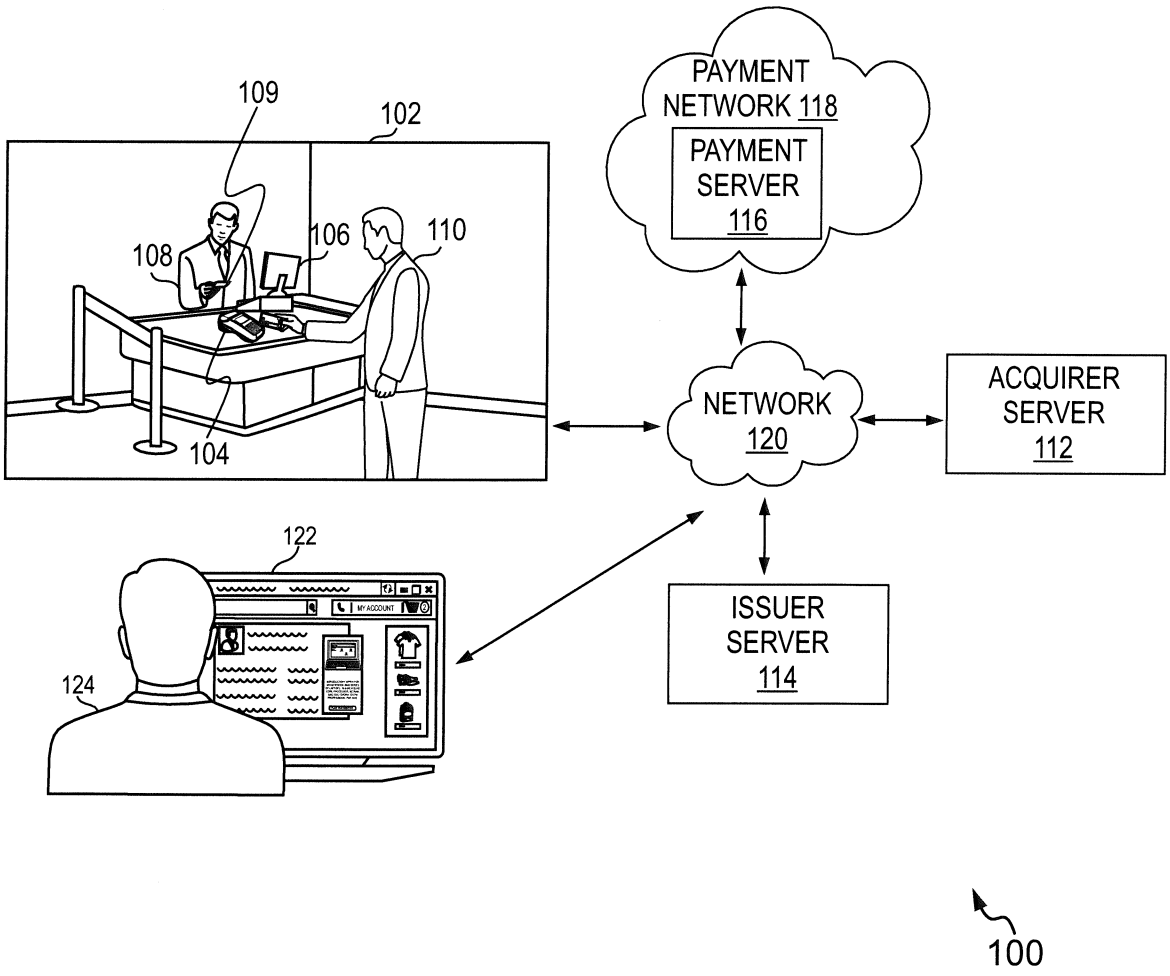

PAYMENT
NETWORK 118
PAYMENT
SERVER
116
109
102
108
106
110
104
NETWORK
120
ACQUIRER
SERVER
112
122
124
ISSUER
SERVER
114
100

FIG. 1

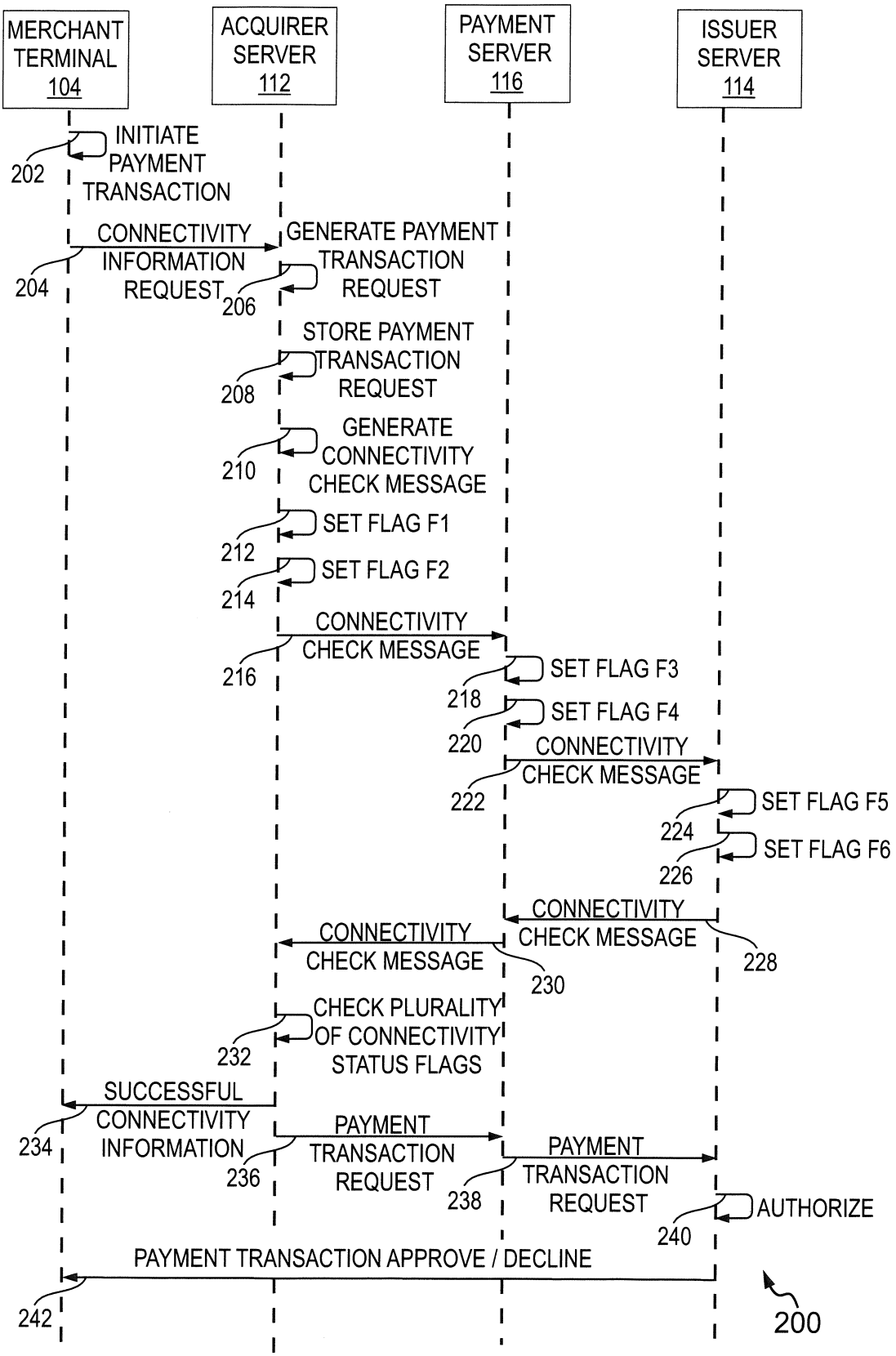

MERCHANT TERMINAL 104
ACQUIRER SERVER 112
PAYMENT SERVER 116
ISSUER SERVER 114
202
INITIATE PAYMENT TRANSACTION
204
CONNECTIVITY INFORMATION REQUEST
206
GENERATE PAYMENT TRANSACTION REQUEST
208
STORE PAYMENT TRANSACTION REQUEST
210
GENERATE CONNECTIVITY CHECK MESSAGE
212
SET FLAG F1
214
SET FLAG F2
216
CONNECTIVITY CHECK MESSAGE
218
SET FLAG F3
220
SET FLAG F4
222
CONNECTIVITY CHECK MESSAGE
224
SET FLAG F5
226
SET FLAG F6
228
CONNECTIVITY CHECK MESSAGE
230
CONNECTIVITY CHECK MESSAGE
232
CHECK PLURALITY OF CONNECTIVITY STATUS FLAGS
234
SUCCESSFUL CONNECTIVITY INFORMATION
236
PAYMENT TRANSACTION REQUEST
238
PAYMENT TRANSACTION REQUEST
240
AUTHORIZE
242
PAYMENT TRANSACTION APPROVE / DECLINE
200

FIG. 2

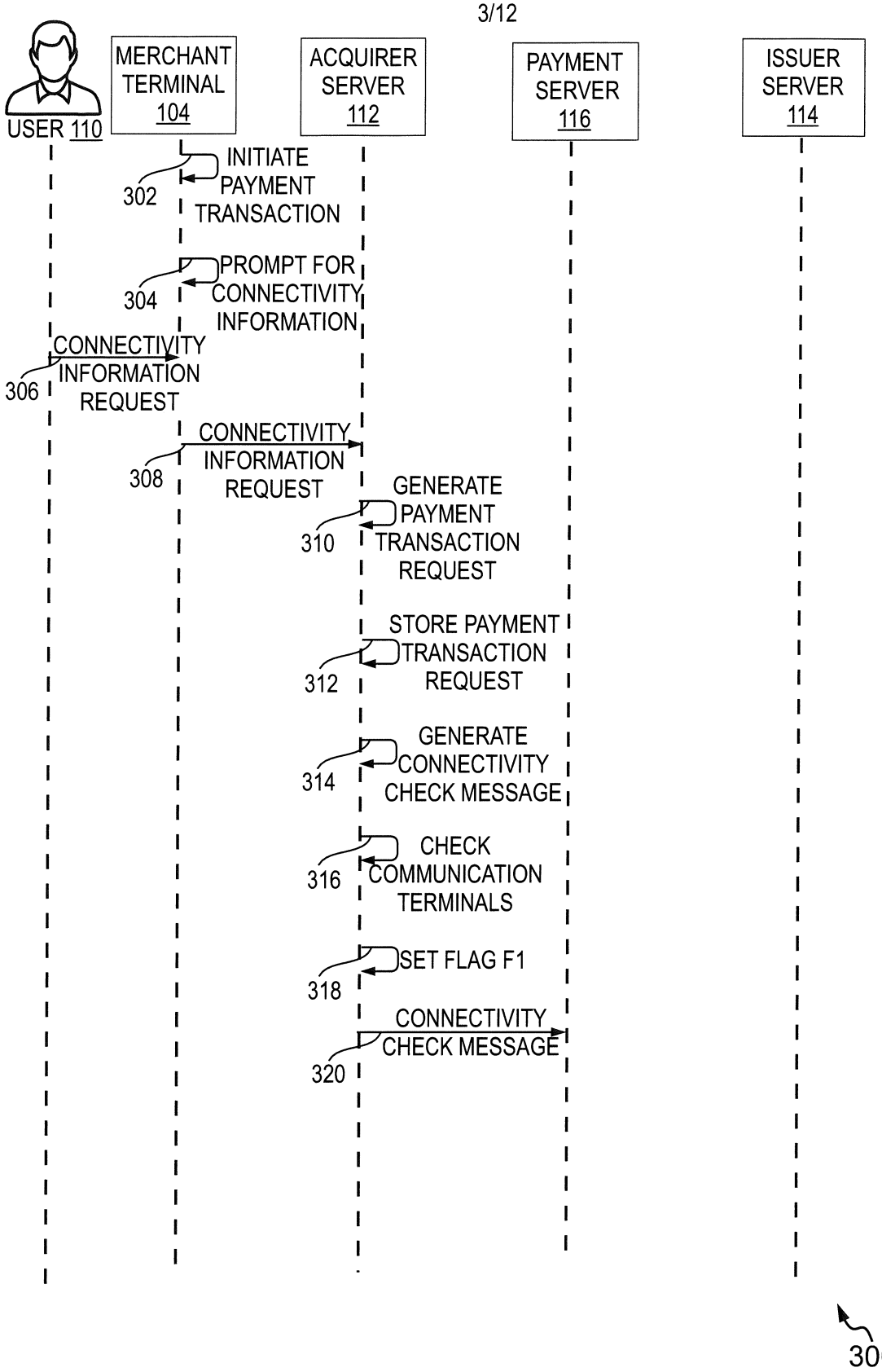

USER 110
MERCHANT TERMINAL 104
ACQUIRER SERVER 112
PAYMENT SERVER 116
ISSUER SERVER 114
INITIATE PAYMENT TRANSACTION
302
PROMPT FOR CONNECTIVITY INFORMATION
304
CONNECTIVITY INFORMATION REQUEST
306
CONNECTIVITY INFORMATION REQUEST
308
GENERATE PAYMENT TRANSACTION REQUEST
310
STORE PAYMENT TRANSACTION REQUEST
312
GENERATE CONNECTIVITY CHECK MESSAGE
314
CHECK COMMUNICATION TERMINALS
316
SET FLAG F1
318
CONNECTIVITY CHECK MESSAGE
320
300

FIG. 3A

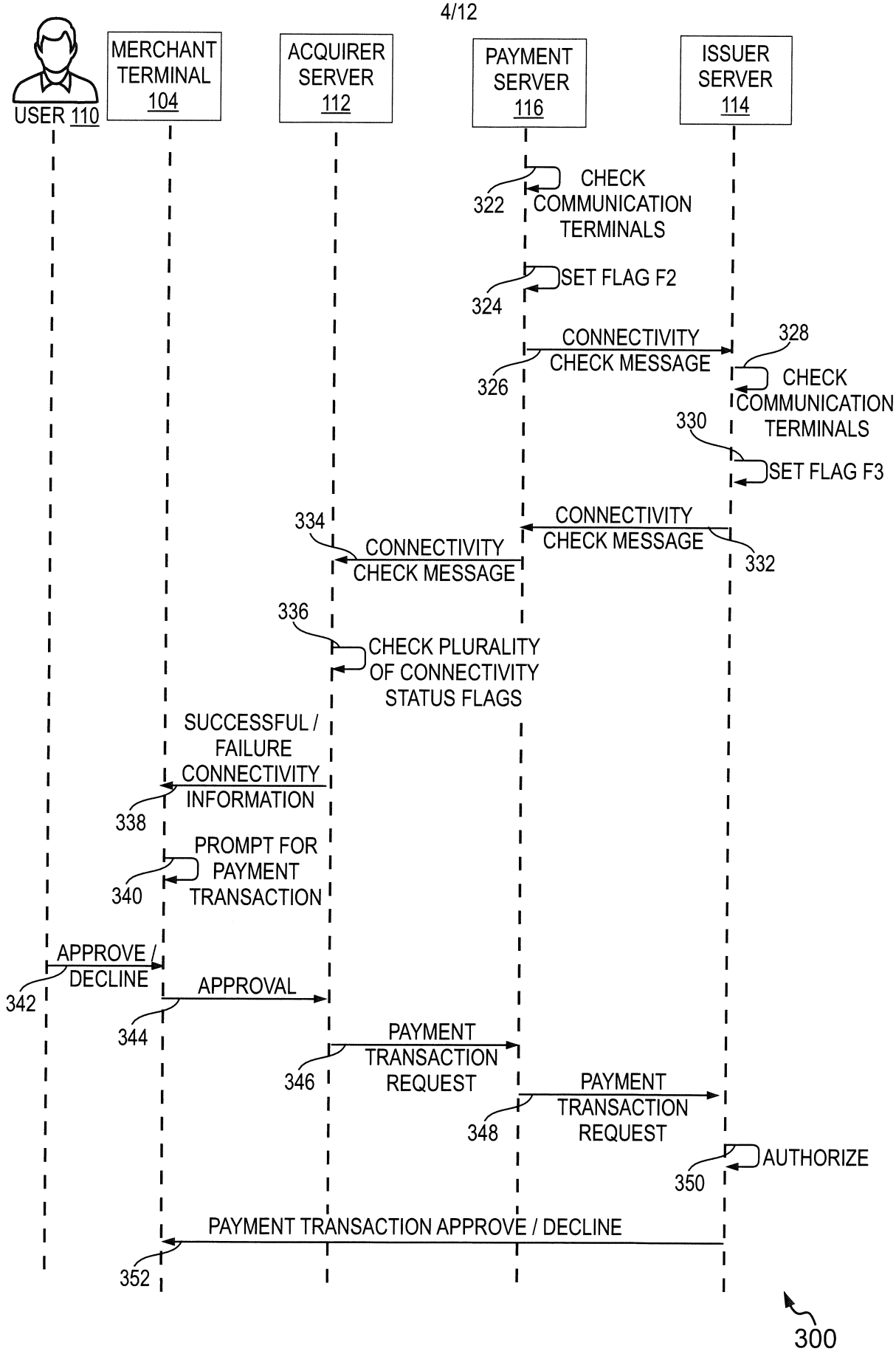

USER 110
MERCHANT TERMINAL 104
ACQUIRER SERVER 112
PAYMENT SERVER 116
ISSUER SERVER 114
322
CHECK COMMUNICATION TERMINALS
324
SET FLAG F2
326
CONNECTIVITY CHECK MESSAGE
328
CHECK COMMUNICATION TERMINALS
330
SET FLAG F3
332
CONNECTIVITY CHECK MESSAGE
334
CONNECTIVITY CHECK MESSAGE
336
CHECK PLURALITY OF CONNECTIVITY STATUS FLAGS
338
SUCCESSFUL / FAILURE CONNECTIVITY INFORMATION
340
PROMPT FOR PAYMENT TRANSACTION
342
APPROVE / DECLINE
344
APPROVAL
346
PAYMENT TRANSACTION REQUEST
348
PAYMENT TRANSACTION REQUEST
350
AUTHORIZE
352
PAYMENT TRANSACTION APPROVE / DECLINE
300

FIG. 3B

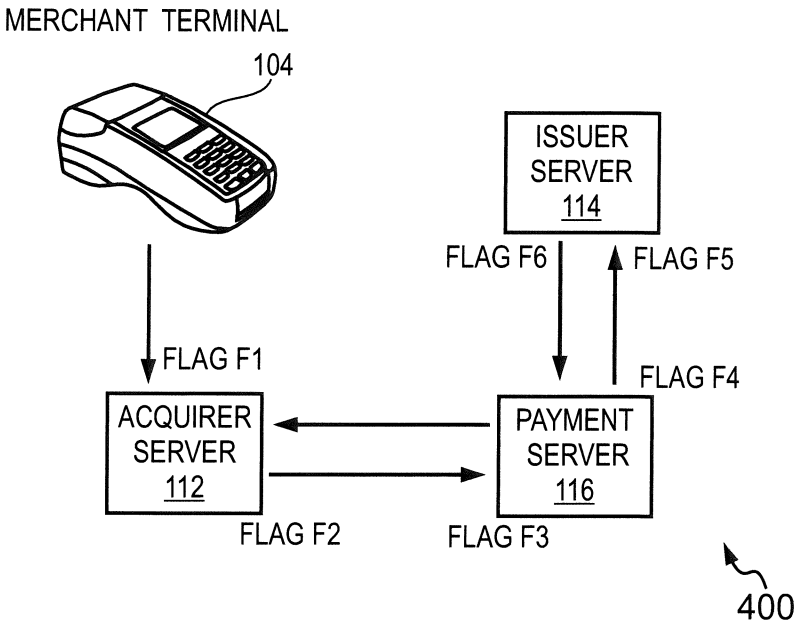

MERCHANT TERMINAL
104
ISSUER SERVER 114
FLAG F6
FLAG F5
FLAG F1
FLAG F4
ACQUIRER SERVER 112
PAYMENT SERVER 116
FLAG F2
FLAG F3
400

FIG. 4A

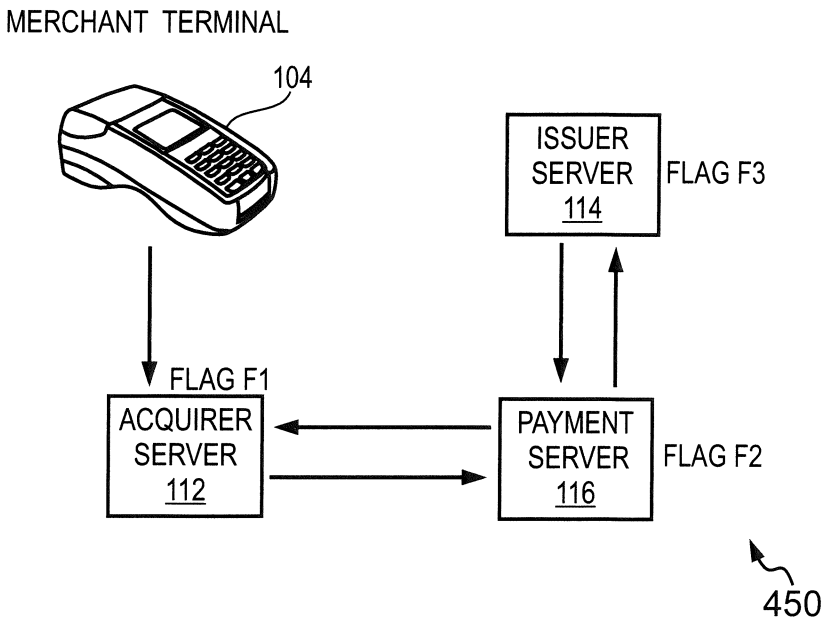

MERCHANT TERMINAL
104
ISSUER SERVER 114
FLAG F3
FLAG F1
ACQUIRER SERVER 112
PAYMENT SERVER 116
FLAG F2
450

FIG. 4B

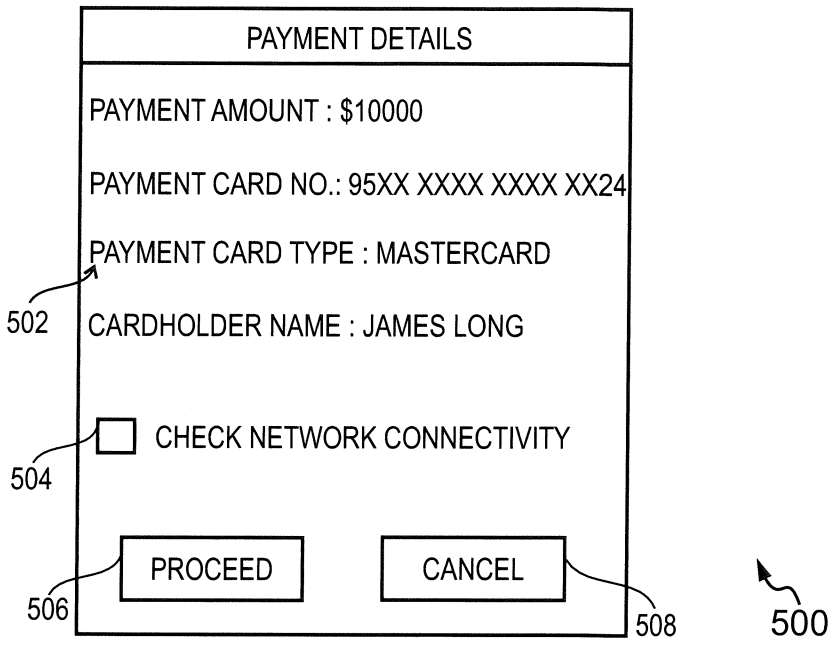


FIG. 5A

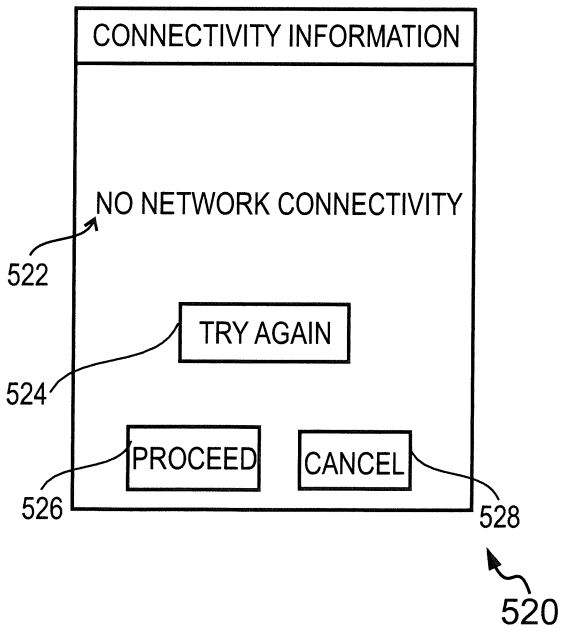


FIG. 5B

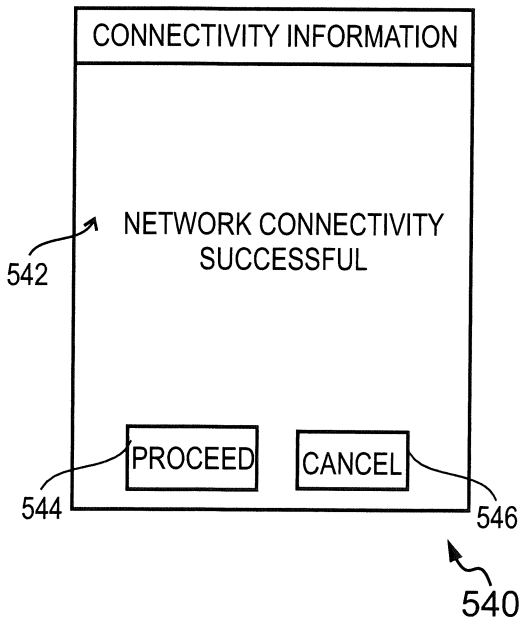


FIG. 5C

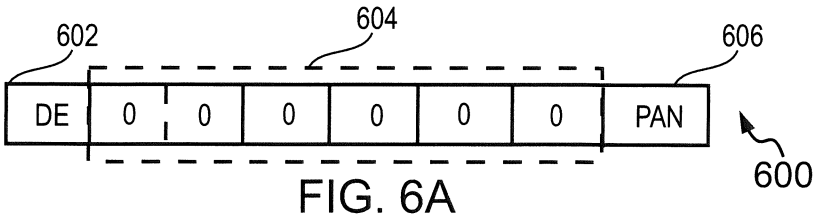


FIG. 6A

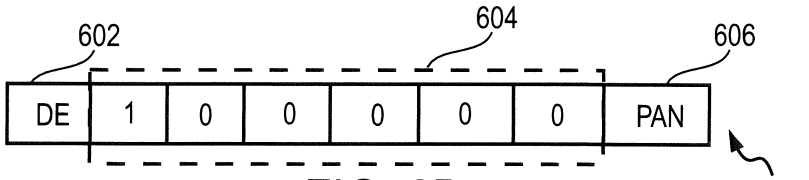


FIG. 6B

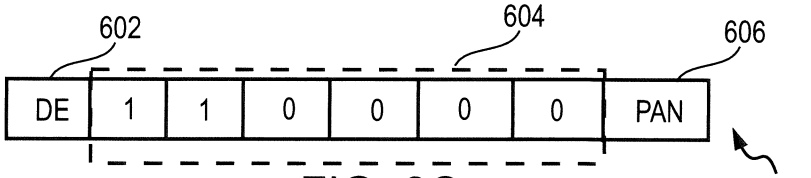


FIG. 6C

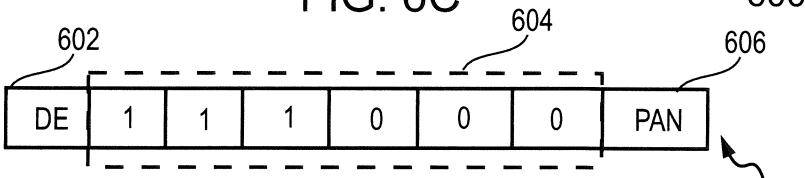


FIG. 6D

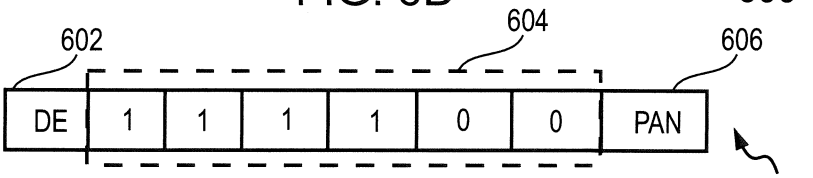


FIG. 6E

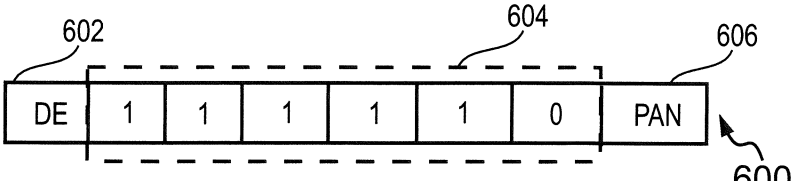


FIG. 6F

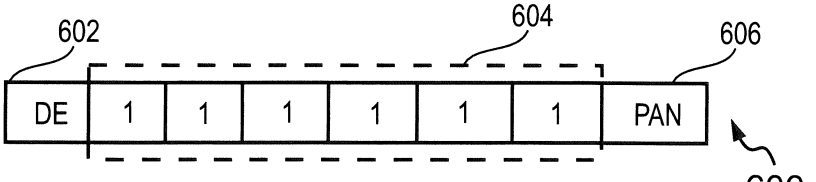


FIG. 6G

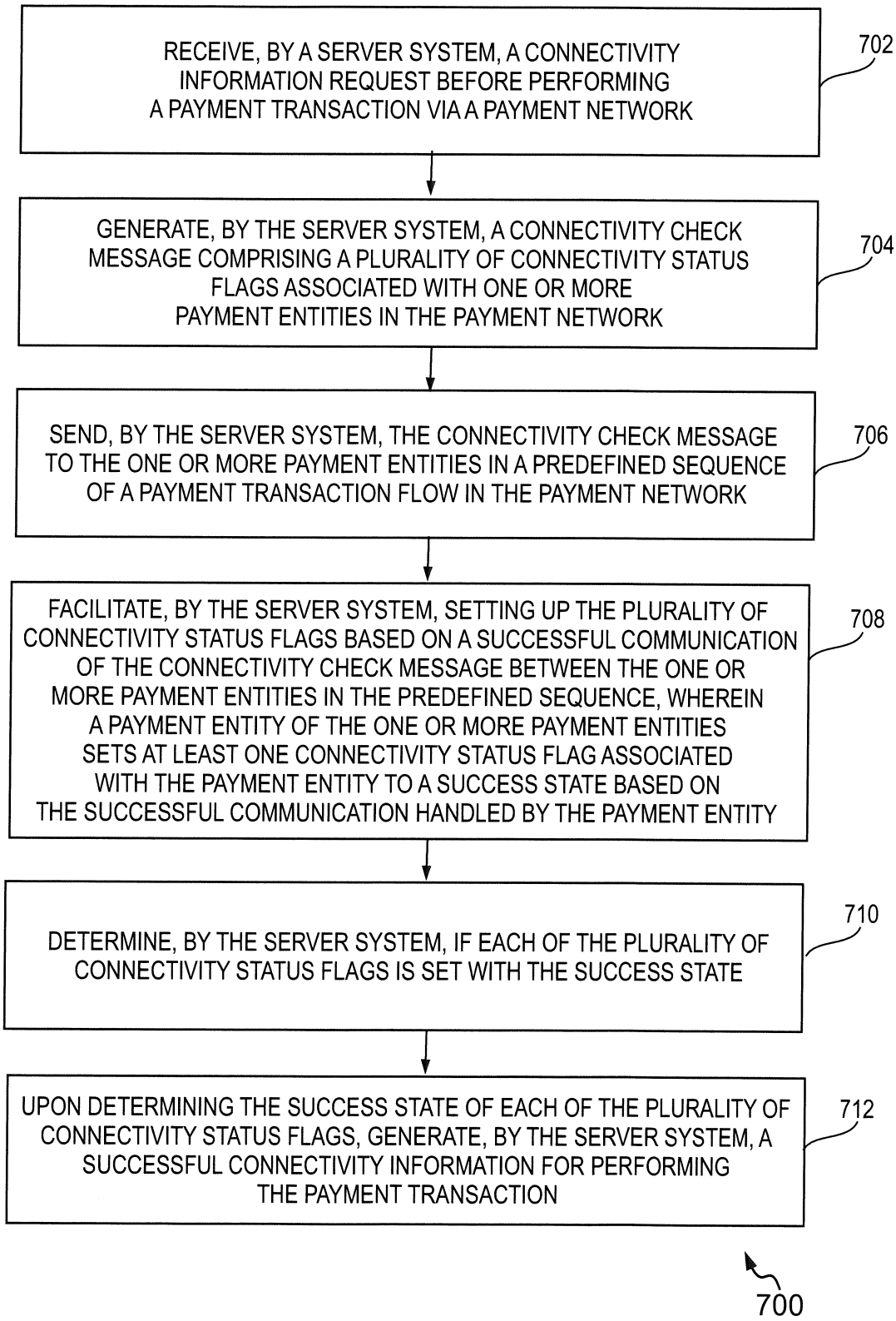

RECEIVE, BY A SERVER SYSTEM, A CONNECTIVITY INFORMATION REQUEST BEFORE PERFORMING A PAYMENT TRANSACTION VIA A PAYMENT NETWORK
702
GENERATE, BY THE SERVER SYSTEM, A CONNECTIVITY CHECK MESSAGE COMPRISING A PLURALITY OF CONNECTIVITY STATUS FLAGS ASSOCIATED WITH ONE OR MORE PAYMENT ENTITIES IN THE PAYMENT NETWORK
704
SEND, BY THE SERVER SYSTEM, THE CONNECTIVITY CHECK MESSAGE TO THE ONE OR MORE PAYMENT ENTITIES IN A PREDEFINED SEQUENCE OF A PAYMENT TRANSACTION FLOW IN THE PAYMENT NETWORK
706
FACILITATE, BY THE SERVER SYSTEM, SETTING UP THE PLURALITY OF CONNECTIVITY STATUS FLAGS BASED ON A SUCCESSFUL COMMUNICATION OF THE CONNECTIVITY CHECK MESSAGE BETWEEN THE ONE OR MORE PAYMENT ENTITIES IN THE PREDEFINED SEQUENCE, WHEREIN A PAYMENT ENTITY OF THE ONE OR MORE PAYMENT ENTITIES SETS AT LEAST ONE CONNECTIVITY STATUS FLAG ASSOCIATED WITH THE PAYMENT ENTITY TO A SUCCESS STATE BASED ON THE SUCCESSFUL COMMUNICATION HANDLED BY THE PAYMENT ENTITY
708
DETERMINE, BY THE SERVER SYSTEM, IF EACH OF THE PLURALITY OF CONNECTIVITY STATUS FLAGS IS SET WITH THE SUCCESS STATE
710
UPON DETERMINING THE SUCCESS STATE OF EACH OF THE PLURALITY OF CONNECTIVITY STATUS FLAGS, GENERATE, BY THE SERVER SYSTEM, A SUCCESSFUL CONNECTIVITY INFORMATION FOR PERFORMING THE PAYMENT TRANSACTION
712
700

FIG. 7

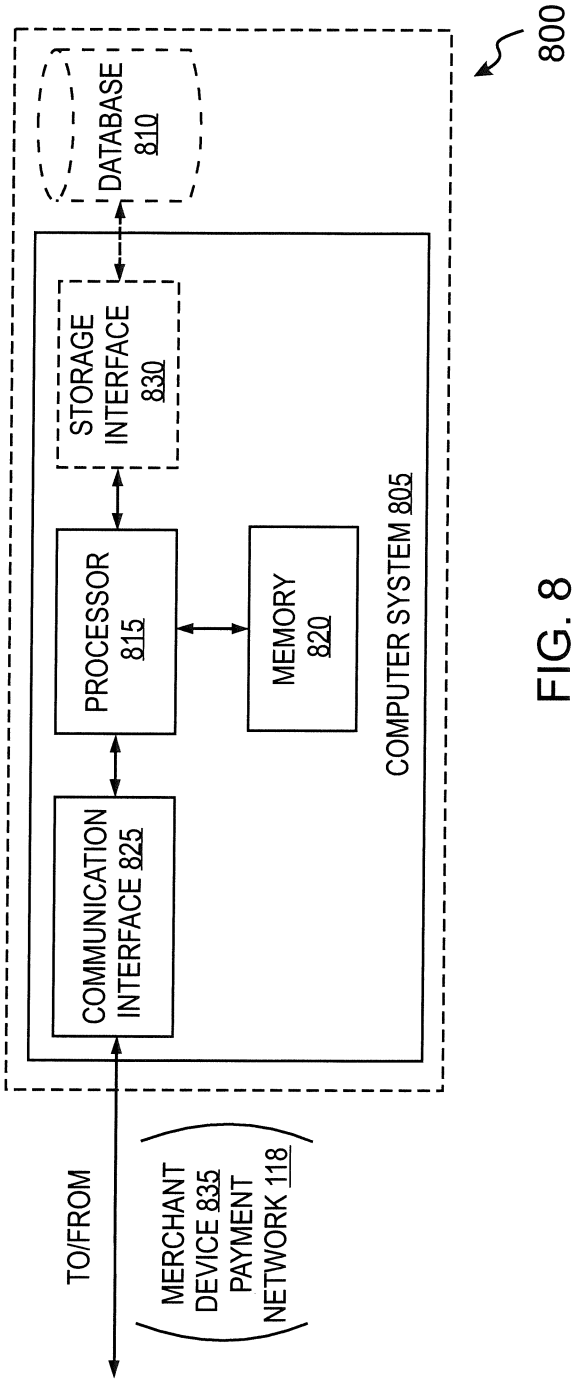

800
DATABASE 810
STORAGE INTERFACE 830
PROCESSOR 815
MEMORY 820
COMPUTER SYSTEM 805
COMMUNICATION INTERFACE 825
TO/FROM
MERCHANT DEVICE 835
PAYMENT NETWORK 118

FIG. 8

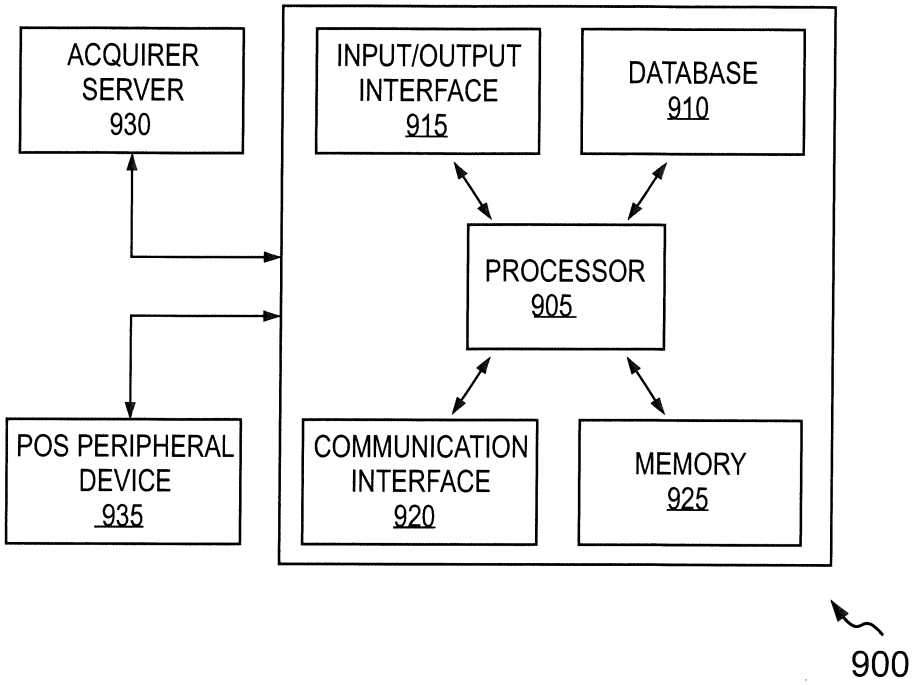

ACQUIRER SERVER 930
INPUT/OUTPUT INTERFACE 915
DATABASE 910
PROCESSOR 905
POS PERIPHERAL DEVICE 935
COMMUNICATION INTERFACE 920
MEMORY 925
900

FIG. 9

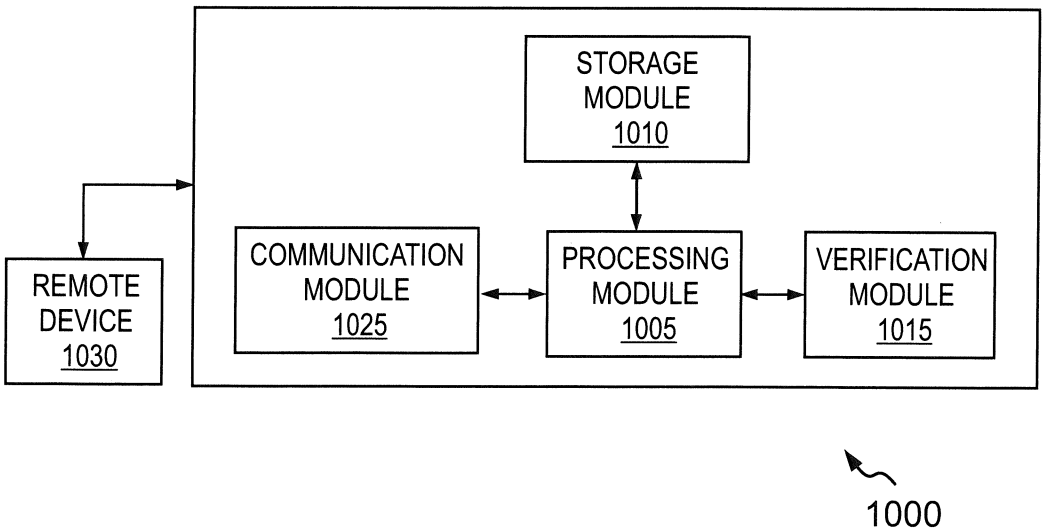

STORAGE MODULE 1010
REMOTE DEVICE 1030
COMMUNICATION MODULE 1025
PROCESSING MODULE 1005
VERIFICATION MODULE 1015
1000

FIG. 10

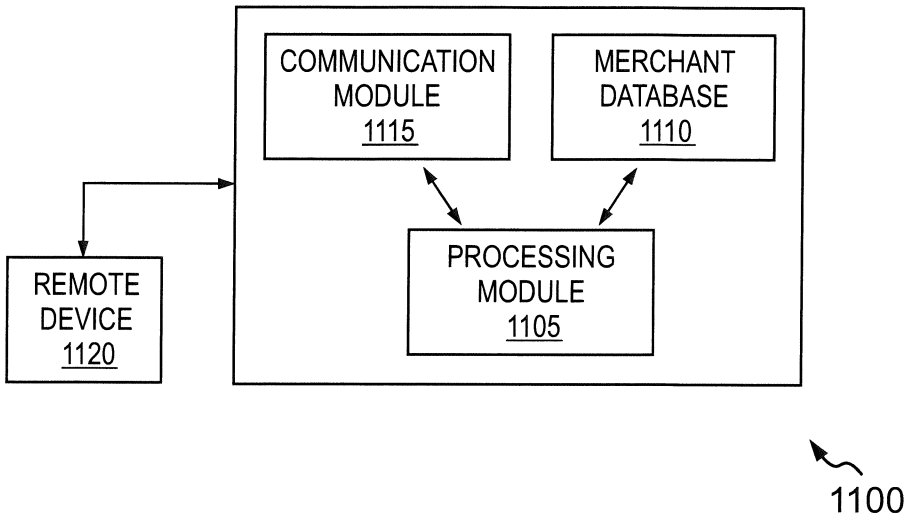

COMMUNICATION MODULE 1115
MERCHANT DATABASE 1110
PROCESSING MODULE 1105
REMOTE DEVICE 1120
1100

FIG. 11

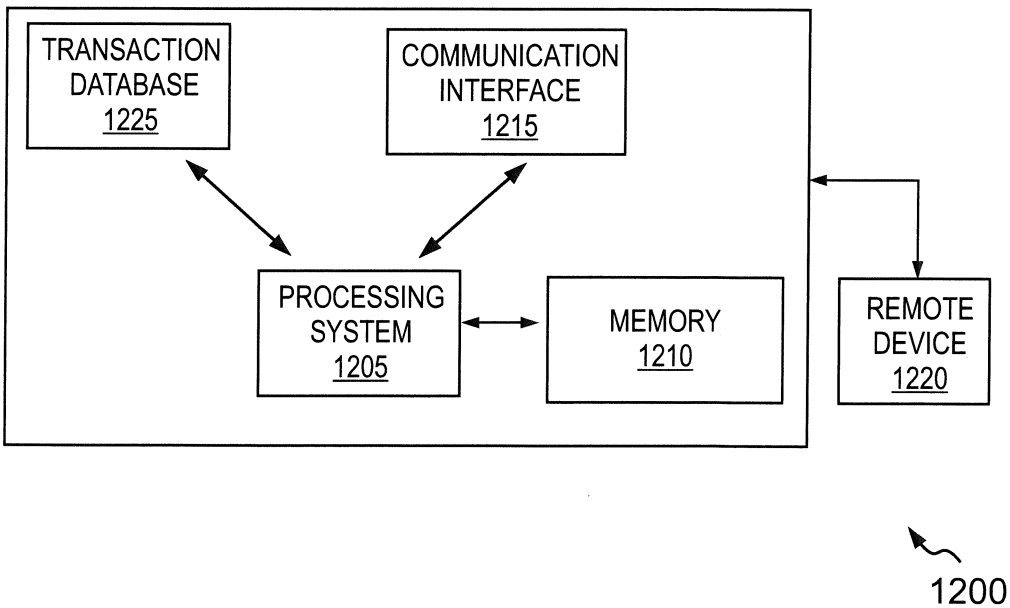

TRANSACTION DATABASE 1225
COMMUNICATION INTERFACE 1215
PROCESSING SYSTEM 1205
MEMORY 1210
REMOTE DEVICE 1220
1200

FIG. 12

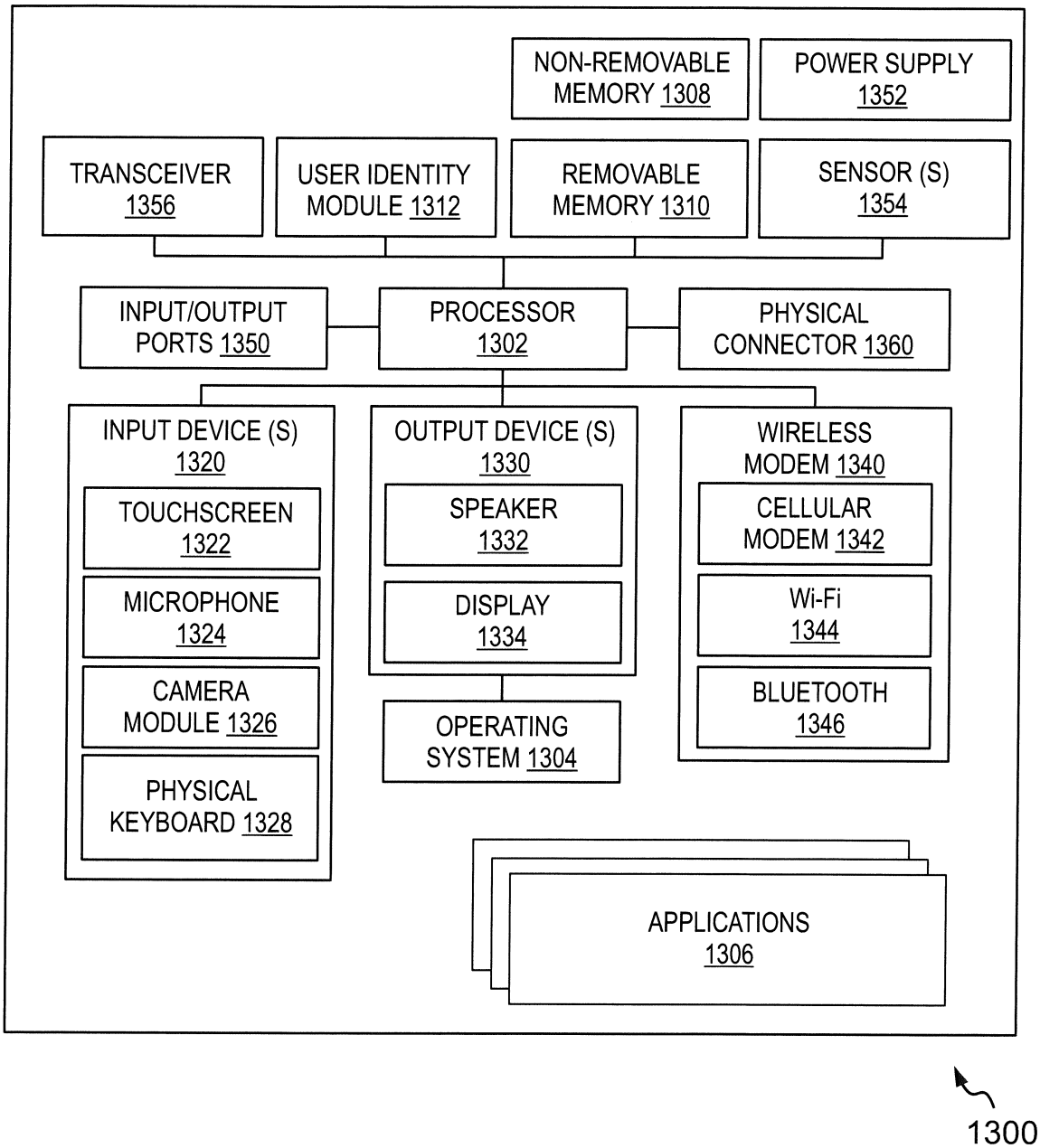

NON-REMOVABLE MEMORY 1308
POWER SUPPLY 1352
TRANSCEIVER 1356
USER IDENTITY MODULE 1312
REMOVABLE MEMORY 1310
SENSOR (S) 1354
INPUT/OUTPUT PORTS 1350
PROCESSOR 1302
PHYSICAL CONNECTOR 1360
INPUT DEVICE (S) 1320
TOUCHSCREEN 1322
MICROPHONE 1324
CAMERA MODULE 1326
PHYSICAL KEYBOARD 1328
OUTPUT DEVICE (S) 1330
SPEAKER 1332
DISPLAY 1334
OPERATING SYSTEM 1304
WIRELESS MODEM 1340
CELLULAR MODEM 1342
Wi-Fi 1344
BLUETOOTH 1346
APPLICATIONS 1306
1300

FIG. 13