

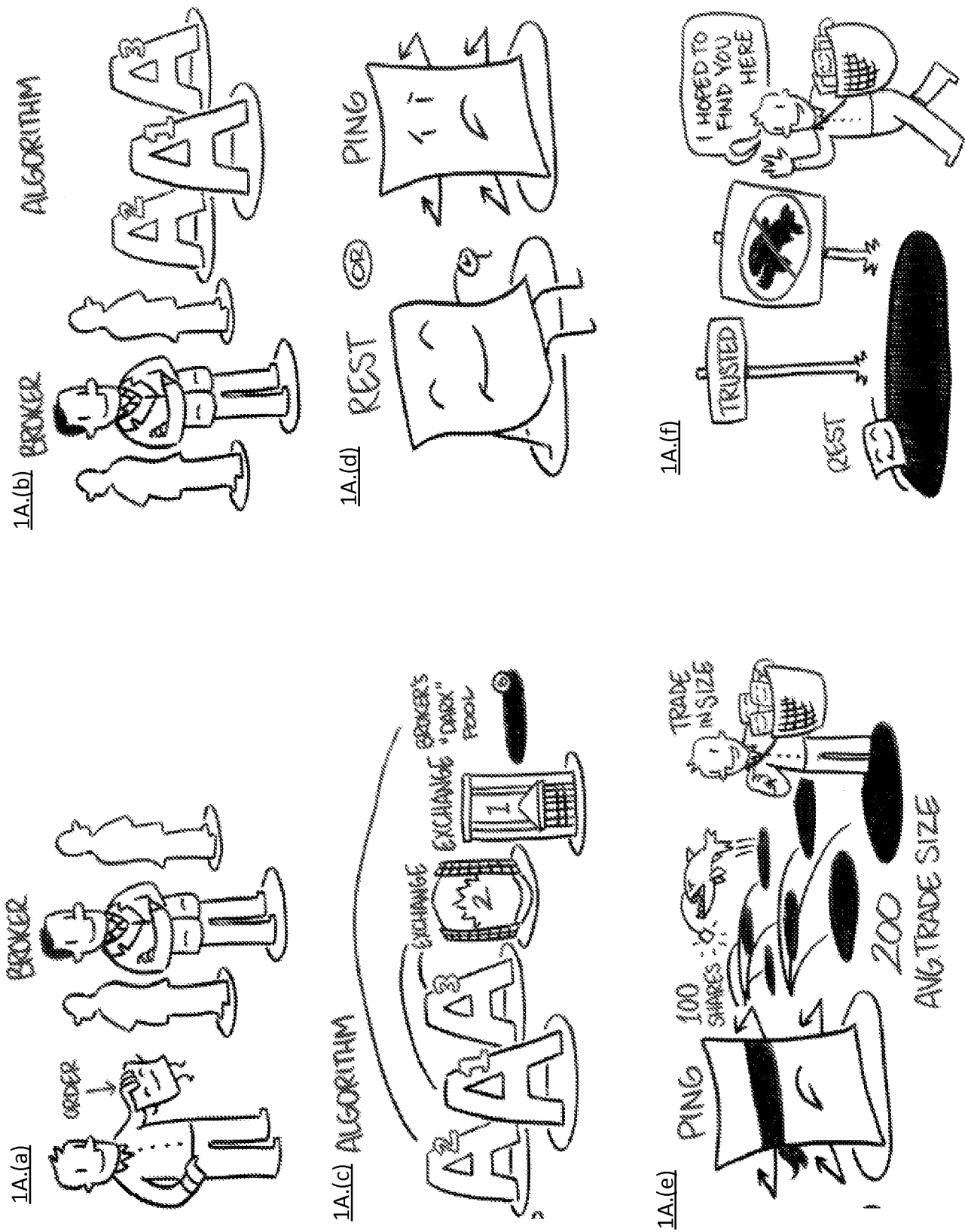


FIGURE 1A TLL Example: Reallocation via TLL Portal

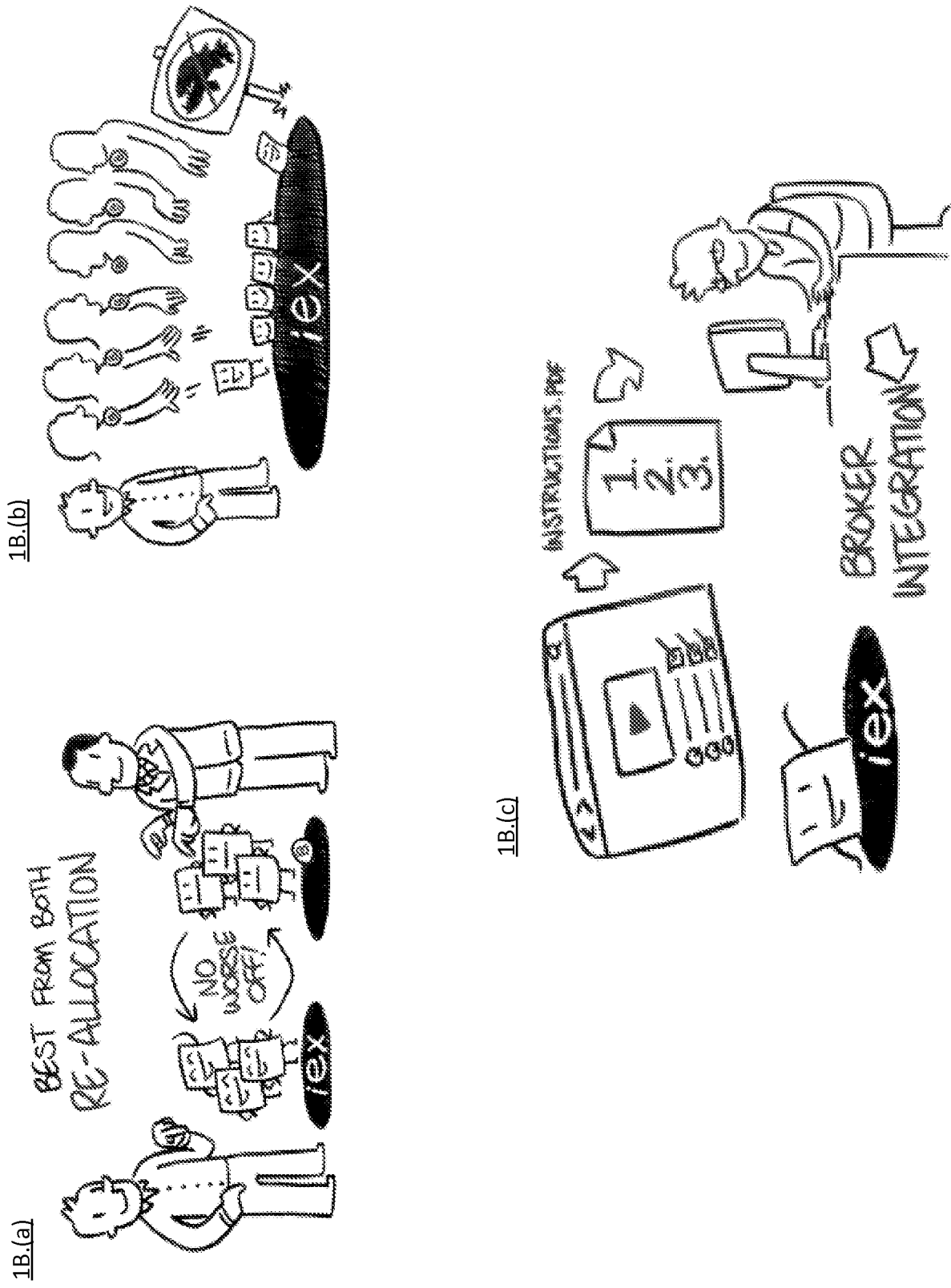


FIGURE 1B TLL Example: Reallocation via TLL Portal

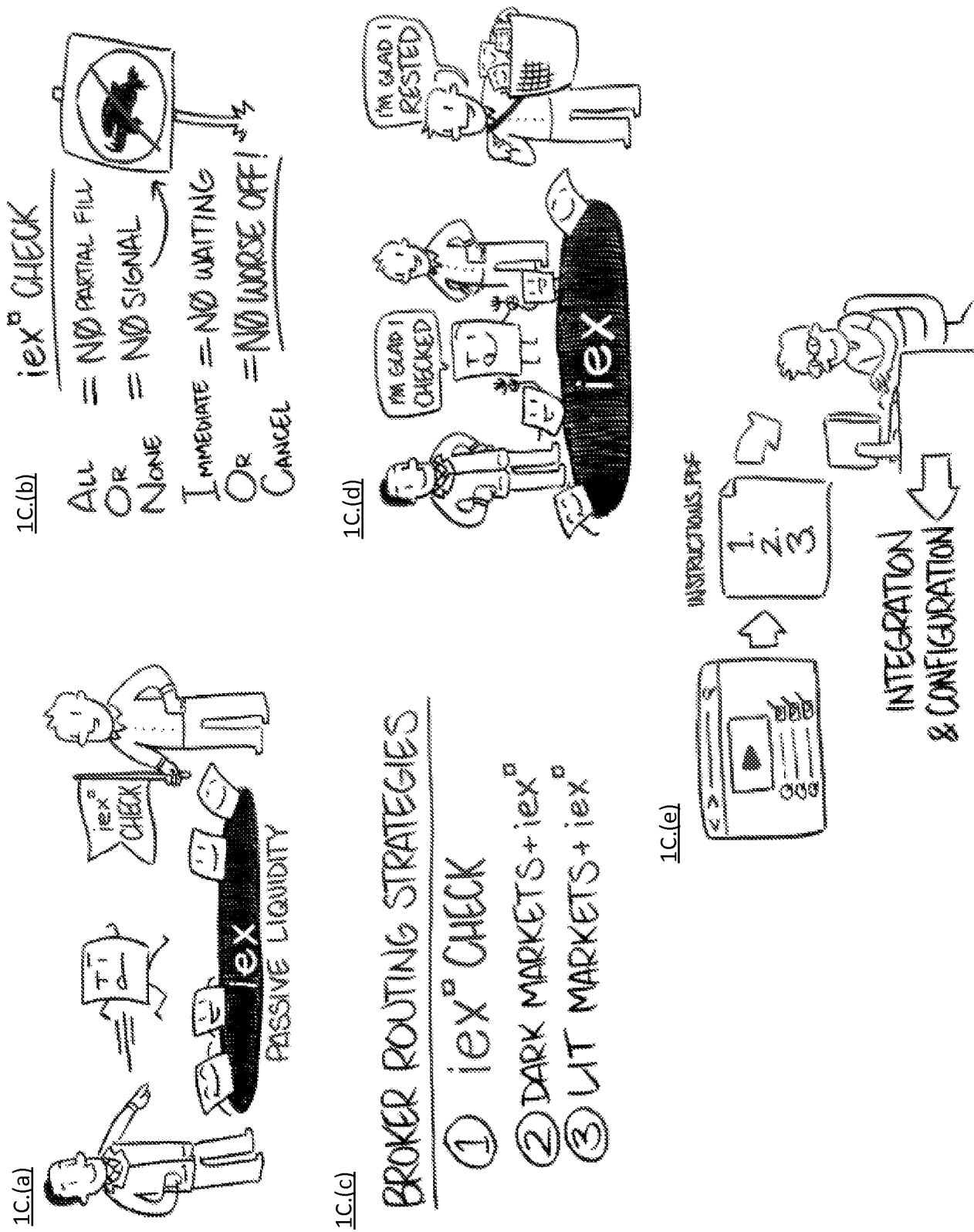


FIGURE 1C

TLL Example: Re-Check via TLL Portal

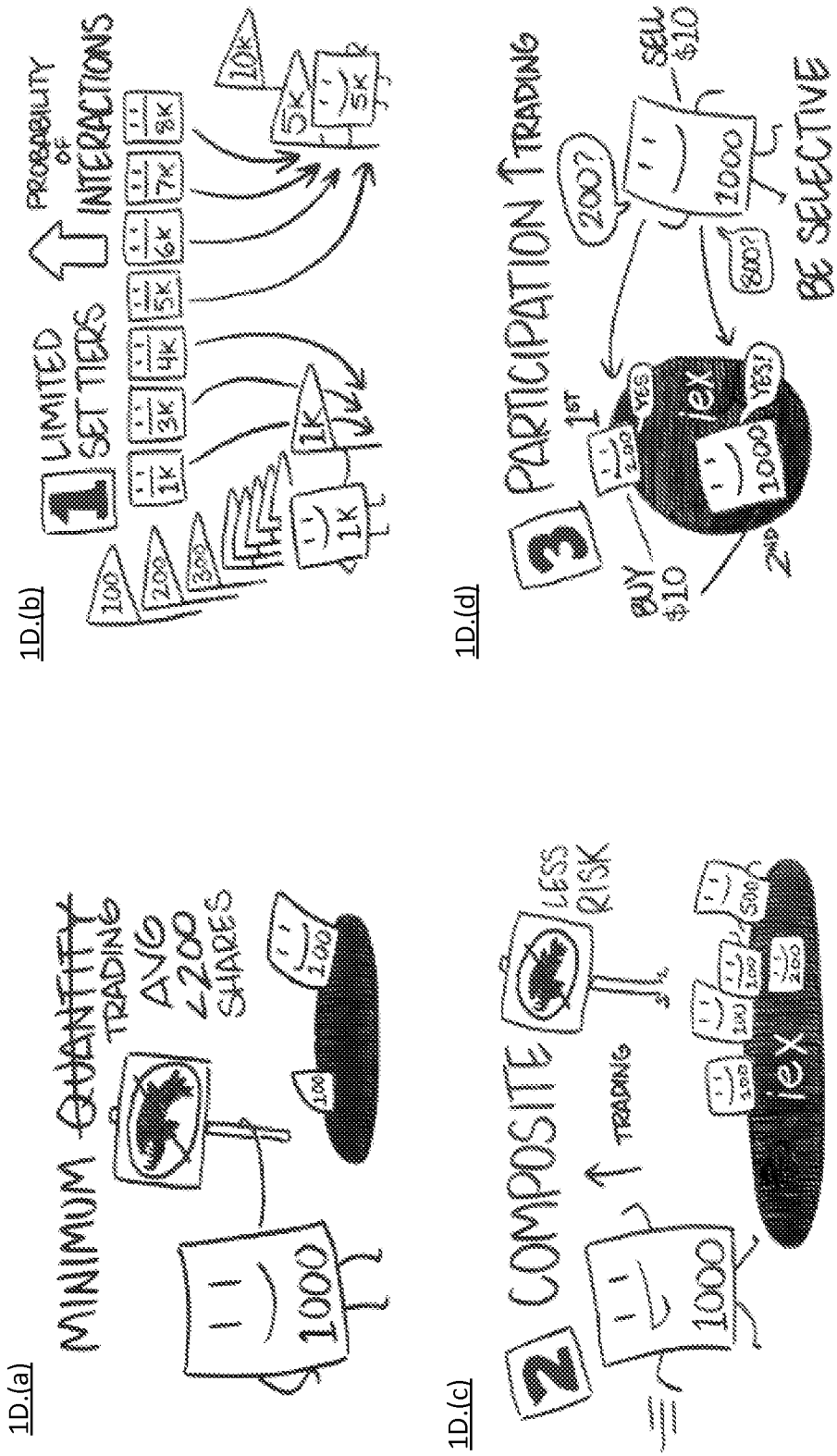


FIGURE 1D

TLL Example: Minimum Quantity via TLL Portal

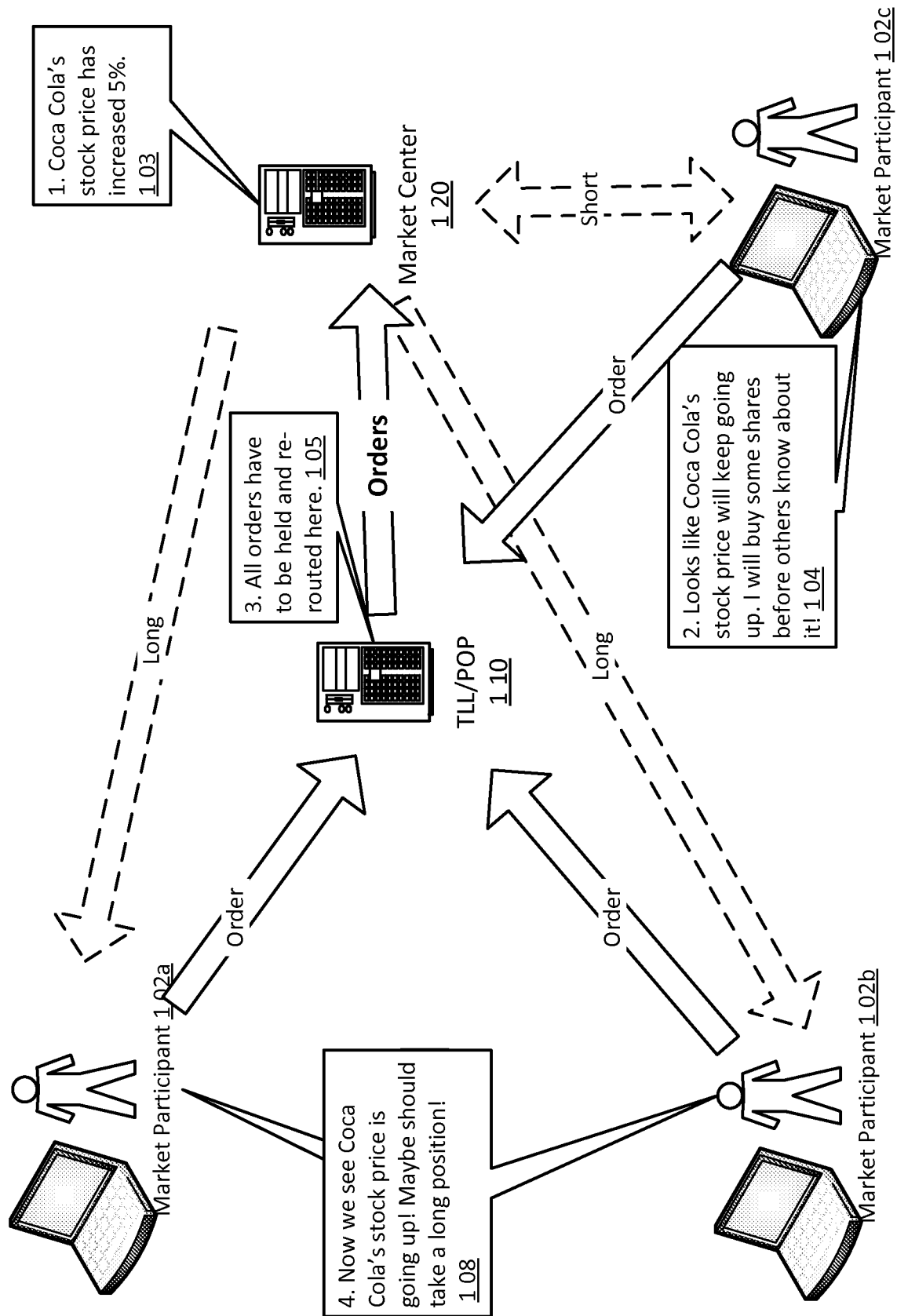


FIGURE 1E

TLL Example: Point-of-Presence Order Delaying

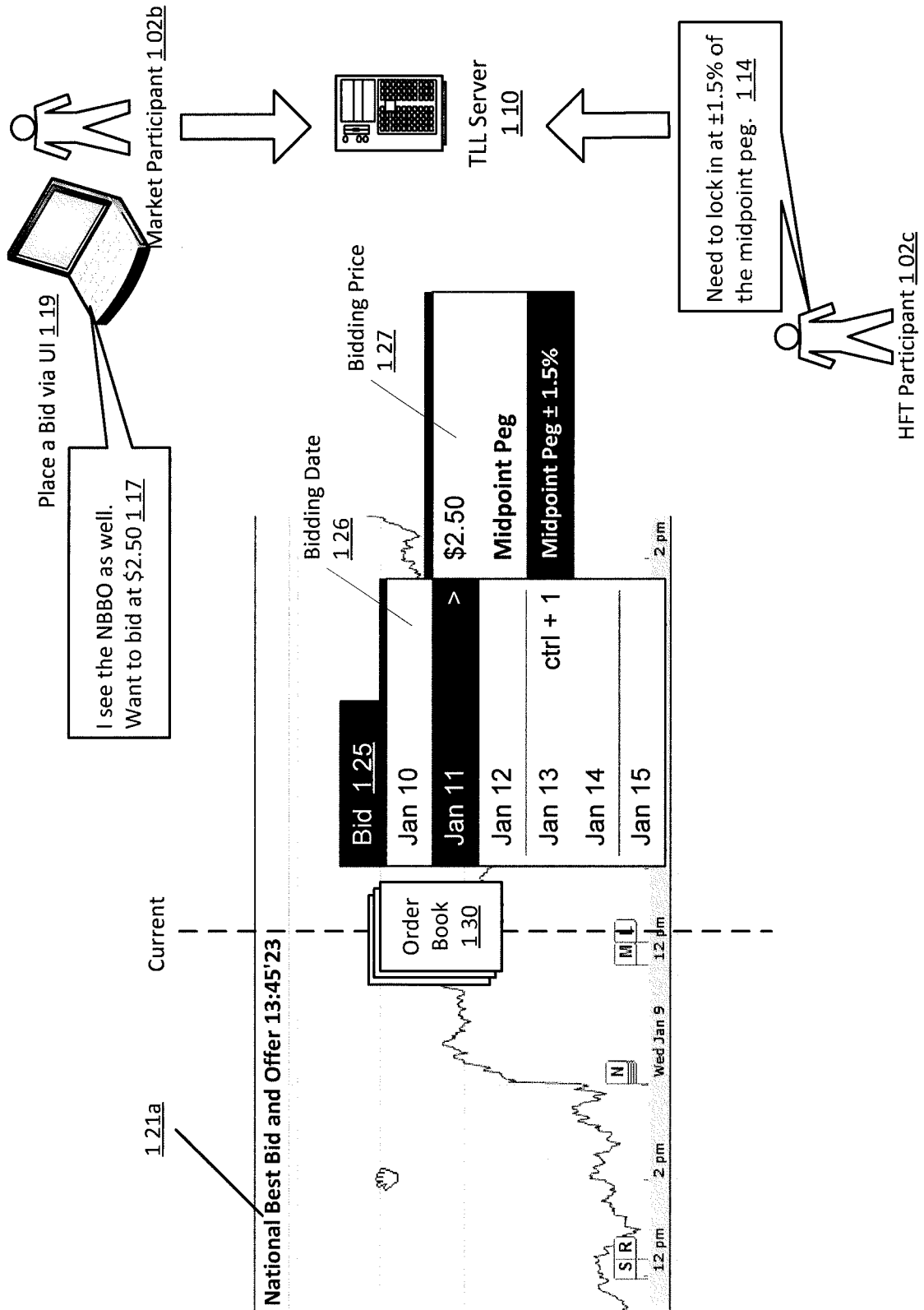


FIGURE 1F

TLL Example: Reducing Order Book Arbitrage

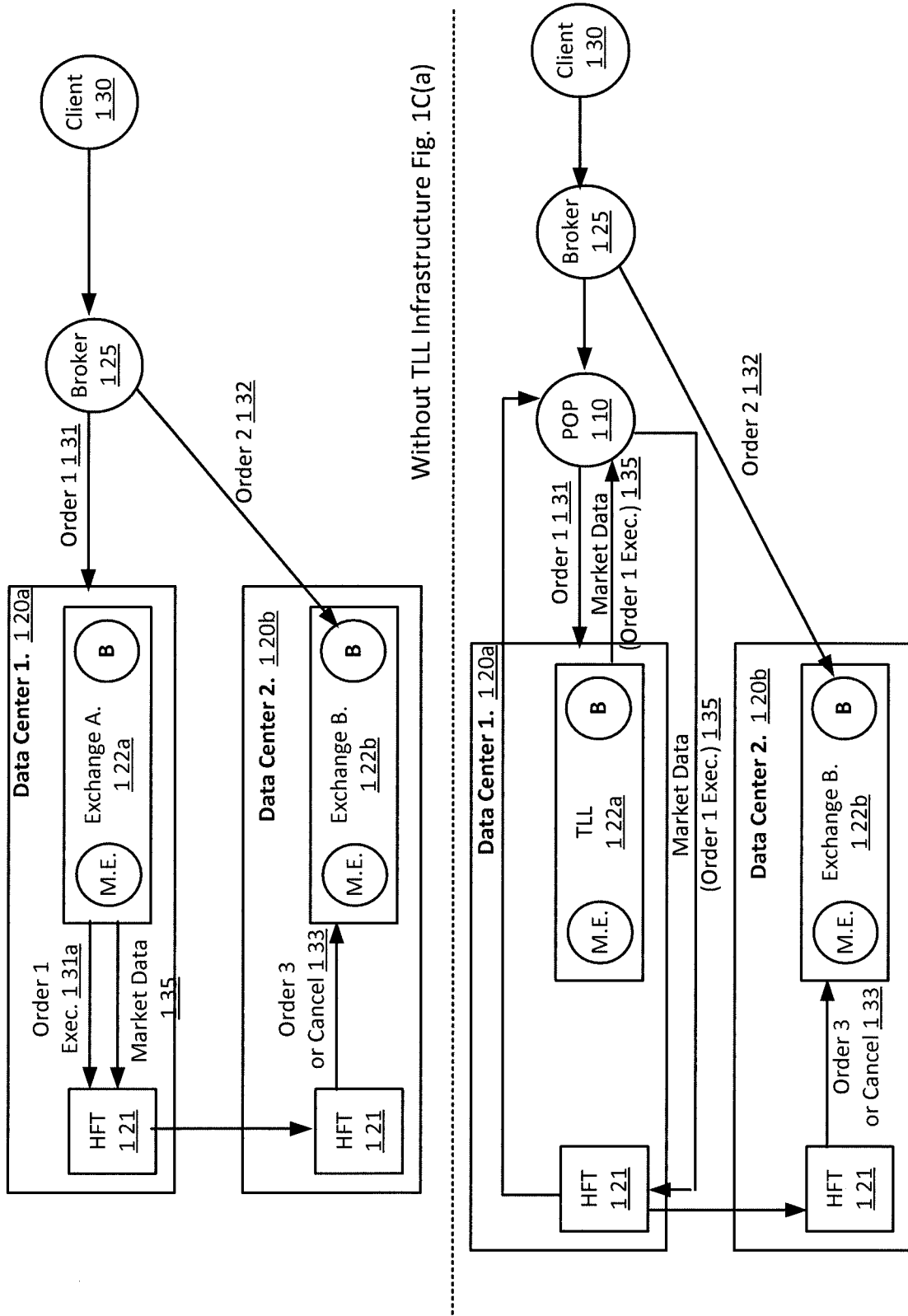


FIGURE 1G
TLL Example: Reducing Latency Arbitrage

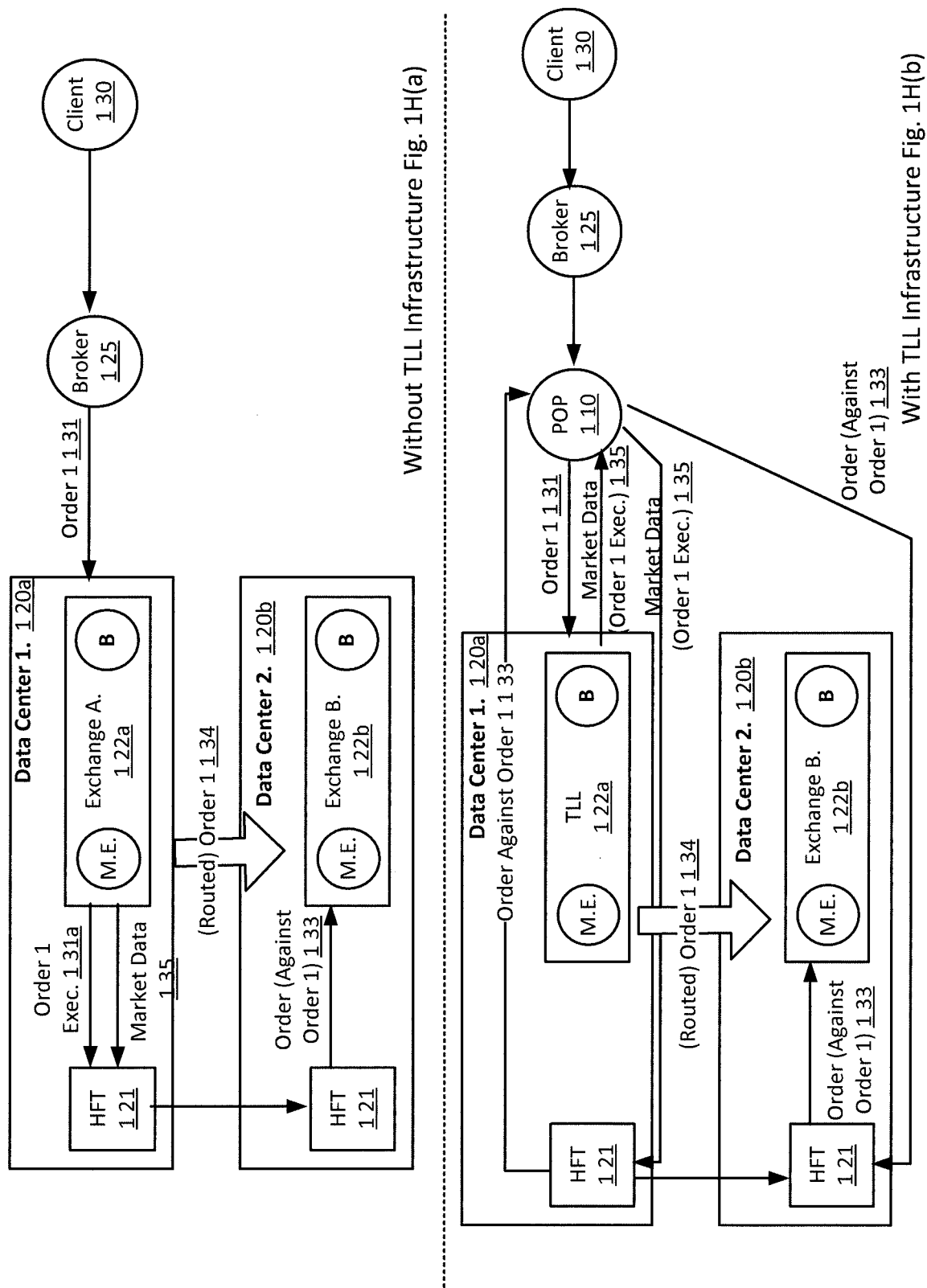
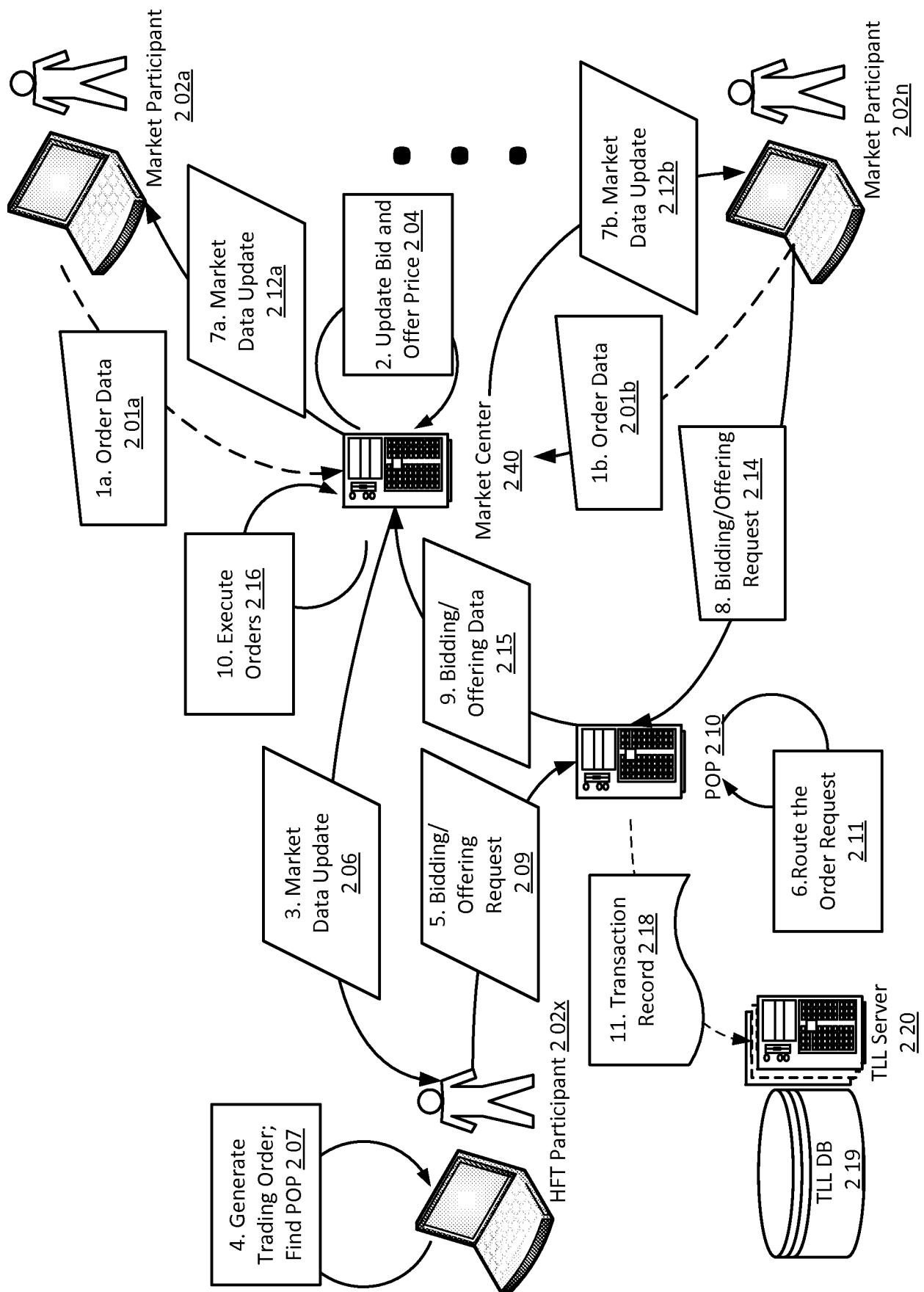


FIGURE 1H TLL Example: Reducing Arbitrage (Order Anticipation)

FIGURE 2
Example Data Flow: TLL Point-of-Presence (POP)

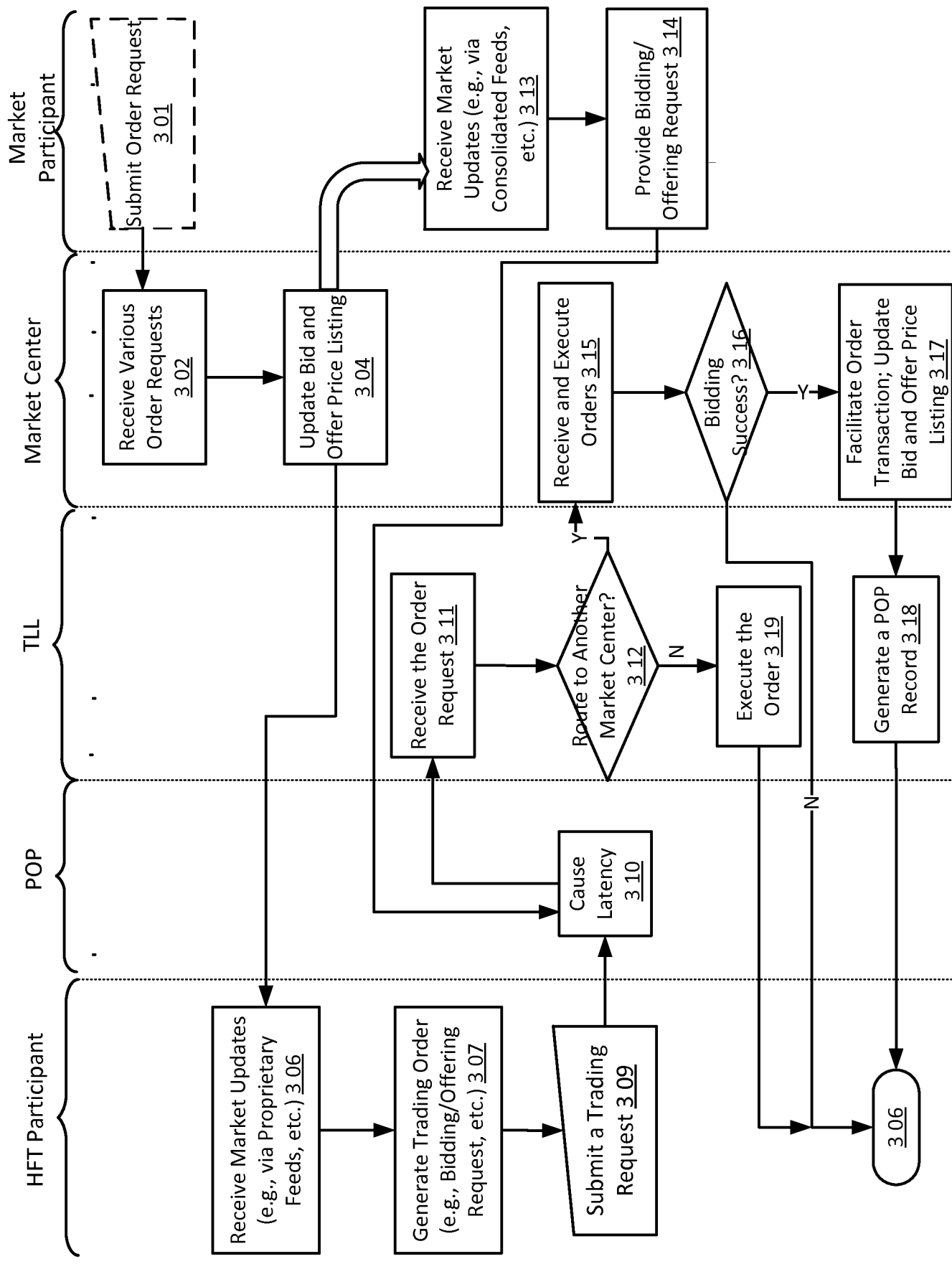


FIGURE 3

Example TLL Logic Flow: Reducing Arbitrage

<http://www.TLL-POP.com/POP>

Home > POP Management > Dashboard

Regional Overview (4 11)

Zipcode: 08544 4 12

Server IP: 000.000.00.0 4 13

Address: 1500 Palm St,
Princeton NJ 08544
NYSE: 60ns

POP Allocation 4 15

Name: Dragon HFT Trading
Address: 67 Wall Street, New York NY

POP 1500-08544 4 16

Destination NYSE 4 17

Restriction

Maximum 100,000

Minimum 100

POP 2005-10036 4 18

Destination NASDAQ

Restriction

Daily Volume 100,000

Minimum 100

Save

Test

FIGURE 4A

Example TLL UI: POP Routing

FIGURE 4B

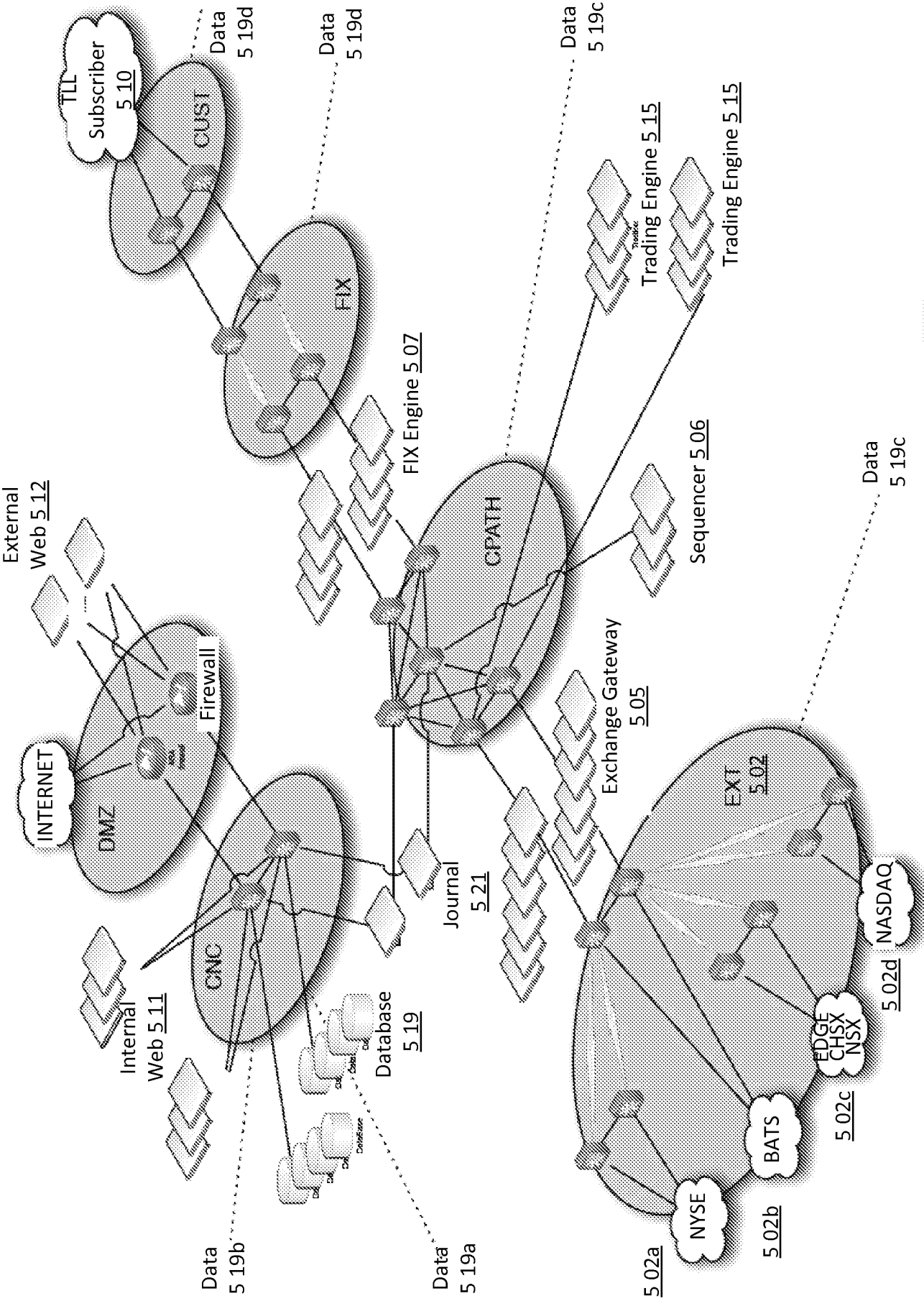
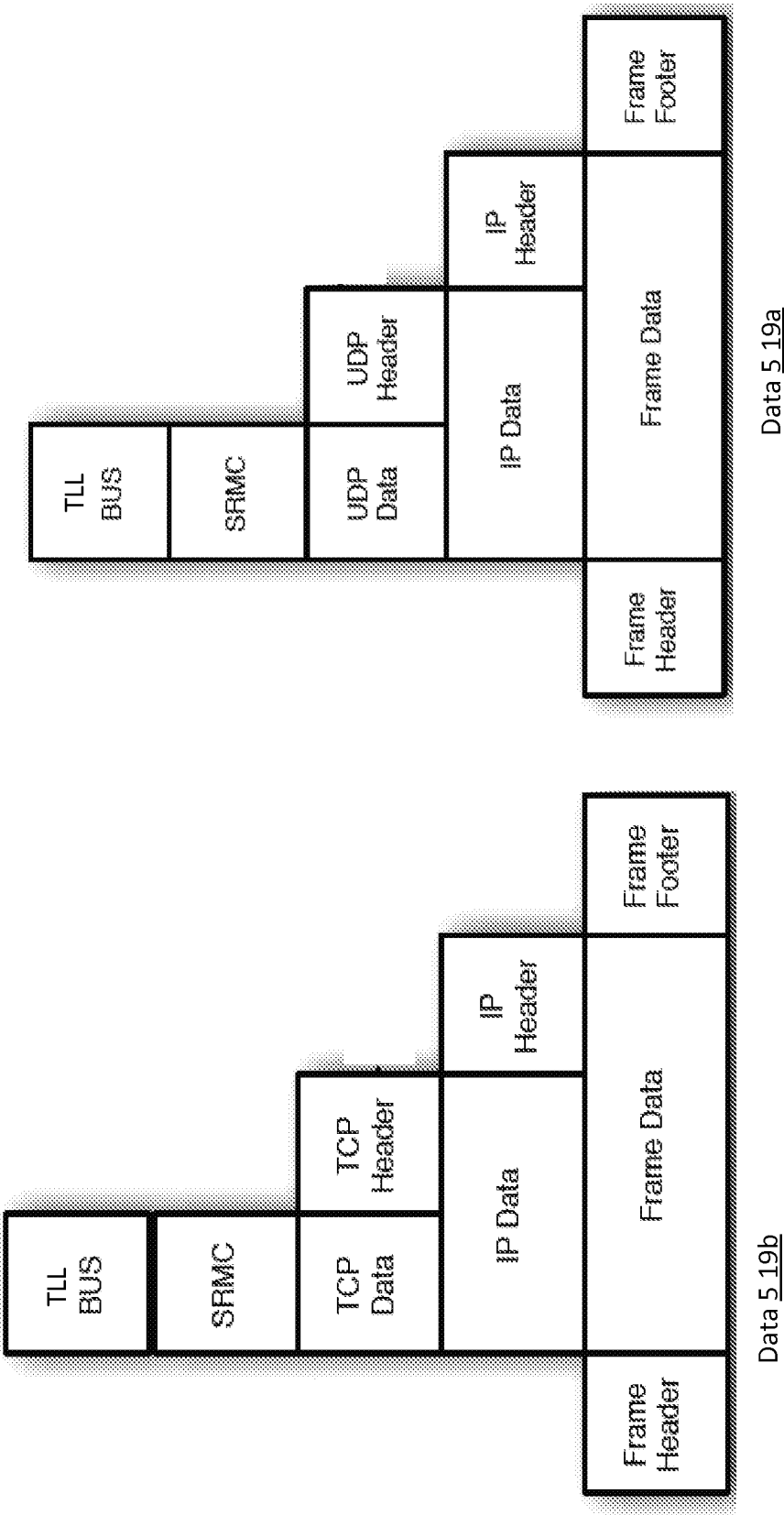


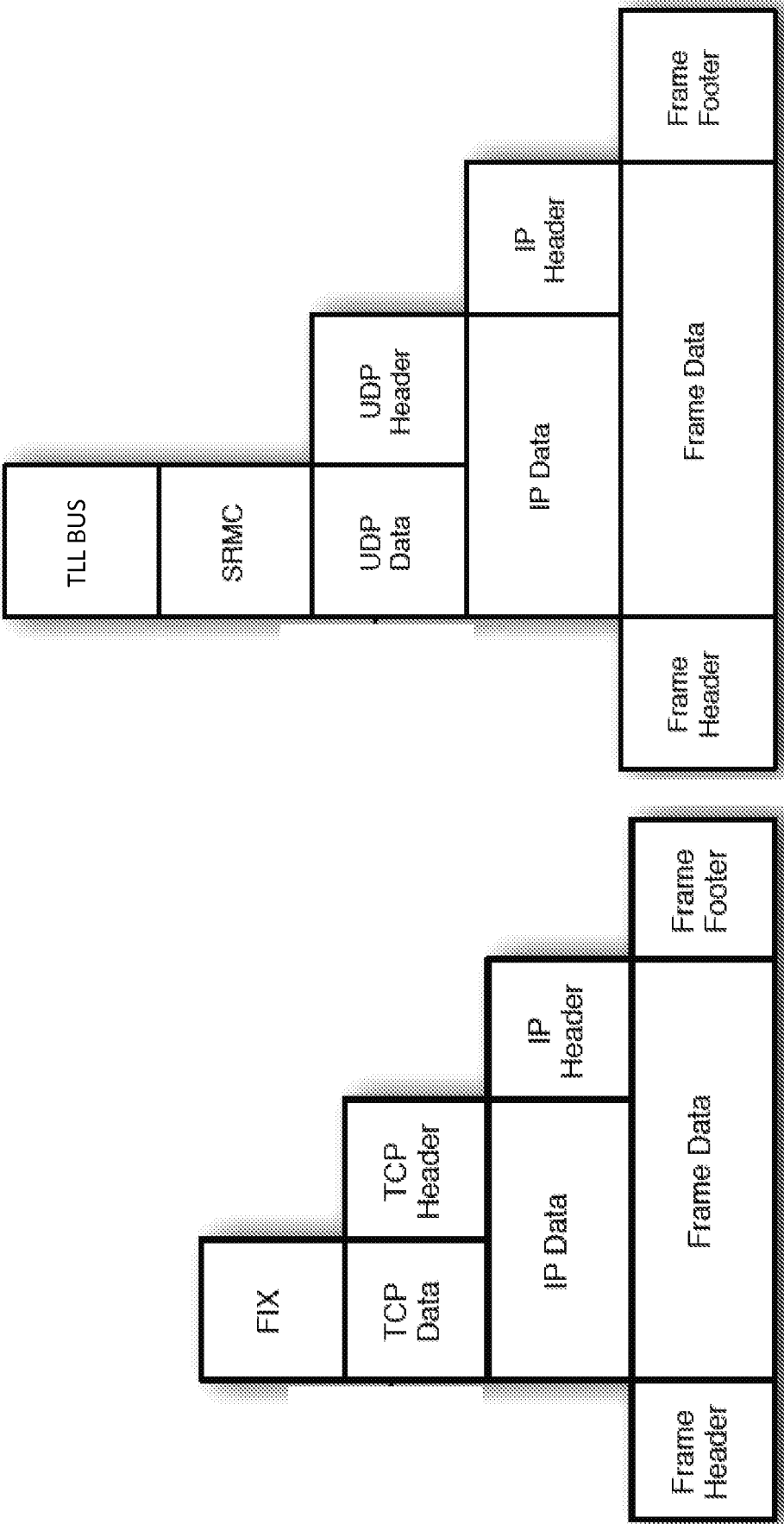
FIGURE 5A

Example TLL Infrastructure



Example TLL Data Packet

FIGURE 5B



Data 5 19d

Data 5 19c

FIGURE 5C

Example TLL Data Packet

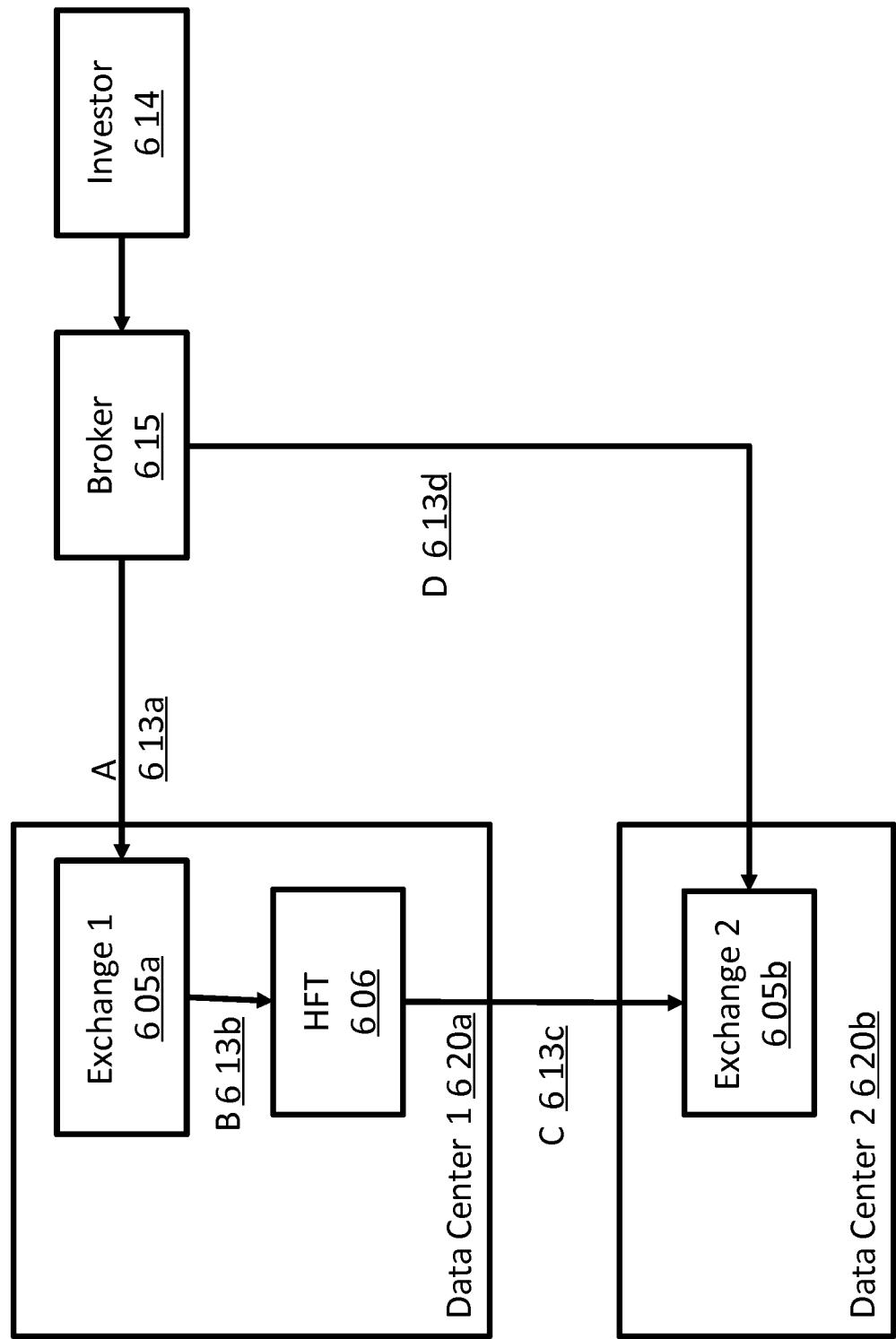


FIGURE 6A

Example TLL Diagram: Latency Arbitrage vs. Broker SOR

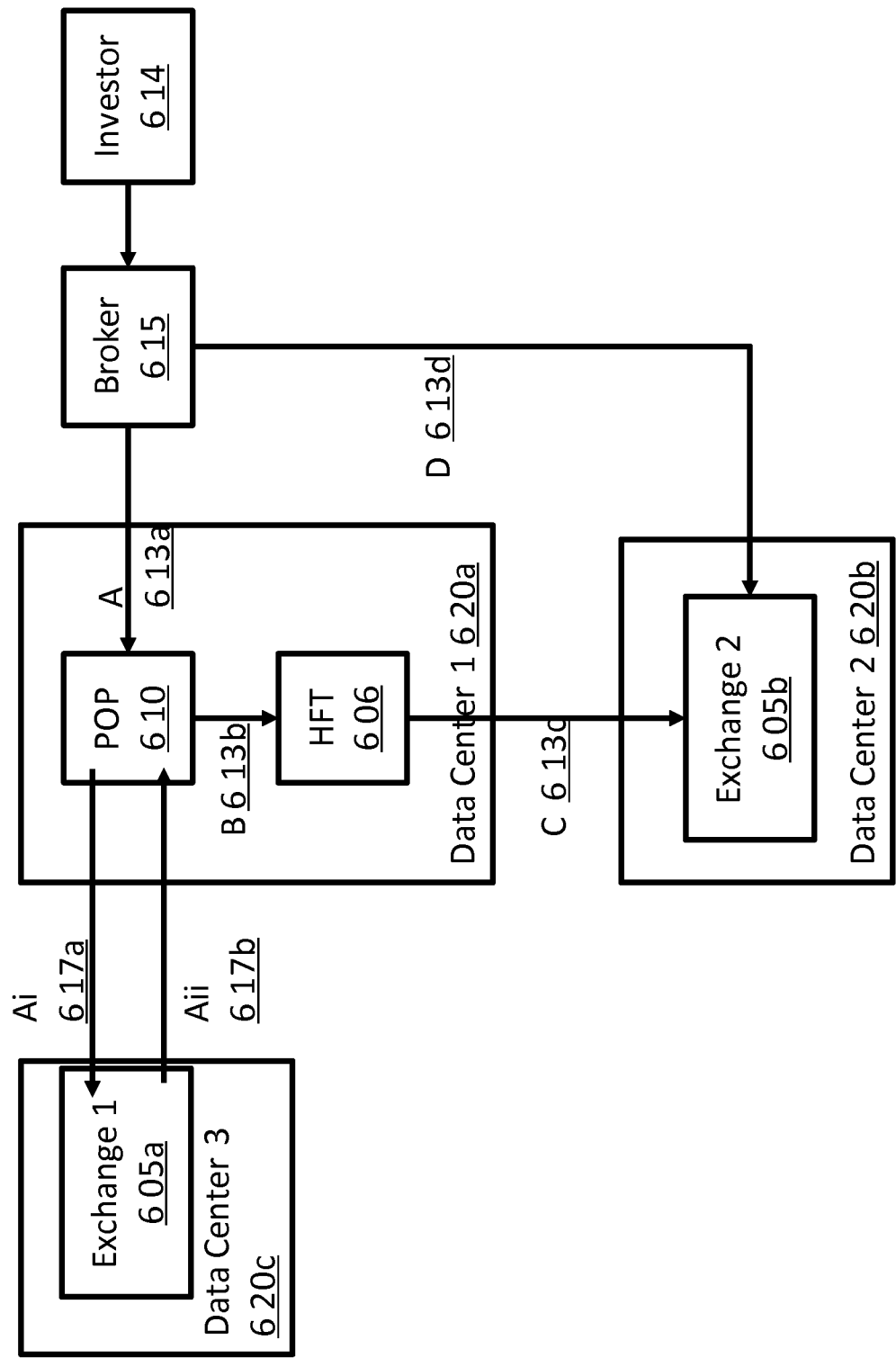


FIGURE 6B

TLL Example: Latency Arbitrage vs. Broker Smart Order Routers Inoculated with POP

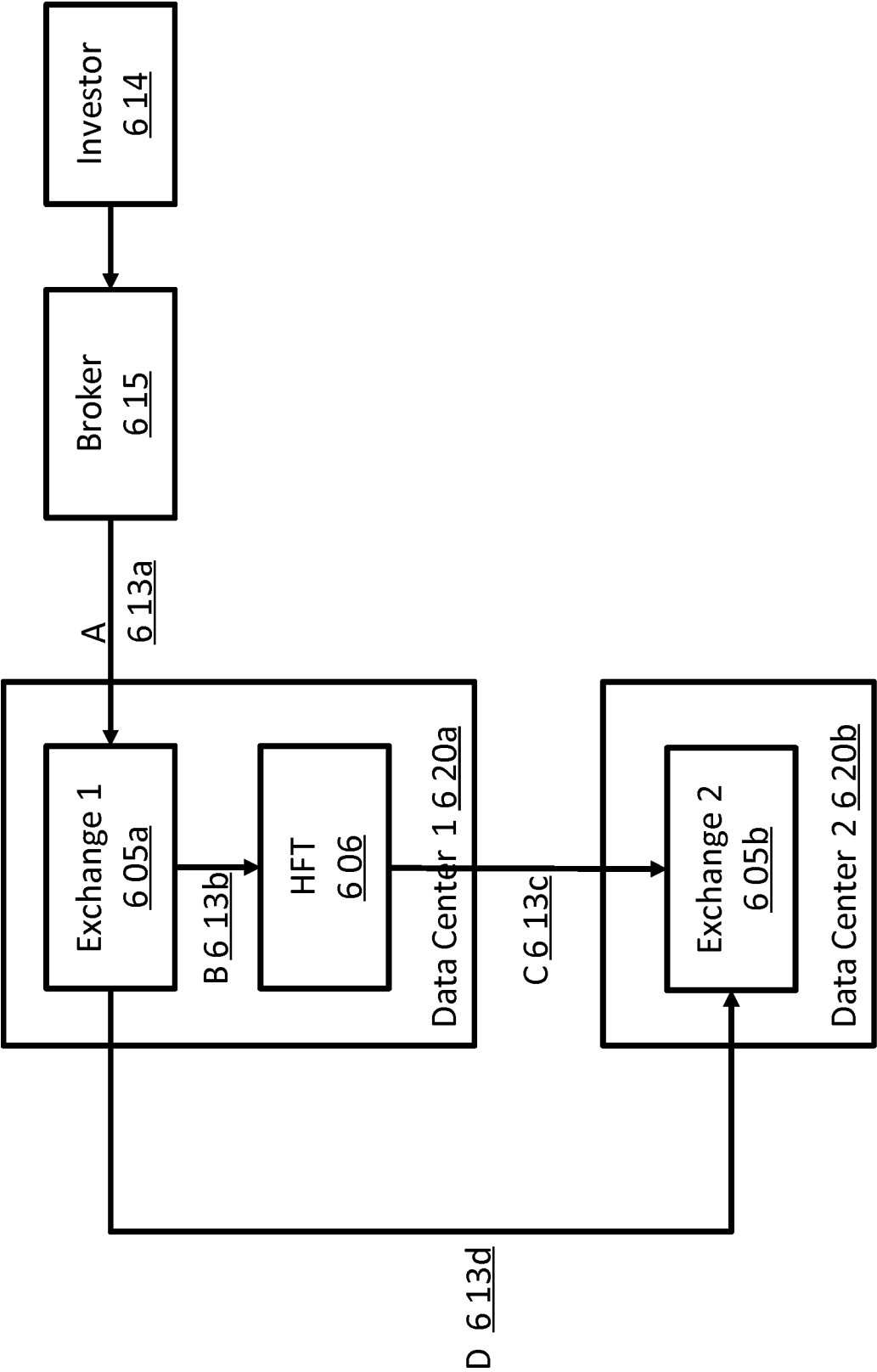


FIGURE 6C

TLL Example:Latency Arbitrage vs. Exchange SOR

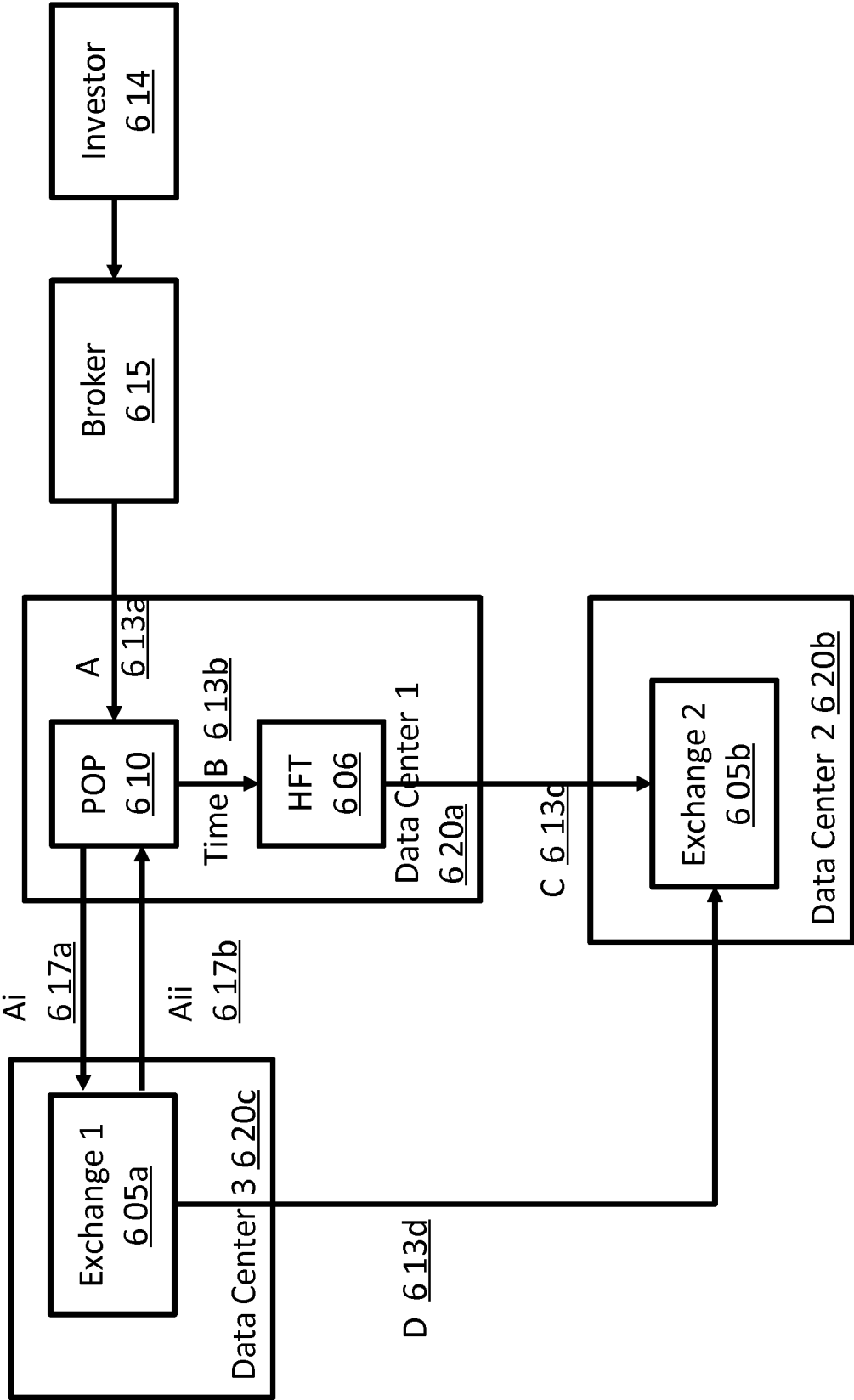


FIGURE 6D

TLL Example: Latency Arbitrage vs. Exchange SOR Inoculated

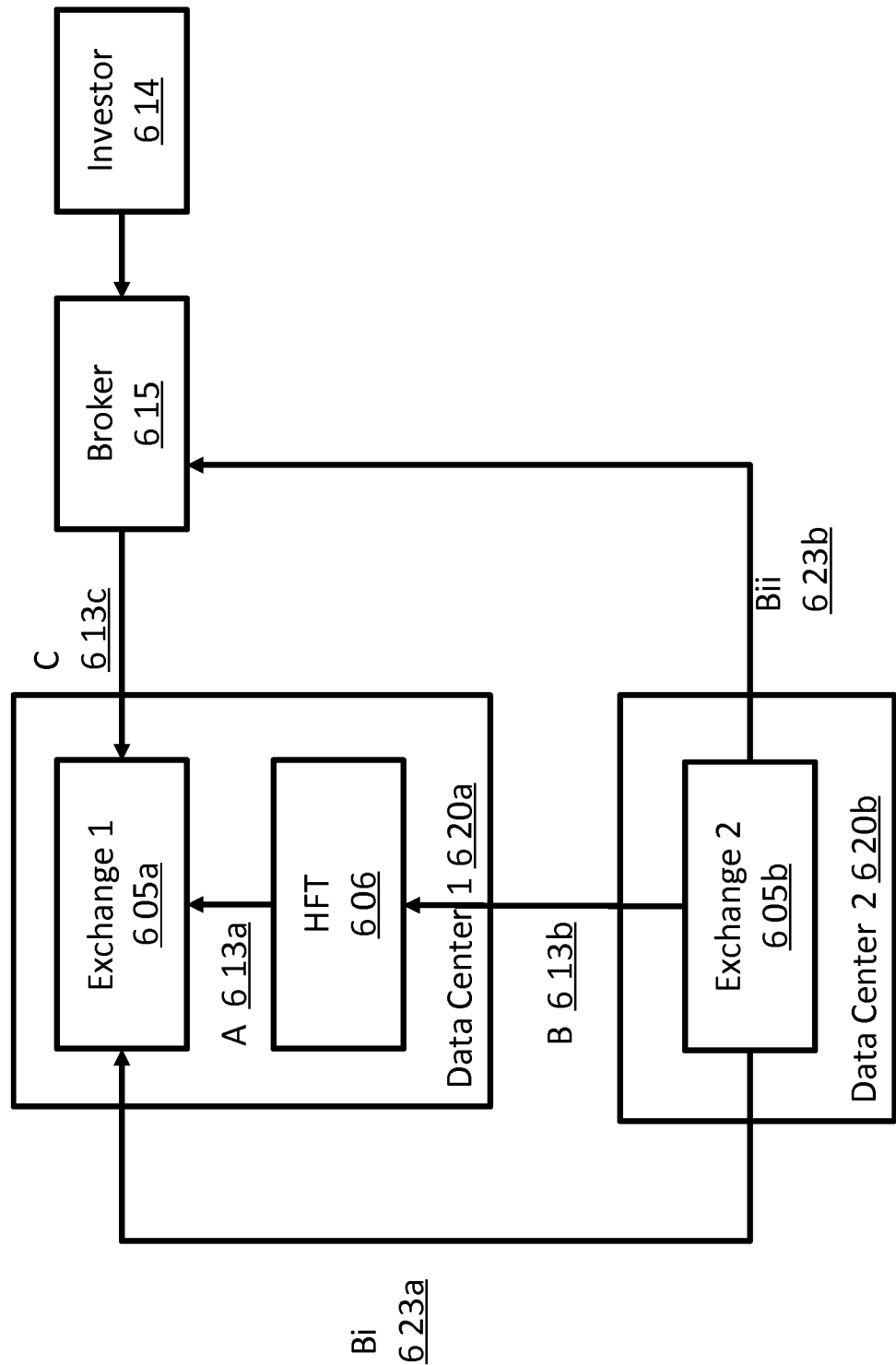


FIGURE 6E

TLL Example: Order Book Arbitrage (Passive)

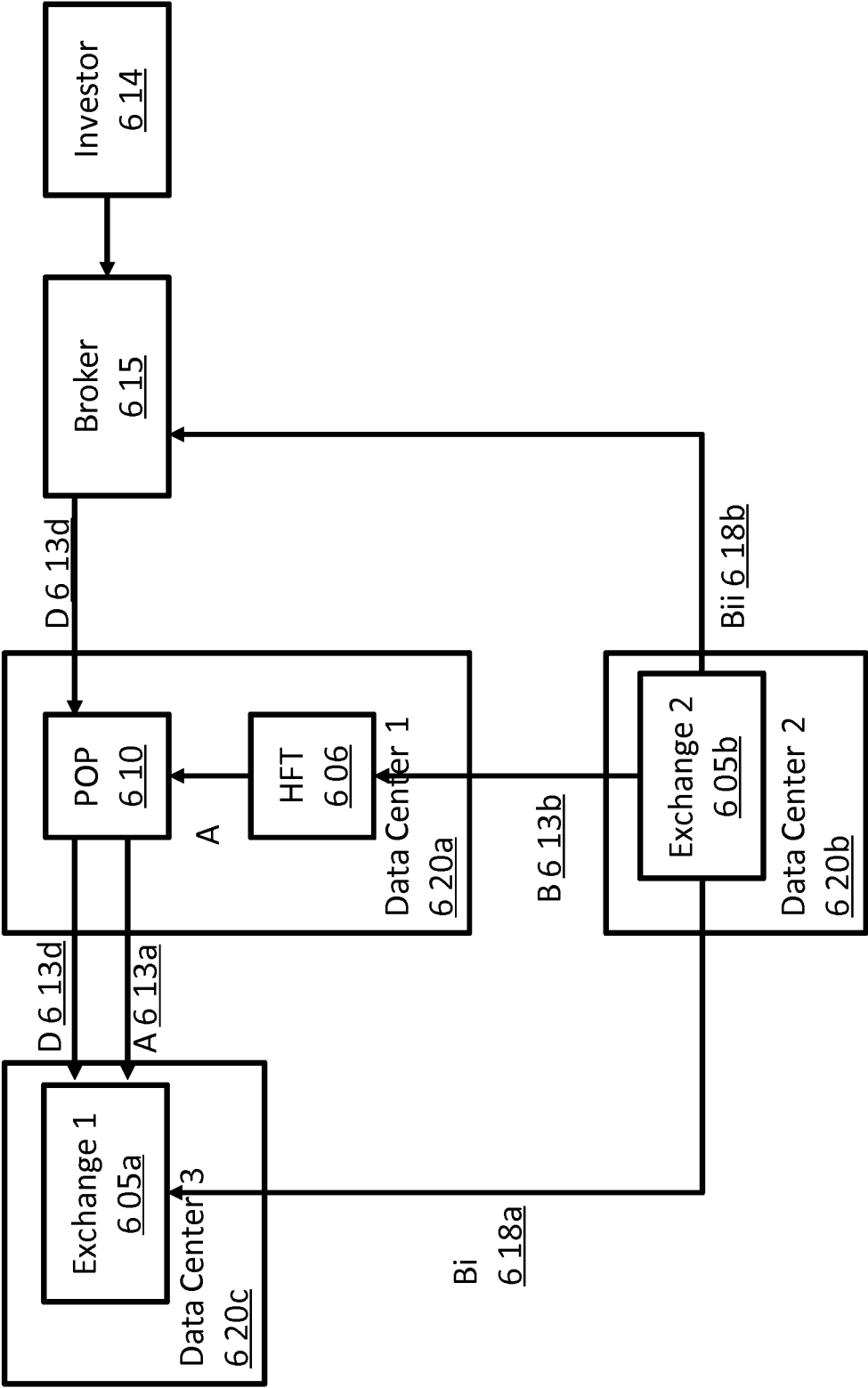


FIGURE 6F

TLL Example: Order Book Arbitrage (Passive Inoculated)

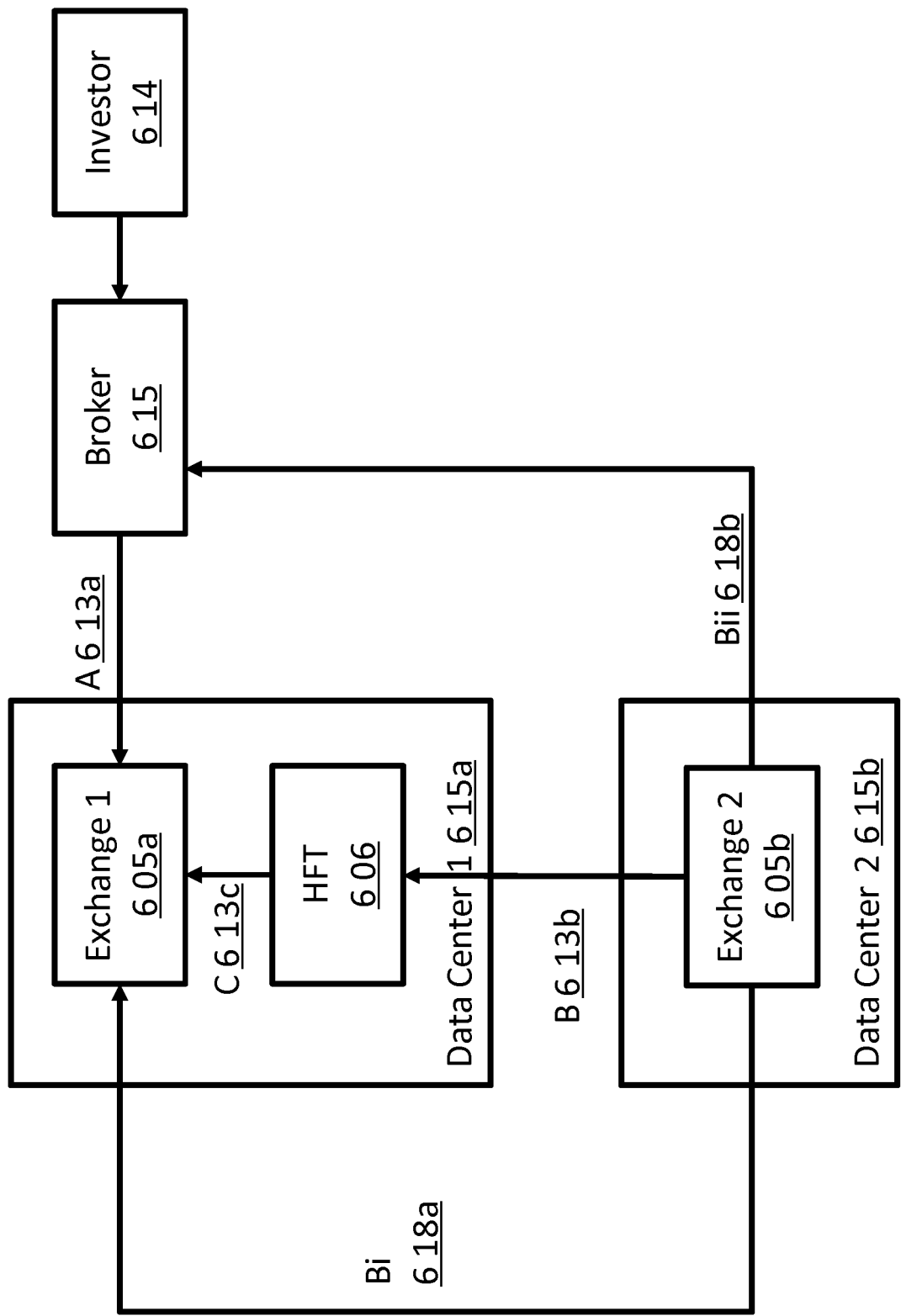


FIGURE 6G

TLL Example: Order Book Arbitrage (Aggressive)

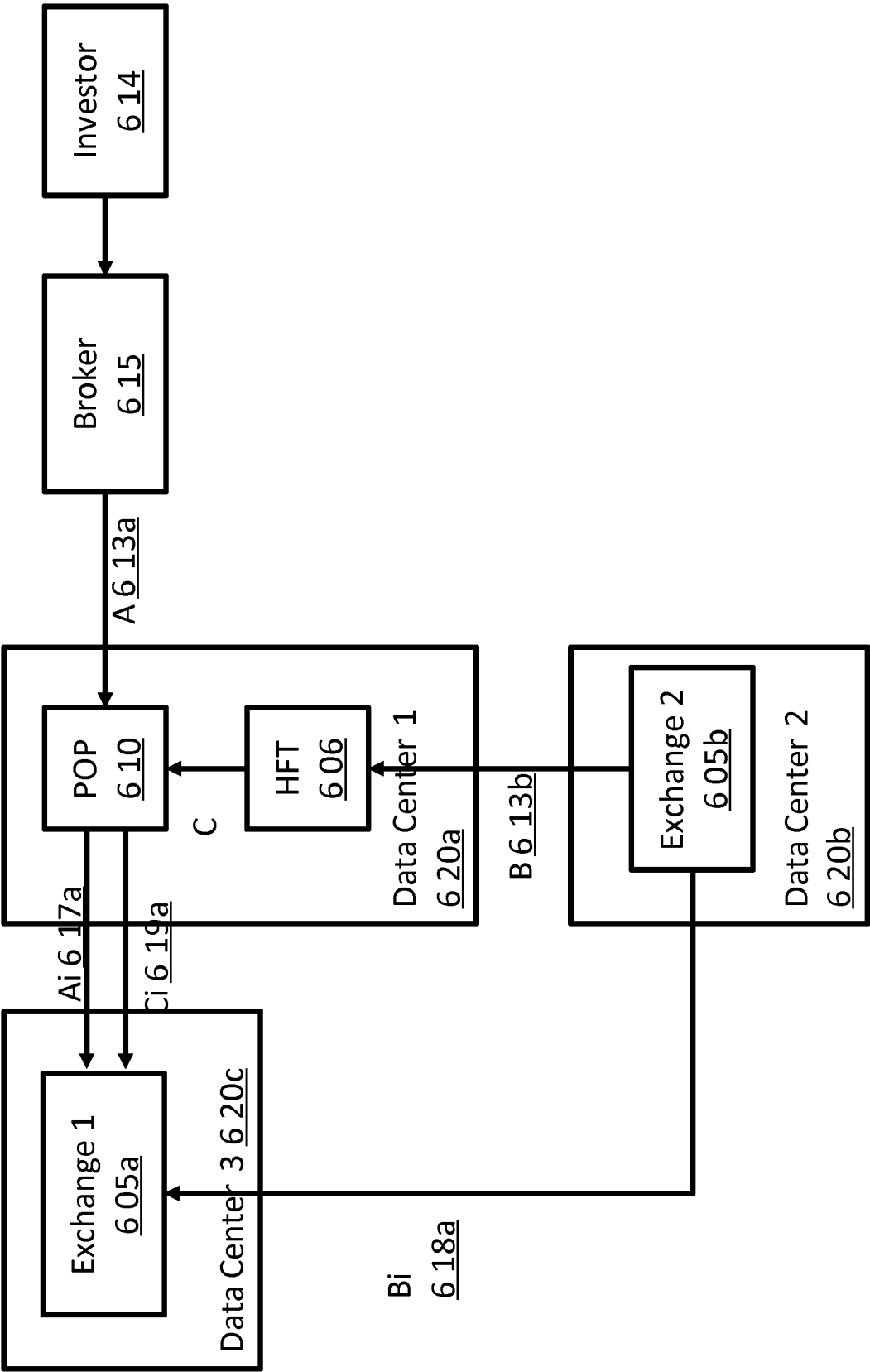
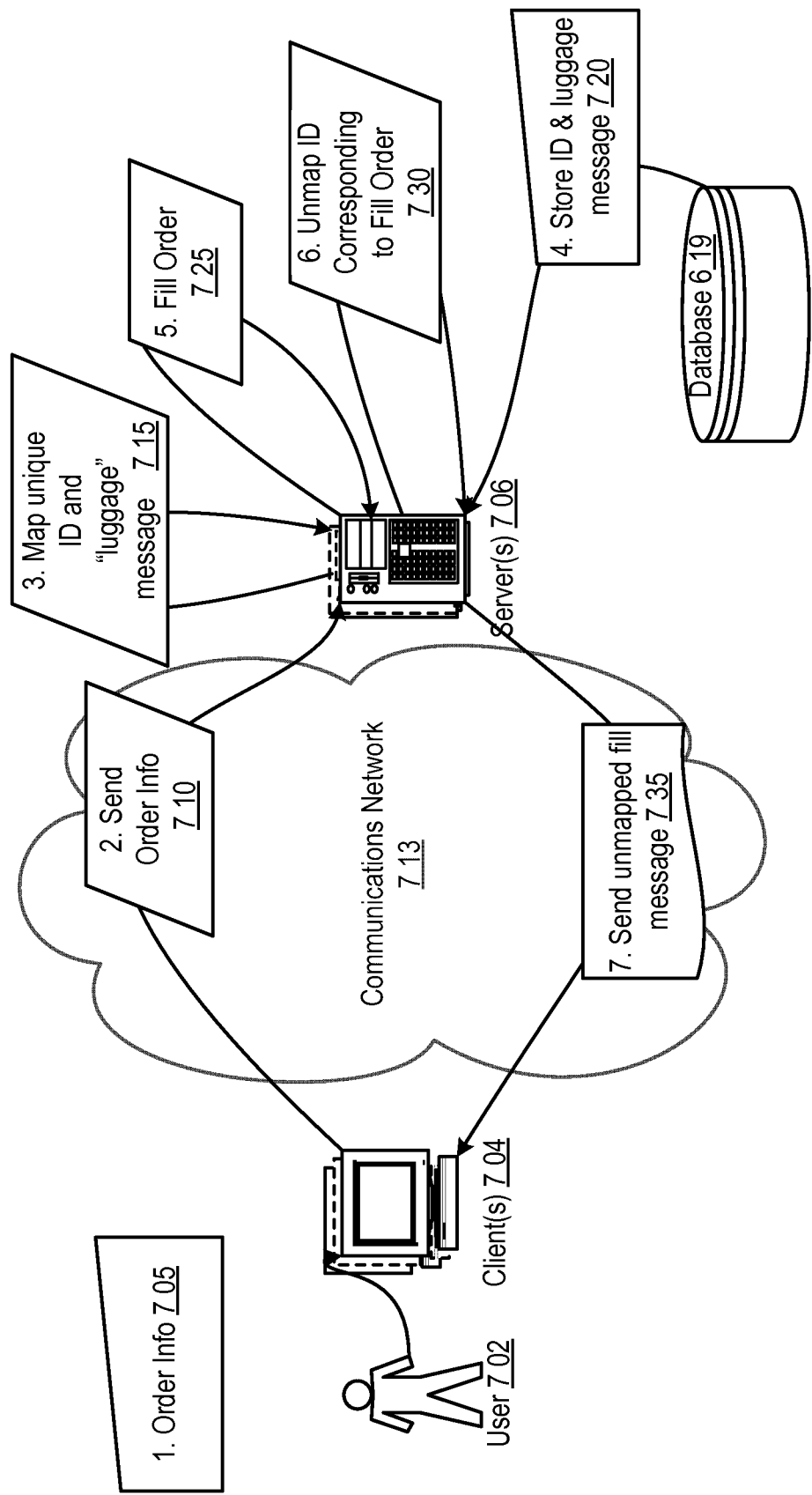


FIGURE 6H

TLL Example: Order Book Arbitrage (Aggressive Inoculated)



ID Mapping and Management Component 7.01

Figure 7

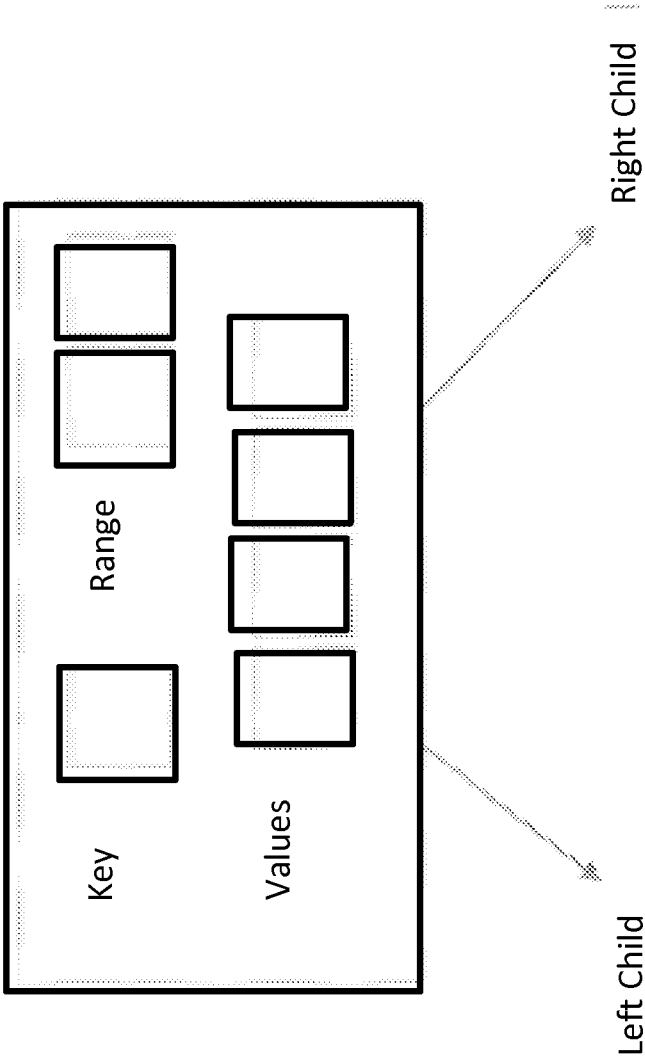


FIGURE 8A

TLL Example: Binary Search Tree

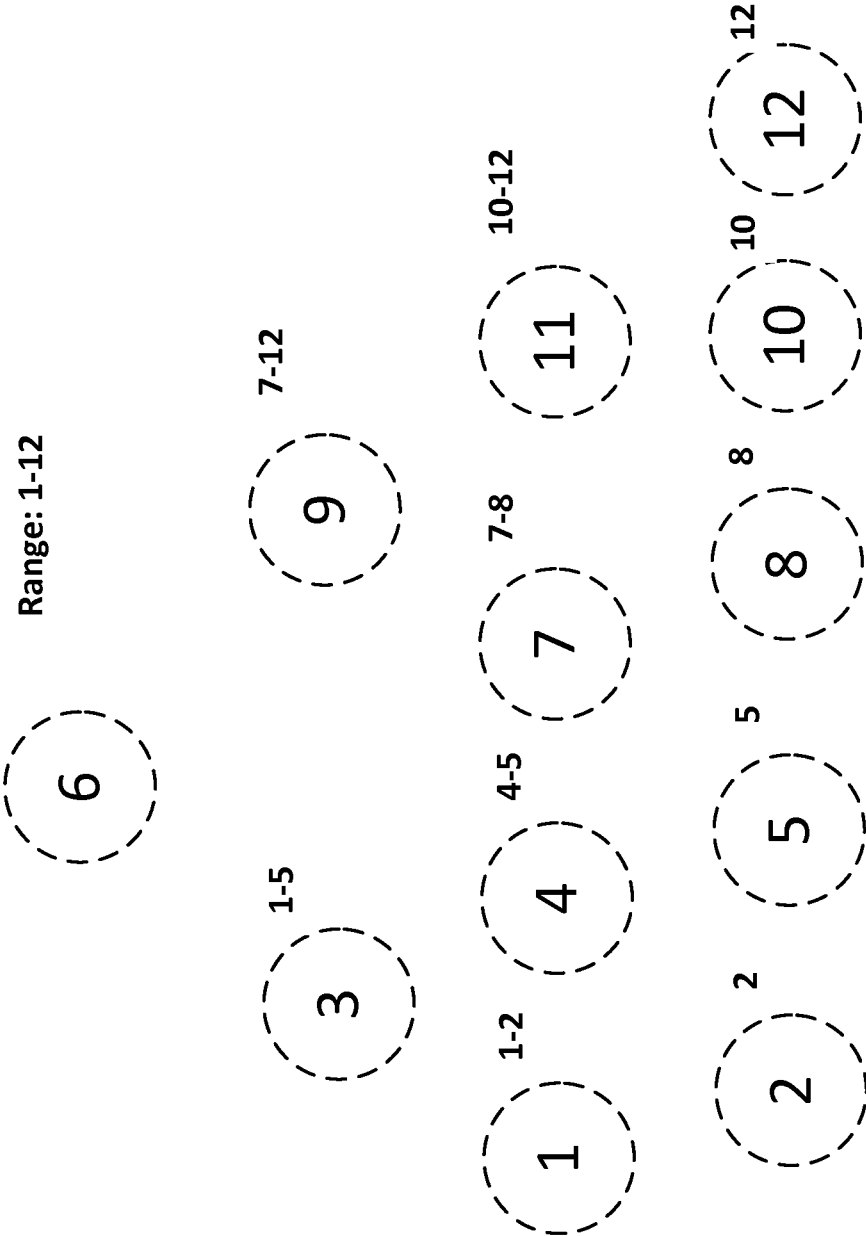


FIGURE 8B

TLL Example: Binary Search Tree

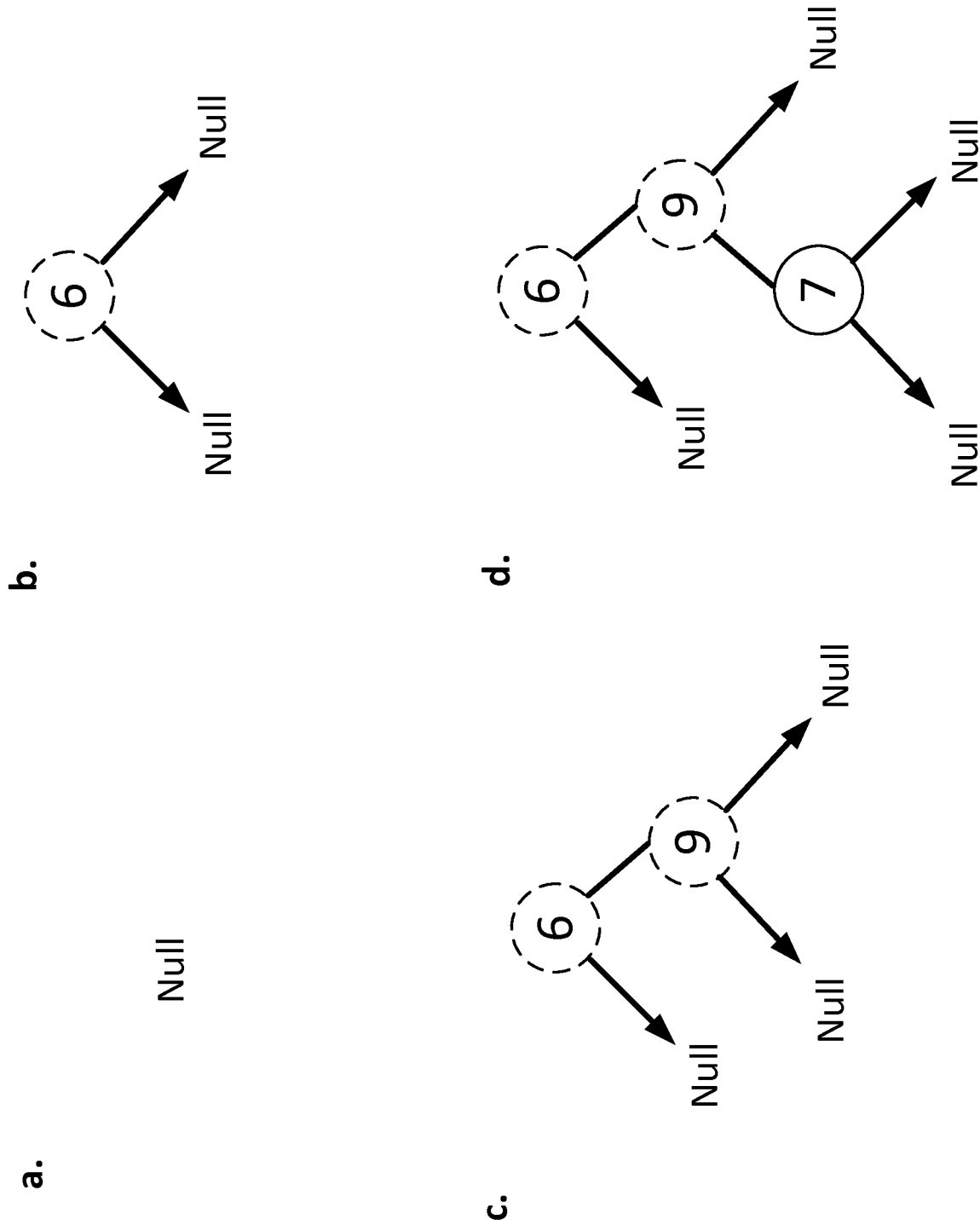


FIGURE 8C

TLL Example: Binary Search Tree

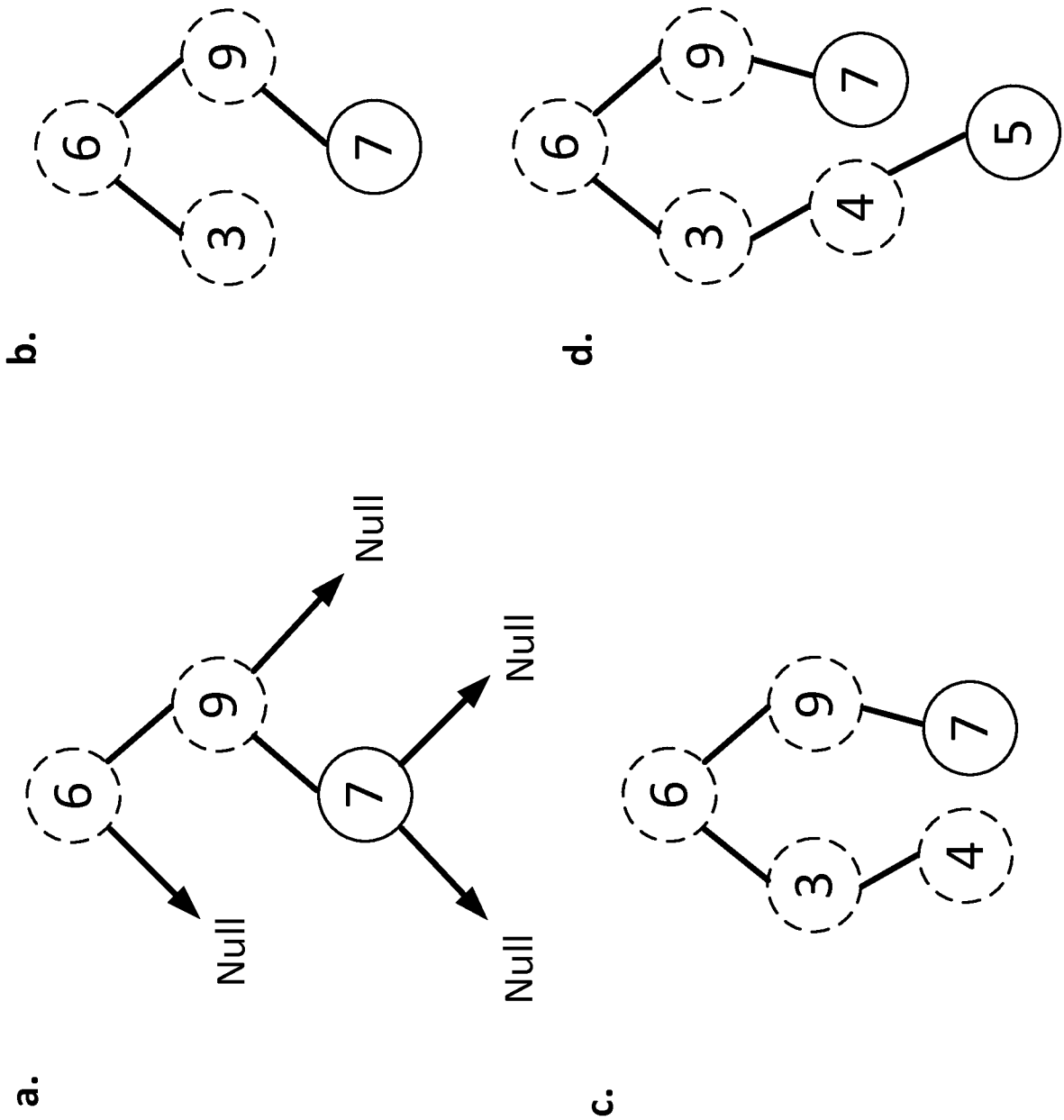
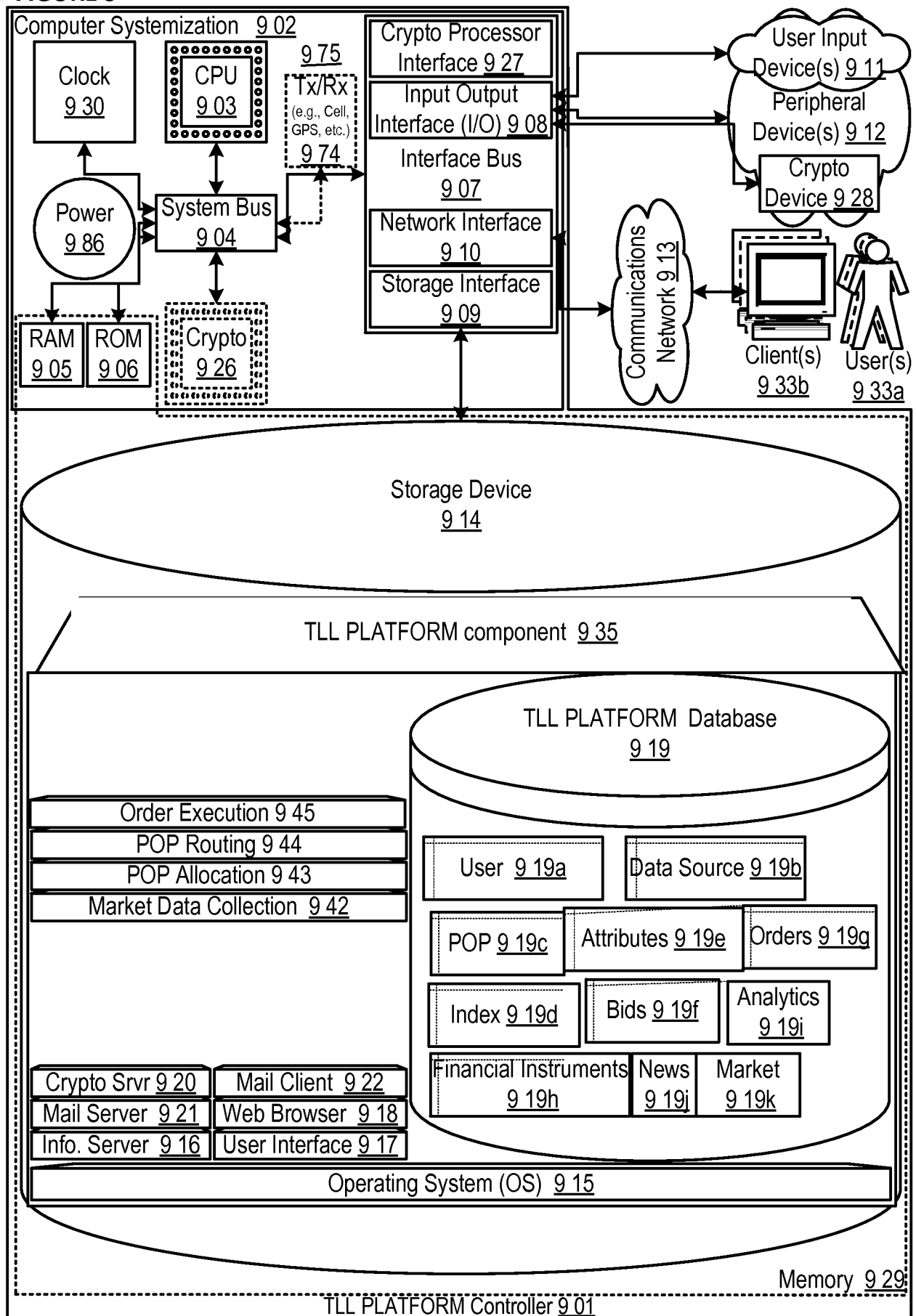


FIGURE 8D

TLL Example: Binary Search Tree

FIGURE 9

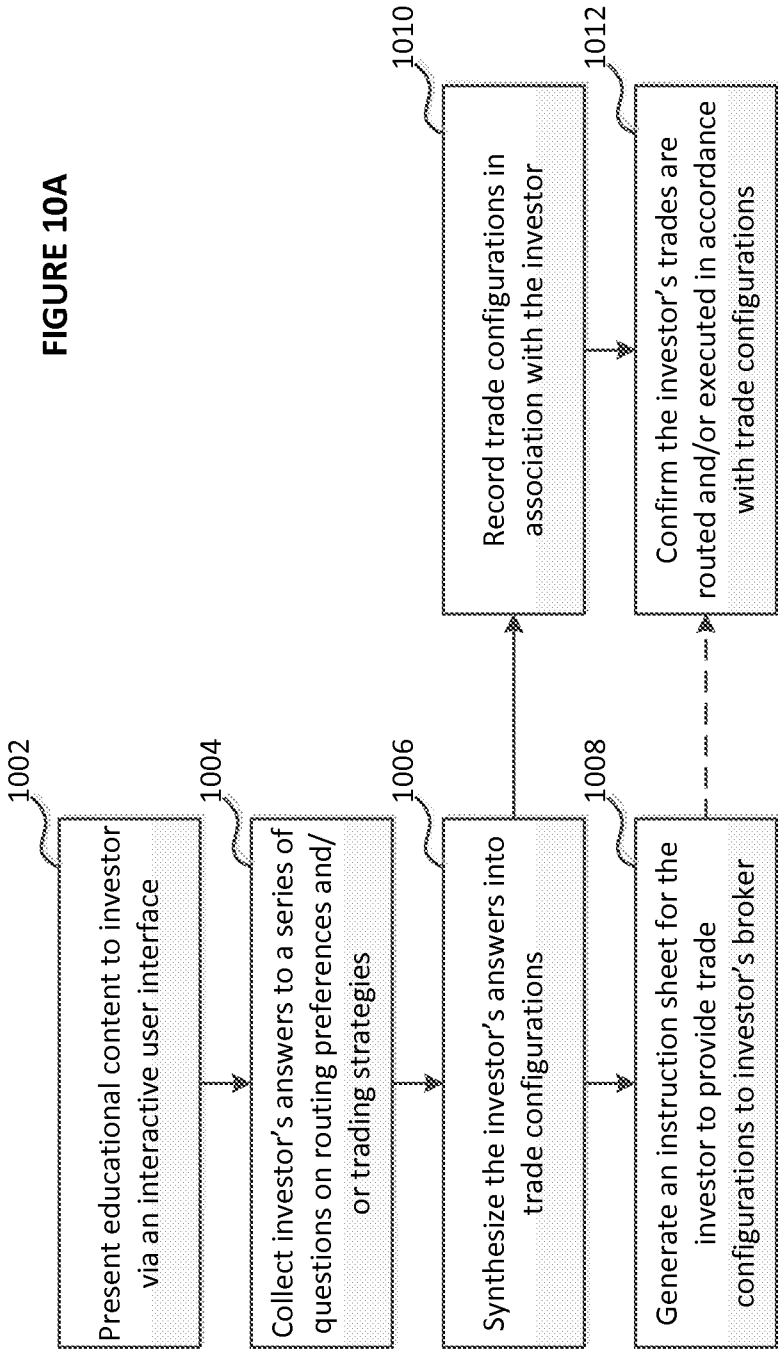


FIGURE 10B

1000

IEX Group would like to request the following algorithmic configuration customizations to interact with the IEX Market:

If any instruction(s) cannot be completed as requested, please provide IEX Group a brief written explanation describing any hindrances and/or alternative implementation options.

Non-Displayed Resting Interest (ExecInst FIX tag 18=i)

- Please configure 25% of IEX Group's passive non-displayed orders to rest at the IEX market using an IEX-Only Non-Displayed Order. Apply this configuration to all of IEX Group's resting orders, including all resting orders currently sent to your own pool(s), if applicable.
- Please rest each of IEX Group's orders on IEX using a limit price that is consistent with the order's original limit.
- Please use a balanced re-allocation method for each of IEX Group's orders when split-resting in two or more pools. If an order in any of the selected pools receives a complete fill, send all remaining marketable shares immediately to that pool in an attempt to trade additional shares. After a reasonable amount of time, redistribute the remainder of the order in a balanced manner among the selected pools.

IEX Check (TimeInForce FIX tag 59=4)

Please use the "IEX Check" FOK order type prior to routing aggressive orders to any pool, including your own pool(s) if applicable.

Broker Routing Strategy Inclusion

Please include IEX among the trading venues accessed as part of both your lit and dark routing strategies (as applicable).