXCH destinationType: E routedOrderID: RTOFP544 session: 2102 side: B price: 9.95 quantity: 20 orderType: LMT timeInForce: DAY tradingSession: REG exchOriginCode: F openCloseIndicator: Open	
3	Exch 1 accepts the option order from Broker 1	Exchange reports a Participant Simple Option Order Accepted event	
4	Exch 1 executes the full quantity of the option order	Exchange reports a Participant Simple Option Trade event	

## 3.1.2. Customer Option Order Routed to the Exchange and Executed

This scenario illustrates the CAT reporting requirements when an Industry Member routes a customer order to an exchange for execution.



- The receipt of the customer order (New Option Order event)
- The route of the customer order to the exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500 eventTimestamp: 20180516T133031.1234 deptType: A side: SL price: 6.60 quantity: 30 minQty: 100 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NHISTP firmDesignatedID: CUS98765 accountHolderType: A affiliateFlag: true openCloseIndicator: Close representativeInd: N	
3	Broker 1 routes the option order to Exch 1	Broker 1 reports an <b>Option Order</b> <b>Route event</b> type: MOOR orderKeyDate: 20180516T000000 orderID: O54321 optionID: ABCD 190215C00062500eventTimestamp: 20180516T133031.1684 senderIMID: BRKR01 destination: OPEXCH1 destinationType: E routedOrderID: RT555 session: s5 side: SL price: 6.60 quantity: 30 minQty: 100 orderType: LMT timeInForce: DAY tradingSession: REG	In phase 2c, since the values in the <i>handlingInstructions</i> field have not changed from the New Option Order to the Option Order Route, BRKR01 may populate "RAR" in the <i>handlingInstructions</i> field indicating the order was "routed as received". Alternatively, firms have the option to re-state all <i>handlingInstructions</i> values.

#	Step	Reported Event	Comments
		handlingInstructions: exchOriginCode: C openCloseIndicator: Close	
4	Exch 1 accepts the option order from Broker 1	Exchange reports a Participant Simple Option Order Accepted event	
5	Exch 1 executes the full quantity of the option order	Exchange reports a Participant Simple Option Trade event	

# 3.1.3. Customer Option Order Electronically Routed between Two Industry Members and Subsequently Executed on an Exchange

This scenario illustrates the CAT reporting requirements when an option order is electronically routed from one Industry Member to another, and is further routed to an exchange for execution.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Option Order event)
- The route of the customer option order to Broker 2 (Option Order Route event)

- The receipt of the order from Broker 1 (Option Order Accepted event)
- The route of the order to the Exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: OA1B2C3 optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.1234	The option is a FLEX Percent option. Strike price is 95% of the closing price. Therefore, the <i>price</i> field is reported as a percentage, 5.5%, of the underlying close price.

#	Step	Reported Event	Comments
		deptType: A side: B price: 5.5 quantity: 10 orderType: LMT timeInForce: DAY tradingSession: REG firmDesignatedID: C0001 accountHolderType: A affiliateFlag: true openCloseIndicator: Open representativeInd: N	
3	Broker 1 routes the order to Broker 2	Broker 1 reports an Option Order Route event type: MOOR orderKeyDate: 20180516T000000 orderID: OA1B2C3 optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.1324 senderIMID: BRKR01 destination: BROKER2 destinationType: F routedOrderID: RT0789 side: B price: 5.5 quantity: 10 orderType: LMT timeInForce: DAY tradingSession: REG openCloseIndicator: Open	
4	Broker 2 accepts the order from Broker 1	Broker 2 reports an Option Order Accepted event type: MOOA orderKeyDate: 20180516T000000 orderID: O45678 optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.2324 receiverIMID: BROKER2 senderIMID: BRKR01 senderType: F routedOrderID: RT0789 deptType: A	

#	Step	Reported Event	Comments
		side: B price: 5.5 quantity: 10 orderType: LMT timeInForce: DAY tradingSession: REG affiliateFlag: false openCloseIndicator: Open	
5	Broker 2 routes order to the exchange	Broker 2 reports an <b>Option Order Route event</b>	
		orderKeyDate: 20180516T000000 orderID: O45678	
		optionID: %XYZ 180601P00095000 eventTimestamp: 20180516T133031.2542	
		senderIMID: BROKER2 destination: EXCH1	
		routedOrderID: RT3210 session: s2	
		side: B price: 5.5	
		quantity: 10 orderType: LMT	
		timeInForce: DAY tradingSession: REG	
		openCloseIndicator: Open	
6	Exch 1 accepts order from Broker 2	Exchange reports a Participant Simple Option Order Accepted event	
7	Exch 1 executes the order	Exchange reports a Participant Simple Option Trade event	

# 3.1.4. Customer Option Order Received Manually and Routed Electronically to an Exchange for Execution

This scenario illustrates the CAT reporting requirements for Phase 2b when a customer order is received manually by an Industry Member. The order then is systematized by the Industry Member and electronically routed to an exchange for execution.

Customer 1	Broker 1		Exch 1
1. Calls in an order to Broker 1	<ul> <li>2. Records customer order on a paper ticket</li> <li>3. Enters Order into EMS and routes Order to Exchange Reports "Option Order Route" Event</li> </ul>	/	4. Accepts Order from Broker 1 5. Executes Full Qty of Order

Industry Member Broker 1 is required to report:

• The route of the option order to the exchange (Option Order Route event)

Manual option CAT events are not required in Phase 2b. In Phase 2b, the Industry Member must populate the *priorUnlinked* field on its Option Order Route event with a value of 'M' to indicate that the immediately preceding step is a manual event and is not reported in Phase 2b.

#	Step	Reported Event	Comments
1	Customer calls in an option order to Broker 1	NA	
2	Broker 1 manually receives the customer order	NA	In Phase 2b, Industry Members are not required to report orders received manually.
3	Broker 1 systematizes the order in its EMS and routes the order to the Exchange	Broker 1 reports an Option Order Route event type: MOOR orderKeyDate: 20180516T000000 orderID: OP23456 optionID: XYZ 180601C00001925 eventTimestamp: 20180516T133033.1234 senderIMID: BRKR01 destination: EXCH1 destinationType: E routedOrderID: RT05252 session: s56 side: B price: 10 quantity: 50 orderType: LMT timeInForce: IOC tradingSession: REG exchOriginCode: C cmtaFirm: 106 openCloseIndicator: Open priorUnlinked: M	The orderKeyDate is the date and time the Order Key was assigned. The priorUnlinked field must be populated with a value of 'M' to indicate that the immediately preceding event is not reportable, as it is a manual event.
4	Exch 1 accepts order	Exchange reports a Participant Simple Option Order Accepted	

#	Step	Reported Event	Comments
	from Broker 1	event	
5	Exch 1 executes the order	Exchange reports a Participant Simple Option Trade event	

## 3.1.5. Customer Option Order Received Electronically and Routed Manually to another Industry Member

This scenario illustrates the CAT reporting requirements for Phase 2b when an Industry Member electronically receives a customer order that is manually routed to another Industry Member. The order is then electronically routed to an exchange for execution.

Customer 1	Broker 1		Broker 2		Exch 1
1. Electronically sends order to Broker 1	2. Accepts Customer Order A Reports "New Option Order" Event 3. Calls Broker 2 to route Order A	/	4. Accepts Order A from Broker 1. Creates paper ticket. 5. Enters Order A into EMS and routes to Exchange Reports "Option Order Route" Event	/	6. Accepts Order A from Broker 2 7. Executes Order A

Industry Member Broker 1 is required to report:

• The electronic receipt of the customer order (New Option Order event)

Industry Member Broker 2 is required to report:

• The route of the option order to the exchange (Option Order Route event)

Manual option CAT events are not required in Phase 2b. In Phase 2b, Industry Member Broker 1 must populate the *nextUnlinked* field on its New Option Order event with a value of 'M' to indicate that the immediately following step is a manual event and is not reported in Phase 2b. If the *nextUnlinked* value is unknown at the time of receipt, Industry Member Broker 1 may report this information in a separate Option Order Supplement event.

Industry Member Broker 2 must populate the *priorUnlinked* field on its Option Order Route event with a value of 'M' to indicate that the immediately preceding event is a manual event and is not reported in Phase 2b.

#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Option</b> <b>Order event</b> type: MONO orderKeyDate: 20180516T000000	The <i>nextUnlinked</i> flag must be populated with a value of 'M' to indicate that the immediately following event is not reportable, as is it is a manual event.
		-	Alternatively, if the nextUnlinked

#	Step	Reported Event	Comments		
		orderID: OP0912 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: O side: B price: 11 quantity: 70 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NHISTP firmDesignatedID: C0001 accountHolderType: A affiliateFlag: true cmtaFirm: 106 openCloseIndicator: Open representativeInd: N nextUnlinked: M	value is unknown at the time of order receipt, a separate Option Order Supplement event may be reported to capture the <i>nextUnlinked</i> value.		
3	Broker 1 calls Broker 2 routing the order	NA	In Phase 2b, Industry Members are not required to report orders routed manually.		
4	Broker 2 manually accepts the order from Broker 1	NA	In Phase 2b, Industry Members are not required to report orders received manually.		
5	Broker 2 systematizes the order and electronically routes the order to an exchange	Broker 2 reports an <b>Option Order</b> <b>Route event</b> type: MOOR orderKeyDate: 20180516T000000 orderID: O32BA optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133035.1256 senderIMID: FIRM2 destination: EXCH1 destinationType: E routedOrderID: RT01111 session: sA2 side: B price: 11 quantity: 70 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: exchOriginCode: C	The orderKeyDate is the date and time the orderID was assigned. Since Broker 1 is routing the order to a national securities exchange, <i>session</i> is required In Phase 2c, FIRM2 will be required to populate the <i>handlingInstructions</i> field with a value of "NH" and "STP" on its Option Order Route event. The p <i>riorUnlinked</i> field must be populated with a value of 'M' to indicate that the immediately preceding event is not reportable, as it is a manual event.		

#	Step	Reported Event	Comments
		cmtaFirm: 106 priorUnlinked: M	
6	Exchange 1 accepts the order from Broker 2	Exchange reports a Participant Simple Option Order Accepted event	
7	Exchange 1 executes the order	Exchange reports a Participant Simple Option Trade event	

### 3.2. Fulfillment Scenarios

## 3.2.1. Broker Receives Single-Leg Electronic Orders, Creates a Combined Order and Routes the Combined Order to an Exchange

This scenario illustrates the Phase 2b reporting requirements when an Industry Member combines individual, simple option orders from customers before routing to an exchange as a single, simple order for execution.



- The electronic receipt of each single leg customer order (New Option Order events)
- The generation of the combined order (New Option Order event)
- The route of the combined order to the exchange (Option Order Route event)
- The fill of each customer order (Option Order Fulfillment event)

In Phase 2b, the New Option Order event representing the combined order must be populated with a *representativeInd* value of 'O' indicating that the order is an Options Combined order. The Option Order Fulfillment events must be populated with a *fulfillmentLinkType* value of 'O' indicating that the order is an Options Order Fulfillment.

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#	Step	Reported Event	Comments
1	Customer 1 electronically sends a single leg option order to Broker 1	NA	
2	Customer 2 electronically sends a single leg option order to Broker 1	NA	
3	Customer 3 electronically sends a single leg option order to Broker 1	NA	
4	Broker 1 accepts the order from Customer 1	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: O10987 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 3.90 quantity: 60 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001A accountHolderType: A affiliateFlag: true openCloseIndicator: Open representativeInd: N	
5	Broker 1 accepts the order from Customer 2	Broker 1 reports a <b>New Option</b> <b>Order event</b> type: MONO orderKeyDate: 20180516T000000 orderID: 010988	

#	Step	Reported Event	Comments		
		optionID: XYZ 180906C00001875 eventTimestamp: 20180516T134520.1234 deptType: A side: B price: 3.90 quantity: 150 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001B accountHolderType: A affiliateFlag: true openCloseIndicator: Open representativeInd: N			
6	Broker 1 accepts the order from Customer 3	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: O10989 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T135540.1234 deptType: A side: B price: 3.90 quantity: 90 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001C accountHolderType: A affiliateFlag: true openCloseIndicator: Open representativeInd: N			
7	Broker 1 generates a combined order.	Broker 1 reports a <b>New Option</b> <b>Order event</b> type: MONO orderKeyDate: 20180516T000000 orderID: O10990	The <i>representativeInd</i> field must be populated with a value of 'O' to indicate that the order is an Options Combined Order. The <i>aggregatedOrders</i> field is not required to be populated until phase 2d.		

#	Step	Reported Event	Comments
		optionID: XYZ 180906C00001875eventTimestamp: 20180516T135610.1234 deptType: A side: B price: 3.90 quantity: 300 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NH firmDesignatedID: C0001D accountHolderType: P affiliateFlag: false aggregatedOrders: openCloseIndicator: Open representativeInd: O	
8	Broker 1 routes the combined order to an Options Exchange	Broker 2 reports an Option Order Route event type: MOOR orderKeyDate: 20180516T000000 orderID: 010990 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T135610.2250 senderIMID: BRKR1 destination: EXCH1 destination: EXCH1 destinationType: E routedOrderID: RT01111 session: sA2 side: B price: 3.90 quantity: 300 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: exchOriginCode: C cmtaFirm: 106 priorUnlinked:	In Phase 2d, BRKR1 will be required to populate the <i>handlingInstructions</i> field with a value of "NH" on its Option Order Route event.
9	Exchange 1 accepts the order from Broker 1	Exchange reports a <b>Participant</b> Simple Option Order Accepted event	
10	Exchange 1 executes the order	Exchange reports a <b>Participant</b> Simple Option Trade event	

#	Step	Reported Event	Comments		
11	Broker 1 fills Customer 1's order	Broker 1 reports an Option Order Fulfillment event type: MOOF fillKeyDate: 20180516T000000 fulfillmentID: FB10434 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T1415.1250 quantity: 60 price: 3.90 fulfillmentLinkType: O clientDetails: orderKeyDate: 20180516T000000 orderID: O10987 side: B	The <i>fulfillmentLinkType</i> field must be populated with a value of 'O' indicating that this is an Options Order Fulfillment. firmDetails are not required until phase 2d.		
12	Broker 1 fills Customer 2's order	Broker 1 reports an Option Order Fulfillment event type: MOOF fillKeyDate: 20180516T000000 fulfillmentID: FB10435 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T1415.1250 quantity: 150 price: 3.90 fulfillmentLinkType: O clientDetails: orderKeyDate: 20180516T000000 orderID: O10988 side: B	The <i>fulfillmentLinkType</i> field must be populated with a value of 'O' indicating that this is an Options Order Fulfillment. firmDetails are not required until phase 2d.		
13	Broker 1 fills Customer 3's order	Broker 1 reports an <b>Option Order</b> <b>Fulfillment event</b> type: MOOF fillKeyDate: 20180516T000000 fulfillmentID: FB10436 optionID: XYZ 180906C00001875 eventTimestamp: 20180516T1415.1250 quantity: 90 price: 3.90 fulfillmentLinkType: O	The <i>fulfillmentLinkType</i> field must be populated with a value of 'O' indicating that this is an Options Order Fulfillment. firmDetails are not required until phase 2d.		

#	Step	Reported Event	Comments
		clientDetails: orderKeyDate: 20180516T000000 orderID: O10989 side: B	

## 3.3. Option Order Modification Scenarios

This section illustrates CAT reporting requirements for single-leg option order modification scenarios in Phase 2b. In addition to the scenarios provided below, please refer to Equity Event section 2.5. This guidance also applies to single leg electronic option order reporting.

# 3.3.1. Customer Initiates the Modification of an Option Order that was Previously Routed to an Exchange

This scenario illustrates a customer-initiated modification (electronically) of an option order which the Industry Member had previously routed to an exchange.



- The electronic receipt of the customer order (New Option Order event)
- The route of the order to the exchange (Option Order Route event)
- The electronic receipt of the customer modification (Option Order Modified event)
- The route of the modification to the exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends the option order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a <b>New Option</b> Order event	
		type: MUNU	

#	Step	Reported Event	Comments
		orderKeyDate: 20180516T000000 orderID: OPA1740 optionID: XYZ 180906C00001905 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NHISTP firmDesignatedID: C0001 accountHolderType: A affiliateFlag: true openCloseIndicator: Open representativeInd: N	
3	Broker 1 routes the order to Exchange 1	Broker 1 reports an Option Order Route event type: MOOR eventTimestamp: 20180516T133031.1434 optionID: XYZ 180906C00001905 senderIMID: FIRM1 destination: EXCH1 destinationType: E orderID: OPA1740 routedOrderID: RTID201 session: s2r1 side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: exchOriginCode: C openCloseIndicator: Open	In Phase 2d, FIRM1 will be required to populate the <i>handlingInstructions</i> field with a value of "NH" and "STP" on its Option Order Route event.
4	Exchange 1 accepts the order from Broker 1	Exchange reports a Participant Simple Option Order Accepted event	
5	Customer electronically modifies the order	NA	

#	Step	Reported Event	Comments
6	Broker 1 modifies the order per the customer's instructions	Broker 1 reports an Option Order Modified event type: MOOM orderKeyDate: 20180516T000000 orderID: OPB1740 optionID: XYZ 180906C00001905 priorOrderKeyDate: 20180516T000000 priorOrderID: OPA1740 eventTimestamp: 20180516T133031.1484 initiator: C side: B price: 10 quantity: 50 leavesQty: 0 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: NHISTP openCloseIndicator: Open representativeInd: N	Upon receipt of the modification, Broker 1 assigns a new Order Key with orderID OPB1740. The Prior Order Key with orderID OPA1740 must be populated in the priorOrderID field. The Prior Order Key links the Option Order Modified event with the New Option Order event.
7	Broker 1 routes the modification to Exchange 1	Broker 1 reports an Option Order Route event type: MOOR orderKeyDate: 20180516T000000 orderID: OPB1740 optionID: XYZ 180906C00001905 eventTimestamp: 20180516T133031.1500 senderIMID: FIRM1 destination: EXCH1 destinationType: E routedOrderID: RTID567 session: s2r1 side: B price: 10 quantity: 50 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: exchOriginCode: C openCloseIndicator: Open	In Phase 2d, FIRM1 will be required to populate the <i>handlingInstructions</i> field with a value of "NH" and "STP" on its Option Order Route event.

#	Step	Reported Event	Comments
8	Exchange 1 updates order	Exchange reports a Participant <b>Option Order Modified event</b>	

## 3.4. Cancellation Scenarios

Option Order Cancelled events follow the same guidance as Order Cancelled events for equities. Refer to Section 2.6 for examples.

In addition to the scenarios provided below, refer to Equity Event Section 2.4. The guidance also applies to single leg electronic option order reporting.

### 3.5. Internal Route Scenarios

### 3.5.1. Customer Option Order Internally Routed Electronically

This scenario illustrates the CAT reporting requirements when an Industry Member internally routes a customer order from the sales desk to the trading desk.



- The electronic receipt of the customer order (New Option Order event)
- The internal route of the order from the Sales Desk to the Trading Desk (Option Order Internal Route Accepted event)
- The route of the order to the exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends an option order to Broker 1	NA	
2	Broker 1 accepts the customer order at the Sales Desk	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000	
		orderID: US3456 optionID: XYZ 190215C00002150	

#	Step	Reported Event	Comments
		eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 6.60 quantity: 20 minQty: 10 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: STP firmDesignatedID: CUS98765 accountHolderType: A affiliateFlag: true openCloseIndicator: Close representativeInd: N	
3	Trading Desk accepts the internal route of the order from the Sales Desk	Broker 1 reports an Option Order Internal Route Accepted event type: MOIR orderKeyDate: 20180516T000000 orderID: OT5459 optionID: XYZ 190215C00002150 parentOrderKeyDate: 20180516T000000 parentOrderID: OS3456 eventTimestamp: 20180516T133031.1254 deptType: T receivingDeskType: T side: B price: 6.60 quantity: 20 minQty: 10 orderType: LMT handlingInstructions: STP openCloseIndicator: Open	The trading desk, upon receipt of the internal route, assigns a new Order Key with <i>orderID</i> OT5459. The Parent Order Key with <i>orderID</i> OS3456 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Option Order Internal Route Accepted event with the New Option Order event. The <i>openCloseIndicator</i> changes from "Close" to "Open". At the time of order origination, the customer was short, but at the point of time the order is received by the Trading Desk, the customer's position was flat.
4	The Trading Desk electronically routes the order to the Exchange	Broker 1 reports an <b>Option Order</b> <b>Route event</b> type: MOOR orderKeyDate: 20180516T000000 orderID: OT5459 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.3789	In Phase 2d, BRKR01 will be required to populate the <i>handlingInstructions</i> field with a value of "STP" on its Option Order Route event.

#	Step	Reported Event	Comments
		senderIMID: BRKR01 destination: OPEXCH1 destinationType: E routedOrderID: RT5309 session: s5 side: B price: 6.60 quantity: 20 minQty: 10 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: exchOriginCode: C openCloseIndicator: Open	
5	Exchange 1 accepts order from Broker 1	Exchange reports a Participant Simple Option Order Accepted event	
6	Exchange 1 executes the order	Exchange reports a Participant Simple Option Trade event	

## 3.5.2. Order is Routed Internally and Child Orders are Generated Prior to Routing

This scenario illustrates the CAT reporting requirements when an Industry Member routes an order internally from the Sales Desk to the Trading Desk, and the Trading Desk generates child orders. The child orders are then routed to exchanges for execution.



Industry Member Broker 1 is required to report:

• The electronic receipt of the customer order (New Option Order event)

- The internal route of the order from the sales desk to the Trading Desk (Option Order Internal Route Accepted event)
- The generation of child orders by the Trading Desk (Child Option Order events)
- The route of each child order to an exchange (Option Order Route events)

#	Step	Reported Event	Comments
1	Customer electronically sends the option order to Broker 1	NA	
2	Broker 1 accepts customer order at the Sales Desk	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: OS10001 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 8.5 quantity: 10 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: STP firmDesignatedID: CUS234 accountHolderType: A affiliateFlag: true openCloseIndicator: Open representativeInd: N	
3	Trading Desk accepts the internal route of the order from the Sales Desk	Broker 1 reports an Option Order Internal Route Accepted event type: MOIR orderKeyDate: 20180516T000000 orderID: OT56789 optionID: XYZ 190215C00002150 parentOrderKeyDate: parentOrderID: OS10001 eventTimestamp: 20180516T133031.1254 deptType: T receivingDeskType: T side: B price: 8.5 quantity: 10	The trading desk, upon receipt of the internal route, assigns a new Order Key with <i>orderID</i> OT56789. The Parent Order Key with <i>orderID</i> OS10001 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Option Order Internal Route Accepted event with the New Option Order event.

#	Step	Reported Event	Comments
		orderType: LMT handlingInstructions: STP openCloseIndicator: Open	
4	Trading Desk creates Child Order 1	Broker 1 reports a Child Option Order event (1 of 2) type: MOCO orderKeyDate: 20180516T000000 orderID: CO111 optionID: XYZ 190215C00002150 parentOrderKeyDate: 20180516T000000 parentOrderID: OT56789 eventTimestamp: 20180516T133031.1260 side: B price: 8.5 quantity: 7 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: STP openCloseIndicator: Open	Upon generation of the child order, Broker 1 assigns a new Order Key with <i>orderID</i> CO111. The Parent Order Key with <i>orderID</i> OT56789 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Child Order event with the New Order event.
5	Trading Desk creates Child Order 2	Broker 1 reports a Child Option Order event (2 of 2) type: MOCO orderKeyDate: 20180516T000000 orderID: CO222 optionID: XYZ 190215C00002150 parentOrderKeyDate: 20180516T000000 parentOrderID: OT56789 eventTimestamp: 20180516T133031.1261 side: B price: 8.5 quantity: 3 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: STP openCloseIndicator: Open	Upon generation of the child order, Broker 1 assigns a new Order Key with <i>orderID</i> CO222. The Parent Order Key with <i>orderID</i> OT56789 must be populated in the <i>parentOrderID</i> field. The Parent Order Key links the Child Order event with the New Order event.
6	Trading Desk routes Child Order 1 to EXCH	Broker 1 reports an <b>Option Order</b> Route event	

#	Step	Reported Event	Comments
	1	type: MOOR orderKeyDate: 20180516T000000 orderID: CO111 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.1360 senderIMID: BRKR01 destination: OPEXCH1 destinationType: E routedOrderID: RT432 session: s101 side: B price: 8.5 quantity: 7 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: exchOriginCode: C openCloseIndicator: Open	In Phase 2d, BRKR01 will be required to populate the <i>handlingInstructions</i> field with a value of "STP" on its Option Order Route event.
7	Trading Desk routes Child Order 2 to EXCH 2	Broker 1 reports an Option Order Route event type: MOOR orderKeyDate: 20180516T000000 orderID: CO222 optionID: XYZ 190215C00002150 eventTimestamp: 20180516T133031.1365 senderIMID: BRKR01 destination: OPEXCH2 destinationType: E routedOrderID: RT369 session: s5 side: B price: 8.5 quantity: 3 orderType: LMT timeInForce: DAY tradingSession: REG handlingInstructions: exchOriginCode: C openCloseIndicator: Open	In Phase 2d, BRKR01 will be required to populate the <i>handlingInstructions</i> field with a value of "STP" on its Option Order Route event.
8	EXCH1 accepts the order from Broker 1	Exchange 1 reports a Participant Simple Option Order Accepted	

#	Step	Reported Event	Comments
		event	
9	EXCH2 accepts the order from Broker 1	Exchange 2 reports a Participant Simple Option Order Accepted event	

## 3.6. Complex Order Scenarios

# 3.6.1. Industry Member Receives a Complex Option Order Which is worked as Individual Single Order Legs in the Customer's Account

This scenario illustrates Phase 2b reporting requirements when an Industry Member receives a complex option order from a customer, but routes the order to an exchange as single leg option orders directly from the customer's account without creating new single leg option orders.

Complex option orders are not reportable in Phase 2b, so the Industry Member is not required to report the receipt of the complex order from the customer. The Industry Member is required to report the route of the individual single order legs, as these represent simple electronic option orders, which are reportable in Phase 2b.



Industry Member Broker 1 is required to report:

• The route of each single leg option order to the exchange (Option Order Route event)

The Industry Member must populate the *priorUnlinked* field with a value of 'C' in its Option Order Route event to indicate that the immediate preceding step was reported since it was a complex order.

#	Step	Reported Event	Comments
1	Customer sends a complex option order to Broker 1	NA	Complex options out of scope for Phase 2b
2	Broker 1 accepts the complex option order	NA	Complex options out of scope for Phase 2b
3	Broker 1 routes Order A to Exchange 1	Broker 1 reports an <b>Option Order</b> Route event	In phase 2b, the <i>priorUnlinked</i> field must be populated with a value of 'C' to indicate the immediately

#	Step	Reported Event	Comments
		type: MOOR orderKeyDate: 20180516T000000 orderID: OA1234 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1254 senderIMID: BKRF1 destination: EXCH1 destinationType: E routedOrderID: RTOA1 session: s.012.5 side: B price: 10 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: exchOriginCode: P cmtaFirm: 106 openCloseIndicator: Open priorUnlinked: C	preceding event is not reportable, as it is a complex option. In phase 2d, the <i>handlingInstructions</i> field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order. The orderKeyDate is the date and time that the Order Key was assigned.
4	Broker 1 routes Order B to Exchange 1	Broker 1 reports an Option Order Route event type: MOOR orderKeyDate: 20180516T000000 orderID: OB1234 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.1235 senderIMID: BKRF1 destination: EXCH2 destinationType: E routedOrderID: RTOB1 session: s.012.6 side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: exchOriginCode: P cmtaFirm: 106 openCloseIndicator: Open priorUnlinked: C	In phase 2b, the <i>priorUnlinked</i> field must be populated with a value of 'C' to indicate the immediately preceding event is not reportable, as it is a complex option. In phase 2d, the <i>handlingInstructions</i> field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order. The orderKeyDate is the date and time that the <i>orderID</i> was assigned.

#	Step	Reported Event	Comments
5	Exchange 1 accepts Order A and Order B from Broker 1	Exchange 1 reports a Participant Simple Option Order Accepted event	
6	Exchange 1 executes the option orders	Exchange 1 reports a Participant Simple Option Trade event	

# 3.6.2. Industry Member Manually Receives a Complex Option Order Followed by Multiple Single Leg Electronic Option Orders

This scenario illustrates the Phase 2b reporting requirements when an Industry Member manually receives a complex option order from a customer, and the customer also sends the order as single leg electronic messages due to system limitations. The Industry Member routes the order to an exchange as a complex order.

In Phase 2b, the entirety of the customer order is not reportable to CAT, as the customer intended the order to be handled as a complex order. In Phase 2b, the preferred approach is that the Industry Member does not report the electronic single leg orders, as complex orders are not in scope. However, industry members may be unable to suppress these events from CAT in Phase 2b. This scenario illustrates reporting requirements if the Industry Member is unable to suppress the single leg orders.



Industry Member Broker 1 is required to report:

• The receipt of the electronic single leg orders (New Option Order events)

If the Industry Member elects to report the single legs, the *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order, and the *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately preceding event is not reportable in Phase 2, as it is a complex order event. Alternatively, if the *nextUnlinked* value is unknown at the time of order receipt, a separate New Option Order Supplement event may be reported to capture the *nextUnlinked* value.

#	Step	Reported Event	Comments
1	Customer calls in a complex option order to Broker 1	NA	Complex options out of scope for Phase 2b
2	Broker 1 accepts the complex option order	NA	Complex options out of scope for Phase 2b
3	Broker 1's system electronically captures single leg option order A	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: OA1234 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 10 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: FD0012 accountHolderType: A affiliateFlag: true cmtaFirm: 106 openCloseIndicator: Open representativeInd: N nextUnlinked: C	The <i>nextUnlinked</i> flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable, as is it is a complex option. Alternatively, if the <i>nextUnlinked</i> value is unknown at the time of order receipt, a separate New Option Order Supplement event may be reported to capture the <i>nextUnlinked</i> value. The <i>handlingInstructions</i> field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.
4	Broker 1's system electronically captures single leg option order B	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: OB1234 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.1235 deptType: A side: B price: 10.5 quantity: 50 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: FD0012	The <i>nextUnlinked</i> flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable, as is it is a complex option. Alternatively, if the <i>nextUnlinked</i> value is unknown at the time of order receipt, a separate New Option Order Supplement event may be reported to capture the <i>nextUnlinked</i> value. The <i>handlingInstructions</i> field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.

#	Step	Reported Event	Comments
		accountHolderType: A affiliateFlag: true cmtaFirm: 106 openCloseIndicator: Open representativeInd: N nextUnlinked: C	
5	Broker 1 routes complex order to Exchange 1	NA	Complex options out of scope for Phase 2b
6	Exchange 1 accepts complex option order from Broker 1	Exchange 1 reports a Participant Complex Option Order Accepted event	
7	Exchange 1 executes complex option order	Exchange 1 reports a Participant Complex Option Trade event	

# 3.6.3. Industry Member Manually Routs a Complex Option Order to another Industry Member Followed by Multiple Single Leg Electronic Option Orders

This scenario illustrates the Phase 2b reporting requirements when an Industry Member manually routes a complex option order from to another Industry Member and also sends the order as single leg electronic messages due to system limitations. The order is then routed to an exchange as a complex order.

In Phase 2b, the entirety of the customer order is not reportable to CAT, as the customer intended the order to be handled as a complex order. In Phase 2b, the preferred approach is that the Industry Member does not report the electronic single leg orders, as complex orders are not in scope. However, industry members may be unable to suppress these events from CAT in Phase 2b. This scenario illustrates reporting requirements if the Industry Members are unable to suppress the single leg orders.



- The receipt of the electronic single leg orders (New Option Order events)
- The route of the single leg orders to Broker 2 (Option Order Route Events)

Industry Member Broker 2 is required to report:

• The receipt of the electronic routes received from Broker 1 (Option Order Accepted events)

If the Industry Member elects to report the single legs, the *handlingInstructions* field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order, and the *nextUnlinked* flag must be populated with a value of 'C' to indicate that the immediately preceding event is not reportable in Phase 2, as it is a complex order event. Alternatively, if the *nextUnlinked* value is unknown at the time of order receipt, a separate New Option Order Supplement event may be reported to capture the *nextUnlinked* value.

#	Step	Reported Event	Comments
1	Broker 1 creates a complex option order	NA	Complex options out of scope for Phase 2b
2	2 Broker 1 calls Broker 2 to manually route the	NA	Complex options out of scope for Phase 2b
	complex option order		Manual order events out of scope for Phase 2b
3	Broker 2 accepts complex option order	NA	Complex options out of scope for Phase 2b
			Manual order events out of scope for Phase 2b
4	Broker 1 creates four single leg option orders	Broker 1 reports a New Option Order event (1 of 4) type: MONO orderKeyDate: 20180516T000000 orderID: O12345 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 AccountHolderType: P affiliateFlag: false cmtaFirm: 106 openCloseIndicator: Open representativeInd: N	The handlingInstructions field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.

#	Step	Reported Event	Comments
		Broker 1 reports a <b>New Option</b> Order event (2 of 4)	
		type: MONO orderKeyDate: 20180516T000000 orderID: O22345 optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.1235 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 accountHolderType: P affiliateFlag: false cmtaFirm: 106 openCloseIndicator: Open representativeInd: N	
4	(cont'd)	Broker 1 reports a New Option Order event (3 of 4) type: MONO orderKeyDate: 20180516T000000 orderID: O32345 optionID: XYZ 181210C0001925 eventTimestamp: 20180516T133031.1236 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 accountHolderType: P affiliateFlag: false cmtaFirm: 106 openCloseIndicator: Open representativeInd: N	

#	Step	Reported Event	Comments
		Broker 1 reports a New Option Order event (4 of 4) type: MONO orderKeyDate: 20180516T000000 orderID: O42345 optionID: XYZ 181210P00001925 eventTimestamp: 20180516T133031.1237 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX firmDesignatedID: PROP203 accountHolderType: P affiliateFlag: false cmtaFirm: 106 openCloseIndicator: Open representativeInd: N	
5	Broker 1 routes the electronic single leg orders to Broker 2	Broker 1 reports an Option Order Route event (1 of 4) type: MOOR orderKeyDate: 20180516T000000 orderID: 012345 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.5234 senderIMID: BKRF1 destination: BKRK_2 destinationType: F routedOrderID: RTOA111 side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX cmtaFirm: 106 openCloseIndicator: Open nextUnlinked: C	In Phase 2b, the <i>nextUnlinked</i> flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable, as is it is a complex option. The <i>handlingInstructions</i> field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.
#	Step	Reported Event	Comments
---	----------	---	----------
		Broker 1 reports an <b>Option Order</b> <b>Route event (2 of 4)</b> type: MOOR orderKeyDate: 20180516T000000 orderID: O22345	
		optionID: XYZ 180810P00001925 eventTimestamp: 20180516T133031.5235 senderIMID: BKRF1 destination: BKRK_2 destinationType: 5	
		routedOrderID: RTOA222 side: B price: 10 quantity: 20 orderType: LMT	
		timeInForce: GTC tradingSession: REG handlingInstructions: CMPX cmtaFirm: 106 openCloseIndicator: Open	
5	(cont'd)	Broker 1 reports an <b>Option Order</b> Route event (3 of 4)	
		type: MOOR orderKeyDate: 20180516T000000 orderID: O32345 optionID: XYZ 181210C00001925 eventTimestamp: 20180516T133031.5236 senderIMID: BKRF1 destination: BKRK_2 destinationType: F routedOrderID: RTOA333 side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX cmtaFirm: 106 openCloseIndicator: Open nextUnlinked: C	

Reported Event	Comments
Broker 1 reports an <b>Option Order</b> <b>Route event (4 of 4)</b> type: MOOR orderKeyDate: 20180516T000000 orderID: O42345 optionID: XYZ 181210P00001925	
eventTimestamp: 20180516T133031.5237 senderIMID: BKRF1 destination: BKRK_2 destinationType: F routedOrderID: RTOA444 side: B	
price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX cmtaFirm: 106 openCloseIndicator: Open nextUnlinked: C	
Broker 2 reports an Option Order Accepted event (1 of 4) type: MOOA orderKeyDate: 20180516T000000 orderID: 010987 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.5434 receiverIMID: BRKR_2 senderIMID: BRKR_2 senderIMID: BKRF1 senderType: F routedOrderID: RTOA111 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open	In phase 2b, the <i>priorUnlinked</i> field must be populated with a value of 'C' to indicate the immediately preceding event is not reportable, as it is a complex option. In Phase 2b, the <i>nextUnlinked</i> flag must be populated with a value of 'C' to indicate that the immediately following event is not reportable, as is it is a complex option. The <i>handlingInstructions</i> field must be populated with a value of 'CMPX' to indicate that the order is part of a complex order.
	Reported EventBroker 1 reports an Option OrderRoute event (4 of 4)type: MOORorderKeyDate: 20180516T000000orderID: 042345optionID: XYZ 181210P00001925eventTimestamp:20180516T133031.5237senderIMID: BKRF1destination: BKRK_2destination: BKRK_2destination Type: FroutedOrderID: RTOA444side: Bprice: 10quantity: 20orderType: LMTtimeInForce: GTCtradingSession: REGhandlingInstructions: CMPXcmtaFirm: 106openCloseIndicator: OpennextUnlinked: CBroker 2 reports an Option OrderAccepted event (1 of 4)type: MOOAorderKeyDate: 20180516T000000orderID: O10987optionID: XYZ 180810C00001925eventTimestamp:20180516T133031.5434receiverIMID: BKRF1senderType: FroutedOrderID: RTOA111deptType: Aside: Bprice: 10quantity: 20orderType: LMTtimeInForce: GTCtradingSession: REGhandlingInstructions: CMPXaffiliateFlag: falseopenCloseIndicator: Open

#	Step	Reported Event	Comments
		nextUnlinked: C	
		Broker 2 reports an <b>Option Order</b>	
		Accepted event (2 of 4)	
		type: MOOA	
		orderKeyDate: 201805161000000	
		orderID: 020987	
		oventTimestamp:	
		20180516T133031 5435	
		receiverIMID: BBKB 2	
		senderIMID: BKRF1	
		senderType: F	
		routedOrderID: RTOA222	
		deptType: A	
		side: B	
		price: 10	
		quantity: 20	
		orderType: LMT	
		timeInForce: GTC	
		tradingSession: REG	
		handlingInstructions: CMPX	
		affiliateFlag: false	
		priori plinkod: C	
		perti Inlinked: C	
6	(cont'd)	Broker 2 reports an Option Order	
Ū		Accepted event (3 of 4)	
		type: MOOA	
		orderKevDate: 20180516T000000	
		orderID: O30987	
		optionID: XYZ 181210C00001925	
		eventTimestamp:	
		20180516T133031.5436	
		receiverIMID: BRKR_2	
		senderIMID: BKRF1	
		dentType: A	
		side B	
		price: 10	
		quantity: 20	
		orderType: LMT	
		timeInForce: GTC	
		tradingSession: REG	

#	Step	Reported Event	Comments
		handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open priorUnlinked: C nextUnlinked: C	
		Broker 2 reports an <b>Option Order</b> Accepted event (4 of 4)	
		type: MOOA orderKeyDate: 20180516T000000 orderID: O40987 optionID: XYZ 181210P00001925 eventTimestamp: 20180516T133031.5437 receiverIMID: BRKR_2 senderIMID: BRKR_2 senderIMID: BKRF1 senderType: F routedOrderID: RTOA444 deptType: A side: B price: 10 quantity: 20 orderType: LMT timeInForce: GTC tradingSession: REG handlingInstructions: CMPX affiliateFlag: false openCloseIndicator: Open priorUnlinked: C	
7	Broker 2 routes the complex option orders to Exchange 1	NA	Complex options out of scope for Phase 2b
8	Exchange 1 accepts the order from Broker 2	Exchange 1 reports a Participant Complex Option Order Accepted event	
9	Exchange 1 executes the complex option order	Exchange 1 reports a Participant Complex Option Trade event	

# 3.7. Additional Options Reporting Scenarios

# 3.7.1. Industry Member Receives a Customer Order and is Only Able to Pair a Portion of the Order

This scenario illustrates the CAT reporting requirements when an Industry Member electronically receives a single leg order from a customer and solicits another Industry Member to pair the order, but is left with a partial quantity of the single leg customer order. Only the single leg components of the lifecycle are required for CAT reporting in Phase 2b, as paired option orders are not required until Phase 2d.



Industry Member Broker 1 is required to report:

- The receipt of the customer order (New Option Order event)
- The route of the un-paired quantity of the single leg order to an exchange (Option Order Route event)

#	Step	Reported Event	Comments
1	Customer electronically sends option order to Broker 1	NA	
2	Broker 1 accepts the customer order	Broker 1 reports a New Option Order event type: MONO orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: A side: B price: 8.5 quantity: 100 orderType: LMT	The <i>nextUnlinked</i> field must <u><b>not</b></u> be populated, as part of the order is still being worked as single leg orders that are eligible for linkage.

#	Step	Reported Event	Comments
		timeInForce: DAY tradingSession: REG firmDesignatedID: CUS458 accountHolderType: A affiliateFlag: false openCloseIndicator: Open representativeInd: N	
3	Broker 1 solicits Broker 2 to take other side of order	NA	
4	Broker 2 agrees to 60 contracts	NA	
5	Broker 1 creates a paired option order for 60 contracts	NA	Paired option orders are not reportable until Phase 2d
6	Broker 1 routes the paired option order to the exchange	ΝΑ	Paired option orders are not reportable until Phase 2d
7	Exchange 1 accepts the paired option order from Broker 1	Exchange 1 reports two Participant Simple Option Order Accepted events	
8	Broker 1 routes a single leg option order to the exchange	Broker 1 reports an <b>Option Order</b> <b>Route event</b> type: MOOR orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133032.1234 senderIMID: BROKER1 destination: EXCH2 destinationType: E routedOrderID: RT7171 session: s9 side: B price: 8.5 quantity: 40 orderType: LMT timeInForce: DAY tradingSession: REG exchOriginCode: C openCloseIndicator: Open	
9	Exchange 2 accepts the single leg order from Broker 1	Exchange 1 reports a Participant Single Option Order Accepted event	

## 3.7.2. Response to an Exchange Auction

This scenario illustrates the CAT reporting requirements when an Industry Member originates a proprietary option order in response to an Exchange Auction of a simple option or paired order of simple options.



Industry Member Market Maker 1 is required to report:

- The origination of the proprietary order (New Option Order event)
- The response to the exchange auction (Option Order Route event)

The Industry Member is required to report the auction details in the *handlingInstructions* field using the name/value pair 'AucResp', which must be paired with the AuctionID value.

#	Step	Reported Event	Comments
1	Exchange 1 announces auction	NA	
2	Market Maker 1 originates a prop option order in response to the auction	Market Maker 1 reports a New Option Order Event type: MONO orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1234 deptType: T side: B price: 5 quantity: 10 orderType: LMT timeInForce: IOC tradingSession: REG handlingInstructions: AucResp=1a95IFOK firmDesignatedID: P999 accountHolderType: P affiliateFlag: true	Orders originated in response to an auction must have the <i>handlingInstructions</i> field populated with a value of 'AucResp', which is a Name/Value pair requiring the Auction ID value.

#	Step	Reported Event	Comments
		openCloseIndicator: Open representativeInd: N	
3	Market Maker 1 routes response to Exchange 1	Market Maker 1 reports an Option Order Route event type: MOOR orderKeyDate: 20180516T000000 orderID: OA76543 optionID: XYZ 180810C00001925 eventTimestamp: 20180516T133031.1834 senderIMID: MMFIRM1 destination: EXCH1 destinationType: E routedOrderID: RTBID01 session: s12 side: B price: 5 quantity: 10 orderType: LMT timeInForce: IOC tradingSession: REG handlingInstructions: exchOriginCode: M openCloseIndicator: Open	In phase 2c, since the values in the <i>handlingInstructions</i> field have not changed from the New Order to the Order Route, BRKA may populate "RAR" in the <i>handlingInstructions</i> field indicating the order was "routed as received". Alternatively, firms have the option to re-state all <i>handlingInstructions</i> values.
4	Exchange 1 accepts the order bid from Market Maker 1	Exchange 1 reports a Participant Simple Option Order Accepted event	

# 4. Error Correction Scenarios

## 4.1.1. Correcting an Error using Action Type of 'RPR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an error using the Action Type of 'RPR'.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is subsequently rejected.
- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member corrects the error and resubmits to CAT.



#	Step	Reported Event	Comments
1	Broker 1 submits an order.	Broker 1 reports a <b>New Order event</b> actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	
2	Broker 1 receives feedback from the CAT Processor.	Broker 1 receives feedback on the New Order event errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345	Rejected with Error Code 2001 - Missing or Invalid <i>accountHolderType</i>

#	Step	Reported Event	Comments
		symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	
3	The Industry Member repairs the record using the Action Type of 'RPR' and resubmits.	Broker 1 resubmits the New Order event actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
4	CAT Processor accepts the repair.		The original error will be considered as repaired. The repaired event will be processed by CAT.

# 4.1.2. Correcting an Error using the Action Type of 'COR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an error using the Action Type of 'COR'.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is subsequently rejected.
- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member corrects the error and resubmits to CAT.



#	Step	Reported Event	Comments
1	Broker 1 submits an order	Broker 1 reports a New Order event actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	
2	Broker 1 receives feedback from the CAT Processor	Broker 1 receives feedback on the New Order event errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	Rejected with Error Code 2001 - Missing or Invalid <i>accountHolderType</i> Feedback includes <i>actionType</i> of RPR
3	The Industry Member repairs the record using the Action Type of 'COR' and resubmits.	Broker 1 resubmits the New Order event actionType: COR errorROEID: firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
4	CAT Processor accepts the repair.		The original error will be considered as repaired. The repaired event will be processed by CAT.

### 4.1.3. Firm Initiated Correction using Action Type of 'COR'

This scenario illustrates the firm initiated correction reporting requirements to CAT for an Industry Member that corrects an error using the Action Type of 'COR'.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is accepted.
- The Industry Member subsequently submits a correction to the *accountHolderType* field reported to CAT.



#	Step	Reported Event	Comments
1	Broker 1 submits an order.	Broker 1 reports a New Order event actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
2	Broker 1 order is accepted.		
3	The Industry Member submits a correction using the Action Type of 'COR'.	Broker 1 resubmits the New Order event actionType: COR errorROEID: firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ	

#	Step	Reported Event	Comments
		eventTimestamp: 20180501T153035.234456 accountHolderType: A	
4	CAT Processor accepts the correction.		The corrected event will be processed by CAT.

#### 4.1.4. File Deletion

This scenario illustrates the reporting requirements to CAT for an Industry Member that submits a delete file instruction. After the firm has received the File Acknowledgement feedback, the file deletion instruction may only be used for files with data representing an event date that is prior to 8 am on T+4. All events contained within the original file for which the file deletion instruction was received must have an Action Type of NEW.

For this scenario, the following steps occur:

- Industry Member submits a New Order event that is subsequently rejected.
- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member submits a delete file instruction to CAT.



#	Step	Reported Event	Comments
1	Broker 1 submits an order	Broker 1 reports a <b>New Order event</b> actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456	

#	Step	Reported Event	Comments
		accountHolderType: B fileName: FILE1234	
2	Broker 1 receives feedback from the CAT Processor	Broker 1 receives feedback on the New Order event errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	Rejected with Error Code 2001 - Missing or Invalid <i>accountHolderType</i>
3	The Industry Member submits a delete file instruction	Broker 1 submits an empty file with delete instruction on 20180503. FILE1234.DEL	
4	CAT Processor marks all records in the file as deleted		All events included in the original file submission will be considered deleted.
			All associated errors will be considered as repaired.

# 4.1.5. Deleting an Erroneous Record using Action Type of 'DEL'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that submits a record delete instruction.

For this scenario, the following steps occur:

- Industry Member submits a New Order event is submitted and accepted.
- The CAT Processor provides the error feedback to the Industry Member.
- The Industry Member submits a delete record instruction to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order	Broker 1 reports a <b>New Order event</b> actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B fileName: FILE1234	
2	Broker 1 receives feedback from the CAT Processor	Broker 1 receives feedback on the New Order event errorCode: 2001 actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: B	Rejected with Error Code 2001 - Missing or Invalid <i>accountHolderType</i>
3	The Industry Member submits a delete record instruction	Broker 1 submits a delete record instruction. actionType: DEL errorROEID: 123456789 firmROEID:	
4	CAT Processor marks the record as deleted		The original record will be considered as deleted. All associated errors will be considered as repaired.

# 4.1.6. Deleting a record with no Error Feedback using Action Type of 'DEL'

This scenario illustrates the follow-up reporting requirements to CAT for an Industry Member that submits a record delete instruction without receiving Error Feedback.

For this scenario, the following steps occur:

- Industry member submits a New Order event that is accepted.
- The Industry Member submits a delete record instruction to CAT.



Note that in the example below, only a subset of fields relevant for corrections have been included.

#	Step	Reported Event	Comments
1	Broker 1 submits an order	Broker 1 reports a <b>New Order event</b> actionType: NEW firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
2	Broker 1 order is accepted.		
3	The Industry Member submits a delete record instruction.	Broker 1 submits a delete record instruction. actionType: DEL errorROEID: firmROEID: 20180501_M12360	
4	CAT Processor marks the record as deleted.		The original record will be considered as deleted. All associated errors will be considered as repaired.

# 4.1.7. Correcting an Unreadable Event using Action Type of 'RPR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an error using the Action Type of 'RPR' when the submitted record is unreadable by CAT.

For this scenario, the following steps occur:

- Industry Member submits a New Order that is subsequently rejected because it was malformed and could not be parsed.
- The CAT Processor provides the error feedback to the Industry Member including the Error Code.
- The Industry Member corrects the error and resubmits to CAT.



#	Step	Reported Event	Comments
1	Broker 1 submits an order	Broker 1 reports an unreadable record.	
2	Broker 1 receives feedback from the CAT Processor	Broker 1 receives feedback	Rejected with Error Code 2134 - Invalid JSON or CSV format The record cannot be parsed, hence the only fields that will be returned will be <i>errorCode</i> , <i>actionType</i> and <i>errorROEID</i> .
3	The Industry Member repairs the record using the Action Type of 'RPR' and resubmits.	Broker 1 resubmits the event actionType: RPR errorROEID: 123456789 firmROEID: 20180501_M12360 type: MENO CATReporterIMID: BRK1 orderKeyDate: 20180501T153035.234456 orderID: O12345 symbol: XYZ eventTimestamp: 20180501T153035.234456 accountHolderType: P	
4	CAT Processor accepts the repair.		The original error will be considered as repaired. The repaired event will be processed by CAT.

#### 4.1.8. Correcting an Intrafirm Linkage Error using Action Type of 'NEW'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an intra-firm linkage error using the action type of 'NEW'. This scenario applies to error code 3501 when the originating event does not exist in CAT.

In such instances, the reporting of a 'RPR' or 'COR' is not applicable since the unlinked event must remain. The error is resolved by reporting the missing event.

For this scenario, Industry Member Broker 1 reported an Order Cancel event, without an associated origination event:

- Order Cancel event submitted by Broker 1 is unlinked due to Order Key not found.
- The CAT Processor provides the intra-firm linkage error feedback to the Industry Member.
- The Industry Member submits the missing event to the CAT Processor, which corrects the linkage error.



#	Step	Reported Event	Comments
1	Broker 1 reports an order cancel event	Broker 1 reports an Order Cancel event	
		actionType: NEW firmROEID: 20180417_Q12360 type: MEOC CATReporterIMID:BRK1 orderKeyDate: 20180417T000000 eventTimestamp: 20180417T143035.323556 symbol: XYZ orderID: Z23456 cancelQty: 1000	
2	Broker 1 receives feedback from the CAT Processor.	Broker 1 receives feedback on the Order Cancel event errorCode: 3501 actionType: RPR errorROEID: 923451234	Linkage Error Code 3501 - Secondary Event – Order Key, Trade Key, Quote Key or Fulfillment Key not found

#	Step	Reported Event	Comments
		firmROEID: 20180417_Q12360 type: MEOC CATReporterIMID:BRK1 orderKeyDate: 20180417T000000 orderID: Z23456 symbol: XYZ cancelQty: 1000	
3	The Industry Member repairs the unlink record using the Action Type of 'NEW'.	Broker 1 submits the New Order event actionType: NEW firmROEID: 20180417_Q12360 type: MENO CATReporterIMID:BRK1 orderKeyDate: 20180417T000000 orderID: Z23456 symbol: XYZ quantity: 1000	The late reported MENO event is NOT required to include the errorROEID or firmROEID of the associated linkage error.
5	CAT Processor accepts the unlink repair.		During processing, CAT will make the linkage and the original linkage error will be considered repaired.

# 4.1.9. Correcting an Interfirm Linkage Error using Action Type of 'RPR'

This scenario illustrates the error feedback provided by the CAT Processor and the follow-up reporting requirements to CAT for an Industry Member that repairs an interfirm linkage error using the Action Type of 'RPR'.

For this scenario, Industry Member Broker 1 is required to report the following events:

- Order Route event submitted by Broker 1 is unlinked because a matching *routedOrderID* cannot be found
- The CAT Processor provides the unlink error feedback to the Industry Member.
- The Industry Member corrects the error and resubmits to CAT.



#	Step	Reported Event	Comments
1	Broker 1 routes order to Broker 2.	Broker 1 reports an <b>Order Route</b> event	
		actionType: NEW firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: FRMA destination: FRMB orderID: 023456 routedOrderID: A0222	
2	Broker 1 receives feedback from the CAT Processor.	Broker 1 receives feedback on the Order Route event errorCode: 8003 actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360 type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: FRMA destination: FRMB orderID: 023456 routedOrderID: A0222	Linkage Error Code 8003 - Matching <i>routedOrderID</i> cannot be found.
3	Broker 1 receives feedback from the CAT Processor.	Broker 1 receives feedback on the as Named on the <b>Order Accept event</b> errorCode: 8004 actionType: RPR errorROEID: 567812345 eventDate: 20180417 symbol: XYZ receiverIMID: FRMB senderIMID: FRMA routedOrderID: AO223	Linkage Error Code 8004: Named - Matching <i>routedOrderID</i> cannot be found. The following linkage key fields on the Order Accept event will be returned in the feedback file: • eventDate: (Date portion of the event timestamp) • symbol • receiverIMID • senderIMID • routedOrderID
4	The Industry Member repairs the unlink record using the Action Type of 'RPR' and resubmits.	Broker 1 resubmits the Order Route event actionType: RPR errorROEID: 123451234 firmROEID: 20180417_Z12360	The firm may also use actionType of 'COR' when re-submitting the Order Route event.

#	Step	Reported Event	Comments
		type: MEOR orderKeyDate: 20180417T000000 eventTimestamp: 20180417T153035.234556 symbol: XYZ senderIMID: FRMA destination: FRMB orderID: 023456 routedOrderID: AO223	
5	CAT Processor accepts the unlink repair.		During processing, CAT will make the linkage and BOTH of the original linkage errors will be considered repaired.