FIG. 1

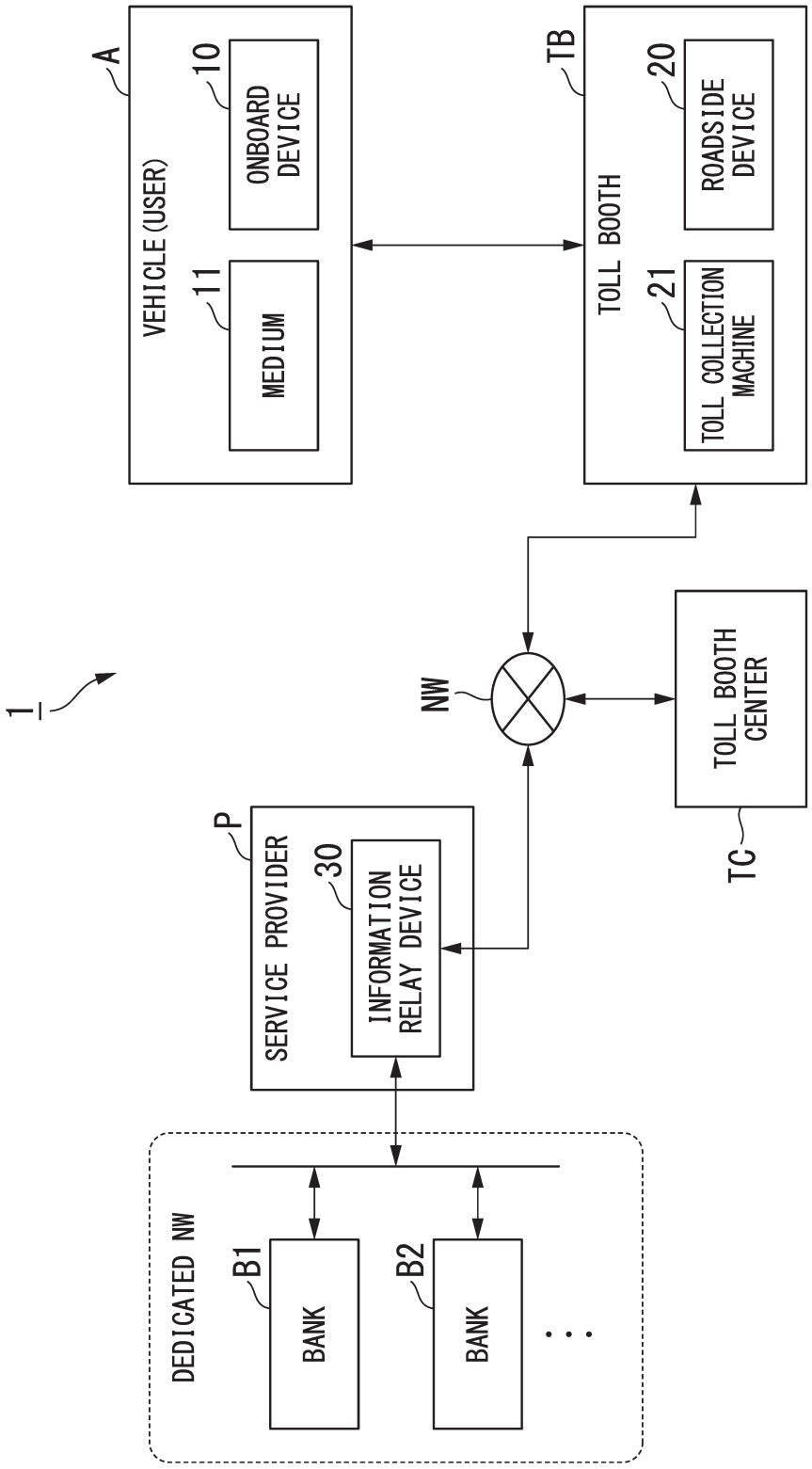

1
A
VEHICLE (USER)
10
ONBOARD DEVICE
11
MEDIUM
TB
TOLL BOOTH
20
ROADSIDE DEVICE
21
TOLL COLLECTION MACHINE
NW
TOLL BOOTH CENTER
TC
P
SERVICE PROVIDER
30
INFORMATION RELAY DEVICE
DEDICATED NW
B1
BANK
B2
BANK
. . .

FIG. 2

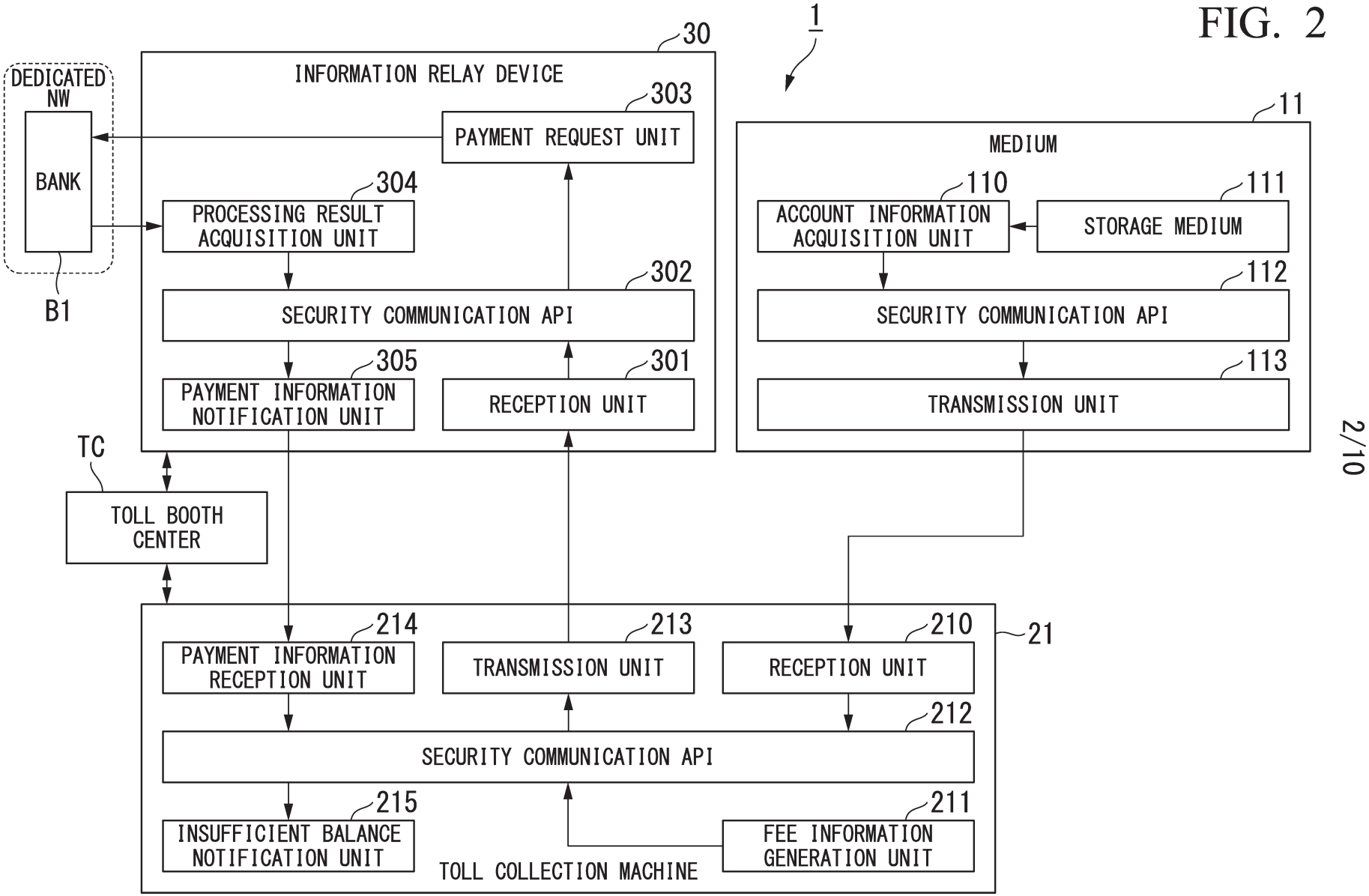

1
30
INFORMATION RELAY DEVICE
DEDICATED NW
BANK
B1
303
PAYMENT REQUEST UNIT
304
PROCESSING RESULT ACQUISITION UNIT
302
SECURITY COMMUNICATION API
305
PAYMENT INFORMATION NOTIFICATION UNIT
301
RECEPTION UNIT
11
MEDIUM
110
ACCOUNT INFORMATION ACQUISITION UNIT
111
STORAGE MEDIUM
112
SECURITY COMMUNICATION API
113
TRANSMISSION UNIT
TC
TOLL BOOTH CENTER
21
214
PAYMENT INFORMATION RECEPTION UNIT
213
TRANSMISSION UNIT
210
RECEPTION UNIT
212
SECURITY COMMUNICATION API
215
INSUFFICIENT BALANCE NOTIFICATION UNIT
211
FEE INFORMATION GENERATION UNIT
TOLL COLLECTION MACHINE

FIG. 3

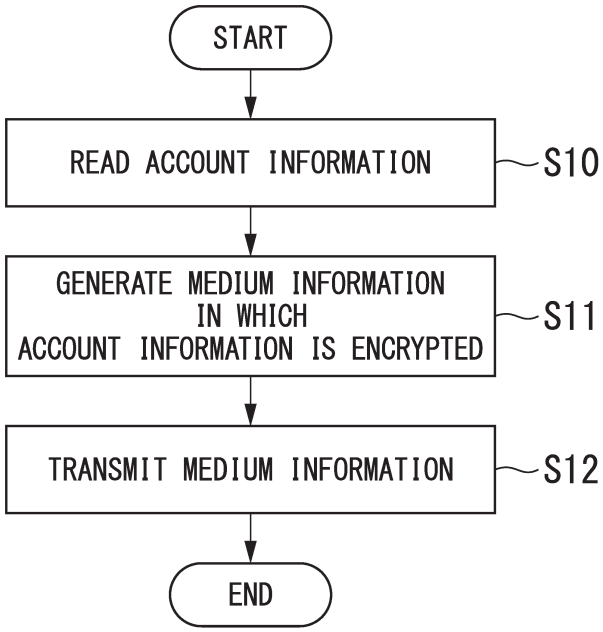


FIG. 4

<ACCOUNT INFORMATION> D1

ACCOUNT ID	PIN
ID0001	0001

FIG. 5

<MEDIUM INFORMATION> D2

MEDIUM ID	CONNECTION INFORMATION	ACCOUNT INFORMATION
MID0001	*****	ACCOUNT ID, PIN

FIG. 6

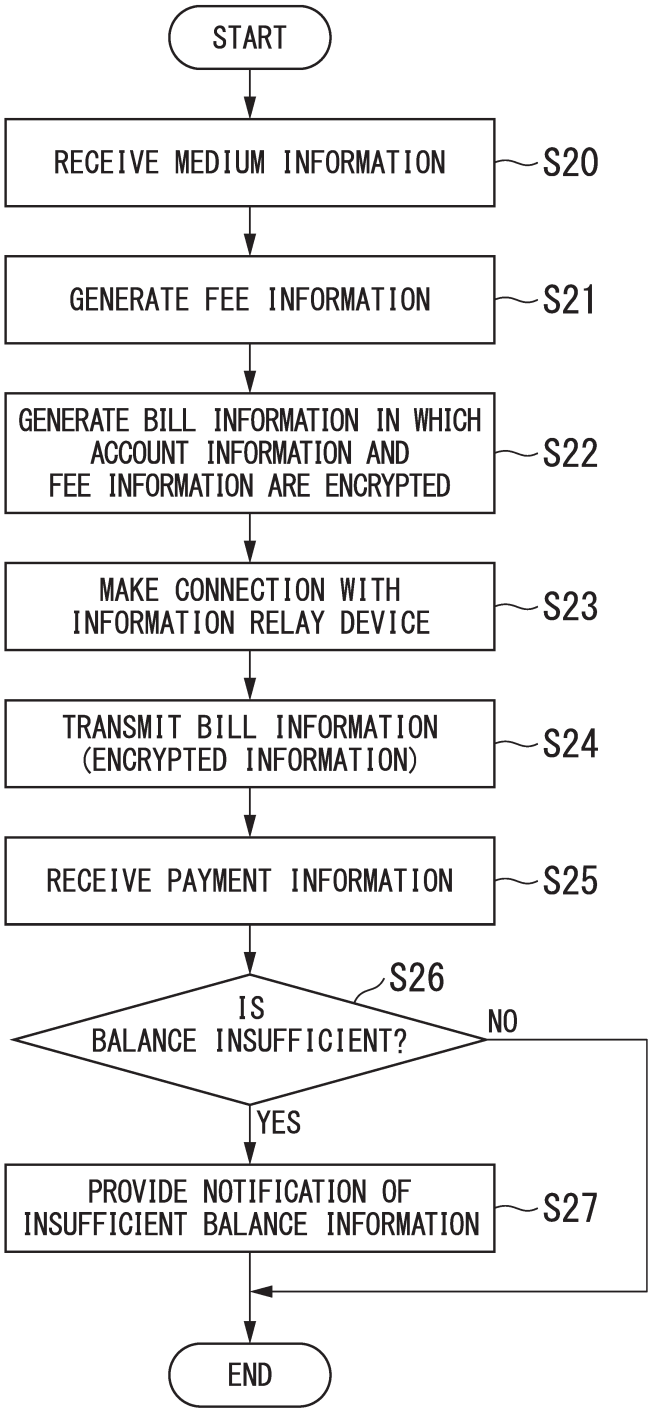

START
RECEIVE MEDIUM INFORMATION
S20
GENERATE FEE INFORMATION
S21
GENERATE BILL INFORMATION IN WHICH ACCOUNT INFORMATION AND FEE INFORMATION ARE ENCRYPTED
S22
MAKE CONNECTION WITH INFORMATION RELAY DEVICE
S23
TRANSMIT BILL INFORMATION (ENCRYPTED INFORMATION)
S24
RECEIVE PAYMENT INFORMATION
S25
S26
IS BALANCE INSUFFICIENT?
NO
YES
PROVIDE NOTIFICATION OF INSUFFICIENT BALANCE INFORMATION
S27
END

FIG. 7

D3

<FEE INFORMATION>

ENTRANCE INFORMATION	EXIT INFORMATION	USAGE FEE
ENTRANCE TOLL BOOTH NUMBER, PASSAGE TIME	EXIT TOLL BOOTH NUMBER, PASSAGE TIME	¥1000

FIG. 8

D4

<BILL INFORMATION>

MEDIUM ID	CONNECTION INFORMATION	ACCOUNT INFORMATION	FEE INFORMATION
MID0001	*****	ACCOUNT ID, PIN	ENTRANCE INFORMATION, EXIT INFORMATION, USAGE FEE

FIG. 9

D5

<PAYMENT INFORMATION>

MEDIUM ID	ACCOUNT INFORMATION	PROCESSING RESULT
MID0001	ACCOUNT ID, PIN	INSUFFICIENT BALANCE

FIG. 10

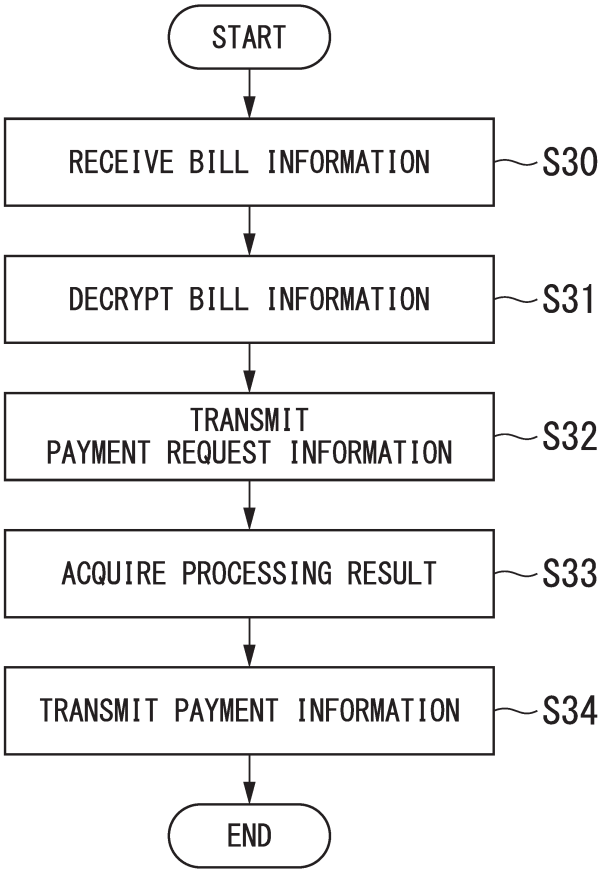


FIG. 11

D6

<PAYMENT REQUEST INFORMATION>

MEDIUM ID	ACCOUNT INFORMATION	FEE INFORMATION	PAYEE INFORMATION
MID0001	ACCOUNT ID, PIN	ENTRANCE INFORMATION, EXIT INFORMATION, USAGE FEE	ACCOUNT ID

FIG. 12

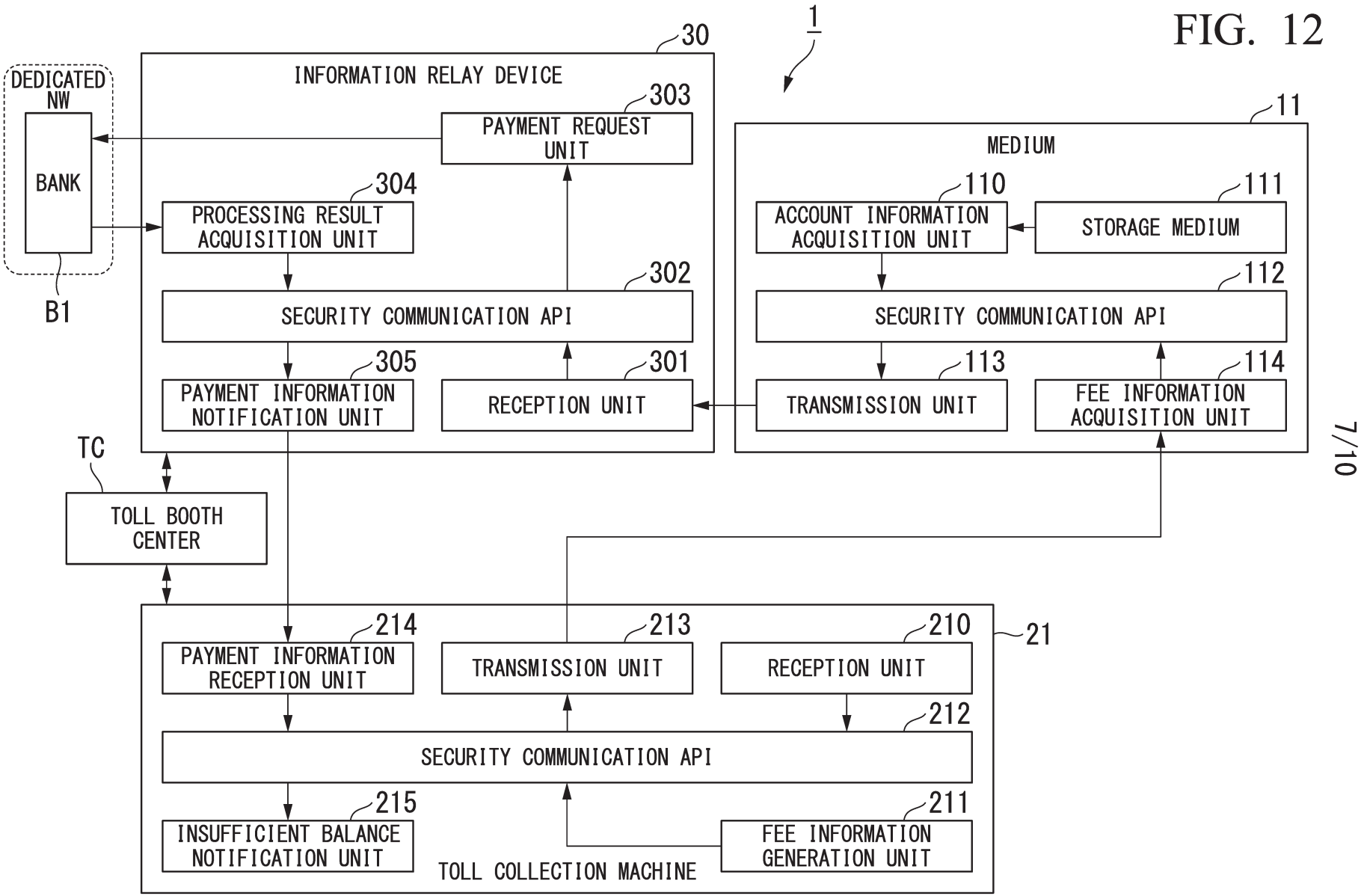

1
30
INFORMATION RELAY DEVICE
DEDICATED NW
BANK
B1
303
PAYMENT REQUEST UNIT
304
PROCESSING RESULT ACQUISITION UNIT
302
SECURITY COMMUNICATION API
305
PAYMENT INFORMATION NOTIFICATION UNIT
301
RECEPTION UNIT
11
MEDIUM
110
ACCOUNT INFORMATION ACQUISITION UNIT
111
STORAGE MEDIUM
112
SECURITY COMMUNICATION API
113
TRANSMISSION UNIT
114
FEE INFORMATION ACQUISITION UNIT
TC
TOLL BOOTH CENTER
214
PAYMENT INFORMATION RECEPTION UNIT
213
TRANSMISSION UNIT
210
RECEPTION UNIT
21
212
SECURITY COMMUNICATION API
215
INSUFFICIENT BALANCE NOTIFICATION UNIT
211
FEE INFORMATION GENERATION UNIT
TOLL COLLECTION MACHINE

FIG. 13

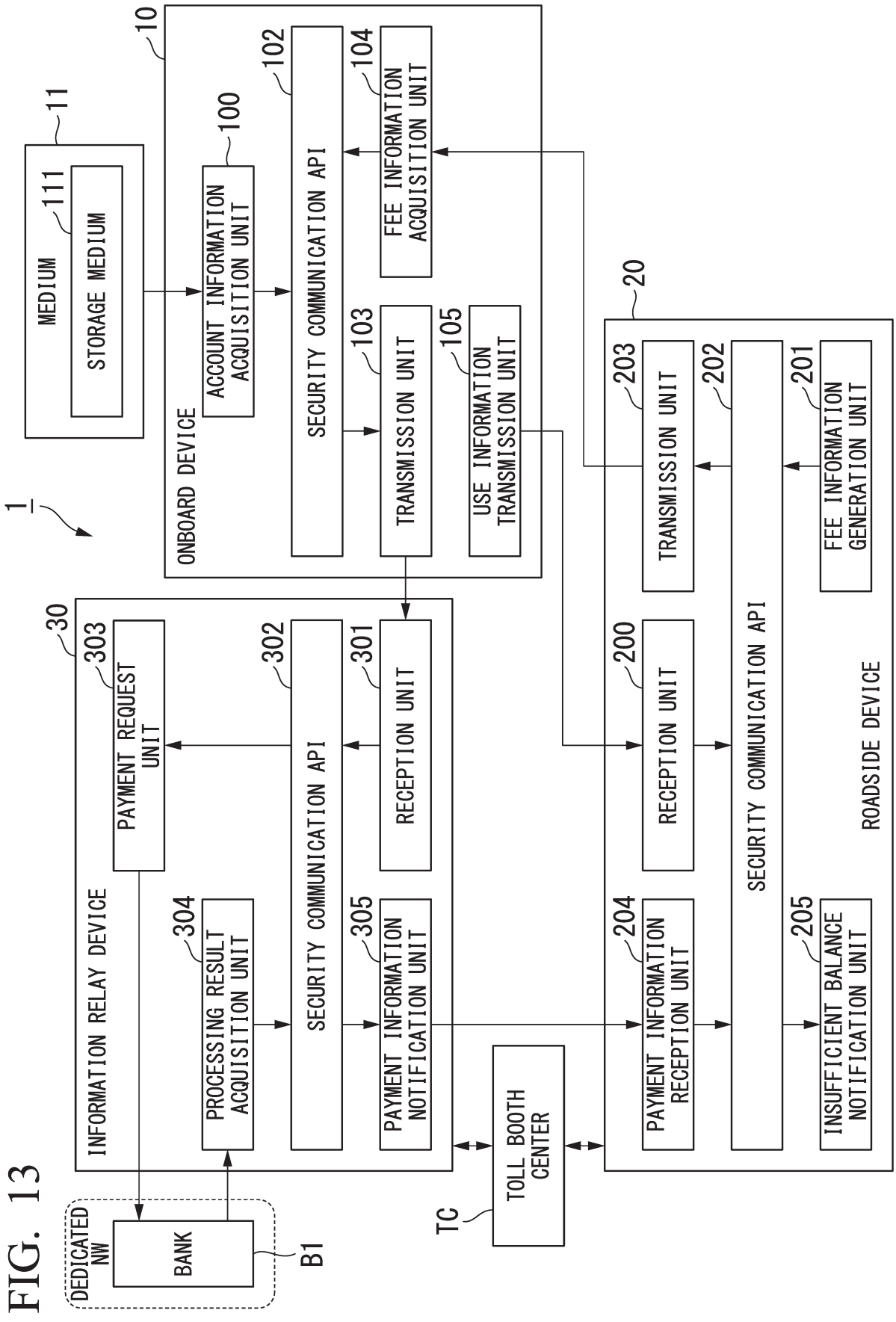

1
10
ONBOARD DEVICE
11
MEDIUM
111
STORAGE MEDIUM
100
ACCOUNT INFORMATION ACQUISITION UNIT
102
SECURITY COMMUNICATION API
103
TRANSMISSION UNIT
104
FEE INFORMATION ACQUISITION UNIT
105
USE INFORMATION TRANSMISSION UNIT
20
ROADSIDE DEVICE
200
RECEPTION UNIT
201
FEE INFORMATION GENERATION UNIT
202
SECURITY COMMUNICATION API
203
TRANSMISSION UNIT
204
PAYMENT INFORMATION RECEPTION UNIT
205
INSUFFICIENT BALANCE NOTIFICATION UNIT
30
INFORMATION RELAY DEVICE
301
RECEPTION UNIT
302
SECURITY COMMUNICATION API
303
PAYMENT REQUEST UNIT
304
PROCESSING RESULT ACQUISITION UNIT
305
PAYMENT INFORMATION NOTIFICATION UNIT
TC
TOLL BOOTH CENTER
DEDICATED NW
BANK
B1

FIG. 14

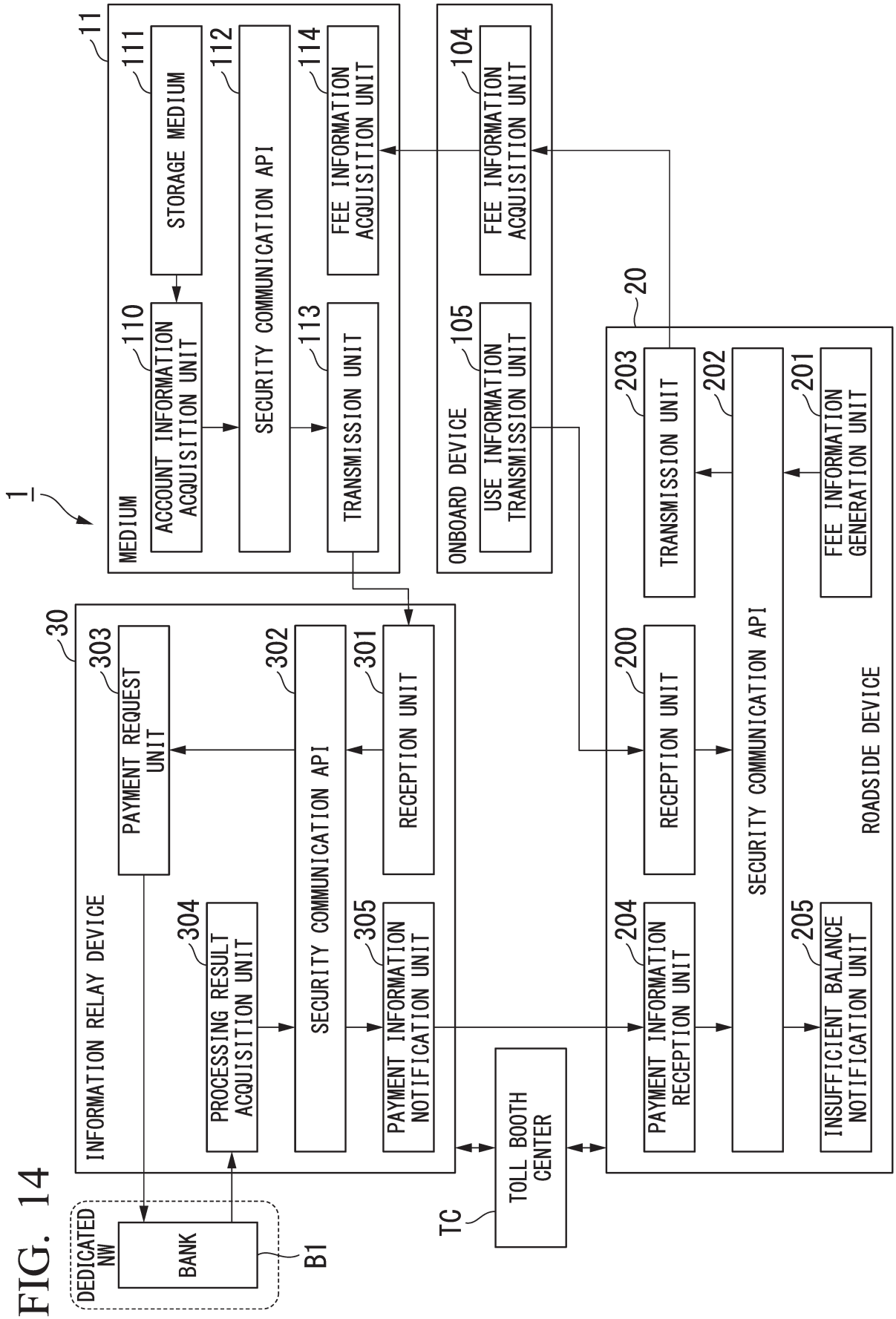
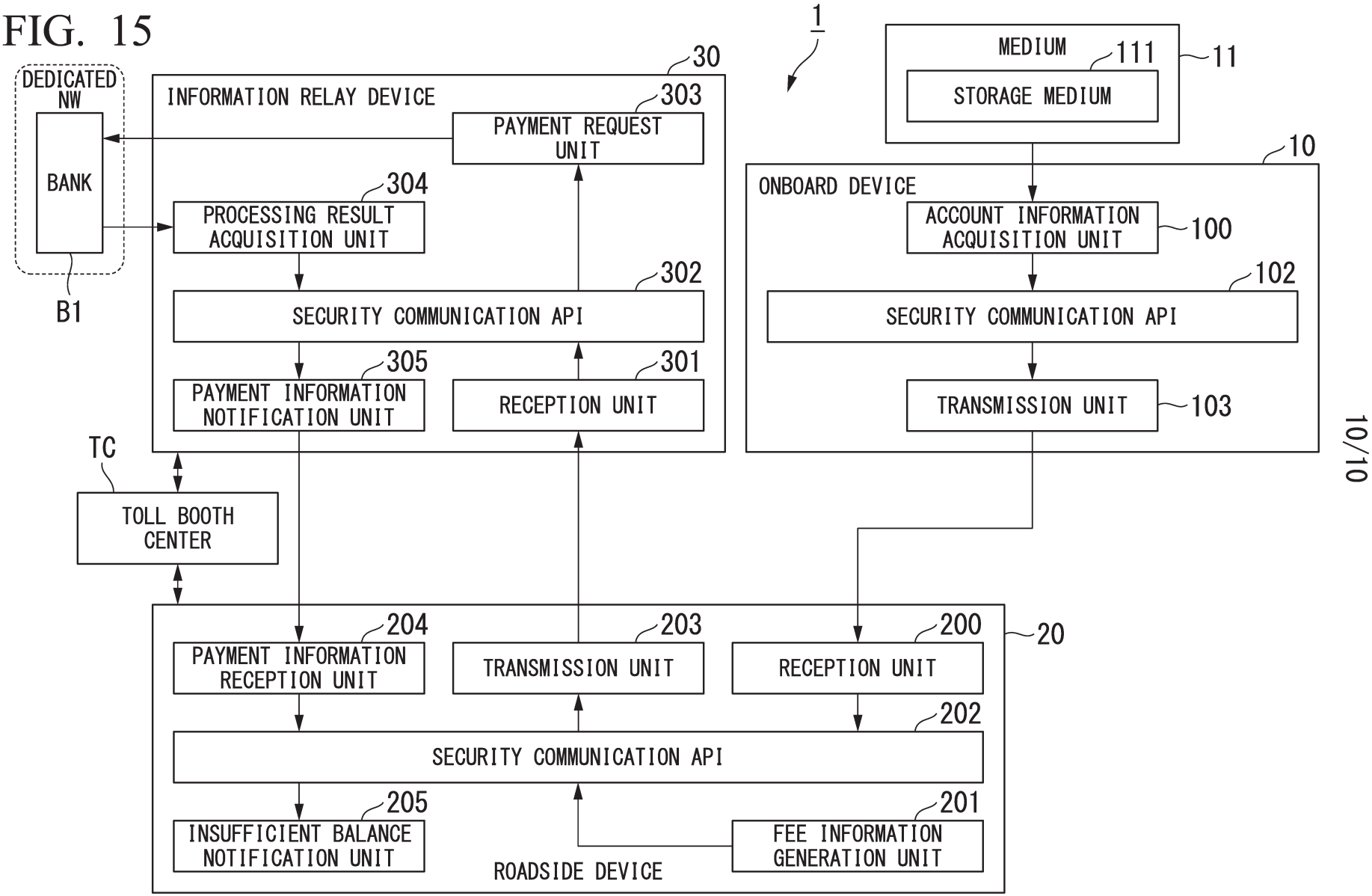

1
11
MEDIUM
111
STORAGE MEDIUM
110
ACCOUNT INFORMATION ACQUISITION UNIT
112
SECURITY COMMUNICATION API
113
TRANSMISSION UNIT
114
FEE INFORMATION ACQUISITION UNIT
104
FEE INFORMATION ACQUISITION UNIT
ONBOARD DEVICE
105
USE INFORMATION TRANSMISSION UNIT
20
203
TRANSMISSION UNIT
202
201
FEE INFORMATION GENERATION UNIT
30
303
PAYMENT REQUEST UNIT
302
301
RECEPTION UNIT
200
RECEPTION UNIT
INFORMATION RELAY DEVICE
304
PROCESSING RESULT ACQUISITION UNIT
SECURITY COMMUNICATION API
305
PAYMENT INFORMATION NOTIFICATION UNIT
204
PAYMENT INFORMATION RECEPTION UNIT
SECURITY COMMUNICATION API
205
INSUFFICIENT BALANCE NOTIFICATION UNIT
ROADSIDE DEVICE
TOLL BOOTH CENTER
TC
DEDICATED NW
BANK
B1

FIG. 15


1
DEDICATED NW
BANK
B1
30
INFORMATION RELAY DEVICE
303
PAYMENT REQUEST UNIT
304
PROCESSING RESULT ACQUISITION UNIT
302
SECURITY COMMUNICATION API
305
PAYMENT INFORMATION NOTIFICATION UNIT
301
RECEPTION UNIT
TC
TOLL BOOTH CENTER
MEDIUM
111
STORAGE MEDIUM
11
10
ONBOARD DEVICE
ACCOUNT INFORMATION ACQUISITION UNIT
100
102
SECURITY COMMUNICATION API
TRANSMISSION UNIT
103
204
PAYMENT INFORMATION RECEPTION UNIT
203
TRANSMISSION UNIT
200
RECEPTION UNIT
20
202
SECURITY COMMUNICATION API
205
INSUFFICIENT BALANCE NOTIFICATION UNIT
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FEE INFORMATION GENERATION UNIT
ROADSIDE DEVICE