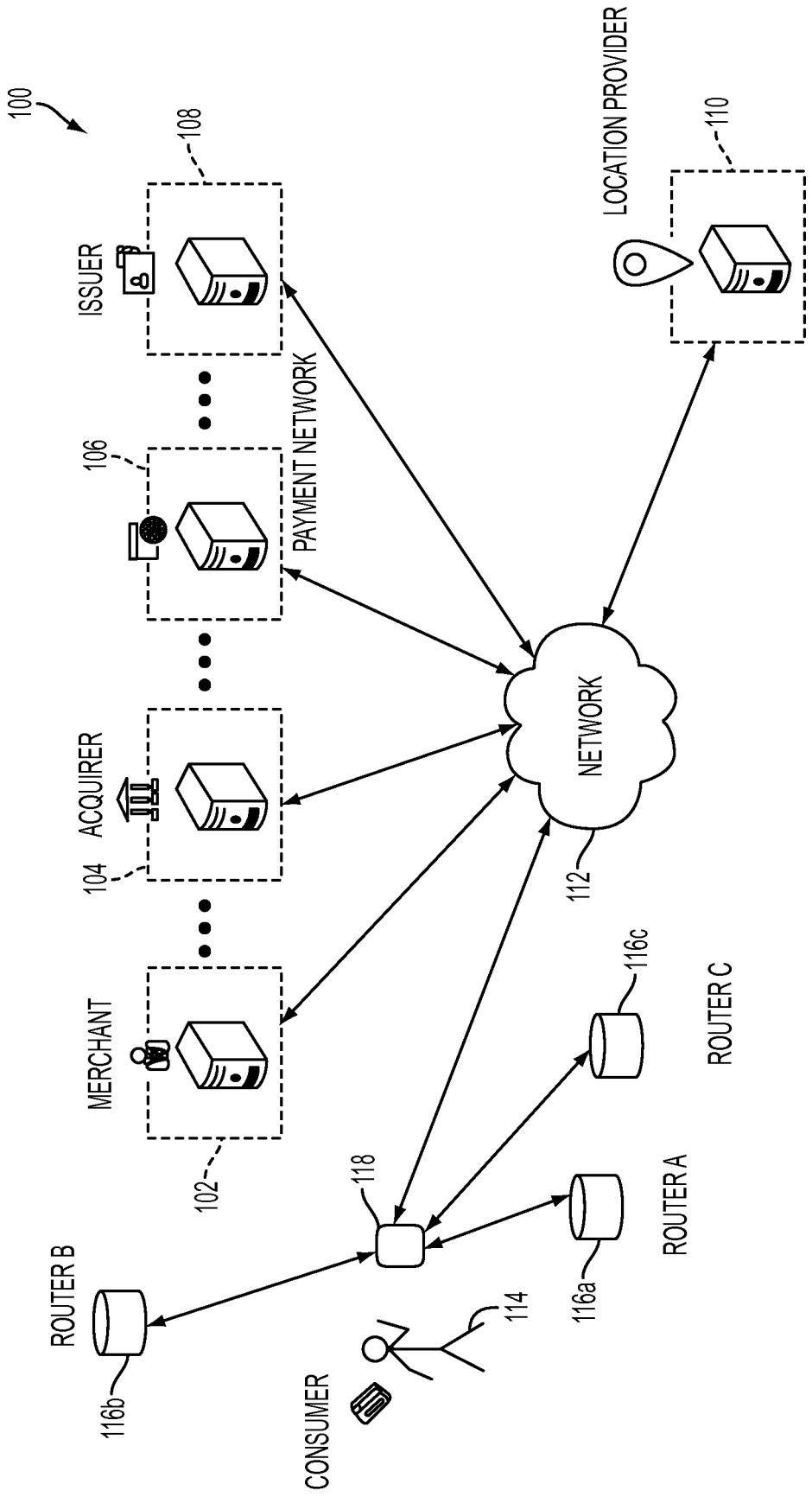

100
108
ISSUER
106
PAYMENT NETWORK
104
ACQUIRER
MERCHANT
102
LOCATION PROVIDER
110
NETWORK
112
116c
ROUTER C
118
ROUTER A
116a
ROUTER B
116b
114
CONSUMER

FIG. 1

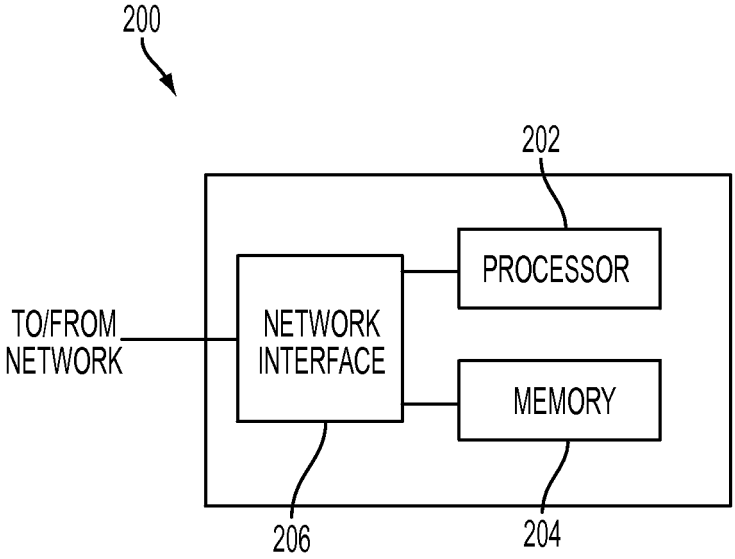

200
202
PROCESSOR
TO/FROM
NETWORK
NETWORK
INTERFACE
MEMORY
206
204

FIG. 2

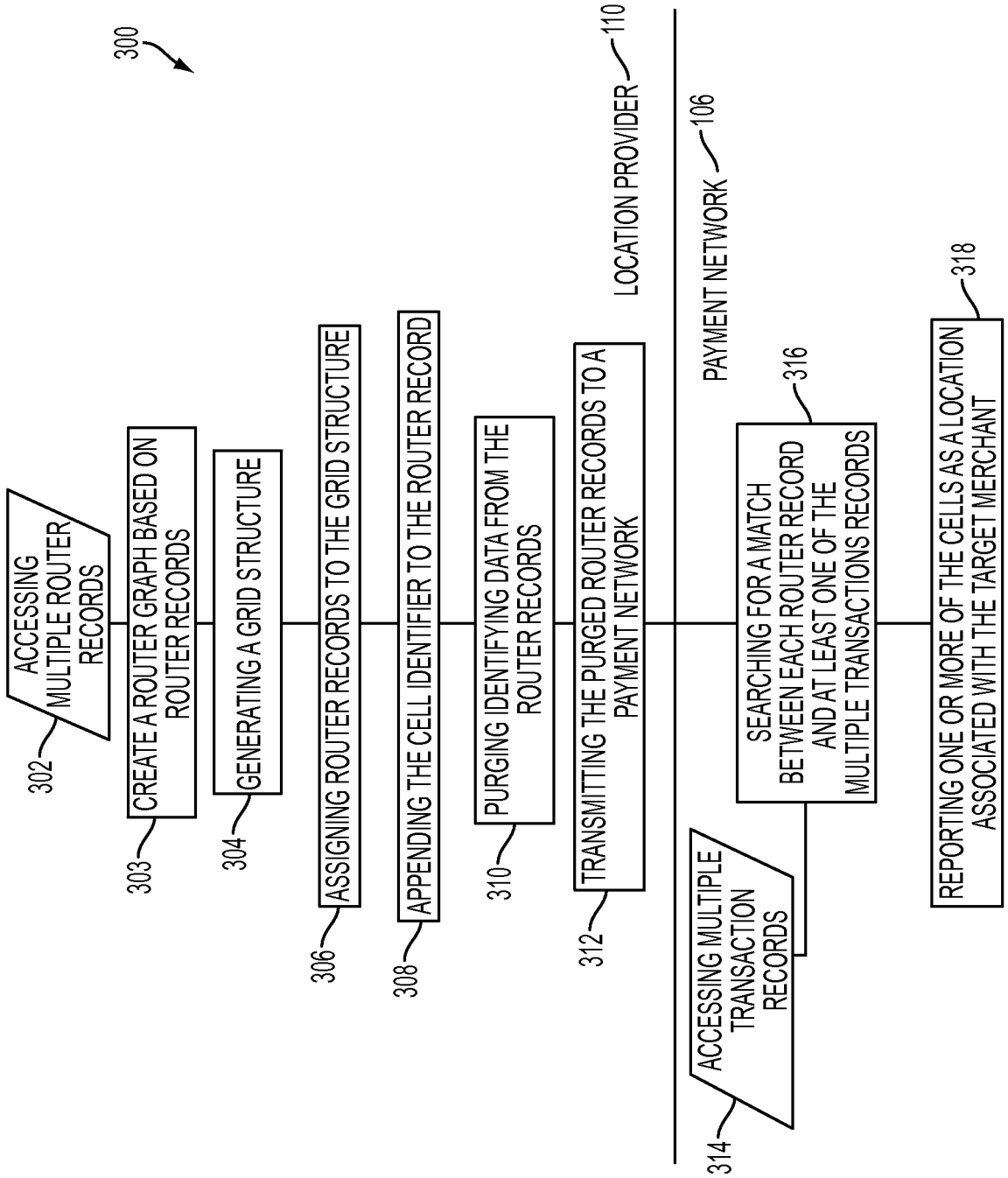

300
ACCESSING MULTIPLE ROUTER RECORDS
302
CREATE A ROUTER GRAPH BASED ON ROUTER RECORDS
303
GENERATING A GRID STRUCTURE
304
ASSIGNING ROUTER RECORDS TO THE GRID STRUCTURE
306
APPENDING THE CELL IDENTIFIER TO THE ROUTER RECORD
308
PURGING IDENTIFYING DATA FROM THE ROUTER RECORDS
310
TRANSMITTING THE PURGED ROUTER RECORDS TO A PAYMENT NETWORK
312
LOCATION PROVIDER
110
PAYMENT NETWORK
106
ACCESSING MULTIPLE TRANSACTION RECORDS
314
SEARCHING FOR A MATCH BETWEEN EACH ROUTER RECORD AND AT LEAST ONE OF THE MULTIPLE TRANSACTIONS RECORDS
316
REPORTING ONE OR MORE OF THE CELLS AS A LOCATION ASSOCIATED WITH THE TARGET MERCHANT
318

FIG. 3

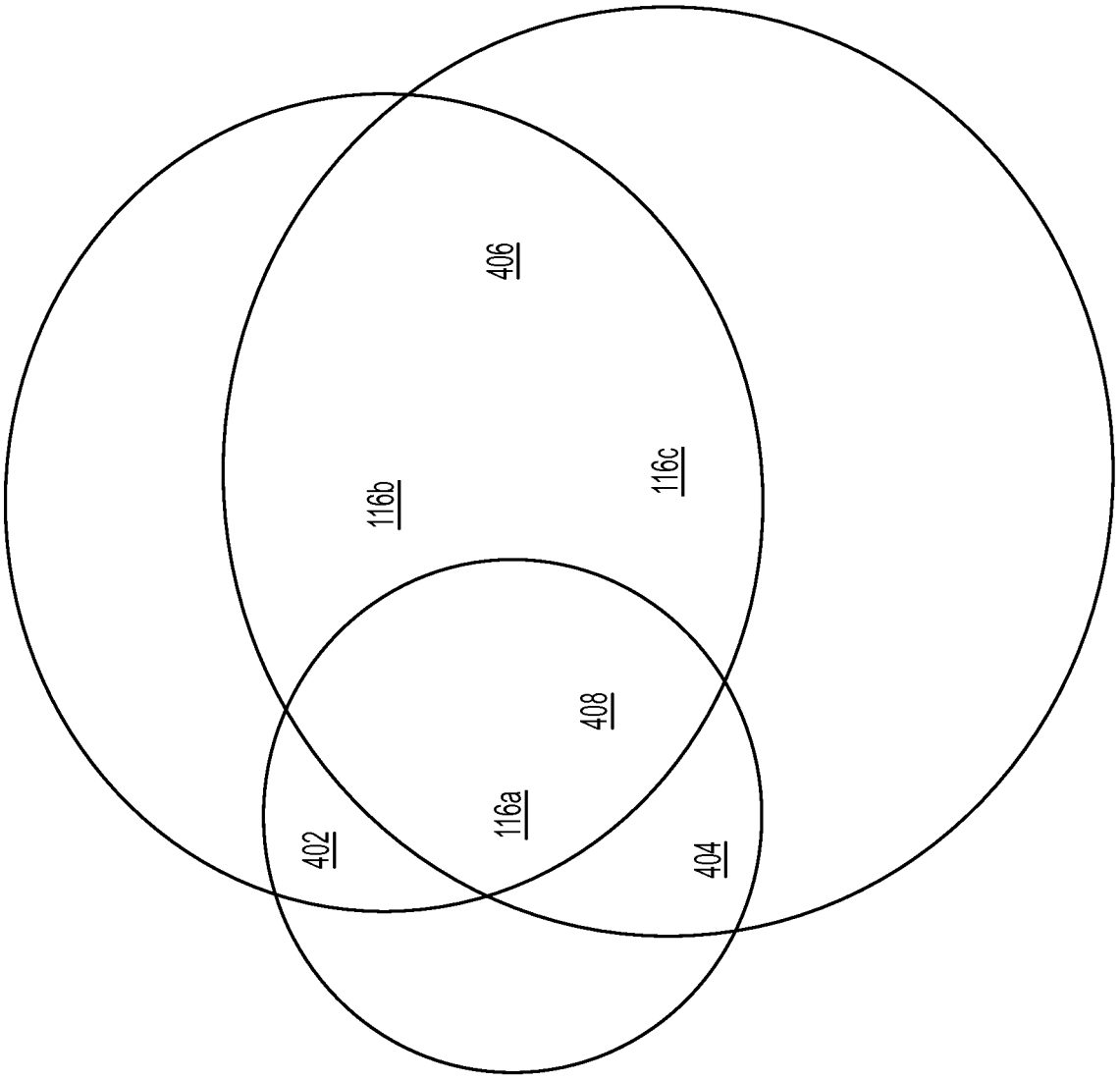


FIG. 4

A	F	K	P	116b U
B	G	L	Q	V
C	H	116a M	R	W
D	I	N	S	X
E	J	O	T	116c Y

FIG. 5

A 0/3	F	K	P 4/103	U
B 1/10	G 6/24	L	Q	V
C 2/22	H	M	R	W
D	I	N	S	X
E	J	O	T	Y 0/0

FIG. 6

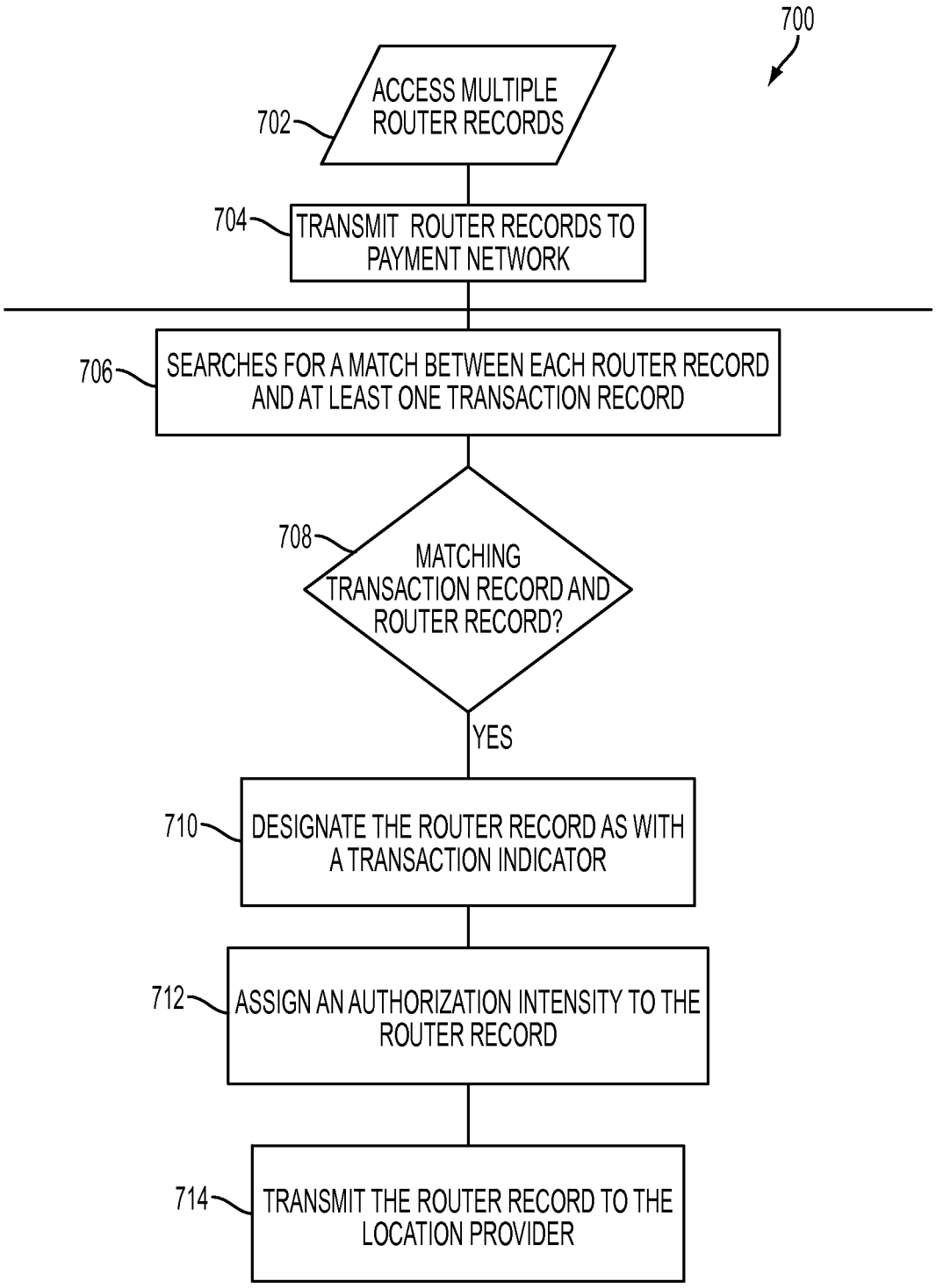

700
ACCESS MULTIPLE ROUTER RECORDS
702
TRANSMIT ROUTER RECORDS TO PAYMENT NETWORK
704
SEARCHES FOR A MATCH BETWEEN EACH ROUTER RECORD AND AT LEAST ONE TRANSACTION RECORD
706
MATCHING TRANSACTION RECORD AND ROUTER RECORD?
708
YES
DESIGNATE THE ROUTER RECORD AS WITH A TRANSACTION INDICATOR
710
ASSIGN AN AUTHORIZATION INTENSITY TO THE ROUTER RECORD
712
TRANSMIT THE ROUTER RECORD TO THE LOCATION PROVIDER
714

FIG. 7