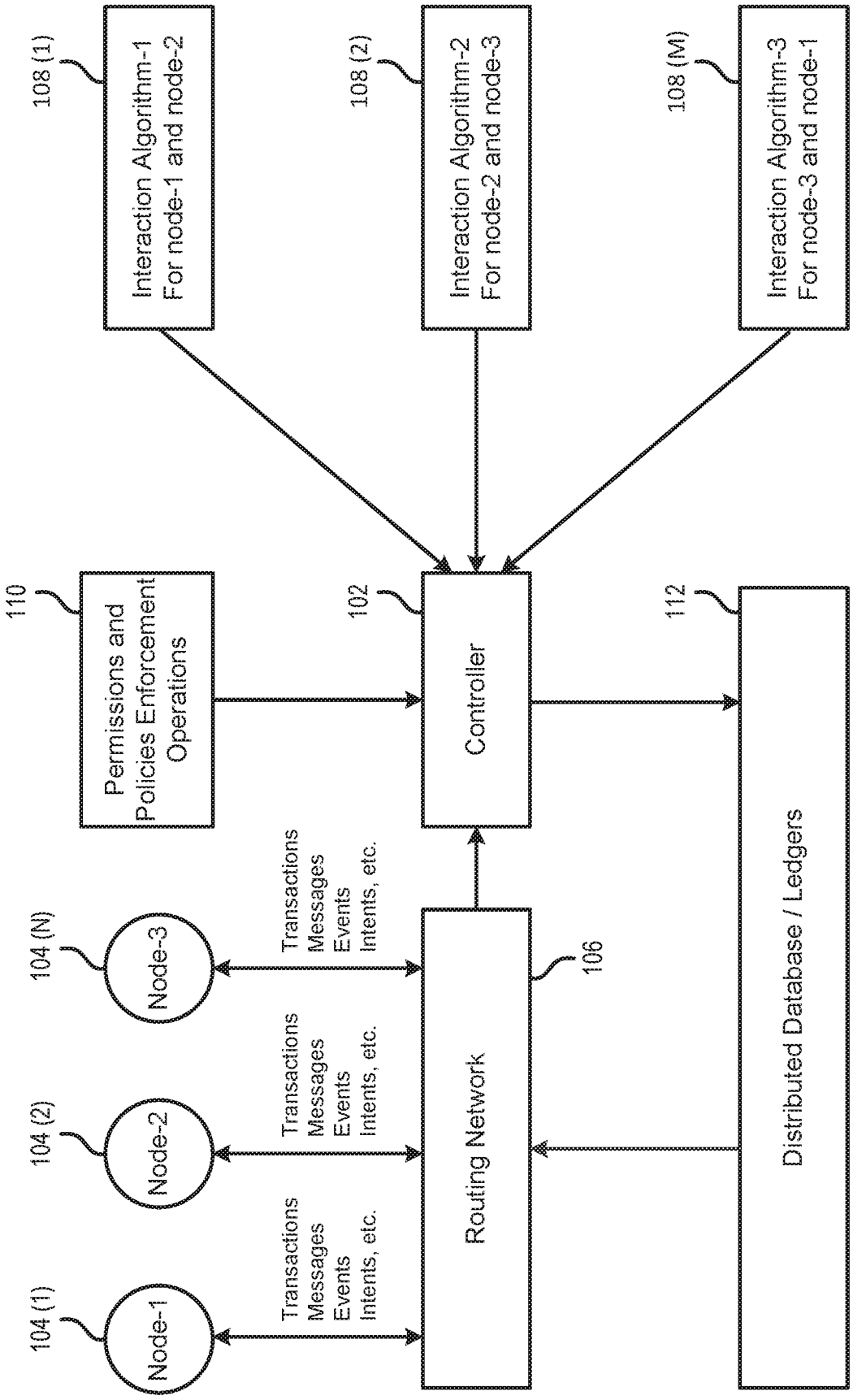

108 (1)
Interaction Algorithm-1
For node-1 and node-2
108 (2)
Interaction Algorithm-2
For node-2 and node-3
108 (M)
Interaction Algorithm-3
For node-3 and node-1
110
Permissions and
Policies Enforcement
Operations
102
Controller
112
Distributed Database / Ledgers
104 (N)
Node-3
104 (2)
Node-2
104 (1)
Node-1
Transactions
Messages
Events
Intents, etc.
Routing Network
106

FIG. 1

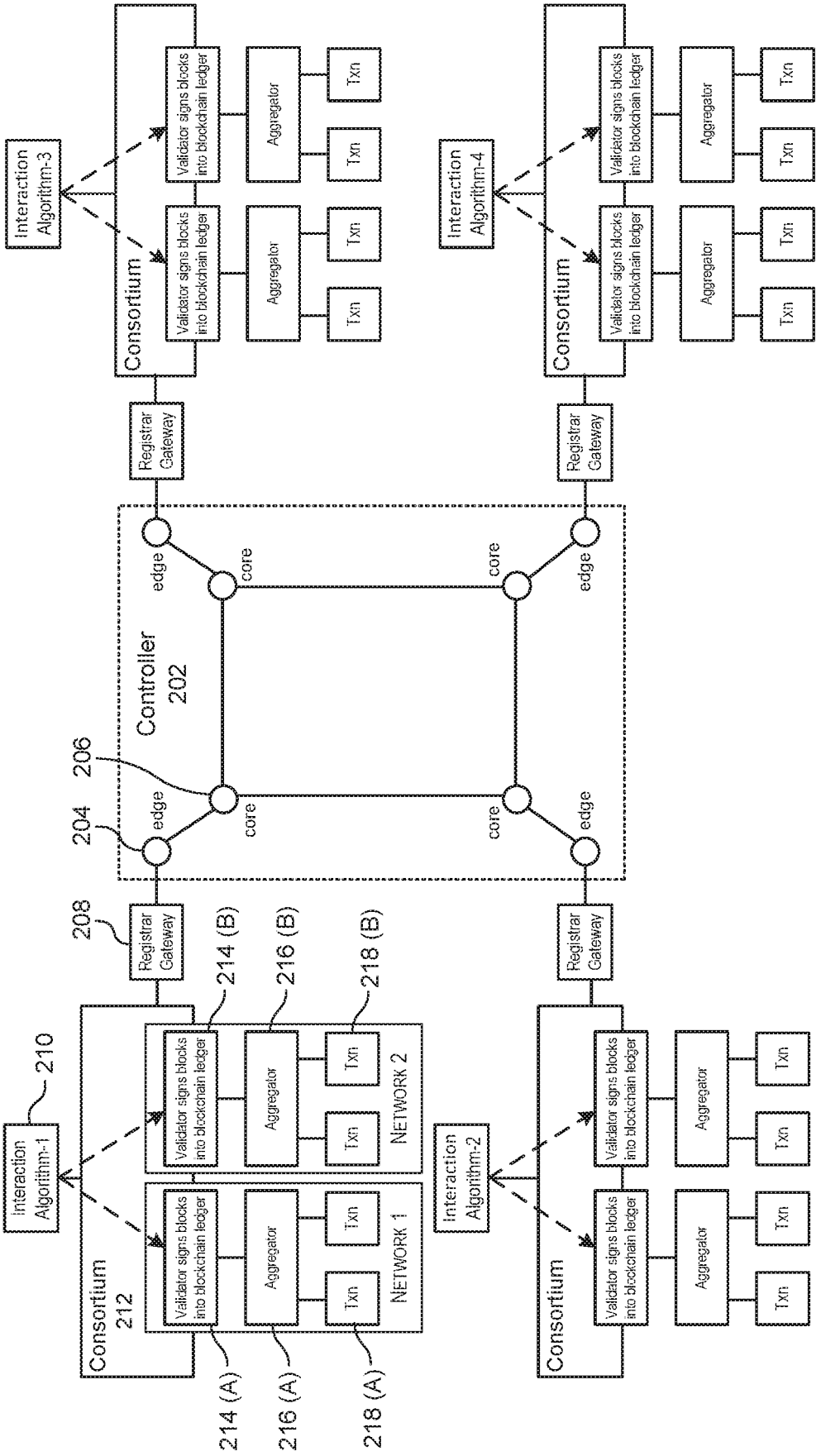

Interaction Algorithm-3
Interaction Algorithm-4
Interaction Algorithm-1
Interaction Algorithm-2
210
Consortium
212
Consortium
Consortium
Consortium
Validator signs blocks into blockchain ledger
Aggregator
Txn
NETWORK 1
NETWORK 2
Registrar Gateway
208
204
206
Controller
202
edge
core
214 (A)
216 (A)
218 (A)
214 (B)
216 (B)
218 (B)

FIG. 2

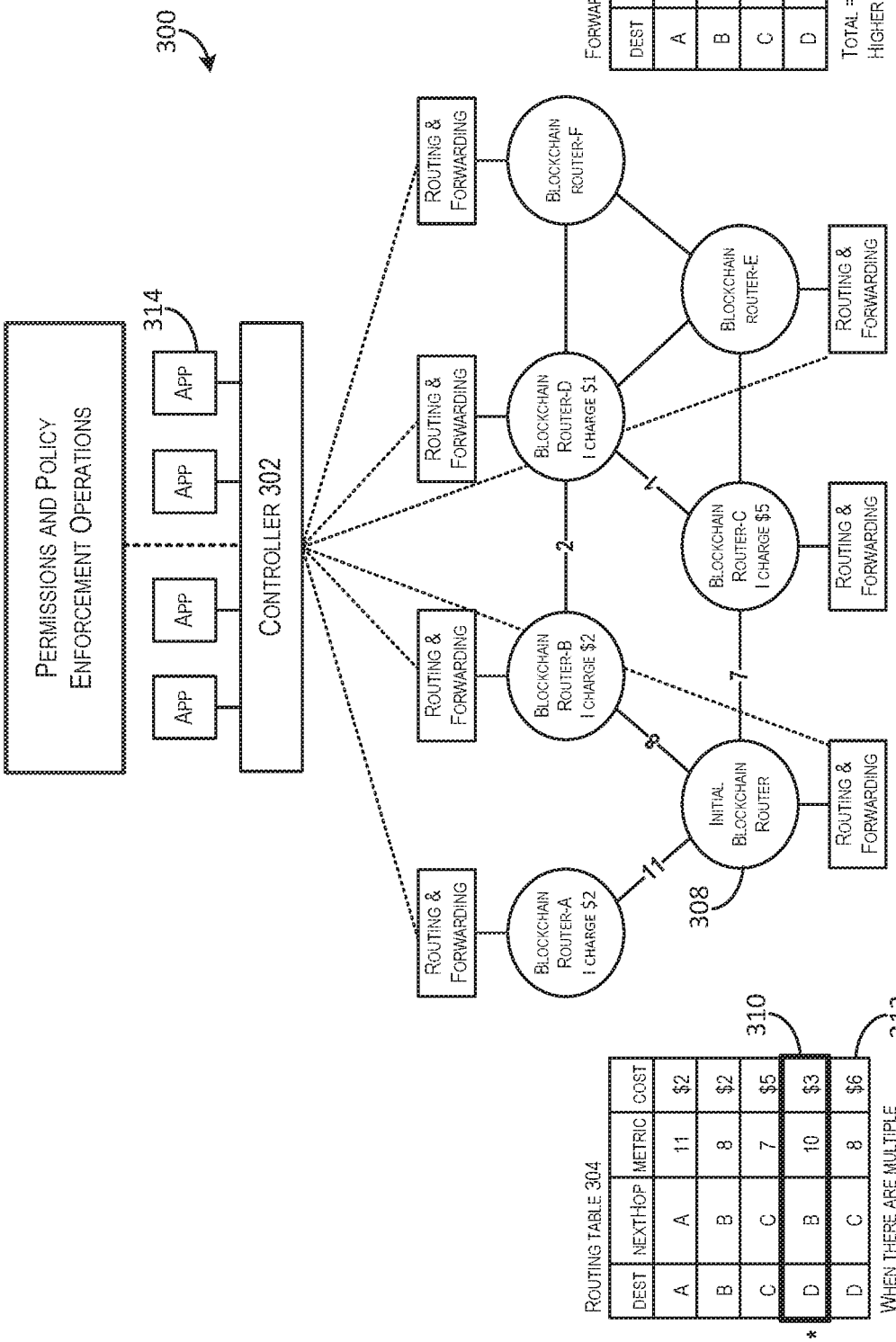

300
PERMISSIONS AND POLICY ENFORCEMENT OPERATIONS
314
APP
APP
APP
APP
CONTROLLER 302
ROUTING & FORWARDING
ROUTING & FORWARDING
ROUTING & FORWARDING
ROUTING & FORWARDING
ROUTING & FORWARDING
ROUTING & FORWARDING
BLOCKCHAIN ROUTER-A I CHARGE $2
BLOCKCHAIN ROUTER-B I CHARGE $2
BLOCKCHAIN ROUTER-D I CHARGE $1
BLOCKCHAIN ROUTER-F
BLOCKCHAIN ROUTER-E
BLOCKCHAIN ROUTER-C I CHARGE $5
INITIAL BLOCKCHAIN ROUTER
308
11
8
2
1
7
FORWARDING TABLE 306
DEST | NEXTHOP | METRIC | COST
A | A | 11 | $2
B | B | 8 | $2
C | C | 7 | $5
D | B | 10 | $3
TOTAL = METRIC X COST
HIGHER THE TOTAL IS WORSE
ROUTING TABLE 304
DEST | NEXTHOP | METRIC | COST
A | A | 11 | $2
B | B | 8 | $2
C | C | 7 | $5
D | B | 10 | $3
D | C | 8 | $6
310
312
*
WHEN THERE ARE MULTIPLE PATHS, * IS THE ACTIVE ROUTE

FIG. 3

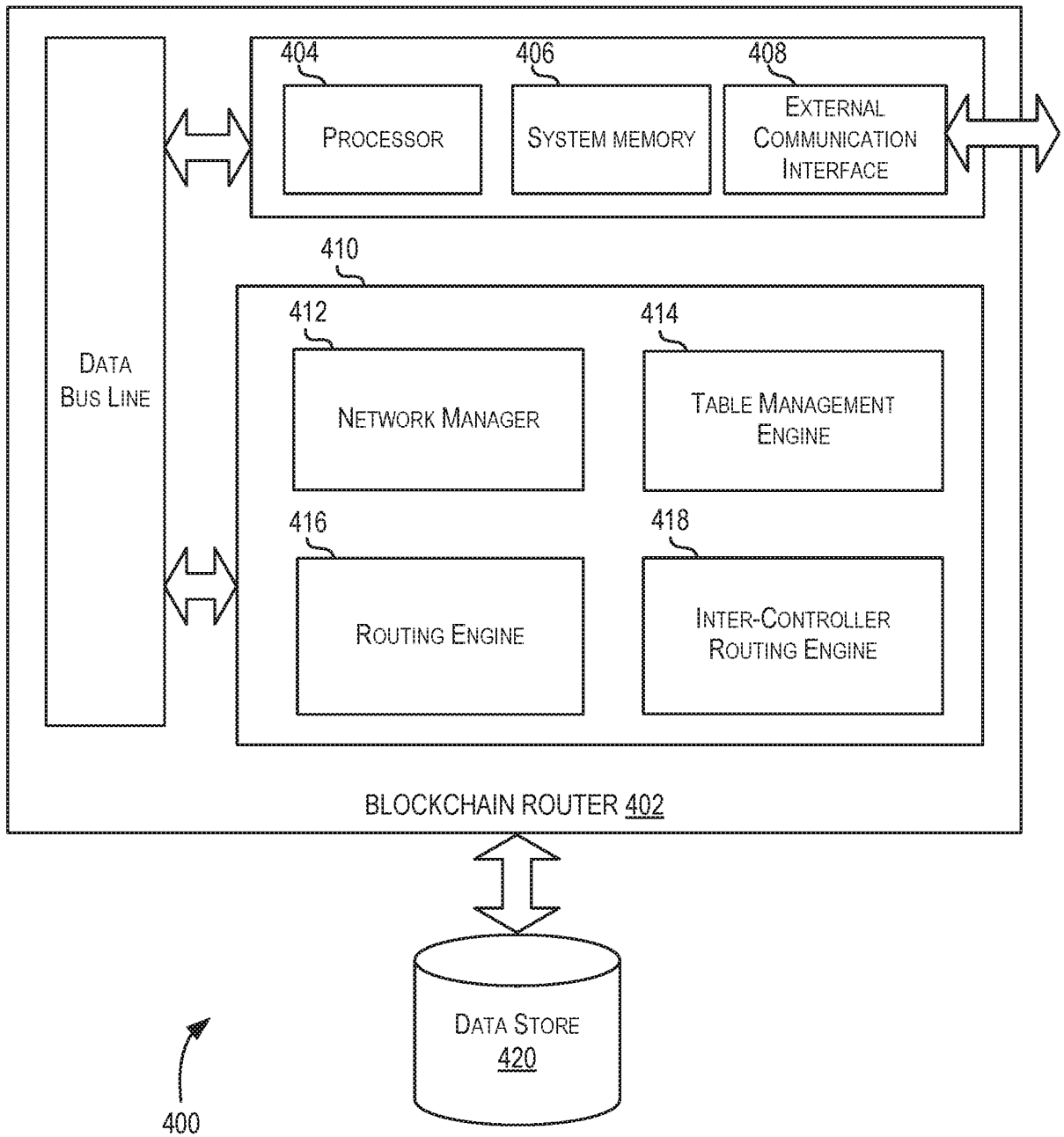

404
406
408
PROCESSOR
SYSTEM MEMORY
EXTERNAL COMMUNICATION INTERFACE
410
412
414
DATA BUS LINE
NETWORK MANAGER
TABLE MANAGEMENT ENGINE
416
418
ROUTING ENGINE
INTER-CONTROLLER ROUTING ENGINE
BLOCKCHAIN ROUTER 402
DATA STORE 420
400

FIG. 4

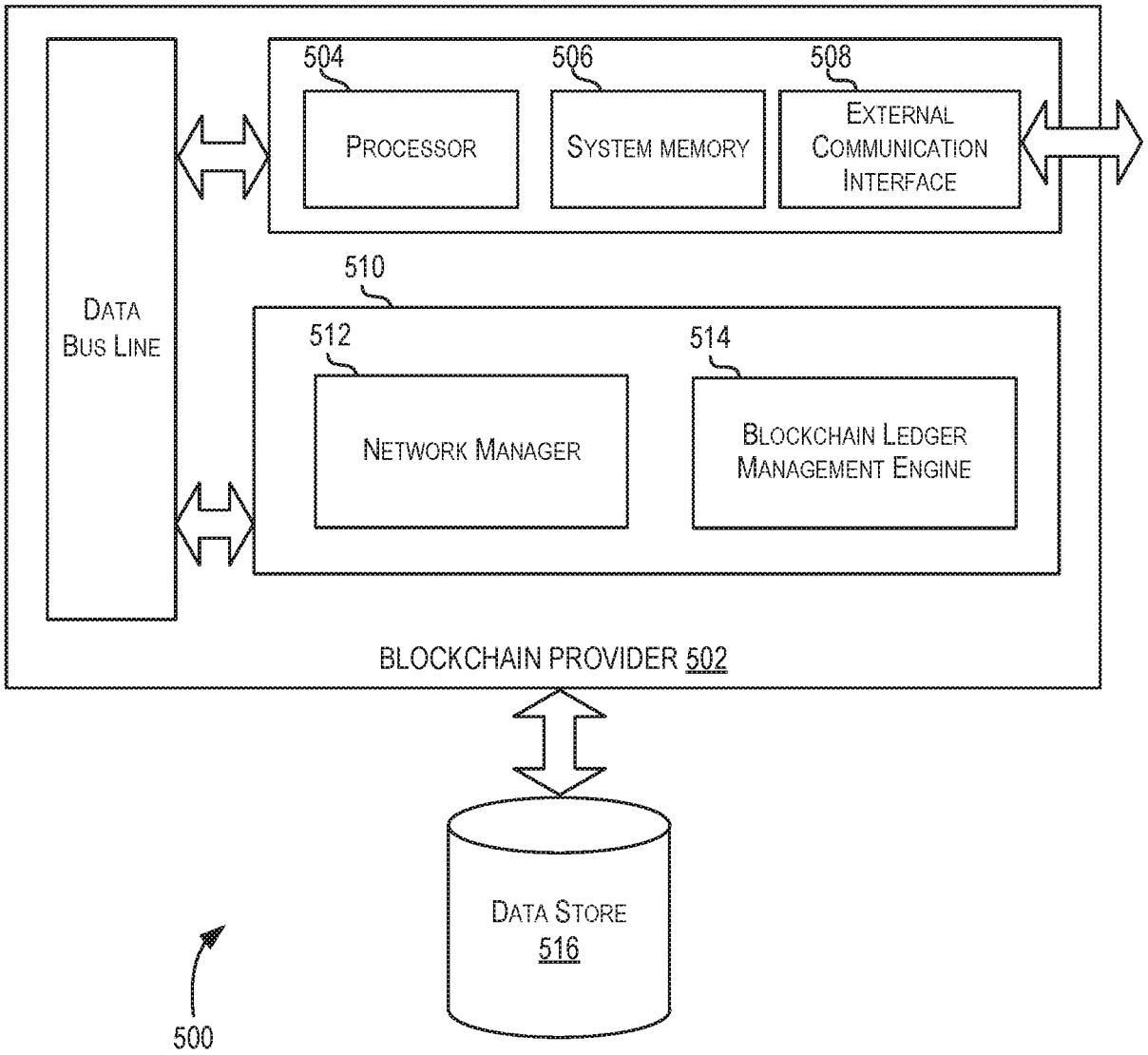

504
506
508
PROCESSOR
SYSTEM MEMORY
EXTERNAL COMMUNICATION INTERFACE
DATA BUS LINE
510
512
514
NETWORK MANAGER
BLOCKCHAIN LEDGER MANAGEMENT ENGINE
BLOCKCHAIN PROVIDER 502
DATA STORE 516
500

FIG. 5

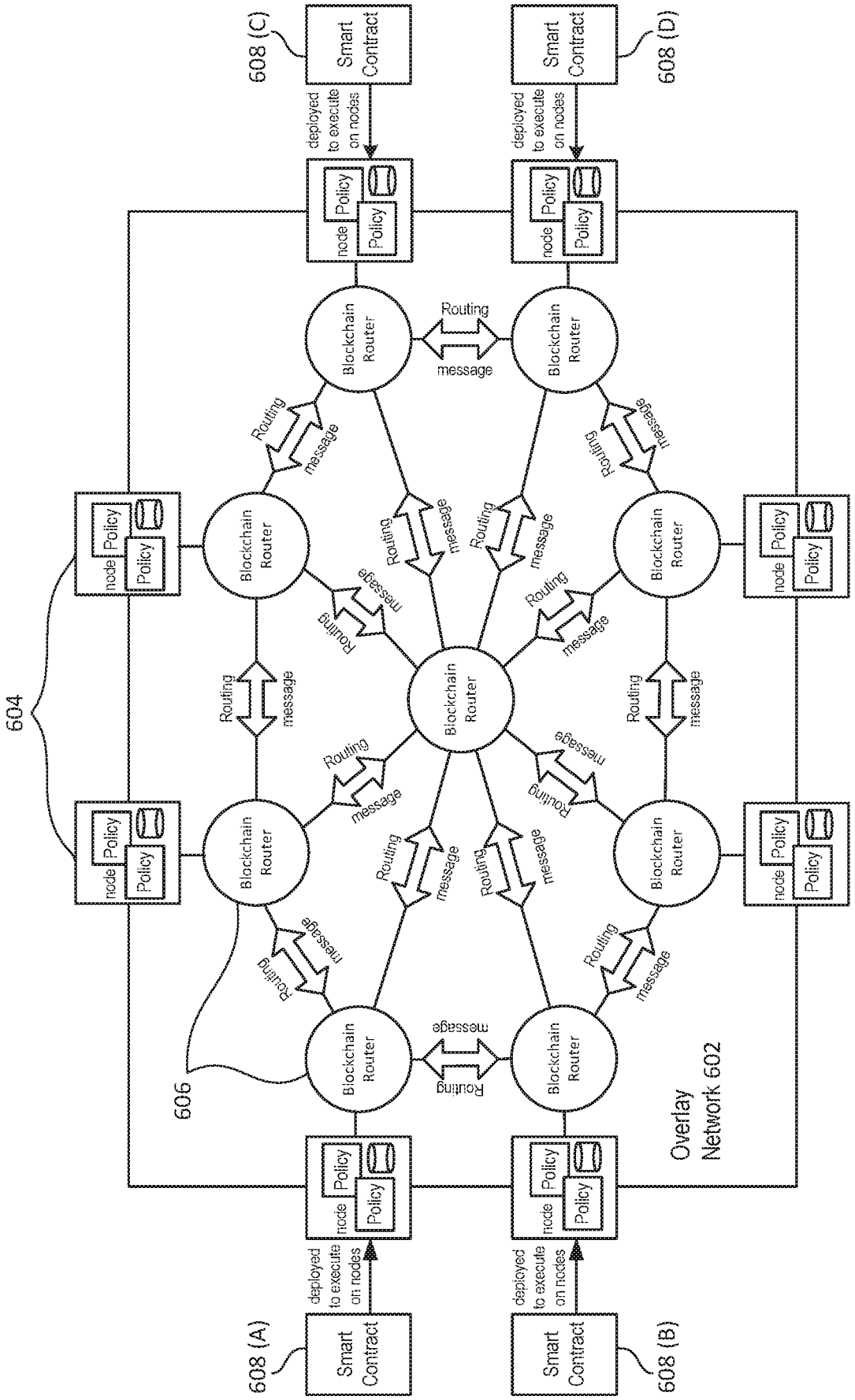

608 (C)
Smart Contract
608 (D)
Smart Contract
deployed to execute on nodes
node
Policy
Policy
Blockchain Router
Routing message
604
606
Overlay Network 602
608 (A)
Smart Contract
608 (B)
Smart Contract

FIG. 6

700

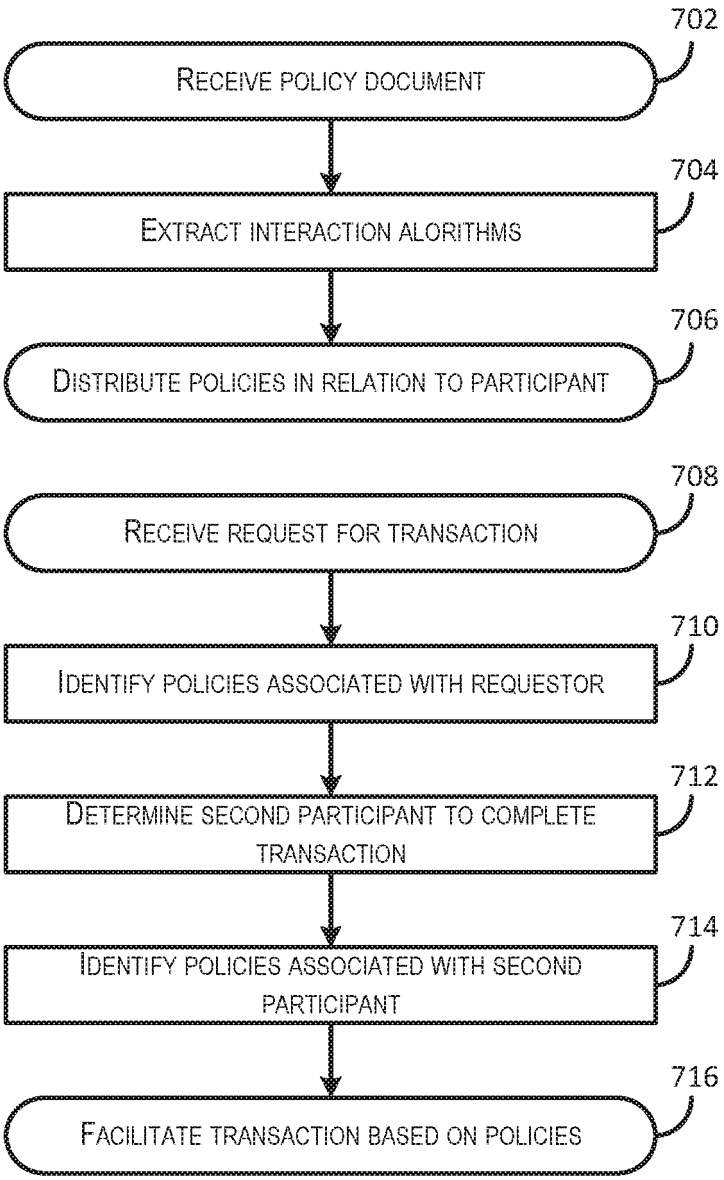

702
RECEIVE POLICY DOCUMENT
704
EXTRACT INTERACTION ALORITHMS
706
DISTRIBUTE POLICIES IN RELATION TO PARTICIPANT
708
RECEIVE REQUEST FOR TRANSACTION
710
IDENTIFY POLICIES ASSOCIATED WITH REQUESTOR
712
DETERMINE SECOND PARTICIPANT TO COMPLETE TRANSACTION
714
IDENTIFY POLICIES ASSOCIATED WITH SECOND PARTICIPANT
716
FACILITATE TRANSACTION BASED ON POLICIES

FIG. 7