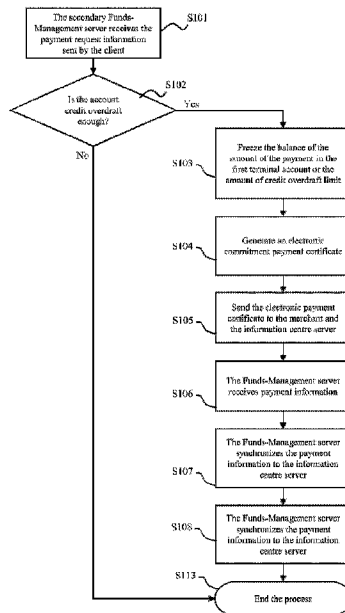




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(54) Titre : SYSTEME DE PAIEMENT BASE SUR UN SERVEUR DE GESTION DE FONDS PARTAGE, ET PROCEDE, DISPOSITIF ET SERVEUR ASSOCIES
 (54) Title: PAYMENT SYSTEM BASED ON SHARED FUNDS-MANAGEMENT SERVER, AND METHOD, DEVICE AND SERVER THEREFOR



(57) **Abrégé/Abstract:**

An information center computer server in a payment system based on a shared funds management server, and a method, device and server therefor, belonging to the field of e-commerce. An information center computer server with a memory for storing electronic commitment payment certificates; a computer processor, configured to receive the electronic commitment payment certificates transmitted by a funds-management computer server when the funds management computer server generates or updates the electronic commitment certificate monitoring real-time flow of goods and flow of funds between client computer device and merchant computer device and store and supervise electronic commitment payment certificate for the client computer device and the merchant computer device to obtain the certificate from the information center computer server to monitor in real-time the certificate. Using this system to supervise both parties in a transaction reduces financial risk and ensures the interests of both parties in the transaction.

Abstract

An information center computer server in a payment system based on a shared funds management server, and a method, device and server therefor, belonging to the field of e-commerce. An information center computer server with a memory for storing electronic commitment payment certificates; a computer processor, configured to receive the electronic commitment payment certificates transmitted by a funds-management computer server when the funds management computer server generates or updates the electronic commitment certificate monitoring real-time flow of goods and flow of funds between client computer device and merchant computer device and store and supervise electronic commitment payment certificate for the client computer device and the merchant computer device to obtain the certificate from the information center computer server to monitor in real-time the certificate. Using this system 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

Technical Field

[0001] This invention refers to e-commerce field, especially, it is a cross-capital server-based payment system and its payment method, device and server.

Background

[0002] 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.

[0003] 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 money management server to reduce the risk of user funds, and to protect the interests of buyers and sellers.

Summary

[0004] 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-Management server to reduce the risk of user funds, and to protect the interests of buyers and sellers.

[0005] The technical solution of the present invention to solve the above-mentioned technical problems is as follows:

[0006] A payment system based on the same fund 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:

[0007] The above-mentioned client is to send payment request information including at least a payment amount to the fund management server;

[0008] The merchant is used for receiving an electronic commitment payment certificate sent by the fund management server;

[0009] The method comprises: a Funds-Management server receiving payment request information sent by a client; comparing a client funds balance or credit overdraft limit with a payment amount to determine whether an electronic commitment payment certificate can be created; if yes, the Funds-Management server freezing the funds balance within the client account, the credit overdraft 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.

[0010] The information centre server for storing and supervising the electronic commitment payment certificate information.

[0011] If the credit overdraft limit of the client account is less than the payment amount, the client account funds balance and the payment amount will be compared to determine whether to generate electronic commitment payment credit for credit commitment payment.

[0012] If the credit overdraft limit of the client account is less than the payment amount, the client account credit loan limit and the payment amount will be compared to determine whether to generate electronic commitment payment credit for credit commitment payment.

[0013] According to another aspect of this invention, there is a network payment method based on the same Funds-Management servers, and the method is comprised by following steps:

[0014] The Funds-Management server receives the payment request information sent by the client, wherein the payment request information includes at least the payment amount;

[0015] By comparing the client credit overdraft amount and the payment amount to determine whether or not an electronic commitment payment certificate is to be paid;

[0016] If possible, the Funds-Management server freezing the credit overdraft 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.

[0017] If the credit overdraft limit is less than the amount of payment, then compare the client account credit loan limit and the amount of payment to determine whether to generate electronic commitment payment certificate to be paid; further, if the client account credit loan limit is less than the amount of payment, it is required to compare the client account credit overdraft amount and the amount of payment to determine whether to generate electronic commitment payment certificate to be paid.

[0018] If the client account credit overdraft limit is less than the amount of payment, the comparison of the client account funds balance and payment amount shall be made to determine whether to generate electronic commitment payment amount to be paid; further, if the client account funds balance is less than the amount of payment, it is required to compare the client account credit loan limit and the payment amount to determine whether or not the electronic commitment payment certificate can be paid.

[0019] According to another aspect of the present invention, there is provided a payment device based on the same funds server, the device comprises a receiving module, a judging module and a processing module.

[0020] The receiving module is configured to receive payment request information transmitted by the client, wherein the payment request information includes the payment amount;

[0021] The judgement module configured to determine whether or not to allow payment based on the client account credit overdraft balance and the payment amount;

[0022] The processing module is configured to freeze the credit overdraft limit corresponding to the said payment amount 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 end, and synchronized to the information centre server.

[0023] The present invention provides a payment system based on the same Funds-Management server and its method, device and server, supervises the information of the buyers

and the 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 client account credit overdraft limit, 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.

Brief Description of the Drawings

[0024] Figure 1 is a schematic diagram of the payment system based on the same Funds-Management server provided by Example 1 of the present invention;

[0025] 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;

[0026] Figure 3 is a flow chart of the payment method based on the same Funds-Management server provided by Example 3 of the present invention;

[0027] Figure 4 is a flow chart of the payment method based on the same Funds-Management server provided by Example 4 of the present invention;

[0028] Figure 5 is a flow chart of the payment method based on the same Funds-Management server provided by Example 5 of the present invention;

[0029] Figure 6 is a flow chart of the payment method based on the same Funds-Management server provided by Example 6 of the present invention;

[0030] Figure 7 is a block diagram of a payment device based on the same Funds-Management server provided by Example 7 of the present invention;

[0031] 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.

Detailed Description

[0032] 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.

[0033] Example 1

[0034] As shown in Figure 1, an example of the present invention provides a payment system based on the same fund 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.

[0035] The client 10 is configured to transmit the payment request information to the Funds-Management server 30, wherein the payment request information includes the payment amount.

[0036] 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 30 and (or) the information centre server 40, 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 tenants 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 merchant 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 client 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 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.

[0037] 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.

[0038] 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, and logistics companies. 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.

[0039] 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 balance 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.

[0040] 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.

[0041] 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.

[0042] 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 whether the dual-channel verification information is correct or not by using the data. The Funds-Management server 30 may further determine according to the state of the electronic commitment payment credential information, whether to perform a payment operation, that is, the request payment is only a frozen fund, and a payment operation is performed after the receipt is confirmed.

[0043] 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 fund 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 practical applications, it can be seen as the same bank's cluster fund management server, but it not limited to banks, it also supports the flow of funds in other institutions in the Internet or other institutions with payment ability, that is the so called the third party institution. 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.

[0044] Example 2

[0045] As shown in Figure 2, an example of the present invention provides a payment method based on the same Funds-Management servers for use in a fund management server, which is comprised of the steps as follows:

[0046] S101 and the Funds-Management server 30 receives the payment request information sent by the client, wherein the payment request information includes at least the payment amount;

[0047] Specifically, the payment request information received by the Funds-Management server includes merchant information, product information and payment amount, and may include client information (e.g., 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.

[0048] S102, compare the balance of the client overdraft limit and the payment amount to determine whether to generate electronic commitment payment certificate to be paid; if so, then allow the payment; otherwise terminate the payment.

[0049] This step further includes: the Funds-Management server from the database query client account balance; determine whether the client overdraft 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 fund management server. Only in the client account of the funds balance or credit limit greater than or equal to the payment amount, it means that customers have the ability to pay behaviour, this time to allow payment behaviour. Priority to pay the balance of the client account funds, you can save the payment cycle to protect the interests of the client.

[0050] S103, the Funds-Management server freezes the credit overdraft limit corresponding to the payment amount within the client account.

[0051] Specifically, when the client credit overdraft limit is sufficient to cover, the funds in the bank account are frozen. This step only to freeze the credit overdraft limit to ensure that there is sufficient credit overdraft funds to complete the transaction, but not directly transfer to the merchant account, so to ensure the interests of the buyers and the sellers, followed by the client, the merchant or logistics company to send 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.

[0052] S104, the Funds-Management server generates an electronic commitment payment the certificate;

[0053] 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 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.

[0054] S105, the electronic commitment payment certificate issued to the client for the client to undertake credit commitments and synchronization to the information centre server.

[0055] Specifically, this step sends the generated electronic certificate information to the information centre server so that the information centre server performs subsequent tracking.

[0056] 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 overdraft limit; meanwhile, by freezing the client account credit overdraft limit, and generating electronic commitment payment certificate, which can reduce the risk of funds and protect the interests of the buyers and the sellers.

[0057] S106, the Funds-Management server receives the payment information;

[0058] The Funds-Management server receives and determines whether the payment information meets the agreed payment policy.

[0059] S107, the Funds-Management server judges that the payment information is synchronized to the information centre server.

[0060] 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.

[0061] S113, end the process.

[0062] Example 3

[0063] As shown in Figure 3, an example of the present invention provides a payment method based on the same Funds-Management servers for use in a fund management server, which is comprised of the steps as follows:

[0064] S201, the Funds-Management server 30 receives the payment request information sent by the client, and the payment request information includes the payment amount.

[0065] Specifically, the payment request information received by the Funds-Management server includes merchant information, product information and payment amount, and may include

client information (e.g., 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.

[0066] S203, 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;

[0067] 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;

[0068] Specifically, when the balance of the client account credit overdraft limit is sufficient to pay, the amount of the credit overdraft limit corresponding to the payment amount in the bank account is frozen, and when the balance of the account funds is not enough to be paid, the funds balance of the payment amount within the client account overdraft will be frozen. This step only to freeze the credit overdraft balance or funds balance to ensure that there is sufficient funds to complete the transaction, but not directly transfer to the merchant account, so to ensure the interests of the buyers and the sellers, followed by the client, the merchant or logistics company to send 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.

[0069] S207, the amount of money or credit overdraft amount corresponding to the payment amount in the client account;

[0070] S208, generate electronic commitment payment certificate;

[0071] S209, sending the electronic commitment payment certificate information to the merchant and the information centre server;

[0072] S210, the merchant sends the receiving and receiving information to the fund

management server;

[0073] 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 fund management server.

[0074] S211, the Funds-Management server synchronizes the payment information to the information centre server.

[0075] 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 equivalent funds can be transferred to the merchant's account.

[0076] S212, the corresponded funds shall be allocated to the account of the merchant end.

[0077] S213, end the process.

[0078] The payment method illustrated by the example of the present invention can reduce the risk of funds and protect the interests of the buyers and the sellers through the Funds-Management server receiving the payment request information of the client, determining whether or not the payment is permitted based on the credit overdraft limit, funds amount, or credit loan limit in the client account, then at the same time freezing the funds balance or the credit overdraft limit in the client , and generating electronic commitment payment certificate to reduce the funds risk and ensure the interest of the buyer and the seller.

[0079] Example 4

[0080] As shown in Figure 4, an example of the present invention provides a payment method based on the same Funds-Management server for use in the Funds-Management server, which method comprises the steps of:

[0081] S201, the Funds-Management server 30 receives the payment request information sent by the client, and the payment request information includes the payment amount.

[0082] Specifically, the payment request information received by the Funds-Management server includes merchant information, product information and payment amount, and may include client information (e.g., 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.

[0083] S203, it is checked whether or not the credit overdraft amount of the client account is sufficient, and if it is insufficient, Step S205 is executed; otherwise Step S207 is executed;

[0084] S205, check the client account credit loan limit is sufficient, if not enough to terminate the payment, otherwise the implementation of Step S207;

[0085] Specifically, when the balance of the account credit overdraft is sufficient to pay, the credit overdraft balance corresponding to the payment amount within the bank are frozen; when the credit overdraft limit is insufficient to be paid, but the credit loan limit is sufficient to be paid, the credit overdraft limit corresponding to the payment amount within the bank shall be frozen. This step only to freeze the payment amount to ensure that there is sufficient funds to complete the transaction, but not directly transfer 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.

[0086] S207, freeze the client account within the amount of payment corresponding to the amount of funds or credit loans;

[0087] S208, generate electronic commitment payment certificate;

[0088] S209, sending the electronic commitment payment certificate information to the merchant and the information centre server;

[0089] S210, the merchant sends the receiving and receiving information to the fund management server;

[0090] 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 fund management server.

[0091] S211, the Funds-Management server synchronizes the payment information to the information centre server.

[0092] 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.

[0093] S212, the frozen funds allocated to the account of the merchant end.

[0094] S213, end the process.

[0095] The payment method provided by the example of the present invention receives the payment request information of the client through the Funds-Management server, the client account funds amount, the client account credit overdraft limit and the client account credit loan 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.

[0096] Example 5

[0097] As shown in Figure 5, an example of the present invention provides a payment method of the funds credit loan limit, applied in the same fund management servers as shown in Figure 1, which is comprised of the steps as follows:

[0098] S201, the client sends the payment request information to the fund management server, the payment request information includes the payment amount, and the Funds-Management server receives the payment request information sent by the client.

[0099] 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 merchant 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.

[0100] 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 a hash of the original data with his own private key. The information recipient obtains the hash 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 hash 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.

[0101] S203, 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;

[0102] 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;

[0103] S205, check the client account credit loan limit is sufficient, if not enough to terminate the payment, otherwise the implementation of Step S207;

[0104] S207, freeze the funds or the credit overdraft balance or the credit loan balance corresponding to the payment amount within the client account;

[0105] S208, generate electronic commitment payment certificate;

[0106] S209, sending the electronic commitment payment certificate information to the

merchant and the information centre server;

[0107] S210, the merchant sends the receiving and receiving information to the fund management server;

[0108] 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 fund management server.

[0109] S211, the Funds-Management server synchronizes the payment information to the information centre server.

[0110] 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.

[0111] S212, the frozen funds allocated to the account of the merchant end.

[0112] S213, end the process.

[0113] 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 loan limit, but also greatly enriches the loan business of the bank or other third party organization; the information centre server is additionally arranged to synchronously track the electronic commitment payment certificates of the buyer and the seller, and the tracking of the commodity and the tracking of the funds are effectively combined, so that the rights and interests of the buyer and the seller can be effectively protected.

[0114] Example 6

[0115] As shown in Figure 6, an example of the present invention provides a payment method of the credit overdraft limit, and applied in the payment system of the same management server, which method comprises the steps of:

[0116] S201, the client sends the payment request information to the fund management server, the payment request information includes the payment amount, and the Funds-Management server receives the payment request information sent by the client.

[0117] 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 merchant 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.

[0118] 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 a hash of the original data with his own private key. The information recipient obtains the hash 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 hash 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.

[0119] S203, 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;

[0120] S204, 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;

[0121] S205, query if the funds balance of the client account is sufficient, if not enough,

terminate the payment, otherwise the implementation of step S207;

[0122] S207, freeze the funds or the credit overdraft balance or the credit loan balance corresponding to the payment amount within the client account;

[0123] S208, generate electronic commitment payment certificate;

[0124] S209, sending the electronic commitment payment certificate information to the merchant and the information centre server;

[0125] S210, the merchant sends the receiving and receiving information to the fund management server;

[0126] 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 fund management server.

[0127] S211, the Funds-Management server synchronizes the payment information to the information centre server.

[0128] 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.

[0129] S212, the frozen funds allocated to the account of the merchant end.

[0130] S213, end the process.

[0131] 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 loan limit, but also greatly enriches the loan business of the bank or other third party organization; 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.

[0132] Example 7

[0133] 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:

[0134] The receiving module 301 is configured to receive payment request information transmitted by the client, wherein the payment request information includes a payment amount.

[0135] Specifically, the payment request information received by the receiving module 301 includes merchant information, product information and payment amount, and may include client information (for an example, client 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.

[0136] 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.

[0137] As a preferred scheme, the judgement module 302 is specifically configured to determine whether the balance of the funds of the client account is greater than or equal to the payment amount, and if so, the payment is allowed; Whether the amount is greater than or equal to the payment amount, if yes, then allow payment; otherwise to further determine whether the client account credit limit is greater than the payment amount, if it is allowed to pay, or not allowed to pay. In this way, in order to determine the payment ability of the account, the payment method of the credit overdraft balance of the account is adopted in priority, you 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 to 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.

[0138] 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 end, and synchronize to the information centre server.

[0139] Preferably, the processing module 303 further includes a freezing unit 3031, a certificate

generation unit 3032, and a synchronization unit 3033, wherein:

[0140] The freezing unit 3031 is configured to freeze the credit overdraft limit corresponding to the payment amount in the client account when payment is allowed;

[0141] The certificate generation unit 3032 is configured to generate an electronic commitment payment certificate;

[0142] The synchronization unit 3033 is configured to transmit the electronic commitment payment certificate information to the merchant end.

[0143] 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 corresponded funds to the account of the merchant.

[0144] It is important to note that the technical features of the above-described Examples 2 and 3 are applicable in the present device and are not repeated here.

[0145] In addition, the present invention provides a Funds-Management server including a payment device in the Example 4, which is not repeated here.

[0146] The payment method provided by the example of the present invention receives the payment request information of the client through the Funds-Management server, the client account funds amount, the client account credit overdraft limit and the client account credit loan limit will be based to determine whether to allow payment, and the payment amount of the client account is frozen, and the electronic commitment payment voucher is generated and synchronized to the information centre server for real-time monitoring, so that the fund risk can be reduced, and the interests of the buyer and the seller are guaranteed. 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.

[0147] Example 8

[0148] As shown in Figure 8, a preferred example of the present invention provides a payment system based on the same funds server, which includes a client 10, a merchant 20, and a Funds-Management server 30, wherein:

[0149] The information centre server 50 is used to store and supervise the electronic commitment payment certificate information.

[0150] 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.

[0151] 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.

[0152] The Funds-Management server 30 includes a receiving module 301, a judgement module 302, and a processing module 303, wherein:

[0153] The receiving module 301 is configured to receive payment request information transmitted by the client;

[0154] 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;

[0155] As a preferred example, the judgement module 302 is configured to determine whether the credit overdraft 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.

[0156] 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 end, and synchronize to the information centre server.

[0157] 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.

[0158] 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.

[0159] A person of skill in the art considers the problems disclosed herein and sought to be solved by the present disclosure to be exclusively computer problems and contemplates only solutions to those problems that include essential computer elements. Abstract ideas, mere

schemes, plans, rules, or mental processes that do not include computer elements are expressly excluded from this application.

[0160] A person of skill in the art can understand and implement all or parts of steps in the above-mentioned 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.

[0161] The preferred embodiments of the present invention have been described with reference to the above accompanying drawings, which are not to limit the scope of the present invention. It will be apparent to those skilled in this field that various modifications, equivalents, and improvements may be made without departing from the scope and spirit of this invention.

Claims:

1. An information center computer server comprising:

a memory for storing an electronic commitment payment certificate; and

a computer processor, configured to:

receive the electronic commitment payment certificate transmitted by a funds-management computer server when the funds management computer server generates or updates the electronic commitment certificate, wherein the electronic commitment payment certificate is monitorable, in real-time, wherein the information center computer server synchronously tracks the electronic commitment payment certificates of clients and merchants, wherein tracking of goods / service and tracking of funds are combined, wherein funds of a client account is frozen, and the electronic commitment payment certificate is generated and synchronized to the information center computer server for real-time monitoring, wherein the goods / service delivery is completed, the frozen funds is transferred to a merchant's account after the funds-management server synchronizes electronic commitment payment certificate information to the information center computer server; and

store the electronic commitment payment certificate, whereby electronic commitment payment certificate information is obtainable by a client computer device and a merchant computer device, from the information center computer server, for subsequent processing, including whether dual-channel verification information is correct.
2. The server of claim 1, wherein the information center computer server is operatively connected to the funds-management computer server.
3. The server of any one of claims 1 to 2, wherein the funds-management computer server is a single physical server.

4. The server of any one of claims 1 to 2, wherein the funds-management computer server is a cluster server of a bank.
5. The server of any one of claims 1 to 2, wherein the funds-management computer server is a single physical server of a credit-capable organization.
6. The server of any one of claims 1 to 2, wherein the funds-management computer server is a cluster server of a credit-capable organization.

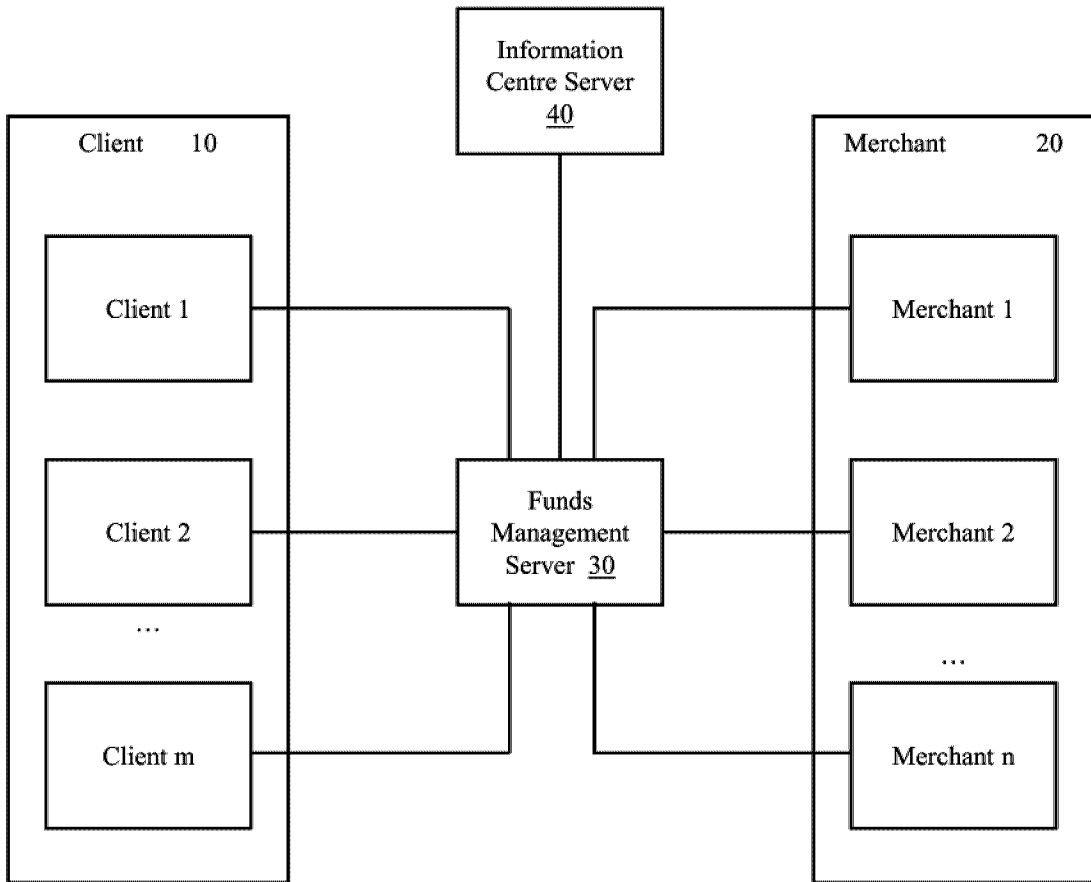


Figure 1

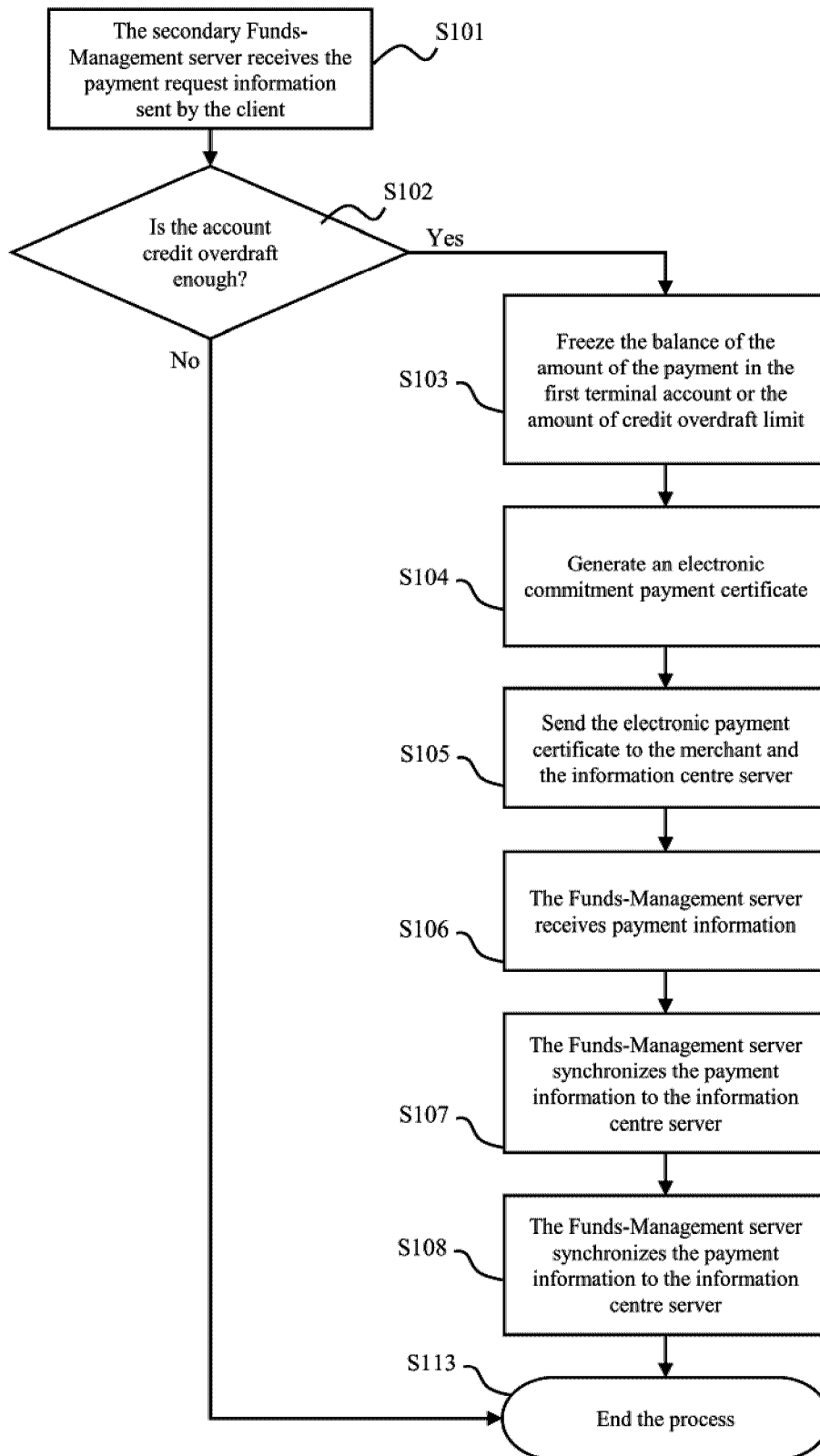


Figure 2

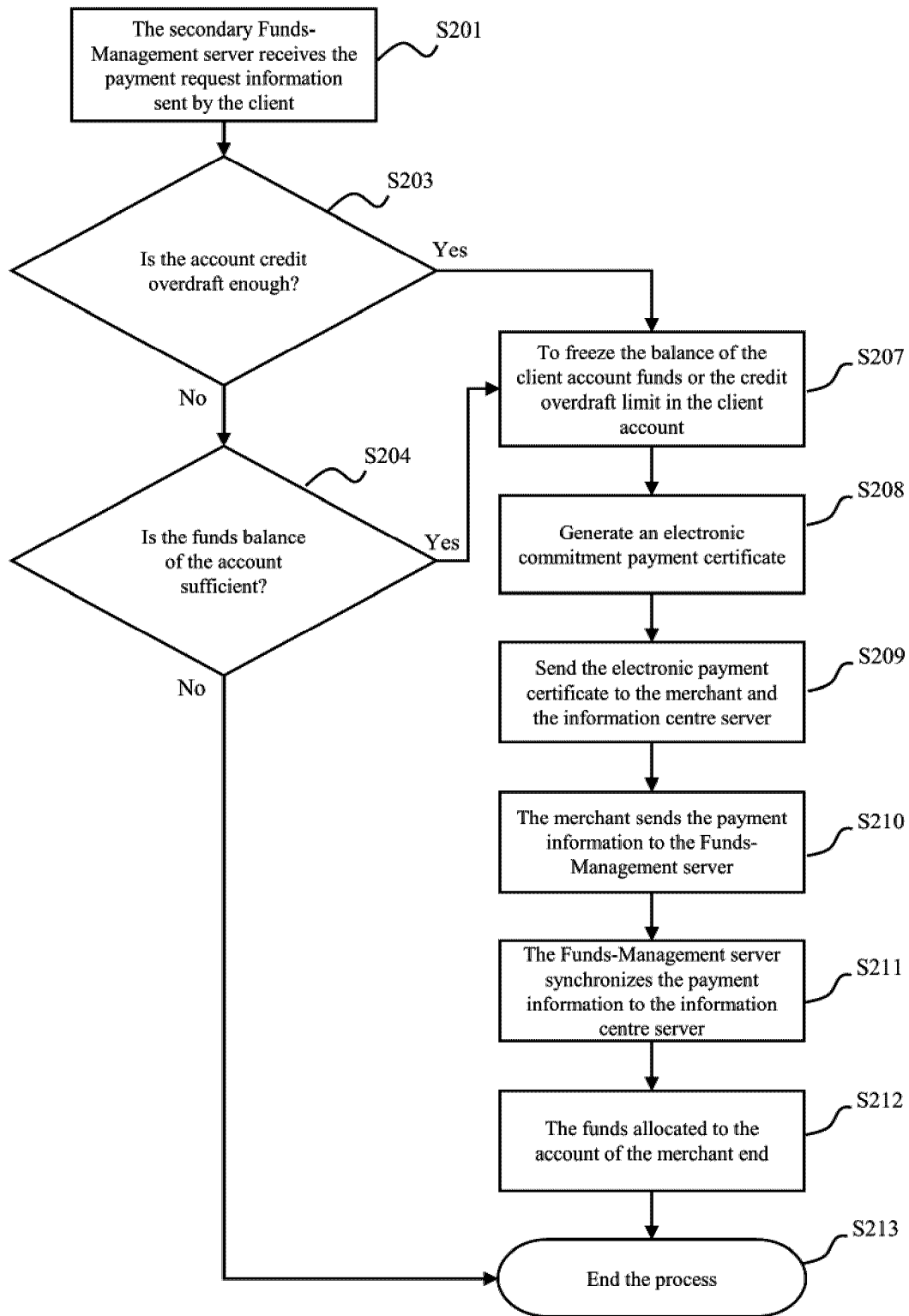


Figure 3

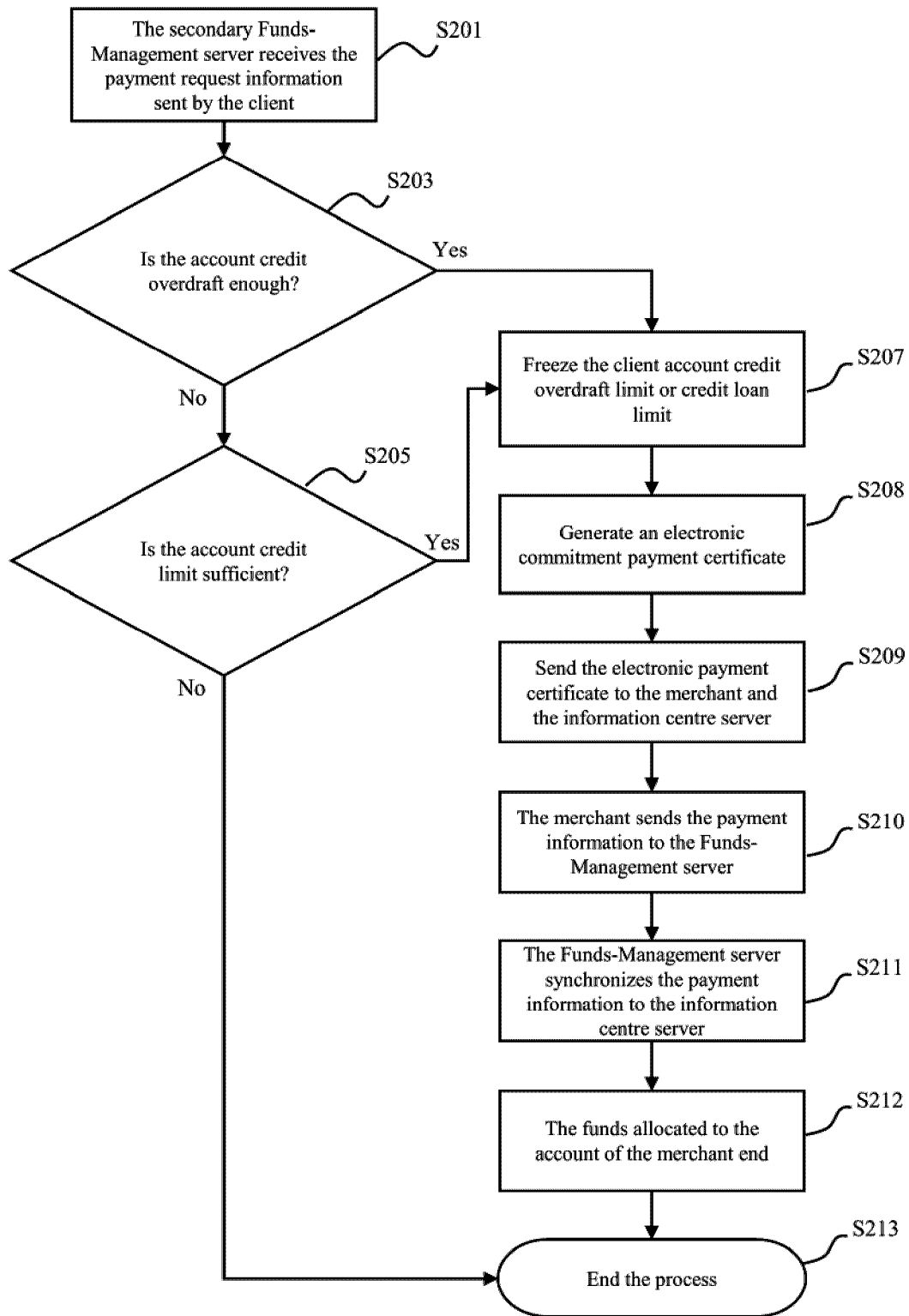


Figure 4

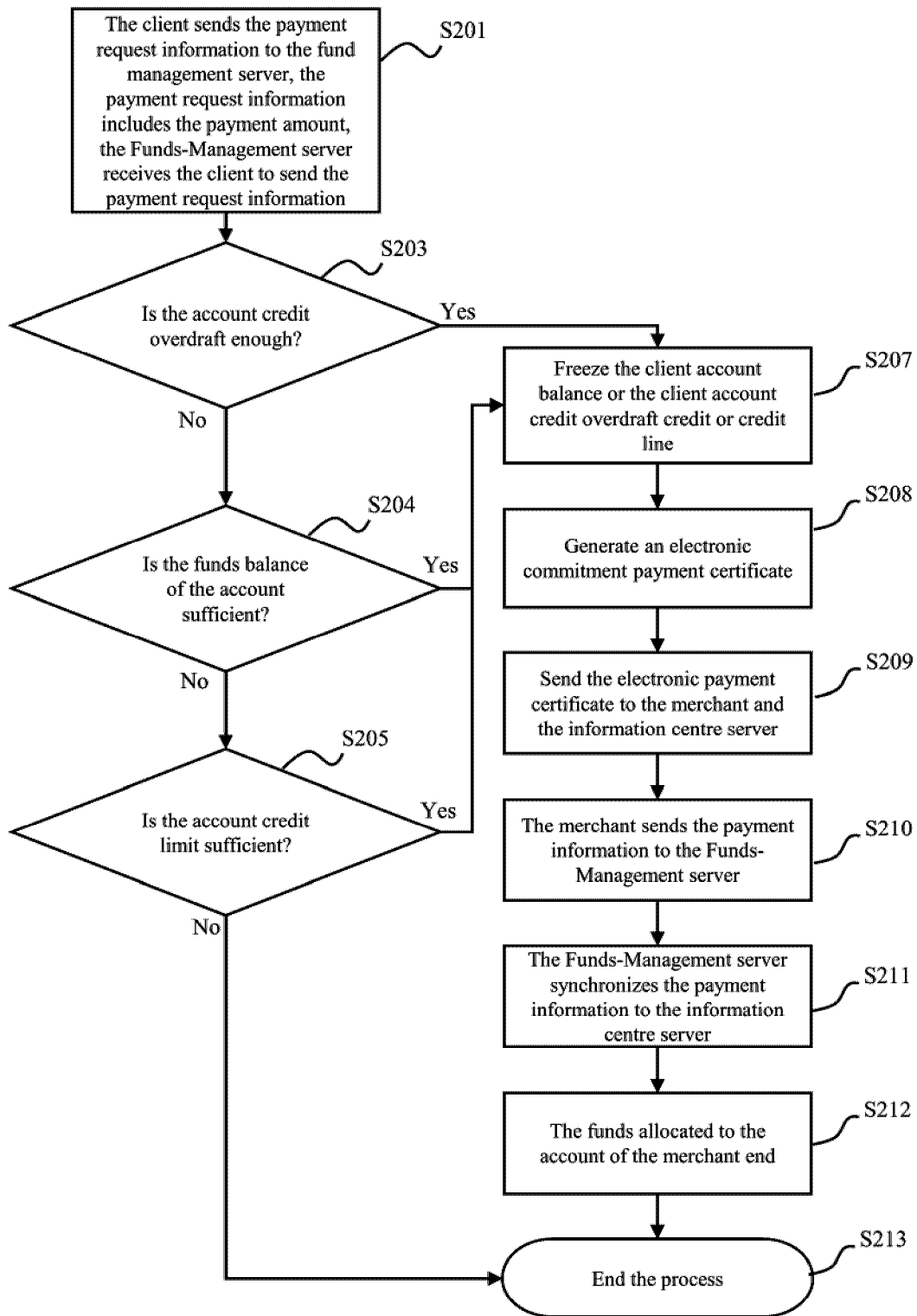


Figure 5

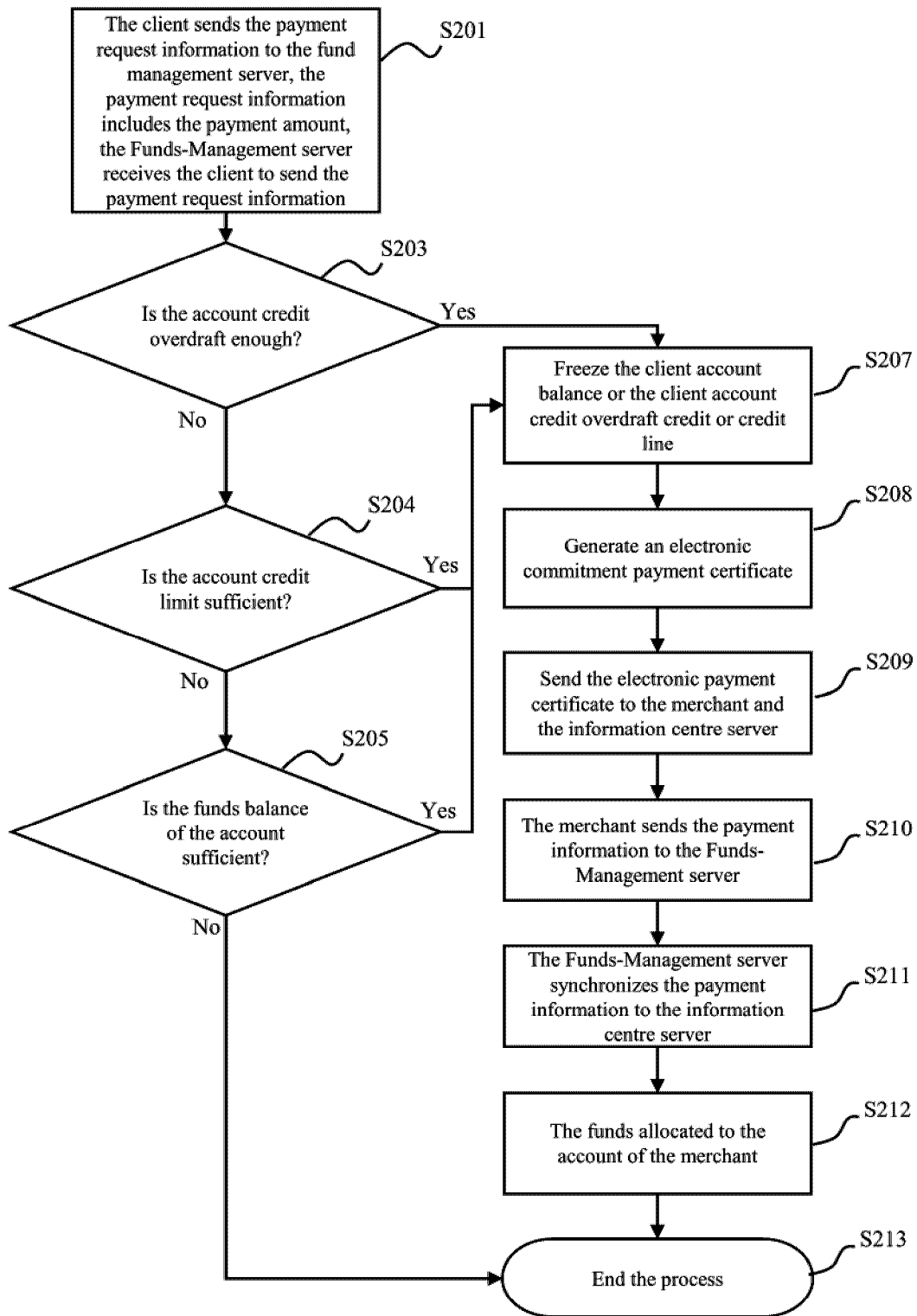


Figure 6

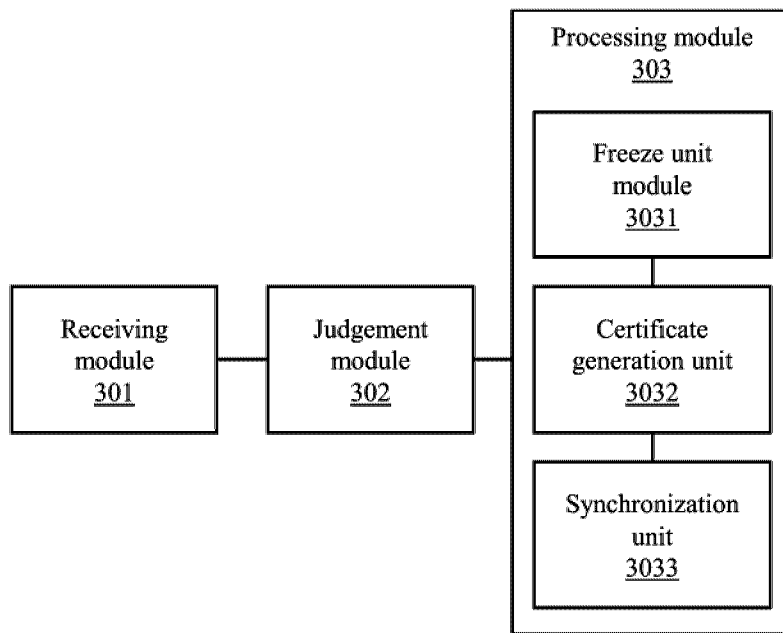


Figure 7

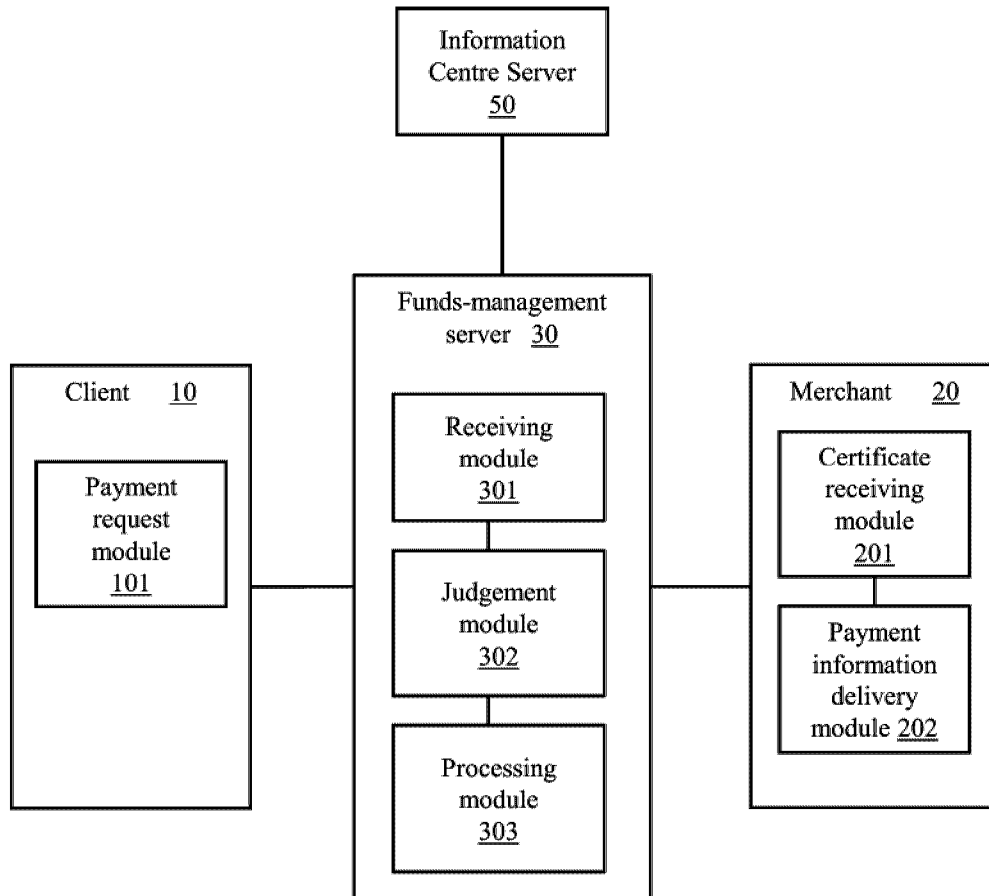


Figure 8

