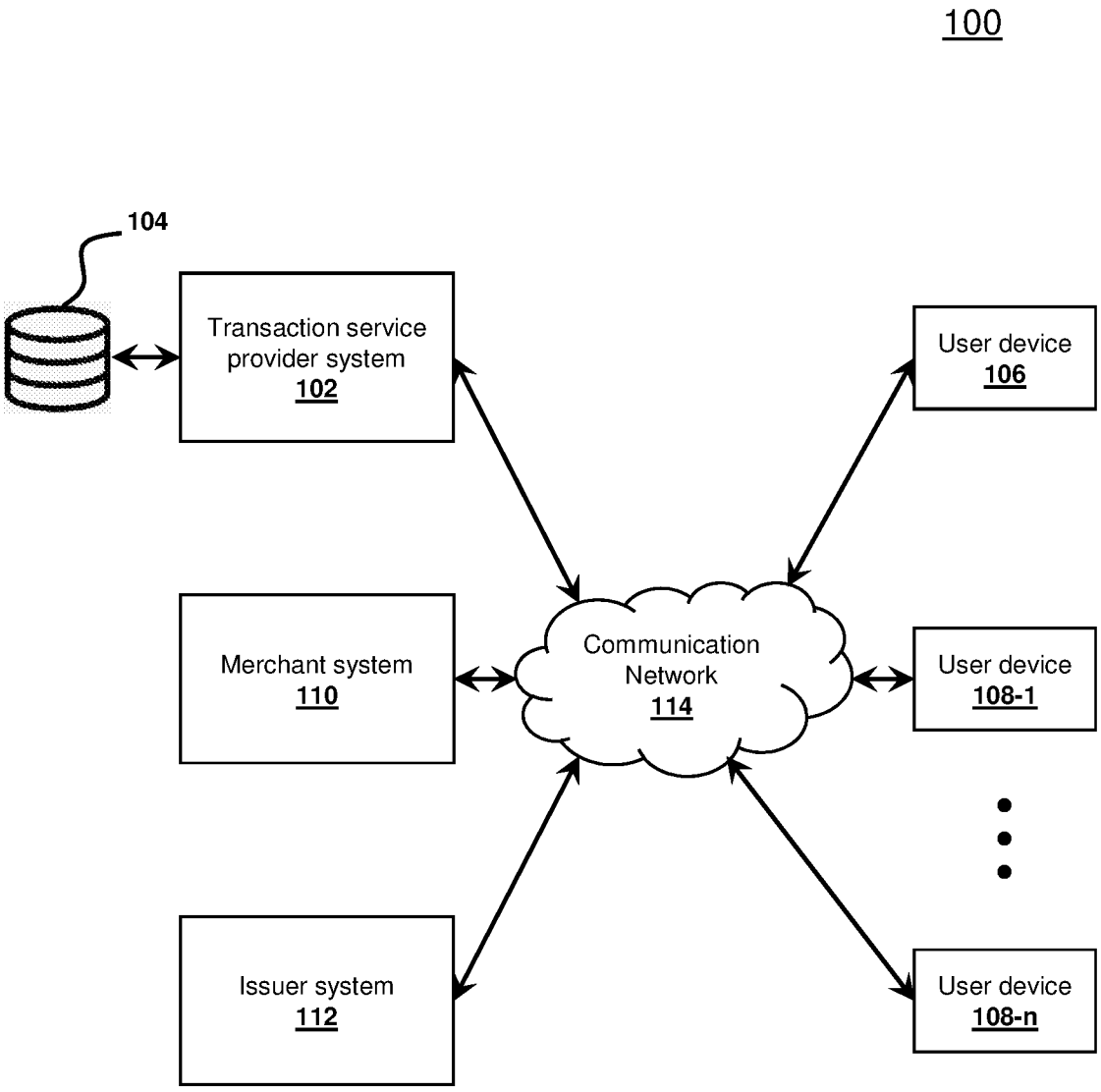

100
104
Transaction service provider system 102
User device 106
Merchant system 110
Communication Network 114
User device 108-1
Issuer system 112
User device 108-n

FIG. 1

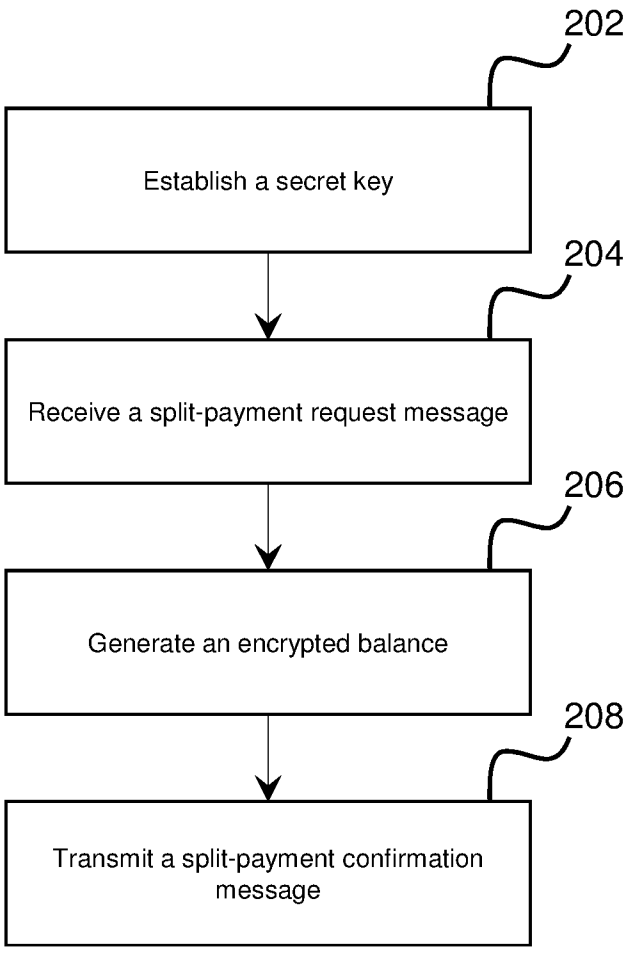

200
202
Establish a secret key
204
Receive a split-payment request message
206
Generate an encrypted balance
208
Transmit a split-payment confirmation message

FIG. 2

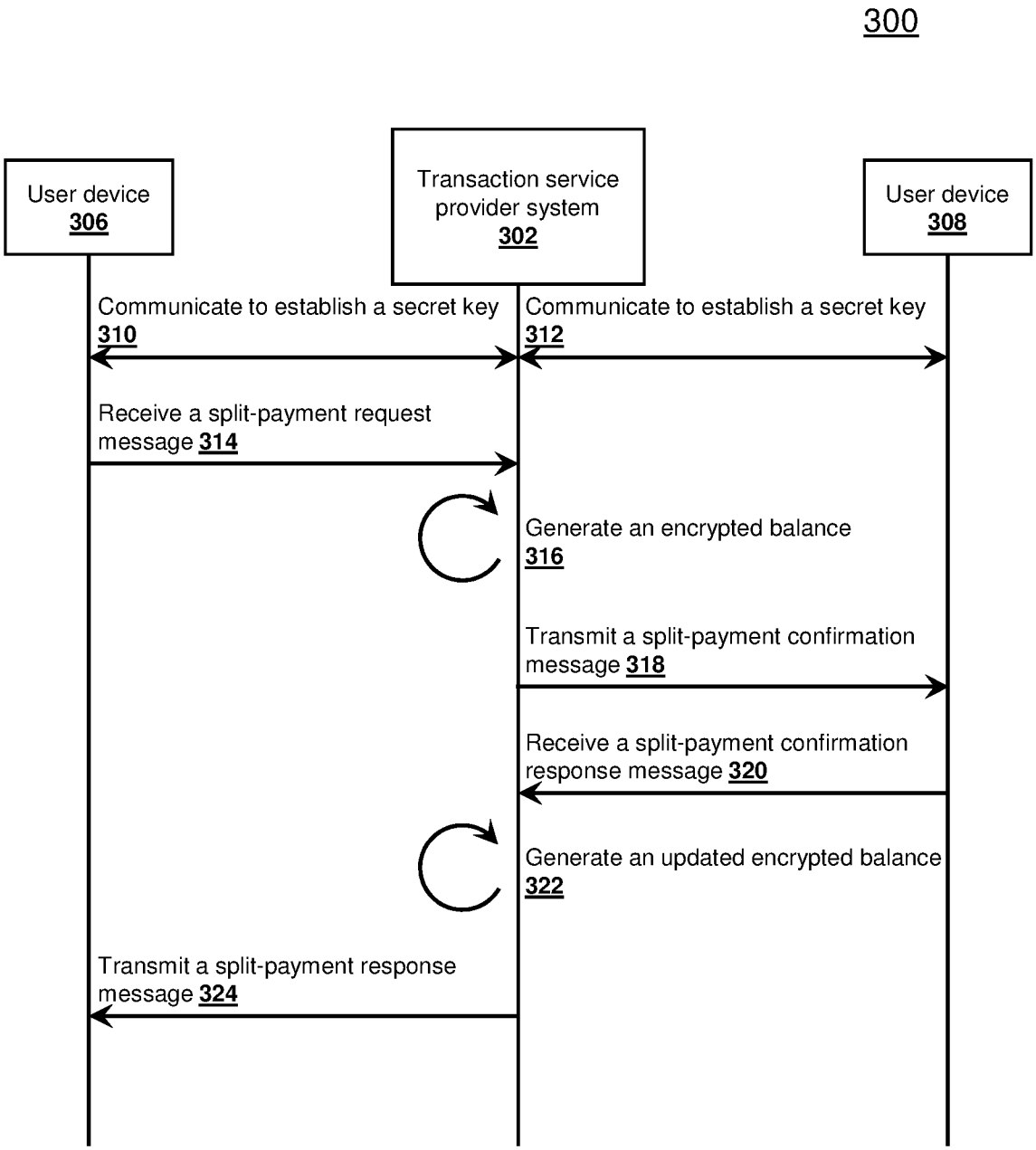

300
User device
306
Transaction service provider system
302
User device
308
Communicate to establish a secret key
310
Communicate to establish a secret key
312
Receive a split-payment request message 314
Generate an encrypted balance
316
Transmit a split-payment confirmation message 318
Receive a split-payment confirmation response message 320
Generate an updated encrypted balance
322
Transmit a split-payment response message 324

FIG. 3

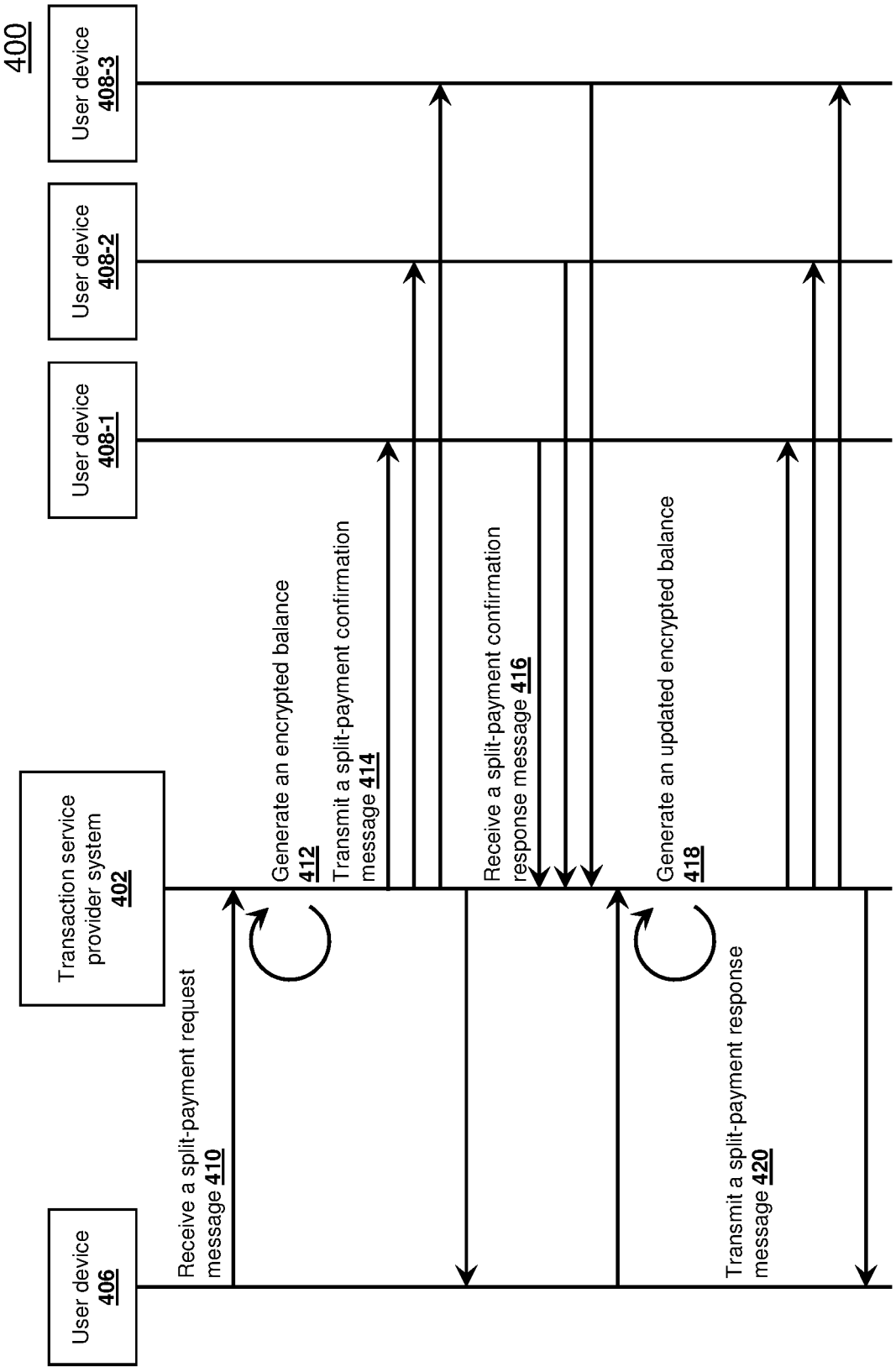

400
User device 406
Transaction service provider system 402
User device 408-1
User device 408-2
User device 408-3
Receive a split-payment request message 410
Generate an encrypted balance 412
Transmit a split-payment confirmation message 414
Receive a split-payment confirmation response message 416
Generate an updated encrypted balance 418
Transmit a split-payment response message 420

FIG. 4

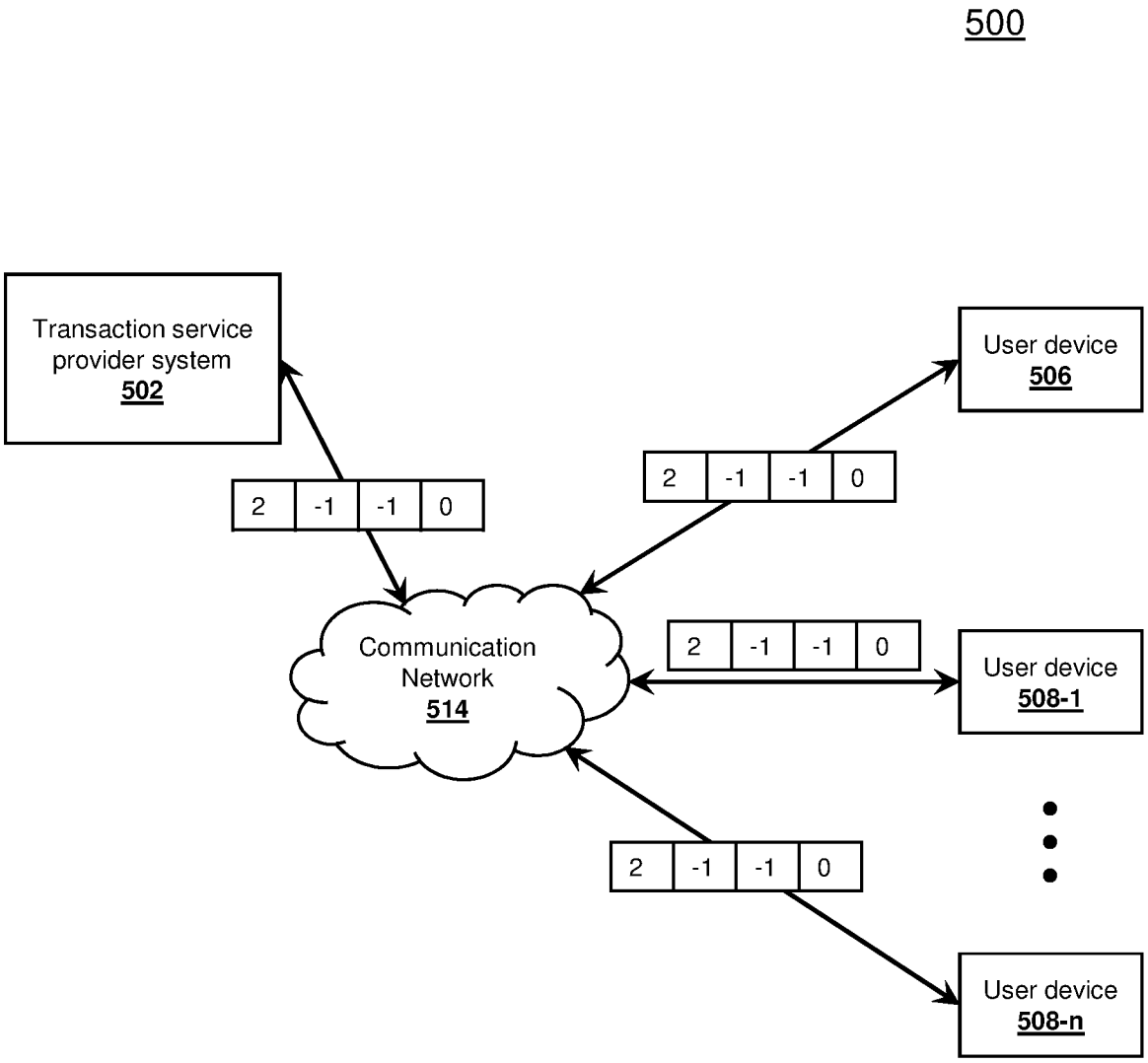

500
Transaction service provider system 502
User device 506
2 -1 -1 0
2 -1 -1 0
Communication Network 514
2 -1 -1 0
User device 508-1
2 -1 -1 0
User device 508-n

FIG. 5

600

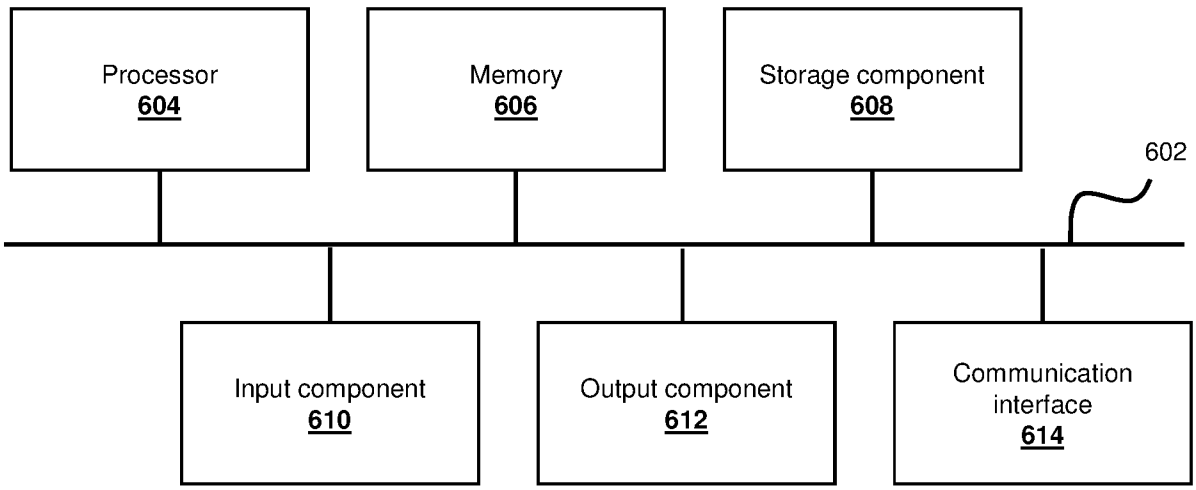

Processor
604
Memory
606
Storage component
608
602
Input component
610
Output component
612
Communication interface
614

FIG. 6