

CAT Reporting Aggregated Orders

IM Tech Spec Working Group

Updated February 20, 2018

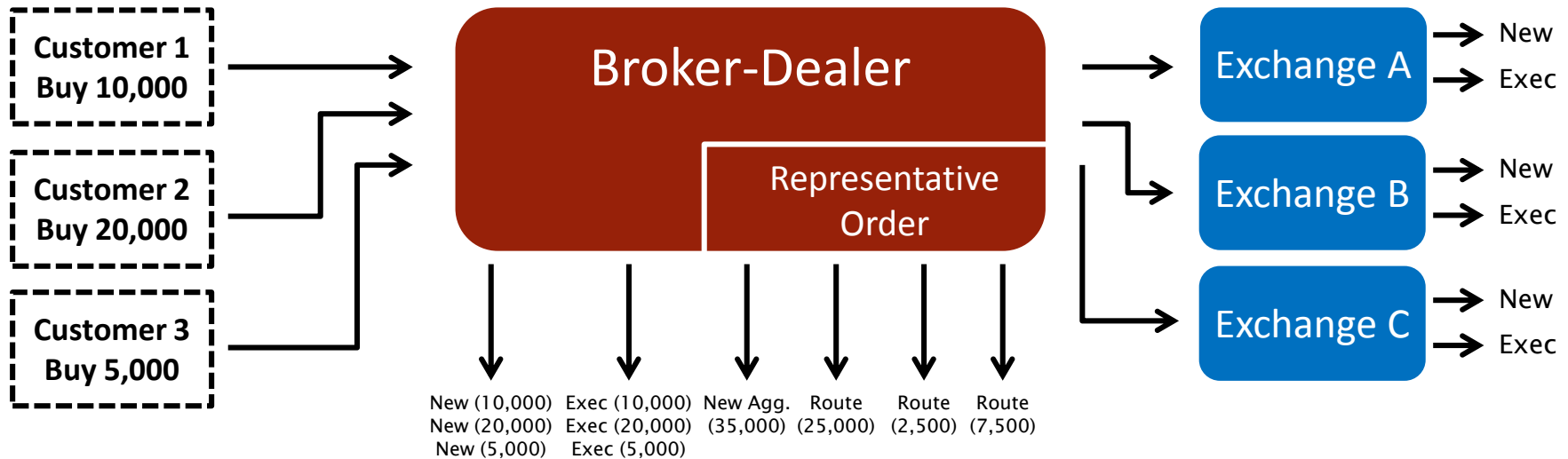
CAT NMS Plan Requirements

- ▶ The focus of this discussion is on scenarios where a broker-dealer works to fill two or more customer orders by aggregating them and routing one or more representative orders created in a firm owned or controlled account to the street for execution. Upon receiving the executions from the street side order, the broker-dealer then fills each of the customer orders.
- ▶ Specifically, the CAT NMS Plan (Appendix D-9) states that lifecycle linkages must include *“orders aggregated with other orders for further routing and execution, capturing both the street side executions for the aggregated order and the fills to each customer order.”*

CAT NMS Plan Requirements

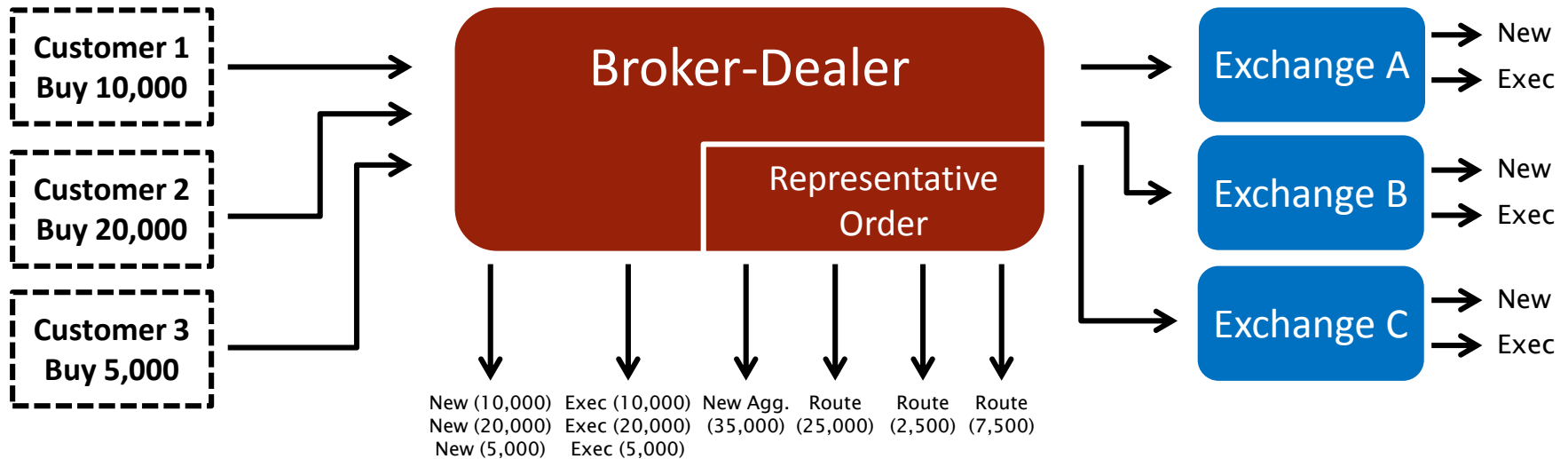
- ▶ Representative orders are defined in this context as any order originated in a firm owned or controlled account for purposes of filling a customer order. Examples of firm owned or controlled accounts would include agency allocation accounts, omnibus accounts and proprietary accounts.

Example 1: One Representative Order With Average Price Fill to Client Orders



1. Broker-Dealer receives three customer orders.
2. Customer orders are aggregated into a single 35,000 share representative order in an agency allocation account by the trader.
3. Broker-Dealer routes the representative order to multiple exchanges.
4. Upon execution of the representative order, the Broker-Dealer calculates the average price, then determines the fill for each of the original customer orders.

What Is Reportable?



Broker-Dealers will be required to report and link (as shown on slide 6):

- The receipt of each customer order (1, 2 and 3).
- The creation of the representative order (4).
- Each route of the representative order (5, 6 and 7).
- The fill of each customer order (14).

Exchanges will be required to report (as shown on slide 6):

- The receipt of the representative order (8, 9 and 10).
- The execution of the representative order (11, 12 and 13).

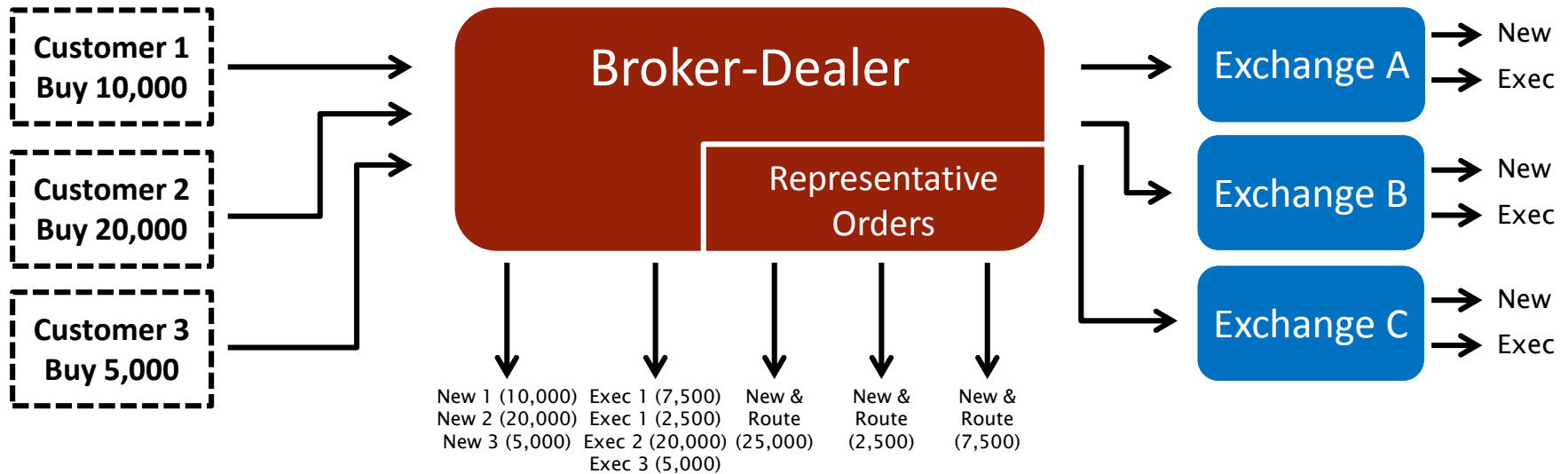
Linkages in IM Tech Spec V 0.1

Event Description	Type	reporterMID	routingMID	exchange	routingFirm	symbol	quantity	price	side	orderID	tradeID	aggregatedOrders	routedOrderID	destinationExchange	buyDetails orderID	buyDetails capacity	sellDetails orderID	sellDetails capacity	fulfillmentID	avgPriceFlag	fulfillment	
1. Customer (1) submits order	MENO	FRMA				XYZ	10,000	10.01	B	O12345												
2. Customer (2) submits order	MENO	FRMA				XYZ	20,000	10.01	B	O12346												
3. Customer (3) submits order	MENO	FRMA				XYZ	5,000	10.01	B	O12347												
4. BD aggregates the customer orders	MENO	FRMA				XYZ	35,000	10.01	B	O12348		O12345=10000 O12346=20000 O12347=5000										
5. BD routes aggregated order to an exchange	MEOR	FRMA	EPID			XYZ	25,000	10.01	B	O12348			ABCDXYZ555	XA								
6. BD routes aggregated order to an exchange	MEOR	FRMA	EPID			XYZ	2,500	10.01	B	O12348			ABCDXYZ556	XB								
7. BD routes aggregated order to an exchange	MEOR	FRMA	EPID			XYZ	7,500	10.01	B	O12348			ABCDXYZ557	XC								
8. Exchange receives the aggregated order	EOA			XA	EPID	XYZ	25,000	10.01	B	E12349												
9. Exchange receives the aggregated order	EOA			XB	EPID	XYZ	2,500	10.01	B	E12350												
10. Exchange receives the aggregated order	EOA			XC	EPID	XYZ	7,500	10.01	B	E12351												
11. Aggregated order is executed on the exchange	EOT					XYZ	25,000	10.01			EXYZ149				E12349	agency	E12352	agency				
12. Aggregated order is executed on the exchange	EOT					XYZ	2,500	10.01			EXYZ150				E12350	agency	E12353	agency				
13. Aggregated order is executed on the exchange	EOT					XYZ	7,500	10.01			EXYZ151				E12351	agency	E12354	agency				
14. BD allocates shares to fulfill original customer orders at an average price	MEAE	FRMA				XYZ	35,000	10.01		O12348									F12348	true	{childOrderID: O12345 childQuantity: 10000 childPrice:10.01} {childOrderID: O12346 childQuantity: 20000 childPrice: 10.01} {childOrderID: O12347 childQuantity: 5000 childPrice: 10.01}	

In accordance with the CAT NMS Plan, the agency representative leg of the transaction must be linked with the customer leg of the transaction and the fills of each customer order. The current version of the IM Technical Specifications provide that:

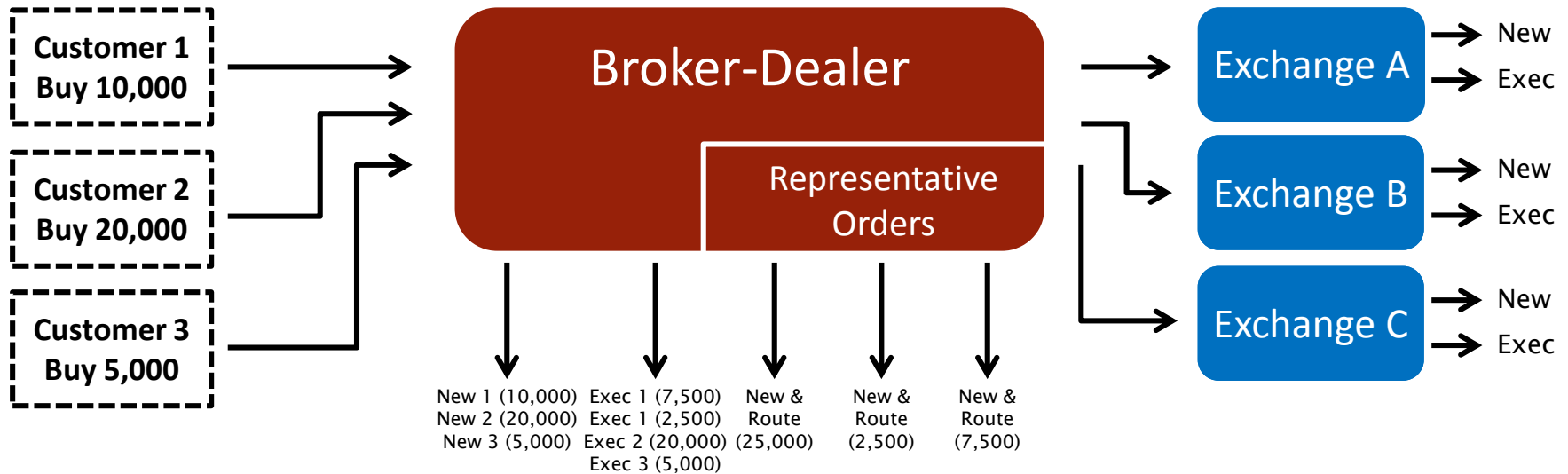
- The “aggregatedOrders” field will be populated on the new order event for the representative order, which specifies the “orderID” and quantity associated with each customer order.
- The “fulfillment” field will be populated on the order fulfillment event with the details of each customer order fill.

Example 2: Multiple Representative Orders With Average Price Fill to Client Orders



1. Broker-Dealer receives three customer orders.
2. Broker-Dealer creates three separate representative orders in an agency allocation account.
3. Broker-Dealer routes each representative order to an exchange.
4. Upon execution of the orders, the Broker-Dealer calculates the average price, then determines the fill for each of the original customer orders.

What is Reportable?



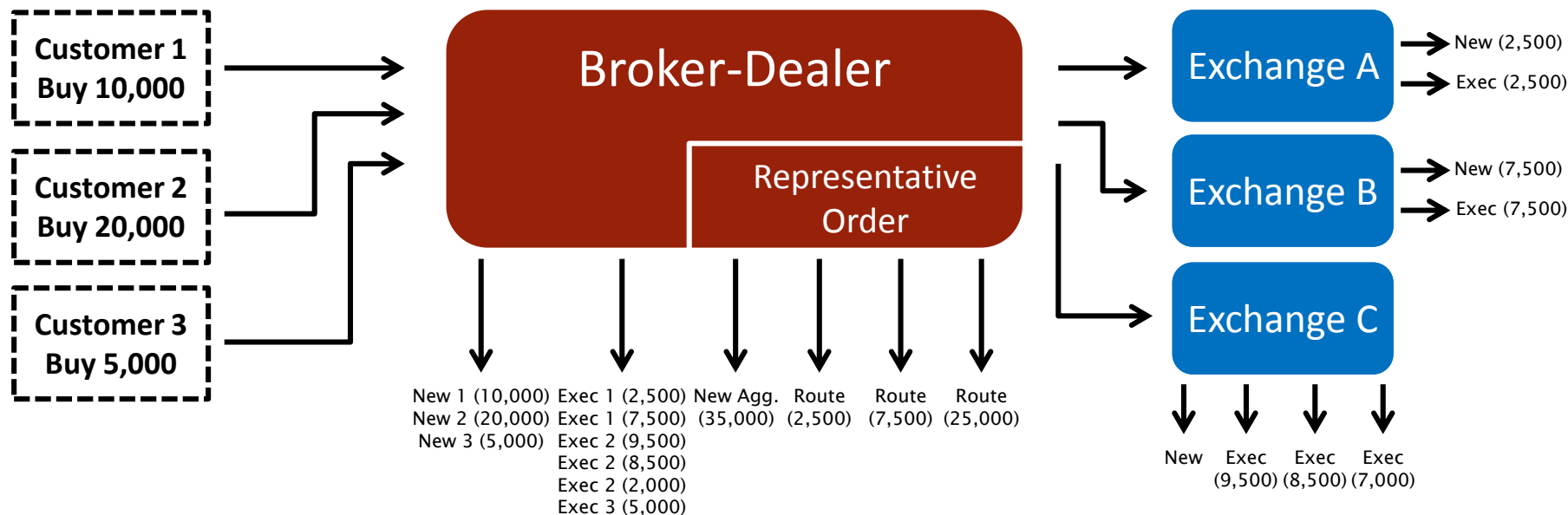
Broker-Dealers will be required to report and link:

- The receipt of each customer order.
- The creation of each representative order.
- The route of each representative order.
- The fill of each customer order.

Exchanges will be required to report:

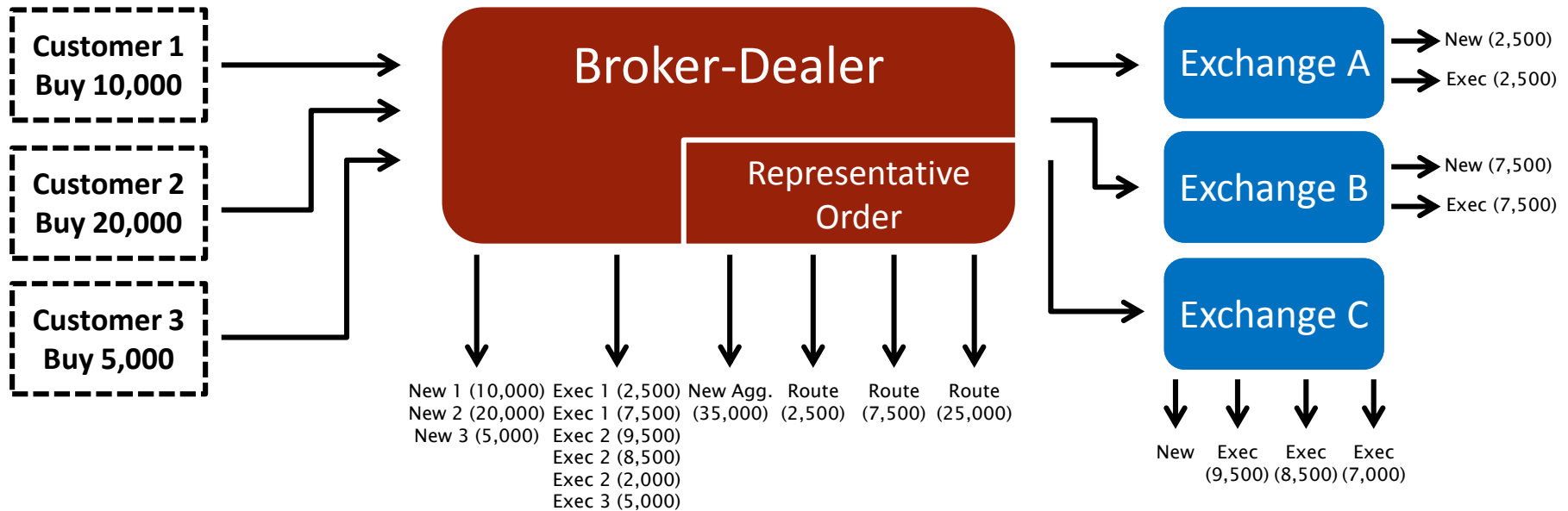
- The receipt of the representative order.
- The execution of the representative order.

Example 3: One Representative Order with Print for Print Fills to Client Orders



1. Broker-Dealer receives three customer orders.
2. Customer orders are aggregated into a single 35,000 share order in an agency allocation account by the trader.
3. Broker-Dealer routes the representative order to multiple exchanges.
4. As each execution of the representative order occurs, the Broker-Dealer passes the fill to each of the original customer orders based on an established allocation methodology.

What is Reportable?



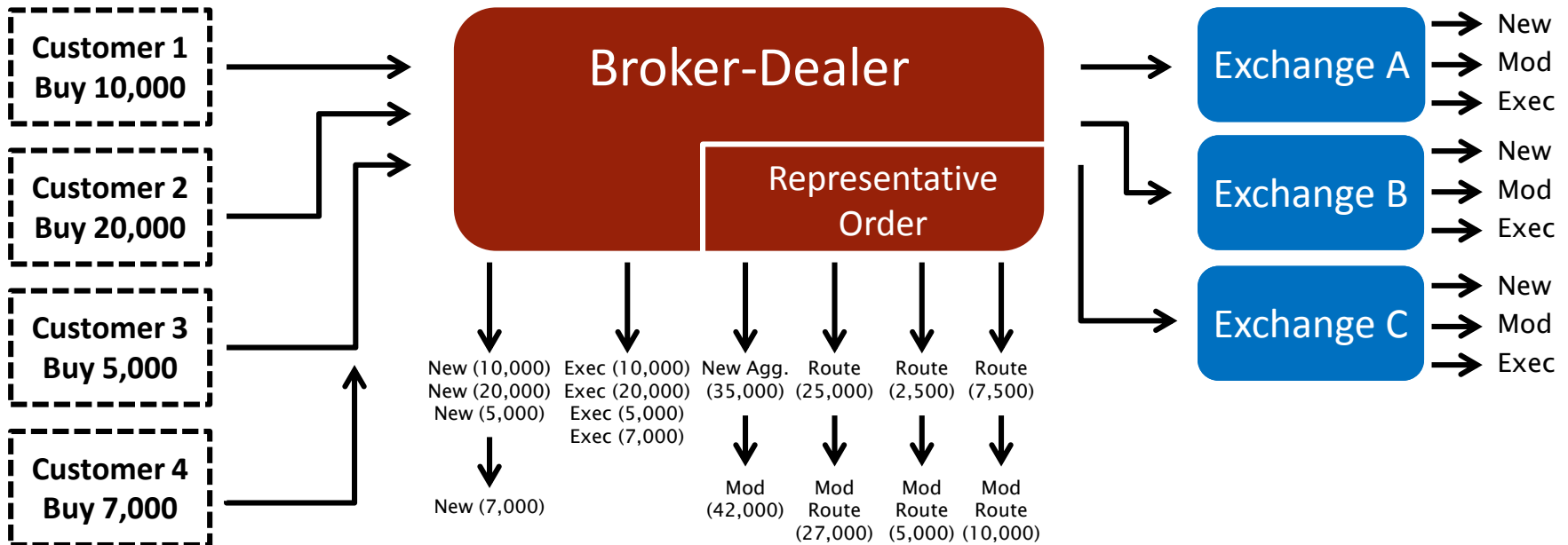
Broker-Dealers will be required to report and link:

- The receipt of each customer order.
- The creation of the representative order.
- The route of the representative order.
- Each fill of the customer order(s) as they occur.

Exchanges will be required to report:

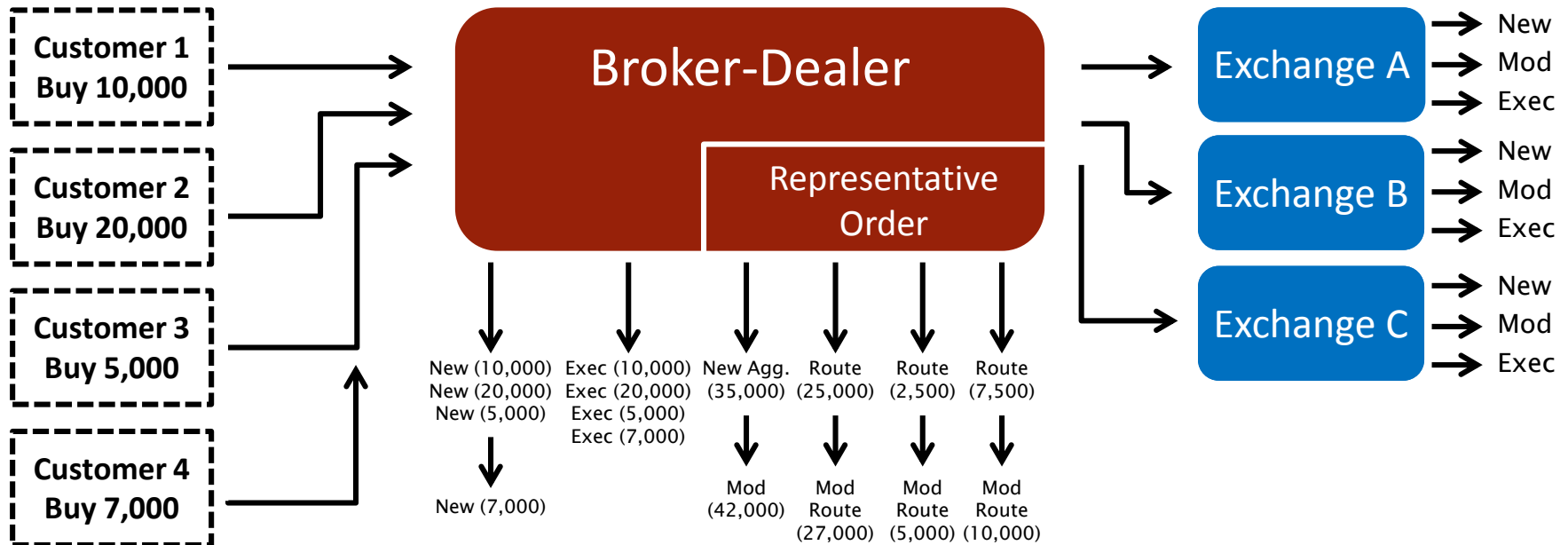
- The receipt of the representative order.
- The execution of the representative order.

Example 4: Adding Additional Orders to Pre-Existing Representative Order



1. Broker-Dealer receives three customer orders.
2. Customer orders are aggregated into a single 35,000 share order in an agency allocation account by the trader.
3. Broker-Dealer routes the representative order to multiple exchanges.
4. Broker-Dealer receives an additional customer order, which is aggregated with the existing representative order.
5. Broker-Dealer routes the modification to the exchanges.
6. Upon execution of the representative order, the Broker-Dealer calculates the average price, then determines the fill for each of the original customer orders.

What is Reportable?



Broker-Dealers will be required to report and link:

- The receipt of each customer order.
- The creation of the representative order.
- Each route of the representative order.
- The modification of the representative order and each related route.
- The fill of each customer order.

Exchanges will be required to report:

- The receipt of the representative order.
- The receipt of the modification.
- The execution of the representative order.