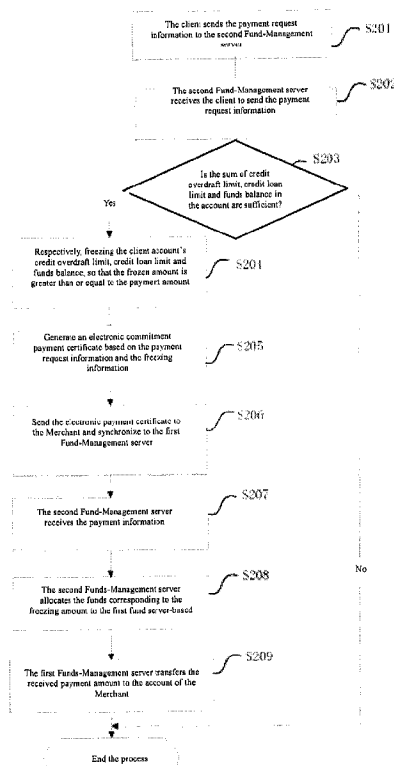




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(54) Titre : SYSTEME DE PAIEMENT INTER-SERVEUR DE GESTION DE FONDS AINSI QUE PROCEDE, DISPOSITIF ET SERVEUR
(54) Title: CROSS-FUNDS MANAGEMENT SERVER-BASED PAYMENT SYSTEM, AND METHOD, DEVICE AND SERVER



(57) Abrégé/Abstract:

A cross-funds management server-based payment system, and a method, device and server, belonging to the field of e-commerce. The method comprises: a second funds management server receives payment request information sent by a client end

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

(S202); the sum of a credit overdraft limit, a credit loan limit and a funds balance of the client end is compared with a payment amount (S203), and it is determined whether an electronic commitment payment certificate can be opened; if so determined, the second funds management server respectively freezes the credit overdraft limit, the credit loan limit and the funds balance within a client end account, the credit overdraft limit, the credit loan limit and the funds balance corresponding to the payment amount (S204); the electronic commitment payment certificate for the second funds management server to commit to pay funds according to an agreed condition is generated (S205), and the electronic commitment payment certificate is sent to a merchant end to perform a credit commitment payment on behalf of the client end, and synchronised to an information centre server. The method supervises both parties in a transaction, reduces financial risk, and ensures the interests of both parties in the transaction.

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(54) Title: CROSS-FUNDS MANAGEMENT SERVER-BASED PAYMENT SYSTEM, AND METHOD, DEVICE AND SERVER

(54) 发明名称: 基于跨资金管理服务器的支付系统及方法、装置、服务器

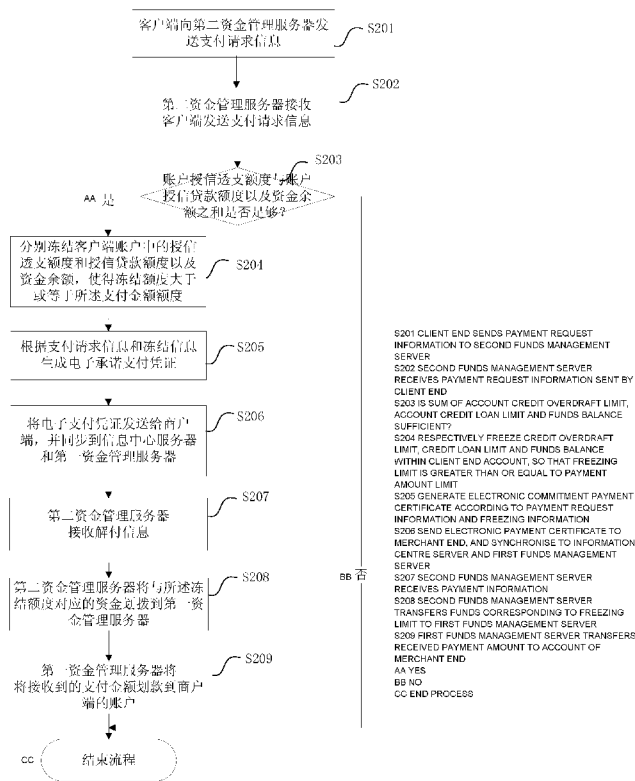


图 2

(57) Abstract: A cross-funds management server-based payment system, and a method, device and server, belonging to the field of e-commerce. The method comprises: a second funds management server receives payment request information sent by a client end (S202); the sum of a credit overdraft limit, a credit loan limit and a funds balance of the client end is compared with a payment amount (S203), and it is determined whether an electronic commitment payment certificate can be opened; if so determined, the second funds management server respectively freezes the credit overdraft limit, the credit loan limit and the funds balance within a client end account, the credit overdraft limit, the credit loan limit and the funds balance corresponding to the payment amount (S204); the electronic commitment payment certificate for the second funds management server to commit to pay funds according to an agreed condition is generated (S205), and the electronic commitment payment certificate is sent to a merchant end to perform a credit commitment payment on behalf of the client end, and synchronised to an information centre server. The method supervises both parties in a transaction, reduces financial risk, and ensures the interests of both parties in the transaction.

(57) 摘要:

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本国际公布:

— 包括国际检索报告(条约第 21 条(3))。

一种基于跨资金管理服务器的支付系统及方法、装置、服务器,属于电子商务领域。其中,该方法包括:第二资金管理服务器接收客户端发送的支付请求信息(S202);将客户端的授信透支额度和授信贷款额度以及资金余额之和与支付金额进行比较(S203),判断能否开出电子承诺支付凭证;若能,第二资金管理服务器分别冻结客户端账户内与支付金额对应的授信透支额度和授信贷款额度以及资金余额(S204);生成第二资金管理服务器承诺按约定条件解付资金的电子承诺支付凭证(S205),将该电子承诺支付凭证发送给商户端替所述客户端进行信用承诺支付,并同步到信息中心服务器。该方法将交易双方予以监管能降低资金风险,保障交易双方的利益。

CROSS-FUNDS MANAGEMENT SERVER-BASED PAYMENT SYSTEM, AND METHOD, DEVICE AND SERVER

[Technical Field]

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

[Background Technology]

[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. Thus, the need for new payment systems, methods, devices and servers at this stage to reduce the risk of user funds and to protect the interests of buyers and sellers.

[Summary of the invention]

[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 a cross 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 a cross Funds-Management server including at least one first terminal, at least one client terminal, a second Funds-Management server connected to the

information centre and client, and a first Funds-Management server connected to the merchant, the first Funds-Management server and the second Funds-Management server are connected with the information centre server respectively, wherein:

[0007] The said client for sending payment request information including at least the payment amount to the said second Funds-Management server;

[0008] The said Merchant for receiving the electronic commitment payment certificate sent by the second Fund-Management server;

[0009] The second Funds-Management server is used for receiving payment request information delivered by the client; comparing the sum of the credit overdraft limit, credit loan limit and the funds balance with the payment amount to determine whether an electronic commitment payment certificate can be created; if possible, the second Funds-Management server respectively freeze the credit overdraft limit, credit loan limit and the funds balance within the client account, making the freezing funds exceeds or equals to the payment amount; generating the electronic commitment payment certificate of the second Funds-Management server to commit to pay funds according to the agreed condition, and sending the electronic commitment payment certificate to the merchant to make a credit commitment payment on behalf of the client and synchronize the electronic commitment payment certificate information to the information centre server.

[0010] The first Funds-Management server is configured to store the electronic payment document information transmitted by the second Funds-Management server and allocate the received payment amount to the Merchant and account based on the electronic payment document information;

[0011] The information centre server for storing and supervising the electronic commitment payment certificate information.

[0012] According to another aspect of the present invention, there is a payment method based on a cross Funds-Management server, the method comprises the steps of:

[0013] The second Funds-Management server receives the payment request information sent by the client, wherein the payment request information includes at least the payment amount;

[0014] Comparing the sum of credit overdraft limit, credit loan limit and funds balance to determine whether an electronic commitment payment certificate can be generated to make a credit commitment payment;

[0015] If possible, the second Funds-Management server will freeze the credit overdraft limit, credit loan limit and funds balance within the client account, making the freezing funds exceeds or equals to the payment amount; generating the electronic commitment payment certificate of the second Funds-Management server to commit to pay funds according to the agreed condition, and delivering the electronic commitment payment certificate to the merchant which is connected to the first Funds-Management server to make a credit commitment payment on behalf of the client, and

synchronize the electronic commitment payment certificate to the information centre server.

[0016] A payment device based on the cross Funds-Management server, the said device comprising a receiving module, a judging module and a processing module, wherein.

[0017] The receiving module is configured to receive payment request information transmitted by the client connected with the second Funds-Management server, wherein the payment request information includes a payment amount;

[0018] The judgement module is configured to compare the credit overdraft balance, credit loan limit and funds balance and the payment amount in the client amount, determining whether the electronic commitment payment certificate is generated;

[0019] When the processing module is configured to freeze the credit overdraft limit, credit loan limit and funds balance in the client account when the payment is allowed so that the total amount of the freezing is greater than or equal to the payment amount; generating an electronic commitment payment certificate, and deliver it to the merchant connected to the first Funds-Management server, and synchronize the electronic commitment payment certificate to the information centre server.

[0020] The present invention provides a payment system based on different Funds-Management 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 client account credit overdraft limit, credit loan limit and funds balance, 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]

[0021] Figure 1 is a schematic diagram of the payment system based on a cross Funds-Management server that provided by the first example of the present invention;

[0022] Figure 2 is a flow chart of the payment method based on the cross Funds-Management server provided by example 2 of the present invention;

[0023] Figure 3 is a block diagram of a payment device based on a cross Funds-Management server provided by the example 3 of the present invention;

[0024] Figure 4 is a block diagram of a payment system based on a cross Funds-Management server provided by the example 4 of the present invention.

[Description of the Preferred Examples]

[0025] 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.

[0026] Example 1

[0027] As shown in Figure 1, it provides a cross Funds-Management server payment system includes at least one client 10, at least one merchant 20, information centre 50 and interconnected first Funds-Management server 30 and a second Funds-Management server 40, wherein:

[0028] The client 10 is connected with server 40 of the second Funds-Management server for transmitting the payment request information to the second Funds-Management server 40, and the payment request information includes the payment amount.

[0029] 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 Funds-Management service and (or) the information centre server, the account information of the client 10 includes customer 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 the information that the customer has written and confirmed shipping address information 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 second Funds-Management server 40. The payment request information includes at least the payment amount, and may include the Merchant information and the product information. Among them, the Merchant information can be directly the Merchant's receiving account, it can also uniquely identify the Merchant information (for an example, Merchant ID), by the second Fund-Management server 40 on the unique identification of the merchant from the database to find the corresponding bank account information. 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 second Fund-Management server 40 inquires the Merchant's receiving account by using the corresponding relationship between the Merchant ID and its receiving account number. In other

words, the client 10 only needs to inform the second Funds-Management server 40 to which Merchant and which goods to pay the amount of funds, the second Fund-Management server 40 will be able to call out the Merchant account to implement the appropriate payment operation.

[0030] The Merchant 20 is connected to the first Fund-Management server 30 for receiving the electronic commitment payment certificate transmitted by the second Fund-Management server 40.

[0031] Specifically, the Merchant 20 is adapted to the recipient (Merchant), and the Merchant includes but not limited to devices such as servers, and POS machines and so on. Merchants include but not limited to manufacturers, agents, logistics companies, etc. The merchant information is also registered in the database of the Fund-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. The Merchant 20 receives the electronic commitment payment voucher transmitted from the second Funds-Management server 40, and extracts the merchandise information and the goods receipt information in the electronic commitment payment voucher information to designate the merchandise transmission destination.

[0032] The funds management server 40 is used for receiving payment request information delivered by a client 10; comparing the sum of credit overdraft limit, credit loan limit and a funds balance in the client 10 with a payment amount to determine whether an electronic commitment payment certificate can be created; if possible, freezing the payment amount corresponding to the credit overdraft limit and credit loan limit and funds balance within a client account; generating the electronic commitment payment certificate by the second Funds-Management server 40 to make a commitment to pay funds according to an agreed condition, and delivering the electronic commitment payment certificate to a merchant 20 and synchronize to the information centre server 50.

[0033] Specifically, the second Funds-Management server 40 receives the packet of the payment request information and analyses it according to the reset rule to obtain the relevant payment information including but not limited to the Merchant information, the merchandise information, and the payment amount And other necessary information, that is, to which Merchant which goods to pay the amount of money. The second Funds-Management server 40 inquires whether the balance of the bank funds and the credit overdraft amount of the client account is sufficient for the current settlement, and if it is insufficient, the payment is terminated and, if sufficient, the balance of the payment amount and the amount of credit overdraft, So that the total amount of the freeze is greater than or equal to the amount of the payment, until the merchant confirms the delivery or the customer confirms the receipt after the transfer operation.

[0034] It is understandable that the frozen payment amount corresponding to the credit overdraft

limit, credit loan limit and funds balance included the following cases:

[0035] 1. Only the balance of the funds in the client account is frozen so that the total amount of the frozen is greater than or equal to the payment amount.

[0036] 2. Only the credit loan limit is frozen so that the total amount of the greater than or equal to the payment amount.

[0037] 3. Only to freeze the amount of credit overdraft limit, so that the total amount of frozen are greater than or equal to the amount of the payment.

[0038] 4. Respectively, to freeze the balance of funds and credit overdraft limit of the client's account, making the total amount of frozen greater than or equal to the amount of the payment.

[0039] 5. Respectively, to freeze part of the balance of funds and credit loan limit of the client's account, making the total amount of frozen greater than or equal to the amount of the payment.

[0040] 6. Respectively, to freeze part of the credit loan limit and credit overdraft limit of the client's account, making the total amount of frozen greater than or equal to the amount of the payment.

[0041] 7. Respectively, to freeze part of the credit loan limit and credit overdraft limit of the client's account, as well as the funds balance, making the total amount of frozen greater than or equal to the amount of the payment.

[0042] The information centre server 50 is respectively connected to the Funds-Management server 30 and second Funds-Management server 40 for storing and supervising the electronic commitment payment certificate information of the client 10 and the merchant 20.

[0043] Specifically, both the client 10 and the merchant 20 can obtain the electronic commitment payment certificate information to the information centre server 50 via the Internet for subsequent processing, such as the correctness of the dual channel authentication information using the data. The second Funds-Management server 40 may further determine whether or not the payment operation is made in accordance with the state of the electronic commitment payment certificate information, that is, the payment request only freezes the balance of the credit overdraft limit, credit loan limit and funds balance, transferring and deducting the credit loan limit after confirming receipt.

[0044] In the present example, the second Funds-Management server 40 may be connected to the plurality of clients 10 and via the Internet at the same time. The first funds-management server 30 may be connected to a plurality of Merchant terminals 20 and via the Internet at the same time. That is, the server where the Merchant 20 is located is not on the same server as the server where the client 10 is located. The second Fund-Management server 40 and the first Fund-Management server 30 can be a single server in the physical sense, or it can work in parallel for multiple servers in the physical sense, such as multiple physical servers. According to the different traffic, the resources of

the server are automatically allocated to realize the Fund-Management. The second Fund-Management server 40 and the first Fund-Management server 30 includes but is not limited to servers in institutions such as banks, businesses, and so on. In the practical applications, it can be understood as the same bank's cluster Fund-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.

[0045] Example 2

[0046] As shown in Figure 2, an example of the present invention provides a payment method based on a cross Funds-Management server for use in a fund server-based, which method comprises the following steps:

[0047] S201, the client transmits the payment request information to the second Funds-Management server, and the payment request information includes the payment amount.

[0048] Specifically, the payment request information received by the second Fund-Management server includes Merchant information, product information and payment amount, and it may also include the client information (for an example, client ID). Among them, the merchant information can be merchants' account number, and it can also be the only identification of the merchant information (such as merchant ID), to find the corresponding bank account information based on the unique identification of the business from the database by the second Funds-Management server. 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 second Funds-Management server inquires the Merchant's receiving account by using the corresponding relationship between the Merchant ID and its receiving account number. In other words, the client only needs to inform the second Fund-Management server to which Merchant and which goods to pay the amount of funds, the second Fund-Management server will be able to call out the Merchant account to implement the appropriate payment operation.

[0049] S202, the second Fund-Management server receives the client to send the payment request information;

[0050] S203, inquiring the sum of the credit overdraft limit, credit loan limit and funds balance, and comparing the sum of the credit overdraft limit, credit loan limit and funds balance with the payment amount, if the sum is greater than or equal to the amount, it indicates sufficient; if the sum is less than the amount, it indicates insufficient. When credit overdraft limit, credit loan limit and funds balance is sufficient, the step S204 will be executed, otherwise not to pay;

[0051] S204 and the second Funds-Management server respectively freeze the credit overdraft limit, credit loan limit and funds balance corresponding to the payment amount in the client

account; it is understandable that the freezing the amount of the credit overdraft limit, credit loan limit and funds balance corresponding to the payment amount of funds balance including the following circumstances:

[0052] 1. Only the balance of the funds in the client account is frozen so that the total amount of the frozen is greater than or equal to the payment amount.

[0053] 2. Only the credit loan limit is frozen so that the total amount of the greater than or equal to the payment amount.

[0054] 3. Only to freeze the amount of credit overdraft limit, so that the total amount of frozen are greater than or equal to the amount of the payment.

[0055] 4. Respectively, to freeze the balance of funds and credit overdraft limit of the client's account, making the total amount of frozen greater than or equal to the amount of the payment.

[0056] 5. Respectively, to freeze part of the balance of funds and credit loan limit of the client's account, making the total amount of frozen greater than or equal to the amount of the payment.

[0057] 6. Respectively, to freeze part of the credit loan limit and credit overdraft limit of the client's account, making the total amount of frozen greater than or equal to the amount of the payment.

[0058] 7. Respectively, to freeze part of the credit loan limit and credit overdraft limit of the client's account, as well as the funds balance, making the total amount of frozen greater than or equal to the amount of the payment.

[0059] S205, the second Funds-Management server generates the electronic commitment payment certificate based on the payment request information and the freezing information and transmits the electronic commitment payment certificate to the Merchant;

[0060] Specifically, since the payment request information is sent by the buyer to the second Fund-Management server through the client's operation, the payment information is objectively confirmed by the customer and authorized by the bank. The second Fund-Management server freezes the corresponding funds 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.

[0061] S206, the second Funds-Management server delivers the electronic payment certificate to the merchant and synchronizes to the first Funds-Management server; Specifically, this step sends the generated electronic certificate information to the information centre server so that the information centre server performs subsequent tracking.

[0062] S207, the second Funds-Management server receives the payment information;

[0063] S208, the second Fund-Management server allocates the funds corresponding to the freezing amount to the first Fund-Management server;

[0064] S209, the first Fund-Management server transfers the received payment amount to the account of the Merchant.

[0065] The payment method based on the payment method provided by the example in the present invention receives the payment request information of the client through the second Funds-Management server, based on the sum of credit overdraft limit, credit loan limit and funds balance of the buyer to determine whether to pay or not, and by freezing the credit overdraft limit, credit loan limit and funds balance in the client account and generating electronic commitment payment certificate and synchronize to the information centre for conducting real-time monitoring, which can reduce the risk of funds to protect the interests of the buyers and the sellers.

[0066] Example 3

[0067] As shown in Figure 3, 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:

[0068] The receiving module 301 is configured to receive payment request information delivered by the second Funds-Management server, wherein the payment request information includes a payment amount.

[0069] Specifically, the payment request information received by the receiving module 301 includes merchant information, product information and payment amount, and may include merchant 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.

[0070] The judgement module 302 is configured to determine whether or not to allow payment based on the credit overdraft balance, credit loan limit and funds balance and the payment amount.

[0071] As a preferred scheme, the judgement module 302 is specifically configured to inquiry the client's credit overdraft limit, credit loan limit and funds balance; and determined whether the credit overdraft limit, credit loan limit and funds balance of the client account are greater than or equal to the payment amount, if possible, it is allowed to pay. In this way, in order to determine the sum of credit overdraft limit, credit loan limit and funds balance of the payment capacity, using the payment method of credit overdraft limit, credit loan limit and funds balance in advance, it can save the payment cycle to protect the interests of merchant. And the bank account or the credit card account may be notified by the client to the device in the payment request information, or the device may inquire from the database based on the client information and obtain the funds corresponding to the credit overdraft limit, credit loan limit and funds balance of the account. Only credit overdraft

limit, credit loan limit and funds balance in the client are more than or equal the payment amount, it shows that the client has the ability to pay, and then the payment behaviour is allowed.

[0072] The processing module 303 configured to freeze the credit overdraft limit, credit loan limit and funds balance in the client account when the payment is allowed so that the total amount of the freezing is greater than or equal to the payment amount; generating an electronic commitment payment certificate, and deliver it to the merchant connected to the second Funds-Management server, and synchronize the electronic commitment payment certificate to the information centre server.

[0073] Preferably, the processing module 303 further includes a freeze unit 3031, a certificate generation unit 3032, and a synchronization unit 3033, wherein:

[0074] The freezing unit 3031 is configured to freeze the credit overdraft limit and the credit loan limit in the client account when the payment is allowed so that the total amount of the freezing are greater than or equal to the payment amount;

[0075] The credential generation unit 3032 is configured to generate an electronic commitment payment certificate;

[0076] The synchronization unit 3033 is configured to transmit the electronic commitment payment certificate information to the merchant.

[0077] 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 frozen funds to the merchant account in the Funds-Management server.

[0078] It is to be noted that the technical features of the above-described method examples 2 is applicable in the present apparatus and are not repeated here.

[0079] In addition, the present invention provides a Funds-Management server including a payment device in the Example 3, which is not repeated here.

[0080] The payment device and server based on the payment method provided by the example in the present invention receives the payment request information of the client, based on the credit overdraft limit, credit loan limit and funds balance of the buyer to determine whether to pay or not, and by freezing the credit overdraft limit, credit loan limit and funds balance in the client account so that the total frozen amount is greater than or equal to the payment amount, and generating electronic commitment payment certificate and synchronize to the information centre 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, not only to facilitate the buyer, but also greatly enrich the bank or other institutions with credit ability to pay the business.

[0081] Example 4

[0082] As shown in Figure 4, a preferred example of the present invention provides a payment

system based on a cross Funds-Management server, which includes client 10, merchant 20, and interconnected second Funds-Management server 40 with client 10, and a first Funds-Management server 30 that connects with the Merchant 20, wherein:

[0083] The information centre server 50 is used to store and supervise the electronic commitment payment certificate information.

[0084] The client 10 includes a payment request module 101 configured to send payment request information to the second Funds-Management server 40, and the payment request information includes Merchant information, product information, and payment amount.

[0085] The merchant 20 includes a certificate receiving module 201 and a certificate updating module 202, wherein the certificate receiving module 201 is configured to receive the electronic commitment payment certificate sent by the fund managing server 40.

[0086] The Funds-Management server 40 includes a receiving module 301, a judgement module 302, and a processing module 303, wherein:

[0087] The receiving module 301 is configured to receive payment request information transmitted by the client;

[0088] The judgement module 302 is configured to compare the credit overdraft balance, credit loan limit and funds balance and the payment amount in the client amount, determining whether the electronic commitment payment certificate is generated;

[0089] As a preferred example, the judgement module 302 is configured to determine whether the credit overdraft limit, credit loan limit and funds balance of the client account are greater than or equal to the payment amount, if yes, it is allowed to pay, otherwise terminate the payment process.

[0090] The processing module 303 is configured to freeze the 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.

[0091] As a preferred example, the receiving module 301 of the second Funds-Management server 40 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.

[0092] Specifically, since the payment request information is sent by the buyer to the second Funds-Management server 40 through the client 10, the payment information is objectively obtained by the client 10 confirming and authorizing the bank to pay. The second Funds-Management server 40 respectively freezes the corresponding credit overdraft limit, credit loan limit and funds balance, and generates an electronic commitment payment certificate based on the payment information. The electronic commitment payment certificate information includes but not

limited to product information, payment amount (frozen funds or credit overdraft limit or credit loan limit), delivery address and validity period, the form is not limited to text, pictures, graphics and so on. The electronic commitment payment certificate is the certificate of the receiving fund of the Merchant 20, and the Merchant 20 provides the corresponding merchandise/service based on the electronic commitment payment certificate.

[0093] 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.

[0094] 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. An electronic payment system based on a cross-funds server, for protecting both a merchant and a client in e-commerce transactions, the system comprising:

at least one client device;

at least one merchant device;

an information center server;

a first funds-management server; and

a second funds-management server;

wherein the at least one client device and the second funds-management server are operatively connected;

wherein the at least one merchant device and the first funds-management server, are operatively connected;

wherein the information center server is operatively connected to the first funds-management server and the second funds-management server;

wherein the information center server is configured to:

receive an electronic commitment payment certificate transmitted by the second funds-management server; and

store and supervise the electronic commitment payment certificate for real-time monitoring by the client and merchant;

wherein the at least one client device is configured to:

send electronic payment request information including at least a payment amount to the second funds-management server;

wherein the at least one merchant device is configured to:

receive the electronic commitment payment certificate sent by the second funds-management server;

wherein the second funds-management server is configured to:

receive the electronic payment request information sent by the at least one client device;

compare the sum of a credit overdraft limit, a credit loan limit and a client funds balance in a client account, with the payment amount, to determine whether the electronic commitment payment certificate can be created; and

wherein if the electronic commitment payment certificate can be created, the second funds-management server is further configured to:

freeze a freeze amount, wherein the freeze amount is greater than or equal to the payment amount;

generate the electronic commitment payment certificate to commit to pay the freeze amount according to an agreed condition; and

send the electronic commitment payment certificate to the at least one merchant device, and the information center server, to make a credit commitment payment on behalf of the at least one client device;

wherein the first funds-management server is configured to:

store the electronic commitment payment certificate transmitted by the second funds-management server; and

allocate a received payment amount to the at least one merchant device based on the electronic commitment payment certificate.

2. The system of claim 1, wherein the freeze amount is taken from the client funds balance.
3. The system of claim 1, wherein the freeze amount is taken from the credit overdraft limit.
4. The system of claim 1, wherein the freeze amount is taken from the credit loan limit.
5. The system of claim 1, wherein the freeze amount is taken from the client funds balance and the credit overdraft limit.

6. The system of claim 1, wherein the freeze amount is taken from the client funds balance and the credit loan limit.
7. The system of claim 1, wherein the freeze amount is taken from the credit loan limit and the credit overdraft limit.
8. The system of claim 1, wherein the freeze amount is taken from the client funds balance, the credit loan limit and the credit overdraft limit.
9. The system of any one of claims 1 to 8, wherein the first funds-management server is a single physical server.
10. The system of any one of claims 1 to 8, wherein the first funds-management server is a server cluster of a bank.
11. The system of any one of claims 1 to 9, wherein the first funds-management server is a single physical server of a credit-providing organization.
12. The system of any one of claims 1 to 9, wherein the first funds-management server is a server cluster of a credit-providing organization.
13. The system of any one of claims 1 to 12, wherein the second funds-management server is a single physical server.
14. The system of any one of claims 1 to 12, wherein the second funds-management server is a server cluster of a bank.
15. The system of any one of claims 1 to 12, wherein the second funds-management server is a single physical server of a credit-providing organization.
16. The system of any one of claims 1 to 12, wherein the second funds-management server is a server cluster of a credit-providing organization.

17. The system of any one of claims 1 to 16, wherein the at least one client device is a mobile phone.
18. The system of any one of claims 1 to 16, wherein the at least one client device is a personal computer.
19. The system of any one of claims 1 to 16, wherein the at least one client device is a tablet computer.
20. The system of any one of claims 1 to 19, wherein the at least one merchant device is a Point-of-Sale System (POS) machine.
21. The system of any one of claims 1 to 19, wherein the at least one merchant device is a server.
22. The system of any one of claims 1 to 21, wherein the client account is a purchasing account.
23. The system of claim 22, wherein the purchasing account is a bank account.
24. A funds-management server, for protecting both a merchant and a client in e-commerce transactions, the server comprising:

a computer-readable memory for storing processor-executable instructions; and

a computer processor, communicatively coupled to the memory, wherein upon execution of the processor-executable instructions, the processor is configured to:

receive electronic payment request information sent by at least one client device;
compare the sum of a credit overdraft limit, a credit loan limit and a client funds balance in a client account, with a payment amount, to determine whether an electronic commitment payment certificate can be created;

wherein if the electronic commitment payment certificate can be created, a second funds-management server is further configured to:

freeze a freeze amount, wherein the freeze amount is greater than or equal to the payment amount;

generate the electronic commitment payment certificate to commit to pay the freeze amount according to an agreed condition; and

send the electronic commitment payment certificate to at least one merchant device, and an information center server, to make a credit commitment payment on behalf of the at least one client device;

wherein the information center server stores and supervises the electronic commitment payment certificate for real-time monitoring by the client and merchant.

25. The funds-management server of claim 24, wherein the funds-management server is a single physical server.
26. The funds-management server of claim 24, wherein the funds-management server is a server cluster of a bank.
27. The funds-management server of claim 24, wherein the funds-management server is a single physical server of a credit-providing organization.
28. The funds-management server of claim 24, wherein the funds-management server is a server cluster of a credit-providing organization.

29. The funds-management server of any one of claims 24 to 28, wherein the processor is configured to receive electronic payment request information sent by the at least one client device, wherein the at least one client device is a mobile phone.
30. The funds-management server of any one of claims 24 to 28, wherein the processor is configured to receive electronic payment request information sent by the at least one client device, wherein the at least one client device is a personal computer.
31. The funds-management server of any one of claims 24 to 30, wherein the client account is a purchasing account.
32. The funds-management server of claims 31, wherein the purchasing account is a bank account.
33. An electronic payment method based on a cross-funds server, for protecting both a merchant and a client in e-commerce transactions, the method comprising:

receiving electronic payment request information transmitted by at least one client device, wherein the electronic payment request information includes at least a payment amount;

comparing the sum of a credit overdraft limit, a credit loan limit and a client funds balance in a client account, with the payment amount, to determine whether an electronic commitment payment certificate can be created;

freezing a freeze amount, wherein the freeze amount is greater than or equal to the payment amount;

generating the electronic commitment payment certificate for a second funds-management server to commit to pay the freeze amount according to an agreed condition; and

sending the electronic commitment payment certificate to at least one merchant device, and an information center server, to make a credit commitment payment on behalf of the at least one client device,

wherein the information center server stores and supervises the electronic commitment payment certificate for real-time monitoring by the client and merchant.

34. The method of claim 33, further comprising transmitting the electronic payment request information to the second funds-management server.
35. The method of claim 34, wherein the electronic payment request information includes customer information.
36. The method of any one of claims 34 to 35, wherein the electronic payment request information includes merchant information.
37. The method of any one of claims 34 to 36, wherein the electronic payment request information includes product information.
38. The method of any one of claims 33 to 37 further comprising:

receiving the electronic payment request information;

synchronizing the electronic payment request information to the at least one client device or the at least one merchant device; and

allocating the freeze amount to the at least one merchant device associated with a first funds-management server.

39. The method of any one of claims 33 to 38, wherein the freeze amount is taken from the client funds balance.
40. The method of any one of claims 33 to 38, wherein the freeze amount is taken from the credit overdraft limit.
41. The method of any one of claims 33 to 38, wherein the freeze amount is taken from the credit loan limit.
42. The method of any one of claims 33 to 38, wherein the freeze amount is taken from the client funds balance and the credit overdraft limit.
43. The method of any one of claims 33 to 38, wherein the freeze amount is taken from the client funds balance and the credit loan limit.
44. The method of any one of claims 33 to 38, wherein the freeze amount is taken from the credit loan limit and the credit overdraft limit.
45. The method of any one of claims 33 to 38, wherein the freeze amount is taken from the client funds balance, the credit loan limit and the credit overdraft limit.
46. The method of any one of claims 33 to 45, wherein the first funds-management server is a single physical server.
47. The method of any one of claims 33 to 45, wherein the first funds-management server is a server cluster of a bank.
48. The method of any one of claims 33 to 45, wherein the first funds-management server is a single physical server of a credit-providing organization.
49. The method of any one of claims 33 to 45, wherein the first funds-management server is a server cluster of a credit-providing organization.

50. The method of any one of claims 33 to 49, wherein the second funds-management server is a single physical server.
51. The method of any one of claims 33 to 49, wherein the second funds-management server is a server cluster of a bank.
52. The method of any one of claims 33 to 49, wherein the second funds-management server is a single physical server of a credit-providing organization.
53. The method of any one of claims 33 to 49, wherein the second funds-management server is a server cluster of a credit-providing organization.
54. The method of any one of claims 33 to 53, wherein the at least one client device is a mobile phone.
55. The method of any one of claims 33 to 53, wherein the at least one client device is a personal computer.
56. The method of any one of claims 33 to 55, wherein the at least one merchant device is a Point-of-Sale System (POS) machine.
57. The method of any one of claims 33 to 55, wherein at least one the merchant device is a server.
58. The method of any one of claims 33 to 57, wherein the client account is a purchasing account.
59. The method of claims 58, wherein the purchasing account is a bank account.
60. An electronic payment device based on a cross-funds server, for protecting both a merchant and a client in e-commerce transactions, the device comprising:

a receiving module configured to receive electronic payment request information sent by at least one client device, wherein the electronic payment request information includes a payment amount;

a judging module configured to compare the sum of a credit overdraft limit, a credit loan limit and a client funds balance in a client account, with the payment amount, to determine whether an electronic commitment payment certificate can be issued; and

a processing module configured to;

freeze a freeze amount when the payment is allowed;

generate an electronic commitment payment certificate; and

transmit the electronic commitment payment certificate to at least one merchant device, and an information center server, if the freeze amount is greater than or equal to the payment amount

wherein the information center server stores and supervises the electronic commitment payment certificate for real-time monitoring by the client and merchant.

61. The payment device of claim 60, wherein the processing module further comprises:

a freezing unit configured to freeze any combination of the credit overdraft limit, the credit loan limit and the client funds balance to make the freeze amount greater than or equal to the payment amount when the payment is allowed;

a certificate generation unit configured to generate the electronic commitment payment certificate; and

a synchronization unit configured to transmit the electronic commitment payment certificate information to the at least one merchant device and the information center server.

62. The payment device of any one of claims 60 to 61, wherein the freeze amount is taken from the client funds balance.
63. The payment device of any one of claims 60 to 61, wherein the freeze amount is taken from the credit overdraft limit.
64. The payment device of any one of claims 60 to 61, wherein the freeze amount is taken from the credit loan limit.
65. The payment device of any one of claims 60 to 61, wherein the freeze amount is taken from the client funds balance and the credit overdraft limit.
66. The payment device of any one of claims 60 to 61, wherein the freeze amount is taken from the client funds balance and the credit loan limit.
67. The payment device of any one of claims 60 to 61, wherein the freeze amount is taken from the credit loan limit and the credit overdraft limit.
68. The payment device of any one of claims 60 to 61, wherein the freeze amount is taken from the client funds balance, the credit loan limit and the credit overdraft limit.
69. The payment device of any one of claims 60 to 68, wherein the processing module further comprises a transfer unit.
70. The payment device of claim 69, wherein the transfer unit is configured to:

allocate the freeze amount funds to a merchant account of the at least one merchant device.

71. The payment device of any one of claims 60 to 70, wherein the at least one client device is a mobile phone.
72. The payment device of any one of claims 60 to 70, wherein the at least one client device is a personal computer.
73. The payment device of any one of claims 60 to 70, wherein the at least one client device is a tablet computer.
74. The payment device of any one of claims 60 to 73, wherein the at least one merchant device is a Point-of-Sale System (POS) machine.
75. The payment device of any one of claims 60 to 73, wherein the at least one merchant device is a server.

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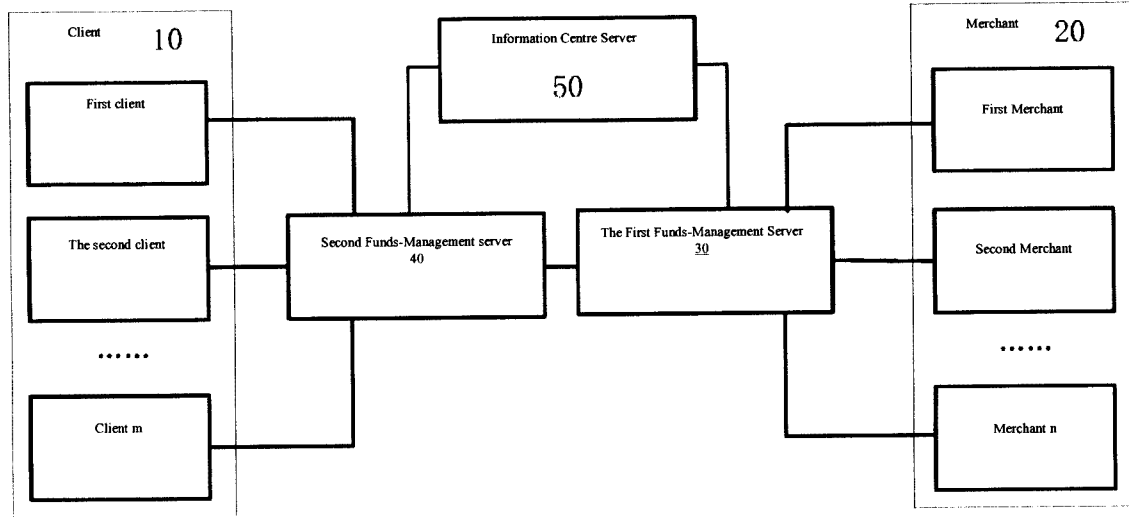


Figure 1

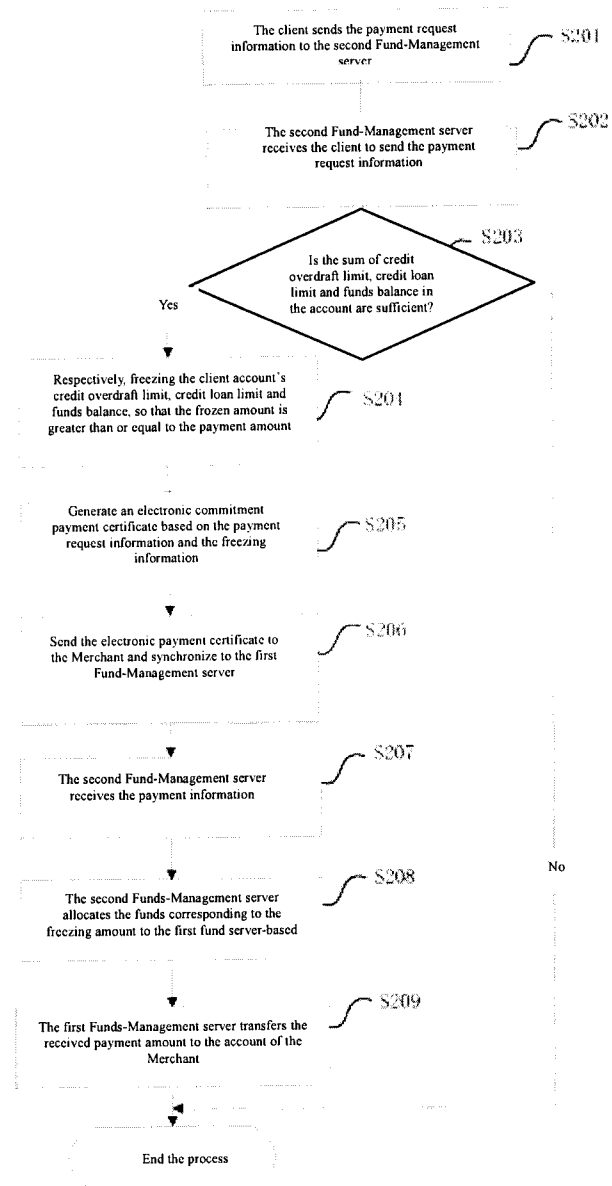


Figure 2

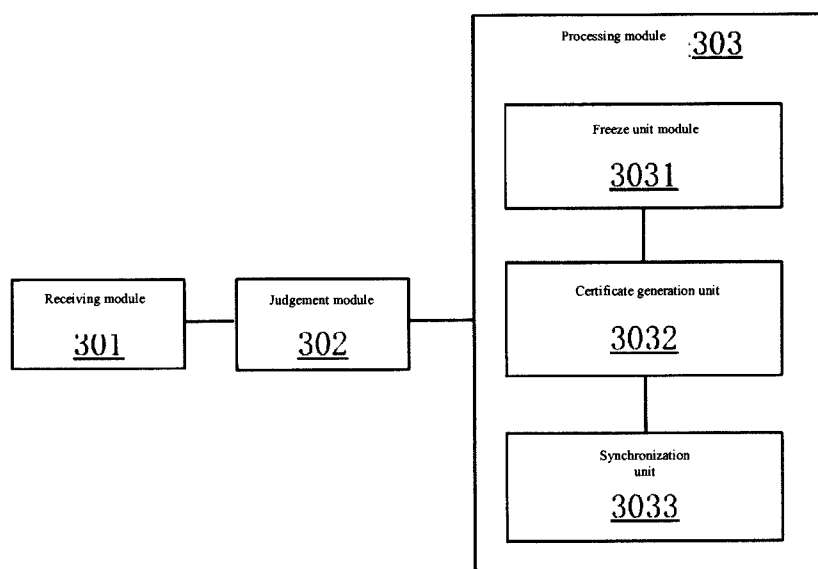


Figure 3

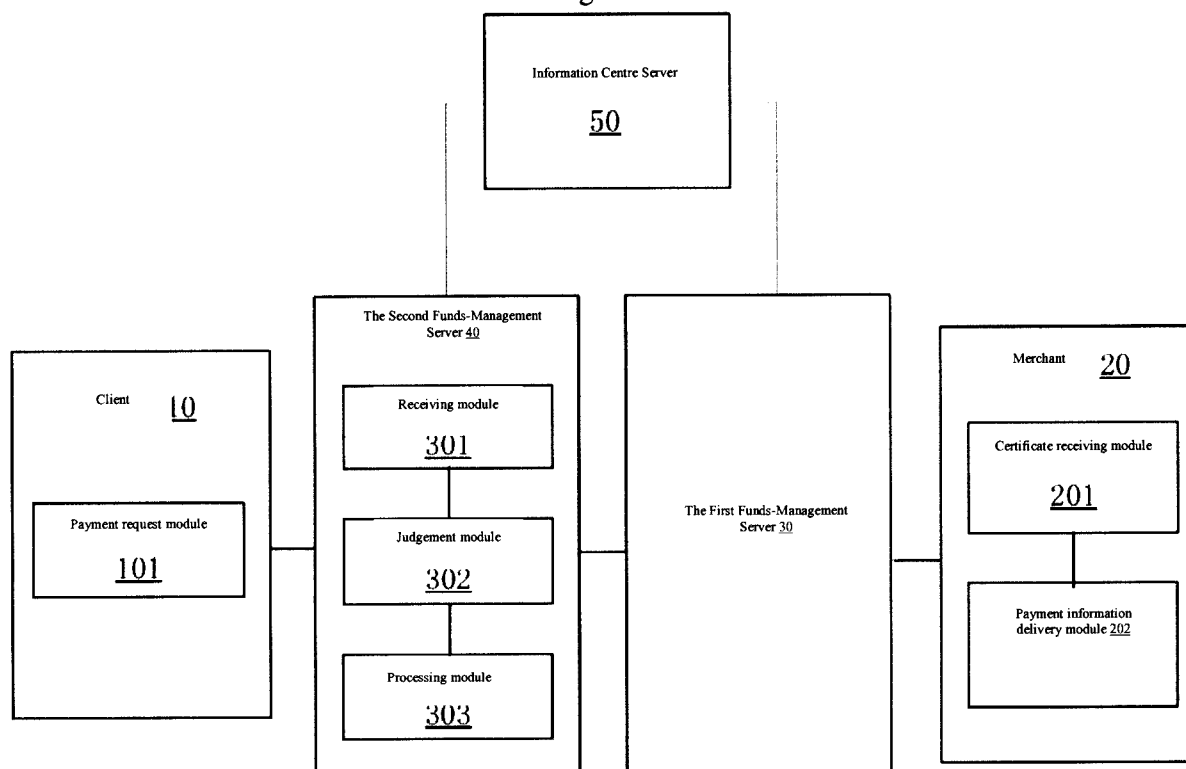


Figure 4

The client sends the payment request information to the second Fund-Management server

S201

The second Fund-Management server receives the client to send the payment request information

S202

Is the sum of credit overdraft limit, credit loan limit and funds balance in the account are sufficient?

S203

Yes

Respectively, freezing the client account's credit overdraft limit, credit loan limit and funds balance, so that the freeze amount is greater than or equal to the payment amount

S204

Generate an electronic commitment payment certificate based on the payment request information and the freezing information

S205

Send the electronic payment certificate to the Merchant and synchronise to the first Fund-Management server

S206

The second Fund-Management server receives the payment information

S207

The second Funds-Management server allocates the funds corresponding to the freezing amount to the first fund server-based

S208

The first Funds-Management server transfers the received payment amount to the account of the Merchant

S209

End the process

No