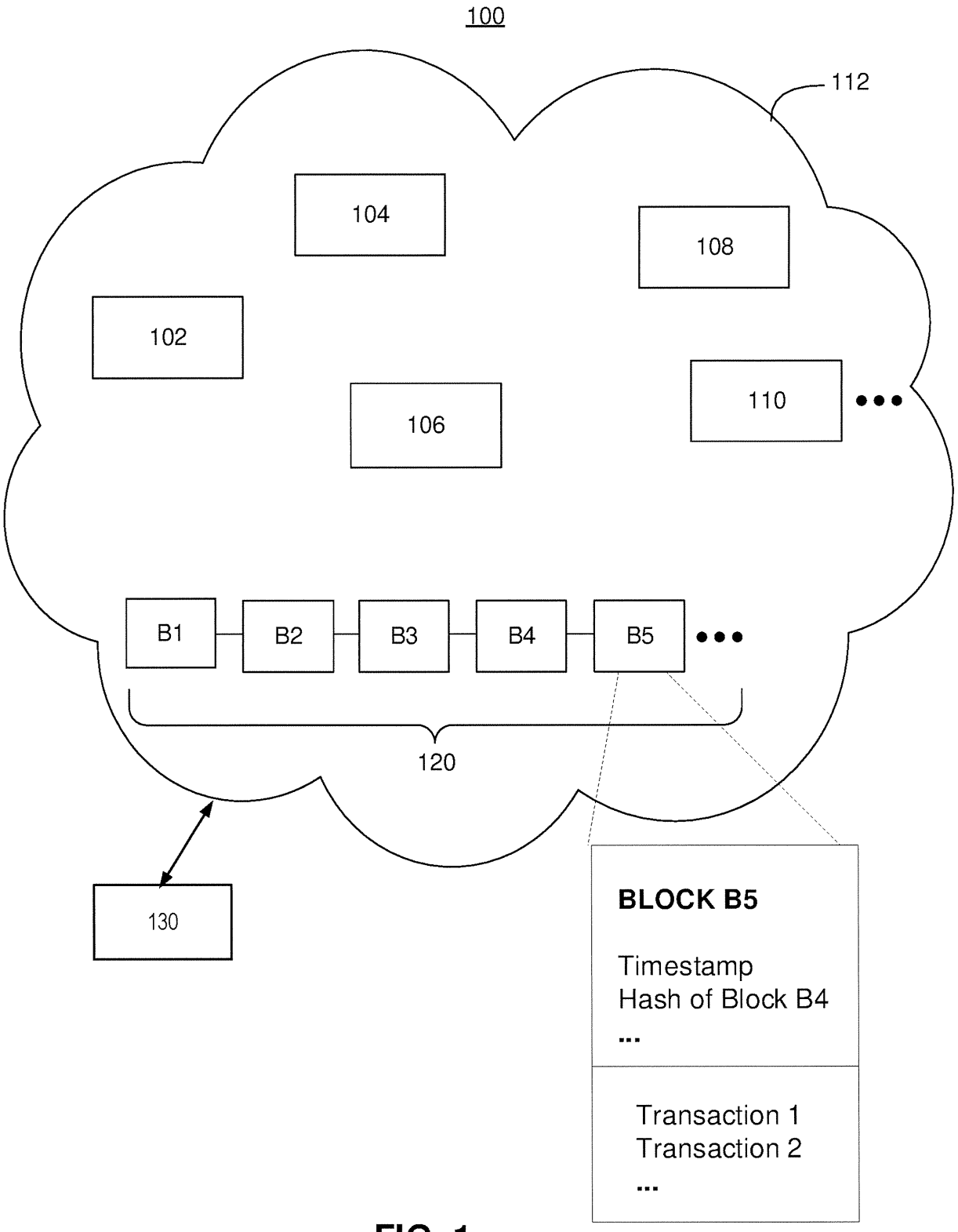
100
112
104
108
102
106
110
B1
B2
B3
B4
B5
120
130
BLOCK B5
Timestamp
Hash of Block B4
...
Transaction 1
Transaction 2
...

FIG. 1

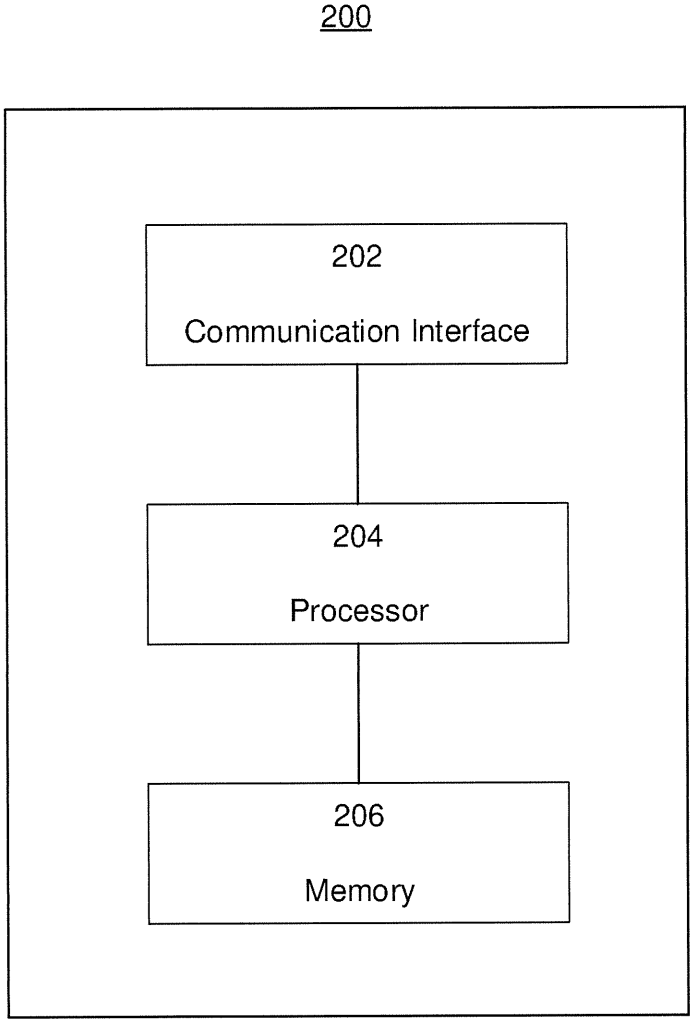

FIG. 2

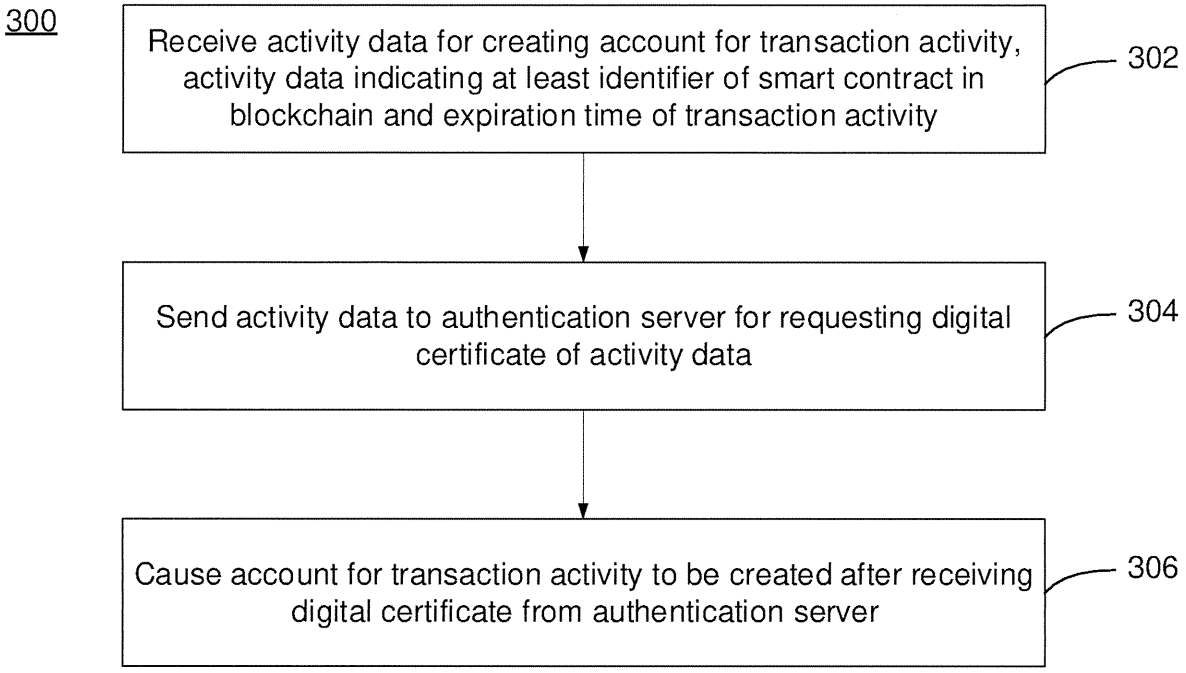
300
Receive activity data for creating account for transaction activity, activity data indicating at least identifier of smart contract in blockchain and expiration time of transaction activity
302
Send activity data to authentication server for requesting digital certificate of activity data
304
Cause account for transaction activity to be created after receiving digital certificate from authentication server
306

FIG. 3

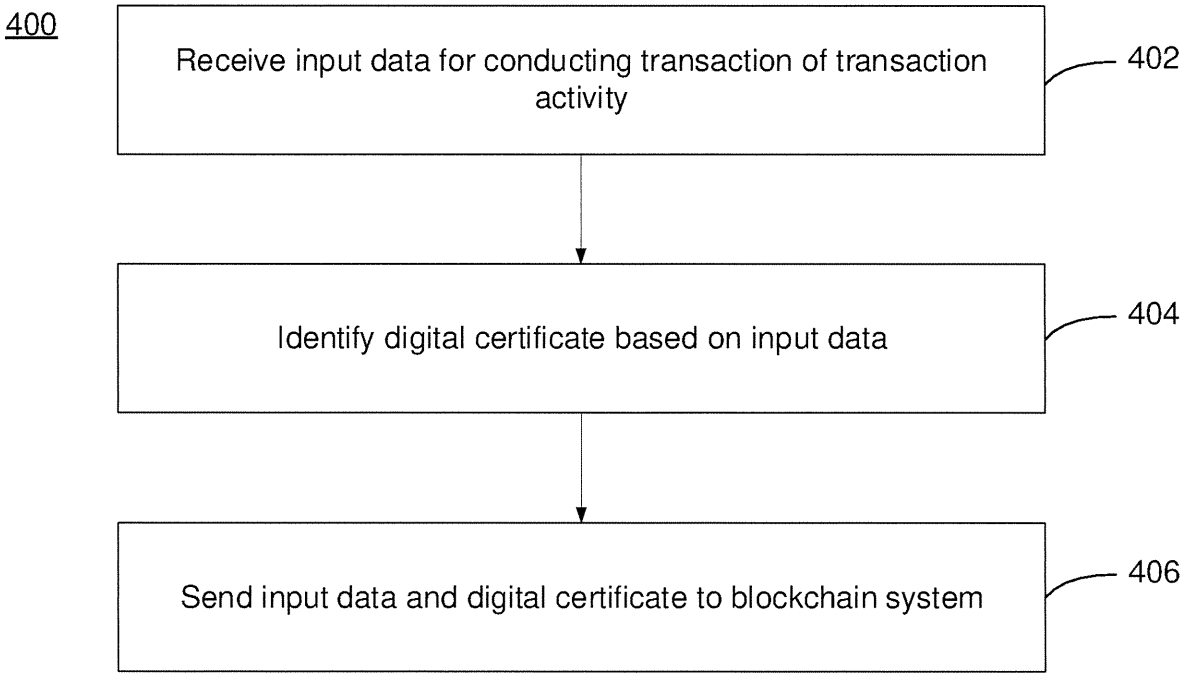
400
Receive input data for conducting transaction of transaction activity
402
Identify digital certificate based on input data
404
Send input data and digital certificate to blockchain system
406

FIG. 4

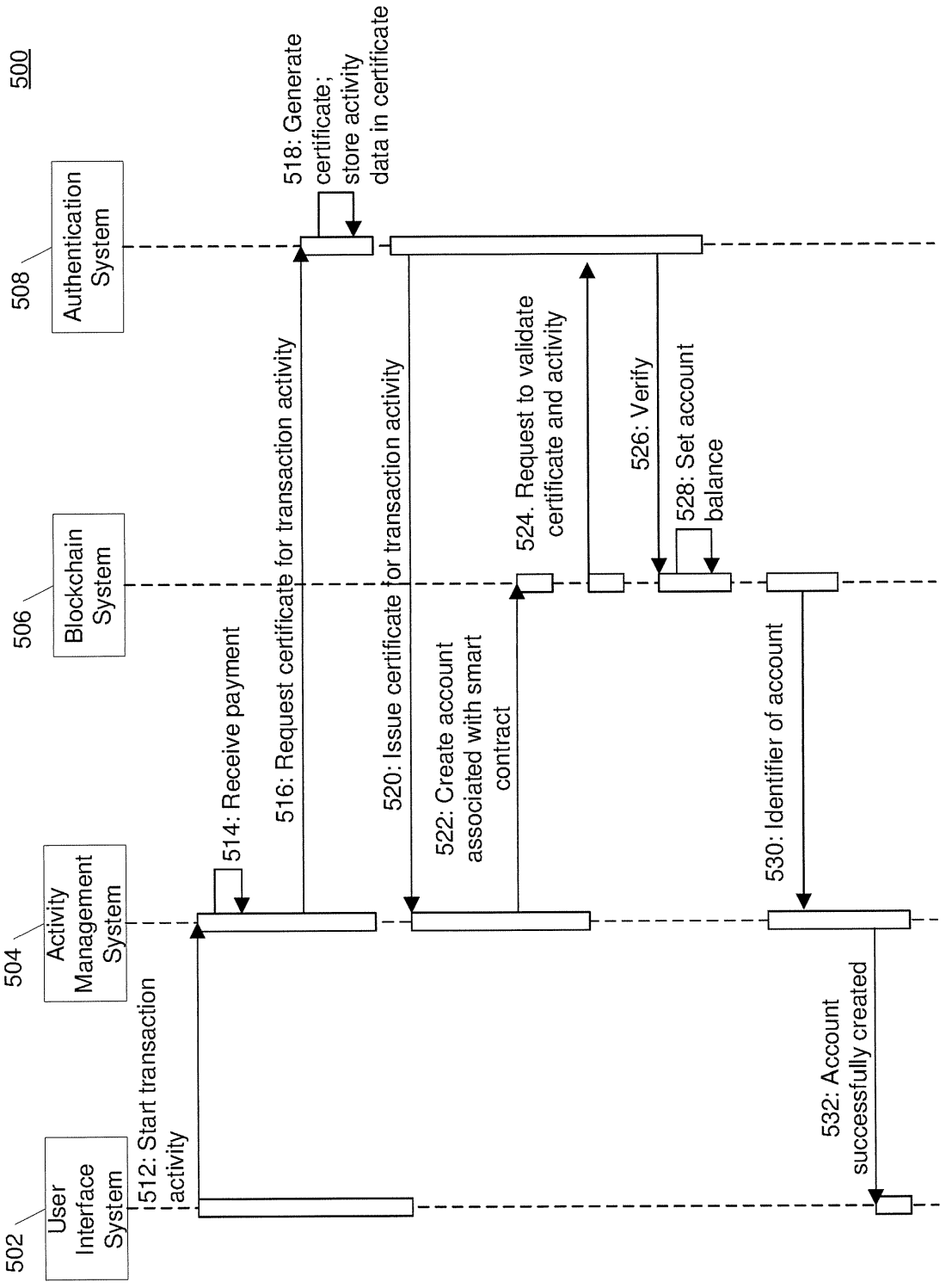
500
502
User Interface System
504
Activity Management System
506
Blockchain System
508
Authentication System
512: Start transaction activity
514: Receive payment
516: Request certificate for transaction activity
518: Generate certificate; store activity data in certificate
520: Issue certificate for transaction activity
522: Create account associated with smart contract
524. Request to validate certificate and activity
526: Verify
528: Set account balance
530: Identifier of account
532: Account successfully created

FIG. 5

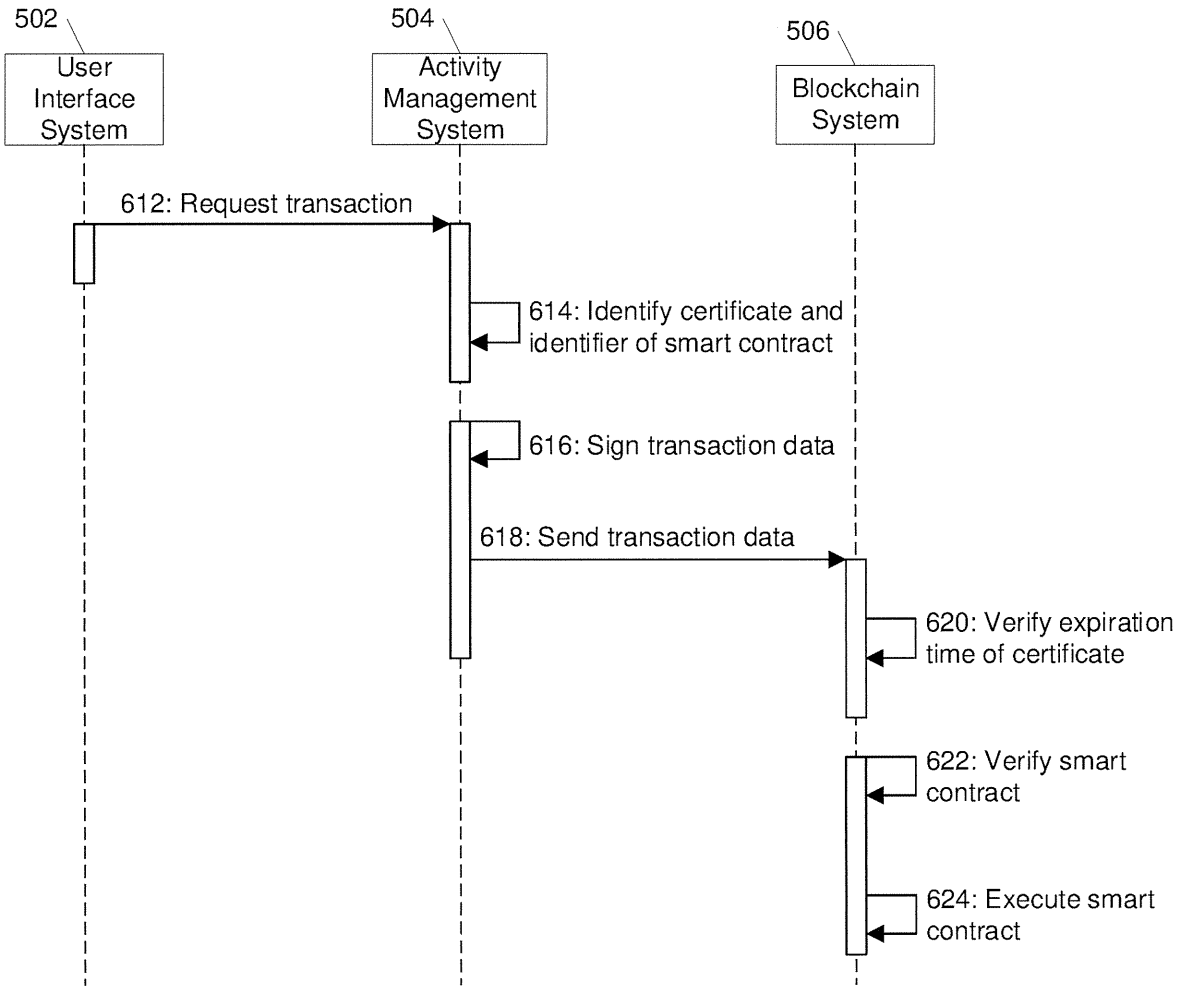
502
User Interface System
504
Activity Management System
506
Blockchain System
612: Request transaction
614: Identify certificate and identifier of smart contract
616: Sign transaction data
618: Send transaction data
620: Verify expiration time of certificate
622: Verify smart contract
624: Execute smart contract

FIG. 6

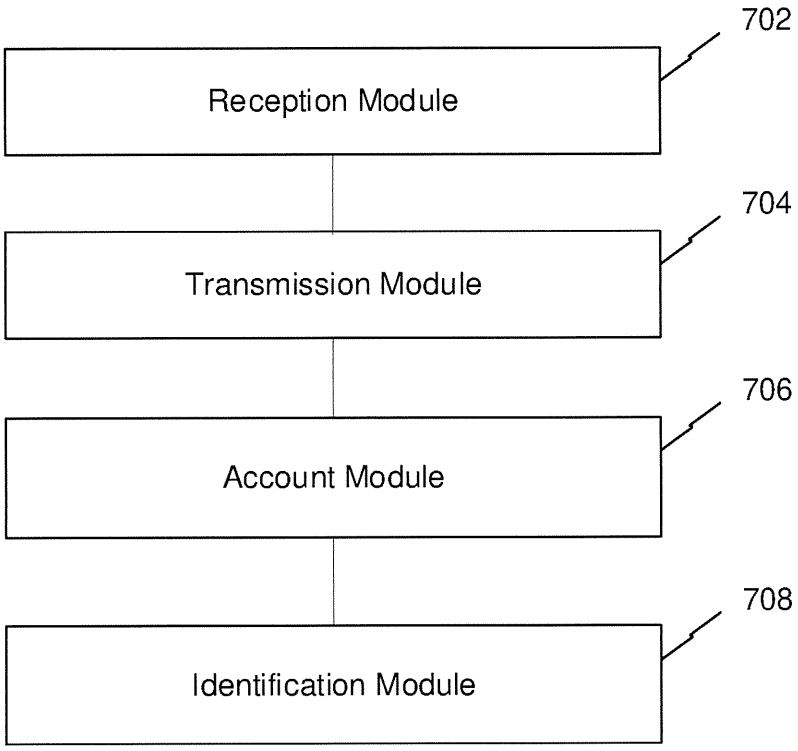
700
702
Reception Module
704
Transmission Module
706
Account Module
708
Identification Module

FIG. 7