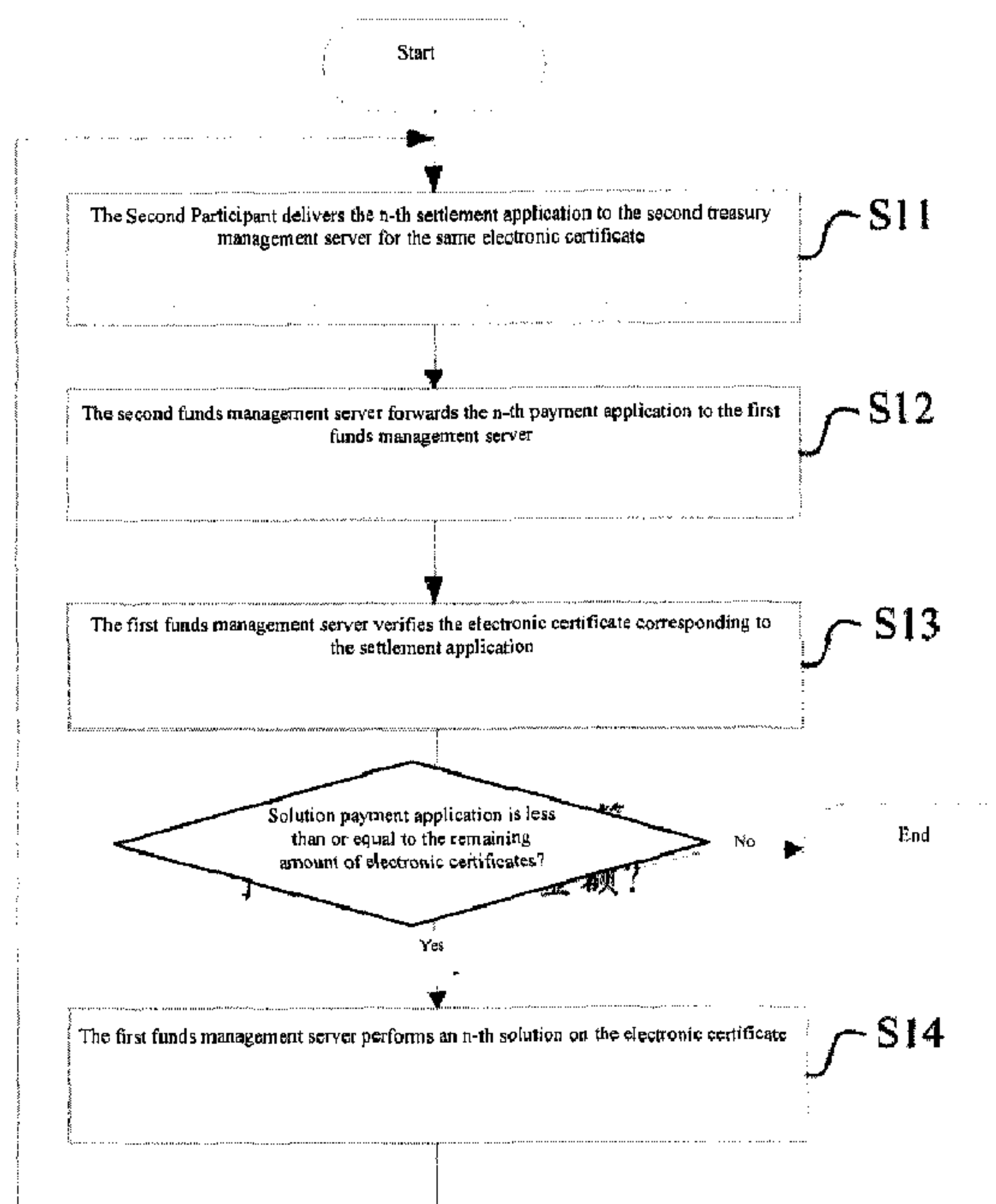




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(54) Titre : PROCEDE ET DISPOSITIF DE PAIEMENT DE CERTIFICAT ELECTRONIQUE
 (54) Title: ELECTRONIC CERTIFICATE PAYMENT METHOD AND DEVICE



(57) Abrégé/Abstract:

An electronic certificate payment method and device, the method comprising the steps of: a second funds management server successively forwards to a first funds management server at least two payment applications successively sent by a second

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

participant with regard to a same electronic certificate; the first funds management server successively receives the at least two payment applications, determines with regard to each payment application whether a payment application amount is less than or equal to a remaining amount of the electronic certificate, and if so, executes a payment with regard to the electronic certificate. In the electronic certificate payment method, the payments are performed via the electronic certificate, reducing the transaction risk. In addition, the method allows multiple payments to be performed with regard to the same electronic certificate, i.e. implementing single issuing and multiple payments, so that it is not necessary for a buyer, after completing one payment, to open a new electronic certificate to complete the next payment. The method simplifies the payment process, and effectively ensures that the financial interests of a first participant and the second participant are not harmed.

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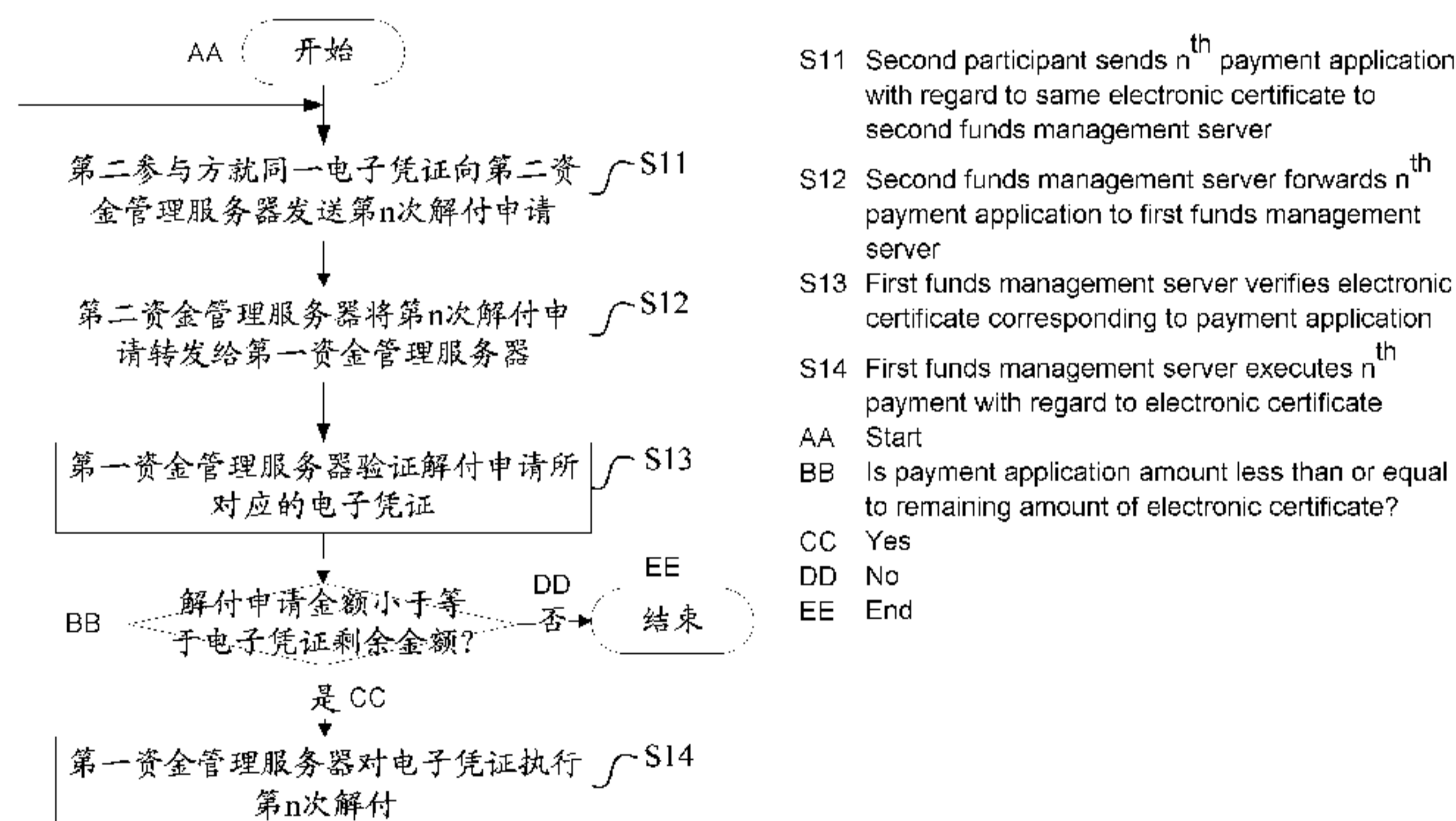


图 2

(57) Abstract: An electronic certificate payment method and device, the method comprising the steps of: a second funds management server successively forwards to a first funds management server at least two payment applications successively sent by a second participant with regard to a same electronic certificate; the first funds management server successively receives the at least two payment applications, determines with regard to each payment application whether a payment application amount is less than or equal to a remaining amount of the electronic certificate, and if so, executes a payment with regard to the electronic certificate. In the electronic certificate payment method, the payments are performed via the electronic certificate, reducing the transaction risk. In addition, the method allows multiple payments to be performed with regard to the same electronic certificate, i.e. implementing single issuing and multiple payments, so that it is not necessary for a buyer, after completing one payment, to open a new electronic certificate to complete the next payment. The method simplifies the payment process, and effectively ensures that the financial interests of a first participant and the second participant are not harmed.

(57) 摘要:

[见续页]



一种电子凭证解付方法和装置，所述方法包括步骤：第二资金管理服务器将第二参与方就同一电子凭证先后发送的至少两次解付申请先后转发给第一资金管理服务器；第一资金管理服务器先后接收至少两次解付申请，针对每次解付申请，判断解付申请金额是否小于或等于电子凭证的剩余金额，若是，则对电子凭证执行解付。所述电子凭证解付方法，一方面，通过电子凭证进行支付，降低了交易风险；另一方面，允许对同一电子凭证进行多次解付，即实现一次开证多次解付，使得买方在完成一次支付后，无需开立新的电子凭证来完成下一次支付。通过上述方式，简化了支付流程，有效保证第一参与方和第二参与方的资金利益不受损害。

Electronic Certificate Payment Method And Device

Technical Field

[0001] The present invention relates to the field of electronic commerce technology, and in particular, to an electronic certificate solution payment method and device.

Background Technology

[0002] With the rapid development of computers, networks and modern communication technology, E-commerce has become a popular and even popular way of transaction. E-commerce using the Internet platform to connect the parties involved in traditional business activities (buyers, sellers, logistics companies, financial institutions, etc.), the whole transaction process is networked, electronically and informational, thus reducing the cost of the transaction and improving the efficiency of the transaction.

[0003] The payment method of E-commerce usually adopts the network payment, the traditional network payment, mostly the funds in the bank card are directly allocated to each other's account, or allocated to a third party institution as a guarantee. After the buyer's fund transfer order is issued, the funds will be transferred directly, the following situations often occur: the buyer has not received the commodity or services provided by the merchant, and its funds have been paid to the seller by the bank or the third party organization; or after the seller offers the commodity or services, the buyer is unable to pay the corresponding funds. Or the buyer transfers the funds to the wrong account. Therefore, the traditional online payment methods have certain trading risks and cannot guarantee the interests of buyers and sellers.

Technical problem

[0004] The main purpose of the present invention is to provide a method and device for electronic certificate settlement to reduce transaction risk, increase the flexibility and convenience of electronic certificate payment, to simplify the payment process.

Problem solving solution

Technical solutions

[0005] In order to achieve the above object, the present invention provides a method for electronic certificate payment, including the following steps:

[0006] The second Funds-Management server forwards at least two applications delivered by the Second Participant to the same electronic certificate successively to the first Funds-Management server;

- [0007] The first Funds-Management server successively receives at least two settlement requests, and for each settlement application, judges whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate, and if the solution payment application amount is less than or equal to the remaining amount of the electronic certificate, the solution is executed on the electronic certificate.
- [0008] The present invention also proposes an electronic certificate solution payment method, applied to the first Funds-Management server, including the following steps:
- [0009] Successively receive the second Funds-Management server to pay at least two applications for the same electronic certificate;
- [0010] For each solution payment application, determine whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate;
- [0011] If the settlement claim amount is less than or equal to the remaining amount of the electronic certificate, the solution is executed on the electronic certificate.
- [0012] The present invention also proposes an electronic certificate solution payment method, applied to a second Funds-Management server, including the following steps:
- [0013] At least two applications for payment have been delivered successively by the Second Participant on the same electronic certificate;
- [0014] For each solution payment application, verifying the payment information contained in the payment settlement application;
- [0015] After the verification is passed, the settlement application is forwarded to the first Funds-Management server.
- [0016] The present invention also proposes an electronic certificate solution payment system, including a Second Participant, a first Funds-Management server and a second Funds-Management server, wherein:
- [0017] The Second Participant is used to deliver at least two payment requests to the second Funds-Management server one after another for the same electronic certificate;
- [0018] The second Funds-Management server is used to forward the at least two payment settlement requests to the first Funds-Management server successively;
- [0019] The first Funds-Management server is used to receive at least two payment requests one after the other, and determine, for each payment application, whether the payment claim amount is less than or equal to the remaining amount of the electronic certificate. If yes, solution payment is executed on the electronic certificate.
- [0020] The present invention also proposes an electronic certificate payment device, which is applied to the first Funds-Management server, including the first receiving module and the payment module, wherein:

- [0021] The first receiving module is used to successively receive at least two payment requests delivered successively by the second Funds-Management server for the same electronic certificate;
- [0022] The solution module is used to determine, for each settlement application, whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate; and if yes, execute solution settlement on the electronic certificate.
- [0023] The present invention also provides an electronic certificate solution payment device, applied to a second Funds-Management server, including a second receiving module, a verification module and a delivering module, wherein:
- [0024] The second receiving module is used to receive at least two payment repayments delivered successively by the Second Participant on the same electronic certificate;
- [0025] The verification module is used to verify, for each settlement application, the settlement information contained in the settlement application;
- [0026] The delivering module is used to forward the payment settlement request to the first Funds-Management server after the payment information verification passes.
- The beneficial effect of the invention
- Beneficial effect
- [0027] The present invention provides a method and device for electronic certificate settlement, on the one hand, through the electronic certificate to pay, reducing the transaction risk; the other hand, allows the same electronic certificate multiple payment, that is, once with the issuance of multiple remittance permits, the buyer does not need to open a new electronic certificate to complete the next payment once the payment is completed. This improves the convenience and flexibility of using the electronic certificate and simplifies the buyer's payment process. At the same time, the funds associated with the electronic certificate freeze in the buyer's own account, both to protect the safety of the buyer's funds, but also does not affect the buyer's interest income. In the above way, the present invention can simplify the payment process and effectively ensure that the financial benefits of the First Participant and the Second Participant (such as the buyer and the seller) are not impaired.
- A brief description of the drawings
- Brief Description
- [0028] Figure 1 is a basic flow diagram based on the electronic certificate transaction in the example of the present invention;
- [0029] Figure 2 is a flow chart of the first example of the electronic certificate solution payment method of the present invention;
- [0030] Figure 3 is a flowchart of the second example of the electronic certificate solution payment

method of the present invention;

[0031] Figure 4 is a flow chart of the electronic certificate solution payment method of the third example of the present invention;

[0032] Figure 5 is a block diagram of the first example of the electronic certificate solution payment system of the present invention;

[0033] Figure 6 is a block diagram of an example of the electronic certificate settlement device of the present invention.

[0034] Figure 7 is a schematic block diagram of a second example of the electronic certificate settlement device of the present invention.

[0035] The realization of the object of the present invention, features and advantages of the present invention will be further described with reference to the accompanying drawings.

Examples of the Invention

Implementation pattern of the present invention

[0036] It is to be understood that the specific examples described herein are merely illustrative of the invention but not intended to limit the invention.

[0037] In the examples of the present invention, the Funds-Management server is a server of the funds management institution and the funds management institution refers to an organization capable of supporting the flow of funds, including but not limited to banks and other financial institutions (such as securities institutions), that is, Funds-Management server includes a bank server or other financial institution server.

[0038] In this example of the present invention, an electronic certificate is an application which is issued by the buyer to the Funds and Management server and is opened by Funds-Management server, electronic commitment payment certificate is an Internet innovation basic financial instrument paid by funds management institution in accordance with the commitment of funds management institution. The electronic certificate is mainly for buyers' commodity. The seller downloads the cashier interface, and the buyer finishes the issuance of the electronic certificate. The seller completes the receipt and performance and submits the payment application. The electronic certificate expires automatically. The electronic certificate can be purchased not only for commodities, but also for collateral. For example, an individual may issue a letter of credit to a bank as a guarantee for the loan to others.

[0039] In this example of the present invention, the solution of electronic certificate means that after the issuing institution (such as a issuing bank) receives the payment application and confirms that the payment conditions are met, transfer funds associated with the electronic certificate to a collection agency (such as a collecting bank).

- [0040] In the example of the present invention, the general flow of the network payment through the electronic certificate is as follows: the first Funds-Management server (that is, the issuing institution such as the issuing bank's server) is opened on the application of the First Participant electronic certificate, the second Funds-Management server accepts the receipt according to the application of the Second Participant, and the Second Participant delivers the second Funds-Management server to the first Funds-Management server submits the settlement application, the first Funds-Management server solves the electronic certificate according to the settlement application, and transfers the funds of the First Participant associated with the electronic certificate to the Second Participant.
- [0041] In this example of the present invention, the entire transaction process includes several periods as shown in Figure 1, including the issuing period, the collection period, the performance period, the receipt period, the settlement period and the settlement period, in which:
- [0042] The opening date: after the First Participant and the Second Participant form the trade order, the First Participant (such as the buyer) applies to the first Funds-Management server (that is, the issuing institution such as the issuing bank's server) when the trade order is formed or the trade order is formed. Open electronic certificate. The first Funds-Management server opens an electronic certificate according to the buyer's application for issuance, and stores the amount of the electronic certificate in the account designated by First Participant accordingly (for example, the funds or credit in the frozen account is frozen, and the credit for freezing is divided into two situations: one from the beginning of the frozen funds, the first Funds-Management server start calculating interest, that is, First Participant using a credit card limit; the other is received from the Second Participant credit corresponding funds, the first Funds-Management server began to calculate interest).
- [0043] Collection period: Second Participant (for example, the seller) applies for a certificate to the second Funds-Management server (that is, the receiving institution's server such as a receiving bank), and the electronic certificate expires if the certificate is overdue, and the second Funds-Management server verifies the information certificate.
- [0044] Compliance Period: Second Participant submit compliance information (such as shipping information), overdue electronic certificate is invalid.
- [0045] Signature Period: The Second Participant applies for the payment and fails to submit the payment information (such as the receipt information). After the Second Participant applies for settlement, the electronic certificate enters the settlement period.
- [0046] In the electronic certificate solution method of the present invention, the Second

- Participant submits multiple (at least two) settlement requests to the first Funds-Management server for the same electronic certificate successively through the second Funds-Management server, the first Funds-Management server determines whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate, and if yes, executes the solution on the electronic certificate.
- [0047] In the following, the payment of the electronic certificate will be described in detail through specific examples.
- [0048] Please refer to Figure 2, the first example of the present invention electronic certificate solution payment method, the method includes the following steps:
- [0049] S11, the Second Participant delivers the application for the n-th application to the Second Funds-Management server for the same electronic certificate.
- [0050] In this step S11, the Second Participant (for example, seller) finishes the transaction condition corresponding to the electronic certificate according to the settlement condition of the electronic certificate, and logs in the corresponding webpage or opens the corresponding application, and delivers the electronic certificate to the second Funds-Management server delivers the n-th solution application, where $n = 1, 2, 3 \dots$, i.e. the first solution application, the second solution application, the third solution application
- [0051] S12, the second Funds-Management server forwards the n-th solution application to the first Funds-Management server.
- [0052] Optionally, after receiving the settlement request, the second Funds-Management server forwards the request directly to the first Funds-Management server.
- [0053] Preferably, after the second Funds-Management server receives the settlement request, it obtains the settlement information in the settlement application and verifies the settlement information. After the verification is passed, the solution is forwarded to the first Funds-Management server. After the verification fails, the packet will not be forwarded and the Second Participant fails verification. For example, an error message is returned to the Second Participant. The payment information includes Second Participant identity information, dynamic payment code or / and settlement password, such as: verifying the identity of the Second Participant, verifying the application to the first Funds-Management server by forwarding the solution, or returning an error prompt information.
- [0054] S13. The first Funds-Management server verifies the electronic certificate corresponding to the settlement application, and determines whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate. When the settlement application amount is less than or equal to the remaining amount of the electronic certificate, step S14 is executed. When the settlement application amount is

- greater than the remaining amount of the electronic certificate, the process ends without payment and may be delivered to the second Funds-Management server error message.
- [0055] The remaining amount of the electronic certificate refers to the unsold funds frozen in the account associated with the electronic certificate. The account associated with the electronic certificate, which is the account designated by First Participant (e.g. buyer) when applying for an electronic certificate.
- [0056] Optionally, the first Funds-Management server also verifies the status of the electronic certificate to verify whether the electronic certificate is valid, and returns an error message to the second Funds-Management server when the electronic certificate is invalid. When the electronic certificate valid and the settlement application amount is less than or equal to the remaining amount of the electronic certificate, step S14 is executed. To verify whether the electronic certificate is valid and determine whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate, the order of verification is not valid. When the electronic certificate is valid, determine whether the application amount is less than or the remaining amount of the electronic certificate. it can also determine whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate. If the settlement amount is less than or equal to the remaining amount of the electronic certificate, verify that the electronic certificate is valid.
- [0057] Optionally, when the second Funds-Management server does not verify the settlement information contained in the settlement application, the first Funds-Management server also verifies the settlement information, and the step S14 is executed when the payment information is verified and the electronic certificate is not fully paid. There is no restriction on the sequence of verifying the settlement information and judging whether the electronic certificate is completely settled.
- [0058] Optionally, when the payment information is at least two, part of the payment information may be respectively verified by the second Funds-Management server and the first Funds-Management server. For example, the second Funds-Management server verifies the Second Participant identity, the first Funds-Management server authentication solution password.
- [0059] Optionally, the first Funds-Management server verifies both the settlement information and the electronic certificate are valid and determines whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate.
- [0060] Further, after the foregoing verification is passed and the settlement application amount is determined to be less than or equal to the remaining amount of the electronic certificate,

the first Funds-Management server updates the status of the electronic certificate to be released and may deliver the solution to the First Participant notification.

- [0061] S14, the first Funds-Management server performs the n-th solution payment on the electronic certificate.
- [0062] Specifically, the first Funds-Management server partially freezes the funds or credit lines frozen in the account associated with the electronic certificate according to the settlement application amount (the amount of the unfreeze is equal to the amount of the application for settlement), and transfer the released funds to the second Funds-Management server. The second Funds-Management server will eventually transfer the funds to the account designated by Second Participant.
- [0063] Further, after the electronic certificate is released, the first Funds-Management server updates the status of the electronic certificate to be pending for payment, prepares to receive the next settlement request, and delivers the updated information to the second Funds-Management server. When it is determined in step S13 that the electronic certificate has been completely settled (that is, the remaining amount of the electronic certificate is zero), the status of the electronic certificate is updated as solved and the update information is delivered to the second Funds-Management server.
- [0064] Step S14 is completed and then return to step S11, continue to the next electronic certificate settlement process until the electronic certificate completely solved.
- [0065] In the foregoing example, the funds for each solution payment may be set in advance, each time a certain amount of money is paid out of the same amount, and the funds required for settlement at the current time may also be specified in each payment application.
- [0066] Figure 3, a solution of the second example of the electronic certificate payment method of the present invention is proposed. The method of this example is applied to the foregoing first Funds-Management server. The method includes the following steps:
- [0067] S21, receiving the nth settlement request delivered by the second Funds-Management server for the same electronic certificate.
- [0068] Specifically, after completing the transaction condition corresponding to the electronic certificate according to the settlement condition of the electronic certificate, the Second Participant delivers the n-th payment application to the second Funds-Management server by logging in to the corresponding webpage or opening the corresponding application. The second Funds-Management server then forwards the n th solution application to the first Funds-Management server, where $n = 1, 2, 3 \dots$, that is, the first settlement application, the second settlement application, 3rd solution payment application
- [0069] S22, verifying the electronic certificate corresponding to the settlement application,

judging whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate. When the settlement application amount is less than or equal to the remaining amount of the electronic certificate, step S14 is executed. When the settlement application amount is greater than the remaining amount of the electronic certificate, the process ends without payment and may be delivered to the second Funds-Management server error message.

- [0070] Optionally, the first Funds-Management server also verifies the status of the electronic certificate to verify whether the electronic certificate is valid, and returns an error message to the second Funds-Management server when the electronic certificate is invalid. When the electronic certificate valid and the settlement application amount is less than or equal to the remaining amount of the electronic certificate, step S14 is executed. The order of verifying the validity of electronic certificate and judging whether the settlement application amount is less than or equal to the remaining amount of electronic certificate is not limited.
- [0071] Optionally, when the second Funds-Management server does not verify the payment information contained in the payment application, the first Funds-Management server also verifies the payment information, and when the payment information verification the solution payment. When the application amount is less than or equal to the remaining amount of the electronic certificate, step S23 is executed. The sequence of verifying the settlement information and judging whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate is not limited.
- [0072] Optionally, when the payment information is at least two, part of the payment information may be respectively verified by the second Funds-Management server and the first Funds-Management server. For example, the second Funds-Management server verifies the Second Participant identity, the first Funds-Management server authentication solution password.
- [0073] Optionally, the first Funds-Management server verifies both the settlement information and the electronic certificate and determines whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate.
- [0074] Further, after the foregoing verification is passed and the settlement application amount is determined to be less than or equal to the remaining amount of the electronic certificate, the first Funds-Management server updates the status of the electronic certificate to be released and may deliver the solution to the buyer notification.
- [0075] S23: Perform an n-th solution payment on the electronic certificate.
- [0076] Specifically, the first Funds-Management server partially freezes the funds or credit lines

frozen in the account associated with the electronic certificate according to the settlement application amount, and transfer the released funds to the second Funds-Management server. The second Funds-Management server will eventually transfer the funds to the account designated by Second Participant.

- [0077] Further, after the electronic certificate is released, the first Funds-Management server updates the status of the electronic certificate to be pending for payment, prepares for the next solution, and delivers the updated information to the second Funds-Management server. When it is determined in step S22 that the electronic certificate has been completely settled (that is, the remaining amount of the electronic certificate is zero), the status of the electronic certificate is updated as solved and the update information is delivered to the second Funds-Management server.
- [0078] After step S23 is completed, the process returns to step S21 to proceed to the next solution of electronic certificate settlement until the electronic certificate is completely settled.
- [0079] Please refer to Figure 4, a third example of the electronic certificate payment method of the present invention is proposed. The method of this example is applied to the foregoing second Funds-Management server. The method includes the following steps:
- [0080] S31, at least two applications for payment have been delivered successively by the Second Participant on the same electronic certificate.
- [0081] S32. For each solution payment application, verifying the payment information contained in the payment settlement application. After the verification is passed, step S33 is executed; when the verification fails, step S34 is performed.
- [0082] The settlement information includes Second Participant identity information, dynamic settlement code or / and settlement payment password.
- [0083] S33: Forwarding the solution application to the first Funds-Management server.
- [0084] S34, not forwarded to apply for solution. And can return an error message to Second Participant.
- [0085] Therefore, the electronic certificate solution payment method of the present invention allows multiple payments for the same electronic certificate, i.e., multiple reissues of a single issuance of a certificate, so that the buyer does not need to open a new electronic certificate after completing one payment to complete the next payment, to improve the convenience and flexibility of electronic certificate use, simplifying the buyer's payment process. At the same time, the funds associated with the electronic certificate freeze in the buyer's own account, both to protect the safety of the buyer's funds, but also does not affect the buyer's interest income.
- [0086] Please refer to Figure 5, an electronic certificate solution payment system according to an

example of the present invention is proposed. The system includes a First Participant, a Second Participant, a first Funds-Management server and a second Funds-Management server, wherein:

- [0087] First Participant: Set to submit a certificate of issuance to the first Funds-Management server and apply for the establishment of an electronic certificate.
- [0088] The second Funds-Management server: set to forward at least two payment repayments delivered by the Second Participant to the same electronic certificate successively to the first Funds-Management server.
- [0089] Optionally, after receiving the settlement request, the second Funds-Management server forwards the request directly to the first Funds-Management server.
- [0090] Preferably, after the second Funds-Management server receives the settlement request, it obtains the settlement information in the settlement application and verifies the settlement information. After the verification is passed, the solution is forwarded to the first Funds-Management server. After the verification fails, the packet will not be forwarded and the Second Participant fails verification. For example, an error message is returned to the Second Participant. The settlement information includes Second Participant identity information, dynamic settlement code or / and settlement payment password.
- [0091] The first Funds-Management server: set to receive the same electronic certificate at least twice the solution to the application, for each solution to apply for payment, to determine whether the solution payment claim amount is less than or equal to the remaining amount of electronic certificate. When the settlement application amount is less than or equal to the remaining amount of the electronic certificate, perform the settlement; when the settlement application amount is greater than the remaining amount of the electronic certificate, no payment will be made and the second Funds-Management server will be delivered notice of discharge.
- [0092] The remaining amount of the electronic certificate refers to the unsold funds frozen in the account associated with the electronic certificate. The account associated with the electronic certificate, which is the account designated by First Participant when applying for an electronic certificate.
- [0093] Optionally, the first Funds-Management server also verifies the status of the electronic certificate to verify whether the electronic certificate is valid, and returns an error message to the second Funds-Management server when the electronic certificate is invalid. When the electronic certificate valid and the settlement application amount is less than or equal to the remaining amount of the electronic certificate, step S14 is executed. Optionally, when the second Funds-Management server does not verify the settlement information contained

- in the settlement application, the first Funds-Management server also verifies the settlement information. When the settlement information is verified and the settlement application amount is less than or equal to the remaining amount of electronic certificate.
- [0094] Optionally, when the payment information is at least two, part of the payment information may be respectively verified by the second Funds-Management server and the first Funds-Management server. For example, the second Funds-Management server verifies the Second Participant identity, the first Funds-Management server authentication solution password.
- [0095] Optionally, the first Funds-Management server verifies both the settlement information and the electronic certificate and determines whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate.
- [0096] Further, after the foregoing verification is passed and the settlement application amount is determined to be less than or equal to the remaining amount of the electronic certificate, the first Funds-Management server updates the status of the electronic certificate to be released and may deliver the solution to the buyer notification.
- [0097] The first Funds-Management server performs the solution to the electronic certificate specifically as follows: the first Funds-Management server partially freezes the funds or credit lines frozen in the account associated with the electronic certificate according to the settlement application amount, and transfer the released funds to the second Funds-Management server. The second Funds-Management server will eventually transfer the funds to the account designated by Second Participant.
- [0098] Further, after the electronic certificate is released, the first Funds-Management server updates the status of the electronic certificate to be pending for payment, prepares to receive the next settlement request, and delivers the updated information to the second Funds-Management server. When it is determined that the electronic certificate has been completely settled (that is, the remaining amount of the electronic certificate is zero), the status of the electronic certificate is updated as solved and the update information is delivered to the second Funds-Management server.
- [0099] The system for providing an electronic certificate provided by the above example belongs to the same concept as the method example for an electronic certificate. For the specific implementation process, refer to the method example for details. The technical characteristics of the method are applicable in the system implementation cases.
- [0100] Please refer to Figure 6, a first example of an electronic certificate solution deliverer according to the present invention is proposed. The device in this example is applied to the foregoing first Funds-Management server. The device includes a first receiving module and

a solution releasing module, where:

- [0101] The first receiving module is used to receive at least two payment application delivered successively by the second Funds-Management server on the same electronic certificate.
- [0102] Solution module: set for each solution to pay the application, to determine the amount of the solution payment is less than or equal to the remaining amount of electronic certificate; if the settlement application amount is less than or equal to the remaining amount of the electronic certificate, the payment of electronic certificate is performed.
- [0103] Wherein, the solution payment module includes a verification unit and a solution payment unit, the verification unit is used to determine whether the electronic certificate payment application amount is less than or equal to the remaining amount of the electronic certificate, and deliver the determination result to the solution payment unit; In case the application amount is less than or equal to the remaining amount of the electronic certificate, the electronic certificate shall be released.
- [0104] Optionally, the verification unit also verifies the status of the electronic certificate and delivers the verification result to the settlement unit; when the electronic certificate is valid and the settlement application amount is less than or equal to the remaining amount of the electronic certificate, the settlement unit Execute solution payment.
- [0105] Optionally, the verification unit also verifies the settlement information contained in the settlement application and delivers the verification result to the settlement unit; when the settlement information verification is passed and the settlement application amount is less than or equal to the remaining amount of the electronic certificate when the solution unit to pay the implementation of the solution.
- [0106] Optionally, the verification unit simultaneously verifies the settlement information and the electronic certificate and determines whether the settlement application amount is less than or equal to the remaining amount of the electronic certificate; when the settlement payment information is verified, the electronic certificate is valid and the settlement application amount is less than or Equal to the remaining amount of electronic certificate, the solution unit to pay the implementation of the solution.
- [0107] The solution payment unit performs the solution settlement specifically as follows: according to the settlement application amount, the funds or credit limits frozen in the account associated with the electronic certificate are unfrozen, and the unfrozen funds are transferred to the second Funds-Management server. Second Funds-Management server will eventually pay the funds transferred to the Second Participant designated account.
- [0108] Further, after the foregoing verification is passed and the settlement application amount is determined to be less than or equal to the remaining amount of the electronic certificate,

the settlement unit updates the status of the electronic certificate to be released and may deliver a settlement notice to the buyer.

- [0109] Further, after the electronic certificate is resolved, the solution issuing unit updates the status of the electronic certificate to be pending for payment, prepares for the next solution, and delivers the updated information to the second Funds-Management server. After the verification unit determines that the electronic certificate has been fully settled (the remaining limit of the electronic certificate is zero), the verification unit updates the state of the electronic certificate to be settled and delivers the updated information to the second Funds-Management server.
- [0110] Please refer to Figure 7, a second example of an electronic certificate solution deliverer according to the present invention is proposed. The device in this example is applied to the foregoing second Funds-Management server and includes a second receiving module, a verification module, and a delivering module, where:
- [0111] The second receiving module is used to receive at least two payment repayments delivered successively by the Second Participant on the same electronic certificate;
- [0112] The verification module is used to verify, for each settlement application, the settlement information contained in the settlement application, and the settlement information includes Second Participant identity information, a dynamic settlement code or / and a settlement password, and so on.
- [0113] The delivering module is used to forward the settlement application to the first Funds-Management server after the verification of the settlement information is passed, not to forward the verification after the verification fails, and notify the Second Participant that the verification fails, such as returning to the Second Participant Error message.
- [0114] The device for providing an electronic certificate provided by the above example belongs to the same concept as the method example for an electronic certificate. For the specific implementation process, refer to the method example for details. The technical characteristics of the method are applicable in the device implementation cases.
- [0115] In some examples, the first Funds-Management server and the second Funds-Management server are the same Funds-Management server.
- [0116] Therefore, the electronic certificate solution payment device of the present invention allows multiple payments for the same electronic certificate, i.e., multiple reissues of a single issuance of a certificate, so that the buyer does not need to open a new electronic certificate after completing one payment to complete the next payment, to improve the convenience and flexibility of electronic certificate use, simplifying the buyer's payment process. At the same time, the funds associated with the electronic certificate freeze in the

buyer's own account, both to protect the safety of the buyer's funds, but also does not affect the buyer's interest income.

[0117] It will be understood by the ordinary skill in the field that the realization of all or part of the steps of the method described above may be controlled by a program to control the associated hardware completion, which may be stored in a computer-readable storage medium. The storage medium may be ROM / RAM, a magnetic disk, an optical disk, etc.

[0118] It is to be understood that the above is only a preferred example of the present invention and is not intended to limit the scope of the invention as a matter of limitation, either by way of equivalent construction or equivalent process transformation using the present specification and the accompanying drawings, directly or indirectly used in other related technical fields, which are included in the scope of the patent protection of the present invention.

Industrial utility

[0119] The present invention provides a method and device for electronic certificate settlement, on the one hand, through the electronic certificate to pay, reducing the transaction risk; the other hand, allows the same electronic certificate multiple payment, that is, once with the issuance of multiple remittance permits, the buyer does not need to open a new electronic certificate to complete the next payment once the payment is completed. This improves the convenience and flexibility of using the electronic certificate and simplifies the buyer's payment process. At the same time, the funds associated with the electronic certificate freeze in the buyer's own account, both to protect the safety of the buyer's funds, but also does not affect the buyer's interest income. In the above way, the present invention can simplify the payment process and effectively ensure that the financial benefits of the First Participant and the Second Participant (such as the buyer and the seller) are not impaired.

Claims

1. An electronic certificate payment device comprising:

a funds management server;

a receiving module; and

a settlement module;

wherein the receiving module is configured to successively receive a plurality of payment requests delivered from the funds management server for a single electronic certificate, wherein each payment request includes a payment amount;

wherein the settlement module is configured to:

determine whether the payment amount from the plurality of payment requests is less than or equal to a remaining amount on the single electronic certificate; and

execute a payment when the payment amount is less than or equal to the remaining amount on the single electronic certificate.

2. The device of claim 1 wherein the settlement module comprises:

a verification unit; and

a payout unit;

wherein the verification unit is configured to:

verify whether the single electronic certificate is valid; and

determine whether the payment amount is less than or equal to the remaining amount on the single electronic certificate; and

wherein the payout unit is configured to:

settle the single electronic certificate when (i) the single electronic certificate is valid and (ii) the payment amount is less than or equal to the remaining amount on the single electronic certificate.

3. The device of any one of claims 1 and 2 wherein the funds management server is a server of a funds management institution.
4. The device of any one of claims 1 and 2 wherein the funds management server is a bank server.
5. The device of any one of claims 1 and 2 wherein the funds management server is a financial institution server.
6. The device of any one of claims 1-5 wherein the single electronic certificate expires automatically.
7. The device of any one of claims 2-6 wherein the verification unit is further configured to deliver a verification result to the payout unit.
8. The device of any one of claims 2-7 wherein the payout unit is further configured to deliver a settlement notice to a buyer.
9. An electronic certificate payment device comprising:

a receiving module;

a verification module; and

a delivering module;

wherein the receiving module is configured to successively receive a plurality of settlement applications delivered from a terminal for a single electronic certificate, wherein each settlement application includes settlement information;

wherein the verification module is configured to verify the settlement information from each settlement application in the plurality of settlement applications; and

wherein the delivering module is configured to forward the settlement applications to a funds management server once the settlement information has been verified.

10. The device of claim 9 wherein the settlement information includes terminal identity information.
11. The device of any one of claims 9 and 10 wherein the settlement information includes a dynamic settlement code.
12. The device of any one of claims 9-11 wherein the settlement information includes a settlement password.
13. The device of any one of claims 9-12 wherein the funds management server is a server of a funds management institution.

14. The device of any one of claims 9-12 wherein the funds management server is a bank server.
15. The device of any one of claims 9-12 wherein the funds management server is a financial institution server.
16. The device of any one of claims 9-12 wherein the single electronic certificate expires automatically.
17. An electronic certificate payment method comprising:
 - successively forwarding a plurality of settlement applications for a single electronic certificate from a second funds management server to a first funds management server, wherein the plurality of settlement applications emanate from a terminal, and wherein each settlement application includes a settlement amount, and wherein the single electronic certificate includes a remaining amount;
 - receiving the plurality of settlement applications at the first funds management server;
 - determining, at the first funds management server, for each settlement application, whether the settlement amount is less than or equal to the remaining amount; and
 - executing the single electronic certificate when the settlement amount is less than or equal to the remaining amount.
18. The method of claim 17 wherein the determining step further comprises:

verifying whether the single electronic certificate is valid and only proceeding through the method when the single electronic certificate is valid.

19. The method of any one of claims 17 and 18 wherein the first funds management server and the second funds management server are a single electronic funds management server.
20. The method of any one of claims 17-19 wherein the first funds management server is a funds management institution server.
21. The method of any one of claims 17-20 wherein the second funds management server is a funds management institution server.
22. The method of any one of claims 17-19 wherein the first funds management server is a bank server.
23. The method of any one of claims 17-20 wherein the second funds management server is a bank server.
24. The method of any one of claims 17-19 wherein the first funds management server is a financial institution server.
25. The method of any one of claims 17-20 wherein the second funds management server is a financial institution server.
26. The method of any one of claims 17-25 wherein the single electronic certificate expires automatically.
27. An electronic certificate payment method comprising:

successively receiving at a second funds management server, a plurality of settlement applications for a single electronic certificate, wherein each settlement application includes a settlement amount and wherein the single electronic certificate includes a remaining amount;

determining, for each settlement application, whether the settlement amount is less than or equal to the remaining amount; and

executing the single electronic certificate when the settlement amount is less than or equal to the remaining amount.

28. The method of claim 27 wherein the second funds management server is a funds management institution server.

29. The method of claim 27 wherein the second funds management server is a bank server.

30. The method of claim 27 wherein the second funds management server is a financial institution server.

31. The method of any one of claims 27-30 wherein the single electronic certificate expires automatically.

32. An electronic certificate payment method comprising:

successively receiving a plurality of payment requests for a single electronic certificate from a terminal, wherein each payment request includes payment information;

verifying the payment information included in each payment request; and

forwarding the plurality of payment requests to a funds management server once the payment information has been verified.

33. The method of claim 32 wherein the payment information includes a terminal identity information.
34. The method of any one of claims 32 and 33 wherein the payment information includes a dynamic settlement code.
35. The method of any one of claims 32-34 wherein the payment information includes a settlement password.
36. The method of claim 32 wherein the funds management server is a funds management institution server.
37. The method of claim 32 wherein the funds management server is a bank server.
38. The method of claim 32 wherein the funds management server is a financial institution server.
39. The method of any one of claims 32-38 wherein the single electronic certificate expires automatically.

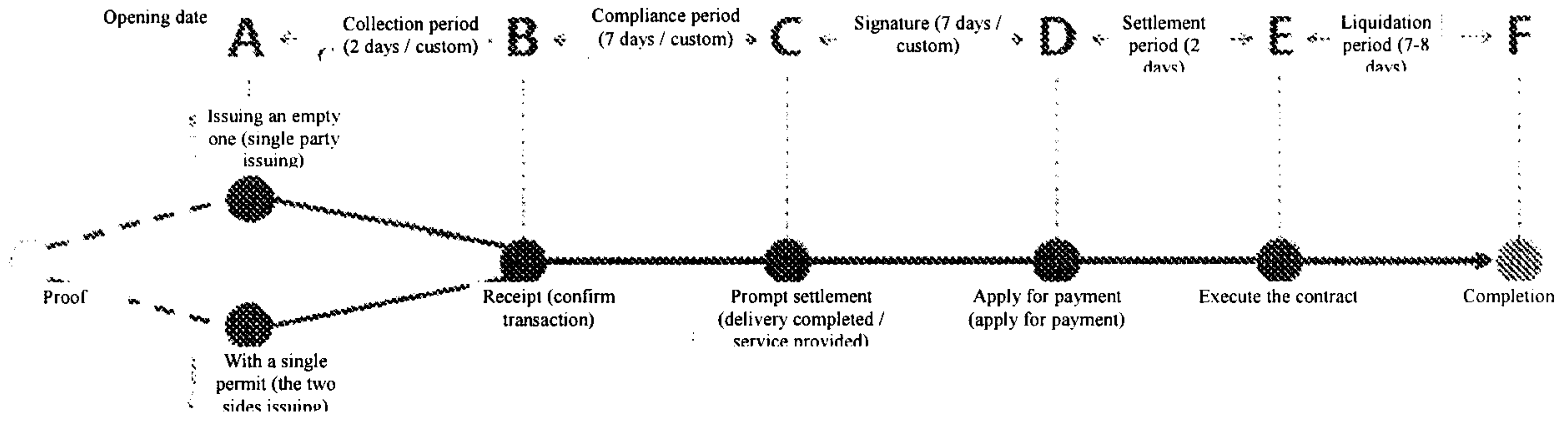


Figure 1

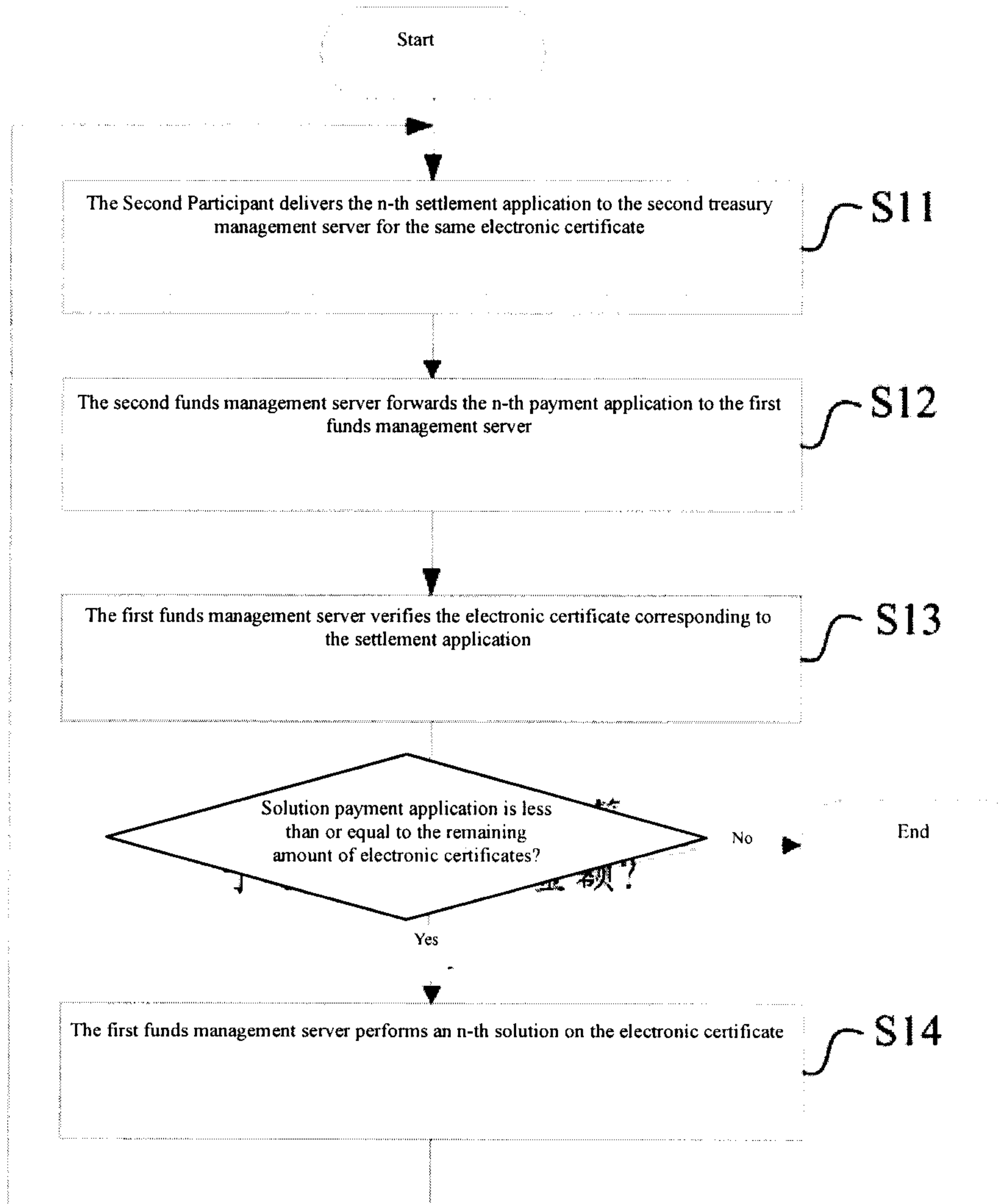


Figure 2

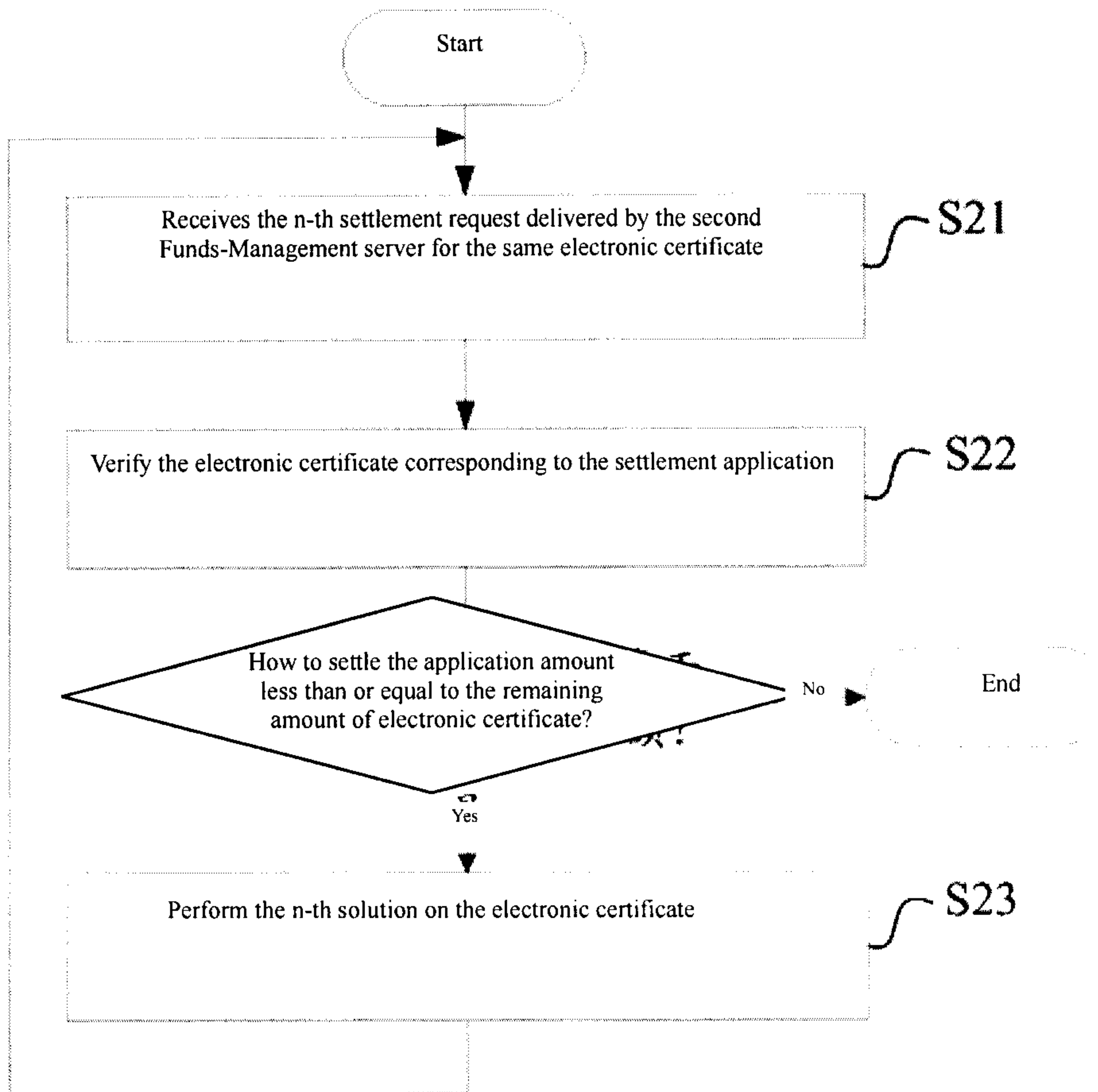


Figure 3

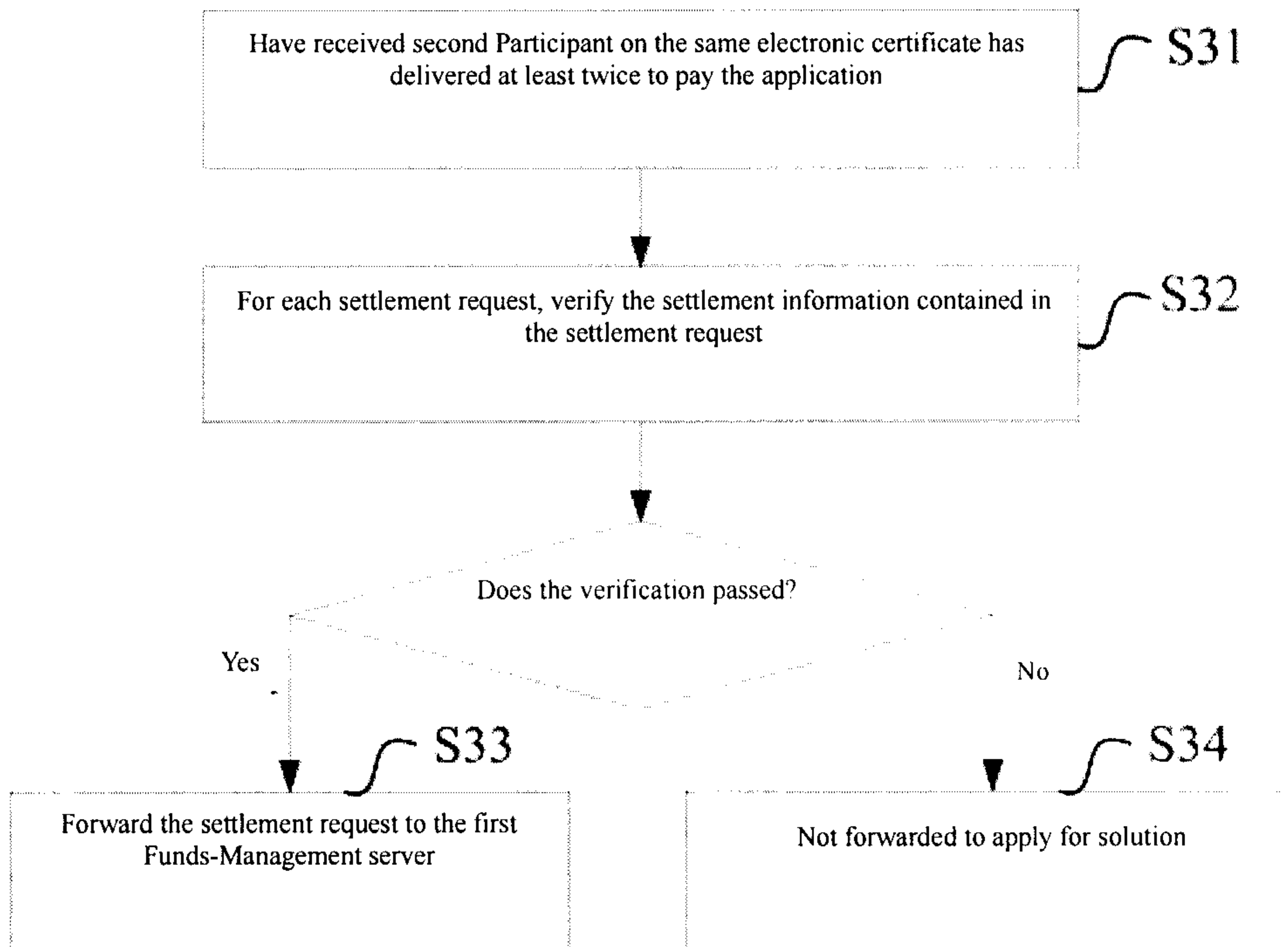


Figure 4

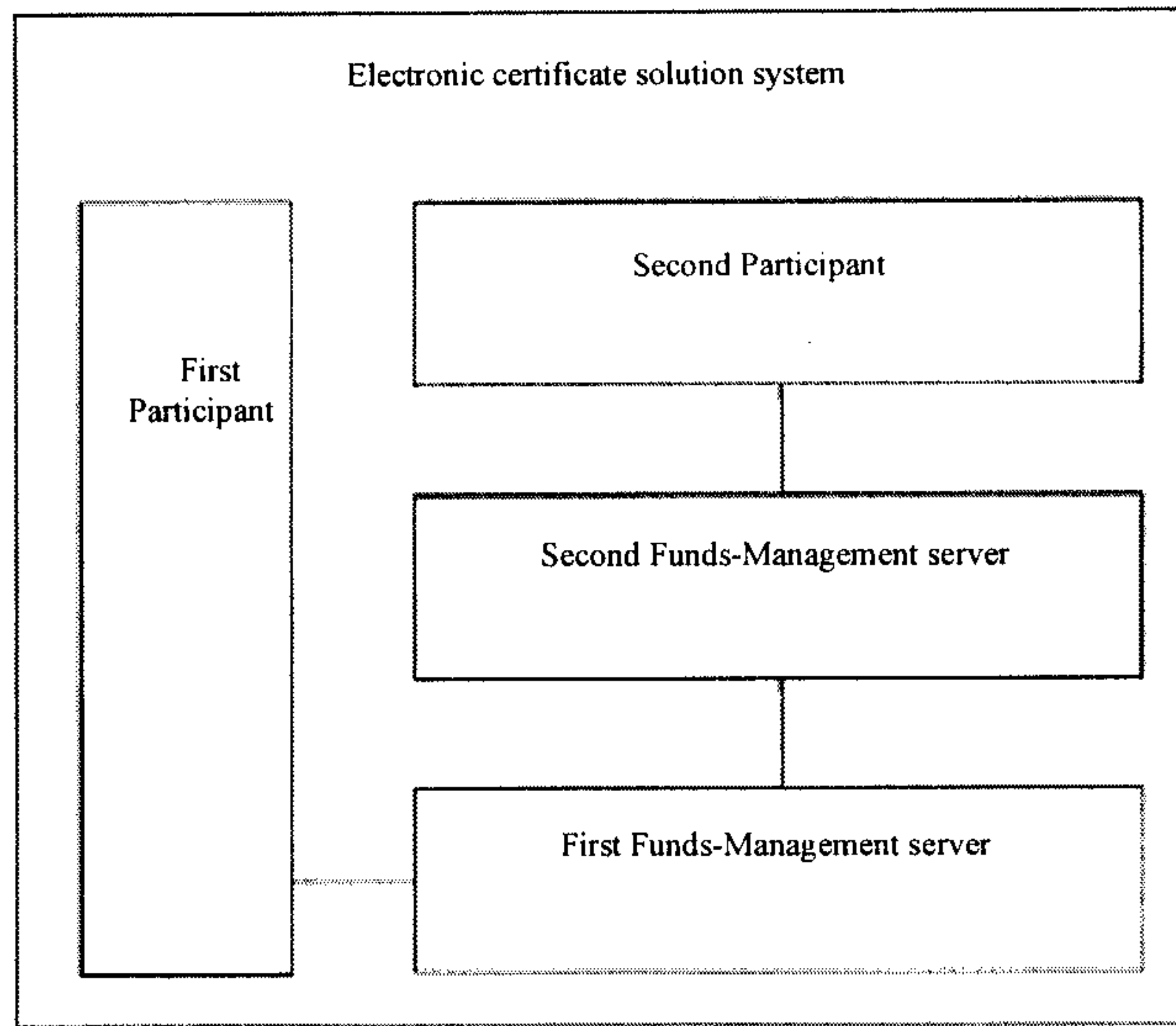


Figure 5

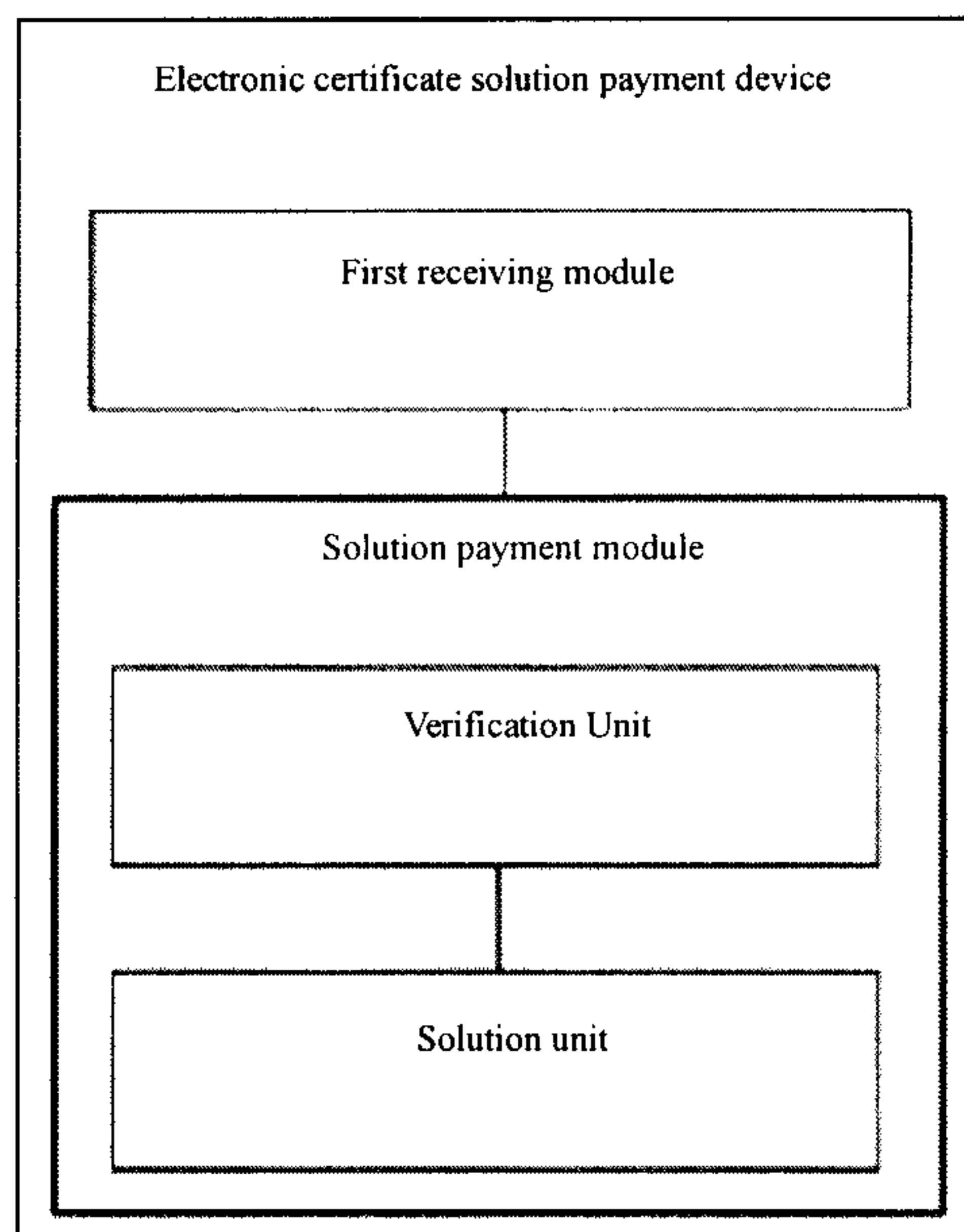


Figure 6

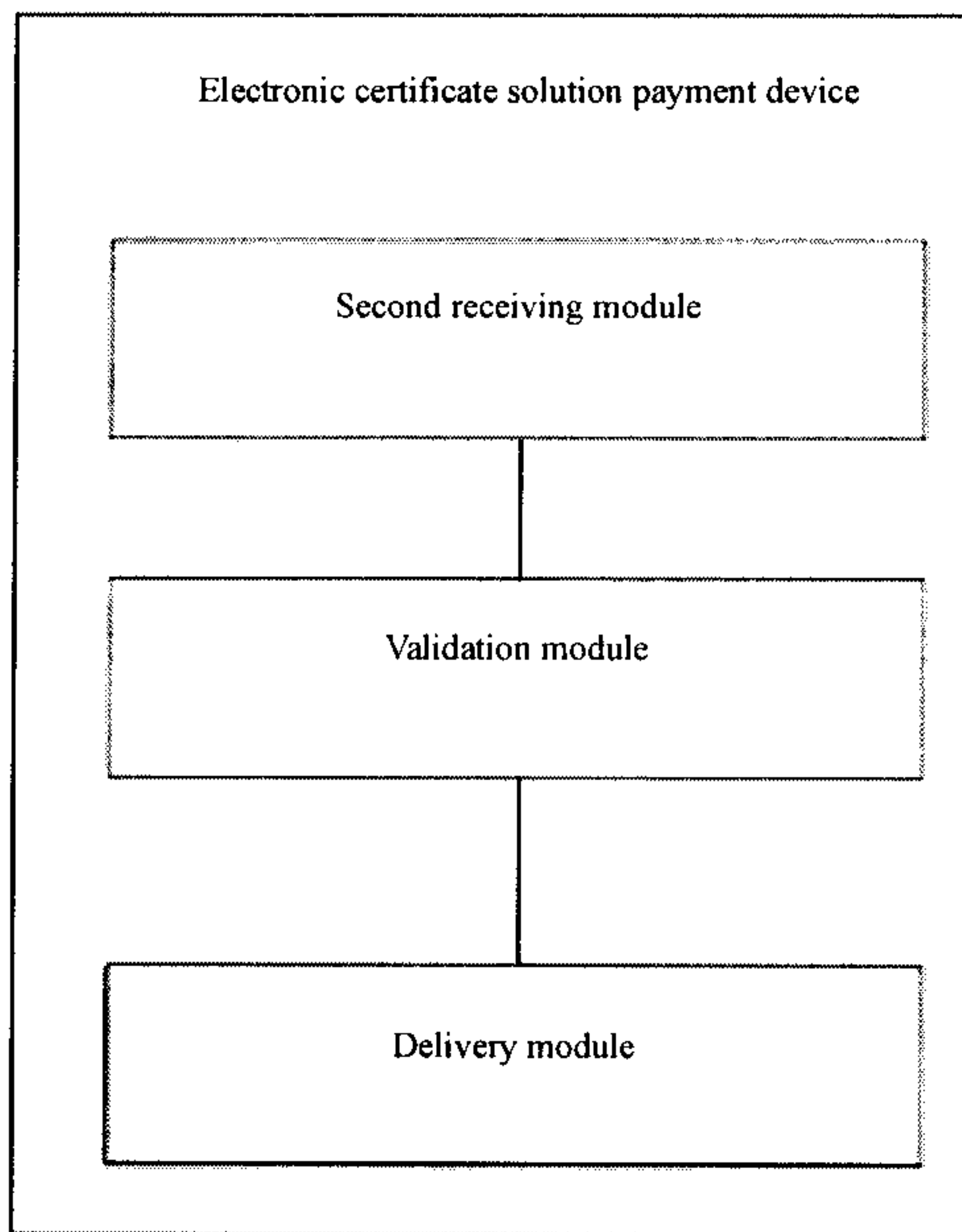


Figure 7

