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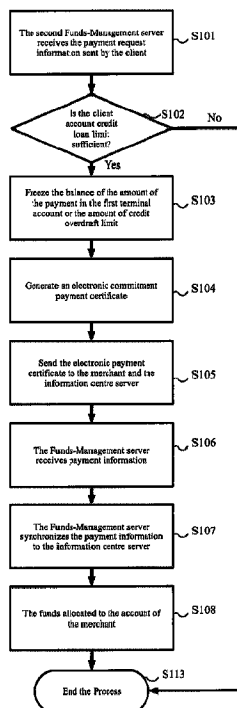
(72) **Inventeur/Inventor:**
ZHANG, YI, CN

(73) **Propriétaire/Owner:**
10353744 CANADA LTD., CA

(74) **Agent:** HINTON, JAMES W.

(54) **Titre : SYSTEME DE PAIEMENT BASE SUR UN SERVEUR PARTAGE DE GESTION DE FONDS, ET PROCEDE, DISPOSITIF ET SERVEUR ASSOCIES**

(54) **Title: PAYMENT SYSTEM BASED ON SHARED FUNDS-MANAGEMENT SERVER, AND METHOD, DEVICE AND SERVER THEREFOR**



(57) **Abrégé/Abstract:**

Disclosed are a payment system based on a shared Funds-Management server, and a method, device and server therefor, belonging to the field of e-commerce. The method comprises: a Funds-Management server receiving payment request information

(57) Abrégé(suite)/Abstract(continued):

sent by a client; comparing a credit loan limit of a client and a payment amount to determine whether an electronic commitment payment certificate can be created; if yes, the Funds-Management server freezing the credit loan limit within a client account, the credit loan limit corresponding to the payment amount; generating the electronic commitment payment certificate for the Funds-Management server to commit to pay funds according to an agreed condition, and sending the electronic commitment payment certificate to a merchant to make a credit commitment payment on behalf of the client, and synchronising to an information centre server. Using the technical solution of the present invention to supervise both parties in a transaction reduces financial risk, and ensures the interests of both parties in the transaction.

Abstract

Disclosed are a payment system based on a shared Funds-Management server, and a method, device and server therefor, belonging to the field of e-commerce. The method comprises: a Funds-Management server receiving payment request information sent by a client; comparing a credit loan limit of a client and a payment amount to determine whether an electronic commitment payment certificate can be created; if yes, the Funds-Management server freezing the credit loan limit within a client account, the credit loan limit corresponding to the payment amount; generating the electronic commitment payment certificate for the Funds-Management server to commit to pay funds according to an agreed condition, and sending the electronic commitment payment certificate to a merchant to make a credit commitment payment on behalf of the client, and synchronising to an information centre server. Using the technical solution of the present invention to supervise both parties in a transaction reduces financial risk, and ensures the interests of both parties in the transaction.

PAYMENT SYSTEM BASED ON SHARED FUNDS-MANAGEMENT SERVER, AND
METHOD, DEVICE AND SERVER THEREFOR

- [1] [Technical Field]
- [2] This invention refers to e-commerce field, especially, it is the same Funds-Management server payment system and its payment method, device and server.
- [3] [Background Technology]
- [4] E-commerce has become increasingly widely used in a variety of commercial trade activities, the so-called e-commerce is a business operation model that based on the browser and server applications helps consumer realize online shopping, online transactions between merchants and online electronic payments, as well as a variety of business activities, trading activities, financial activities and related integrated service activities in the commercial trade, and in the Internet open network environment.
- [5] At present, many banks or enterprises have provided a network of payment services, allowing customers to operate computers, mobile phones and other terminal equipment to achieve network payment, the way of the network payment provides customers with a great convenience. But in the process of network payment, the payment is conducted by directly using the existing funds in the debit cards or credit card, or allocating the credit limit of the existing funds or credit card to the third party as a guarantee for the transaction, once the merchant does not provide goods or service, or disputes occur, the financial security is difficult to be guaranteed. This shows that at this stage the need for new payment systems, methods, devices and Funds-Management server to reduce the risk of user funds, and to protect the interests of buyers and sellers.
- [6] [Summary of the Invention]
- [7] In view of the above, the technical problem to be solved by the present invention is to provide a payment system, and its payment method, device and server based on the same funds server-based server to reduce the risk of user funds, and to protect the interests of buyers and sellers.
- [8] The technical solution of the present invention to solve the above-mentioned technical problems is as follows:
- [9] A payment system based on the same Funds-Management server, comprising at least

one client, at least one merchant, an information centre server and a Funds-Management server, connected with the client, the merchant and the information centre server connection respectively, where:

- [10] The above-mentioned client is to send payment request information including at least a payment amount to the Funds-Management server;
- [11] The merchant is used for receiving an electronic commitment payment certificate sent by the Funds-Management server;
- [12] The Funds-Management server is used for receiving payment request information sent by a client; comparing credit loan limit and payment amount in the client account to determine whether an electronic commitment payment certificate can be created; if yes, the Funds-Management server freezing the credit loan limit corresponding to the payment amount within the client account, generating the electronic commitment payment certificate of the Funds-Management server committing to pay funds according to an agreed condition, and sending the electronic commitment payment certificate to a merchant to make a credit commitment payment on behalf of the client, and synchronising to an information centre server;
- [13] The information centre server for storing and supervising the electronic commitment payment certificate information.
- [14] If the client account credit loan limit is less than the payment amount, then compare the funds balance and payment amount in the client account to determine whether to generate the electronic commitment payment certificate to make a credit commitment payment.
- [15] If the client account credit loan limit is less than the payment amount, then compare the credit overdraft limit and payment amount in the client account to determine whether to generate the electronic commitment payment certificate to make a credit commitment payment.
- [16] According to another aspect of this invention, there is a network payment method based on the same fund servers, and the method is comprised by following steps:
- [17] The Funds-Management server receives the payment request information sent by the client, wherein the payment request information includes at least the payment amount;
- [18] By comparing the client credit loan amount and the payment amount to determine

- whether or not an electronic commitment payment certificate is to be paid;
- [19] If possible, the Funds-Management server freezing the credit loan limit corresponding to the payment amount in the client account; generating an electronic commitment payment certificate promised by the Funds-Management server to disburse the funds according to the agreed condition. The electronic commitment payment certificate information is sent to the merchant for credit commitment payment for the client, and the electronic commitment payment certificate shall be synchronized to the information centre server.
- [20] If the client account credit loan limit is less than the amount of payment, the comparison of the client account credit overdraft amount and payment amount shall be made to determine whether to generate electronic commitment payment amount to be paid; further, if the client account credit overdraft amount is less than the amount of payment, it is required to compare the funds balance and the payment amount in the client account to determine whether or not the electronic commitment payment certificate can be paid.
- [21] If the client account credit loan limit is less than the amount of payment, the comparison of the funds balance and payment amount shall be made to determine whether to generate electronic commitment payment amount to be paid; further, if the funds balance in the client account is less than the amount of payment, it is required to compare the credit loan limit and the payment amount in the client account to determine whether or not the electronic commitment payment certificate can be paid.
- [22] According to another aspect of the present invention, there is provided a payment device based on the same Funds-Management server, the device comprises a receiving module, a judging module and a processing module.
- [23] The receiving module is configured to receive payment request information transmitted by the client, and the payment request information includes the payment amount;
- [24] The judgement module is configured to determine whether or not to allow payment based on the credit loan limit and the payment amount in the client account;
- [25] The processing module is configured to freeze the said payment amount corresponded credit loan limit within the client account when payment is set as allowable, generate an electronic commitment payment certificate, and transmit the electronic commitment payment certificate information to the merchant, and synchronized to the information

centre server.

- [26] A server based on the same Funds-Management server, said server comprising a payment device according to any one of above claim.
- [27] The present invention provides a payment system based on the same funds server and its method, device and server, supervises the information of the buyers and sellers through the Funds-Management server and the information centre server, and the regulatory function is merged into the bank or other institutions with payment ability; meanwhile, freezes the credit loan limit in the client account, generates electronic payment certificates and synchronize the information centre server for real-time monitoring, reduces the risk of funds to protect the interests of the buyers and the sellers; this program makes full use of the risk control centre function of the credit centre of the Funds-Management server and the information centre server, facilitates the security of on-line transactions and guarantees transaction funds with a more optimized credit mechanism, provides credit media for both parties to the transaction, and reduces the risk of funds through the supervision of funds to protect the interests of both parties. In addition, it brings convenience to the customer by adding loan functions, which also enriches businesses of banks or other institutions with credit payment ability.
- [28] [Brief Description]
- [29] Figure 1 is a schematic diagram of the payment system based on the same funds server provided by Example 1 of the present invention;
- [30] Figure 2 is a flow chart of the payment method based on the same Funds-Management server provided by Example 2 of the present invention;
- [31] Figure 3 is a flow chart of the payment method based on the same fund server provided by Example 3 of the present invention;
- [32] Figure 4 is a flow chart of the payment method based on the same fund server provided by Example 4 of the present invention;
- [33] Figure 5 is a flow chart of the payment method based on the same fund server provided by Example 5 of the present invention;
- [34] Figure 6 is a flow chart of the payment method based on the same fund server provided by Example 6 of the present invention;
- [35] Figure 7 is a block diagram of a payment device based on the same funds server

provided by Example 7 of the present invention;

[36] Figure 8 is a block diagram of a payment system based on the same Funds-Management server provided in the Example 8 of the present invention.

[37] [Description of the Preferred Examples]

[38] The present invention will be described in further detail with reference to the accompanying drawings and the accompanying example, in which the technical problems, technical solutions and advantages to be solved by the present invention will become more apparent. It is to be understood that the specific examples described herein are merely illustrative of the invention and are not intended to limit the invention.

[39] Example 1

[40] As shown in Figure 1, an example of the present invention provides a payment system based on the same Funds-Management server, which includes at least one client 10, at least one merchant 20, an information centre server 40, and a Funds-Management server 30, the Funds-Management server 30 is connected to the client 10, the merchant 20 and the information centre server 40, respectively,

[41] The client 10, connected with the fund management server 30, is configured to transmit the payment request information to the Funds-Management server 30, wherein the payment request information includes the payment amount.

[42] Specifically, the client 10 is suitable for the payer (buyer), including the account information of mobile phone, personal computer, PAD, and other intelligent devices, the account information of the client 10 is filled in when the customer registers and stored in the database of the Fund-Management service and (or) the information centre server, the account information of the client 10 includes client ID, an account opening bank, account name, a bank account number, and a credit balance, and may also include the customer's shipping address. The payment request information is information such as the written and confirmed price (payment amount), the receipt address and the like after the customer purchases the specific goods/services. According to the pre-set rules, price of the goods/services, and commercial Merchants of the goods/services, the client 10 generates data package; the packet will be transmitted to the Funds-Management server 30. The payment request information includes at least the payment amount, and may include the merchant information and the merchandise information. Among them, the

merchant information can be directly merchants' receiving account number, you can also uniquely identify the merchant information (such as business ID), and find the corresponding bank account information by Funds-Management server 30 based on the unique identification of the merchant from the database. In the specific application, the account information of the merchant 20 should be kept confidential with respect to the client 10, so the merchant information is preferably the merchant ID, and the Funds-Management server 30 inquires the merchant's receiving account by using the correspondence relationship between the merchant ID and its receiving account. In other words, the client 10 only needs to inform the Funds-Management server 30 which merchant's which goods need to be paid how much money, then the Funds-Management server 30 will be able to call out the merchant account to implement the appropriate payment operation.

- [43] The merchant 20 is connected to the Funds-Management server 30 for receiving the electronic commitment payment certificate sent by the Funds-Management server 30.
- [44] Specifically, the merchant 20 is applied to the receiving party (seller), and the merchant includes but not limited to devices such as servers, POS machines and other devices. Merchants include but not limited to manufacturers, agents, logistics companies, etc. The merchant information is also registered in the database of the Funds-Management server and (or) the information centre server, and the merchant information includes, but not limited to merchant ID, merchant name, merchant opening bank, merchant account name, and merchant bank account number.
- [45] The Funds-Management server 30 receives the payment request information sent from the client 10, determines whether or not the payment is allowed based on the credit overdraft limit, the fund balance, the credit loan limit and the payment amount of the client 10; if the payment is allowed, the credit limit or funds corresponding to the client account and payment amount shall be freeze, an electronic commitment payment certificate which is promised to pay the funds by the Funds-Management server in accordance with the agreed condition will be generated, the electronic commitment payment certificate information shall be sent to the merchant 20, and synchronize it to the information centre server 40.
- [46] Specifically, the Funds-Management server 30 receives the packet of the payment

request information and parses it according to the pre-set rule to obtain the relevant payment information including, but not limited to, the merchant information, the merchandise information, and the payment amount, and the like information, which merchant to which the goods to pay the amount of money.

- [47] The information centre server 40 is connected to the Funds-Management server 30 for storing the electronic commitment payment certificate information of the client 10 and the merchant 20.
- [48] Specifically, both the client 10 and the merchant 20 can obtain the electronic commitment payment certificate information to the information centre server 40 via the Internet for subsequent processing, such as the correctness of the dual channel authentication information using the data. The Funds-Management server 30 may further determine whether or not the payment operation is made in accordance with the state of the electronic commitment to pay the credential information, that is, the request payment is only the freezing of the funds, and the payment operation is confirmed after the receipt is confirmed.
- [49] In the present example, the same Funds-Management server 30 may be connected to the plurality of client 10 and the plurality of merchant 20 through the Internet at the same time. That is, the server where the client 20 account is located and the server where the client 10 resides are the same Funds-Management server 30. The Funds-Management server 30 can be a single or multiple servers in a physical sense, e.g., they can work in parallel, and the resources of the server are automatically allocated to realize the Funds-Management according to the different traffic. The Funds-Management server includes but not limited to servers in organizations such as banks, businesses, and so on. In the practical applications, it can be understood as the same bank's cluster Funds-Management server, but not limited to banks, but also the Internet to support the flow of funds in other institutions. Through the Funds-Management server and information centre server, the seller and seller of information are regulated, and the regulatory functions are merged into the bank or other institutions with credit ability to pay.
- [50] Example 2
- [51] As shown in Figure 2, an example of the present invention provides a payment method based on the same Funds-Management server for use in a Funds-Management server,

which is comprised of the steps as follows:

- [52] S101, the Funds-Management server receives the payment request information sent by the client, wherein the payment request information includes at least the payment amount;
- [53] Specifically, the payment request information received by the Funds-Management server includes merchant information, product information and payment amount, and may include client information (such as client ID). Among them, the merchant information can be directly merchants receiving account number, you can also uniquely identify the merchant information (such as business ID), and find the corresponding bank account information by Funds-Management server based on the unique identification of the merchant from the database. In the specific application, the account information of the merchant should be kept confidential with respect to the client, so the merchant information is preferably the merchant ID, and the Funds-Management server inquires the merchant's receiving account by using the correspondence relationship between the merchant ID and its receiving account. In other words, the client only need to inform the Funds-Management server to which merchant and which goods to pay the amount of funds, the Funds-Management server will be able to call out the account of the implementation of the corresponding payment operation.
- [54] S102, compare the credit loan limit and payment amount to determine whether to generate electronic commitment payment certificate to be paid; if so, then enter into the step S103; otherwise terminate the payment.
- [55] This step further includes: determine whether the credit loan limit is greater than or equal to the amount of payment, if so, then allow the payment; otherwise terminate the payment. Wherein the bank account of the client can be informed to the Funds-Management server by the client in the payment request, or can be queried from the database according to the client ID by the Funds-Management server. Only the credit loan limit in the client account is greater than or equal to the payment amount, it means that customers have the ability to pay, then the payment is allowed. Priority to pay the balance of the client account funds, you can save the payment cycle to protect the interests of the client.
- [56] S103, the Funds-Management server freezes the credit loan limit corresponding to the

payment amount within the client account;

- [57] Specifically, when the client credit loan limit is sufficient to cover, freezing the credit loan limit corresponding to the payment amount in the bank account. This step only freezes the credit loan limit to ensure that there is sufficient credit loan funds to complete the transaction, but not directly transfers it to the merchant account, so that the interests of the buyers and the sellers are protected, subsequently the client, the merchant or logistics company deliver the payment information to confirm the delivery is completed, after the Funds-Management server receives the payment of information, the funds amount that is equal to the payment amount will be allocated to the merchant account.
- [58] S104, the Funds-Management server generates an electronic commitment payment the certificate;
- [59] Specifically, since the payment request information is sent by the buyer to the Funds-Management server through the client operation, the payment information is objectively confirmed by the customer and authorized by the bank. The Funds-Management server freezes the corresponding funds or credit loan limit, and generates an electronic commitment payment certificate based on the payment information, and the merchant provides the corresponding merchandise / service according to the electronic commitment payment certificate.
- [60] S105, the electronic commitment payment certificate issued to the client for the client to undertake credit commitments and synchronization to the information centre server.
- [61] Specifically, this Step sends the generated electronic certificate information to the information centre server so that the information centre server performs subsequent tracking.
- [62] The payment method provided by the example of the present invention receives the payment request information of the client through the same Funds-Management server, determines whether or not the payment is permitted based on the buyer's account credit loan limit; meanwhile, by freezing the client account credit loan limit, and generating electronic commitment payment certificate and synchronizing it to the information centre server in order to make real-time monitoring, which can reduce the risk of funds and protect the interests of the buyers and the sellers.

- [63] S106, the Funds-Management server receives the payment information;
- [64] The Funds-Management server receives and determines whether the payment information meets the agreed payment policy.
- [65] S107, the Funds-Management server judges that the payment information and synchronizes the payment information to the information centre server.
- [66] S108, if the payment of information in line with the agreed payment of funds conditions, the Funds-Management server will be allocated to the account business account.
- [67] S113, end the process.
- [68] Example 3
- [69] As shown in Figure 3, an example of the present invention provides a payment method based on the same fund servers for use in a Funds-Management server, which is comprised of the steps as follows:
- [70] S201, the Funds-Management server 30 receives the payment request information sent by the client, and the payment request information includes the payment amount.
- [71] Specifically, the payment request information received by the Funds-Management server includes merchant information, product information and payment amount, and may include client information (such as client ID). Among them, the merchant information can be directly merchants receiving account number, you can also uniquely identify the merchant information (such as business ID), and find the corresponding bank account information by Funds-Management server based on the unique identification of the merchant from the database. In the specific application, the account information of the merchant should be kept confidential with respect to the client, so the merchant information is preferably the merchant ID, and the Funds-Management server inquires the merchant's receiving account by using the correspondence relationship between the merchant ID and its receiving account. In other words, the client only need to inform the Funds-Management server to which merchant and which goods to pay the amount of funds, the Funds-Management server will be able to call out the account of the implementation of the corresponding payment operation.
- [72] S203, it is checked whether or not the credit loan limit of the client account is sufficient, and if it is insufficient, Step S204 is executed, otherwise Step S207 is executed;
- [73] S204, query the client account of the amount of credit overdraft sufficient, if not enough

- to terminate the payment, otherwise the implementation of Step S207;
- [74] Specifically, when the balance of the credit loan limit in the account is sufficient to pay, the amount of the credit loan limit corresponding to the payment amount in the bank account is frozen, and when the funds balance of the account is not enough to be paid, the funds balance of the payment amount is sufficient to pay, freezing the funds balance corresponding to the payment amount in the client account. This step only freezes the credit loan limit or funds balance to ensure that there is sufficient funds to complete the transaction, but not directly transfers it to the merchant account, so that the interests of the buyers and the sellers are protected, subsequently the client, the merchant or logistics company deliver the payment information to confirm the delivery is completed; after the Funds-Management server receives the payment of information, the corresponded funds will be allocated to the merchant account.
- [75] S207, the amount of money or credit overdraft amount corresponding to the payment amount in the client account;
- [76] S208, generate electronic commitment payment certificate;
- [77] S209, sending the electronic commitment payment certificate information to the merchant and the information centre server;
- [78] S210, the merchant sends the receiving and receiving information to the Funds-Management server;
- [79] It is to be noted that in Step S210, the merchant sends and receives the payment information to the Funds-Management server as an example. In practice, it is also possible for the client, the logistics server, or other entity that can know the delivery status to send the payment information to the Funds-Management server.
- [80] S211, the Funds-Management server synchronizes the payment information to the information centre server.
- [81] Specifically, the Funds-Management server synchronizes the updated electronic commitment payment certificate information to the information centre server, and when the goods / service delivery is completed, the corresponding amount can be transferred to the merchant's account.
- [82] S212, the corresponded funds shall be allocated to the account of the merchant.
- [83] S213, end the process.

- [84] The payment method illustrated by the example of the present invention through the Funds-Management server receiving the payment request information of the client, determining whether or not the payment is permitted based on the funds balance and credit loan limit in the client account, then at the same time freezing the funds balance or the credit loan limit in the client, and generating electronic commitment payment certificate and synchronizing it to the information centre server in order to make real-time monitoring to reduce the funds risk and ensure the interest of the buyer and the seller.
- [85] Example 4
- [86] As shown in Figure 4, an example of the present invention provides a payment method based on the same fund server for use in the Funds-Management server, which method comprises the steps of:
- [87] S201, the Funds-Management server 30 receives the payment request information sent by the client, and the payment request information includes the payment amount.
- [88] Specifically, the payment request information received by the Funds-Management server includes merchant information, product information and payment amount, and may include client information (such as client ID). Among them, the merchant information can be directly merchants receiving account number, you can also uniquely identify the merchant information (such as business ID), and find the corresponding bank account information by Funds-Management server based on the unique identification of the merchant from the database. In the specific application, the account information of the merchant should be kept confidential with respect to the client, so the merchant information is preferably the merchant ID, and the Funds-Management server inquires the merchant's receiving account by using the correspondence relationship between the merchant ID and its receiving account. In other words, the client only need to inform the Funds-Management server to which merchant and which goods to pay the amount of funds, the Funds-Management server will be able to call out the account of the implementation of the corresponding payment operation.
- [89] S203, checking whether or not the credit loan balance of the client account is sufficient, and if it is insufficient, step S205 is executed, otherwise step S207 is executed;
- [90] S205, query the client account of the amount of credit overdraft sufficient, if not enough

- to terminate the payment, otherwise the implementation of Step S207;
- [91] Specifically, when the credit loan limit is sufficient to pay, the credit loan limit corresponding to the payment amount in the bank account will be frozen, if the credit loan limit is sufficient to pay while the credit overdraft limit is sufficient to pay, the credit overdraft limit corresponding to the payment amount in the bank account will be frozen. This step only freezes the credit limit to ensure that there is sufficient limits to complete the transaction, but not directly transfers to the merchant account, so that the interests of the buyers and the sellers can be ensured, the successor can be the client, the merchant or logistics company to send the payment information to confirm the completion of delivery by the Funds-Management server to receive the payment of information, the de-blocked funds or funds that equal to payment funds will be allocated to the merchant account.
- [92] S207, freezing the credit overdraft limit or credit loan limit corresponding to the payment amount in the client account;
- [93] S208, generate electronic commitment payment certificate;
- [94] S209, sending the electronic commitment payment certificate information to the merchant and the information centre server;
- [95] S210, the merchant sends the receiving and receiving information to the Funds-Management server;
- [96] It is to be noted that in Step S210, the merchant sends and receives the payment information to the Funds-Management server as an example. In practice, it is also possible for the client, the logistics server, or other entity that can know the delivery status to send the payment information to the Funds-Management server.
- [97] S211, the Funds-Management server synchronizes the payment information to the information centre server.
- [98] Specifically, the Funds-Management server synchronizes the updated electronic commitment payment certificate information to the information centre server, and when the goods / service delivery is completed, the frozen funds or equal funds can be transferred to the merchant's account.
- [99] S212, the frozen funds allocated to the account of the merchant.
- [100] S213, end the process.

[101] The payment method based on the frozen credit overdraft limit or credit loan balance provided by the example of the present invention receives the payment request information of the client through the Funds-Management server, credit overdraft limit and credit loan limit of the buyer will be based to determine whether to allow payment, and by freezing the client account payment amount, and generating electronic commitment payment certificate for conducting real-time monitoring, which can reduce the risk of funds to protect the interests of the buyers and the sellers.

[102] Example 5

[103] As shown in Figure 5, an example of the present invention provides a payment method, applied in the same Funds-Management servers, which is comprised of the steps as follows:

[104] S201, the client sends the payment request information to the Funds-Management server, the payment request information includes the payment amount, and the Funds-Management server receives the payment request information sent by the client.

[105] Wherein the payment request information is composed of a plurality of data packets, including at least the merchant information, the merchandise information and the payment amount. You can also include client information (such as client ID). Among them, the merchant information can be directly merchants receiving account number, you can also uniquely identify the merchant information (such as business ID), and find the corresponding bank account information by Funds-Management server based on the unique identification of the merchant from the database. In the specific application, the account information of the merchant should be kept confidential with respect to the client, so the merchant information is preferably the merchant ID, and the Funds-Management server inquires the merchant's receiving account by using the correspondence relationship between the merchant ID and its receiving account. In other words, the client only need to inform the Funds-Management server to which merchant and which goods to pay the amount of funds, the Funds-Management server will be able to call out the account of the implementation of the corresponding payment operation.

[106] The way the client sends payment request information to the Funds-Management server can be done in the existing way, such as using a digital signature or a digital envelope. A digital signature is a data that the user encrypts the information of the original data with

own private key. The information recipient obtains the information digest by decrypting the digital signature attached to the original information using the public key of the sender of the information and confirms whether the original information is made by comparing with the information digest generated by the original data received by the information recipient Tampered with. This ensures that the data transmission is undeniable. Digital envelopes use password technology to ensure that only the recipient of the specified information can read the contents of the information. Digital envelopes used in a single-key password system and public key password system. The information sender first encrypts the information with the randomly generated symmetric password, and then encrypts the symmetric password with the public key of the receiver. The symmetric password encrypted by the public key is called the digital envelope. In the transmission of information, the information receiver shall decrypt the information, you must first use their own private key to decrypt the digital envelope, get a symmetric password, in order to use the symmetric password to decrypt the information obtained. This ensures the authenticity and integrity of the data transmission.

- [107] S203, checking whether or not the credit loan amount of the client account is sufficient, and if it is insufficient, step S204 is executed, otherwise step S207 is executed;
- [108] S204, it is checked whether or not the balance of the funds of the client account is sufficient, and if it is insufficient, Step S205 is executed, otherwise Step S207 is executed;
- [109] S205, query the client account of the amount of credit overdraft sufficient, if not enough to terminate the payment, otherwise the implementation of Step S207;
- [110] S207, freeze the funds or the credit overdraft balance or the credit loan balance corresponding to the payment amount within the client account;
- [111] S208, generate electronic commitment payment certificate;
- [112] S209, sending the electronic commitment payment certificate information to the merchant and the information centre server;
- [113] S210, the merchant sends the receiving and receiving information to the Funds-Management server;
- [114] It is to be noted that in Step S210, the merchant sends and receives the payment information to the Funds-Management server as an example. In practice, it is also

possible for the client, the logistics server, or other entity that can know the delivery status to send the payment information to the Funds-Management server.

[115] S211, the Funds-Management server synchronizes the payment information to the information centre server.

[116] Specifically, the Funds-Management server synchronizes the updated electronic commitment payment certificate information to the information centre server, and when the goods / service delivery is completed, the funds can be transferred to the merchant's account.

[117] S212, the frozen funds allocated to the account of the merchant.

[118] S213, end the process.

[119] The example of the present invention, on the basis of the Example 3, not only facilitates the buyer by increasing the optional function of the credit limit, but also greatly enriches the loan business of the bank or other organizations; increase the information centre server to the buyers and sellers of the electronic commitment payment certificate to synchronize tracking, the flow of goods and the flow of funds trajectory of the effective combination of the interests of both buyers and sellers can be effectively protected.

[120] Example 6

[121] As shown in Figure 6, an example of the present invention provides a payment method, applied in the same Funds-Management servers, which is comprised of the steps as follows:

[122] S201, the client sends the payment request information to the Funds-Management server, the payment request information includes the payment amount, and the Funds-Management server receives the payment request information sent by the client.

[123] Wherein the payment request information is composed of a plurality of data packets, including at least the merchant information, the merchandise information and the payment amount. You can also include client information (such as client ID). Among them, the merchant information can be directly merchants receiving account number, you can also uniquely identify the merchant information (such as business ID), and find the corresponding bank account information by Funds-Management server based on the unique identification of the merchant from the database. In the specific application, the account information of the merchant should be kept confidential with respect to the

client, so the merchant information is preferably the merchant ID, and the Funds-Management server inquires the merchant's receiving account by using the correspondence relationship between the merchant ID and its receiving account. In other words, the client only need to inform the Funds-Management server to which merchant and which goods to pay the amount of funds, the Funds-Management server will be able to call out the account of the implementation of the corresponding payment operation.

- [124] The way the client sends payment request information to the Funds-Management server can be done in the existing way, such as using a digital signature or a digital envelope. A digital signature is a data that the user encrypts the information of the original data with own private key. The information recipient obtains the information digest by decrypting the digital signature attached to the original information using the public key of the sender of the information and confirms whether the original information is made by comparing with the information digest generated by the original data received by the information recipient Tampered with. This ensures that the data transmission is undeniable. Digital envelopes use password technology to ensure that only the recipient of the specified information can read the contents of the information. Digital envelopes used in a single-key password system and public key password system. The information sender first encrypts the information with the randomly generated symmetric password, and then encrypts the symmetric password with the public key of the receiver. The symmetric password encrypted by the public key is called the digital envelope. In the transmission of information, the information receiver shall decrypt the information, you must first use their own private key to decrypt the digital envelope, get a symmetric password, in order to use the symmetric password to decrypt the information obtained. This ensures the authenticity and integrity of the data transmission.
- [125] S203, it is checked whether or not the credit loan limit of the client account is sufficient, and if it is insufficient, Step S204 is executed, otherwise Step S207 is executed;
- [126] S204, it is checked whether or not the credit overdraft amount of the client account is sufficient, and if it is insufficient, Step S204 is executed, otherwise Step S207 is executed;
- [127] S205, query the client account of the amount of credit overdraft sufficient, if not enough to terminate the payment, otherwise the implementation of Step S207;

- [128] S207, freeze the funds or the credit overdraft balance or the credit loan balance corresponding to the payment amount within the client account;
- [129] S208, generate electronic commitment payment certificate;
- [130] S209, sending the electronic commitment payment certificate information to the merchant and the information centre server;
- [131] S210, the merchant sends the receiving and receiving information to the Funds-Management server;
- [132] It is to be noted that in Step S210, the merchant sends and receives the payment information to the Funds-Management server as an example. In practice, it is also possible for the client, the logistics server, or other entity that can know the delivery status to send the payment information to the Funds-Management server.
- [133] S211, the Funds-Management server synchronizes the payment information to the information centre server.
- [134] Specifically, the Funds-Management server synchronizes the updated electronic commitment payment certificate information to the information centre server, and when the goods / service delivery is completed, the funds can be transferred to the merchant's account.
- [135] S212, the frozen funds allocated to the account of the merchant.
- [136] S213, end the process.
- [137] The example of the present invention, on the basis of the Example 3, not only facilitates the buyer by increasing the optional function of the credit limit, but also greatly enriches the loan business of the bank or other third party organizations; increase the information centre server to the buyers and sellers of the electronic commitment payment certificate to synchronize tracking, the flow of goods and the flow of funds trajectory of the effective combination of the interests of both buyers and sellers can be effectively protected.
- [138] Example 7
- [139] As shown in Figure 7, an example of the present invention provides a payment device including a receiving module 301, a judgement module 302, and a processing module 303, wherein:
- [140] The receiving module 301 is configured to receive payment request information

transmitted by the client, and the payment request information includes the payment amount.

- [141] Specifically, the payment request information received by the receiving module 301 includes Merchant information, product information and payment amount, and may include the client information (for an example, customer ID). Among them, the merchant information can be merchants receiving account, and the merchant information can also be uniquely identified (such as business ID). In the particular application, the account information of the merchant should be kept confidential from the client, so the merchant information should be the merchant ID, that is, the client simply informs which merchandise of which merchant is paid by how much, then the device call out of the merchant account number to implement the corresponding payment operation.
- [142] The judgement module 302 is configured to determine whether or not to allow payment based on the payment amount, and fund balance of the client account or the credit overdraft limit or the credit loan limit.
- [143] As a preferred solution, the judgement module 302 is specifically configured to determine whether the credit loan balance of the client account is greater than or equal to the payment amount, and if so, payment is allowed; otherwise, it is further determined that the funds balance of the client account is greater than or equal to the amount of payment, if yes, then payment is allowed; otherwise to further determine whether the credit overdraft credit in the client account is greater than the amount of payment, if yes, then payment is allowed, or else not allowed. In this way, in order to determine the payment ability of the account, the payment method of the credit loan balance of the account is adopted in priority, it can save the payment cycle to protect the interests of businesses. Wherein the bank account of the client may be informed to this device by the client in the payment request information, or the device may inquire it from the database based on the client information, and obtains the funds balance or the credit limit of the corresponding client account. Only the funds balance, the credit overdraft limit, and the credit loan limit in the client are more than or equal the payment amount, the client has the ability to pay, and this time the payment behaviour is allowed to conduct. When using a Funds-Management server to obtain a bank account or credit

card account based on the Funds-Management server, a customer may have multiple accounts, and a mixed payment method may also be used.

- [144] The processing module 303 is configured to freeze the credit overdraft limit corresponding to the payment amount in the client account when payment is allowed, and generate an electronic commitment payment certificate to deliver the electronic commitment payment certificate information to the merchant, and synchronized to the information centre server.
- [145] Preferably, the processing module 303 further includes a freeze unit 3031, a certificate generation unit 3032, and a synchronization unit 3033, wherein:
 - [146] The freeze unit 3031 is configured to freeze the credit overdraft limit corresponding to the payment amount in the client account when payment is allowed;
 - [147] The certificate generation unit 3032 is configured to generate an electronic commitment payment certificate;
 - [148] The synchronization unit 3033 is configured to transmit the electronic commitment payment certificate information to the merchant.
- [149] In addition, the processing module 303 may include a transfer unit, configured to receive the payment information, synchronize the payment information to the information centre server, and allocate the corresponding funds to the account of the merchant.
- [150] It is to be noted that the technical features of the above-described method examples 2 and 3 are applicable in the present apparatus and are not repeated here.
- [151] In addition, the present invention provides a Funds-Management server including a payment device in the fourth example, which is not repeated here.
- [152] The payment method and Funds-Management servers provided by the example of the present invention receives the payment request information of the client, the funds balance, the credit loan limit and the credit overdraft limit will be based to determine whether to allow payment, and by freezing the client account payment amount, and generating electronic commitment payment certificate for conducting real-time monitoring, which can reduce the risk of funds to protect the interests of the buyers and the sellers. In addition, by increasing the loan function, which can not only to facilitate the buyer, but also to greatly enrich the bank or other institutions with credit ability to

pay the business.

[153] Example 8

[154] As shown in Figure 8, a preferred example of the present invention provides a payment system based on the same Funds-Management server, which includes a client 10, a merchant 20, a Funds-Management server 30, and an information centre server 50, wherein:

[155] The information centre server 50 is used to store and supervise the electronic commitment payment certificate information.

[156] the client 10 includes a payment request module 101 configured to send payment request information to the Funds-Management server 30, wherein the payment request information includes merchant and merchandise information, and payment amount.

[157] The merchant 20 includes a credential receiving module 201 and a credential updating module 202, wherein the certificate receiving module 201 is configured to receive the electronic commitment payment certificate sent by the fund managing server 30.

[158] The Funds-Management server 30 includes a receiving module 301, a judgement module 302, and a processing module 303, wherein:

[159] The receiving module 301 is configured to receive payment request information transmitted by the client;

[160] The judgement module 302 is configured to determine whether or not a payment is permitted based on the client credit overdraft limit and the payment amount;

[161] As a preferred example, the judgement module 302 is configured to determine whether the credit loan limit of the client account is greater than or equal to the amount of the payment, and if so, the payment is allowed; or to further determine whether the client account funds balance is greater than or equal to the payment amount, if so, allow to pay.

[162] The processing module 303 is configured to freeze the credit loan limit corresponding to the payment amount in the client account when payment is allowed, and generate an electronic commitment payment certificate to deliver the electronic commitment payment certificate information to the merchant, and synchronized to the information centre server.

[163] As a preferred example, the receiving module 301 of the Funds-Management server 30

is also responsible for receiving the payment information; the processing module 303 also includes a transferring module, which is configured to transfer equal funds to the account of the merchant after receiving the payment information.

- [164] Specifically, since the payment request information is sent by the buyer to the Funds-Management server 30 through the client 10, the payment information is objectively obtained by the client 10 confirming and authorizing the bank to pay. The Funds-Management server 30 freezes the corresponding funds or credit limit and generates an electronic commitment payment certificate based on the payment information, and the merchant 20 provides the corresponding merchandise / service based on the electronic commitment payment certificate.
- [165] The general technicians of this field can understand and implement all or parts of steps in the aforesaid examples that can complete the procedure by controlling relevant hardware, and the said procedure can be stored in a readable storage media of a computer such as ROM/RAM, disk and light disk.
- [166] The preferred examples of the present invention have been described above with reference to the accompanying drawings, which are not to limit the scope of the present invention. It will be apparent to those skilled in the field that various modifications, equivalents, and improvements may be made without departing from the scope and spirit of the invention.

CLAIMS:

1. A method of sending a payment to a merchant account, the method comprising:
 - providing a database for a merchant account that includes encrypted merchant account information;
 - accessing the merchant account information using a unique identifier;
 - decrypting the merchant account information;
 - using a funds-management server to access the merchant account information;
 - using the funds-management server to send an electronic commitment payment certificate to the merchant account using the merchant account information, wherein the electronic commitment payment certificate corresponds to a frozen payment amount in an account of a buyer, wherein the frozen payment amount is a payment amount to be paid upon a delivery; and
 - after the buyer indicates the delivery is complete, allocating the frozen payment amount to the merchant account.
2. The method of claim 1, where the unique identifier is a merchant ID.
3. The method of any one of claims 1-2, wherein the funds-management server is a single physical server of a bank.
4. The method of any one of claims 1-2, wherein the funds-management server is a cluster server of a bank.
5. The method of any one of claims 1-4, wherein the merchant account information is associated with a merchant device.
6. The method of any one of claims 1-10, wherein the merchant account information is kept confidential with respect to the client device.
7. The method of claim 6, wherein the client device is a mobile phone.

8. The method of claim 6, wherein the client device is a personal computer.
9. The method of any one of claims 6-8, wherein the client device sends a payment request information to the funds-management server using a digital signature.
10. The method of any one of claims 6-9, wherein the client device sends a payment request information to the funds-management server using a digital envelope.
11. The method of any one of claims 1-10, wherein the merchant account information includes a registered in the database of the funds-management server.
12. The method of any one of claims 1-11, wherein the merchant account information includes a merchant ID.
13. The method of any one of claims 1-12, wherein the merchant account information includes a merchant name.
14. The method of any one of claims 1-13, wherein the merchant account information includes a merchant opening bank.
15. The method of any one of claims 1-14, wherein the merchant account information includes a merchant account name.
16. The method of any one of claims 1-15, wherein the merchant account information includes a merchant bank account number.
17. The method of any one of claims 1-16, wherein the funds-management server is concurrently connected to the client device and the merchant device via the internet.

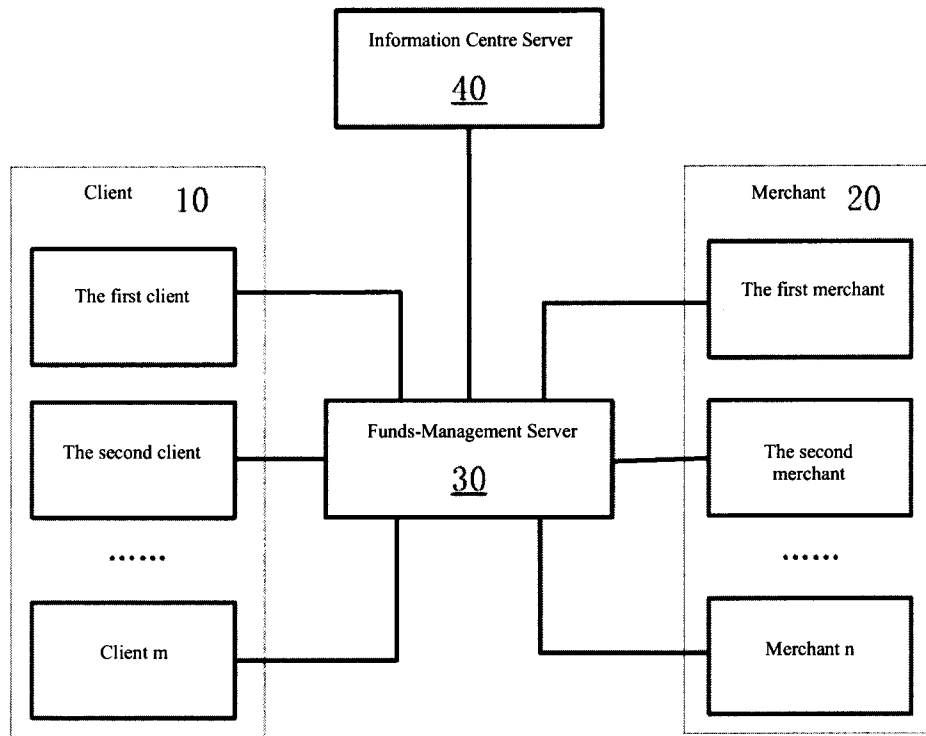


Figure1

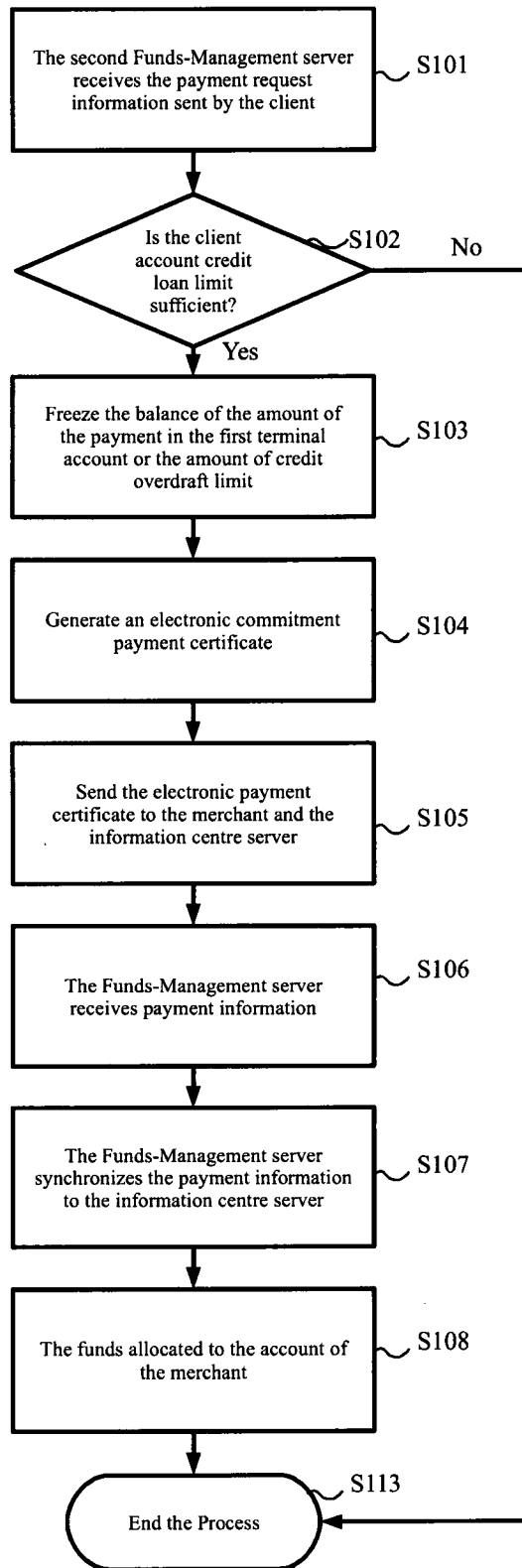


Figure 2

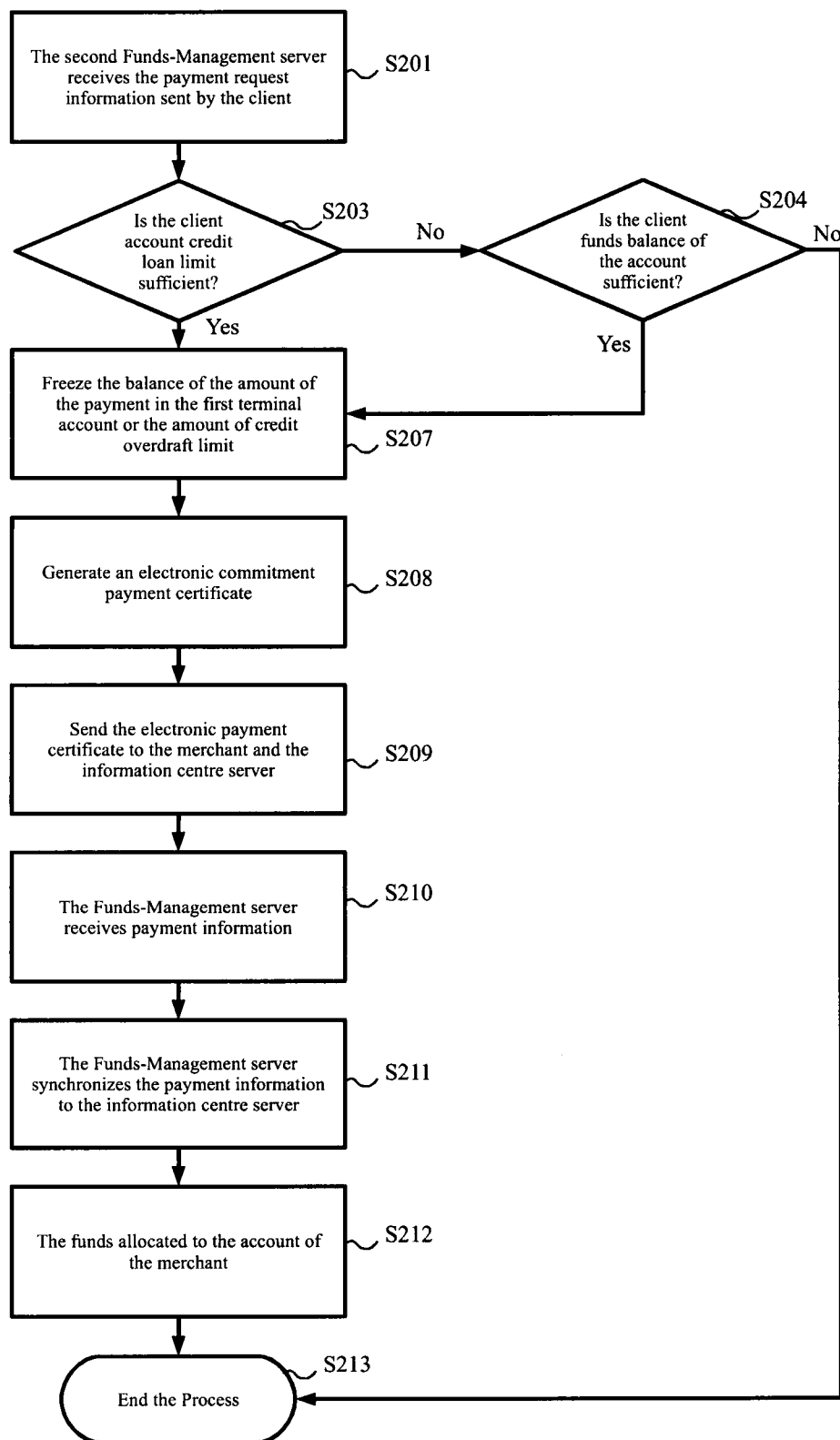


Figure 3

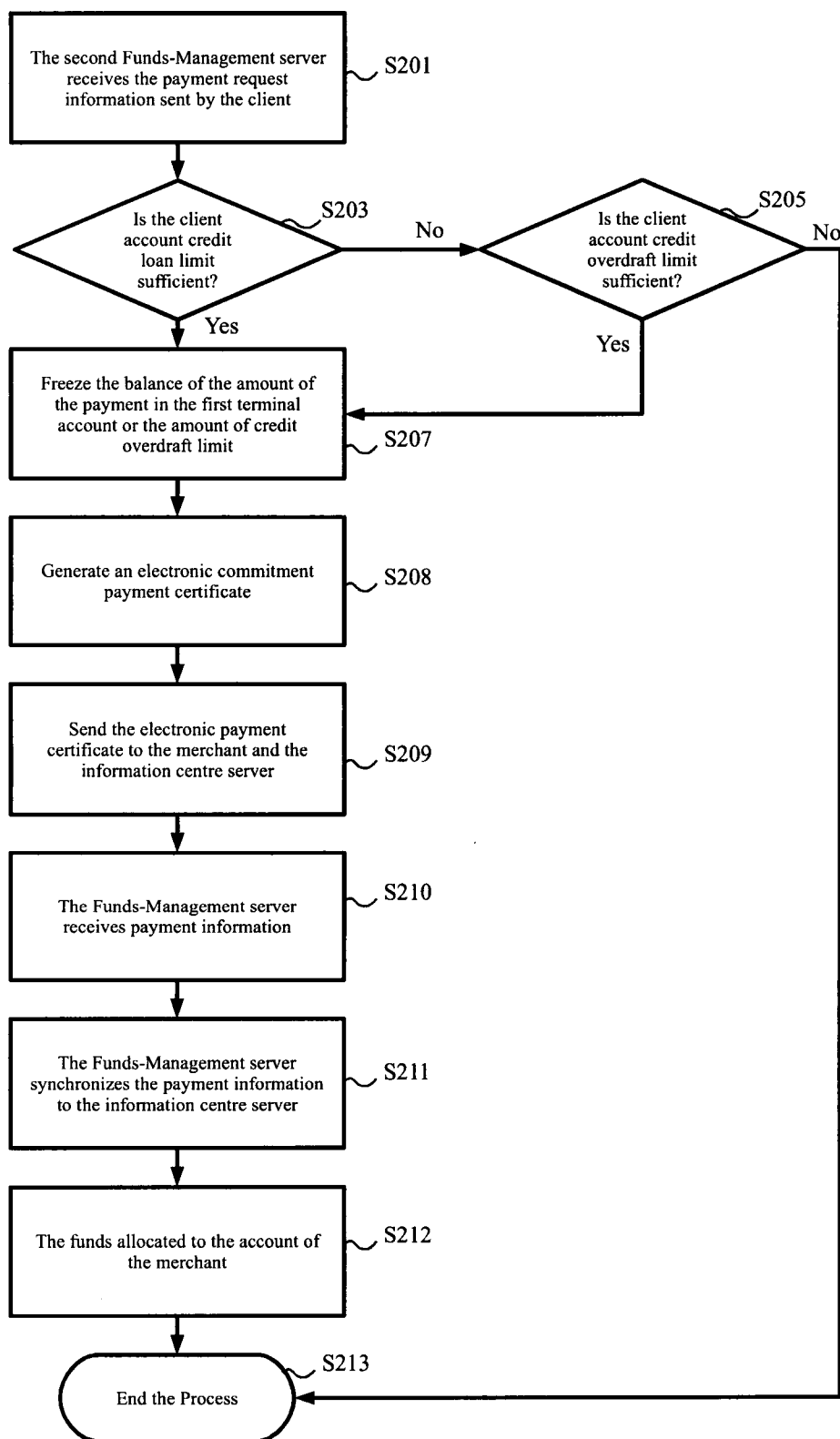


Figure 4

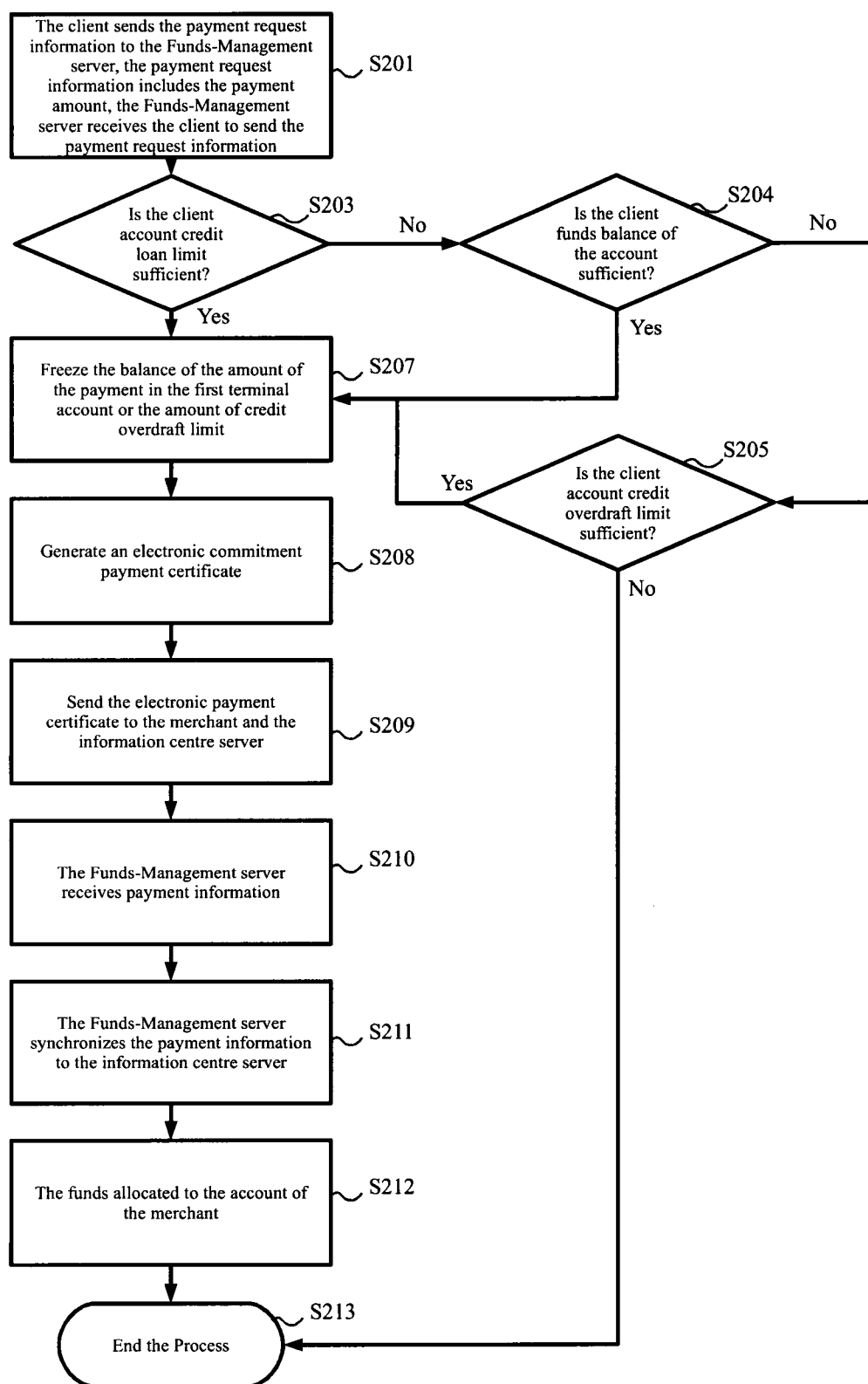


Figure 5

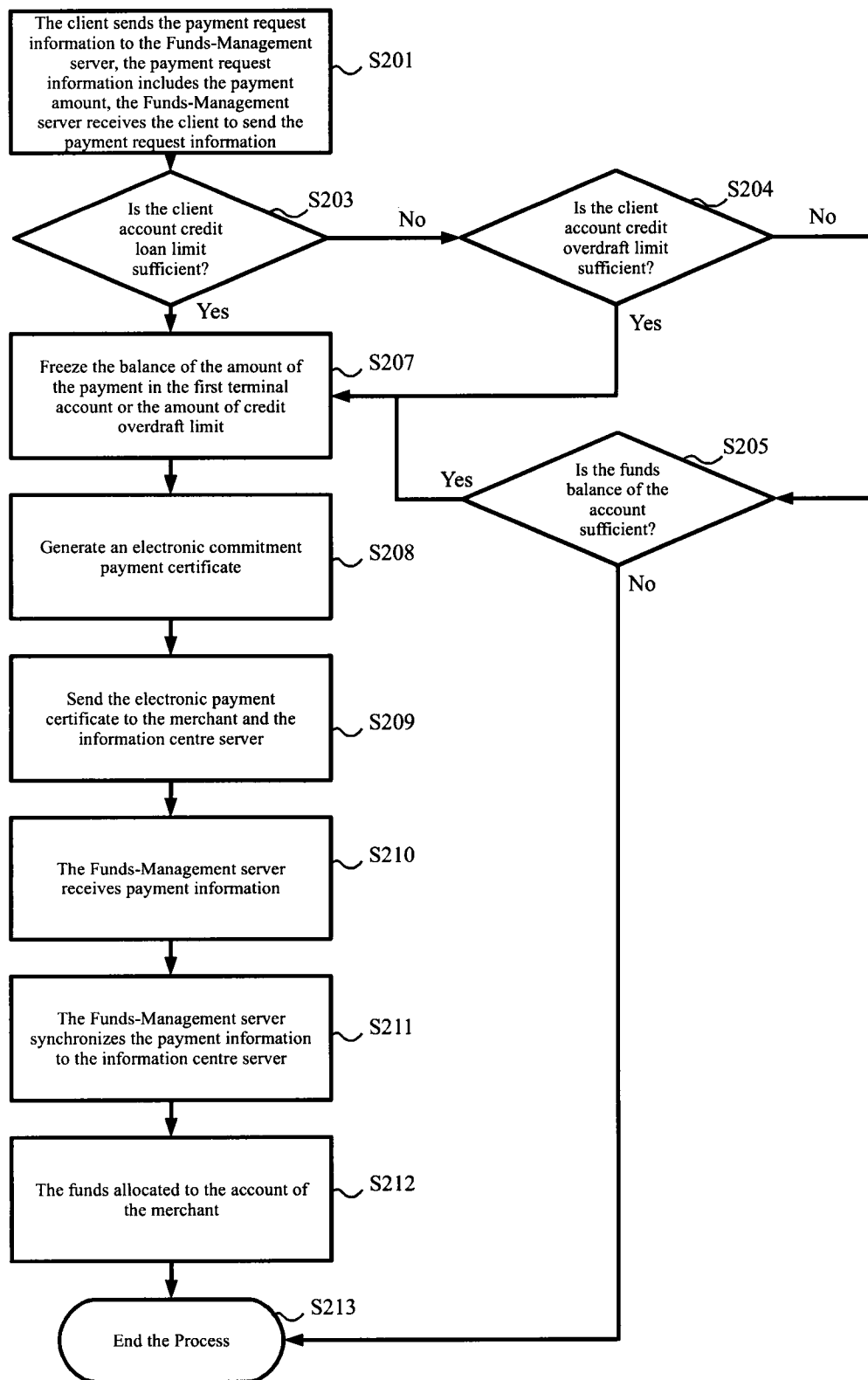


Figure 6

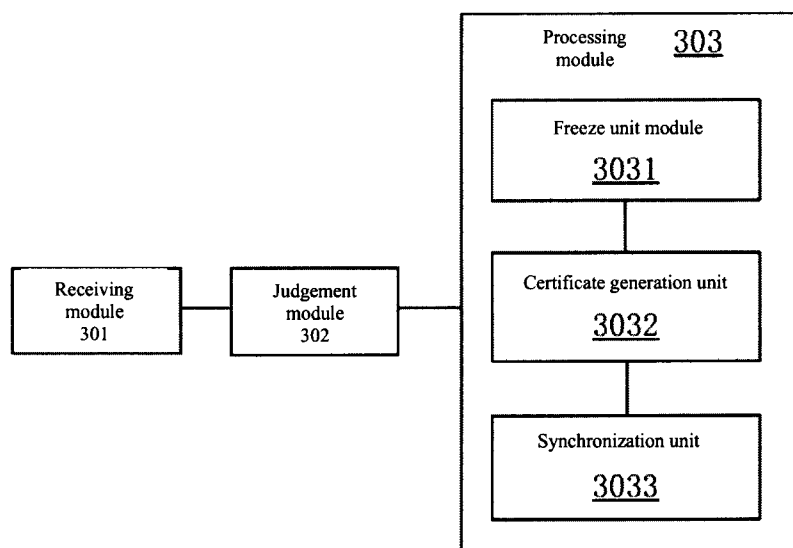


Figure 7

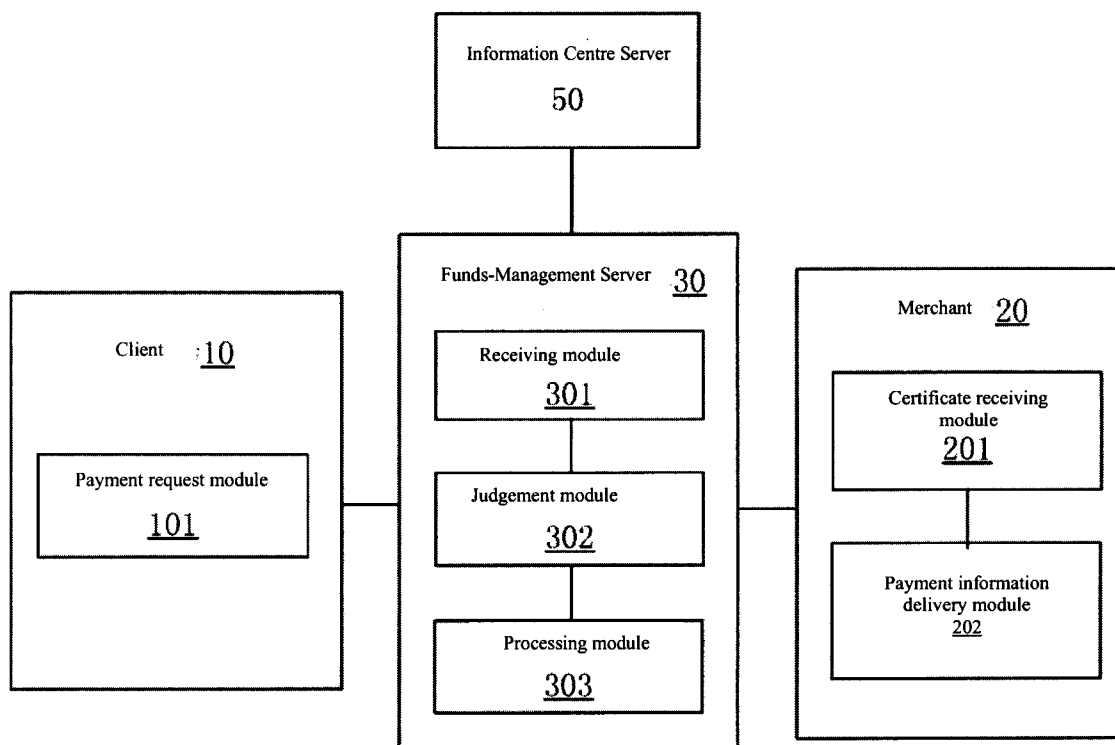


Figure 8

