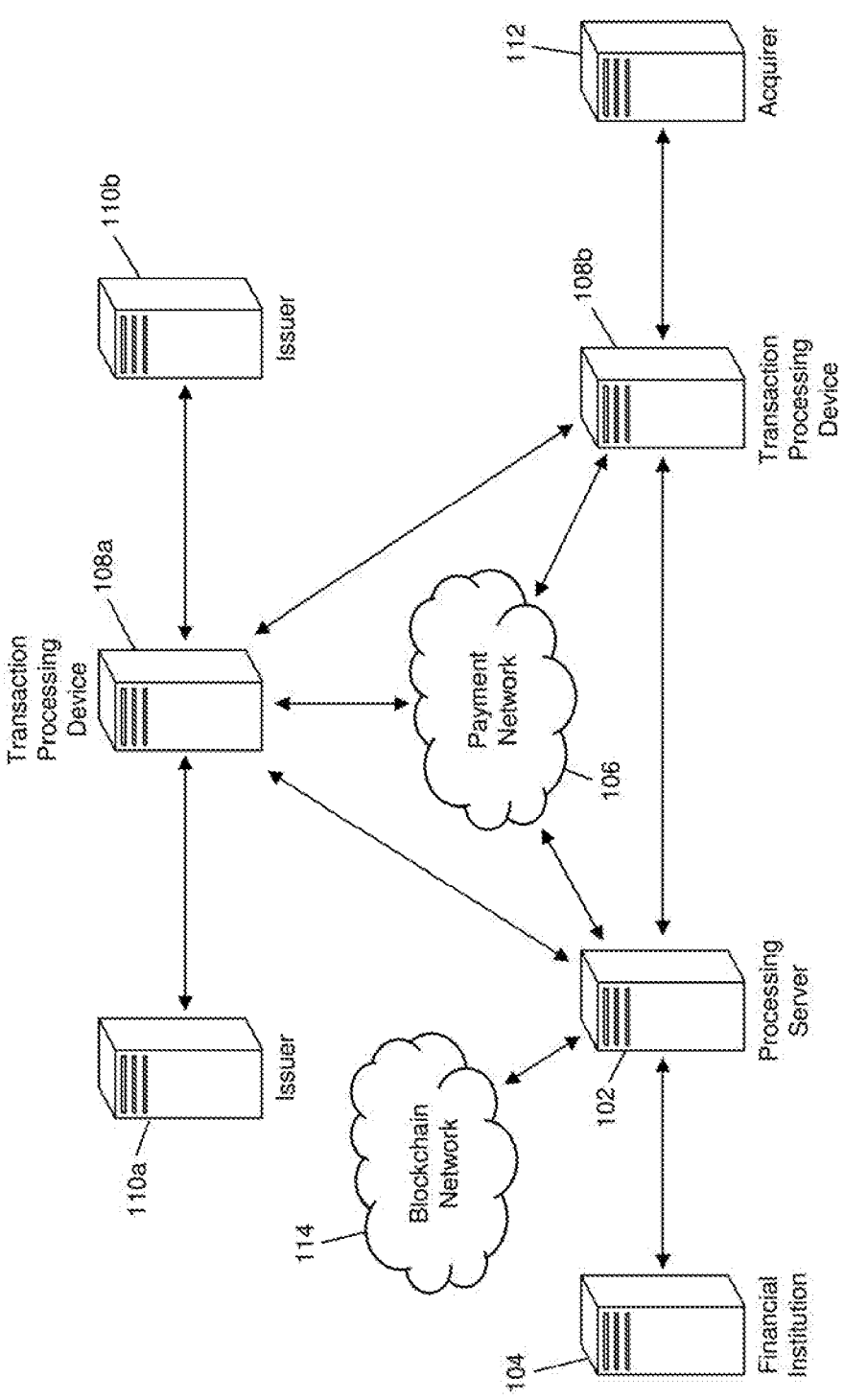

100
112
Acquirer
110b
Issuer
108b
Transaction Processing Device
108a
Transaction Processing Device
Payment Network
106
Issuer
110a
Blockchain Network
114
Processing Server
102
104
Financial Institution

FIG. 1

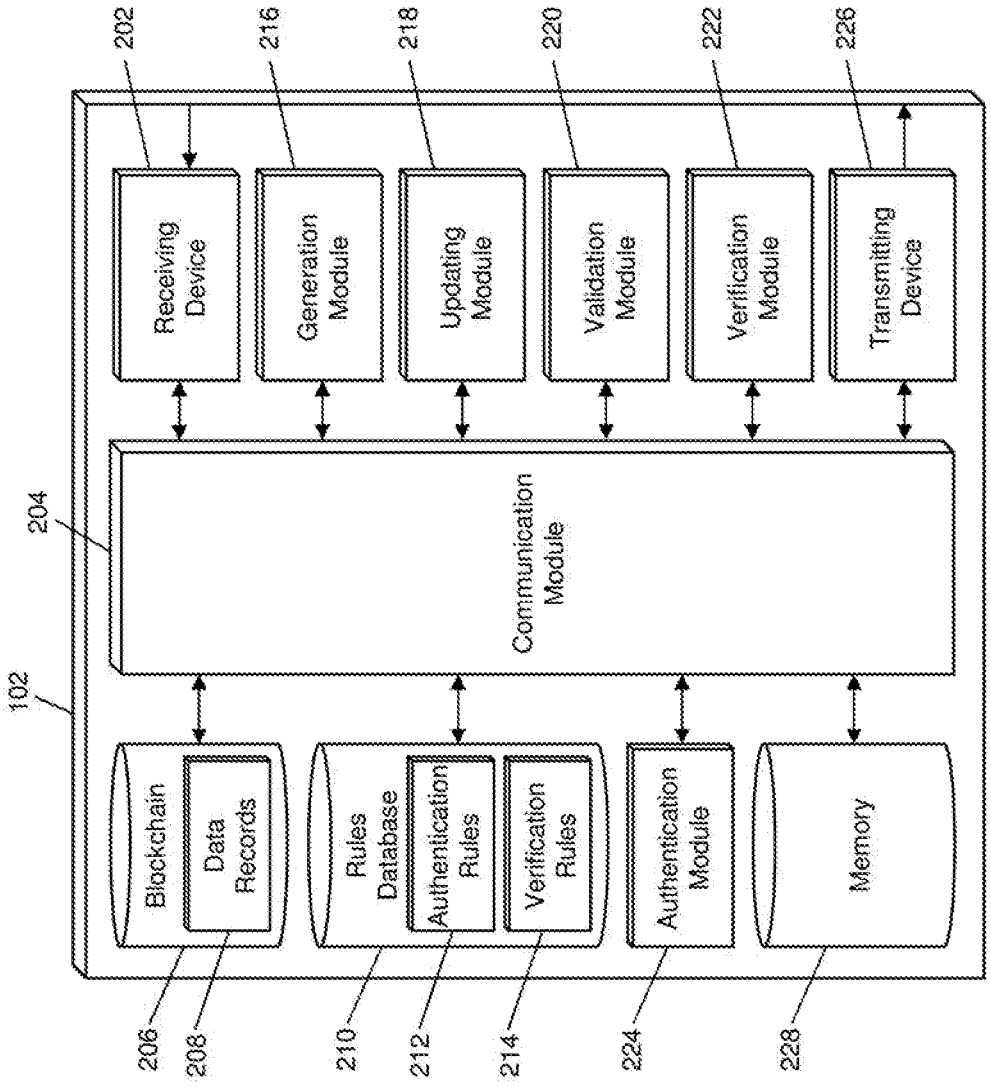

202
216
218
220
222
226
Receiving Device
Generation Module
Updating Module
Validation Module
Verification Module
Transmitting Device
204
Communication Module
102
Blockchain
Data Records
Rules Database
Authentication Rules
Verification Rules
Authentication Module
Memory
206
208
210
212
214
224
228

FIG. 2

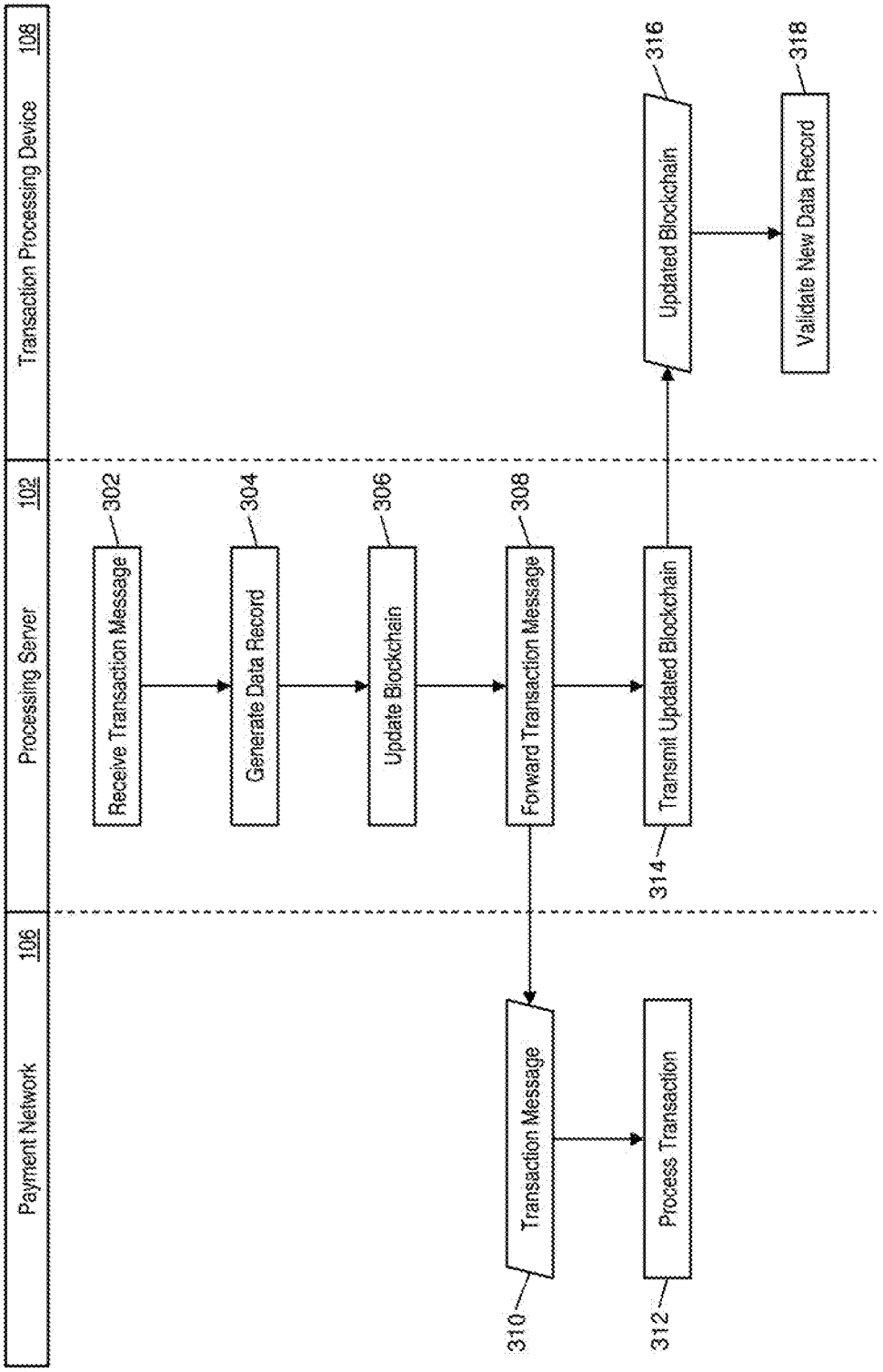

Payment Network 106
Processing Server 102
Transaction Processing Device 108
Receive Transaction Message
302
Generate Data Record
304
Update Blockchain
306
Forward Transaction Message
308
Transmit Updated Blockchain
314
Updated Blockchain
316
Validate New Data Record
318
Transaction Message
310
Process Transaction
312

FIG. 3

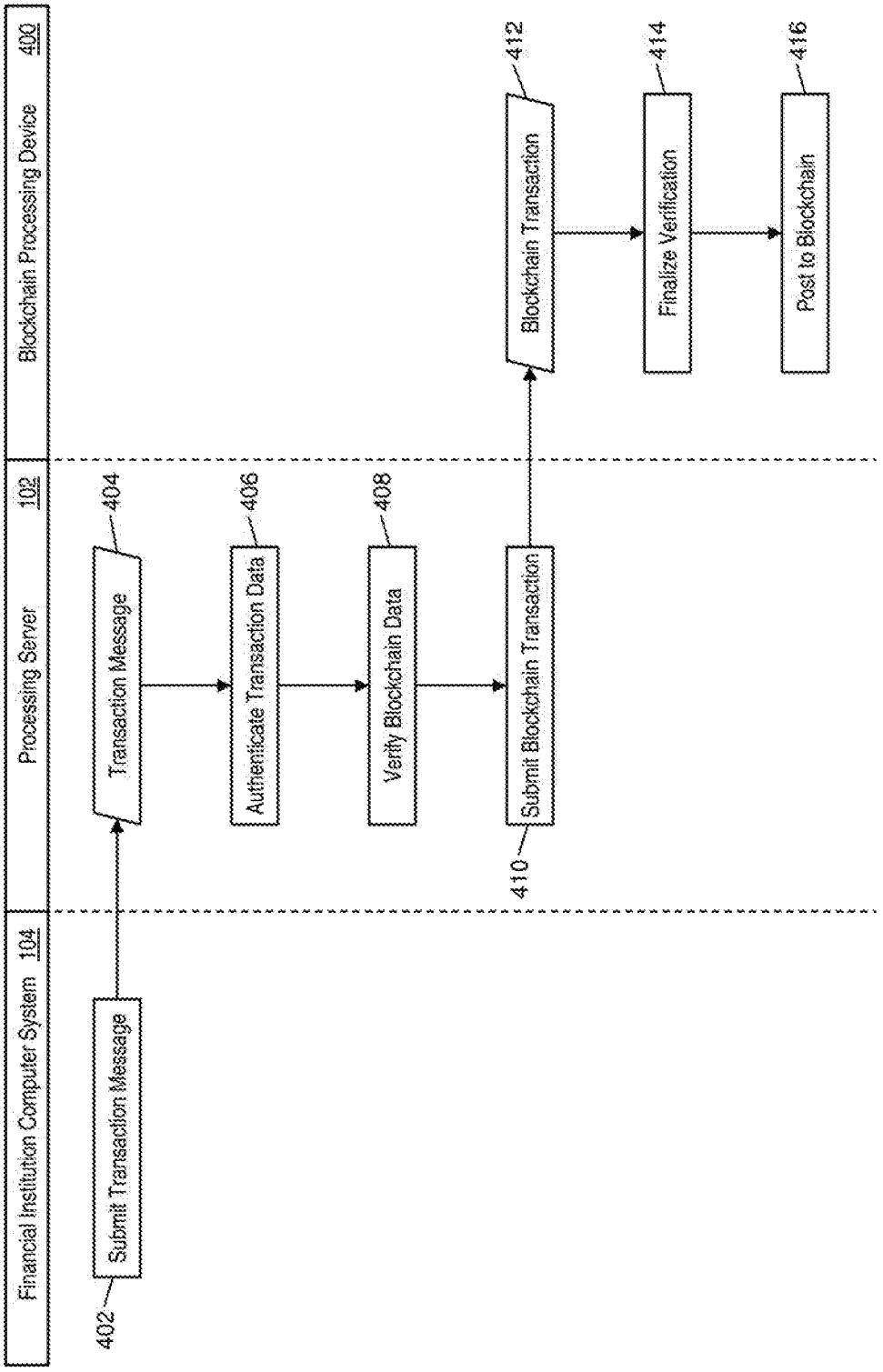

Financial Institution Computer System 104
Processing Server 102
Blockchain Processing Device 400
Submit Transaction Message
Transaction Message
Authenticate Transaction Data
Verify Blockchain Data
Submit Blockchain Transaction
Blockchain Transaction
Finalize Verification
Post to Blockchain
402
404
406
408
410
412
414
416

FIG. 4

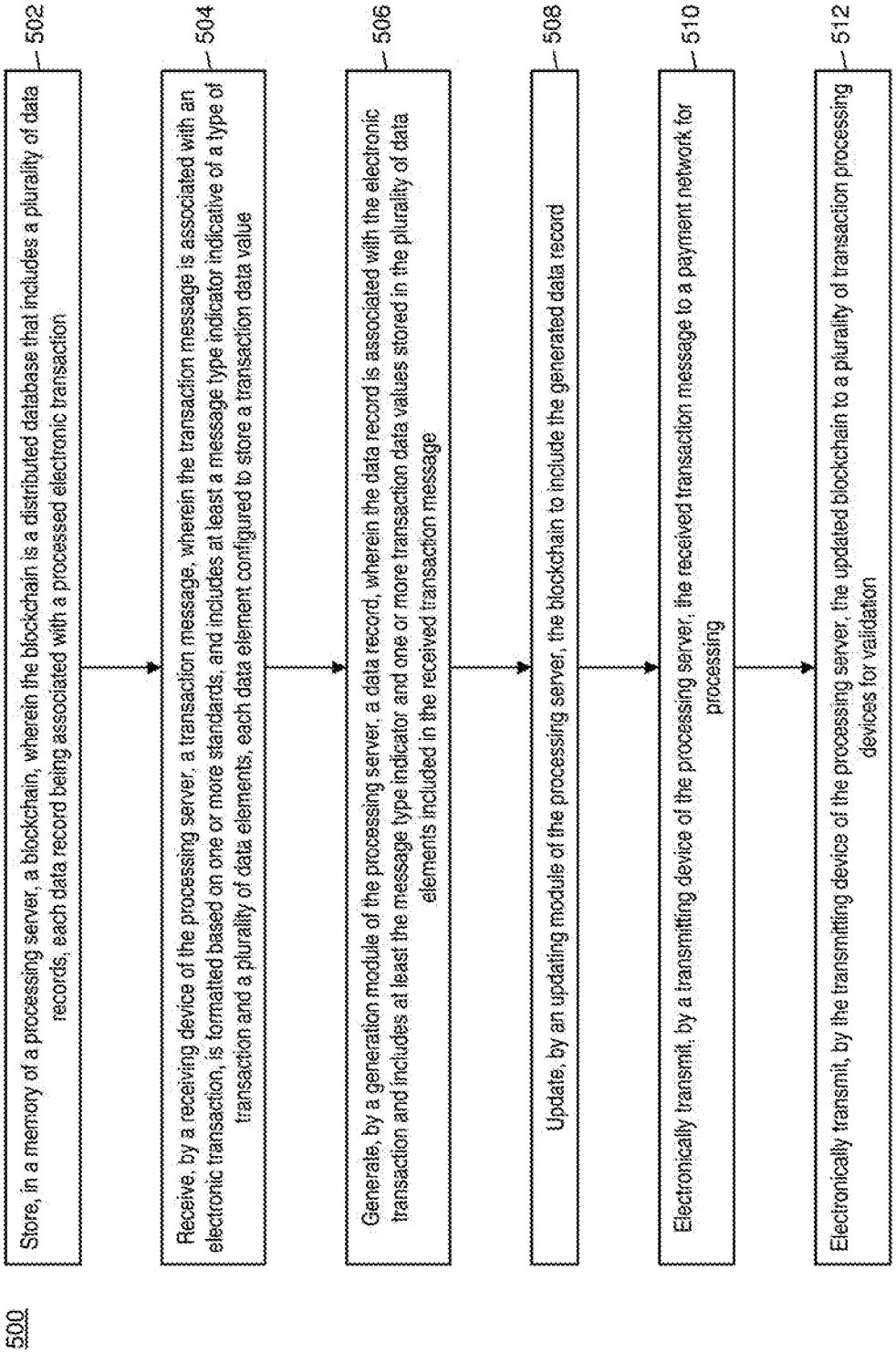

500
502
Store, in a memory of a processing server, a blockchain, wherein the blockchain is a distributed database that includes a plurality of data records, each data record being associated with a processed electronic transaction
504
Receive, by a receiving device of the processing server, a transaction message, wherein the transaction message is associated with an electronic transaction, is formatted based on one or more standards, and includes at least a message type indicator indicative of a type of transaction and a plurality of data elements, each data element configured to store a transaction data value
506
Generate, by a generation module of the processing server, a data record, wherein the data record is associated with the electronic transaction and includes at least the message type indicator and one or more transaction data values stored in the plurality of data elements included in the received transaction message
508
Update, by an updating module of the processing server, the blockchain to include the generated data record
510
Electronically transmit, by a transmitting device of the processing server, the received transaction message to a payment network for processing
512
Electronically transmit, by the transmitting device of the processing server, the updated blockchain to a plurality of transaction processing devices for validation

FIG. 5

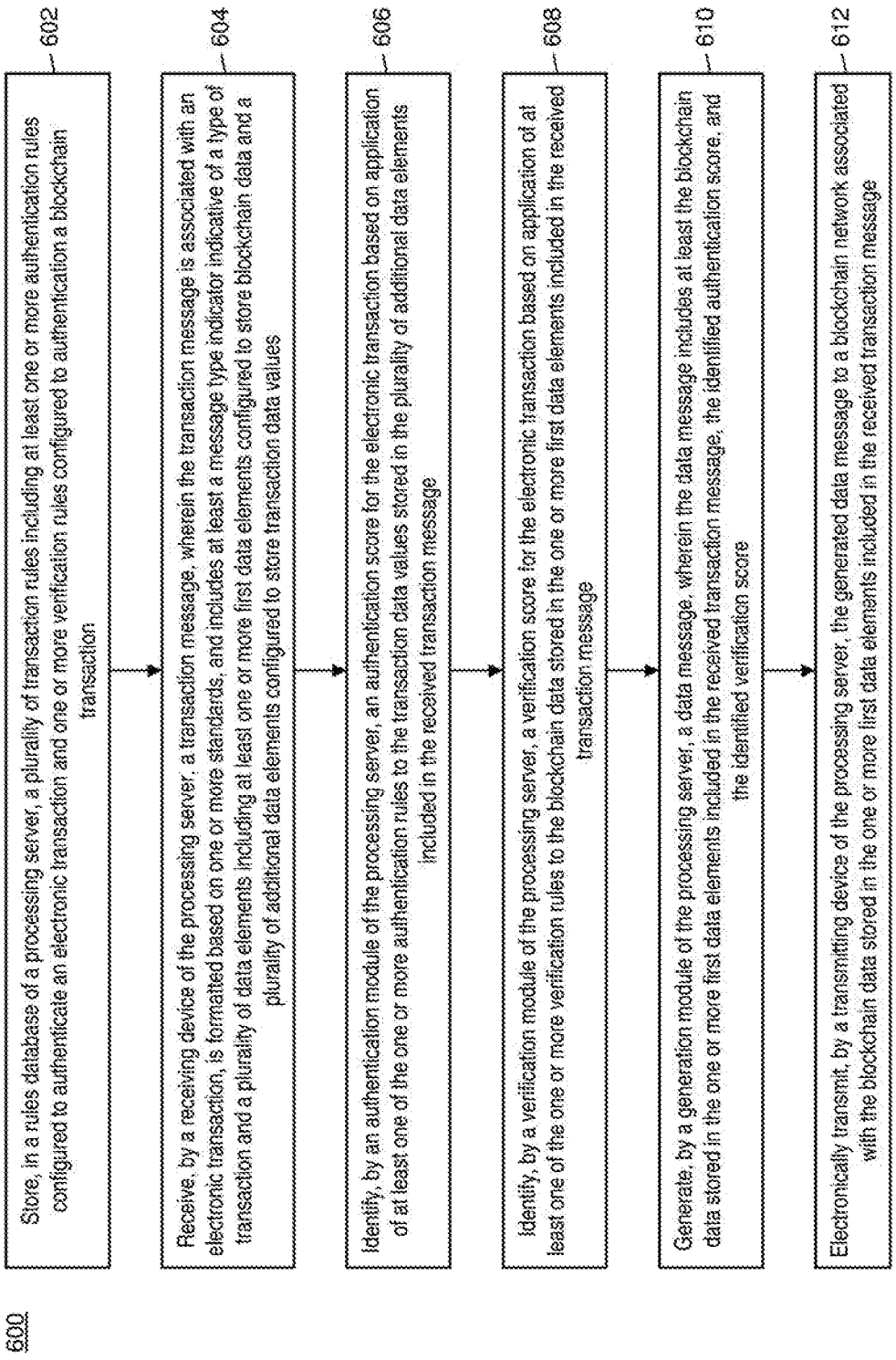

600
602
Store, in a rules database of a processing server, a plurality of transaction rules including at least one or more authentication rules configured to authenticate an electronic transaction and one or more verification rules configured to authentication a blockchain transaction
604
Receive, by a receiving device of the processing server, a transaction message, wherein the transaction message is associated with an electronic transaction, is formatted based on one or more standards, and includes at least a message type indicator indicative of a type of transaction and a plurality of data elements including at least one or more first data elements configured to store blockchain data and a plurality of additional data elements configured to store transaction data values
606
Identify, by an authentication module of the processing server, an authentication score for the electronic transaction based on application of at least one of the one or more authentication rules to the transaction data values stored in the plurality of additional data elements included in the received transaction message
608
Identify, by a verification module of the processing server, a verification score for the electronic transaction based on application of at least one of the one or more verification rules to the blockchain data stored in the one or more first data elements included in the received transaction message
610
Generate, by a generation module of the processing server, a data message, wherein the data message includes at least the blockchain data stored in the one or more first data elements included in the received transaction message, the identified authentication score, and the identified verification score
612
Electronically transmit, by a transmitting device of the processing server, the generated data message to a blockchain network associated with the blockchain data stored in the one or more first data elements included in the received transaction message

FIG. 6

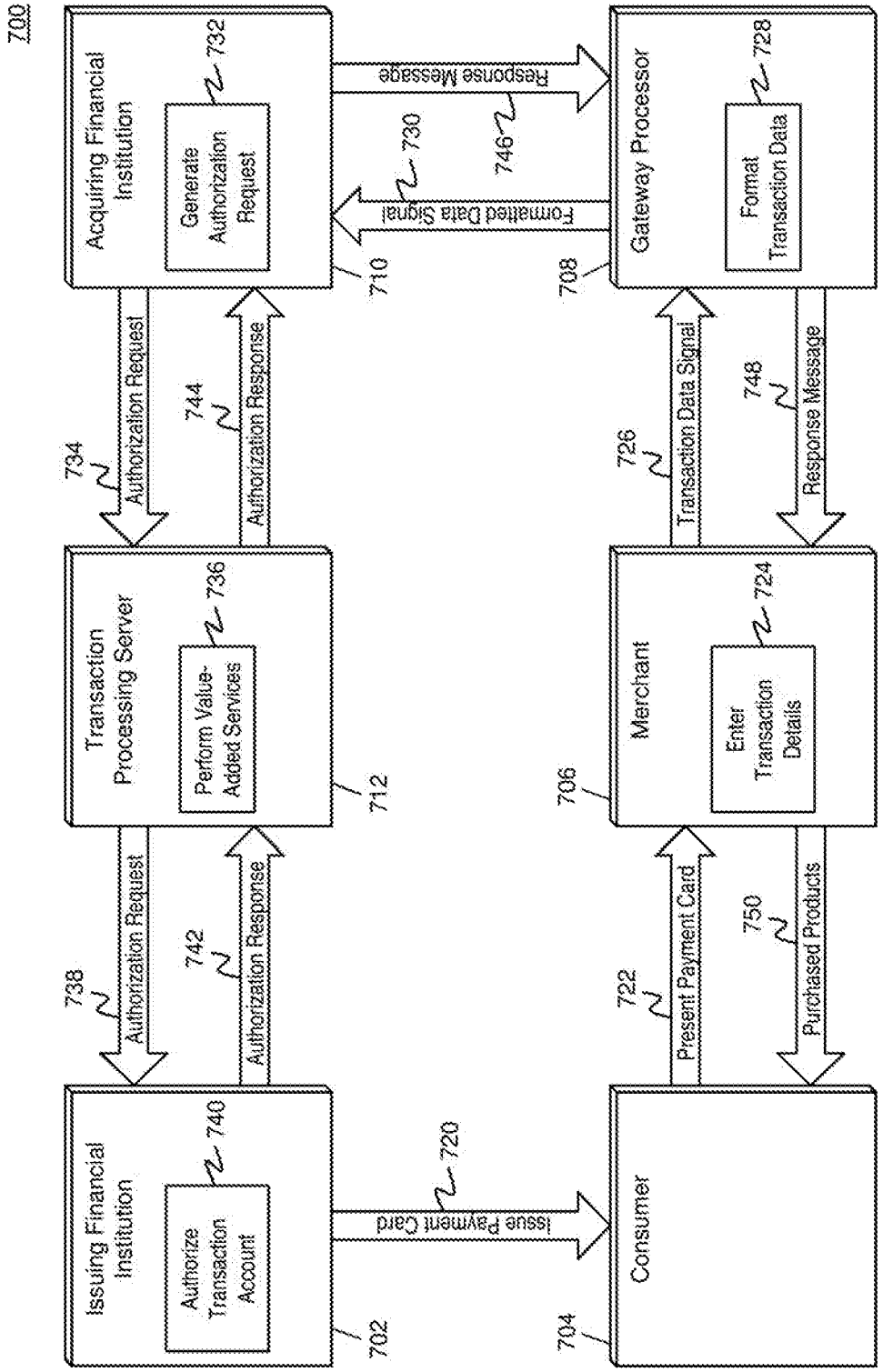

700
Acquiring Financial Institution
732
Generate Authorization Request
710
Response Message
730
746
Formatted Data Signal
Gateway Processor
728
Format Transaction Data
708
734
Authorization Request
744
Authorization Response
726
Transaction Data Signal
748
Response Message
Transaction Processing Server
736
Perform Value-Added Services
712
Merchant
724
Enter Transaction Details
706
738
Authorization Request
742
Authorization Response
722
Present Payment Card
750
Purchased Products
Issuing Financial Institution
740
Authorize Transaction Account
702
720
Issue Payment Card
Consumer
704

FIG. 7

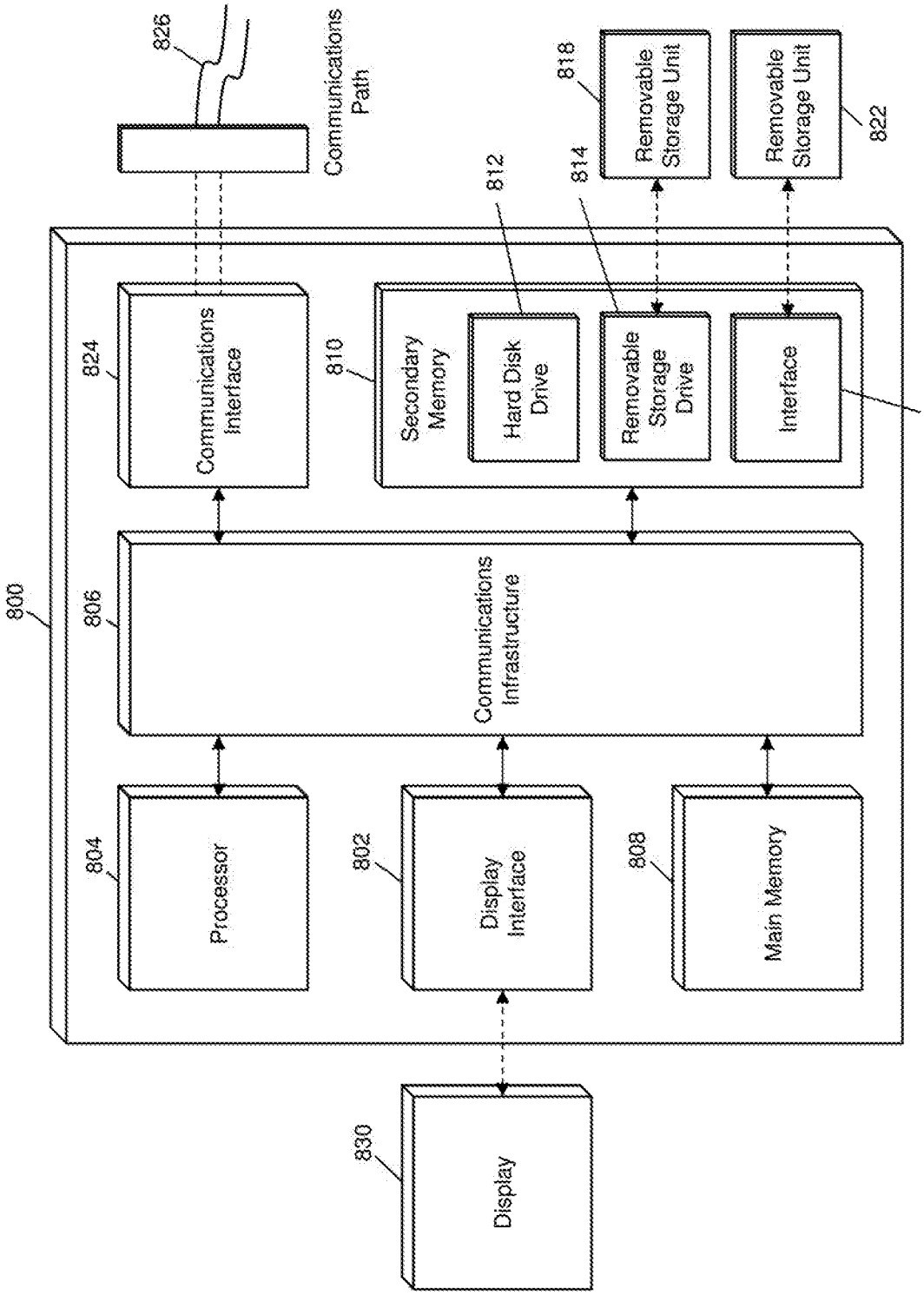

826
Communications Path
818
Removable Storage Unit
822
Removable Storage Unit
812
814
824
Communications Interface
810
Secondary Memory
Hard Disk Drive
Removable Storage Drive
Interface
820
800
806
Communications Infrastructure
804
Processor
802
Display Interface
808
Main Memory
830
Display

FIG. 8