

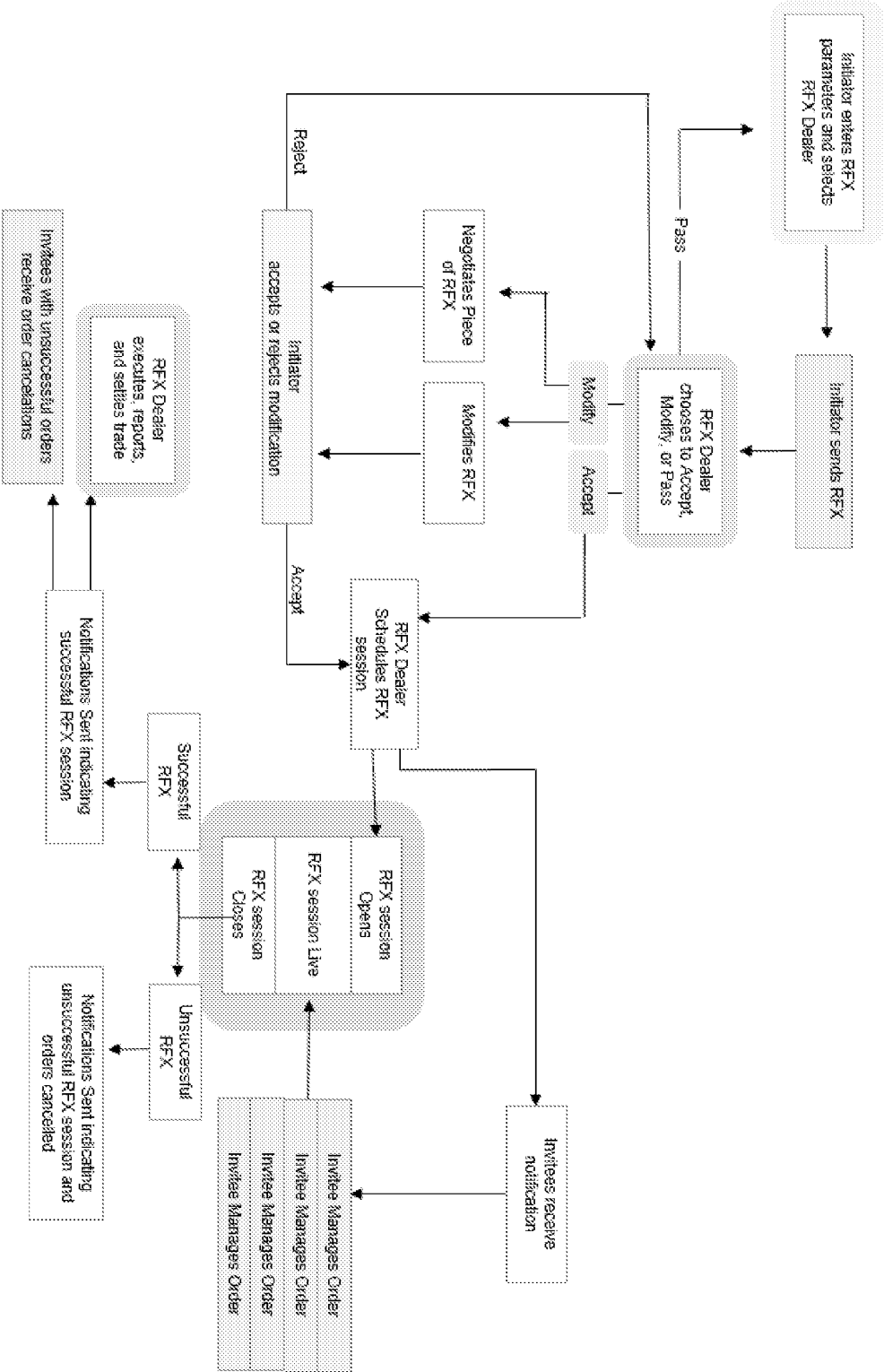
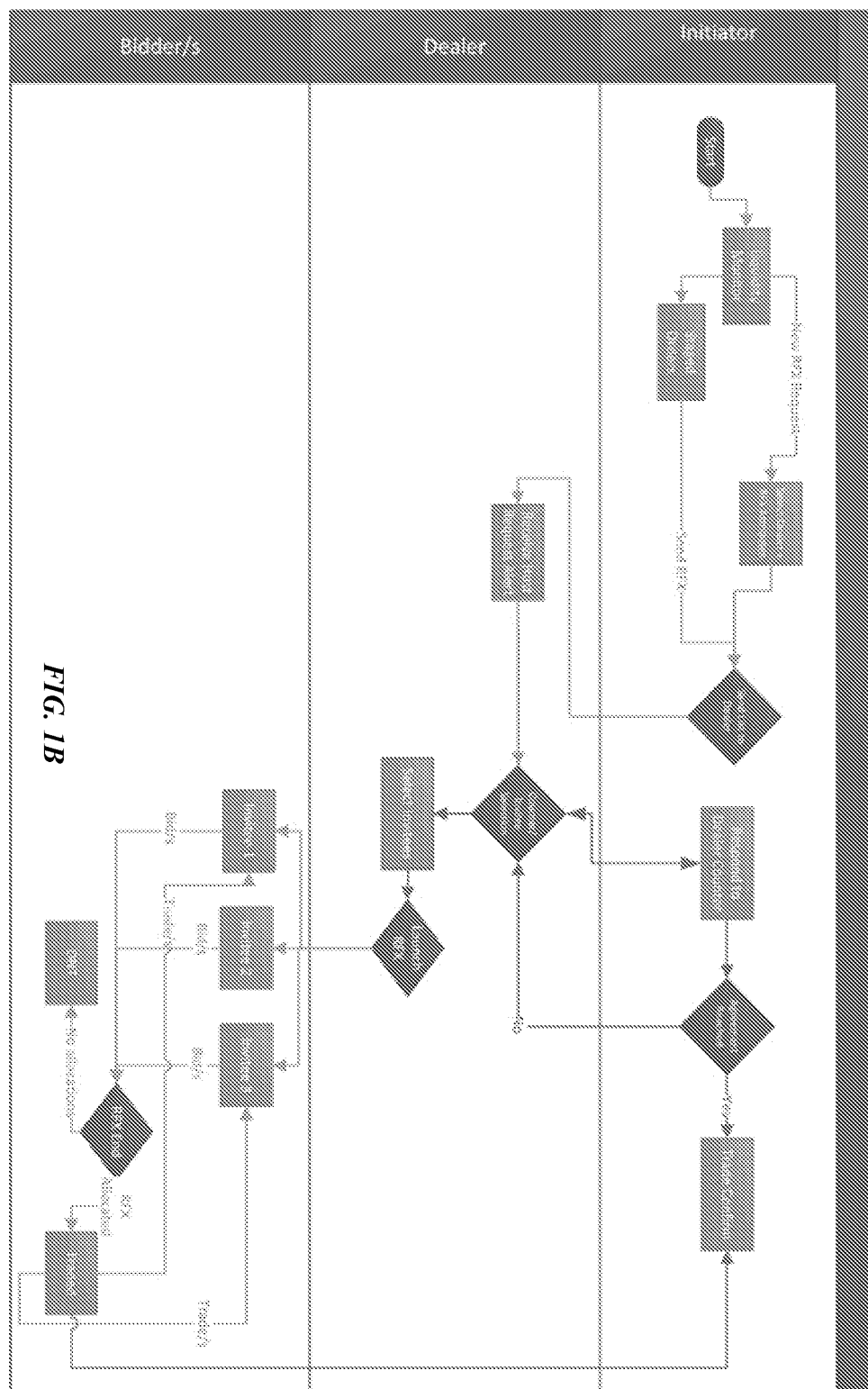


FIG. 1A



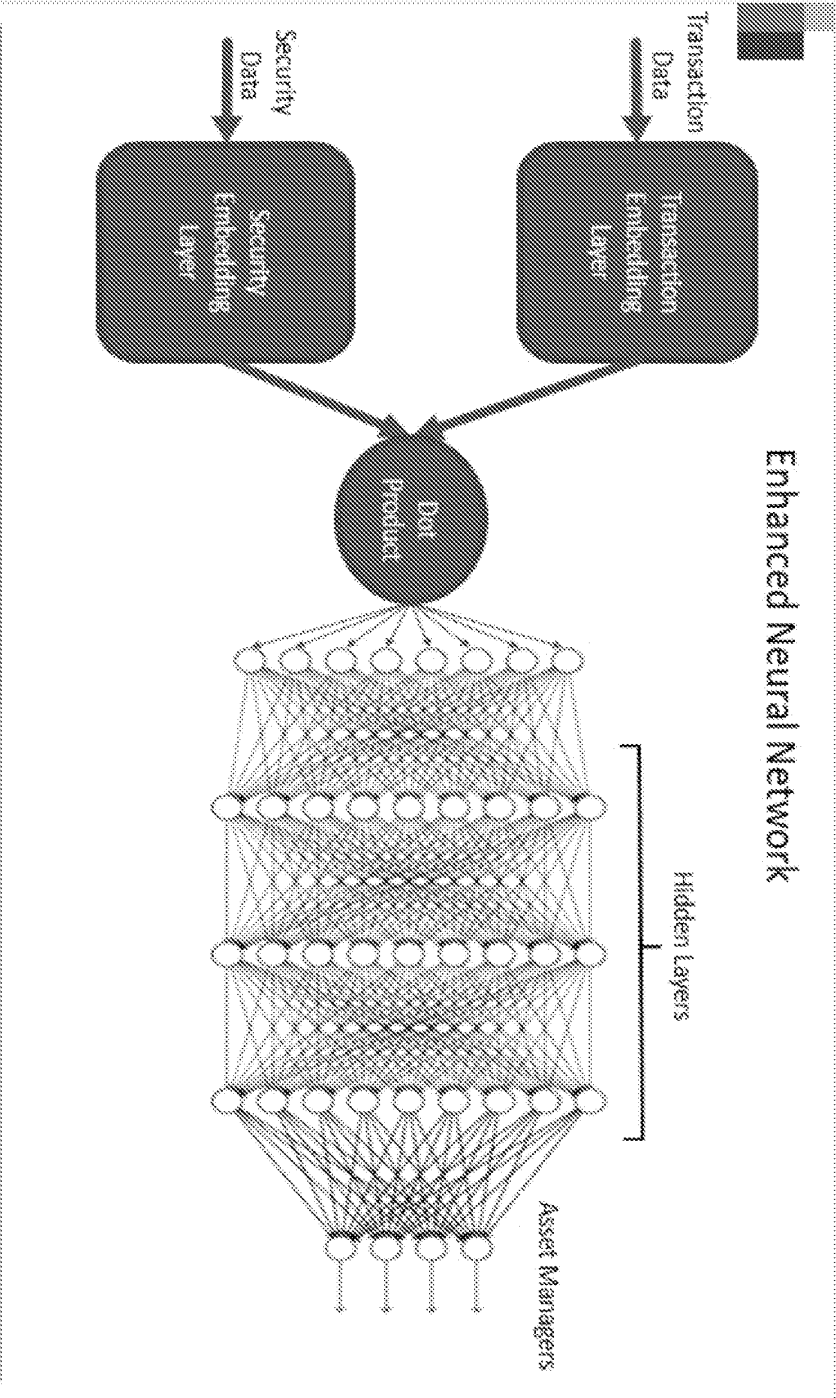


FIG. 2

Step 3: Neural Network Input Data (current state)

Source		
Transaction Data	Security Master	Analytics (calculated based on Trade Time)
Customer Name (Block Trade)	Maturity Date	OAS
Trade Amount	Issue Date	OAS Duration
Trade Date	Industry 1	OAS Convexity
TradeTime	Industry 2	Option Value
Trade Price	Industry 3	CR01
	Industry 4	
	is_guaranteed	
	is_factored	
	is_put	
	is_call	
	Amount Outstanding	
	Issue Amount	
	Debt Type Code	

FIG. 3

Training vs. Validation Curve

Validation Curve Schematic

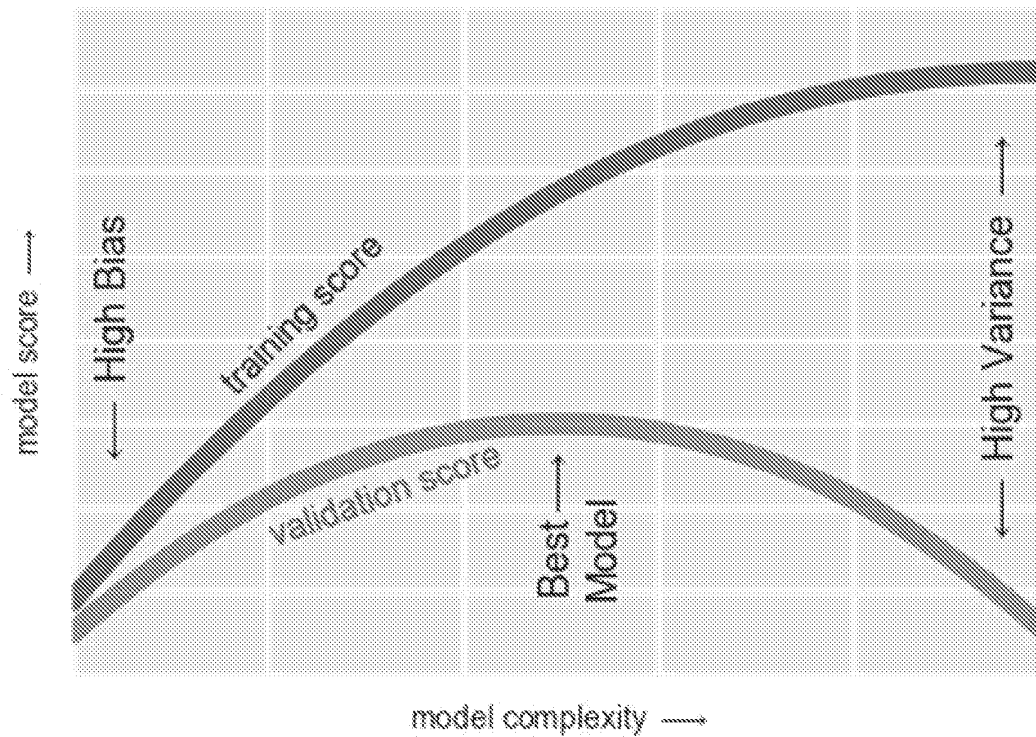


FIG. 4

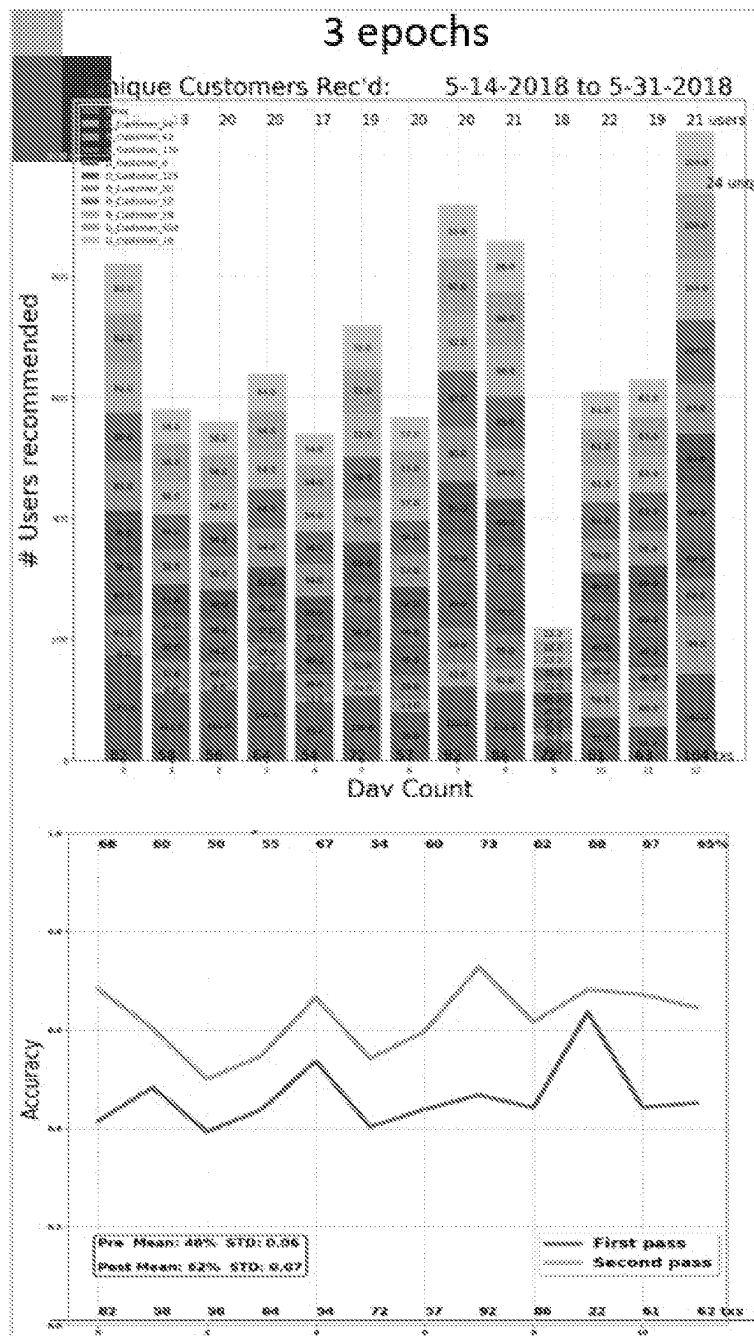
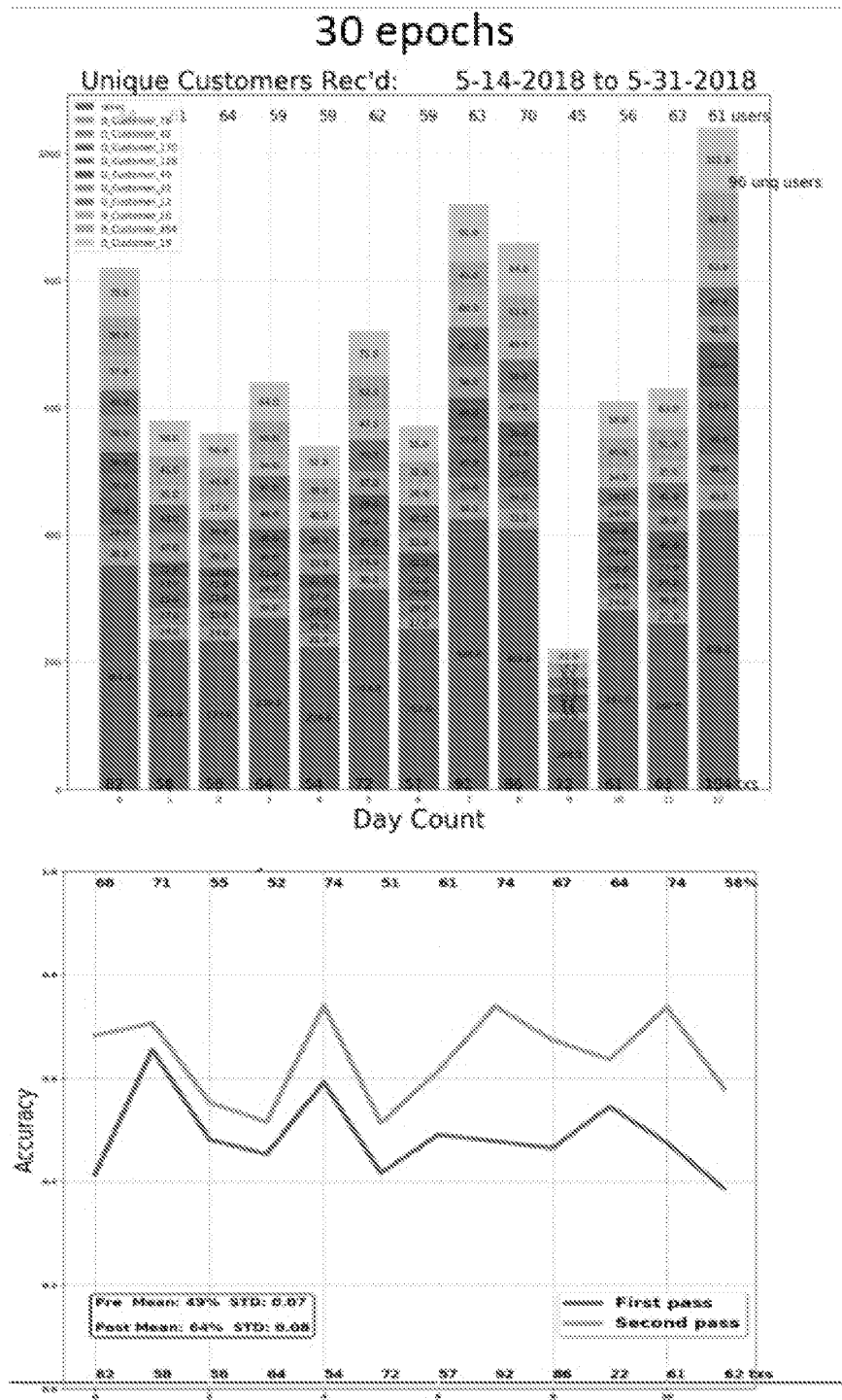
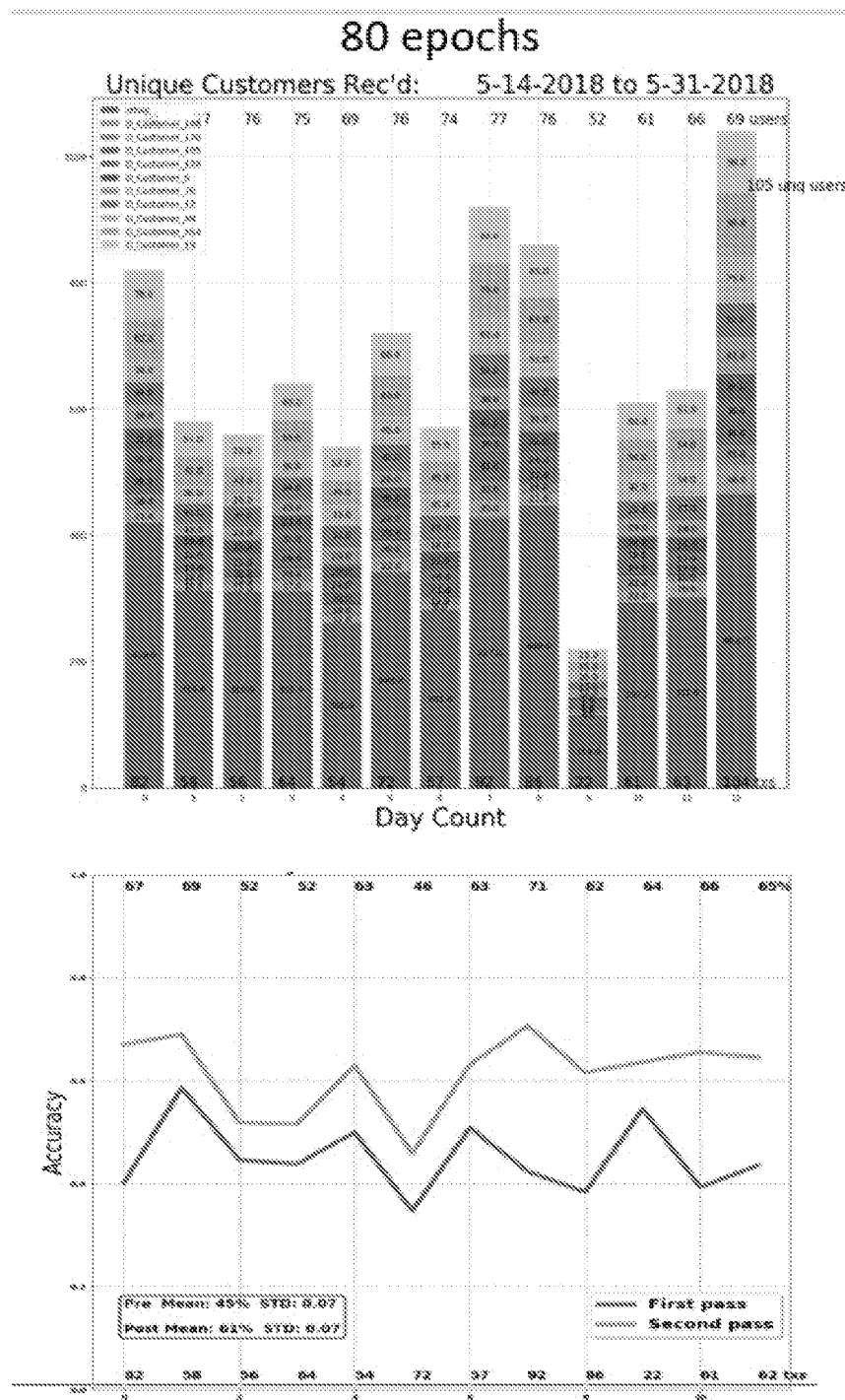


FIG. 5A





Requests							Shaped Orders						
Security	Qty	Open (USD)	Adjusted	% Allocated	Avg Price	Time	Order Type	Security	Qty	Open (USD)	Time	Order Type	
BBBY 4.315 004120224	100	10.000	10.000	100%	+428	01:23	REFX	CAT 2.400 064062022	100	17.000	+36	REFX	
GPS 5.500 041220224	100	12.000	11.000	92%	+198	02:10	REFX	IBM 5.000 110032023	100	12.150	+103	REFX	
BP 7.300 111522023	100	15.000	10.000	67%	+109	02:50	REFX	DE 3.500 064062042	100	7.000	+73	REFX	
OC 7.000 120122019	100	13.000	8.000	62%	+243	05:00	REFX	OCV 4.200 031522040	100	11.750	+100	REFX	
PRU 5.100 004152043	100	10.000	6.000	60%	+120	10:15	REFX	OC 7.000 120122026	100	11.200	+243	REFX	
P 8.025 100122028	100	20.000	14.000	70%	+277	11:45	REFX	APL 2.500 004122027	100	15.010	+74	REFX	
WVLT 7.500 011522031	100	4.000	3.000	75%	+207	02:25	REFX	VOYA 4.000 004152046	100	10.275	+167	REFX	
ALLY 4.250 041522021	100	12.000	12.000	100%	+154	03:41	REFX	APL 3.200 020822037	100	10.050	+02	REFX	
APC 7.950 004152203	100	5.000	2.500	50%	+233	07:40	REFX	PQU 6.025 120122037	100	16.000	+147	REFX	
AA 6.750 011522028	100	11.000	7.000	64%	+325	12:00	REFX	PLF 5.025 040122024	100	12.000	+110	REFX	
STX 4.750 004122023	100	3.000	1.250	35%	+180	17:29	REFX	GE 4.500 031122044	100	15.500	+179	REFX	
1.7.125 121522031	100	10.000	1.000	10%	+242	10:16	REFX	VZ 5.000 064012022	100	25.000	+83	REFX	
								PRG 3.500 120122047	100	14.000	+90	REFX	
								MRK 2.750 021022025	100	11.000	+53	REFX	

FIG. 6

YOUR SELL INTENTIONS									
		Add a Security			Quantity/Class				
Instrument	Direction	Size	Price/Spread	Start Date	End Date	RFI			
VZ 8.000 06/01/2022 06/01/2022	Sell	25m	+93	6	8	RFX			
BBBY 4.915 08/01/2024 07/26/2020	Sell	1.5m	+81 to +85	4	7	RFX			
GPS 5.950 04/12/2021 04/09/2021	Sell	5m	+90 to +100	5	4	RFX			
PT 1.300 11/15/2038 08/04/2020	Sell	5m	+120 to +130	1	3	RFX			
MRK 2.750 02/10/2025 08/07/2018	Sell	5-10m	+70 to +80	5	7	RFX			
CVX 1.961 10/01/2020 08/04/2021	Sell	10m	+85 to +90	3	5	RFX			
WMT 4.000 04/11/2043 07/01/2020	Sell	12 m	+65 to +75	1	8	RFX			
CAT 2.400 06/06/2022 06/03/2021	Sell	4.5m	+30	3	4	RFX			
ALL 5.750 06/15/2053 02/02/2020	Sell	10-15M	+25 to +30	4	2	RFX			
GE 3.900 08/09/2042 04/08/2021	Sell	1.5m	+55 to +65	4	1	RFX			

YOUR BUY INTENTIONS									
		Add a Security			Quantity/Class				
Instrument	Direction	Size	Price/Spread	Start Date	End Date	RFI			
PEO 3.600 12/01/2047 04/08/2022	Buy	5m	+73	5	9	RFX			
OC 8.000 08/15/2018 09/04/2020	Buy	0-1m	+120 to +130	3	5	RFX			
APL 2.900 06/12/2027 04/03/2020	Buy	8-10m	+55	6	8	RFX			
GE 5.000 01/20/2056 04/08/2020	Buy	10m	+45	7	7	RFX			
VOYA 4.700 01/22/2048 02/09/2020	Buy	6-10m	+140	5	4	RFX			
MST 1.300 02/06/2027 04/08/2020	Buy	11m	+86	6	9	RFX			
RUP 4.950 07/15/2046 04/09/2020	Buy	2.8m	+84	4	7	RFX			
PRU 5.100 08/15/2043 04/08/2020	Buy	5+ m	+91	2	4	RFX			
CVT 4.200 03/15/2040 04/08/2020	Buy	6.5m	+123	3	6	RFX			

FIG. 7

YOUR SELL INTENTIONS						YOUR BUY INTENTIONS					
Add a Security						Add a Security					
Instrument	Duration	Size	Price Spread	Liquidity Chart	RFX	Instrument	Duration	Size	Price Spread	Liquidity Chart	RFX
YZ8 000 06/01/2022 4603900	5y	25m	+03	6	RFX	FE03 000 12/01/2047 1460300	Buy	5m	+73	5	RFX
000001 4 915 0000 1/2034 07000000	5y	1.5m	+00 to +05	4	RFX	OC 9 000 06/15/2019 00000005	Buy	0-1m	+120 to +130	3	RFX
GPS 5 950 04/12/2021 00000000	5y	5m	+98 to +100	5	RFX		Buy	8-10m	+55	6	RFX
PT 7 300 11/15/2039 00000070	5y	5m	+120 to +130	1	RFX		Buy	10m	+45	7	RFX
AB04 2 750 02/10/2025 00000000	5y	5-10m	+70 to +80	5	RFX		Buy	6-10m	+140	5	RFX
CIX 1 001 03/03/2020 00000000	5y	10m	+35 to +40	3	RFX		Buy	11m	+60	6	RFX
Y0AT 4 000 04/11/2043 00110200	5y	12 m	+65 to +75	0	RFX		Buy	2.0m	+04	4	RFX
CAT 2 400 06/06/2022 46030007	5y	4.5m	+30	3	RFX		Buy	5+m	+91	2	RFX
ALL 5 750 08/15/2063 02000000	5y	10-15M	+25 to +30	4	RFX		Buy	6.5m	+02	3	RFX
DE 1000 06/02/2042 24010001	5y	1.5m	+55 to +65	4	RFX						

10X Liquidity Chart Screen Available

CAT 2 400 06/06/2022 Buy Intention Update

Previous 4 New 1 RFX

FIG. 8

BUYSIDE VIEW

RFX Ticket

VZ 8.000 6/1/2022

64576AY0

5Y UST 2.75 4/2023

Outright

Direction

SELL

Qty

25,000

Committed Level

+93

Time

20 Mins

Fill Type

Partial

Min Fill

250

Buy Now Spread

+90

Start

Locked

Jefferies

DEALER X Y Z

DEALER A B C

DEALER 123

More Parameters

Transaction Type

RFX

Pricing Protocol

Spread

Settlement Date

T+2

Transaction Fee (bps)

1.0

Cloud Matches

On

Off

Max # of invites

25

Benchmark

5Y UST 2.75 4/2023

Spot Time

Immediate

Spot Type

Auto

Outright

Cross

Comment

Comments do not affect trade terms

Save

Send RFX

FIG. 9



FIG. 10

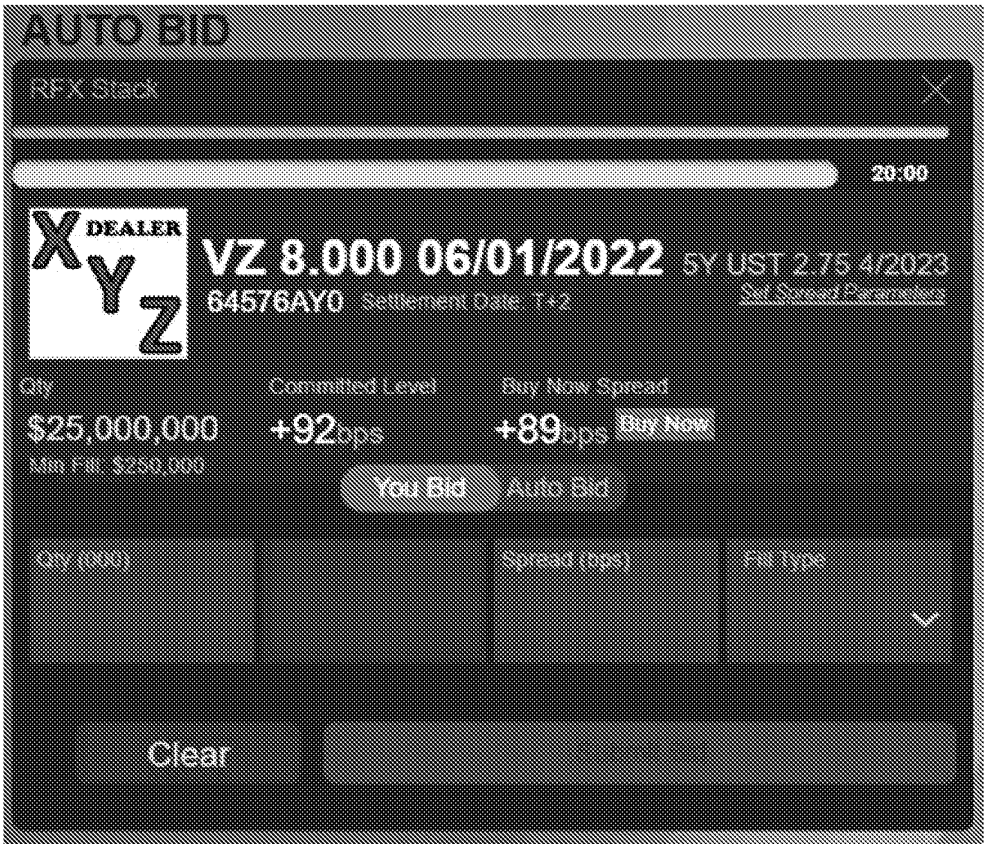


FIG. 11

FIG. 12

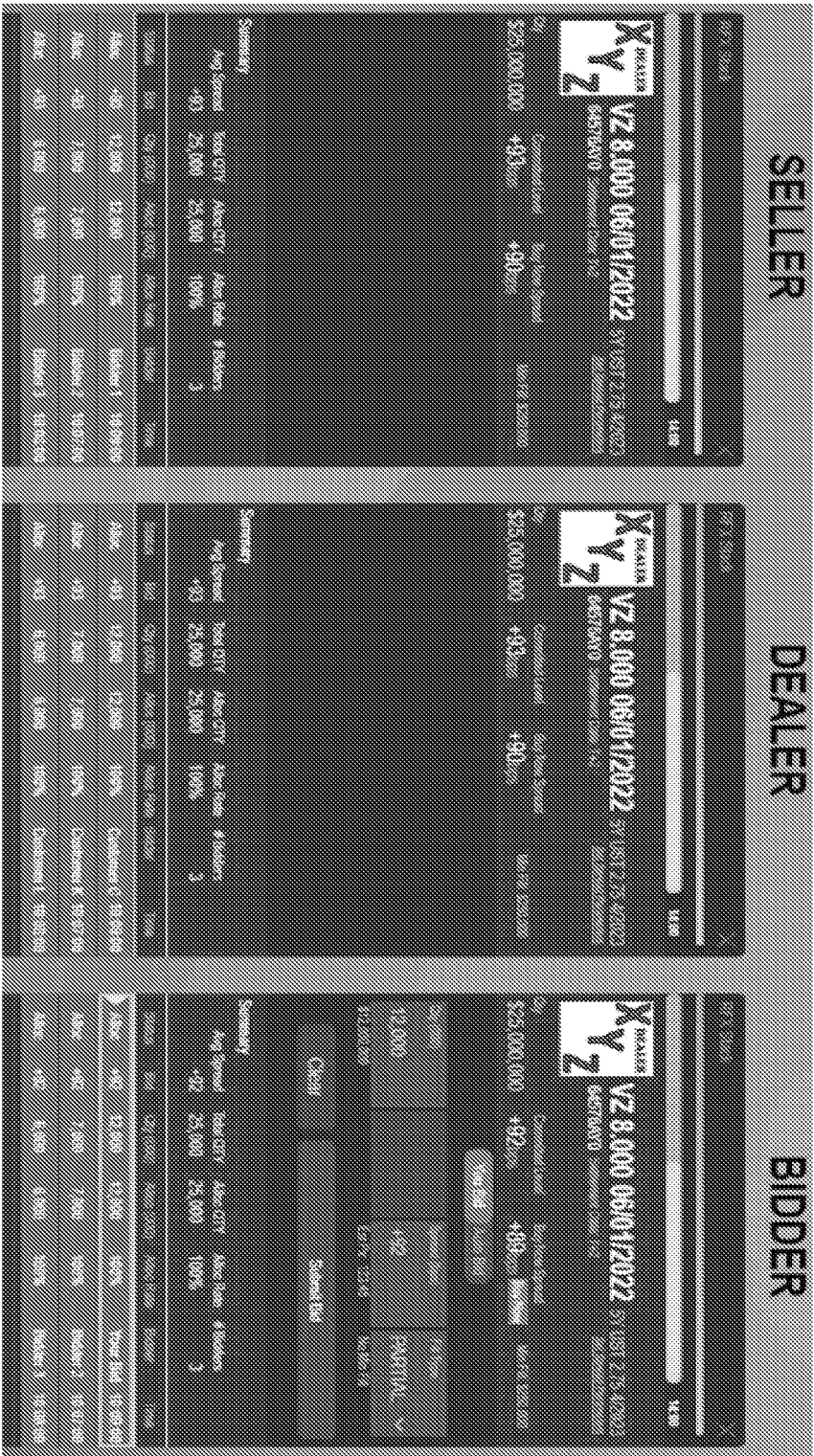


FIG. 13

FIG. 14

SELLER

DEALER

BIDDER

10/1/2022

6:13

6:13

VZ 8,000 06/01/2022
 3P/10ST/2.7K/42023
 36/2000/300000

3P/10ST/2.7K/42023
 36/2000/300000

Total: \$20,000,000
 +\$20,000
 +\$20,000

3P/10ST/2.7K/42023
 36/2000/300000

Summary

Avg Demand: Total CTR: Avg CTR: Avg Price: # Bidders:
 +42 50.000 25.000 100% 1

Source	Ad	Ctr (CTR)	Avg CTR	Avg Price	Bidder	Price
--------	----	-----------	---------	-----------	--------	-------

Bidder: +42 10.000 10.000 100% Bidder 1 10.000

Bidder: +42 10.000 10.000 100% Bidder 2 10.000

Bidder: +42 10.000 10.000 100% Bidder 3 10.000

Bidder: +42 10.000 10.000 100% Bidder 4 10.000

Bidder: +42 10.000 10.000 100% Bidder 5 10.000

Bidder: +42 10.000 10.000 100% Bidder 6 10.000

Bidder: +42 10.000 10.000 100% Bidder 7 10.000

Bidder: +42 10.000 10.000 100% Bidder 8 10.000

Bidder: +42 10.000 10.000 100% Bidder 9 10.000

Bidder: +42 10.000 10.000 100% Bidder 10 10.000

10/1/2022

6:13

6:13

VZ 8,000 06/01/2022
 3P/10ST/2.7K/42023
 36/2000/300000

3P/10ST/2.7K/42023
 36/2000/300000

Total: \$20,000,000
 +\$20,000
 +\$20,000

3P/10ST/2.7K/42023
 36/2000/300000

Summary

Avg Demand: Total CTR: Avg CTR: Avg Price: # Bidders:
 +42 50.000 25.000 100% 1

Source	Ad	Ctr (CTR)	Avg CTR	Avg Price	Bidder	Price
--------	----	-----------	---------	-----------	--------	-------

Bidder: +42 10.000 10.000 100% Bidder 1 10.000

Bidder: +42 10.000 10.000 100% Bidder 2 10.000

Bidder: +42 10.000 10.000 100% Bidder 3 10.000

Bidder: +42 10.000 10.000 100% Bidder 4 10.000

Bidder: +42 10.000 10.000 100% Bidder 5 10.000

Bidder: +42 10.000 10.000 100% Bidder 6 10.000

Bidder: +42 10.000 10.000 100% Bidder 7 10.000

Bidder: +42 10.000 10.000 100% Bidder 8 10.000

Bidder: +42 10.000 10.000 100% Bidder 9 10.000

Bidder: +42 10.000 10.000 100% Bidder 10 10.000

10/1/2022

6:13

6:13

VZ 8,000 06/01/2022
 3P/10ST/2.7K/42023
 36/2000/300000

3P/10ST/2.7K/42023
 36/2000/300000

Total: \$20,000,000
 +\$20,000
 +\$20,000

3P/10ST/2.7K/42023
 36/2000/300000

Summary

Avg Demand: Total CTR: Avg CTR: Avg Price: # Bidders:
 +41 50.000 25.000 100% 1

Source	Ad	Ctr (CTR)	Avg CTR	Avg Price	Bidder	Price
--------	----	-----------	---------	-----------	--------	-------

Bidder: +41 10.000 10.000 100% Bidder 1 10.000

Bidder: +41 10.000 10.000 100% Bidder 2 10.000

Bidder: +41 10.000 10.000 100% Bidder 3 10.000

Bidder: +41 10.000 10.000 100% Bidder 4 10.000

Bidder: +41 10.000 10.000 100% Bidder 5 10.000

Bidder: +41 10.000 10.000 100% Bidder 6 10.000

Bidder: +41 10.000 10.000 100% Bidder 7 10.000

Bidder: +41 10.000 10.000 100% Bidder 8 10.000

Bidder: +41 10.000 10.000 100% Bidder 9 10.000

Bidder: +41 10.000 10.000 100% Bidder 10 10.000

FIG. 15

[illegible]

FIG. 16

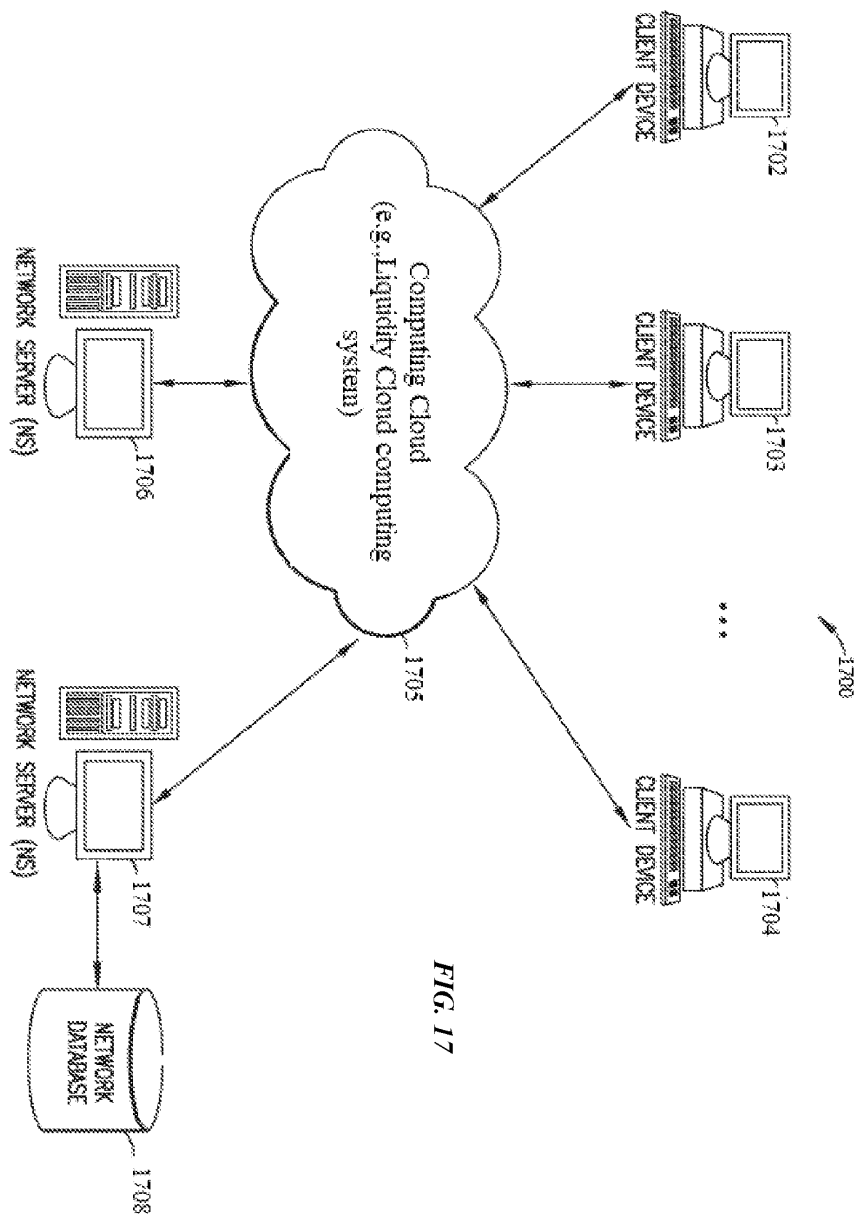
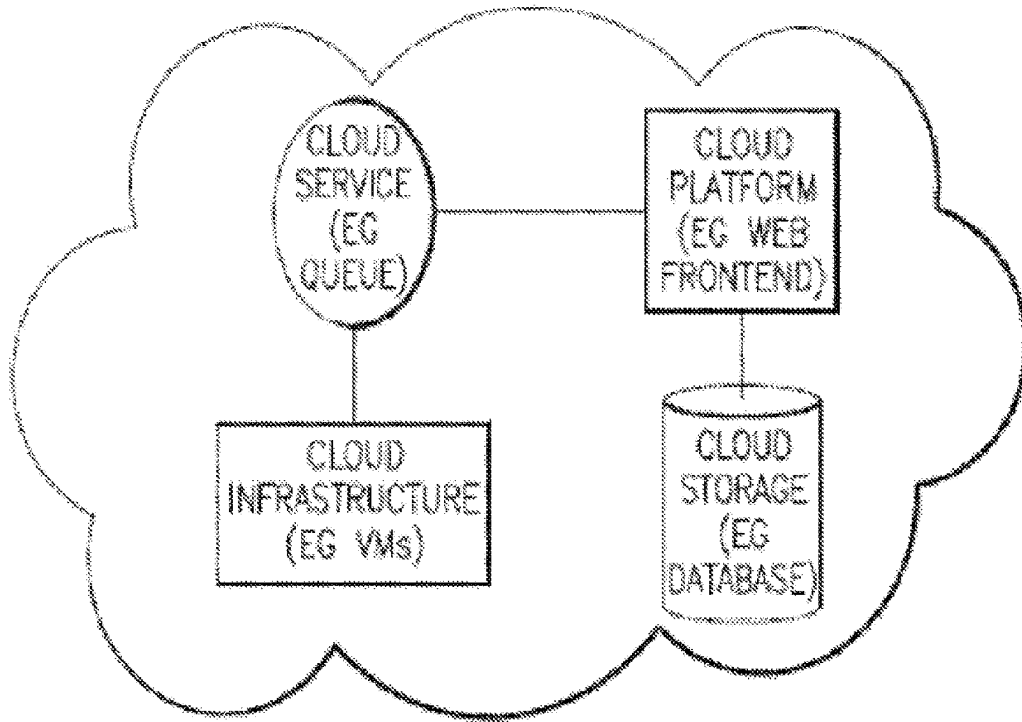


FIG. 17

*FIG. 18*

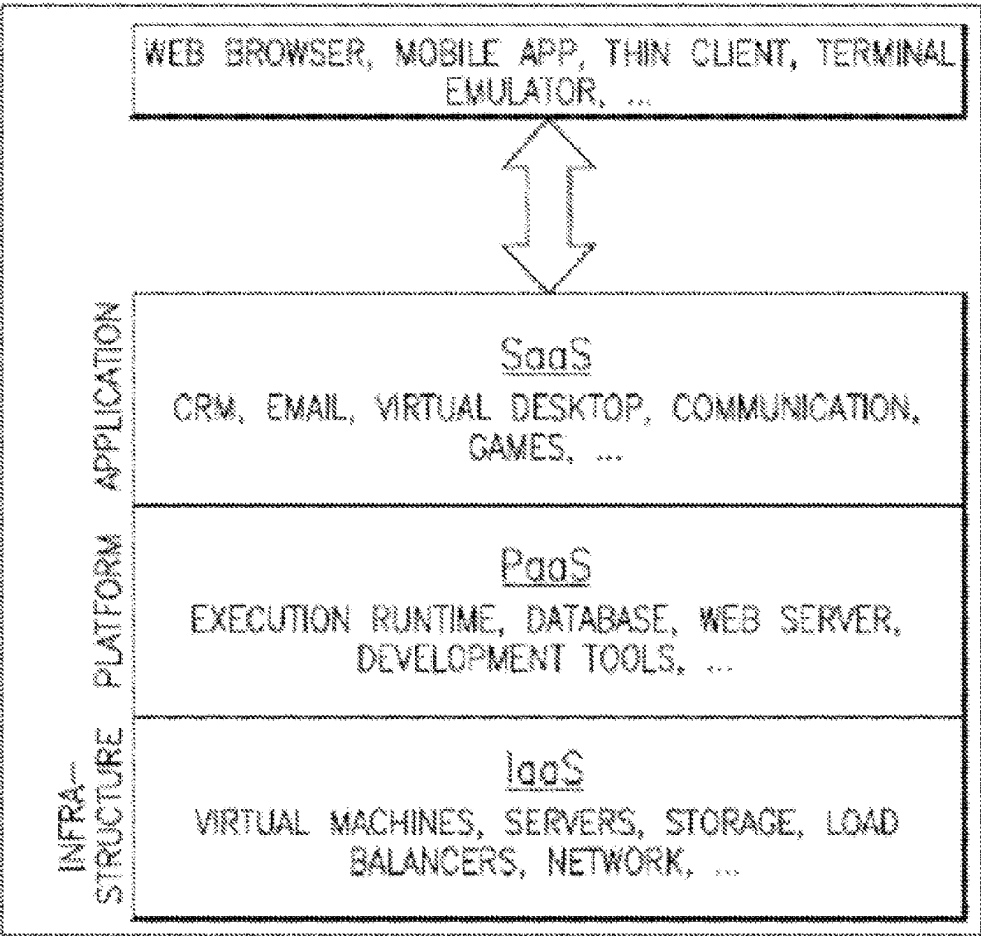


FIG. 19