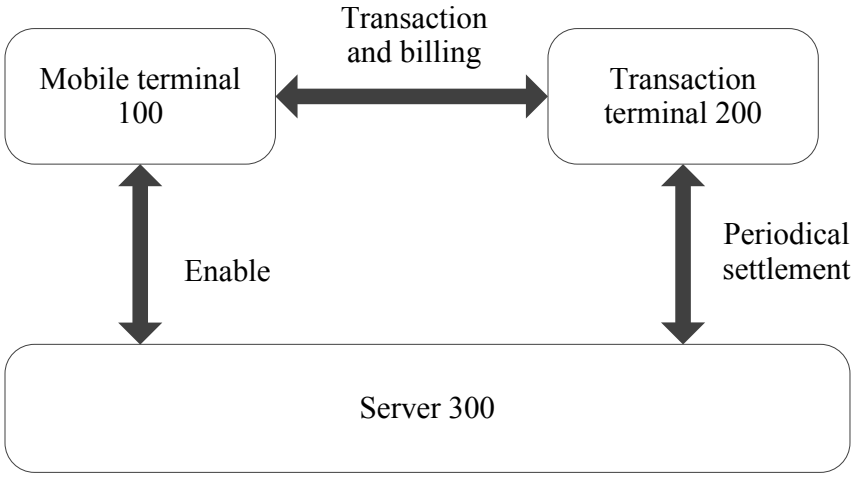

Transaction
and billing
Mobile terminal
100
Transaction
terminal 200
Enable
Periodical
settlement
Server 300

FIG. 1

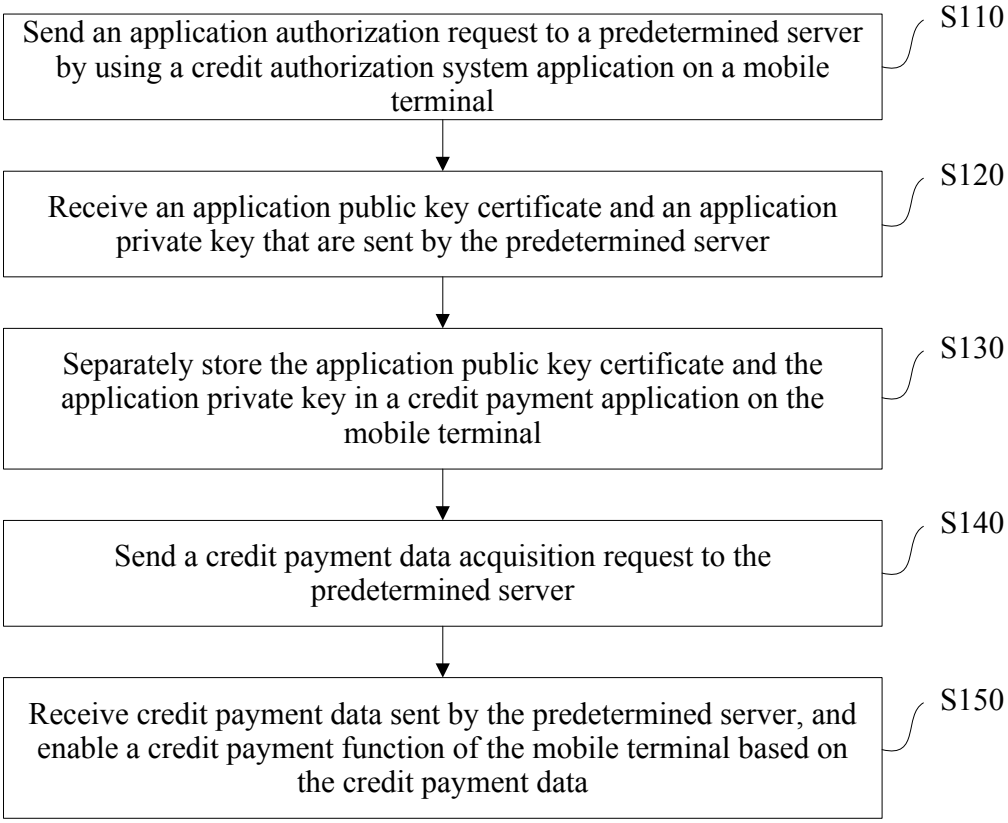

Send an application authorization request to a predetermined server by using a credit authorization system application on a mobile terminal
S110
Receive an application public key certificate and an application private key that are sent by the predetermined server
S120
Separately store the application public key certificate and the application private key in a credit payment application on the mobile terminal
S130
Send a credit payment data acquisition request to the predetermined server
S140
Receive credit payment data sent by the predetermined server, and enable a credit payment function of the mobile terminal based on the credit payment data
S150

FIG. 2

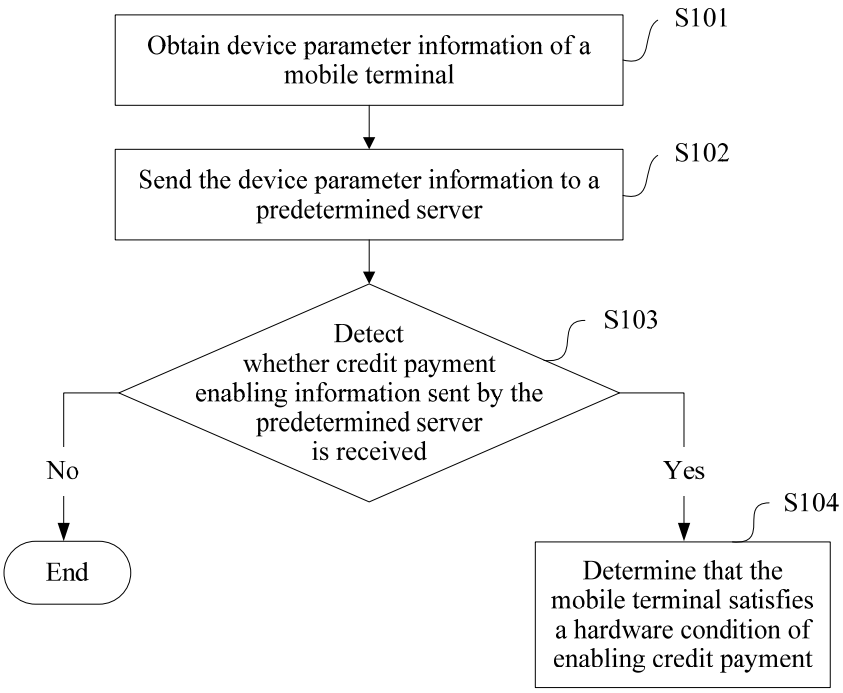

Obtain device parameter information of a mobile terminal
S101
Send the device parameter information to a predetermined server
S102
Detect whether credit payment enabling information sent by the predetermined server is received
S103
No
Yes
End
S104
Determine that the mobile terminal satisfies a hardware condition of enabling credit payment

FIG. 3

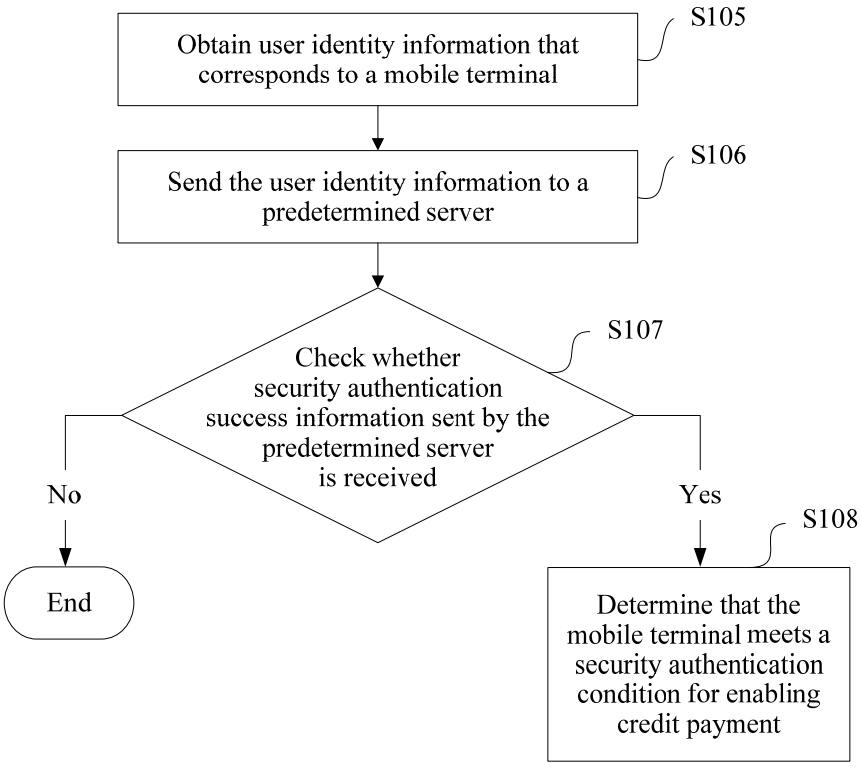

Obtain user identity information that corresponds to a mobile terminal
S105
Send the user identity information to a predetermined server
S106
Check whether security authentication success information sent by the predetermined server is received
S107
No
Yes
End
S108
Determine that the mobile terminal meets a security authentication condition for enabling credit payment

FIG. 4

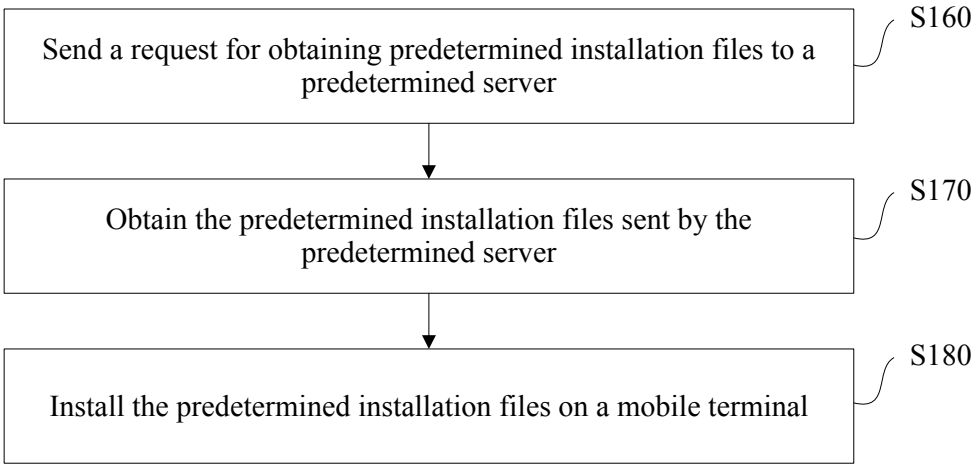

Send a request for obtaining predetermined installation files to a predetermined server
S160
Obtain the predetermined installation files sent by the predetermined server
S170
Install the predetermined installation files on a mobile terminal
S180

FIG. 5

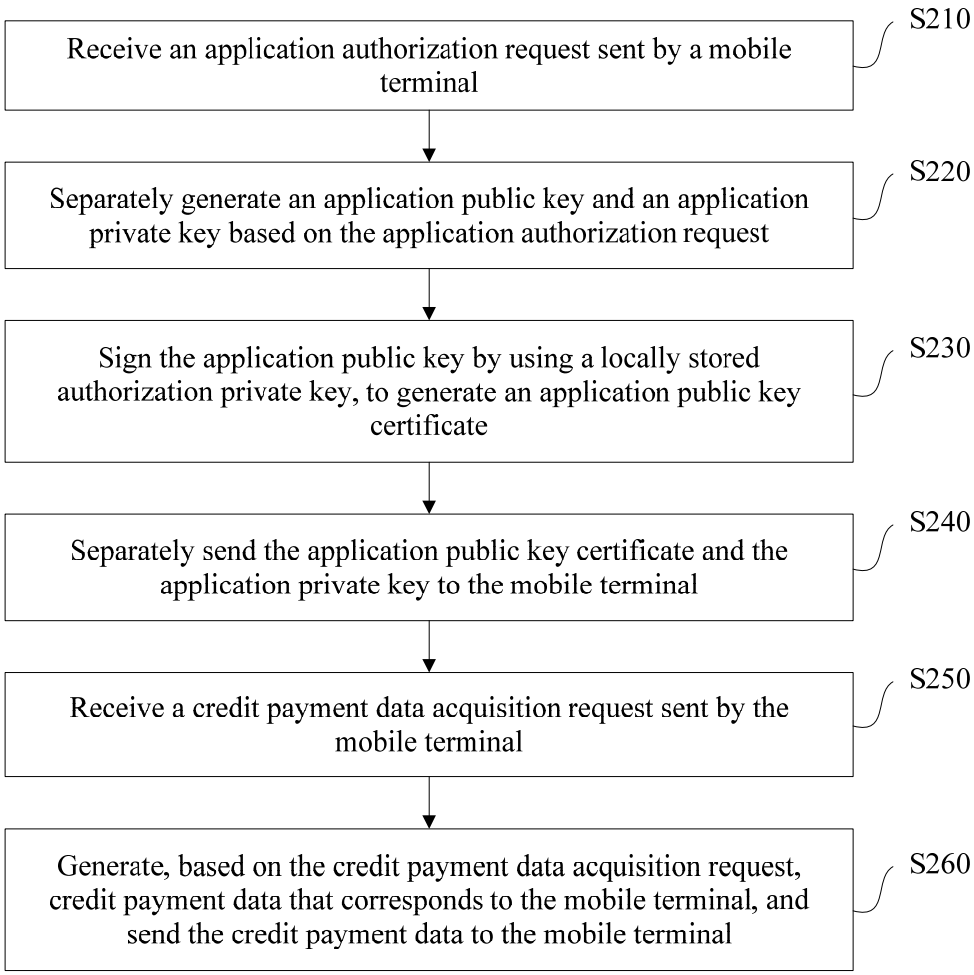

Receive an application authorization request sent by a mobile terminal
S210
Separately generate an application public key and an application private key based on the application authorization request
S220
Sign the application public key by using a locally stored authorization private key, to generate an application public key certificate
S230
Separately send the application public key certificate and the application private key to the mobile terminal
S240
Receive a credit payment data acquisition request sent by the mobile terminal
S250
Generate, based on the credit payment data acquisition request, credit payment data that corresponds to the mobile terminal, and send the credit payment data to the mobile terminal
S260

FIG. 6

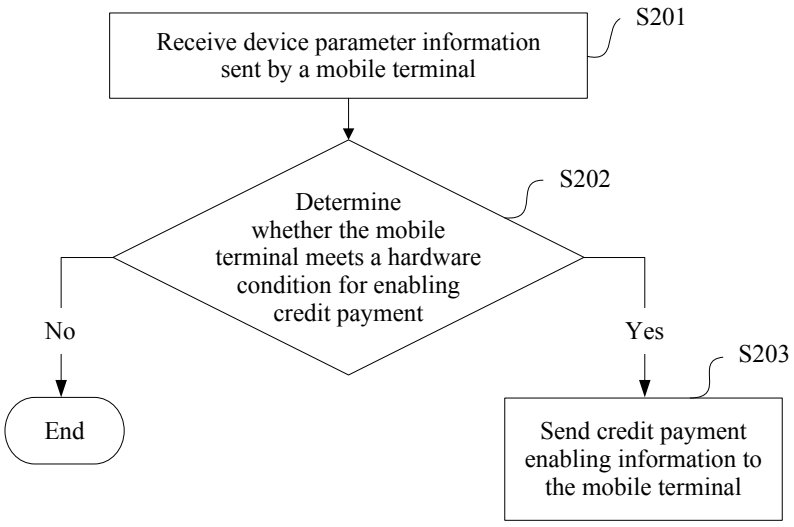


FIG. 7

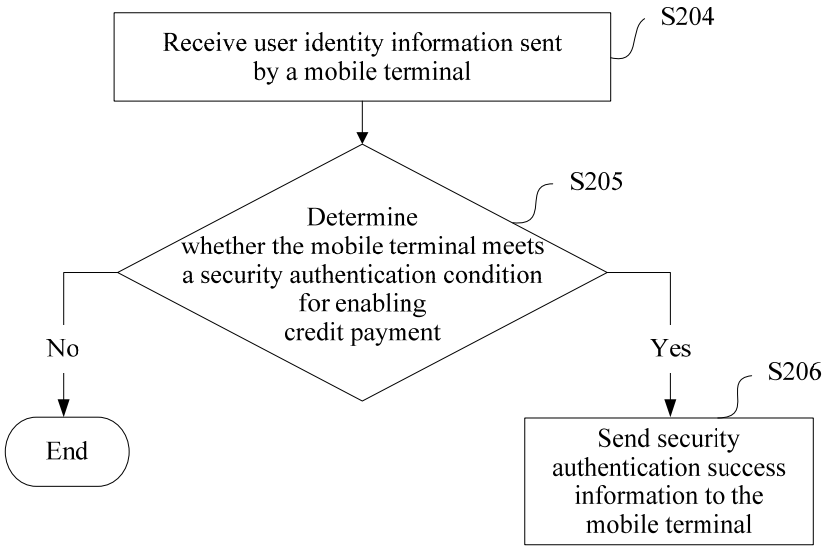


FIG. 8

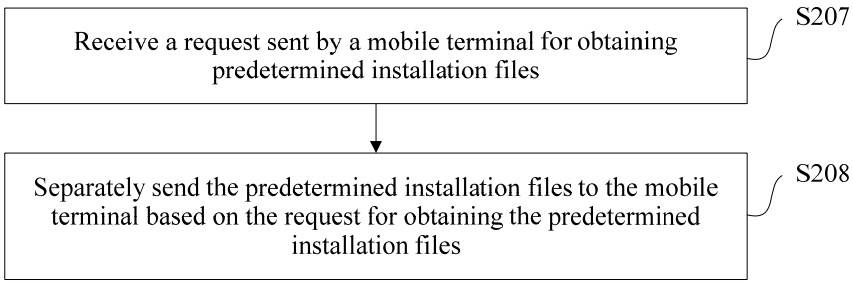


FIG. 9

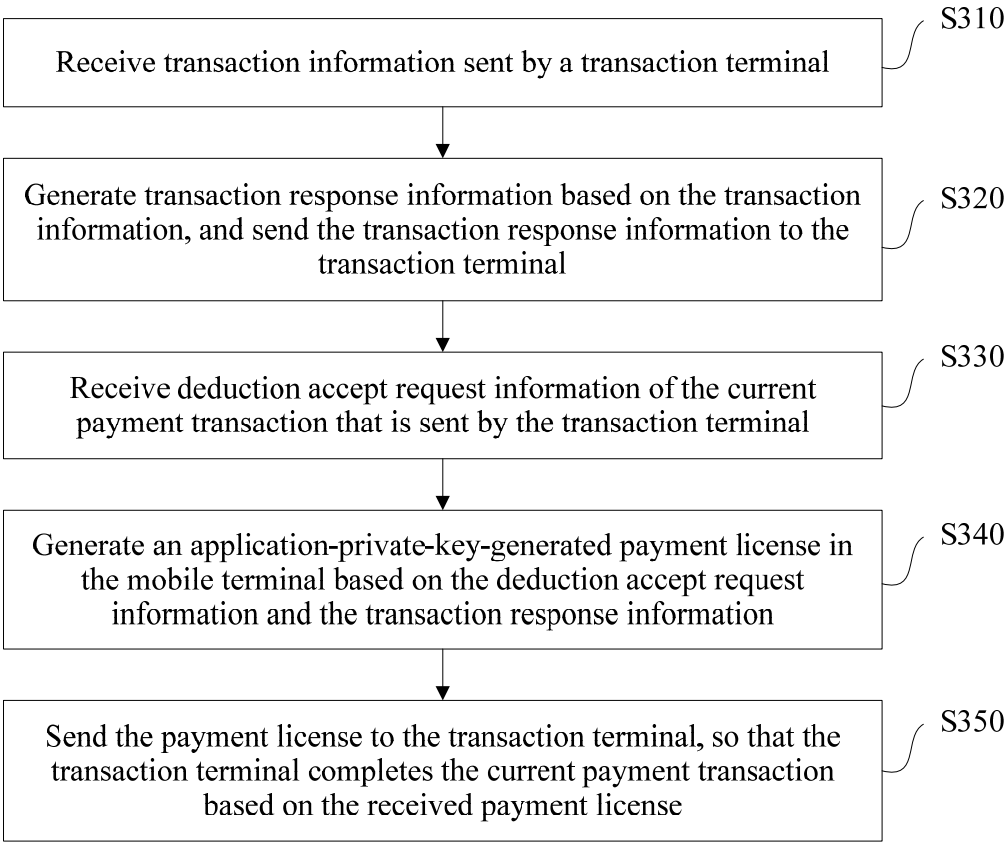

Receive transaction information sent by a transaction terminal
S310
Generate transaction response information based on the transaction information, and send the transaction response information to the transaction terminal
S320
Receive deduction accept request information of the current payment transaction that is sent by the transaction terminal
S330
Generate an application-private-key-generated payment license in the mobile terminal based on the deduction accept request information and the transaction response information
S340
Send the payment license to the transaction terminal, so that the transaction terminal completes the current payment transaction based on the received payment license
S350

FIG. 10

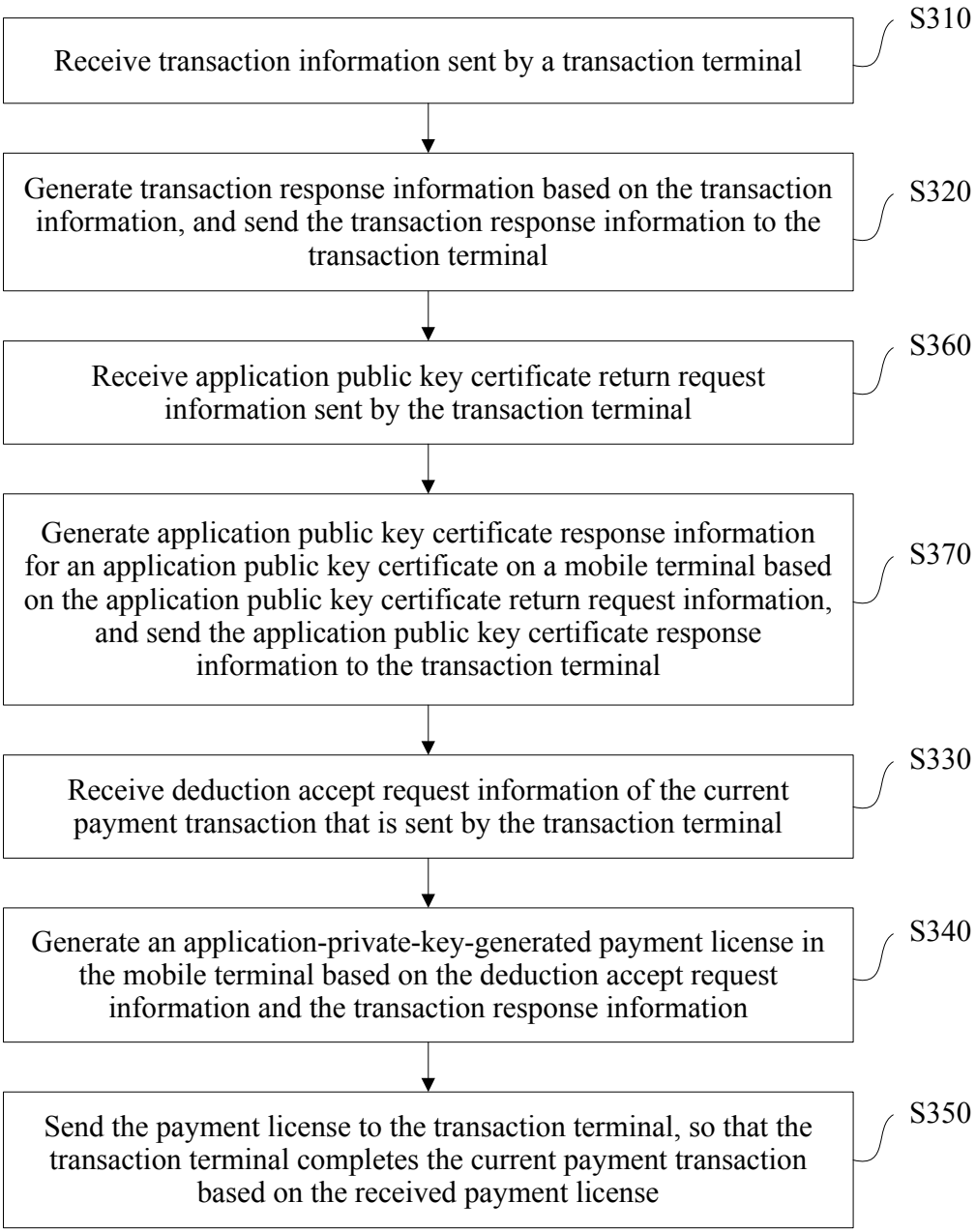

Receive transaction information sent by a transaction terminal
S310
Generate transaction response information based on the transaction information, and send the transaction response information to the transaction terminal
S320
Receive application public key certificate return request information sent by the transaction terminal
S360
Generate application public key certificate response information for an application public key certificate on a mobile terminal based on the application public key certificate return request information, and send the application public key certificate response information to the transaction terminal
S370
Receive deduction accept request information of the current payment transaction that is sent by the transaction terminal
S330
Generate an application-private-key-generated payment license in the mobile terminal based on the deduction accept request information and the transaction response information
S340
Send the payment license to the transaction terminal, so that the transaction terminal completes the current payment transaction based on the received payment license
S350

FIG. 11

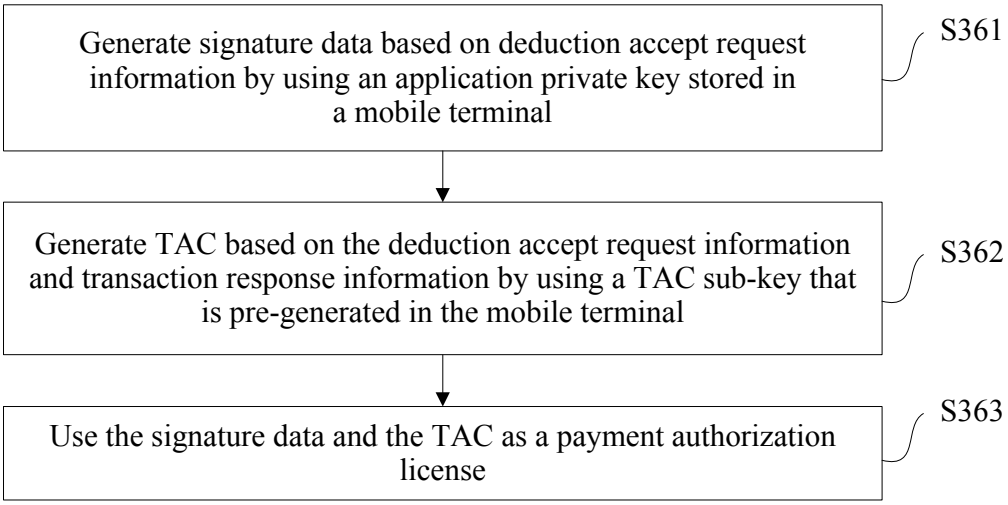

Generate signature data based on deduction accept request information by using an application private key stored in a mobile terminal
S361
Generate TAC based on the deduction accept request information and transaction response information by using a TAC sub-key that is pre-generated in the mobile terminal
S362
Use the signature data and the TAC as a payment authorization license
S363

FIG. 12

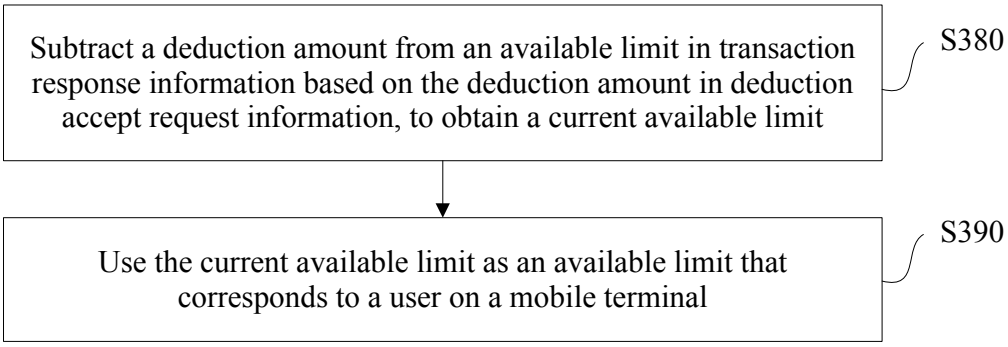

Subtract a deduction amount from an available limit in transaction response information based on the deduction amount in deduction accept request information, to obtain a current available limit
S380
Use the current available limit as an available limit that corresponds to a user on a mobile terminal
S390

FIG. 13

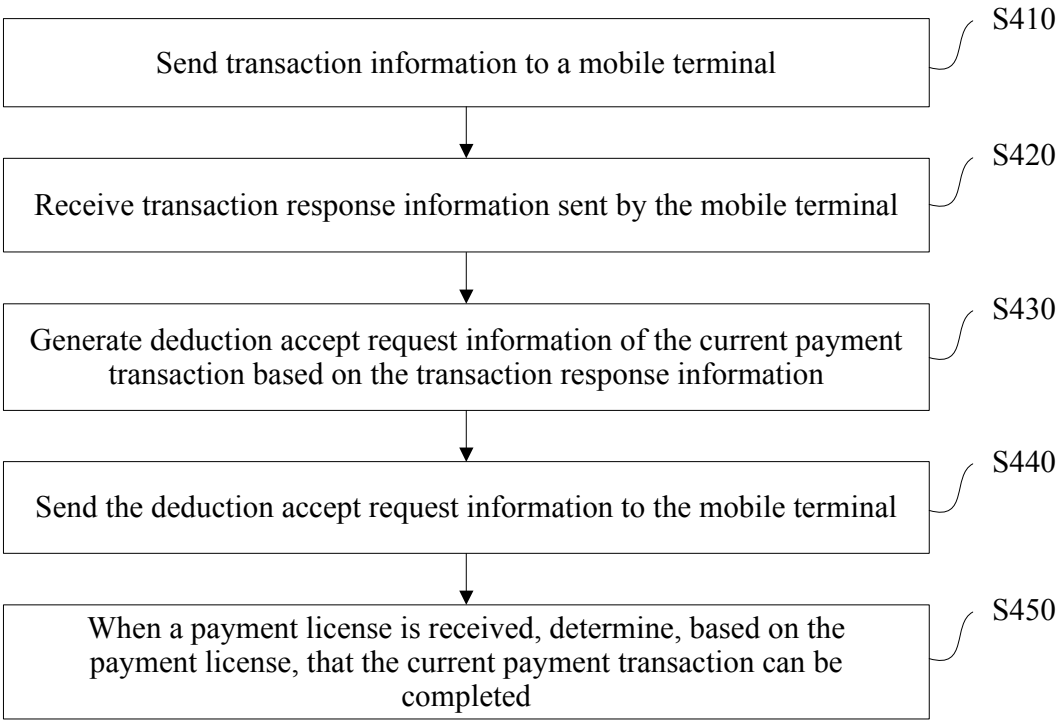

Send transaction information to a mobile terminal
S410
Receive transaction response information sent by the mobile terminal
S420
Generate deduction accept request information of the current payment transaction based on the transaction response information
S430
Send the deduction accept request information to the mobile terminal
S440
When a payment license is received, determine, based on the payment license, that the current payment transaction can be completed
S450

FIG. 14

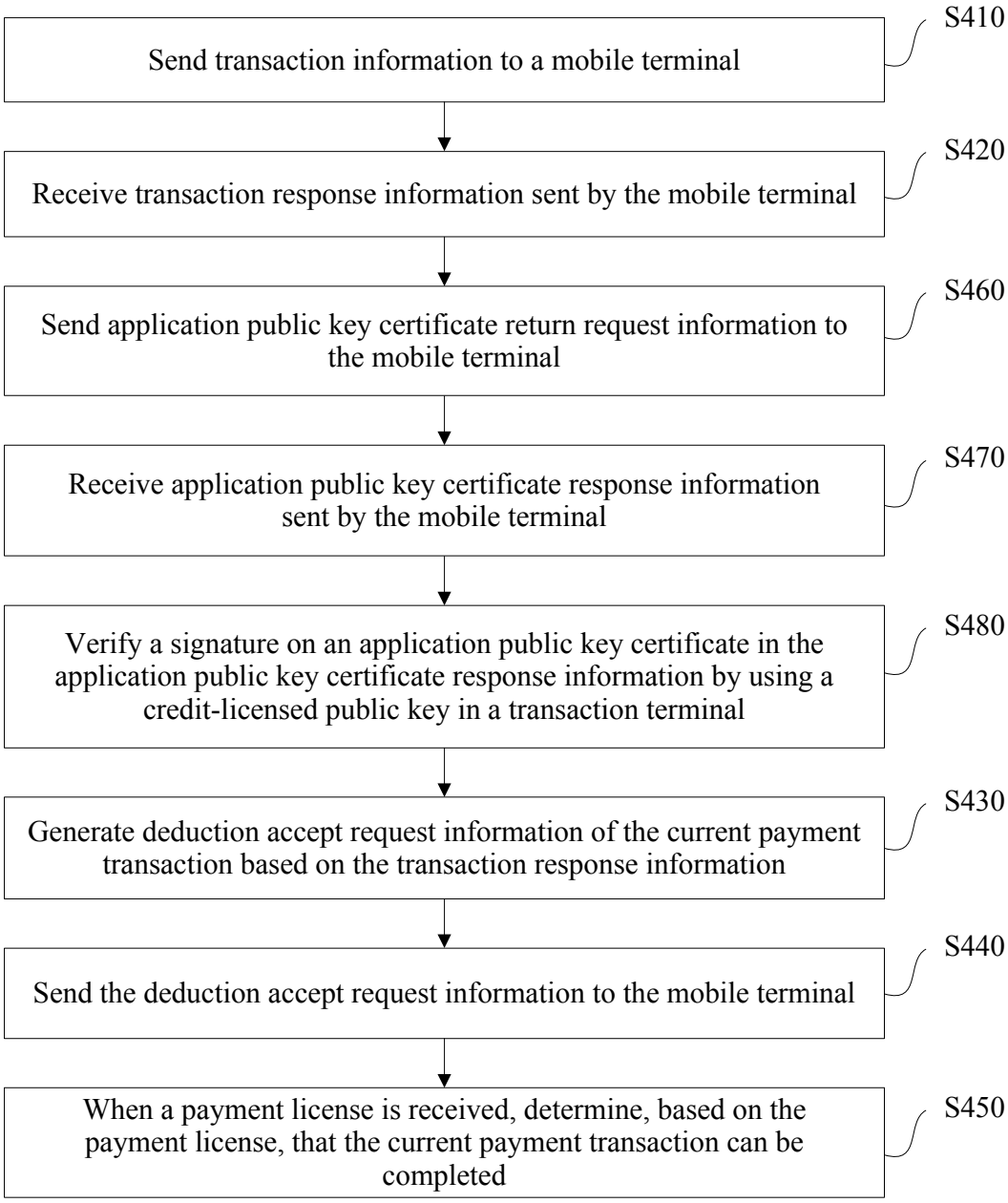

Send transaction information to a mobile terminal
S410
Receive transaction response information sent by the mobile terminal
S420
Send application public key certificate return request information to the mobile terminal
S460
Receive application public key certificate response information sent by the mobile terminal
S470
Verify a signature on an application public key certificate in the application public key certificate response information by using a credit-licensed public key in a transaction terminal
S480
Generate deduction accept request information of the current payment transaction based on the transaction response information
S430
Send the deduction accept request information to the mobile terminal
S440
When a payment license is received, determine, based on the payment license, that the current payment transaction can be completed
S450

FIG. 15

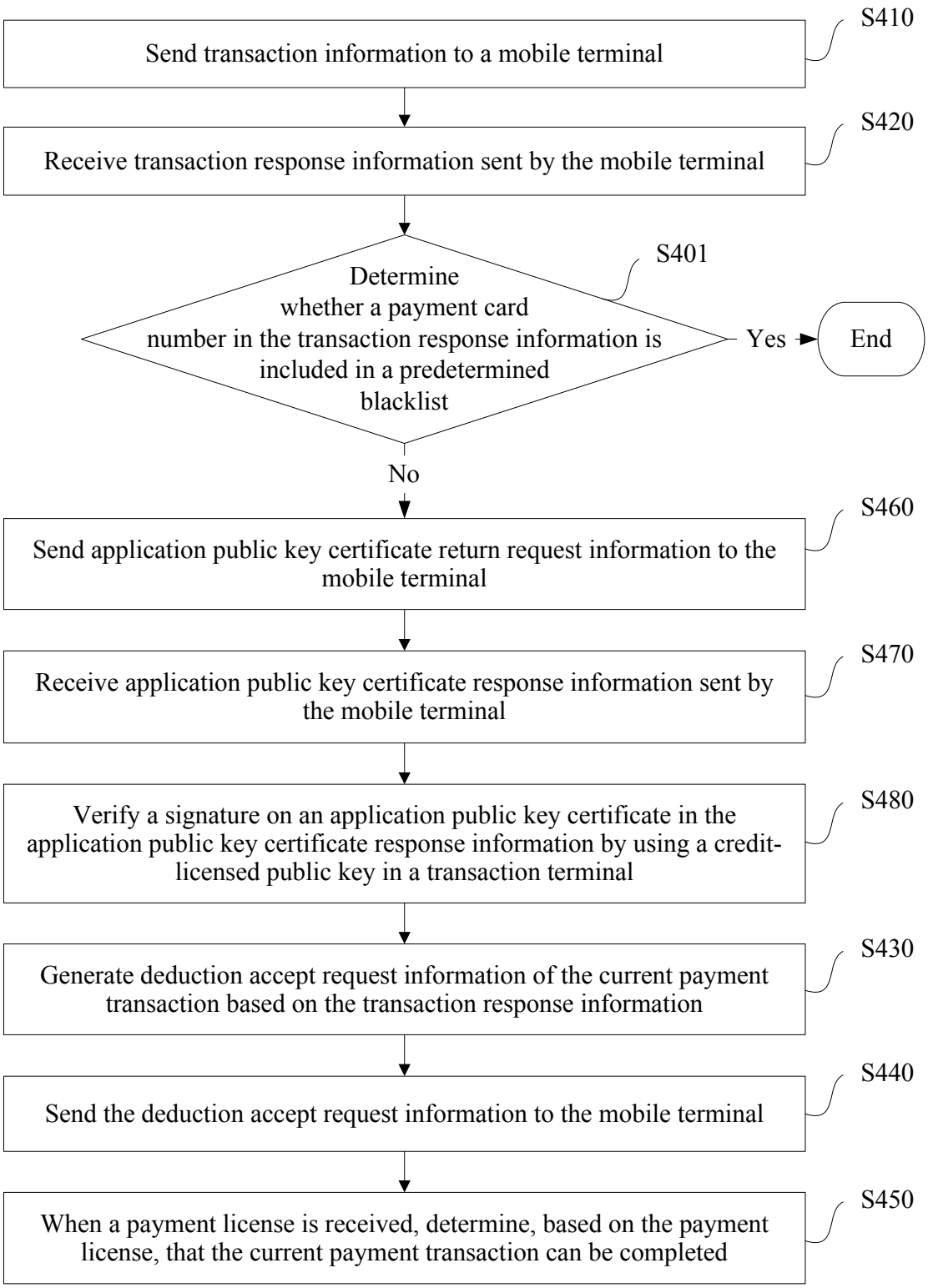

S410
Send transaction information to a mobile terminal
S420
Receive transaction response information sent by the mobile terminal
S401
Determine whether a payment card number in the transaction response information is included in a predetermined blacklist
Yes
End
No
S460
Send application public key certificate return request information to the mobile terminal
S470
Receive application public key certificate response information sent by the mobile terminal
S480
Verify a signature on an application public key certificate in the application public key certificate response information by using a credit-licensed public key in a transaction terminal
S430
Generate deduction accept request information of the current payment transaction based on the transaction response information
S440
Send the deduction accept request information to the mobile terminal
S450
When a payment license is received, determine, based on the payment license, that the current payment transaction can be completed

FIG. 16

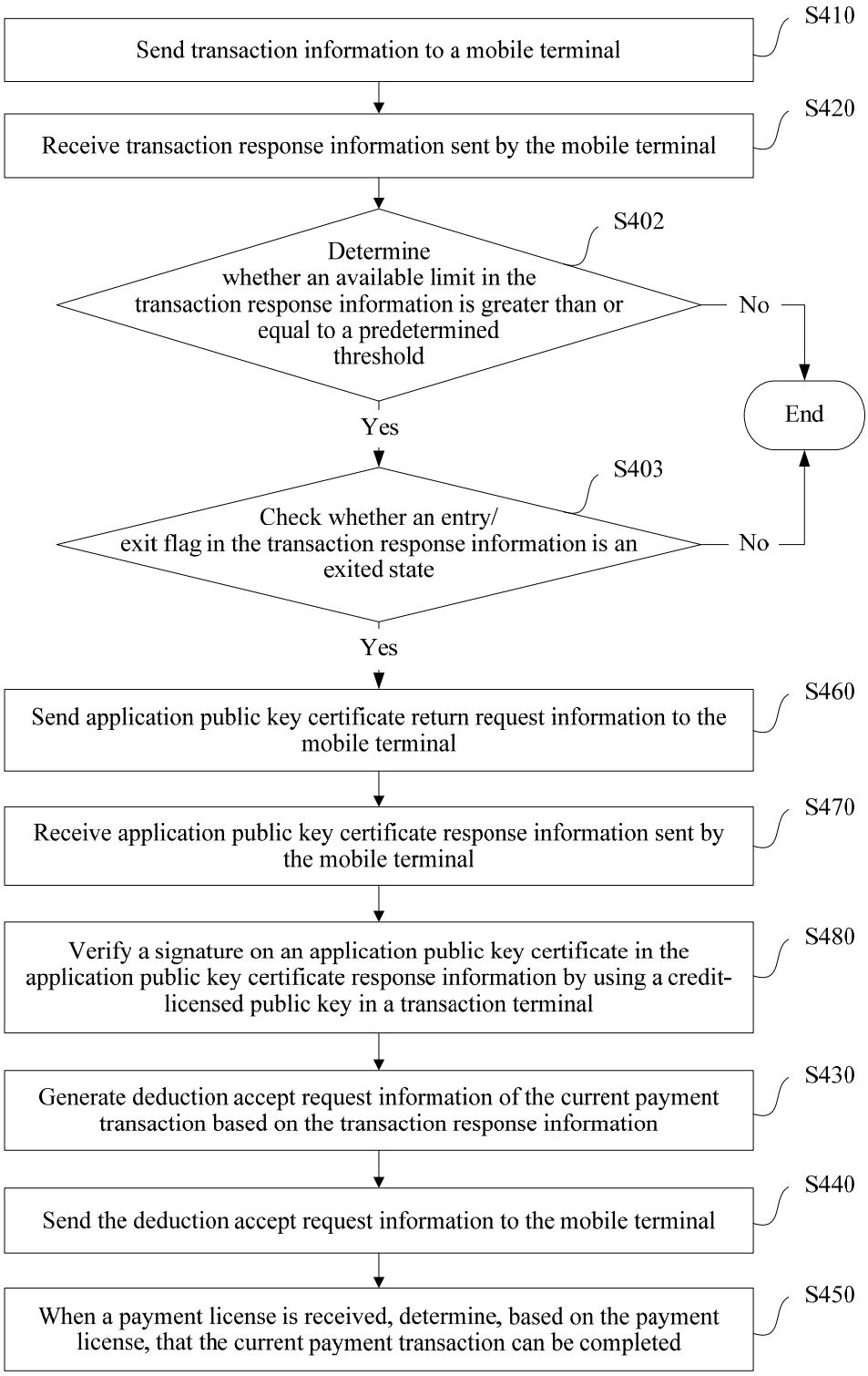

Send transaction information to a mobile terminal
S410
Receive transaction response information sent by the mobile terminal
S420
Determine whether an available limit in the transaction response information is greater than or equal to a predetermined threshold
S402
No
End
Yes
Check whether an entry/ exit flag in the transaction response information is an exited state
S403
No
Yes
Send application public key certificate return request information to the mobile terminal
S460
Receive application public key certificate response information sent by the mobile terminal
S470
Verify a signature on an application public key certificate in the application public key certificate response information by using a credit-licensed public key in a transaction terminal
S480
Generate deduction accept request information of the current payment transaction based on the transaction response information
S430
Send the deduction accept request information to the mobile terminal
S440
When a payment license is received, determine, based on the payment license, that the current payment transaction can be completed
S450

FIG. 17

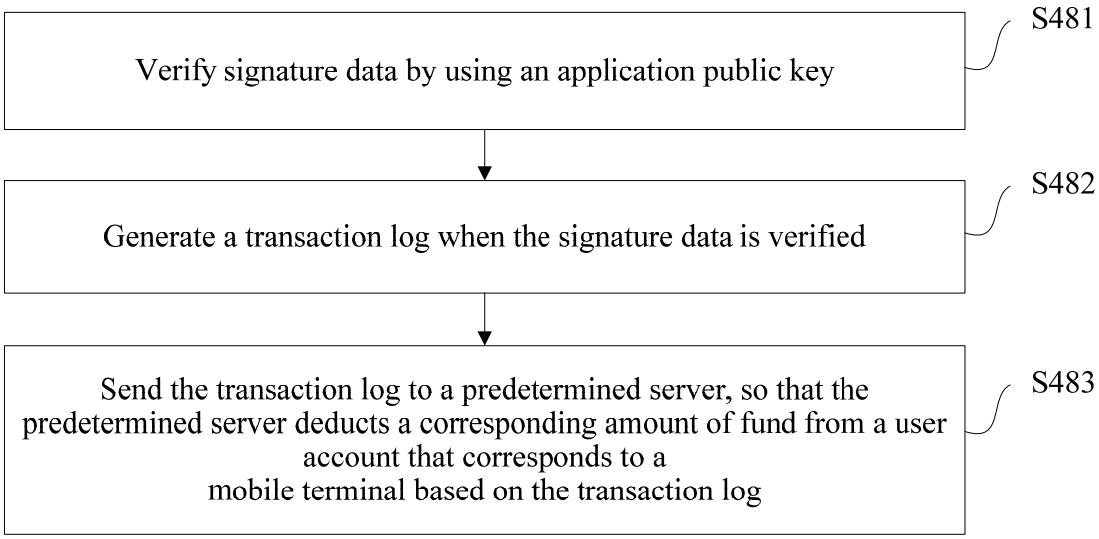

Verify signature data by using an application public key
S481
Generate a transaction log when the signature data is verified
S482
Send the transaction log to a predetermined server, so that the predetermined server deducts a corresponding amount of fund from a user account that corresponds to a mobile terminal based on the transaction log
S483

FIG. 18

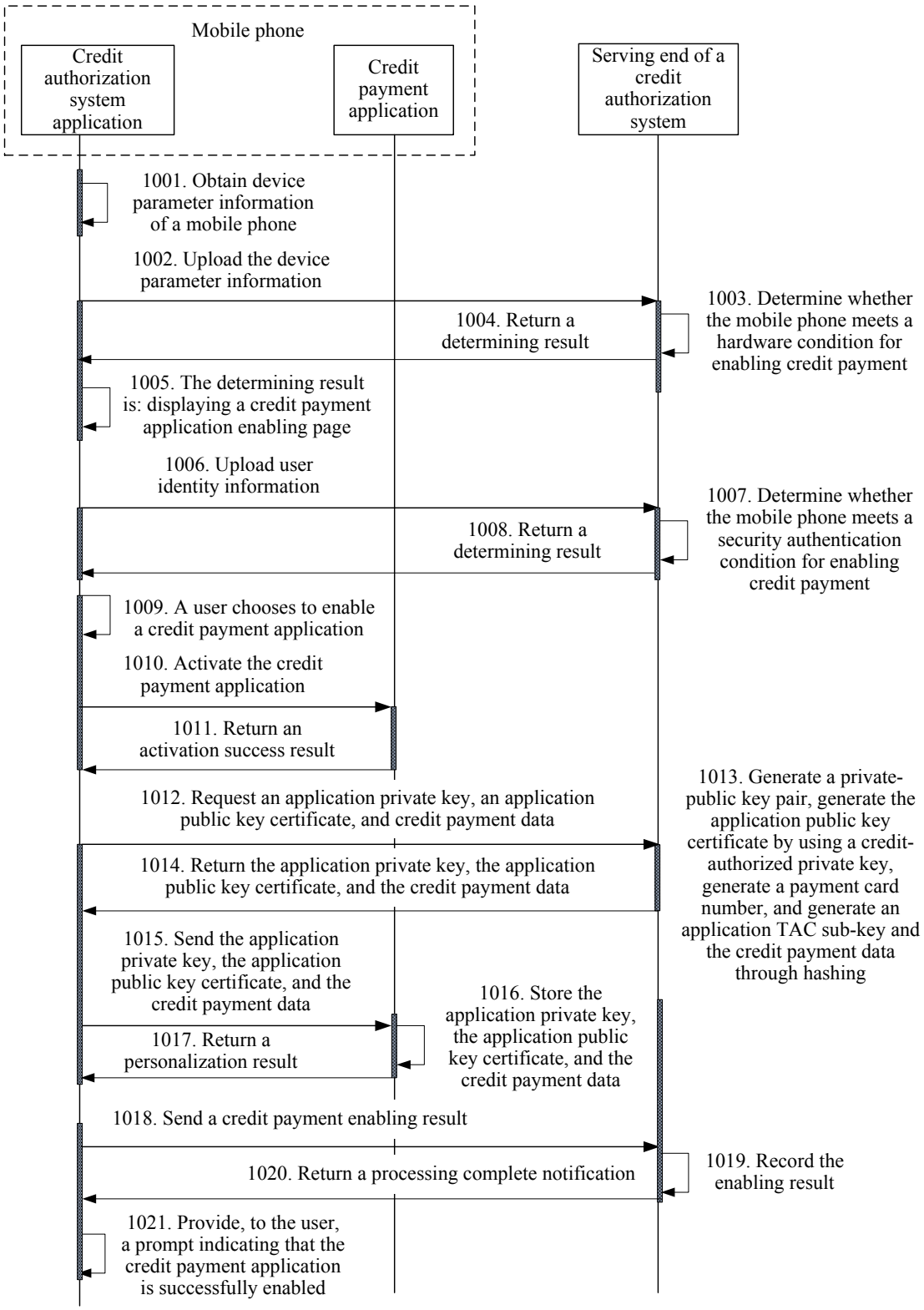

Mobile phone
Credit authorization system application
Credit payment application
Serving end of a credit authorization system
1001. Obtain device parameter information of a mobile phone
1002. Upload the device parameter information
1003. Determine whether the mobile phone meets a hardware condition for enabling credit payment
1004. Return a determining result
1005. The determining result is: displaying a credit payment application enabling page
1006. Upload user identity information
1007. Determine whether the mobile phone meets a security authentication condition for enabling credit payment
1008. Return a determining result
1009. A user chooses to enable a credit payment application
1010. Activate the credit payment application
1011. Return an activation success result
1012. Request an application private key, an application public key certificate, and credit payment data
1013. Generate a private-public key pair, generate the application public key certificate by using a credit-authorized private key, generate a payment card number, and generate an application TAC sub-key and the credit payment data through hashing
1014. Return the application private key, the application public key certificate, and the credit payment data
1015. Send the application private key, the application public key certificate, and the credit payment data
1016. Store the application private key, the application public key certificate, and the credit payment data
1017. Return a personalization result
1018. Send a credit payment enabling result
1019. Record the enabling result
1020. Return a processing complete notification
1021. Provide, to the user, a prompt indicating that the credit payment application is successfully enabled

FIG. 19

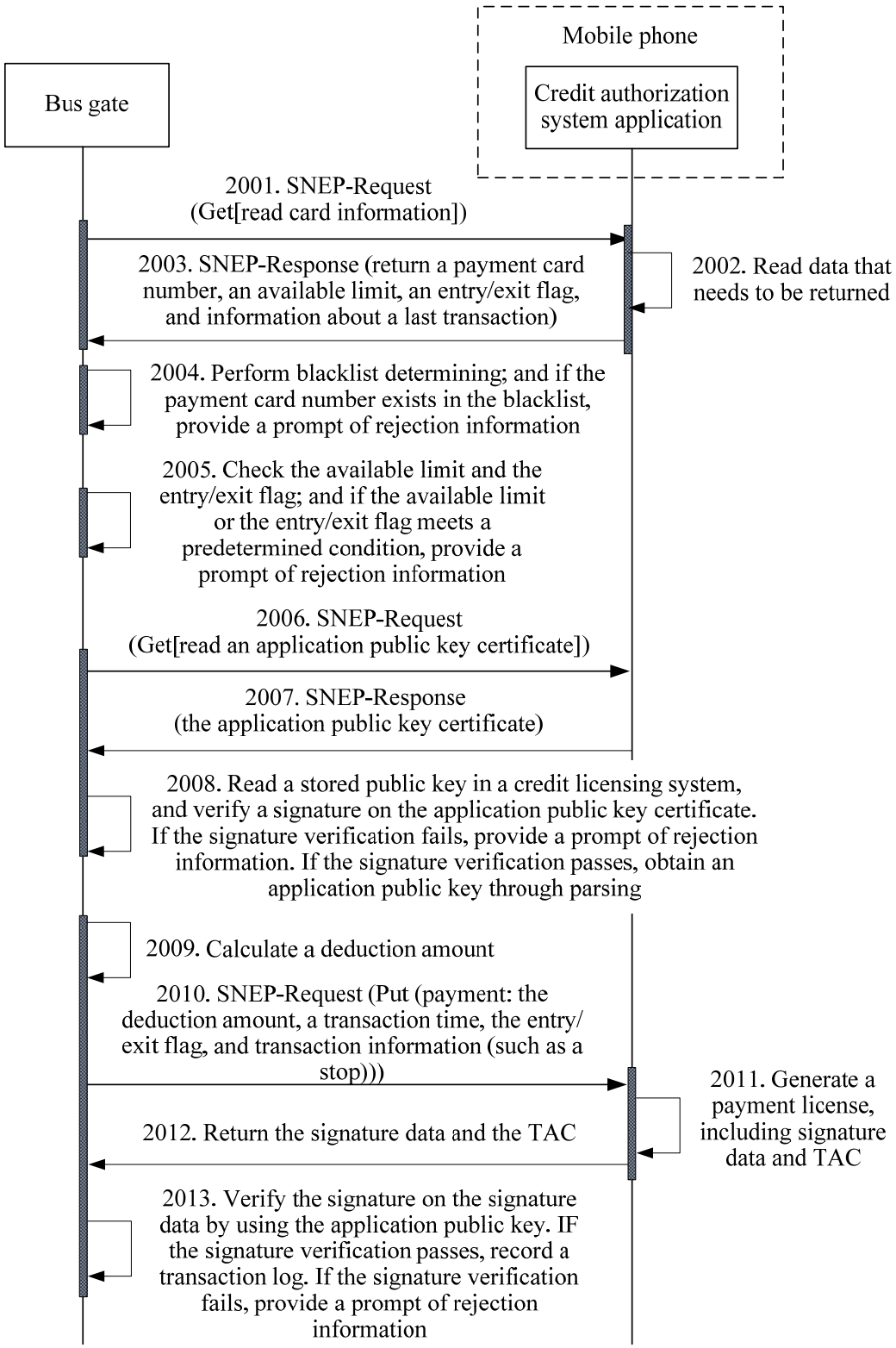

Mobile phone
Credit authorization system application
Bus gate
2001. SNEP-Request (Get[read card information])
2003. SNEP-Response (return a payment card number, an available limit, an entry/exit flag, and information about a last transaction)
2002. Read data that needs to be returned
2004. Perform blacklist determining; and if the payment card number exists in the blacklist, provide a prompt of rejection information
2005. Check the available limit and the entry/exit flag; and if the available limit or the entry/exit flag meets a predetermined condition, provide a prompt of rejection information
2006. SNEP-Request (Get[read an application public key certificate])
2007. SNEP-Response (the application public key certificate)
2008. Read a stored public key in a credit licensing system, and verify a signature on the application public key certificate. If the signature verification fails, provide a prompt of rejection information. If the signature verification passes, obtain an application public key through parsing
2009. Calculate a deduction amount
2010. SNEP-Request (Put (payment: the deduction amount, a transaction time, the entry/exit flag, and transaction information (such as a stop)))
2011. Generate a payment license, including signature data and TAC
2012. Return the signature data and the TAC
2013. Verify the signature on the signature data by using the application public key. IF the signature verification passes, record a transaction log. If the signature verification fails, provide a prompt of rejection information

FIG. 20

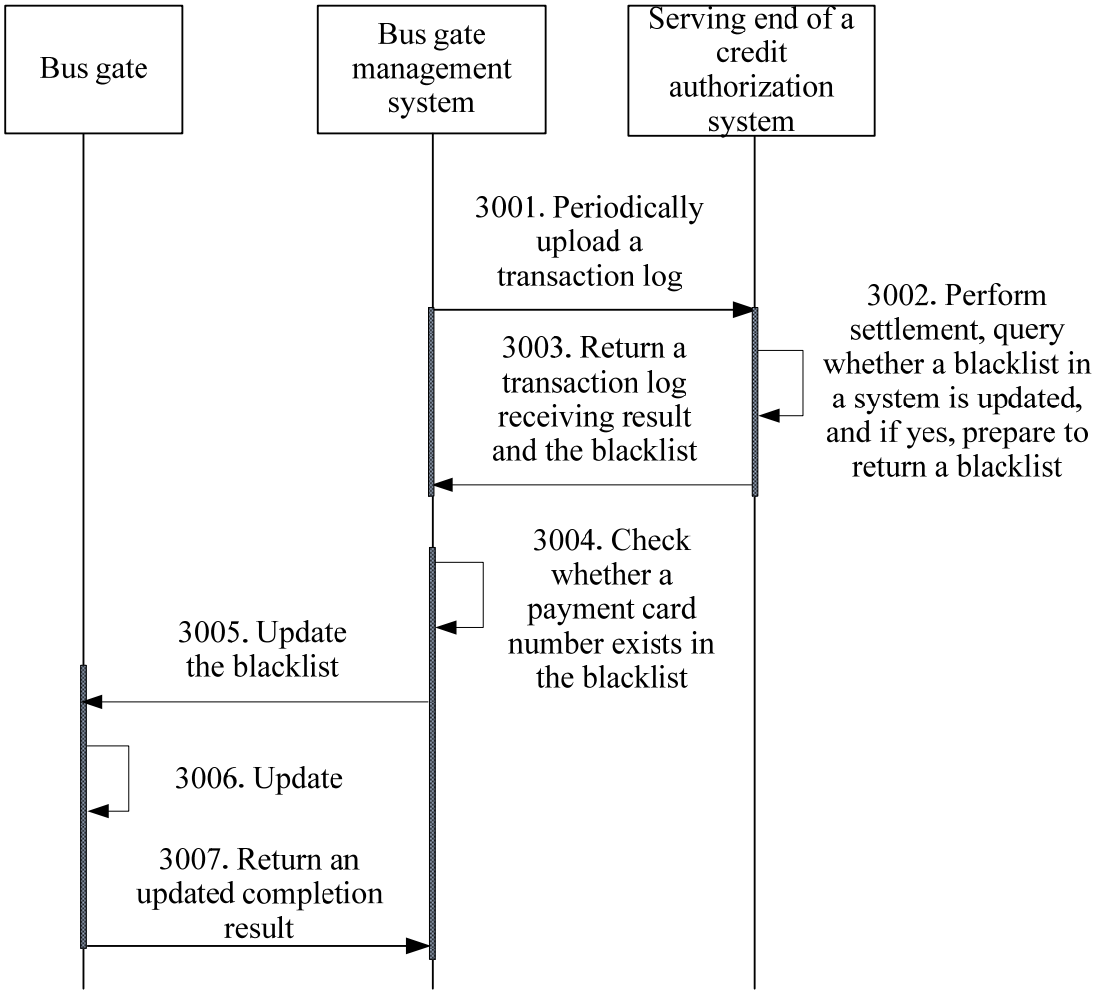

Bus gate
Bus gate management system
Serving end of a credit authorization system
3001. Periodically upload a transaction log
3002. Perform settlement, query whether a blacklist in a system is updated, and if yes, prepare to return a blacklist
3003. Return a transaction log receiving result and the blacklist
3004. Check whether a payment card number exists in the blacklist
3005. Update the blacklist
3006. Update
3007. Return an updated completion result

FIG. 21

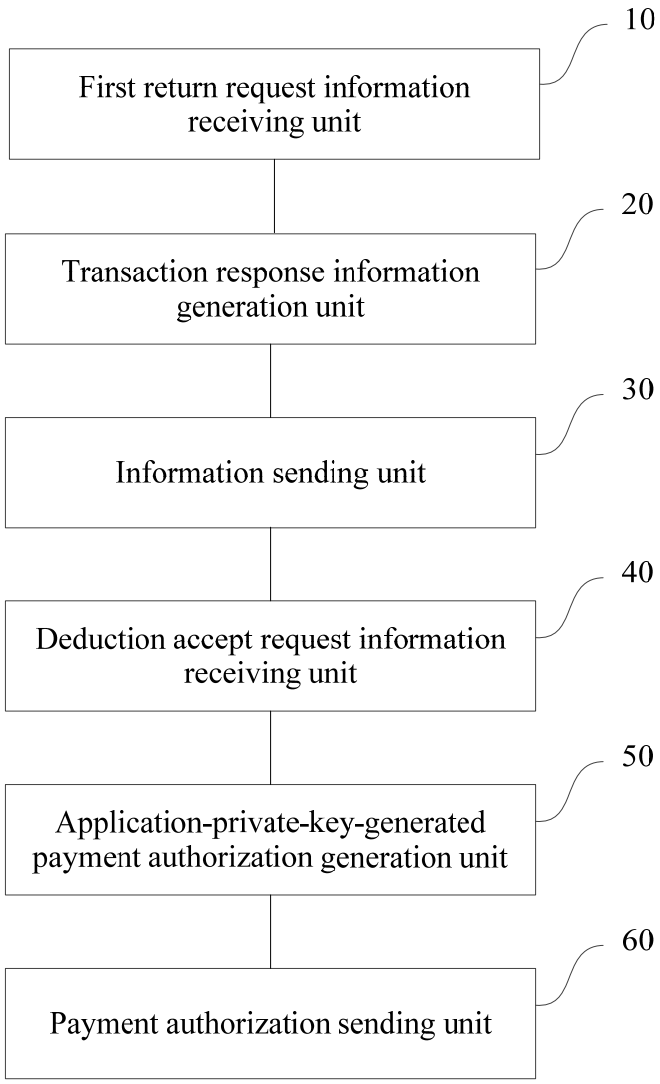

10
First return request information receiving unit
20
Transaction response information generation unit
30
Information sending unit
40
Deduction accept request information receiving unit
50
Application-private-key-generated payment authorization generation unit
60
Payment authorization sending unit

FIG. 22

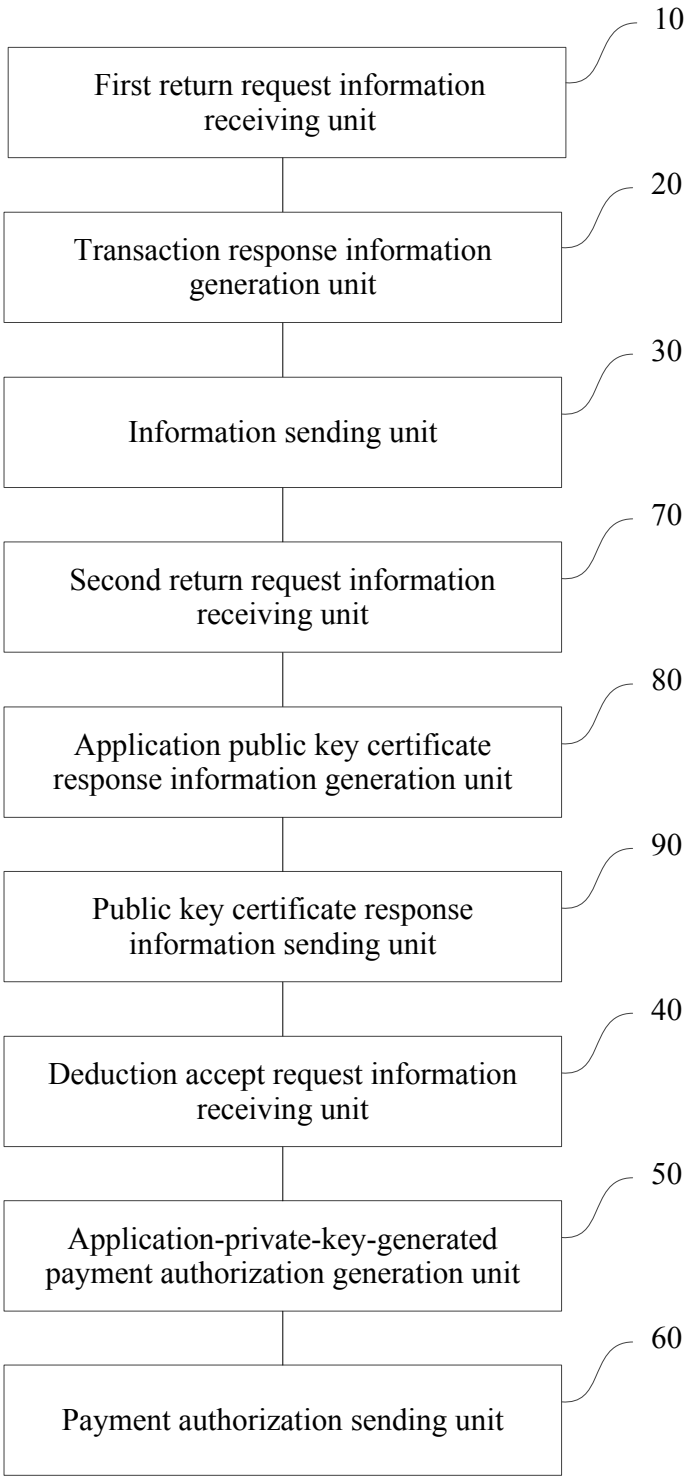

10
First return request information receiving unit
20
Transaction response information generation unit
30
Information sending unit
70
Second return request information receiving unit
80
Application public key certificate response information generation unit
90
Public key certificate response information sending unit
40
Deduction accept request information receiving unit
50
Application-private-key-generated payment authorization generation unit
60
Payment authorization sending unit

FIG. 23

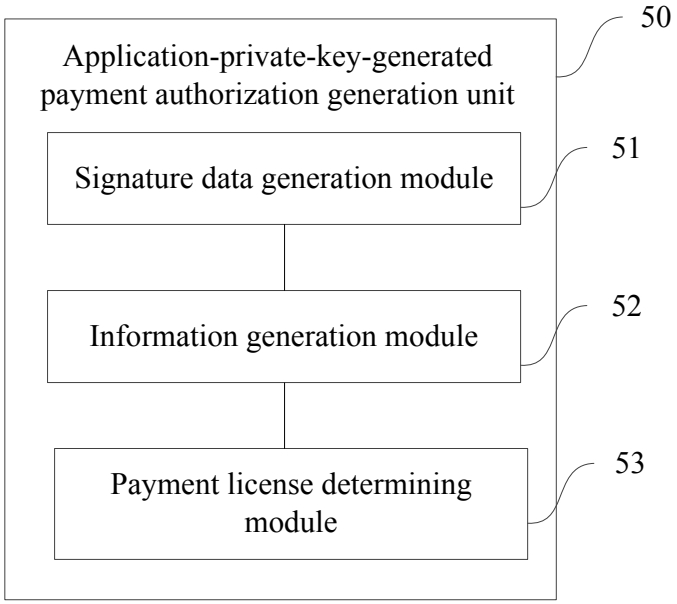

Application-private-key-generated payment authorization generation unit
50
Signature data generation module
51
Information generation module
52
Payment license determining module
53

FIG. 24

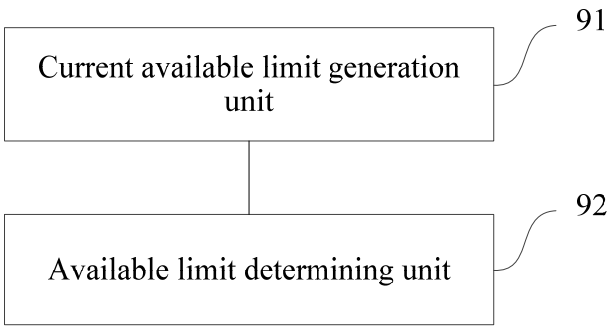

Current available limit generation unit
91
Available limit determining unit
92

FIG. 25

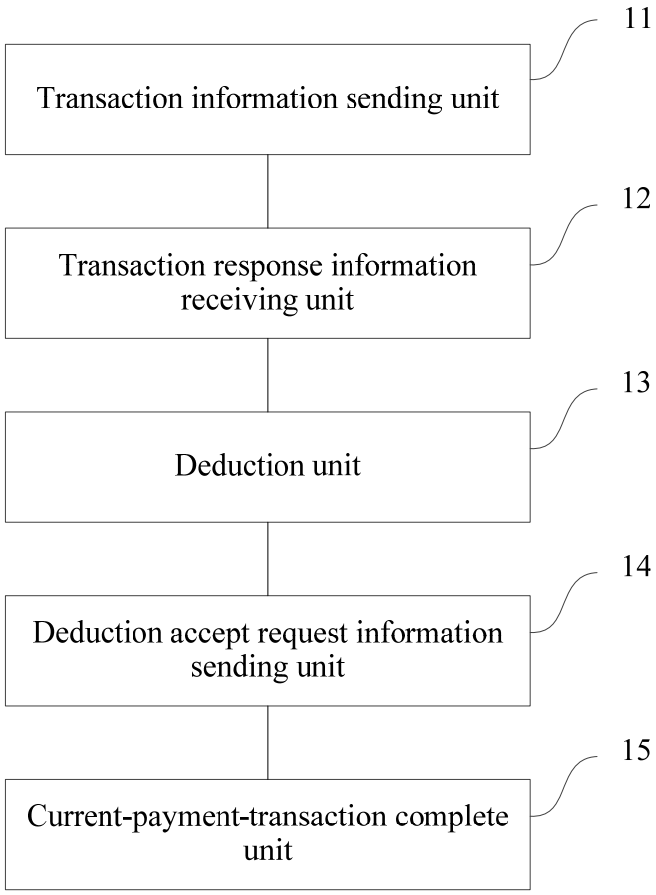

11
Transaction information sending unit
12
Transaction response information receiving unit
13
Deduction unit
14
Deduction accept request information sending unit
15
Current-payment-transaction complete unit

FIG. 26

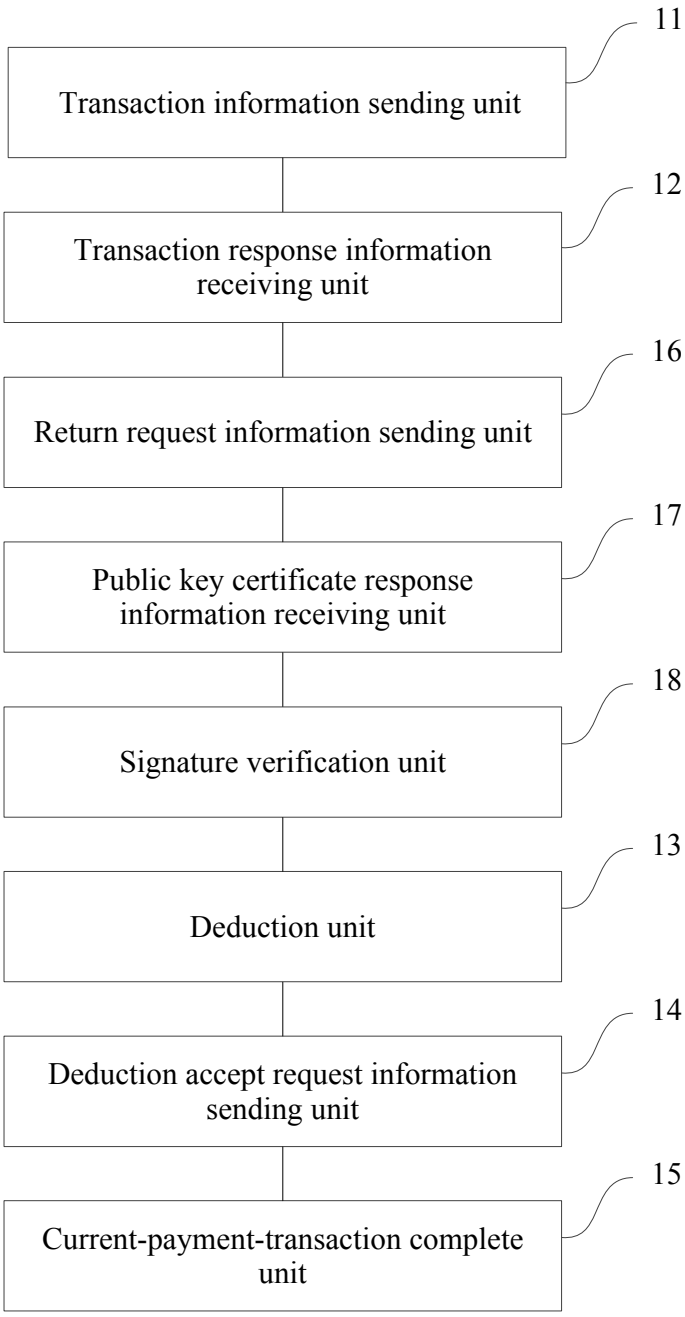

11
Transaction information sending unit
12
Transaction response information receiving unit
16
Return request information sending unit
17
Public key certificate response information receiving unit
18
Signature verification unit
13
Deduction unit
14
Deduction accept request information sending unit
15
Current-payment-transaction complete unit

FIG. 27

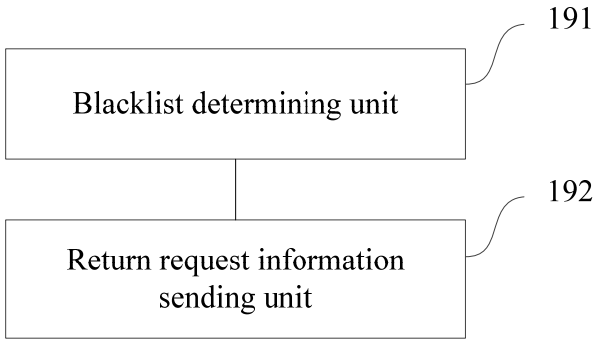


FIG. 28

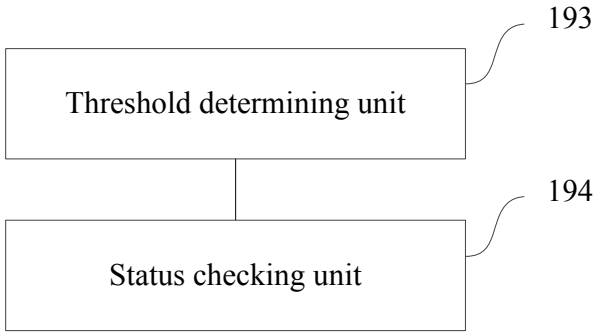


FIG. 29

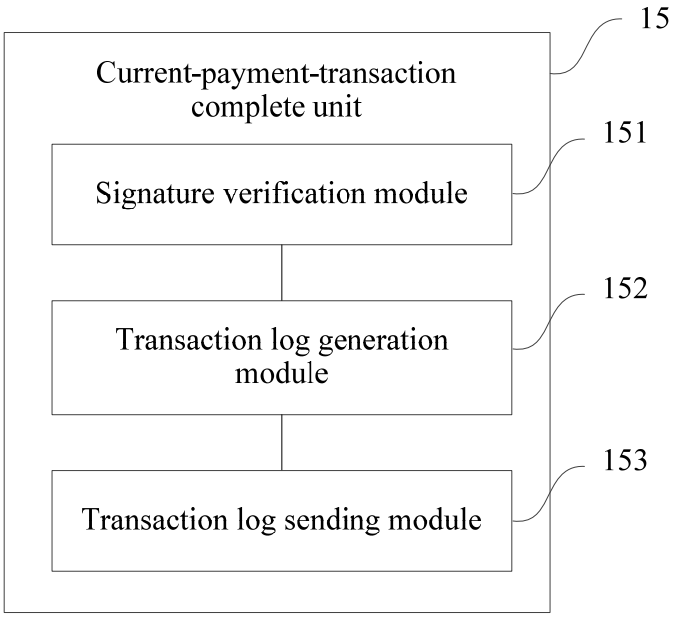


FIG. 30