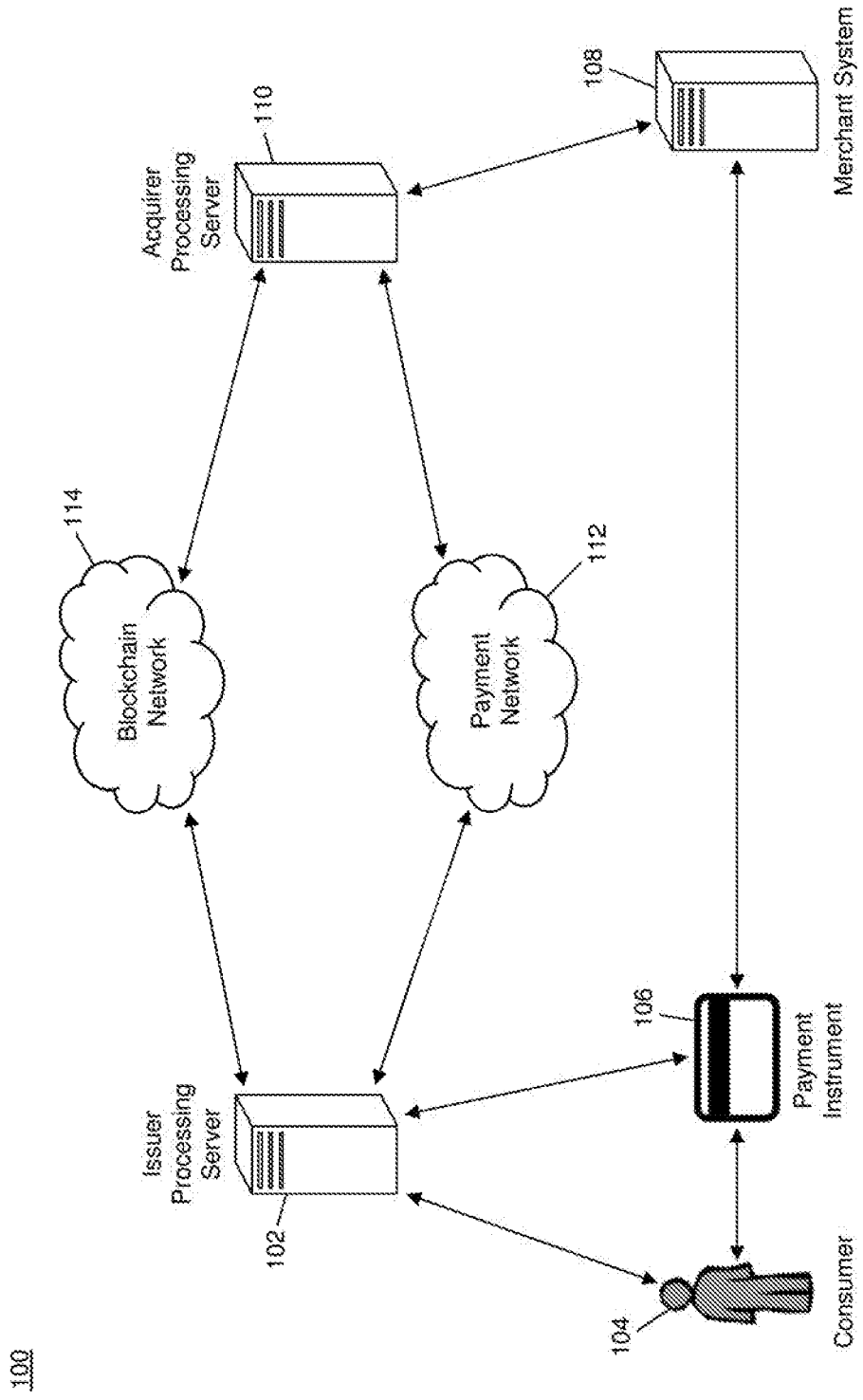

100
Issuer Processing Server
102
Consumer
104
Payment Instrument
106
Merchant System
108
Acquirer Processing Server
110
Payment Network
112
Blockchain Network
114

FIG. 1

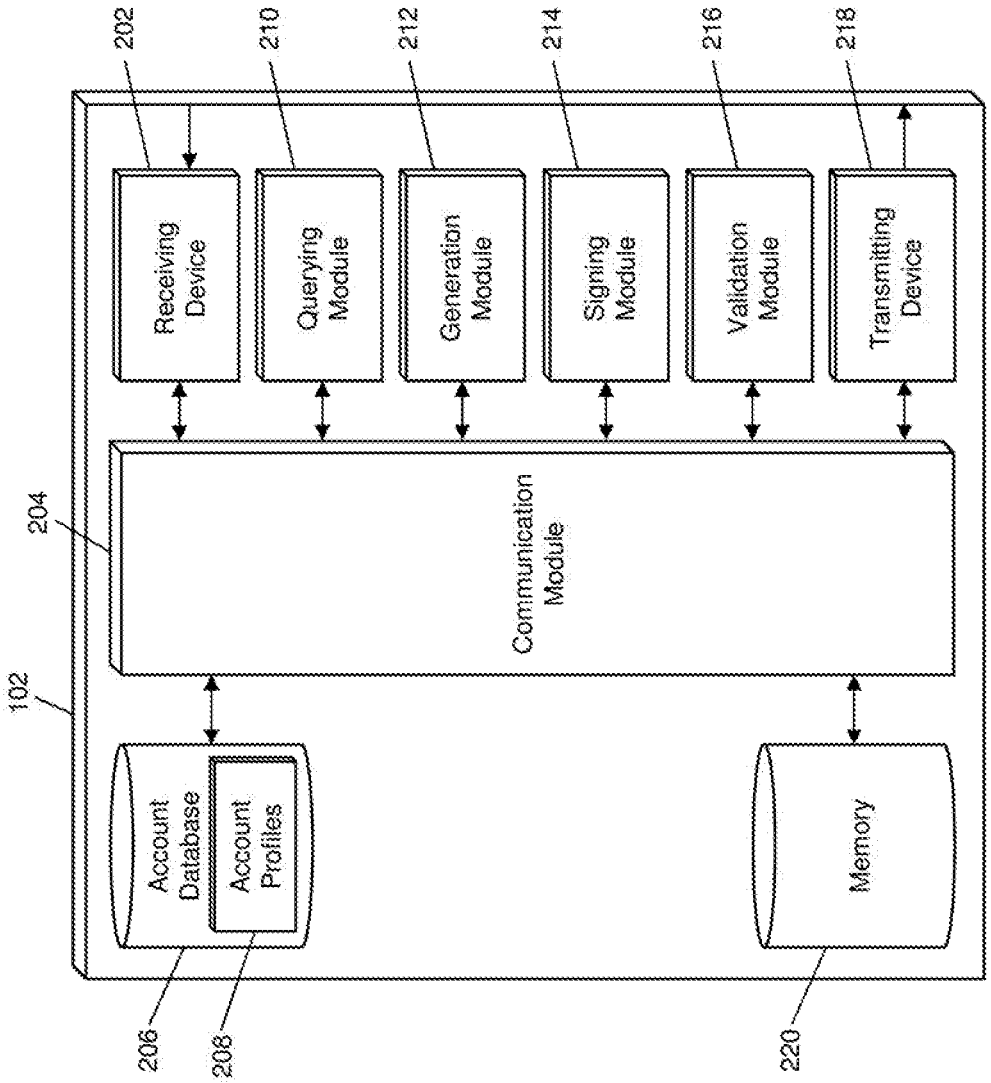

202
210
212
214
216
218
Receiving Device
Querying Module
Generation Module
Signing Module
Validation Module
Transmitting Device
204
Communication Module
102
Account Database
Account Profiles
Memory
206
208
220

FIG. 2

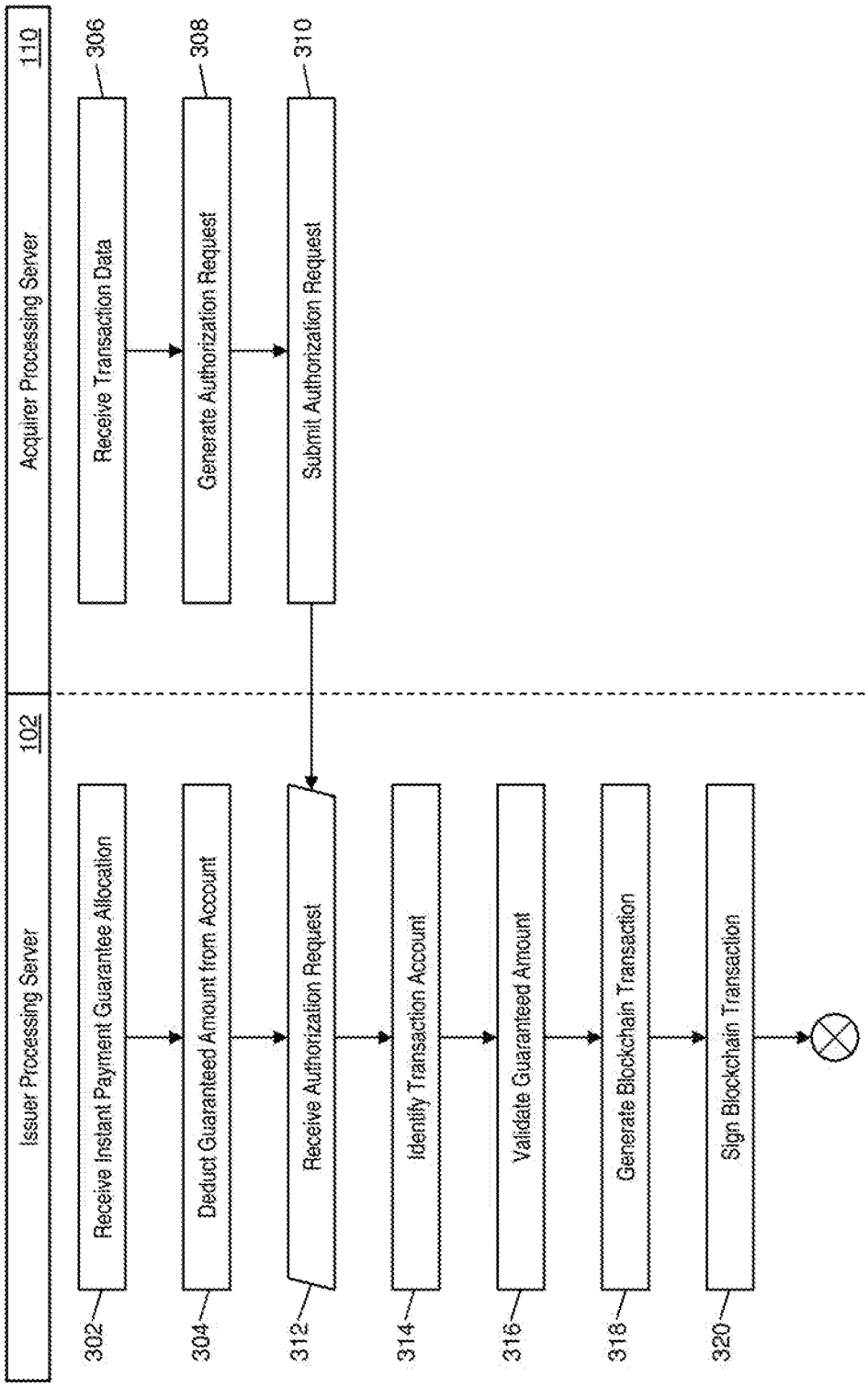

Issuer Processing Server 102
Acquirer Processing Server 110
Receive Instant Payment Guarantee Allocation
Deduct Guaranteed Amount from Account
Receive Authorization Request
Identify Transaction Account
Validate Guaranteed Amount
Generate Blockchain Transaction
Sign Blockchain Transaction
Receive Transaction Data
Generate Authorization Request
Submit Authorization Request
302
304
312
314
316
318
320
306
308
310

FIG. 3A

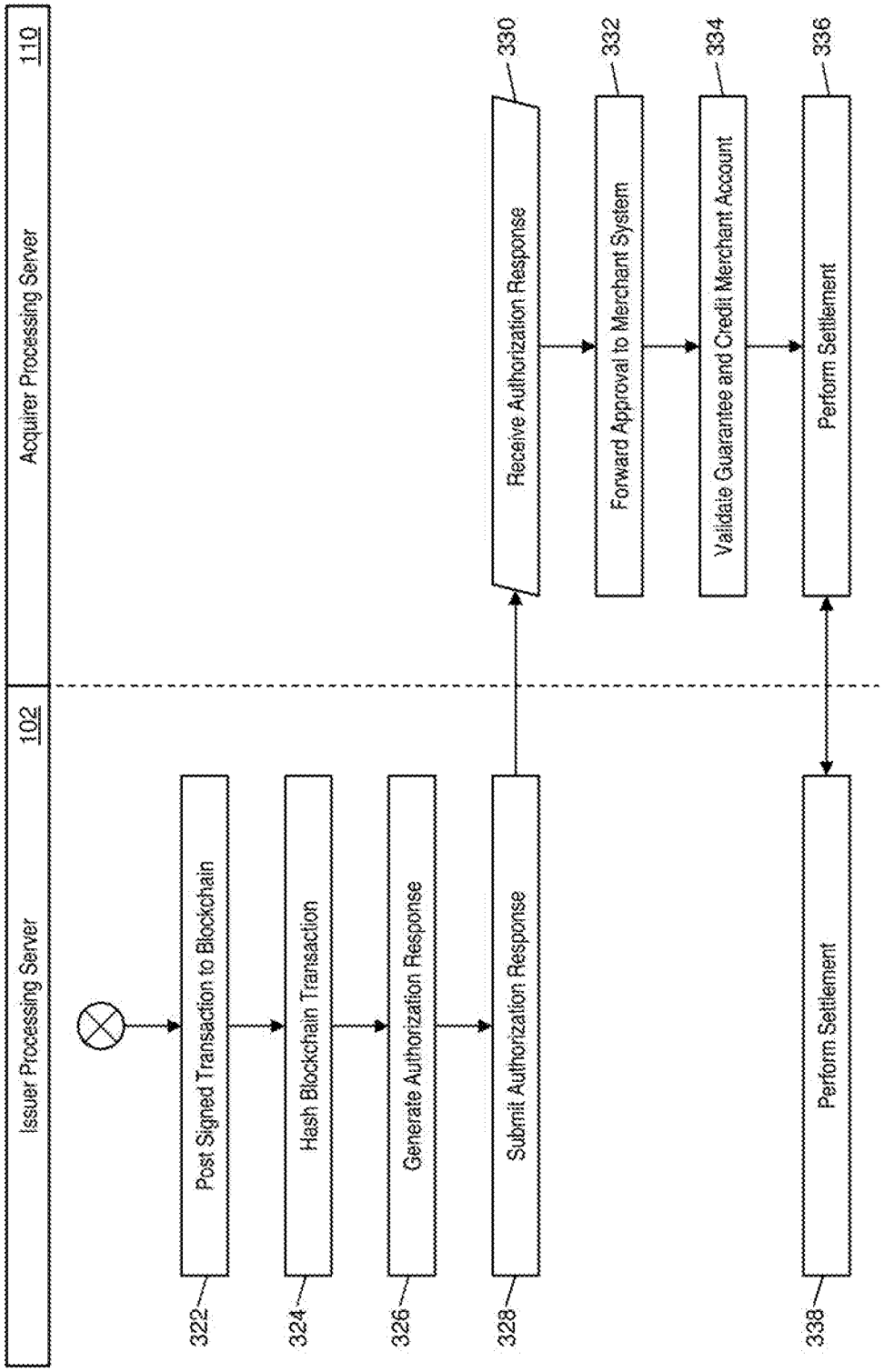

Issuer Processing Server
102
Acquirer Processing Server
110
Post Signed Transaction to Blockchain
322
Hash Blockchain Transaction
324
Generate Authorization Response
326
Submit Authorization Response
328
Receive Authorization Response
330
Forward Approval to Merchant System
332
Validate Guarantee and Credit Merchant Account
334
Perform Settlement
336
Perform Settlement
338

FIG. 3B

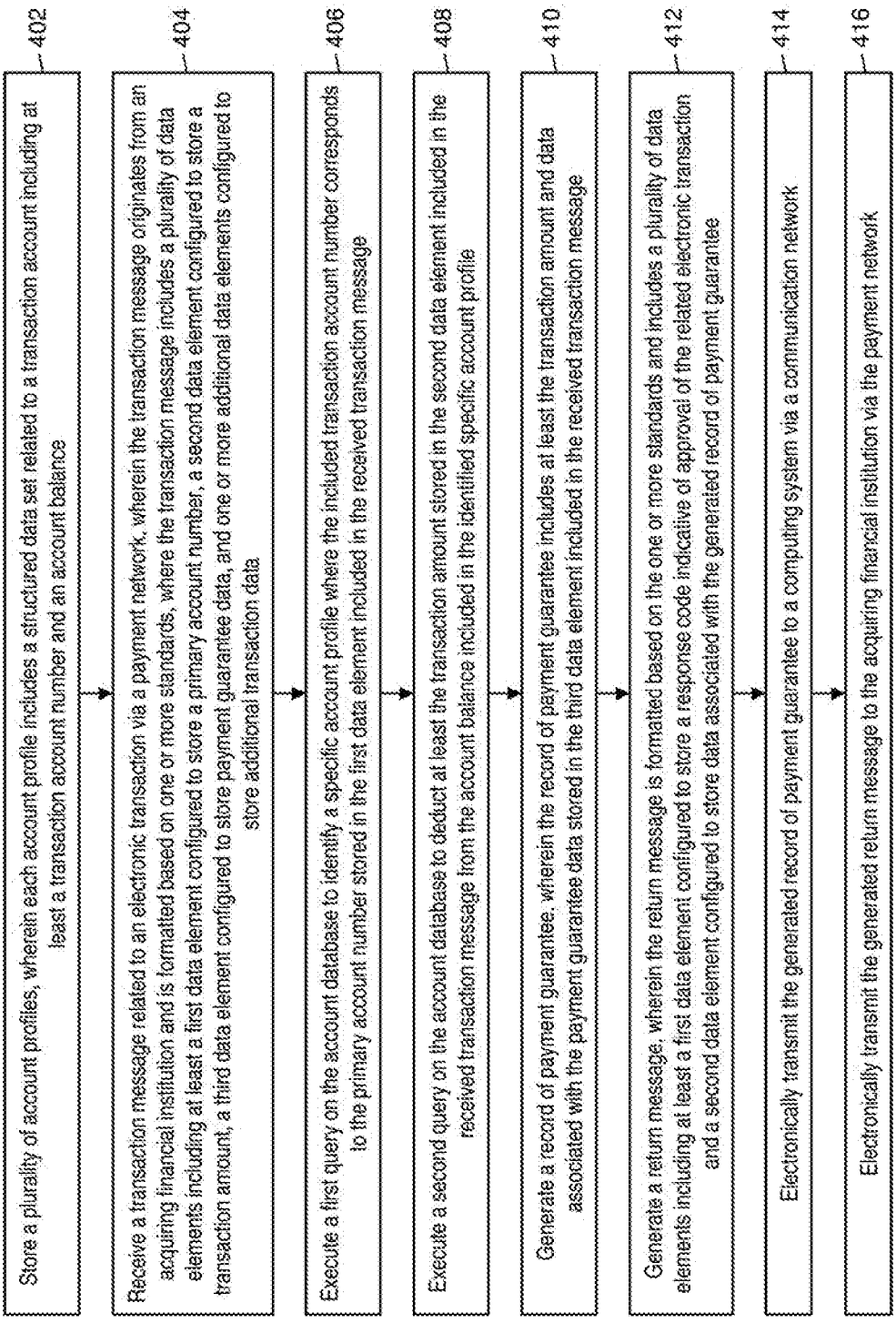

400
Store a plurality of account profiles, wherein each account profile includes a structured data set related to a transaction account including at least a transaction account number and an account balance
402
Receive a transaction message related to an electronic transaction via a payment network, wherein the transaction message originates from an acquiring financial institution and is formatted based on one or more standards, where the transaction message includes a plurality of data elements including at least a first data element configured to store a primary account number, a second data element configured to store a transaction amount, a third data element configured to store payment guarantee data, and one or more additional data elements configured to store additional transaction data
404
Execute a first query on the account database to identify a specific account profile where the included transaction account number corresponds to the primary account number stored in the first data element included in the received transaction message
406
Execute a second query on the account database to deduct at least the transaction amount stored in the second data element included in the received transaction message from the account balance included in the identified specific account profile
408
Generate a record of payment guarantee, wherein the record of payment guarantee includes at least the transaction amount and data associated with the payment guarantee data stored in the third data element included in the received transaction message
410
Generate a return message, wherein the return message is formatted based on the one or more standards and includes a plurality of data elements including at least a first data element configured to store a response code indicative of approval of the related electronic transaction and a second data element configured to store data associated with the generated record of payment guarantee
412
Electronically transmit the generated record of payment guarantee to a computing system via a communication network
414
Electronically transmit the generated return message to the acquiring financial institution via the payment network
416

FIG. 4

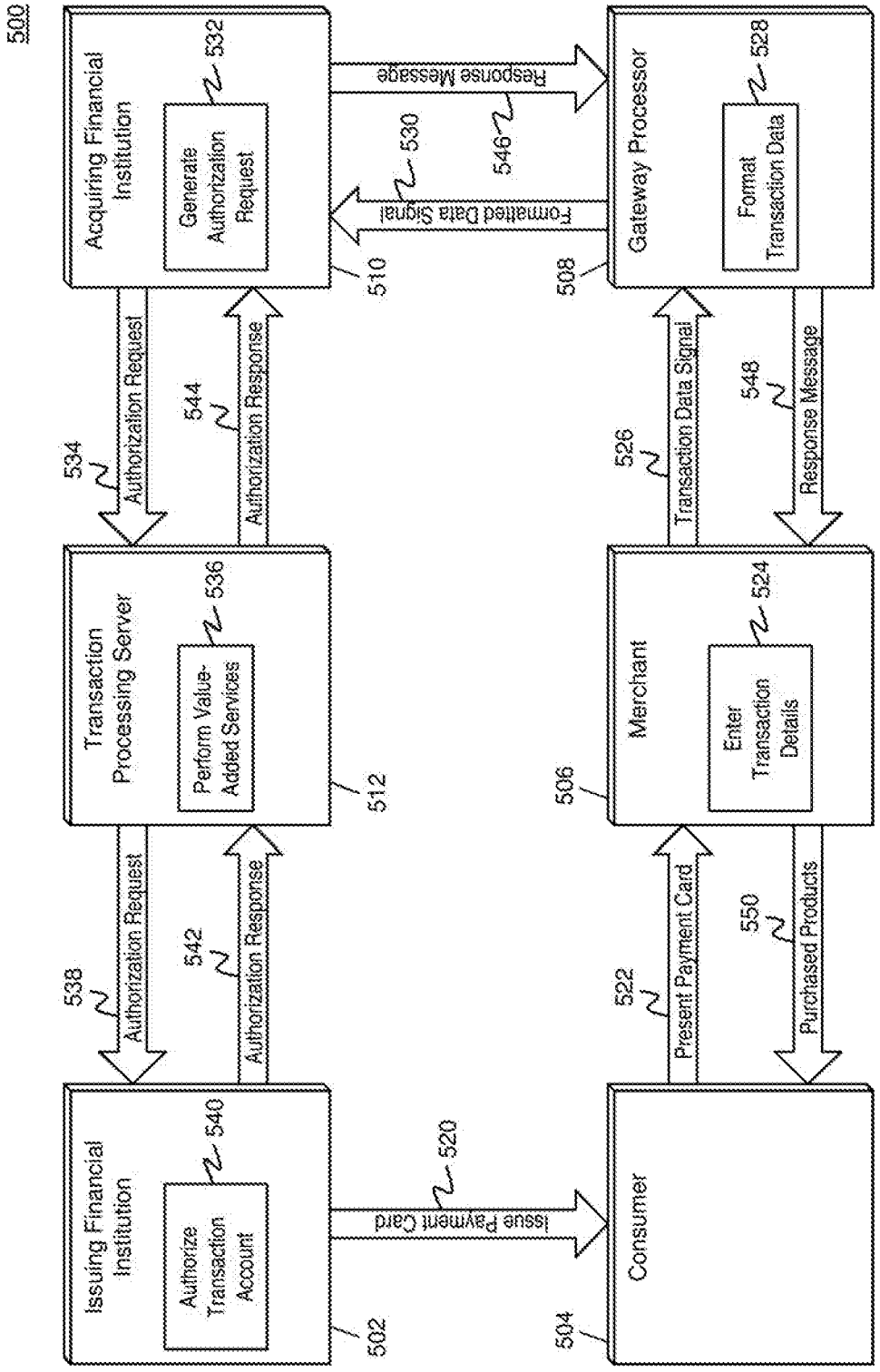

500
Acquiring Financial Institution
532
Generate Authorization Request
510
Response Message
530
546
Formatted Data Signal
Gateway Processor
528
Format Transaction Data
508
534
Authorization Request
544
Authorization Response
526
Transaction Data Signal
548
Response Message
Transaction Processing Server
536
Perform Value-Added Services
512
Merchant
524
Enter Transaction Details
506
538
Authorization Request
542
Authorization Response
522
Present Payment Card
550
Purchased Products
Issuing Financial Institution
540
Authorize Transaction Account
502
520
Issue Payment Card
Consumer
504

FIG. 5

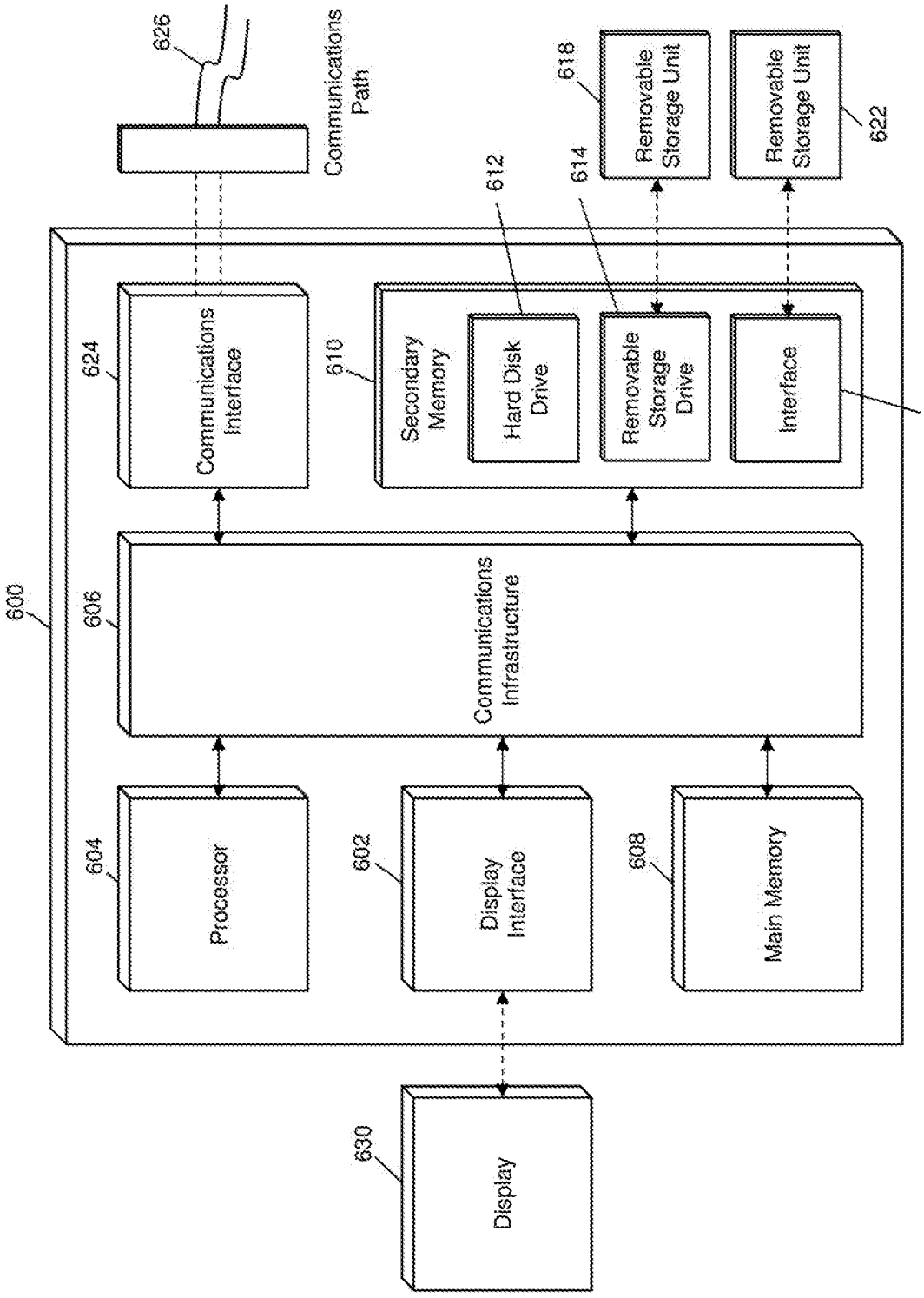

600
606
Communications Infrastructure
604
Processor
602
Display Interface
608
Main Memory
630
Display
624
Communications Interface
610
Secondary Memory
612
Hard Disk Drive
614
Removable Storage Drive
620
Interface
618
Removable Storage Unit
622
Removable Storage Unit
626
Communications Path

FIG. 6