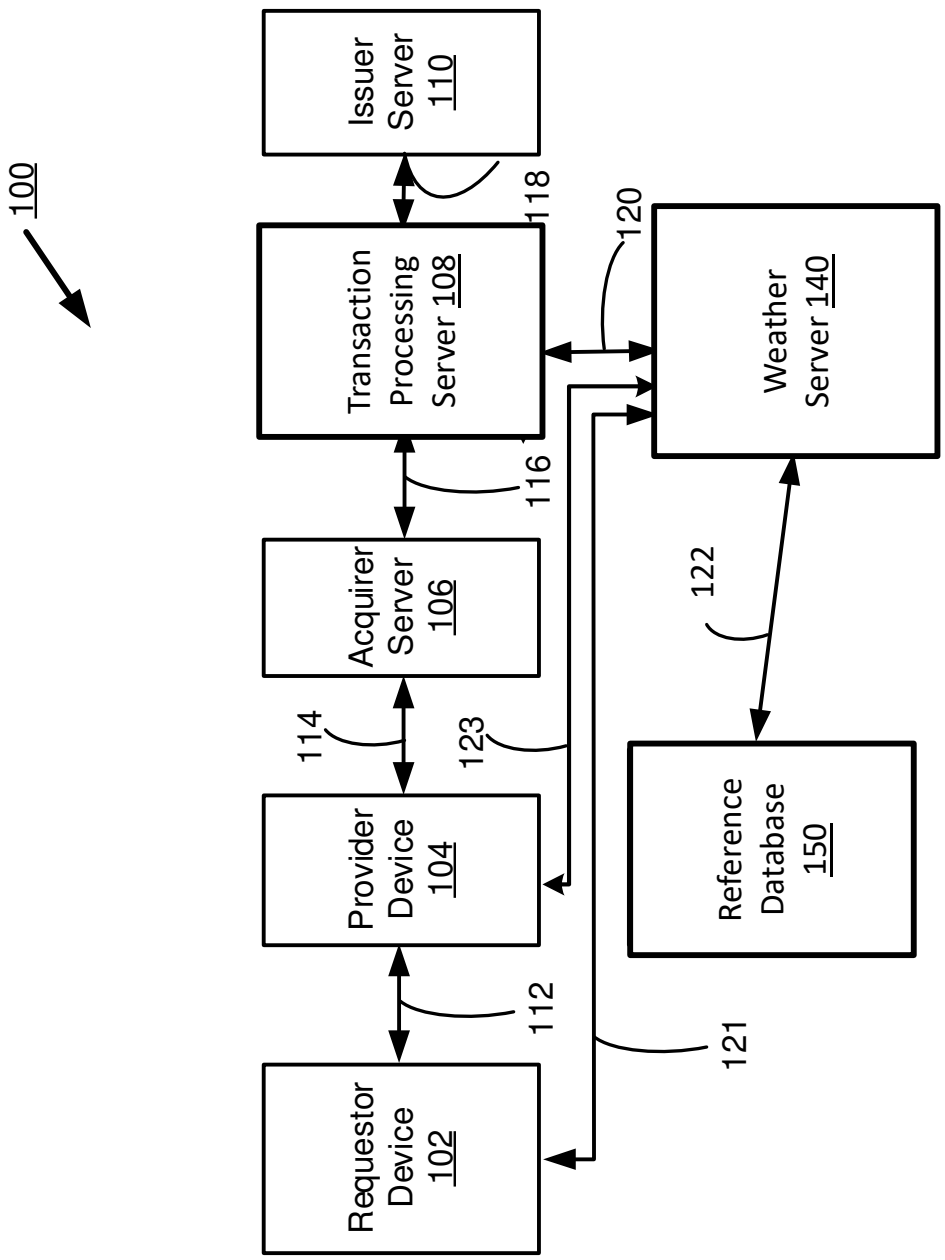

100
Issuer Server 110
118
Transaction Processing Server 108
120
Weather Server 140
116
Acquirer Server 106
122
114
123
Provider Device 104
Reference Database 150
112
121
Requestor Device 102

Fig. 1

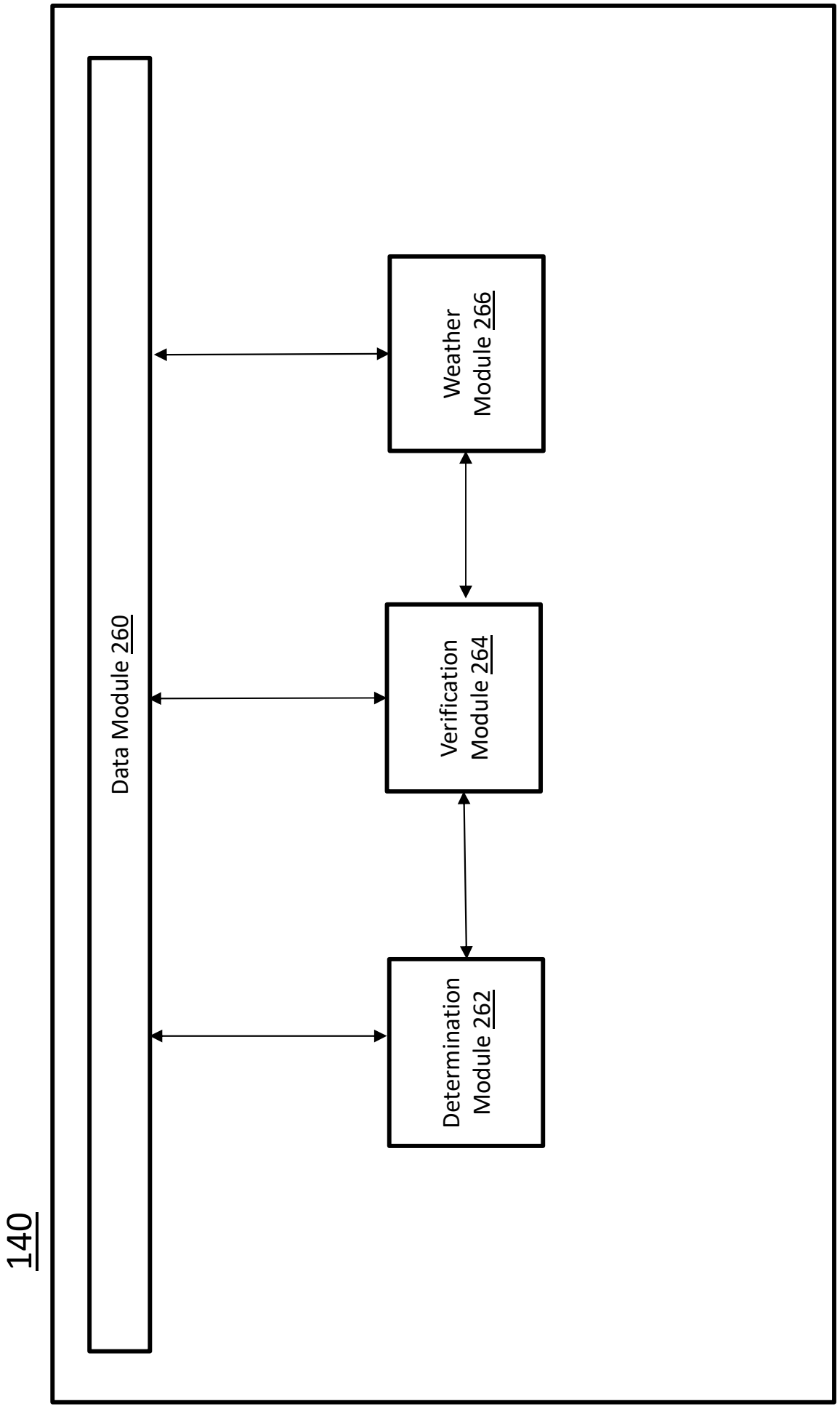

140
Data Module 260
Weather Module 266
Verification Module 264
Determination Module 262

FIG. 2

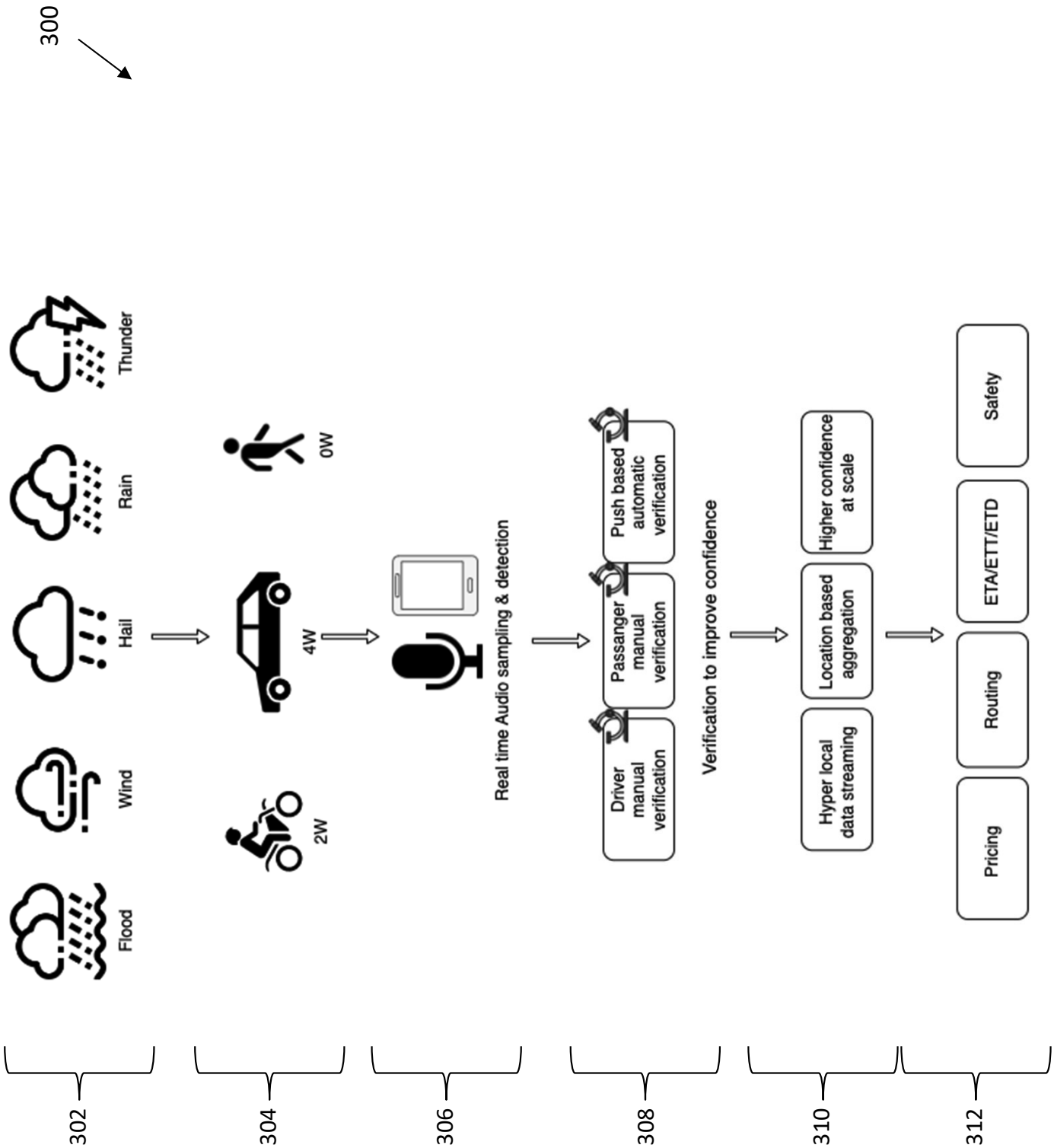

300
Flood
Wind
Hail
Rain
Thunder
2W
4W
0W
Real time Audio sampling & detection
Driver manual verification
Passanger manual verification
Push based automatic verification
Verification to improve confidence
Hyper local data streaming
Location based aggregation
Higher confidence at scale
Pricing
Routing
ETA/ETT/ETD
Safety
302
304
306
308
310
312

Figure 3A

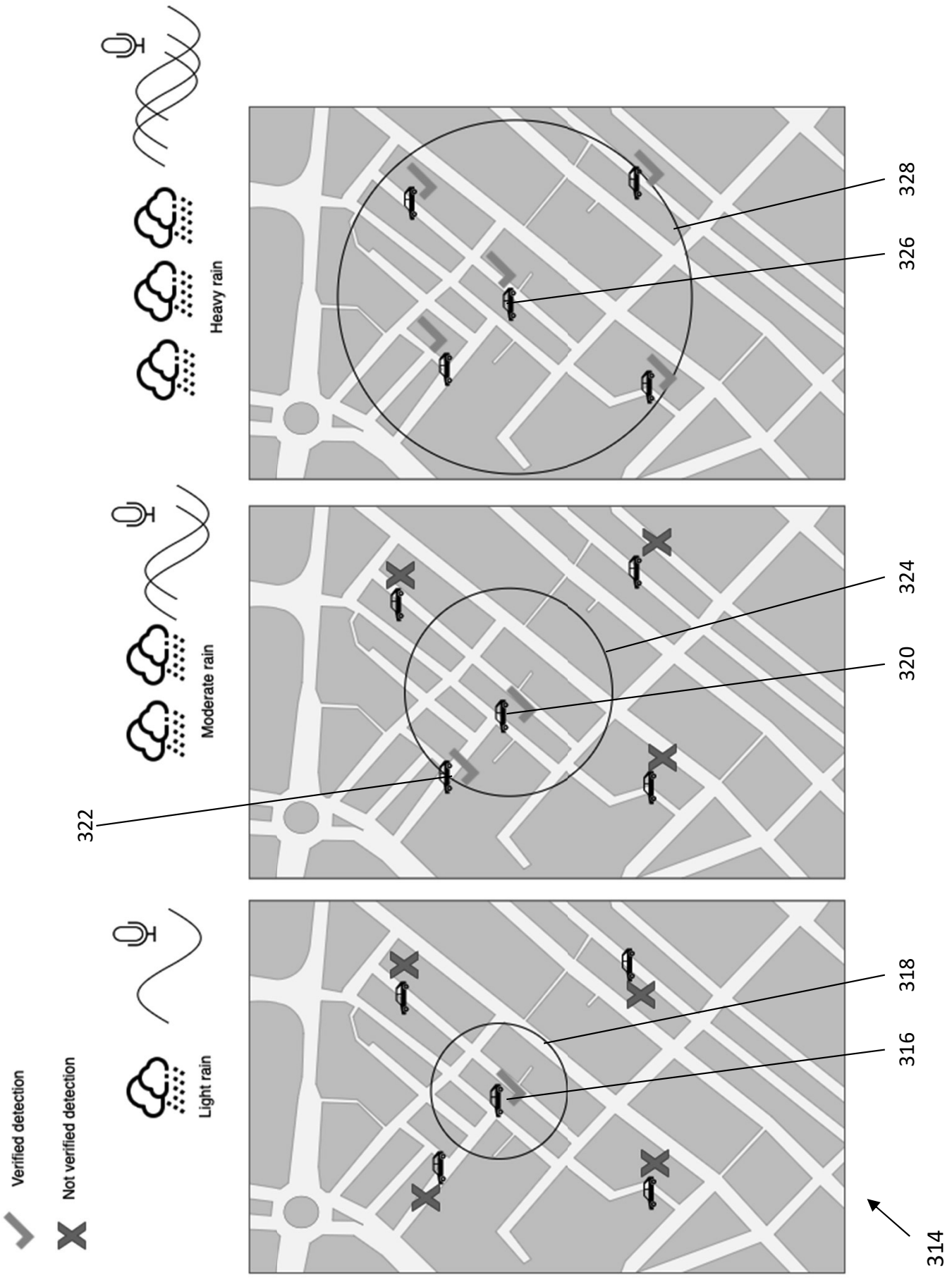

Verified detection
Not verified detection
Light rain
Moderate rain
Heavy rain
314
316
318
320
322
324
326
328

Figure 3B

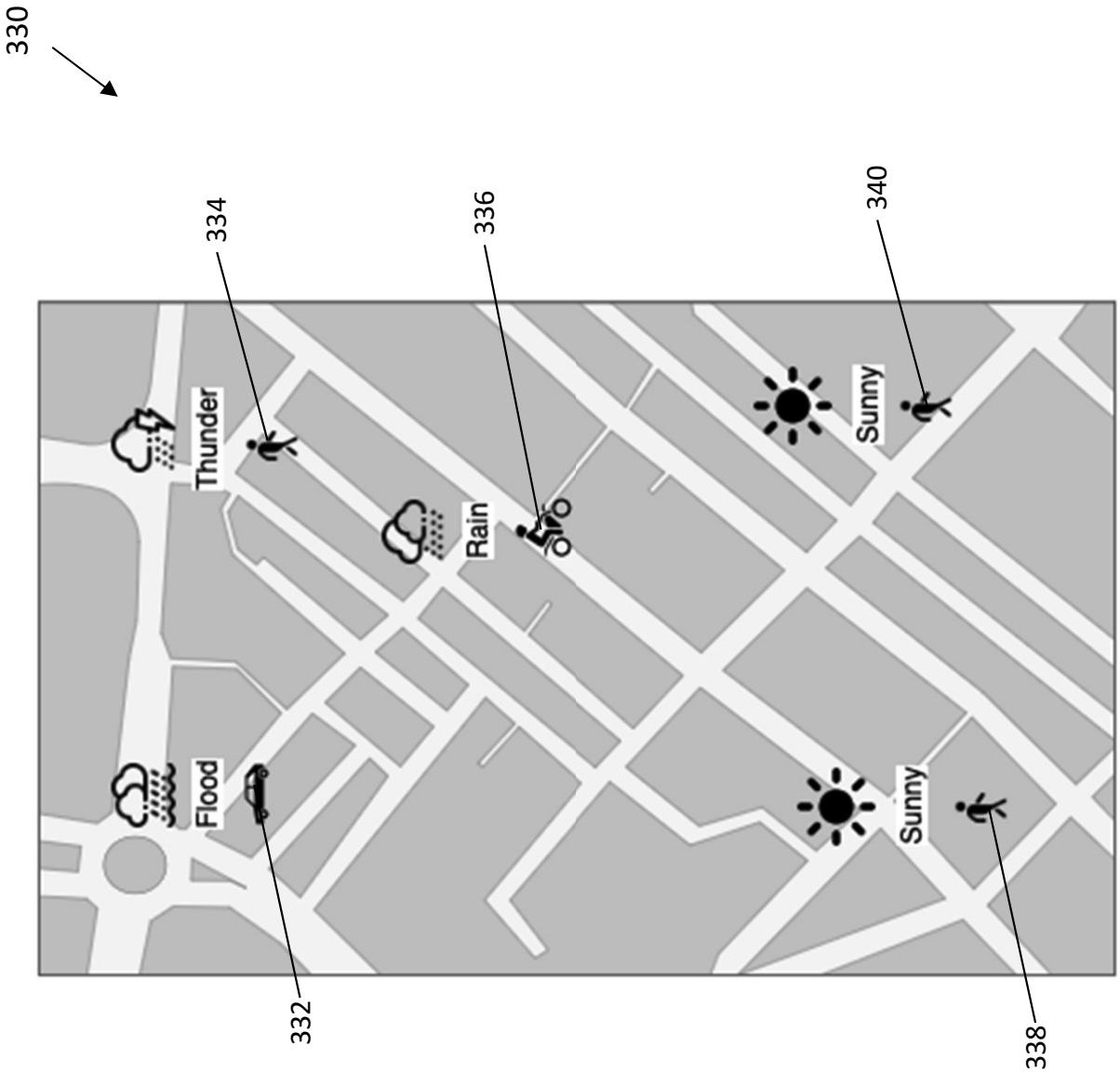


Figure 3C

342

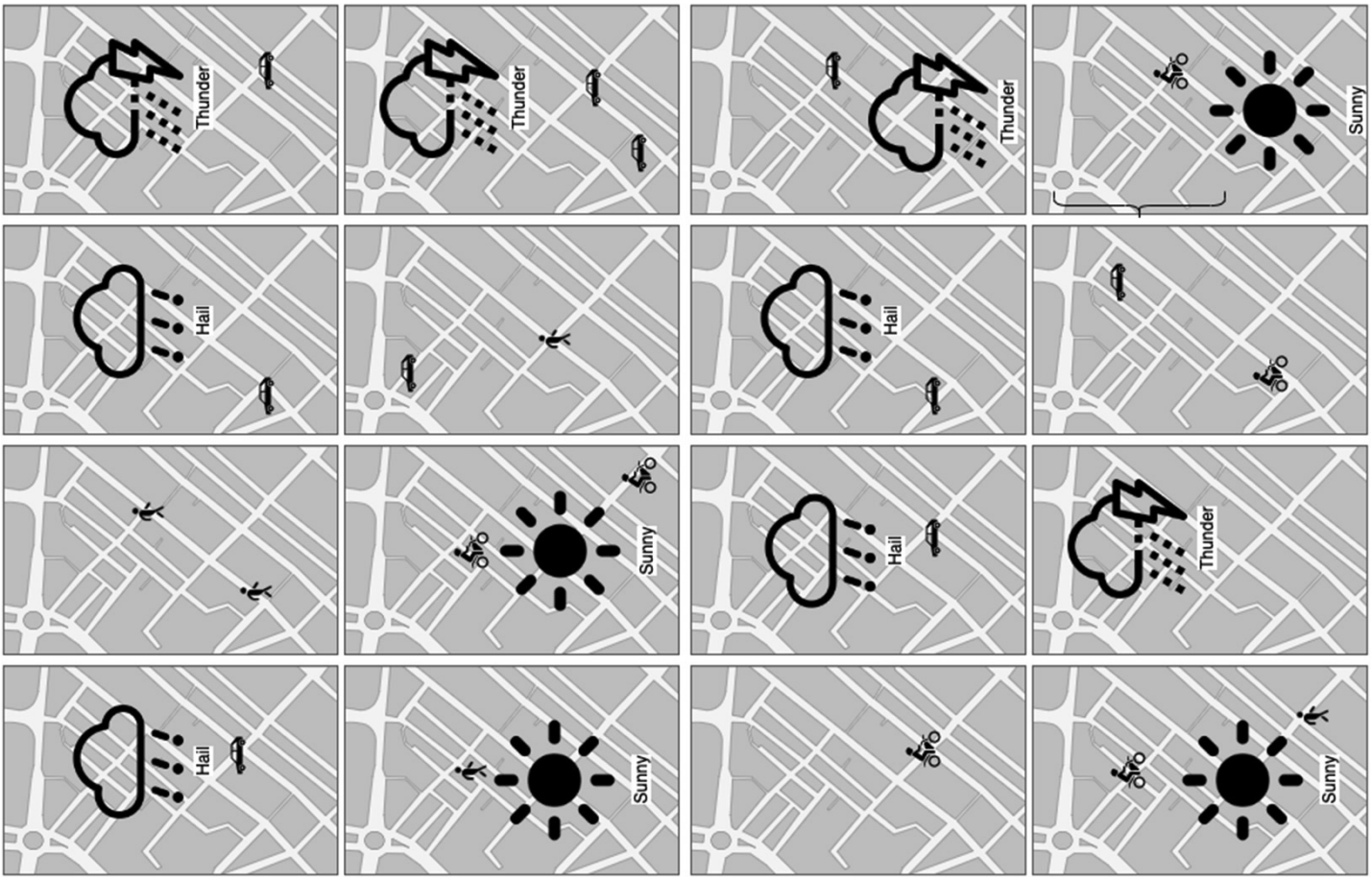


Figure 3D

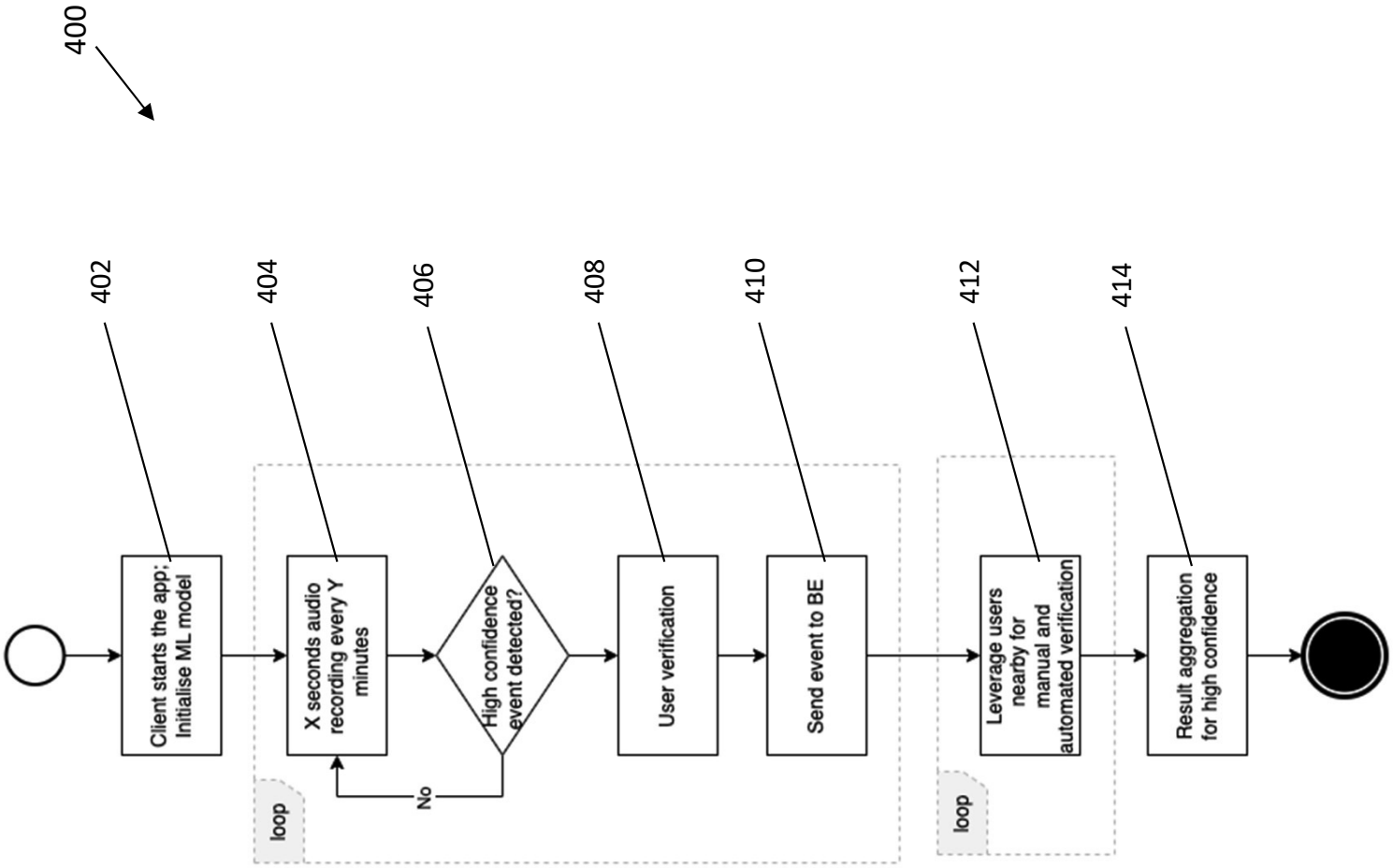

400
402
404
406
408
410
412
414
Client starts the app; Initialise ML model
X seconds audio recording every Y minutes
High confidence event detected?
No
User verification
Send event to BE
Leverage users nearby for manual and automated verification
Result aggregation for high confidence
loop
loop

Figure 4A

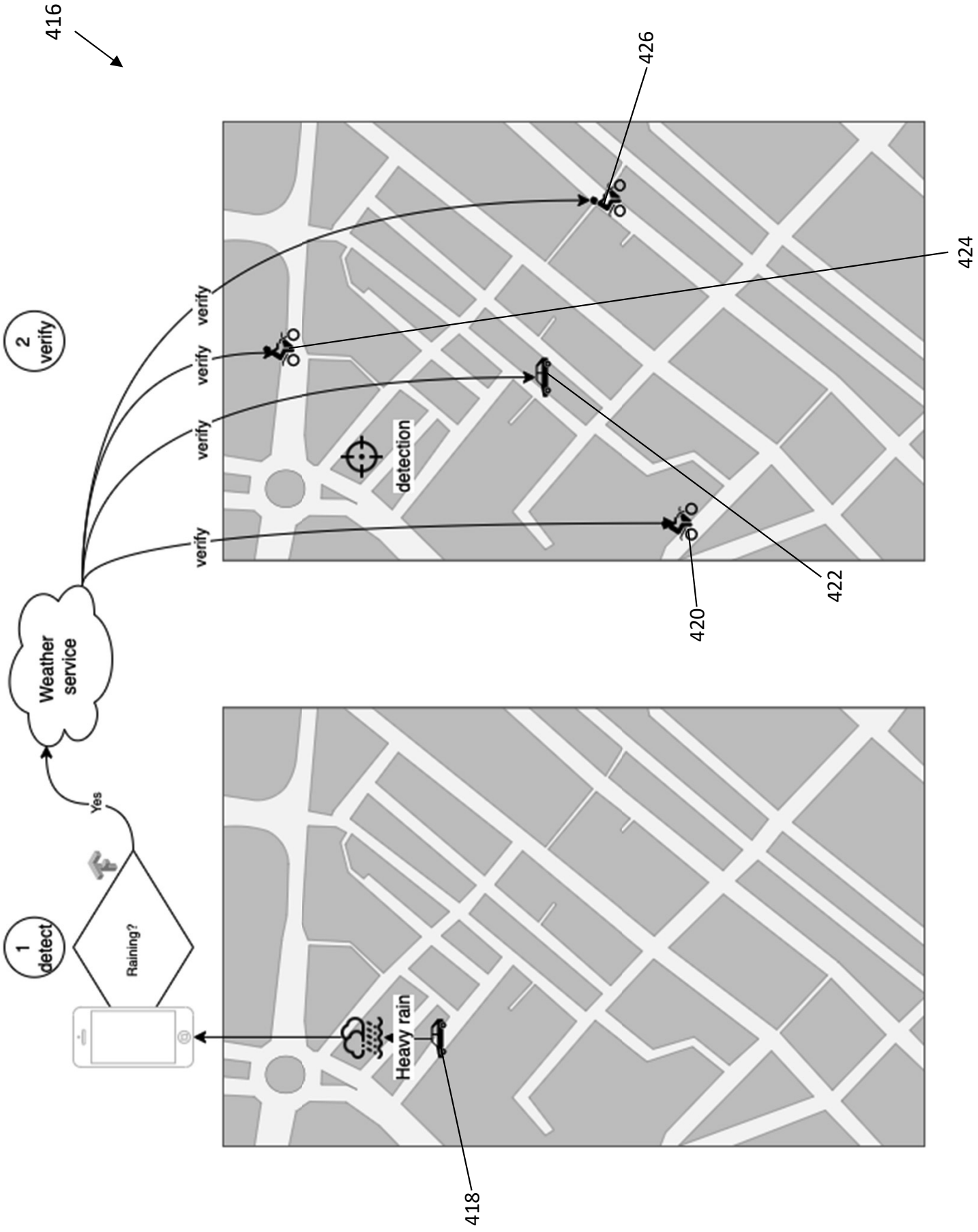

416
426
424
2
verify
verify
verify
verify
verify
detection
Weather
service
422
420
Yes
1
detect
Raining?
Heavy rain
418

Figure 4B

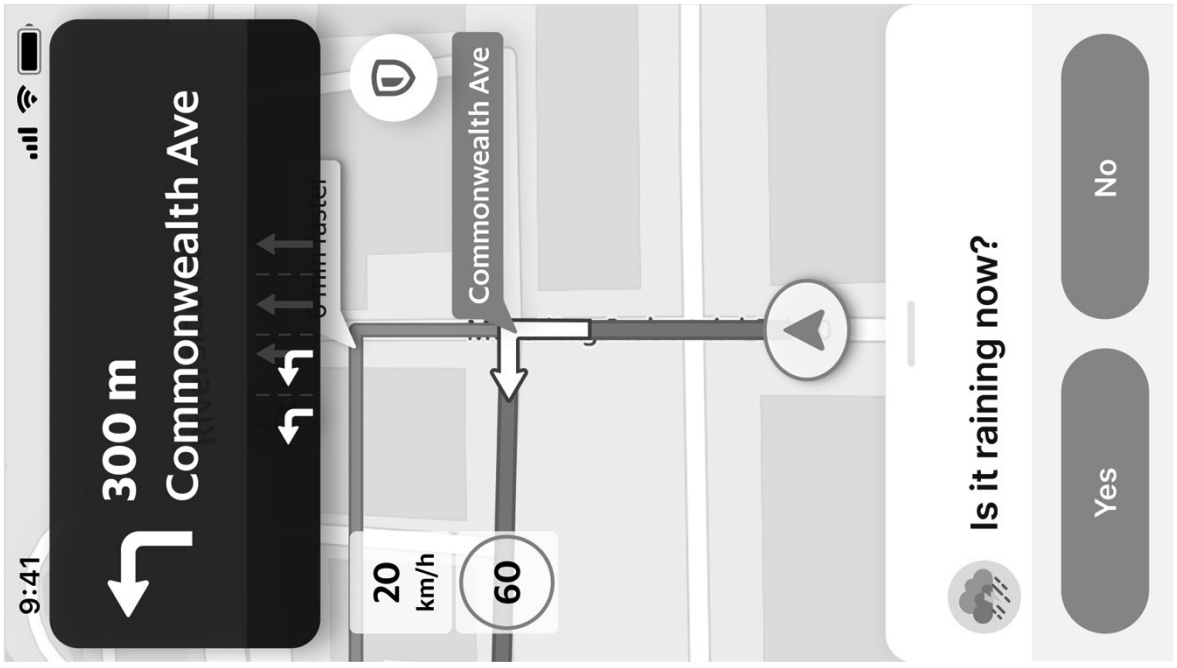

500
9:41
300 m
Commonwealth Ave
Commonwealth Ave
20
km/h
60
Is it raining now?
Yes
No

Figure 5A

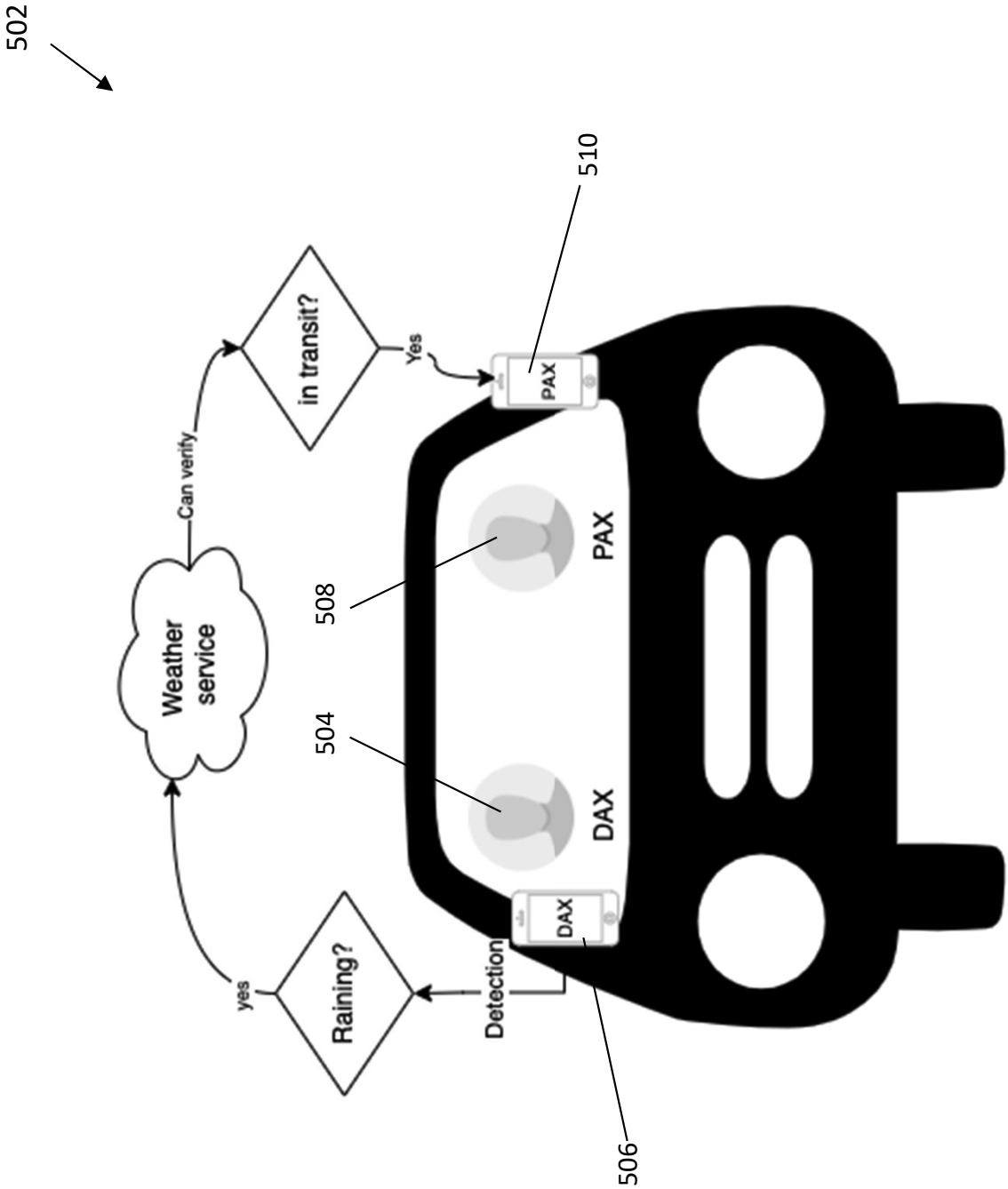

502
510
in transit?
Yes
PAX
Can verify
Weather service
508
PAX
504
DAX
DAX
yes
Raining?
Detection
506

Figure 5B

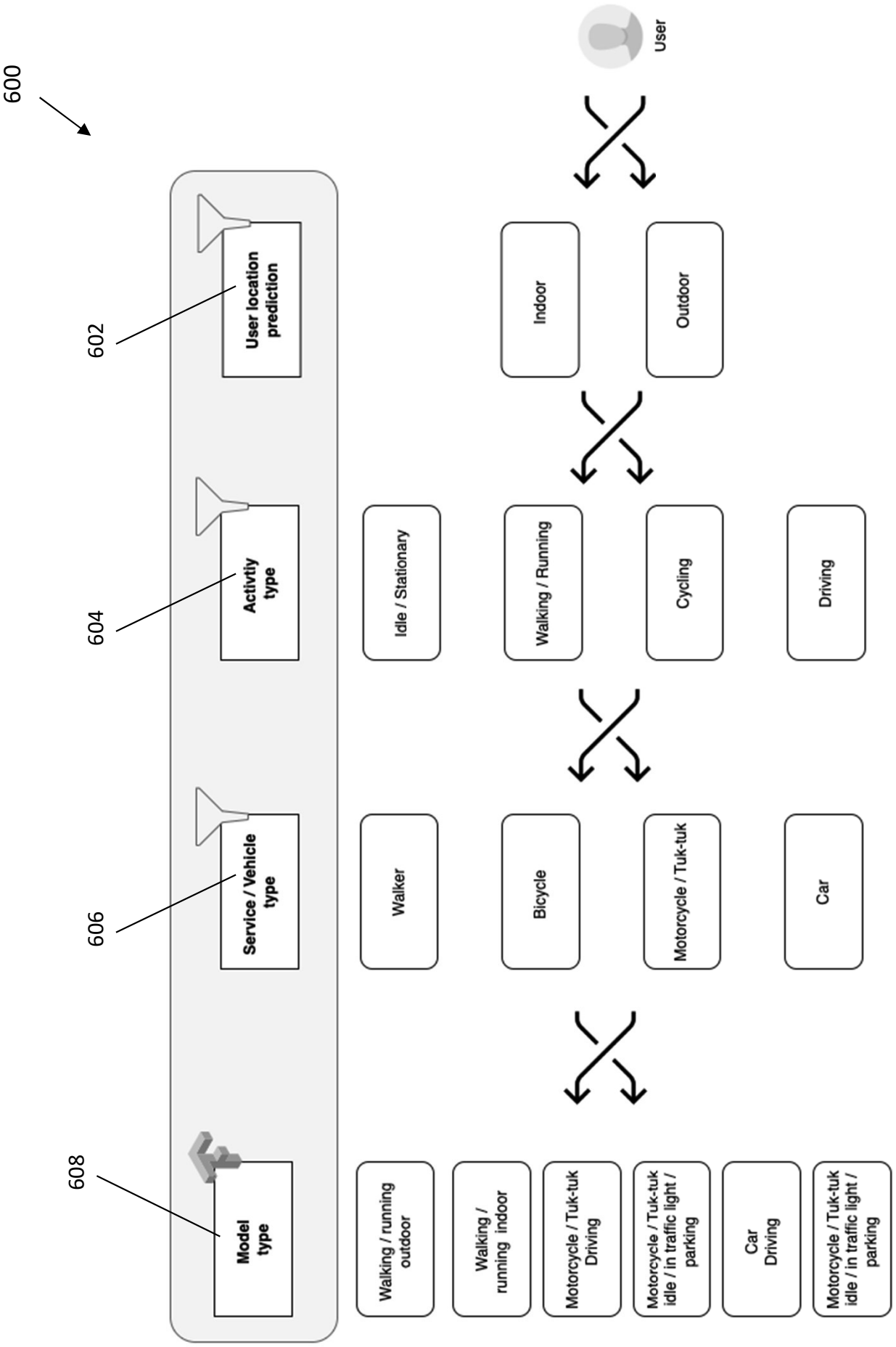

600
602
604
606
608
User location prediction
Activtiy type
Service / Vehicle type
Model type
User
Indoor
Outdoor
Idle / Stationary
Walking / Running
Cycling
Driving
Walker
Bicycle
Motorcycle / Tuk-tuk
Car
Walking / running outdoor
Walking / running indoor
Motorcycle / Tuk-tuk Driving
Motorcycle / Tuk-tuk idle / in traffic light / parking
Car Driving
Motorcycle / Tuk-tuk idle / in traffic light / parking

Figure 6

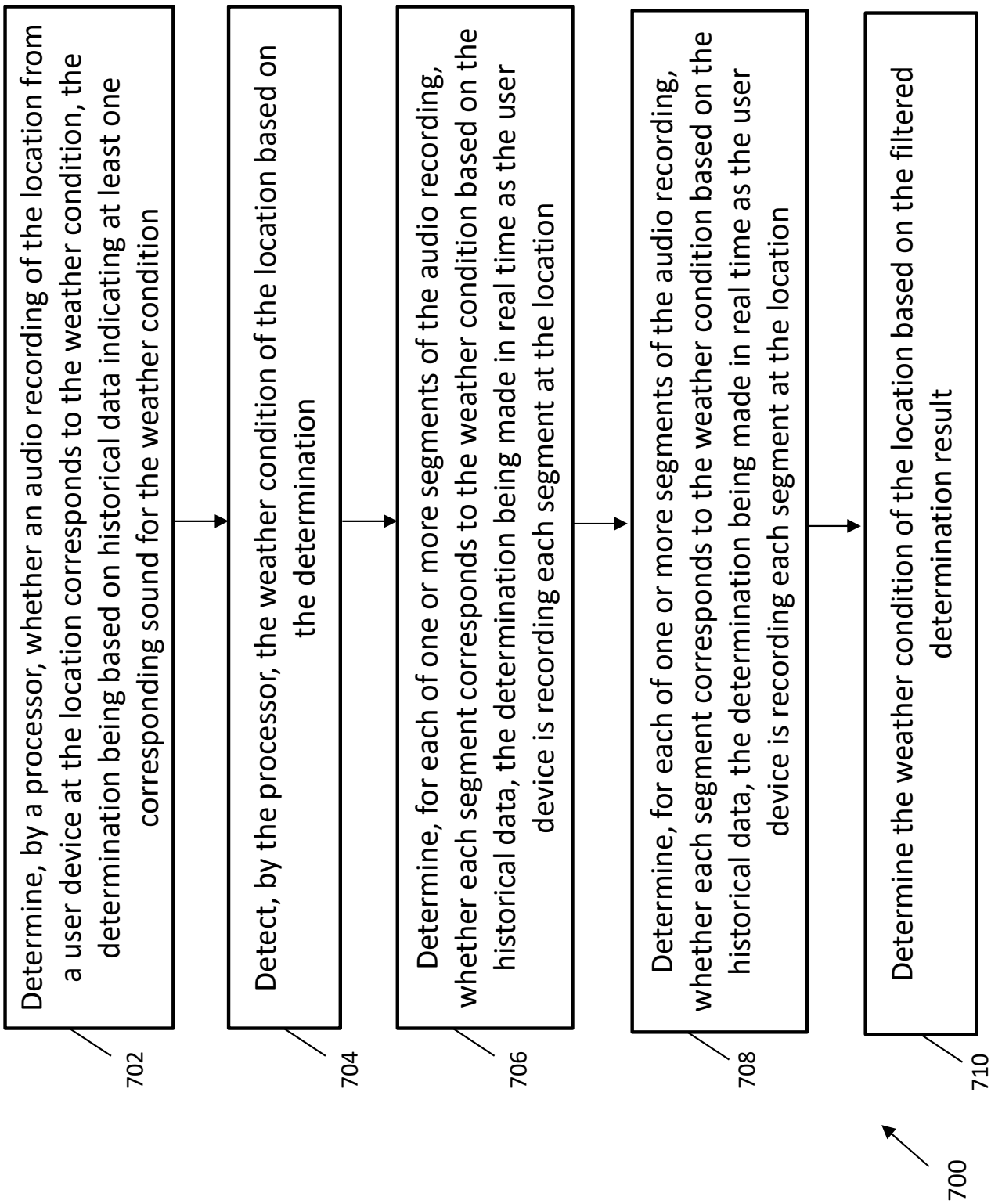

Determine, by a processor, whether an audio recording of the location from a user device at the location corresponds to the weather condition, the determination being based on historical data indicating at least one corresponding sound for the weather condition
Detect, by the processor, the weather condition of the location based on the determination
Determine, for each of one or more segments of the audio recording, whether each segment corresponds to the weather condition based on the historical data, the determination being made in real time as the user device is recording each segment at the location
Determine, for each of one or more segments of the audio recording, whether each segment corresponds to the weather condition based on the historical data, the determination being made in real time as the user device is recording each segment at the location
Determine the weather condition of the location based on the filtered determination result
702
704
706
708
710
700

Figure 7

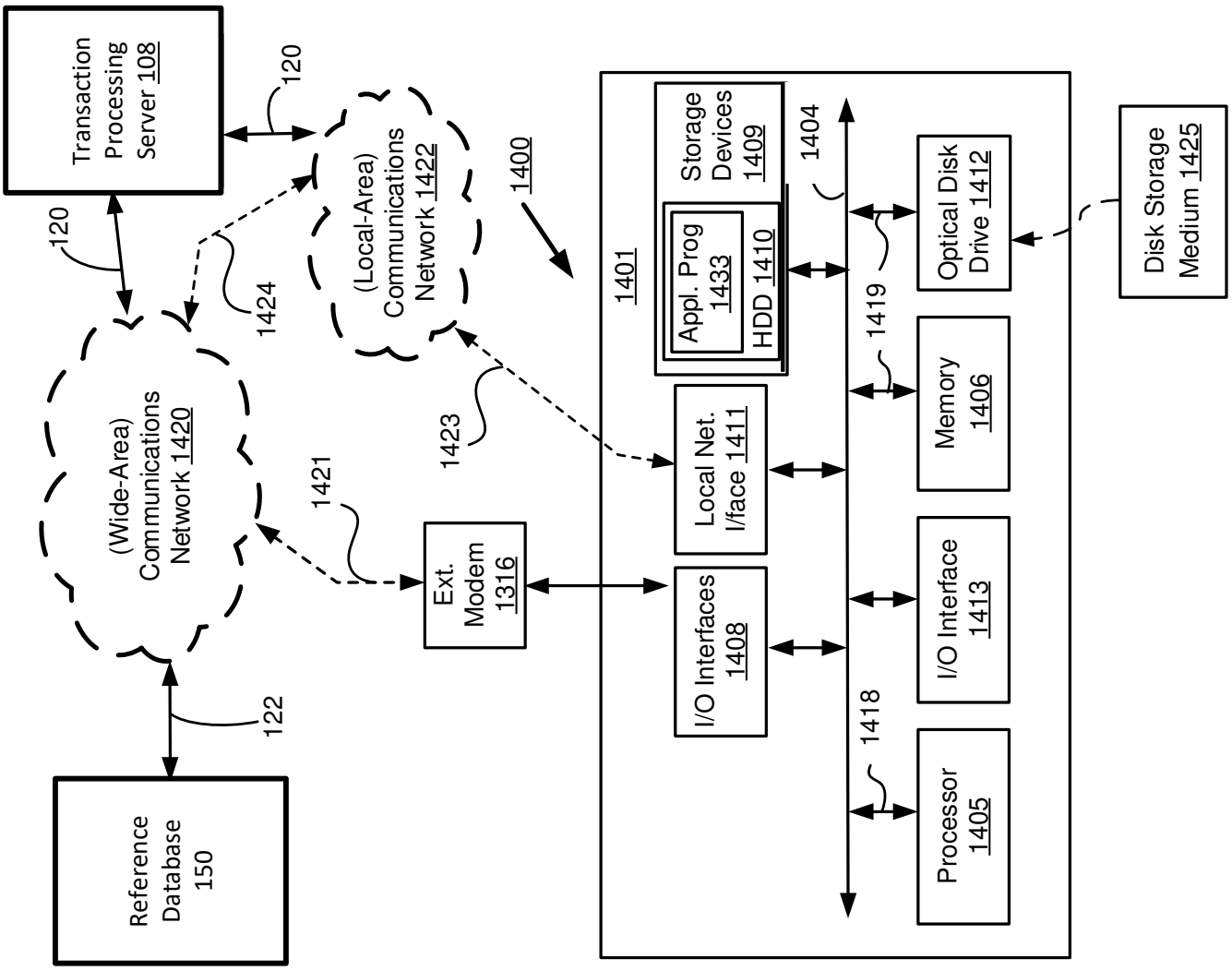

Transaction Processing Server 108
120
120
(Local-Area) Communications Network 1422
1400
1424
(Wide-Area) Communications Network 1420
1421
1423
Ext. Modem 1316
1401
Storage Devices 1409
Appl. Prog 1433
HDD 1410
1404
Optical Disk Drive 1412
Disk Storage Medium 1425
Local Net. I/face 1411
1419
Memory 1406
I/O Interfaces 1408
I/O Interface 1413
1418
Processor 1405
122
Reference Database 150

Figure 8A

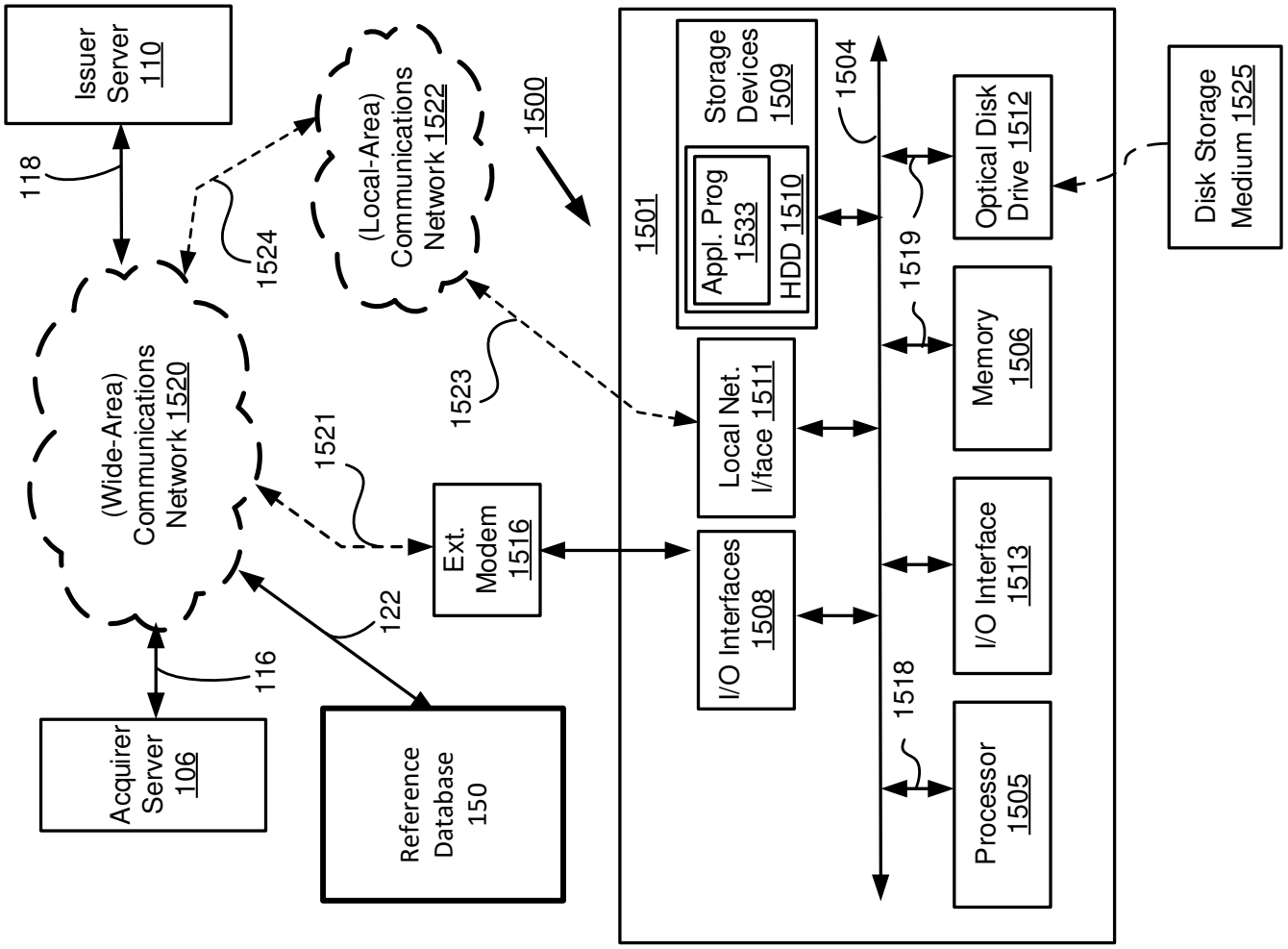

Issuer Server 110
118
(Wide-Area) Communications Network 1520
1524
(Local-Area) Communications Network 1522
1500
1501
Storage Devices 1509
Appl. Prog 1533
HDD 1510
1504
1519
Optical Disk Drive 1512
Disk Storage Medium 1525
Memory 1506
Local Net. I/face 1511
1523
1521
Ext. Modem 1516
I/O Interfaces 1508
I/O Interface 1513
1518
Processor 1505
122
116
Acquirer Server 106
Reference Database 150

Figure 8B

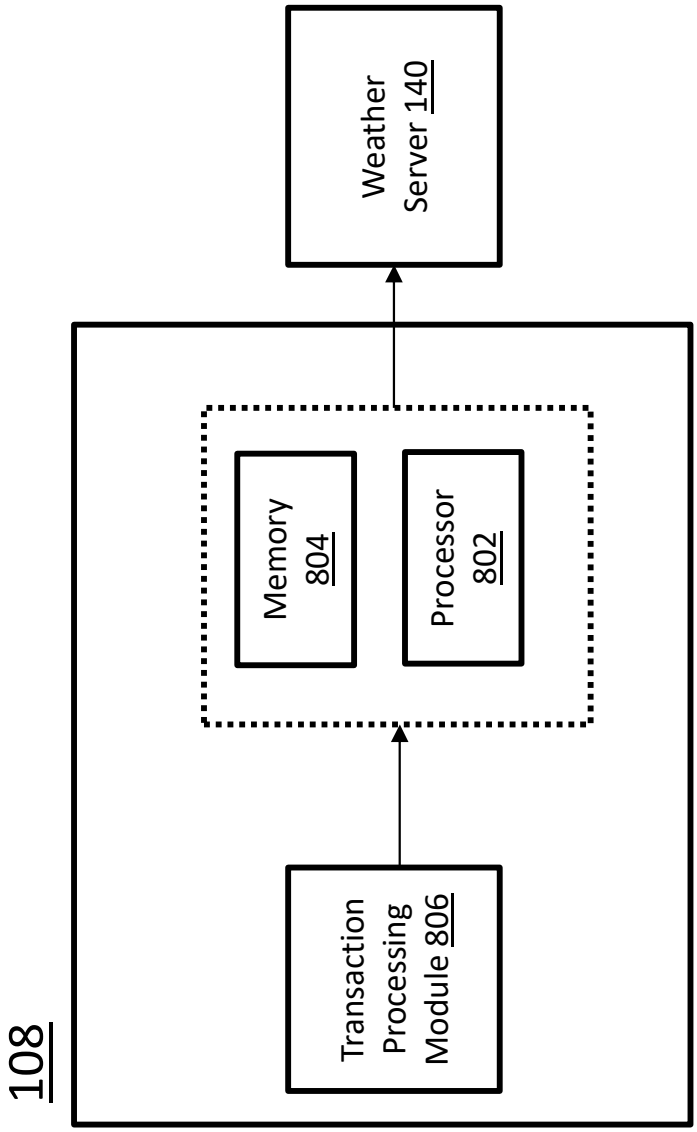

Weather Server 140
Memory 804
Processor 802
Transaction Processing Module 806
108

Figure. 9

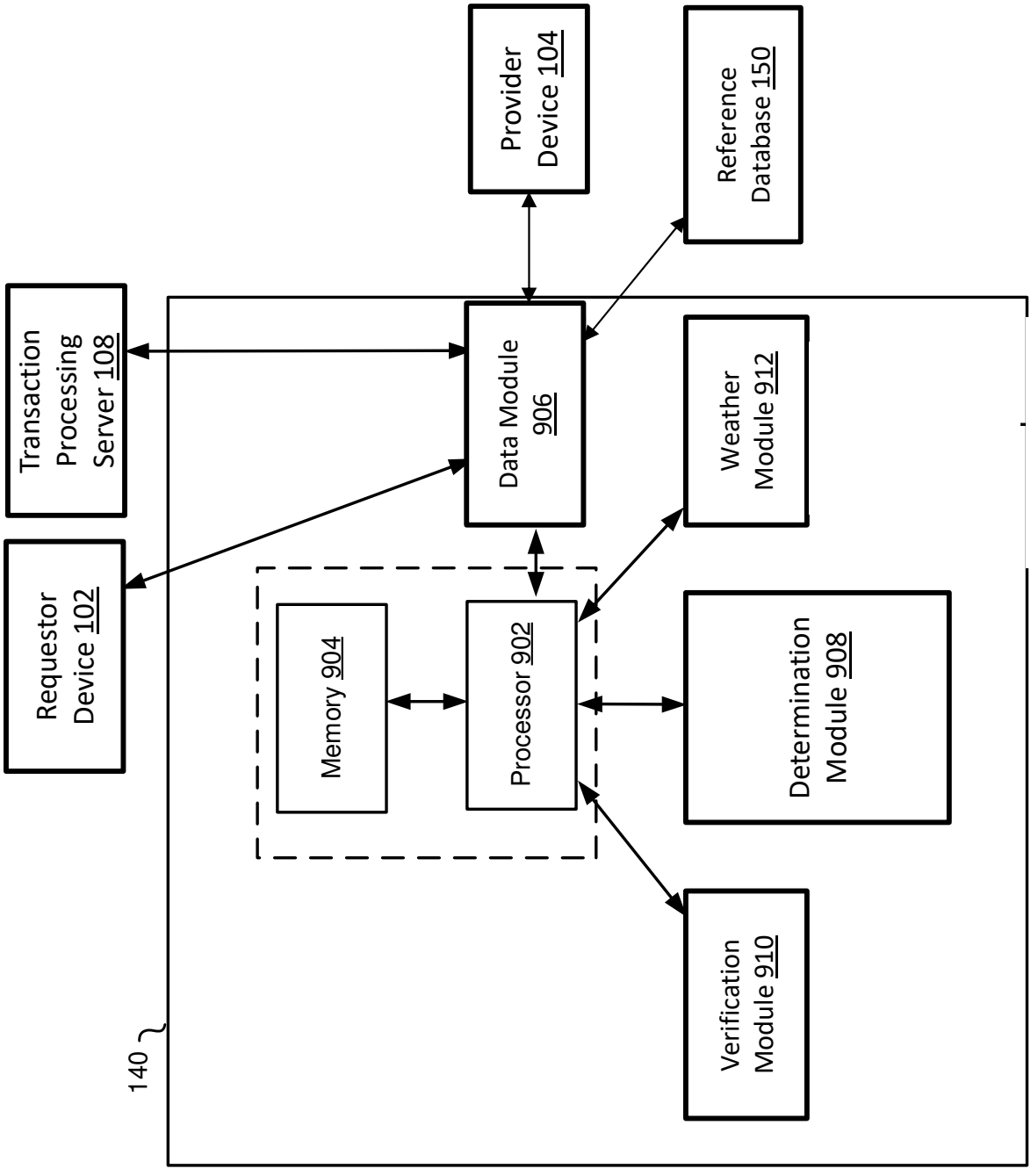

Provider Device 104
Reference Database 150
Transaction Processing Server 108
Data Module 906
Weather Module 912
Requestor Device 102
Memory 904
Processor 902
Determination Module 908
Verification Module 910
140

Figure 10

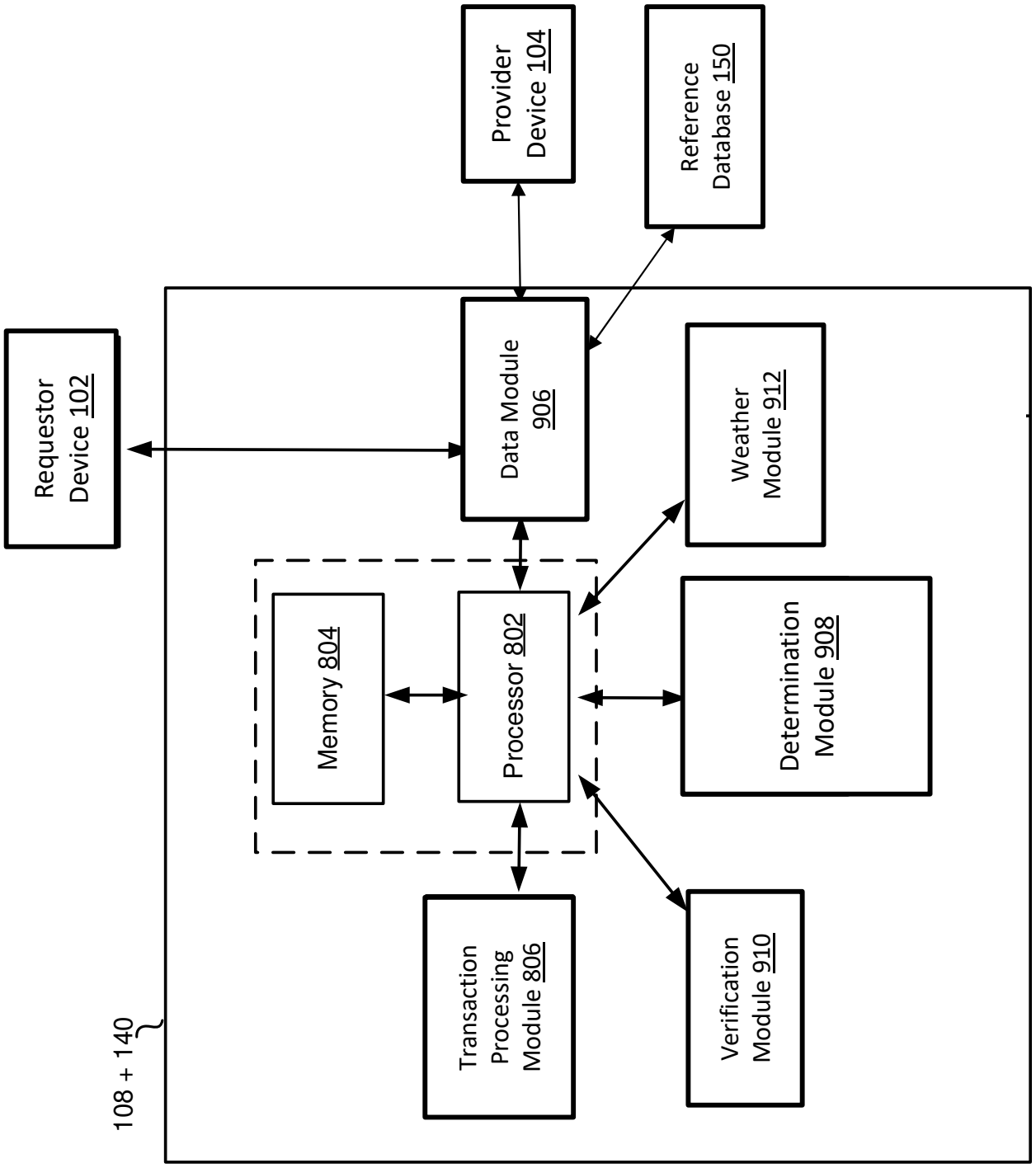

Provider Device 104
Reference Database 150
Requestor Device 102
Data Module 906
Weather Module 912
Memory 804
Processor 802
Determination Module 908
Transaction Processing Module 806
Verification Module 910
108 + 140

Figure 11