FIG. 1A

Example 1A. Buy DPO with Limit Price Same as NBBO Midpoint

(Unit: cents)	Bid	Midpoint	Offer
NBBO	10	12	14
Buy DPO @12	Booked @10		
	Recheck up to 12		

FIG. 1B

Example 1B. Sell DPO with Limit Price Same as NBBO Midpoint

(Unit: cents)	Bid	Midpoint	Offer
NBBO	10	12	14
Sell DPO @12			Booked @14
			Recheck down to 12

FIG. 2

Example 2. DPOs with Limit Less Aggressive than NBBO Midpoint

(Unit: cents)	Bid	Midpoint	Offer
NBBO	10	12	14
Buy DPO @11	Booked @10		
	Recheck up to 11		
Sell DPO @13			Booked @14
			Recheck down to 13

FIG. 2A

Example 2A. After NBO Drops

(Unit: cents)	Bid	Midpoint	Offer
NBBO	10	11←12	12←14
Buy DPO @11	Booked @10		
	Recheck up to 11		
Sell DPO @13			Booked @13
			Recheck to 13

FIG. 2B

Example 2B. After NBO Rises

(Unit: cents)	Bid	Midpoint	Offer
NBBO	10→12	12→13	14
Buy DPO @11	Booked @11		
	Recheck to 11		
Sell DPO @13			Booked @14
			Recheck to 13

FIG. 3

Example 3. DPOs with Limit More Aggressive than NBBO Midpoint

(Unit: cents)	Bid	Midpoint	Offer
NBBO	10	12	14
Buy DPO @13	Booked @10		
	Recheck up to 12		
Sell DPO @11			Booked @14
			Recheck down to 12

FIG. 4

Example 4. (For Comparison) Midpoint Peg Orders (MPOs)

(Unit: cents)	Bid	Midpoint	Offer
NBBO	10	12	14
Buy MPO @13		Booked @12	
A Sell Order comes in @13			Booked @12
			(Executed w/ MPO @12)
Sell MPO @10		Booked @12	
A Buy Order comes in @12	(Executed w/ MPO @12)		

FIG. 5A

Example 5A. No Restriction during Quote Instability

(Unit: cents)	Bid	Midpoint	Offer
Markets 1/2/3	10	12→12.5	14→15
Markets 4/5	10	12	14
Non-DPOs	*Buy orders @12 could be executed by Markets 4/5 @12*		

FIG. 5B

Example 5B. Restriction on DPO Execution during Quote Transition

(Unit: cents)	Bid	Midpoint	Offer
Markets 1/2/3	10	12→12.5	14→15
Markets 4/5	10	12	14
DPOs	*DPOs can only be executed at NBB/NBO during quote transition*		

FIG. 6

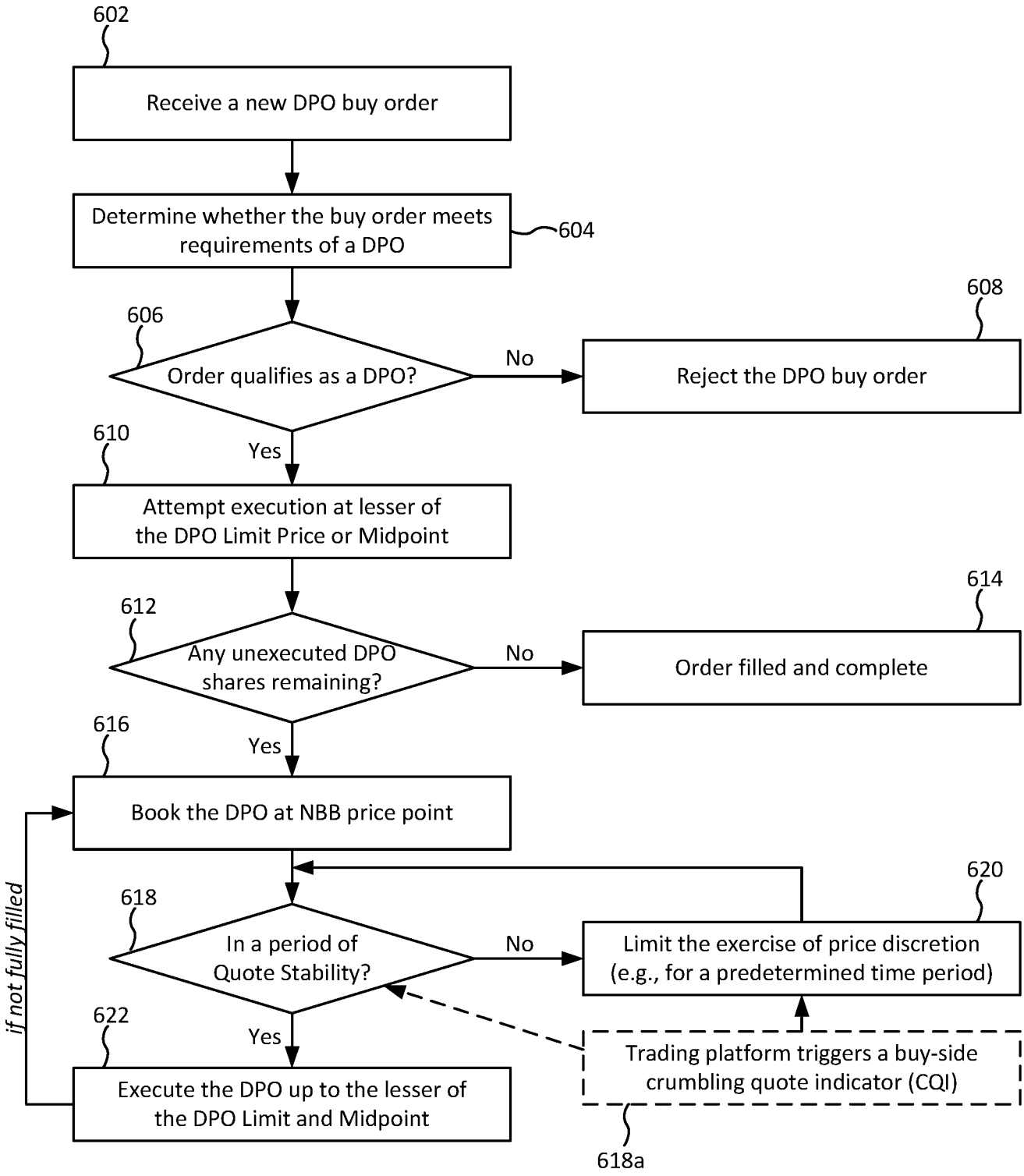

602
Receive a new DPO buy order
Determine whether the buy order meets requirements of a DPO
604
606
Order qualifies as a DPO?
No
608
Reject the DPO buy order
Yes
610
Attempt execution at lesser of the DPO Limit Price or Midpoint
612
Any unexecuted DPO shares remaining?
No
614
Order filled and complete
Yes
616
Book the DPO at NBB price point
618
In a period of Quote Stability?
No
620
Limit the exercise of price discretion (e.g., for a predetermined time period)
Yes
622
Execute the DPO up to the lesser of the DPO Limit and Midpoint
if not fully filled
Trading platform triggers a buy-side crumbling quote indicator (CQI)
618a

FIG. 7

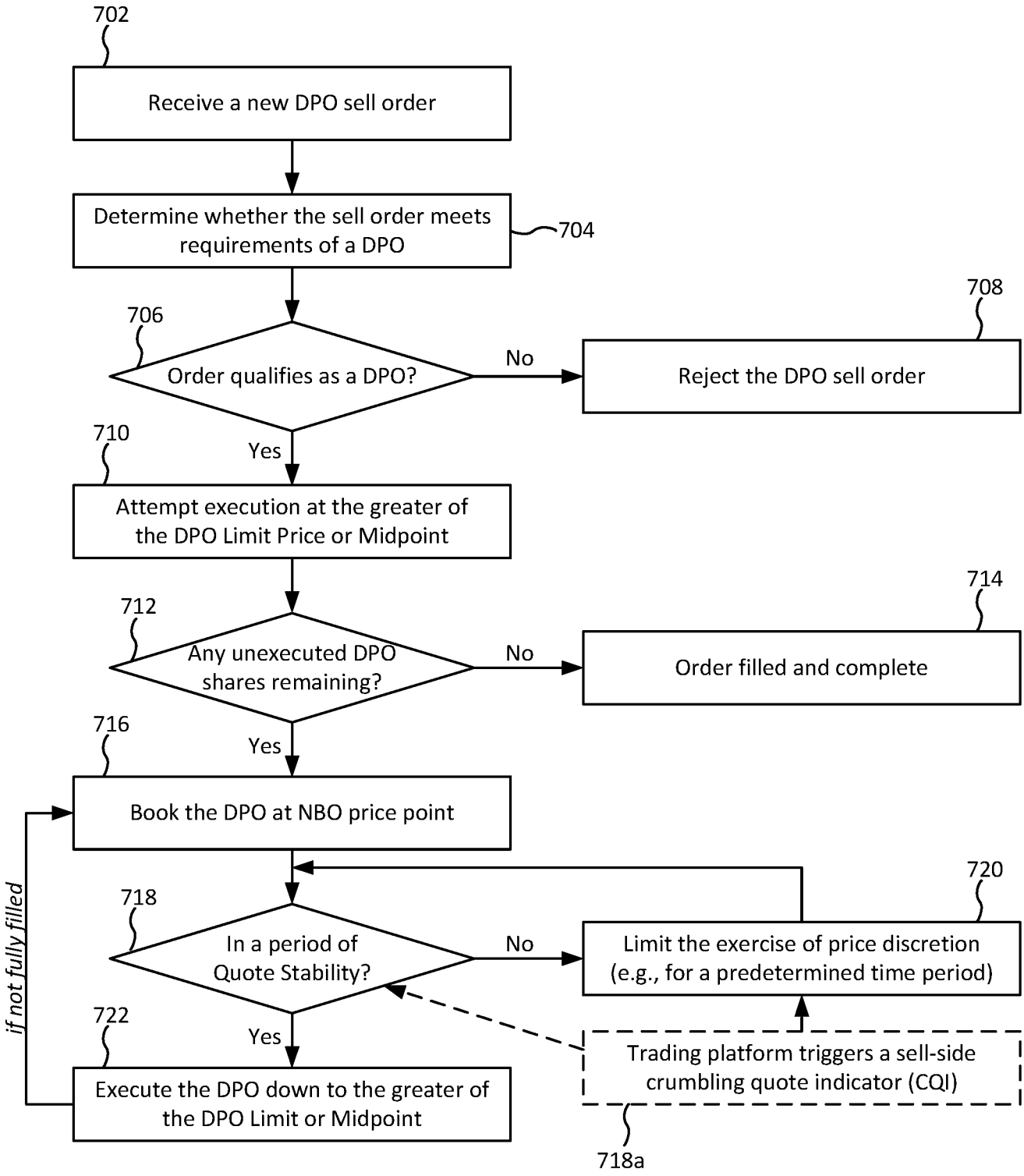
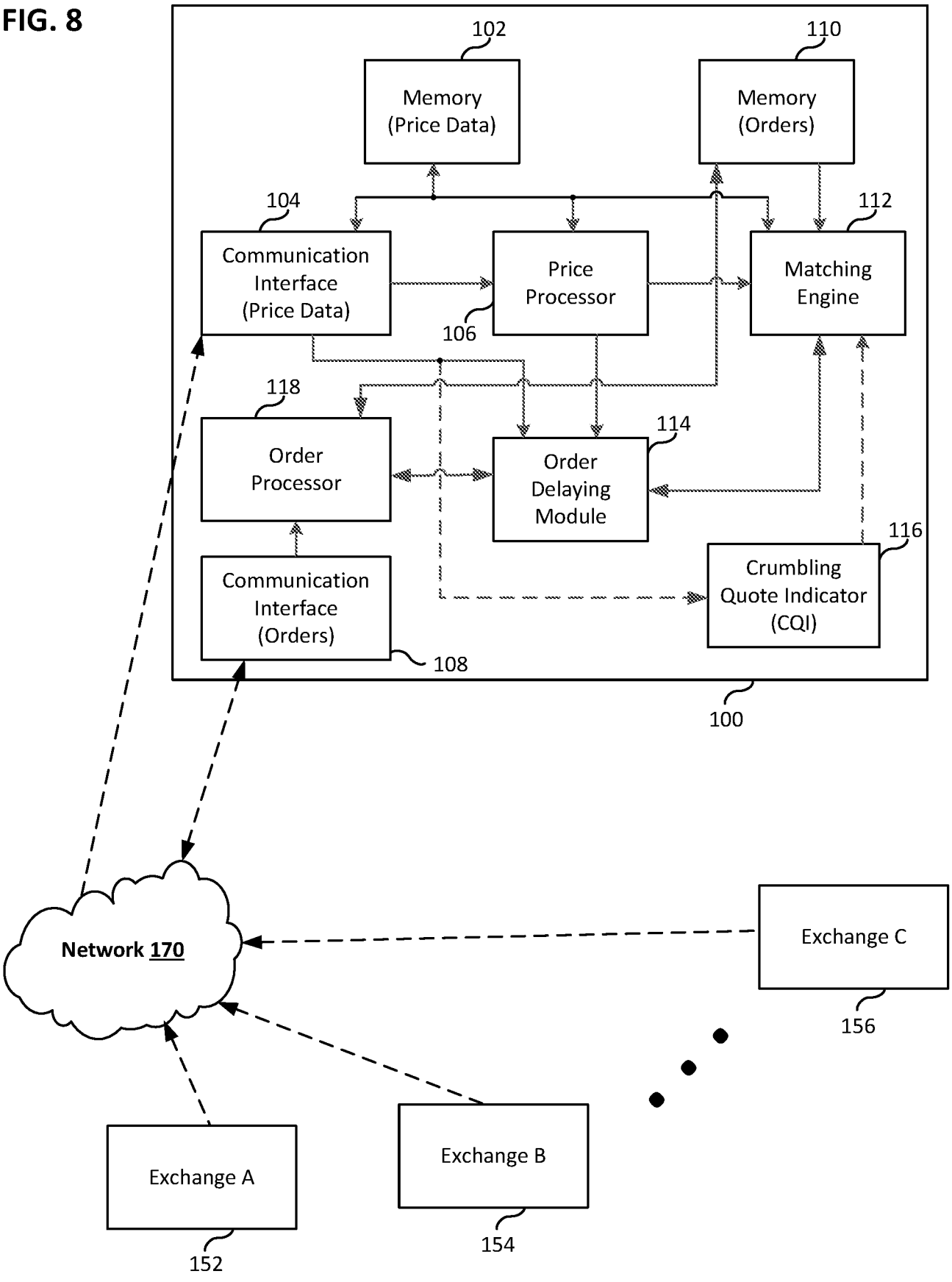

702
Receive a new DPO sell order
Determine whether the sell order meets requirements of a DPO
704
706
Order qualifies as a DPO?
No
708
Reject the DPO sell order
Yes
710
Attempt execution at the greater of the DPO Limit Price or Midpoint
712
Any unexecuted DPO shares remaining?
No
714
Order filled and complete
Yes
716
Book the DPO at NBO price point
718
In a period of Quote Stability?
No
720
Limit the exercise of price discretion (e.g., for a predetermined time period)
Yes
722
Execute the DPO down to the greater of the DPO Limit or Midpoint
if not fully filled
Trading platform triggers a sell-side crumbling quote indicator (CQI)
718a

FIG. 8


102
Memory (Price Data)
110
Memory (Orders)
104
Communication Interface (Price Data)
Price Processor
106
Matching Engine
112
118
Order Processor
114
Order Delaying Module
116
Crumbling Quote Indicator (CQI)
Communication Interface (Orders)
108
100
Network 170
Exchange C
156
Exchange A
152
Exchange B
154

Order
Buy DPO @ 11; size 1,000; display 100

Time		Displayed		Non-Displayed				
		Size	Booked at	Size	Recheck up to	Bid	Midpoint	Offer
t1		100	10.00	900	11.00	10.00	12.05	14.00
t2	Sell 100 @10	100	10.00	800	11.00	10.00	12.05	14.00
t3		100	10.20	800	11.00	10.20	12.10	14.00
	At t3, NBB changed from 10 to 10.20 and, as such, the bid price of the displayed portion refreshed to 10.20, as well							
t4	Sell 100 @10.20	100	10.20	700	11.00	10.20	12.10	14.00
t5	Sell 500 @ 10.50	100	10.20	200	11.00	10.20	12.10	14.00
	At t5, the sell order was matched with the non-displayed portion, which could recheck up to 11.00							
t6		100	10.20	200	11.00	11.20	12.60	14.00
	At t6, NBB changed from 10.20 to 11.20, but the bid price of the displayed portion did not refresh to 11.20 because it was limited to 11.00							

FIG. 9

Order
Sell DPO @ 11; size 1,000; display 150

		Displayed		Non-Displayed				
Time		Size	Booked at	Size	Recheck down to	Bid	Midpoint	Offer
t1		150	14.00	850	12.00	10.00	12.00	14.00
t2	Buy 90 @14	150	14.00	760	12.00	10.00	12.00	14.00
	At t2, 90 units would be replenished from the non-displayed portion to the displayed portion, because only 90 of the previously displayed 150 units could be matched with the Buy order							
t3		150	13.70	760	12.00	10.20	11.95	13.70
	At t3, NBO changed from 14 to 13.70 and, as such, the quoted ask price of the displayed portion refreshed to 13.70, as well							
t4	Buy 500 @13.00	150	13.70	260	12.00	10.20	11.95	13.70
	At t4, the Buy order was matched with the displayed portion and a part of the non-displayed portion, both of which could recheck down to 11.95							
t5		150	13.80	150	12.00	11.20	12.50	13.80
	At t5, NBO changed from 13.70 to 13.80, and the quoted ask price of the displayed portion refreshed to 13.80, which is greater than the specified limit of 11.00							

FIG. 10

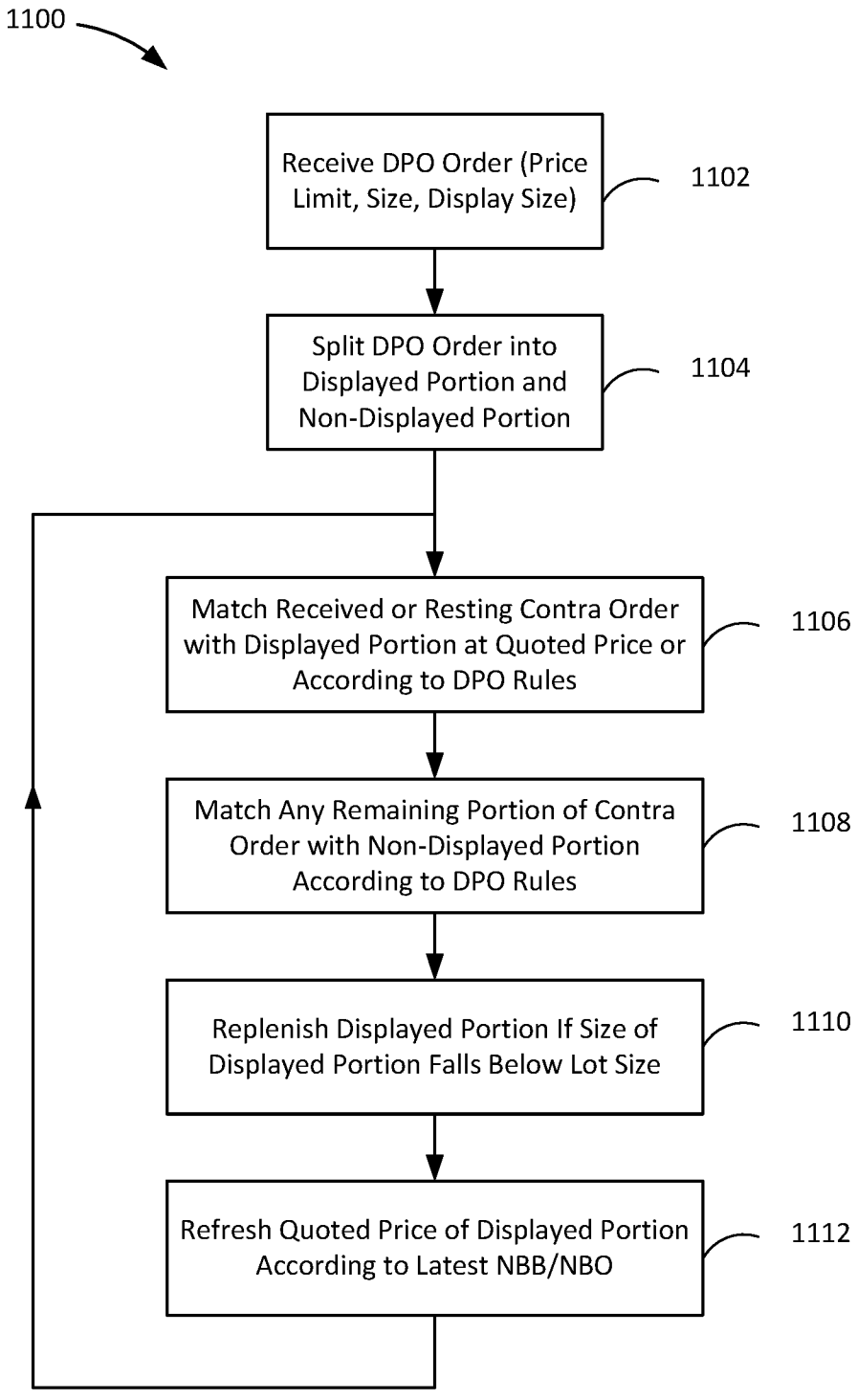

1100
Receive DPO Order (Price Limit, Size, Display Size)
1102
Split DPO Order into Displayed Portion and Non-Displayed Portion
1104
Match Received or Resting Contra Order with Displayed Portion at Quoted Price or According to DPO Rules
1106
Match Any Remaining Portion of Contra Order with Non-Displayed Portion According to DPO Rules
1108
Replenish Displayed Portion If Size of Displayed Portion Falls Below Lot Size
1110
Refresh Quoted Price of Displayed Portion According to Latest NBB/NBO
1112

FIG. 11

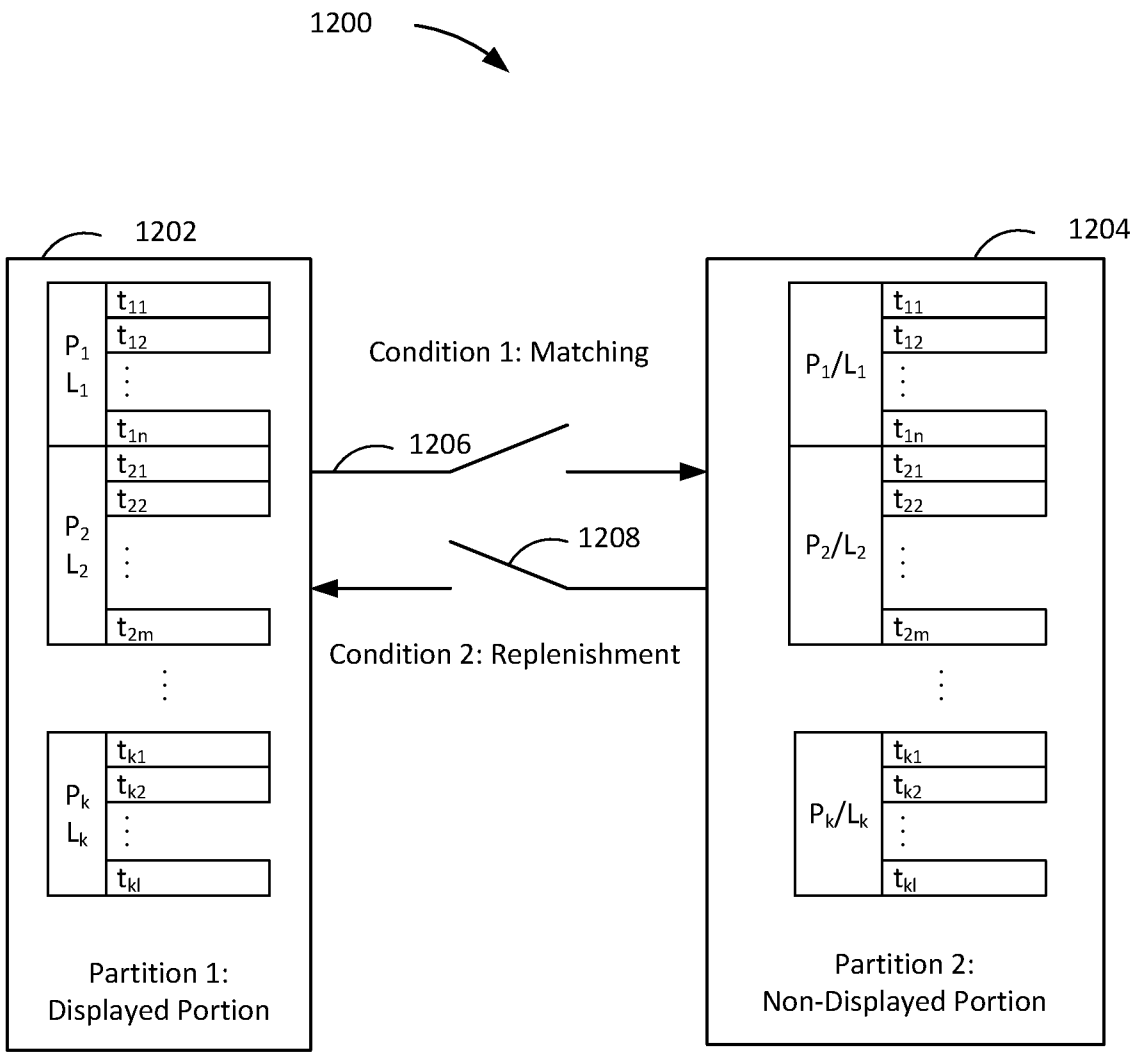

1200
1202
1204
P_1 L_1
t_{11}
t_{12}
t_{1n}
P_2 L_2
t_{21}
t_{22}
t_{2m}
P_k L_k
t_{k1}
t_{k2}
t_{kl}
Partition 1: Displayed Portion
Condition 1: Matching
1206
1208
Condition 2: Replenishment
P_1/L_1
P_2/L_2
P_k/L_k
Partition 2: Non-Displayed Portion

FIG. 12