

BLOCKCHAIN-BASED ACCOUNT MANAGEMENT METHOD AND APPARATUS

TECHNICAL FIELD

[0001] Embodiments of this specification relate to the field of computer technologies, and in particular, to a blockchain-based account management method.

BACKGROUND

[0002] With development of Internet technologies, online resource transfer brings great convenience to people's lives, and resource transfer security is particularly important. In the conventional technology, information is usually stored and managed by a centralized system. However, when a huge quantity of resources are transferred, management and processing pressure of the centralized system increases correspondingly, and correspondingly, a resource transfer success rate is also affected. The information stored in the centralized system is also at a risk of being tampered with. Therefore, an effective method is urgently needed to resolve the above-mentioned problem.

SUMMARY

[0003] In view of this, embodiments of this specification provide a blockchain-based account management method. One or more embodiments of this specification further relate to a blockchain-based account management apparatus, a blockchain-based account management system, a computing device, a computer-readable storage medium, and a computer program, to resolve a technical disadvantage in the conventional technology.

[0004] According to a first aspect of the embodiments of this specification, a blockchain-based account management method is provided, applied to a blockchain node corresponding to a server, including:

receiving a resource transfer request submitted by a resource transfer party;

invoking a resource transfer contract on a blockchain based on the resource transfer

request, and determining address information corresponding to the resource transfer party by executing the resource transfer contract;

determining a target account management contract corresponding to the resource transfer party on the blockchain based on the address information, where the target account management contract includes a resource transfer account list corresponding to the resource transfer party; and

detecting, by executing the target account management contract, a resource transfer account included in the resource transfer account list, and feeding back a detection result to the resource transfer party.

10 **[0005]** According to a second aspect of the embodiments of this specification, a blockchain-based account management apparatus is provided, applied to a blockchain node corresponding to a server, including:

a receiving module, configured to receive a resource transfer request submitted by a resource transfer party;

15 an execution module, configured to: invoke a resource transfer contract on a blockchain based on the resource transfer request, and determine address information corresponding to the resource transfer party by executing the resource transfer contract;

a determining module, configured to determine a target account management contract corresponding to the resource transfer party on the blockchain based on the address information, where the target account management contract includes a resource transfer account list corresponding to the resource transfer party; and

20 a detection module, configured to: detect, by executing the target account management contract, a resource transfer account included in the resource transfer account list, and feed back a detection result to the resource transfer party.

25 **[0006]** According to a third aspect of the embodiments of this specification, another blockchain-based account management method is provided, applied to a blockchain node corresponding to a server, including:

receiving a transaction request submitted by a transaction initiation party;

invoking a transaction contract on a blockchain based on the transaction request, and determining address information corresponding to the transaction initiation party by executing the transaction contract;

30 determining, on the blockchain based on the address information, a target account management contract corresponding to the transaction initiation party, where the target account management contract includes a transaction account list corresponding to the transaction initiation

party; and

detecting, by executing the target account management contract, a transaction account included in the transaction account list, and feeding back a detection result to the transaction initiation party.

5 **[0007]** According to a fourth aspect of the embodiments of this specification, another blockchain-based account management apparatus is provided, applied to a blockchain node corresponding to a server, including:

 a receiving module, configured to receive a transaction request submitted by a transaction initiation party;

10 an execution module, configured to: invoke a transaction contract on a blockchain based on the transaction request, and determine address information corresponding to the transaction initiation party by executing the transaction contract;

 a determining module, configured to determine, on the blockchain based on the address information, a target account management contract corresponding to the transaction initiation party,
15 where the target account management contract includes a transaction account list corresponding to the transaction initiation party; and

 a detection module, configured to: detect, by executing the target account management contract, a transaction account included in the transaction account list, and feed back a detection result to the transaction initiation party.

20 **[0008]** According to a fifth aspect of the embodiments of this specification, a blockchain-based account management system is provided, including a first blockchain node corresponding to a server and a second blockchain node corresponding to a transaction initiation party, where

 the first blockchain node is configured to: invoke a transaction contract on a blockchain in response to a transaction request, and determine address information corresponding to the
25 transaction initiation party by executing the transaction contract;

 the first blockchain node is further configured to determine, on the blockchain based on the address information, a target account management contract corresponding to the transaction initiation party, where the target account management contract includes a transaction account list corresponding to the transaction initiation party;

30 the first blockchain node is further configured to: detect, by executing the target account management contract, a transaction account included in the transaction account list, and feed back a detection result to the second blockchain node; and

 the second blockchain node is configured to execute a transaction task corresponding to the transaction request in response to the detection result.

[0009] According to a sixth aspect of some embodiments of this specification, a computing device is provided, including:

a memory and a processor, where

the memory is configured to store computer-executable instructions, the processor is configured to execute the computer-executable instructions, and when the computer-executable instructions are executed by the processor, steps of the blockchain-based account management method are implemented.

[0010] According to a seventh aspect of the embodiments of this specification, a computer-readable storage medium is provided. The computer-readable storage medium stores computer-executable instructions, and when the instructions are executed by a processor, steps of the blockchain-based account management method are implemented.

[0011] According to an eighth aspect of the embodiments of this specification, a computer program is provided. When the computer program is executed on a computer, the computer is enabled to perform steps of the blockchain-based account management method.

[0012] An embodiment of this specification provides a blockchain-based account management method, applied to a blockchain node corresponding to a server. A resource transfer contract and an account management contract are deployed on a blockchain of the blockchain node. A resource transfer request submitted by a resource transfer party is received, the resource transfer contract is invoked on the blockchain based on the resource transfer request, and address information corresponding to the resource transfer party is determined by executing the resource transfer contract; a target account management contract corresponding to the resource transfer party is determined on the blockchain based on the address information, where the target account management contract includes a resource transfer account list corresponding to the resource transfer party; a resource transfer account included in the resource transfer account list is detected by executing the target account management contract, and a detection result is fed back to the resource transfer party.

[0013] The resource transfer contract and the account management contract are deployed on the blockchain. After the resource transfer request is received, the resource transfer contract is executed, to determine the account management contract based on the address information included in the resource transfer contract. The resource transfer account included in the resource transfer account list is detected by executing the resource transfer management contract, to detect

whether resource transfer corresponding to a current resource transfer request can be performed, thereby determining whether the resource transfer can be performed, and improving a resource transfer success rate. A resource transfer account list of a resource transfer account that can perform resource transfer is maintained based on the account management contract on the blockchain, to
5 avoid low security caused by maintaining account information by using a centralized system, prevent the account information from being tampered with, and improve security of resource transfer and resource transfer account management.

BRIEF DESCRIPTION OF DRAWINGS

[0014] FIG. 1 is a schematic diagram illustrating a blockchain-based account management
10 method, according to an embodiment of this specification;

[0015] FIG. 2 is a flowchart illustrating a blockchain-based account management method, according to an embodiment of this specification;

[0016] FIG. 3 is a flowchart illustrating a processing process of a blockchain-based account management method, according to an embodiment of this specification;

15 [0017] FIG. 4 is a schematic structural diagram illustrating a blockchain-based account management apparatus, according to an embodiment of this specification;

[0018] FIG. 5 is a structural diagram illustrating a blockchain-based account management system, according to an embodiment of this specification;

[0019] FIG. 6 is a flowchart illustrating another blockchain-based account management
20 method, according to an embodiment of this specification;

[0020] FIG. 7 is a flowchart illustrating a processing process of another blockchain-based account management method, according to an embodiment of this specification;

[0021] FIG. 8 is a schematic structural diagram illustrating another blockchain-based account management apparatus, according to an embodiment of this specification; and

25 [0022] FIG. 9 is a structural block diagram illustrating a computing device, according to an embodiment of this specification.

DESCRIPTION OF EMBODIMENTS

[0023] Many specific details are set forth in the following descriptions to facilitate full

understanding of this specification. However, this specification can be implemented in many manners different from those described herein, and a person skilled in the art can make similar promotion without departing from the content of this specification, so that this specification is not limited to the specific implementations disclosed below.

5 **[0024]** Terms used in one or more embodiments of this specification are merely used to describe specific embodiments, and are not intended to limit the one or more embodiments of this specification. The terms "a" and "the" of singular forms used in one or more embodiments of this specification and the appended claims are also intended to include plural forms, unless otherwise specified in the context clearly. It should be further understood that the term "and/or" used in one
10 or more embodiments of this specification refers to and includes any or all possible combinations of one or more associated listed items.

[0025] It should be understood that although terms "first", "second", etc. can be used in one or more embodiments of this specification to describe various types of information, the information is not limited to these terms. These terms are used merely to differentiate information of the same
15 type. For example, the first can also be referred to as the second without departing from the scope of one or more embodiments of this specification, and similarly, the second can be referred to as the first. Depending on the context, the word "if" used herein can be interpreted as "when" or "while" or "in response to determining".

[0026] Blockchain transfer can be used in fields such as enterprise account management and
20 enterprise resource management. However, not all enterprises can support the blockchain transfer. An upstream/downstream system such as an enterprise needs to perform related configuration. An automatic and secure account management method needs to be provided, to determine a specific account that can support resource transfer, and implement automatic determining and transfer at a system level. In the conventional technology, an account that can perform resource transfer on a
25 blockchain is separately determined by a centralized system for each resource transfer request. Timeliness and security are both relatively low. Therefore, an embodiment of this specification provides a relatively secure blockchain-based account management method. The method is applied to a blockchain node corresponding to a server, and a resource transfer contract and an account management contract are deployed on a blockchain of the blockchain node.

30 **[0027]** FIG. 1 is a schematic diagram illustrating a blockchain-based account management method, according to an embodiment of this specification. As shown in FIG. 1, a resource transfer

contract and an account management contract are deployed on a blockchain of a blockchain node, and the resource transfer contract includes resource transfer information and address information of the account management contract. The account management contract includes persistent data, a resource transfer contract address, and an interface provided for a resource transfer party. A resource transfer account list can be updated and the resource transfer account list can be queried through the interface. A user 1 can be an enterprise or an individual user. The enterprise can directly initiate transfer to a resource transfer contract on the blockchain node, or can submit a request to the account management contract, to query whether an account supports blockchain resource transfer. A user 2 represents the resource transfer party. The user 2 can be a serving party, or can be an institution, an individual, or a company. The user 2 can directly submit a request to the account management contract, to query whether an account supports blockchain resource transfer.

[0028] In a specific implementation, a server receives a resource transfer request submitted by the resource transfer party, invokes the resource transfer contract on the blockchain based on the resource transfer request, and determines address information corresponding to the resource transfer party by executing the resource transfer contract. A target account management contract corresponding to the resource transfer party is determined on the blockchain based on the address information. The target account management contract includes a resource transfer account list corresponding to the resource transfer party. A resource transfer account included in the resource transfer account list is detected by executing the target account management contract, and a detection result is fed back to the resource transfer party.

[0029] The resource transfer contract and the account management contract are deployed on the blockchain. After the resource transfer request is received, the resource transfer contract is executed, to determine the account management contract based on the address information included in the resource transfer contract. The resource transfer account included in the resource transfer account list is detected by executing the resource transfer management contract, to detect whether resource transfer corresponding to a current resource transfer request can be performed, thereby determining whether the resource transfer can be performed, and improving a resource transfer success rate. A resource transfer account list of a resource transfer account that can perform resource transfer is maintained based on the account management contract on the blockchain, to avoid low security caused by maintaining account information by using a centralized system, prevent the account information from being tampered with, and improve security of resource

transfer and resource transfer account management.

[0030] It should be noted that information (including but not limited to device information, personal information, etc.) and data (including but not limited to data used for analysis, stored data, displayed data, etc.) used in this application are information and data that are authorized or fully
5 authorized by each party, related data needs to be collected, used, and processed by abiding by related laws and regulations and standards of a related country and region, and a corresponding operation entry is provided, so that the user chooses to perform authorization or rejection.

[0031] In this specification, a blockchain-based account management method is provided. This specification further relates to a blockchain-based account management apparatus, a blockchain-
10 based account management system, a computing device, a computer-readable storage medium, and a computer program. The blockchain-based account management method, the blockchain-based account management apparatus, the blockchain-based account management system, the computing device, the computer-readable storage medium, and the computer program are described in detail one by one in the following embodiments.

[0032] FIG. 2 is a flowchart illustrating a blockchain-based account management method, according to an embodiment of this specification. The blockchain-based account management method is applied to a blockchain node corresponding to a server, and specifically includes the following steps.

[0033] Step S202: Receive a resource transfer request submitted by a resource transfer party.

[0034] Specifically, resource transfer can be transferring a resource such as a picture, a text, a
20 file, or audio/videos. Correspondingly, the resource transfer party is a resource transfer-out party or a resource receiver. The resource transfer request is a computer instruction that is submitted based on a to-be-transferred resource and that is used to transfer the to-be-transferred resource. The resource transfer request can be a computer command that is submitted by the resource transfer
25 party for a to-be-transferred resource and that is used to transfer out the to-be-transferred resource; or can be a computer command that is submitted by the resource transfer party for the resource transfer-out party and that is used to receive a to-be-transferred resource, to obtain a to-be-transferred resource provided by the resource transfer-out party.

[0035] Based on this, when a resource transfer-out or transfer-in is performed, the resource
30 transfer party can submit the resource transfer request, so that the resource transfer party transfers out the to-be-transferred resource. Alternatively, the resource transfer party can submit the resource

transfer request for the resource transfer party, to obtain the to-be-transferred resource from the resource transfer-out party, so as to implement resource obtaining.

[0036] In actual applications, a resource transfer contract and an account management contract are deployed on a blockchain of the blockchain node, and the resource transfer contract and the account management contract are both smart contracts. The smart contract is a computer protocol deployed on the blockchain, is transmitted and verified in an information-based manner, and is executed once some predefined conditions are satisfied.

[0037] Further, when the resource transfer is implemented based on the blockchain, the resource transfer can be implemented only when the resource transfer party supports blockchain transfer. Therefore, the resource transfer contract can be deployed on the blockchain before the resource transfer request is submitted. A specific implementation is as follows:

[0038] The account management contract is created based on a resource transfer account list submitted by the resource transfer party, and an initial resource transfer contract is created. The initial resource transfer contract and the account management contract are uploaded to the blockchain. Address information of the account management contract is determined, and the initial resource transfer contract is updated to the resource transfer contract based on the address information.

[0039] Specifically, the resource transfer account list is used to store account information of a resource receiver corresponding to the resource transfer party. After the account management contract is created based on the resource transfer account list, the account management contract includes the resource transfer account list. Resource transfer account information of a resource transfer account that can receive a to-be-transferred resource transferred out by the resource transfer party is stored in the resource transfer account list. The initial resource transfer contract is a smart contract that is deployed on the blockchain and that is used to receive the resource transfer request submitted by the resource transfer party. The initial resource transfer contract includes an address management list, and the address management list stores the address information of the account management contract on the blockchain. The address information of the account management contract is recorded in the address management list of the initial resource transfer contract, so that the initial resource transfer contract is updated to the resource transfer contract.

[0040] Based on this, the account management contract is created based on the resource transfer account list submitted by the resource transfer party. The account management contract

includes the resource transfer account information in the resource transfer account list. The initial resource transfer contract is created, the initial resource transfer contract and the account management contract are uploaded to the blockchain node, and a consensus is reached on another node on the blockchain. The address information of the account management contract on the blockchain is determined, and the initial resource transfer contract is updated to the resource transfer contract based on the address information. That is, the address information of the account management contract is stored in an address information list included in the resource transfer contract. Therefore, the account management contract corresponding to the resource transfer party that submits the resource transfer request can be determined when the resource transfer request is received.

[0041] For example, in a scenario in which the resource such as the audio/videos, the picture, the text, or the file is transferred, the resource can be transferred based on the blockchain. The resource transfer contract and the account management contract are created and deployed on the blockchain node. The resource transfer contract includes the address information of the account management contract, the account management contract corresponds to the resource transfer-out user, the account management contract includes an account list, and the account list stores a resource receiving user corresponding to the resource transfer-out user. After submitting a resource transfer-out request to the blockchain, the resource transfer-out user invokes and executes the resource transfer contract, to determine the account management contract based on the address information included in the resource transfer contract.

[0042] In conclusion, the account management contract and the resource transfer contract are deployed on the blockchain, so that the resource transfer account information included in the account management contract is prevented from being tampered with, thereby improving information security, and further improving resource transfer security.

[0043] Further, after the resource transfer request submitted by the resource transfer party is received, resource transfer information corresponding to the resource transfer request further needs to be queried subsequently. Therefore, after the resource transfer request is received, the resource transfer information corresponding to the resource transfer request can be recorded. A specific implementation is as follows:

[0044] The resource transfer request is parsed, and resource transfer-out party information, resource transfer-in party information, resource information, and resource prompt information are

determined based on a parsing result. The resource transfer information is generated based on the resource transfer-out party information, the resource transfer-in party information, the resource information, and the resource prompt information, and resource record information included in the resource transfer contract is updated based on the resource transfer information.

5 **[0045]** Specifically, the resource transfer request corresponds to a resource transfer operation. When two or more parties perform a resource transfer operation, a party that provides a resource is a resource transfer-out party, and correspondingly, one or more parties that receive the resource are resource transfer-in parties. Therefore, the resource transfer request carries the resource transfer-out party information and the resource transfer-in party information, and the following
10 can be obtained by parsing the resource transfer request: The resource information indicates information about a to-be-transferred resource, and includes but is not limited to information such as a name, a quantity, and a size of the resource. The resource prompt information can be text or picture information that is added when the resource transfer-out party transfers out a resource and that has functions such as an explanation or a prompt.

15 **[0046]** Based on this, after the resource transfer request is received, the resource transfer request is parsed, and the resource transfer-out party information, at least one piece of resource transfer-in party information, the resource information, and the resource prompt information that correspond to the resource transfer request are determined based on the parsing result. The resource transfer-out party information, the resource transfer-in party information, the resource information,
20 and the resource prompt information form the resource transfer information corresponding to the resource transfer request. Subsequently, the resource record information included in the resource transfer contract can be updated based on the resource transfer information, to record the resource transfer information. The resource transfer information can be further used to subsequently execute a resource transfer task corresponding to the resource transfer request, and can be further used to
25 subsequently query the resource transfer task in detail after the resource transfer task corresponding to the resource transfer request is executed.

[0047] The above-mentioned example is still used. The resource transfer request is parsed, to learn that the resource transfer-out party is a user A, resource transfer-in parties are a user B and a user C, resource transfer-out information is video data 1 and video data 2, and the resource prompt
30 information is "Please save data". After the resource transfer information is obtained through parsing, a hash value obtained through calculation can be chained after a hash operation is

performed on the resource transfer information, to implement information storage.

[0048] In conclusion, the resource record information included in the resource transfer contract is updated based on the resource transfer information that includes the resource transfer-out party information, the resource transfer-in party information, the resource information, and the resource prompt information, to subsequently query the resource transfer information corresponding to the resource transfer request.

[0049] Step S204: Invoke the resource transfer contract on the blockchain based on the resource transfer request, and determine address information corresponding to the resource transfer party by executing the resource transfer contract.

[0050] Specifically, after the resource transfer request submitted by the resource transfer party is received, the resource transfer contract can be invoked on the blockchain based on the resource transfer request, and the address information corresponding to the resource transfer party is determined by executing the resource transfer contract. The resource transfer contract is a smart contract deployed on the blockchain, and the resource transfer contract is used to store the resource transfer information, and store the address information of the account management contract deployed on the blockchain. After the resource transfer request submitted by the resource transfer party is received, the resource transfer contract is invoked. The address information is an address of the account management contract corresponding to the resource transfer party on the blockchain. The address information corresponding to the resource transfer party can be determined by executing the resource transfer contract.

[0051] Based on this, after the resource transfer request submitted by a resource transfer party is received, the resource transfer contract is invoked and executed on the blockchain based on the resource transfer request submitted by the resource transfer party. The address information of the resource transfer party can be determined by executing the resource transfer contract. The address information of the resource transfer party is used to determine the account management contract corresponding to the address information on the blockchain.

[0052] In actual applications, a blockchain node on which the resource transfer contract is deployed is configured to receive and process the resource transfer request submitted by the resource transfer party, and is configured to store the resource transfer information included in the resource transfer request submitted by the resource transfer party. Therefore, if the resource transfer party has a resource transfer requirement, the resource transfer party can first submit the

resource transfer request to the blockchain node. The blockchain node receives the resource transfer request, and stores the resource transfer information carried in the resource transfer request, to execute a subsequent task.

[0053] Further, in consideration that a relatively large quantity of resources are wasted when one account management contract is created for each resource transfer party, all accounts can be managed by creating one account management contract. A specific implementation is as follows:

[0054] Contract address information is determined by executing the resource transfer contract, and the contract address information is used as the address information of the resource transfer party. Correspondingly, that a target account management contract corresponding to the resource transfer party on the blockchain based on the address information includes: determining a global account management contract on the blockchain based on the contract address information, and using the global account management contract as the target account management contract, where a global account list included in the global account management contract stores account information corresponding to at least one resource transfer party.

[0055] Specifically, the contract address information is address information, on the blockchain, of the global account management contract that correspond to all resource transfer parties corresponding to the blockchain. The global account management contract can be found on the blockchain based on the contract address information. The global account management contract includes the global account list, and the global account list stores account information of all the resource transfer parties corresponding to the blockchain.

[0056] Based on this, the resource transfer contract includes the contract address information, and the contract address information can be determined by executing the resource transfer contract. The global account management contract of all the resource transfer parties corresponding to the blockchain can be determined on the blockchain based on the contract address information, the global account management contract includes the global account list, and the global account list stores the account information corresponding to all the resource transfer parties. When a resource transfer request submitted by any resource transfer party is received, address information of the global account management contract can be determined by executing the resource transfer contract, and then the global account management contract is invoked.

[0057] The above-mentioned example is still used. Account information of a resource receiver that can receive a resource and that corresponds to a resource transfer party 1 and a resource

transfer party 2 that correspond to the blockchain is stored in the global account list, and the global account management contract includes the global account list. The resource transfer contract includes the contract address information of the global account management contract. When receiving a resource transfer request submitted by the resource transfer party 1 or the resource transfer party 2, the resource transfer contract can be invoked, the contract address information of the global account management contract can be determined by executing the resource transfer contract, and the global account list in the global account management contract is determined, to detect the global account list.

[0058] In conclusion, the address information of the global account management contract is stored in the resource transfer contract, so that the global account management contract is invoked when the resource transfer request is received, to improve smart contract invocation efficiency and reduce account management complexity.

[0059] Further, in consideration that different detection results are obtained when the resource transfer account list included in the global account management contract is detected by executing the global account management contract, different information needs to be generated based on different detection results and is fed back to the resource transfer party. A specific implementation is as follows:

[0060] The resource transfer account list included in the global account management contract is detected by executing the global account management contract. If it is detected that the resource transfer account list includes resource transfer-out account information and resource transfer-in account information that are associated with the resource transfer request, prompt information is generated and fed back to the resource transfer party associated with the resource transfer request; or if it is detected that the resource transfer account list does not include resource transfer-out account information and/or resource transfer-in account information that are/is associated with the resource transfer request, alert information is generated and fed back to the resource transfer party associated with the resource transfer request.

[0061] Specifically, the resource transfer-out account information is the account information of the resource receiver corresponding to the resource transfer party. The alert information is prompt information used to prompt the resource transfer party with a case in which the resource transfer-out account information is not detected, and further indicates that a resource transfer task corresponding to a current resource transfer request cannot continue to be executed or detection

fails, that is, execution fails. Correspondingly, the prompt information is notification information used to notify the resource transfer party that the resource transfer-out account information is detected, and further indicates that the resource transfer task corresponding to the current resource transfer request can continue to be executed or detection succeeds.

5 **[0062]** Based on this, the resource transfer account list included in the global account management contract is detected by executing the global account management contract. If the resource transfer account included in the resource transfer account list is detected, and it is detected that the resource transfer account list includes resource transfer-out account information and resource transfer-in account information that are associated with the resource transfer request, it
10 indicates that the resource transfer party and a resource transfer-out party corresponding to the resource transfer party exist in the resource transfer account list. Therefore, current detection of the resource transfer task corresponding to the resource transfer request succeeds, and the resource transfer task can continue to be performed, or a downstream task can continue to be processed. Further, the prompt information is generated and fed back to the resource transfer party associated
15 with the resource transfer request. If it is detected that the resource transfer account list does not include resource transfer-out account information and/or resource transfer-in account information that are associated with the resource transfer request, it indicates that the resource transfer party and/or a resource transfer-out party corresponding to the resource transfer party do not exist in the resource transfer account list. Therefore, the resource transfer task corresponding to the resource
20 transfer request cannot continue to be executed. Further, the alert information is generated and fed back to the resource transfer party associated with the resource transfer request.

[0063] The above-mentioned example is still used. The resource transfer-out party is the user A, and the resource transfer-in parties are the user B and the user C. When the resource transfer account included in the resource transfer account list is detected based on the user B and the user
25 C, if the resource transfer account list includes account information of the user A, account information of the user B, and account information of the user C, it indicates that detection succeeds, and notification information indicating that detection succeeds is fed back to the user A; or if the resource transfer account list does not include account information of the user A, and/or account information of the user B, and/or account information of the user C, it indicates that
30 detection fails, and notification information indicating that detection fails is fed back to the user A, and includes a reason why detection fails.

[0064] In conclusion, the resource transfer account list included in the global account management contract is detected by executing the global account management contract, and then different information is fed back to the resource transfer party based on different detection results, thereby facilitating subsequent processing based on different feedback information, and improving resource transfer flexibility.

[0065] Step S206: Determine the target account management contract corresponding to the resource transfer party on the blockchain based on the address information, where the target account management contract includes the resource transfer account list corresponding to the resource transfer party.

[0066] Specifically, after the resource transfer contract is invoked on the blockchain based on the resource transfer request, and the address information corresponding to the resource transfer party is determined by executing the resource transfer contract, the target account management contract corresponding to the resource transfer party can be determined on the blockchain based on the address information. The target account management contract includes the resource transfer account list corresponding to the resource transfer party. The target account management contract is a smart contract deployed on the blockchain, the target account management contract includes the resource transfer account list corresponding to the resource transfer party, the resource transfer account list stores a resource receiver that corresponds to the resource transfer party and that can receive a resource transferred out by the resource transfer party, the resource transfer account list can further store a resource transfer-out party that corresponds to the resource transfer party and that can transfer out a to-be-transferred-out resource, and a receiver of the to-be-transferred-out resource is the resource transfer party.

[0067] Based on this, after the resource transfer contract is invoked on the blockchain based on the resource transfer request, and address information corresponding to the resource transfer party is determined by executing the resource transfer contract, the target account management contract corresponding to the resource transfer party is determined, based on the address information, in a plurality of account management contracts deployed on the blockchain. The target account management contract includes the resource transfer account list corresponding to the resource transfer party, and the target account management contract can further include the address information of the resource transfer contract.

[0068] In actual applications, each resource transfer party on the blockchain can correspond to

one account management contract, and the account management contract includes a resource receiver list used to store information about a resource receiver corresponding to the resource transfer party. Therefore, after the resource transfer request is received, the resource transfer contract is invoked and executed, the address information corresponding to the resource transfer party is determined, the account management contract corresponding to the resource transfer party is determined on the blockchain based on the address information, whether information about a resource receiver corresponding to the resource transfer request is stored in the resource receiver list is determined by executing the account management contract, and whether the resource transfer operation corresponding to the resource transfer request can be performed on the blockchain is determined.

[0069] Step S208: Detect, by executing the target account management contract, the resource transfer account included in the resource transfer account list, and feed back a detection result to the resource transfer party.

[0070] Specifically, after the target account management contract corresponding to the resource transfer party is determined on the blockchain based on the address information, and the target account management contract includes the resource transfer account list corresponding to the resource transfer party, the resource transfer account included in the resource transfer account list is detected by executing the target account management contract, and a detection result is fed back to the resource transfer party. The resource transfer account is an account that corresponds to the resource transfer party and that can receive the resource transferred out by the resource transfer party, and the resource transfer account included in the resource transfer account list can implement blockchain transfer. Detection is performed to determine whether an account of the resource receiver corresponding to the resource transfer request is stored in the resource transfer account list. If the account of the resource receiver corresponding to the resource transfer request is stored in the resource transfer account list, it indicates that the resource receiver corresponding to the resource transfer request can implement the blockchain transfer, and a current resource transfer request can be executed. If the account of the resource receiver corresponding to the resource transfer request is not stored in the resource transfer account list, it indicates that the resource receiver corresponding to the resource transfer request cannot implement the blockchain transfer, and a current resource transfer request cannot be executed. Correspondingly, detection results can be that detection succeeds and detection fails, and can further include or do not include detection

information indicating that whether the resource transfer account list includes a resource receiving account corresponding to the resource transfer party.

[0071] Based on this, after the target account management contract corresponding to the resource transfer party is determined on the blockchain based on the address information, the target account management contract is executed, the resource transfer account list included in the target account management contract is detected, whether the resource transfer account associated with the resource transfer request exists in resource transfer accounts included in the resource transfer account list, and a detection result is fed back to the resource transfer party. If it is detected that the resource transfer account list does not include the resource transfer account associated with the resource transfer request, the resource transfer operation corresponding to the resource transfer request cannot continue to be performed, and prompt information indicating a meaning such as a failure is fed back to the resource transfer party. If it is detected that the resource transfer account list includes the resource transfer account associated with the resource transfer request, the resource transfer operation corresponding to the resource transfer request can continue to be performed, and prompt information indicating a meaning such as a detection success is fed back to the resource transfer party.

[0072] Further, in consideration that there are two different detection results when the resource transfer account included in the resource transfer account list is detected, to facilitate execution of a subsequent task, different information needs to be fed back to the resource transfer party for the different detection results, to play a prompt function. A specific implementation is as follows:

[0073] If it is detected that the resource transfer account list does not include resource processing account information associated with the resource transfer request, resource transfer warning information is generated, and the resource transfer warning information is fed back to the resource transfer party as the detection result; or if it is detected that the resource transfer account list includes resource processing account information associated with the resource transfer request, resource transfer notification information is generated, and the resource transfer notification information is fed back to the resource transfer party as the detection result.

[0074] Specifically, the resource processing account information is account information of the resource receiver corresponding to the resource transfer party. The resource transfer warning information is prompt information that is used to prompt the resource transfer party with a case in which the resource processing account information is not detected, and further indicates that the

resource transfer task corresponding to the current resource transfer request cannot continue to be executed or detection fails, that is, execution fails. Correspondingly, the resource transfer notification information is notification information used to notify the resource transfer party that the resource processing account information is detected, and further indicates that the resource transfer task corresponding to the current resource transfer request can continue to be executed or detection succeeds.

[0075] Based on this, if the resource transfer account included in the resource transfer account list is detected, and it is detected that the resource transfer account list does not include the resource processing account information associated with the resource transfer request, it indicates that no resource receiver corresponding to the resource transfer party exists in the resource transfer account list. Therefore, the resource transfer task corresponding to the resource transfer request cannot continue to be executed, the resource transfer warning information is generated, and the resource transfer warning information is fed back to the resource transfer party as the detection result. If it is detected that the resource transfer account list includes the resource processing account information associated with the resource transfer request, it indicates that the resource receiver corresponding to the resource transfer party exists in the resource transfer account list. Therefore, current detection of the resource transfer task corresponding to the resource transfer request succeeds, and the resource transfer task can continue to be performed or the downstream task can continue to be processed. Further, the resource transfer notification information is generated, and the resource transfer notification information is fed back to the resource transfer party as the detection result.

[0076] The above-mentioned example is still used. The resource transfer-out party is the user A, and the resource transfer-in parties are the user B and the user C. When the resource transfer account included in the resource transfer account list is detected based on the user B and the user C, if the resource transfer account list includes account information of the user B and account information of the user C, it indicates that detection succeeds, and notification information indicating that detection succeeds is fed back to the user A; or if the resource transfer account list does not include account information of the user B and/or account information of the user C, it indicates that detection fails, and notification information indicating that detection fails is fed back to the user A, and includes a reason why detection fails.

[0077] In conclusion, the resource transfer account included in the resource transfer account

list is detected by executing the target account management contract, and then different information is fed back to the resource transfer party based on different detection results, to prompt the resource transfer party, so that the resource transfer party learns of an execution progress of the resource transfer task corresponding to the resource transfer request, to improve user experience.

[0078] Further, in consideration that the target account management contract includes the resource transfer account list of the resource transfer party, and the resource transfer account information recorded in the resource transfer account list is not unchanged, to improve execution efficiency and an execution success rate of the resource transfer task, the resource transfer account list can be queried in advance before the resource transfer request is submitted. A specific implementation is as follows:

[0079] An account query request submitted by the resource transfer party is received; the target account management contract is invoked based on the account query request, and the resource transfer account list included in the target account management contract is queried; and a query result is fed back to the resource transfer party; or an information query request submitted by the resource transfer party is received, where the information query request carries information about a queried party; and a first account management contract corresponding to the queried party is invoked based on the information about the queried party, a first resource transfer account list included in the first account management contract is queried, and a query result is fed back to the resource transfer party.

[0080] Specifically, the account query request is a computer instruction used to query resource transfer account information corresponding to the resource transfer party, and a resource transfer account corresponding to the resource transfer party can be an account of a resource sender that transfers a resource to the resource transfer party. The information query request is a computer instruction for querying resource transfer account information corresponding to the queried party. A resource transfer account corresponding to the queried party can be an account of a resource receiver that can receive a resource transferred by the resource transfer party. The information about the queried party is another resource transfer party that corresponds to the information query request, that needs to be obtained by the resource transfer party, and that can perform a resource transfer-in and a resource transfer-out. Correspondingly, the first account management contract is an account management contract corresponding to the queried party, and includes a resource

transfer party associated with the queried party. The first resource transfer account list is a list that stores account information of a resource transfer party associated with the queried party.

[0081] Based on this, when the resource transfer party needs to query the resource transfer account corresponding to the resource transfer party, an account query request can be submitted for the blockchain node. After receiving the account query request submitted by the resource transfer party, the blockchain node invokes, based on the account query request, the target account management contract of the resource transfer account list that stores the resource transfer account information corresponding to the resource transfer party, queries the resource transfer account list included in the target account management contract, and feeds back a query result to the resource transfer party. Therefore, a resource sender that corresponds to the resource transfer party and that can receive a resource is determined based on the query result. The account query request can be to query all resource transfer accounts corresponding to the resource transfer party, or can be to submit an account query request for a resource transfer account, to determine whether the account has a resource transfer relationship with the resource transfer party.

[0082] In addition, when the resource transfer party needs to query resource transfer account information corresponding to another resource transfer party, the resource transfer party can submit an information query request for a blockchain node. After receiving the information query request submitted by the resource transfer party, the blockchain node invokes, based on information that is about the queried party and that is carried in the information query request, the first account management contract corresponding to the queried party, queries the first resource transfer account list included in the first account management contract, and feeds back the query result to the resource transfer party. Therefore, a resource receiver that corresponds to the resource transfer party and that can receive a resource can be determined based on the query result. The information query request can be an information query request submitted for a resource processing party, and is used to query whether the resource processing party can receive a resource sent by a resource transfer party that submits the information query request.

[0083] The above-mentioned example is still used. If the resource transfer party, namely, the user A needs to query all users such as a resource receiver or a resource sender that can complete resource transfer based on the blockchain, the user A can submit an account query request to a blockchain node, to obtain an account list of the users. If the resource transfer party, namely, the user A needs to query whether the user B can complete resource transfer based on the blockchain,

the user A can submit an account query request to a blockchain node for the user B, to determine whether the user B can receive a resource sent by the user A or whether the user A can send a resource to the user B.

[0084] In addition, if the resource transfer party, namely, the user A needs to query all users such as a resource receiver or a resource sender that corresponds to another resource transfer party, namely, the user C and that can complete resource transfer based on the blockchain, the user A can submit an information query request to a blockchain node, to obtain an account list of the users. Whether the user C can receive funds sent by the user A and whether the user C can send funds to the user A can be learned of based on the obtained account list.

[0085] In conclusion, before the resource transfer request is submitted, the resource transfer account list is queried in advance, thereby improving execution efficiency and an execution success rate of the resource transfer task, and improving flexibility of performing an information query by the resource transfer party.

[0086] Further, in consideration that the target account management contract includes the resource transfer account list of the resource transfer party, and the resource transfer account information recorded in the resource transfer account list needs to be updated, to improve convenience of maintaining the resource transfer account list by the resource transfer party, an account update request can be directly submitted, to implement targeted update of the account information recorded in the resource transfer account list. A specific implementation is as follows:

[0087] An account update request submitted by the resource transfer party is received; the target account management contract corresponding to the resource transfer party is determined based on the account update request; the resource transfer account list corresponding to the resource transfer party is determined in the target account management contract; and the resource transfer account list is updated, and an update result is broadcast on the blockchain.

[0088] Based on this, the account update request is a computer instruction used to update information in the resource transfer account list corresponding to the resource transfer party. Update includes but is not limited to deleting and modifying information in the resource transfer account list, and adding information. If the resource transfer party needs to update the information in the resource transfer account list, the resource transfer party submits an account update request to a blockchain node. After receiving the account update request submitted by the resource transfer party, the blockchain node determines the target account management contract corresponding to

the resource transfer party based on the account update request, determines the resource transfer account list corresponding to the resource transfer party in the target account management contract, updates the resource transfer account list, and broadcasts an update result on the blockchain. Updating the resource transfer account list can be: predetermining resource transfer account information that needs to be stored in the resource transfer account list; uploading the resource transfer account information to the blockchain node; and after the blockchain completes a consensus, storing the resource transfer account information in the resource transfer account list, and performing a consensus between blockchain nodes, to update the resource transfer account list. In actual applications, updating of the resource transfer account list can be completed by using another smart contract on the blockchain. In addition, resource transfer account information that needs to be modified or deleted is determined in the resource transfer account list, and modification and deletion of the information are completed by using another smart contract on the blockchain, thereby completing a consensus on the blockchain, to update the resource transfer account information in the resource transfer account list and perform broadcasting on the blockchain.

[0089] The above-mentioned example is still used. The resource transfer account list stores the user B, the user C, and a user D that can perform resource transfer with the resource transfer party, namely, the user A. If information about the user C needs to be modified or deleted, the resource transfer party, namely, the user A can submit an account update request, determine the information corresponding to the user C in the resource transfer account list based on the account update request, modify or delete the information, and perform broadcasting on the blockchain. If information about a user E needs to be stored in the resource transfer account list, the resource transfer party, namely, the user A can submit an account update request, chain the information about the user E, update the resource transfer account list based on the chained information about the user E, store the information about the user E in the resource transfer account list, and perform broadcasting on the blockchain.

[0090] In conclusion, the resource transfer contract and the account management contract are deployed on the blockchain. After the resource transfer request is received, the resource transfer contract is executed, to determine the account management contract based on the address information included in the resource transfer contract. The resource transfer account included in the resource transfer account list is detected by executing the resource transfer management contract, to detect whether resource transfer corresponding to a current resource transfer request

can be performed, thereby determining whether the resource transfer can be performed, and improving a resource transfer success rate. A resource transfer account list of a resource transfer account that can perform resource transfer is maintained based on the account management contract on the blockchain, to avoid low security caused by maintaining account information by using a centralized system, prevent the account information from being tampered with, and improve security of resource transfer and resource transfer account management.

[0091] With reference to FIG. 3, the following further describes the blockchain-based account management method by using an example in which the blockchain-based account management method provided in this specification is applied to information transfer. FIG. 3 is a flowchart illustrating a processing process of a blockchain-based account management method, according to an embodiment of this specification. The following steps are specifically included.

[0092] Step S302: Create an account management contract based on a data receiving account list submitted by a data sender, create an initial data transfer contract, and upload the initial data transfer contract and the account management contract to a blockchain.

[0093] The data sender can be an enterprise or an individual. Correspondingly, a data receiving account is an enterprise or an individual that corresponds to the enterprise or the individual and that is used to receive data. During initialization, a data transfer contract and the account management contract are deployed on the blockchain.

[0094] Step S304: Determine address information of the account management contract, and update the initial data transfer contract to the data transfer contract based on the address information.

[0095] After the data transfer contract and the account management contract are deployed on the blockchain, an address of the account management contract can be set in the data transfer contract. The address is set, so that when the data sender initiates a data sending task, the account management contract is automatically invoked, and compliance of an account associated with a blockchain transaction is verified.

[0096] Step S306: Parse a data sending request submitted by the data sender, determine data sender information, data receiver information, data information, and data prompt information based on a parsing result, and update data record information included in the data transfer contract.

[0097] Step S308: Invoke the data transfer contract on the blockchain based on the data sending request, and determine address information corresponding to the data sender by executing

the data transfer contract.

[0098] Step S310: Determine a target account management contract corresponding to the data sender on the blockchain based on the address information, where the target account management contract includes the data receiving account list corresponding to the data sender.

5 **[0099]** Step S312: Detect, by executing the target account management contract, a data receiving account included in the data receiving account list.

[0100] Step S314: If it is detected that the data receiving account list does not include data processing account information associated with the data sending request, generate data sending warning information, and feed back the data sending warning information to the data sender as a
10 detection result.

[0101] Data sending information corresponding to the data sending request includes data receiver account information and data sender account information. If it is detected that the data receiving account list does not include the data receiver account information and/or the data sender account information, a current data sending task fails.

15 **[0102]** Step S316: If it is detected that the data receiving account list includes the data processing account information associated with the data sending request, generate data sending notification information, and feed back the data sending notification information to the data sender as a detection result.

[0103] Step S318: Invoke the target account management contract based on an account query
20 request submitted by the data sender, query the data receiving account list included in the target account management contract, and feed back a query result to the data sender.

[0104] Step S320: Invoke a first account management contract corresponding to a queried party based on information that is about the queried party and that is carried in an information query request submitted by the data sender, query a first data receiving account list included in the
25 first account management contract, and feed back a query result to the data sender.

[0105] Any on-chain user can invoke a query interface in the account management contract, to query an account list supported by each data sender. If either an account of the data receiver or an account of the data sender corresponding to a data sending task to be submitted by the data sender does not support blockchain transfer, information does not need to be submitted to a
30 transaction contract, to avoid a potential failure, and improve a data sending success rate.

[0106] Step S322: Determine the target account management contract corresponding to the

data sender based on an account update request submitted by the data sender.

[0107] Step S324: Determine the data receiving account list corresponding to the data sender in the target account management contract.

[0108] Step S326: Update the data receiving account list, and broadcast an update result on the blockchain.

[0109] The account management contract provides an update interface, to allow the on-chain user (the enterprise or the individual) to update an account list of the on-chain user, including adding account information and modifying and deleting account information that has been in the account list.

[0110] In conclusion, the data transfer contract and the account management contract are deployed on the blockchain, and after the data sending request is received, the data transfer contract is executed, and the account management contract is further determined based on the address information included in the data transfer contract. The data receiving account included in the data receiving account list is detected by executing the data sending management contract, and whether a data sending task corresponding to a current data sending request can be executed is detected, thereby determining whether the data sending task can be executed, and improving a data sending success rate. Before the data sender sends data to a data receiver that has an association relationship with the data sender, whether account information of the data receiver is stored in the data receiving account list is queried. If the account information exists in the data receiving account list, the data sending request is subsequently submitted, to perform a pre-query before data sending, and ensure that information about the data receiver is stored in an account list of the data receiver, so that data can be securely sent between the data sender and the data receiver, and pre-processing for secure data sending is implemented.

[0111] Corresponding to the method embodiment, this specification further provides an embodiment of a blockchain-based account management apparatus. FIG. 4 is a schematic structural diagram illustrating a blockchain-based account management apparatus, according to an embodiment of this specification. As shown in FIG. 4, the apparatus is applied to a blockchain node corresponding to a server, and includes:

a receiving module 402, configured to receive a resource transfer request submitted by a resource transfer party;

an execution module 404, configured to: invoke a resource transfer contract on a

blockchain based on the resource transfer request, and determine address information corresponding to the resource transfer party by executing the resource transfer contract;

a determining module 406, configured to determine a target account management contract corresponding to the resource transfer party on the blockchain based on the address
5 information, where the target account management contract includes a resource transfer account list corresponding to the resource transfer party; and

a detection module 408, configured to: detect, by executing the target account management contract, a resource transfer account included in the resource transfer account list, and feed back a detection result to the resource transfer party.

10 **[0112]** In an optional embodiment, the receiving module 402 is further configured to:

create an account management contract based on the resource transfer account list submitted by the resource transfer party, and create an initial resource transfer contract; upload the initial resource transfer contract and the account management contract to the blockchain; and determine address information of the account management contract, and update the initial resource
15 transfer contract to the resource transfer contract based on the address information.

[0113] In an optional embodiment, the execution module 404 is further configured to:

parse the resource transfer request, and determine resource transfer-out party information, resource transfer-in party information, resource information, and resource prompt information based on a parsing result; and generate resource transfer information based on the
20 resource transfer-out party information, the resource transfer-in party information, the resource information, and the resource prompt information, and update, based on the resource transfer information, resource record information included in the resource transfer contract.

[0114] In an optional embodiment, the detection module 408 is further configured to:

if it is detected that the resource transfer account list does not include resource
25 processing account information associated with the resource transfer request, generate resource transfer warning information, and feed back the resource transfer warning information to the resource transfer party as the detection result; or if it is detected that the resource transfer account list includes resource processing account information associated with the resource transfer request, generate resource transfer notification information, and feed back the resource transfer notification
30 information to the resource transfer party as the detection result.

[0115] In an optional embodiment, the detection module 408 is further configured to:

receive an account query request submitted by the resource transfer party; invoke the target account management contract based on the account query request, and query the resource transfer account list included in the target account management contract; and feed back a query
35 result to the resource transfer party; or receive an information query request submitted by the

resource transfer party, where the information query request carries information about a queried party; and invoke a first account management contract corresponding to the queried party based on the information about the queried party, query a first resource transfer account list included in the first account management contract, and feed back a query result to the resource transfer party.

5 **[0116]** In an optional embodiment, the detection module 408 is further configured to:
 receive an account update request submitted by the resource transfer party; determine
the target account management contract corresponding to the resource transfer party based on the
account update request; determine the resource transfer account list corresponding to the resource
transfer party in the target account management contract; and update the resource transfer account
10 list, and broadcast an update result on the blockchain.

[0117] In an optional embodiment, the determining module 406 is further configured to:
 determine contract address information by executing the resource transfer contract, and
use the contract address information as the address information of the resource transfer party; and
correspondingly, determining the target account management contract corresponding to the
15 resource transfer party on the blockchain based on the address information includes: determining
a global account management contract on the blockchain based on the contract address information,
and using the global account management contract as the target account management contract,
where a global account list included in the global account management contract stores account
information corresponding to at least one resource transfer party.

20 **[0118]** In an optional embodiment, the determining module 406 is further configured to:
 detect, by executing the global account management contract, a resource transfer
account list included in the global account management contract; if it is detected that the resource
transfer account list includes resource transfer-out account information and resource transfer-in
account information that are associated with the resource transfer request, generate prompt
25 information, and feed back the prompt information to the resource transfer party associated with
the resource transfer request; or if it is detected that the resource transfer account list does not
include resource transfer-out account information and/or resource transfer-in account information
that are/is associated with the resource transfer request, generate alert information, and feed back
the alert information to the resource transfer party associated with the resource transfer request.

30 **[0119]** In conclusion, the resource transfer contract and the account management contract are
deployed on the blockchain. After the resource transfer request is received, the resource transfer
contract is executed, to determine the account management contract based on the address
information included in the resource transfer contract. The resource transfer account included in
the resource transfer account list is detected by executing the resource transfer management

contract, to detect whether resource transfer corresponding to a current resource transfer request can be performed, thereby determining whether the resource transfer can be performed, and improving a resource transfer success rate. A resource transfer account list of a resource transfer account that can perform resource transfer is maintained based on the account management
5 contract on the blockchain, to avoid low security caused by maintaining account information by using a centralized system, prevent the account information from being tampered with, and improve security of resource transfer and resource transfer account management.

[0120] A schematic solution of a blockchain-based account management apparatus in the embodiments is described above. It should be noted that the technical solution of the blockchain-
10 based account management apparatus and the technical solution of the blockchain-based account management method belong to the same concept. For detailed content not described in detail in the technical solution of the blockchain-based account management apparatus, references can be made to descriptions of the technical solution of the blockchain-based account management method.

[0121] FIG. 5 is a structural diagram illustrating a blockchain-based account management system, according to an embodiment of this specification. A blockchain-based account management system 500 includes a first blockchain node 510 corresponding to a server and a second blockchain node 520 corresponding to a transaction initiation party. A transaction contract and an account management contract are deployed on a blockchain of the first blockchain node
15 510 and the second blockchain node 520. The first blockchain node 510 is configured to: invoke the transaction contract on the blockchain in response to a transaction request, and determine address information corresponding to the transaction initiation party by executing the transaction contract; the first blockchain node 510 is further configured to determine, on the blockchain based on the address information, a target account management contract corresponding to the transaction
20 initiation party, where the target account management contract includes a transaction account list corresponding to the transaction initiation party; the first blockchain node 510 is further configured to: detect, by executing the target account management contract, a transaction account included in the transaction account list, and feed back a detection result to the second blockchain node 520; and the second blockchain node 520 is configured to execute a transaction task corresponding to
25 the transaction request in response to the detection result.

[0122] The resource transfer contract and the account management contract are deployed on

the blockchain. After the resource transfer request is received, the resource transfer contract is executed, to determine the account management contract based on the address information included in the resource transfer contract. The resource transfer account included in the resource transfer account list is detected by executing the resource transfer management contract, to detect
5 whether resource transfer corresponding to a current resource transfer request can be performed, thereby determining whether the resource transfer can be performed, and improving a resource transfer success rate. A resource transfer account list of a resource transfer account that can perform resource transfer is maintained based on the account management contract on the blockchain, to avoid low security caused by maintaining account information by using a centralized system,
10 prevent the account information from being tampered with, and improve security of resource transfer and resource transfer account management.

[0123] FIG. 6 is a flowchart illustrating another blockchain-based account management method, according to an embodiment of this specification. The blockchain-based account management method is applied to a blockchain node corresponding to a server, and specifically
15 includes the following steps.

[0124] Step S602: Receive a transaction request submitted by a transaction initiation party.

[0125] Specifically, a transaction can be transferring funds, including transferring out funds and transferring in funds. Correspondingly, the transaction initiation party is a fund transfer-out party or a fund receiver. The transaction request is a computer instruction that is submitted based
20 on to-be-transferred funds and that is used to transfer the to-be-transferred funds. The transaction request can be a computer command that is submitted by the transaction initiation party for to-be-transferred funds and that is used to transfer out the to-be-transferred funds; or can be a computer command that is submitted by the transaction initiation party for a fund transfer-out party and that is used to receive to-be-transferred funds, to obtain to-be-transferred funds provided by the fund
25 transfer-out party.

[0126] Based on this, when funds are to be transferred out or transferred in, the transaction initiation party can submit the transaction request, so that the transaction initiation party transfers out the to-be-transferred funds; or the transaction initiation party can submit the transaction request for the fund transfer-out party, to obtain the to-be-transferred funds from a fund transfer-out party,
30 to implement fund obtaining.

[0127] In actual applications, a transaction contract and an account management contract are

deployed on a blockchain of the blockchain node, and the transaction contract and the account management contract are both smart contracts. The smart contract is a computer protocol deployed on the blockchain, is transmitted and verified in an information-based manner, and is executed once some predefined conditions are satisfied.

5 **[0128]** Further, when the transaction is implemented based on the blockchain, the transaction can be implemented only when the transaction initiation party supports blockchain transfer. Therefore, the transaction contract can be deployed on the blockchain before the transaction request is submitted. A specific implementation is as follows:

10 **[0129]** The account management contract is created based on a transaction account list submitted by the transaction initiation party, and an initial transaction contract is created; the initial transaction contract and the account management contract are uploaded to the blockchain; and address information of the account management contract is determined, and the initial transaction contract is updated to the transaction contract based on the address information.

15 **[0130]** Specifically, the transaction account list is used to store account information of a fund receiver corresponding to the transaction initiation party. After the account management contract is created based on the transaction account list, the account management contract includes the transaction account list. Transaction initiation account information of a transaction account that can receive funds transferred out by the transaction initiation party is stored in the transaction account list. The initial transaction contract is a smart contract that is deployed on the blockchain
20 and that is used to receive the transaction request submitted by the transaction initiation party. The initial transaction contract includes an address management list, and the address management list stores the address information of the account management contract on the blockchain. The address information of the account management contract is recorded in the address management list of the initial transaction contract, so that the initial transaction contract is updated to the transaction
25 contract.

30 **[0131]** Based on this, the account management contract is created based on the transaction account list submitted by the transaction initiation party. The account management contract includes the transaction initiation account information in the transaction account list. The initial transaction contract is created, the initial transaction contract and the account management contract are uploaded to the blockchain node, and a consensus is reached on another node on the blockchain. The address information of the account management contract on the blockchain is determined, and

the initial transaction contract is updated to the transaction contract based on the address information. That is, the address information of the account management contract is stored in an address information list included in the transaction contract. Therefore, the account management contract corresponding to the transaction initiation party that submits the transaction request can
5 be determined when the transaction request is received.

[0132] For example, in a scenario in which funds are transferred, the funds can be transferred on the blockchain. The transaction contract and the account management contract are created and deployed on the blockchain node. The transaction contract includes the address information of the account management contract, the account management contract corresponds to a fund transfer-
10 out user, the account management contract includes an account list, and the account list stores a fund receiving user corresponding to the fund transfer-out user. After submitting a fund transfer-out request to the blockchain, the fund transfer-out user invokes and executes the transaction contract, to determine the account management contract based on the address information included in the transaction contract.

[0133] In conclusion, the account management contract and the transaction contract are
15 deployed on the blockchain, so that the transaction initiation account information included in the account management contract is prevented from being tampered with, thereby improving information security, and further improving transaction security.

[0134] Further, after the transaction request submitted by the transaction initiation party is
20 received, transaction information corresponding to the transaction request further needs to be queried subsequently. Therefore, after the transaction request is received, the transaction information corresponding to the transaction request can be recorded. A specific implementation is as follows:

[0135] The transaction request is parsed, and transaction initiation party information,
25 transaction receiving party information, resource information, and transaction prompt information are determined based on a parsing result; and transaction information is generated based on the transaction initiation party information, the transaction receiving party information, the resource information, and the transaction prompt information, and resource record information included in the transaction contract is updated based on the transaction information.

[0136] Specifically, the transaction request corresponds to a transaction task. When two or
30 more parties execute the transaction task, a party that provides funds is a transaction initiation

party, and correspondingly, one or more parties that receive funds are transaction receiving parties. Therefore, the transaction request carries transaction initiation party information and transaction receiving party information, and the transaction initiation party information and the transaction receiving party information can be obtained by parsing the transaction request. The resource
5 information indicates information about to-be-transferred funds, including but not limited to information such as an amount of funds and a fund type. The transaction prompt information can be text or picture information that is added when the fund transfer-out party transfers out funds and that has functions such as an explanation or a prompt.

[0137] Based on this, after the transaction request is received, the transaction request is parsed,
10 and the transaction initiation party information, the transaction receiving party information, the resource information, and the transaction prompt information that correspond to the transaction request are determined based on the parsing result. The transaction initiation party information, the transaction receiving party information, the resource information, and the transaction prompt information form the transaction information corresponding to the transaction request.
15 Subsequently, fund record information included in the transaction contract can be updated based on the transaction information, to record the transaction information. The transaction information can be further used to subsequently execute the transaction task corresponding to the transaction request, and can be further used to subsequently query the transaction task in detail after the transaction task corresponding to the transaction request is executed.

[0138] The above-mentioned example is still used. The transaction request is parsed, to learn
20 that the transaction initiation party is a user A, transaction receiving parties are a user B and a user C, fund transfer-out information is 100 yuan, and fund prompt information is "Please reply after receipt". After the transaction information is obtained through parsing, a hash value obtained through calculation can be chained after a hash operation is performed on the transaction
25 information, to implement information storage.

[0139] In conclusion, the resource record information included in the transaction contract is
updated based on the transaction information that includes the transaction initiation party information, the transaction receiving party information, the fund information, and the fund prompt information, to subsequently query the transaction information corresponding to the
30 transaction request.

[0140] Step S604: Invoke the transaction contract on the blockchain based on the transaction

request, and determine address information corresponding to the transaction initiation party by executing the transaction contract.

5 [0141] Specifically, after the transaction request submitted by the transaction initiation party is received, the transaction contract can be invoked on the blockchain based on the transaction request, and the address information corresponding to the transaction initiation party is determined by executing the transaction contract. The transaction contract is a smart contract deployed on the blockchain, and the transaction contract is used to store the transaction information, and store the address information of the account management contract deployed on the blockchain. After the transaction request submitted by the transaction initiation party is received, the transaction contract
10 is invoked. The address information is an address of the account management contract corresponding to the transaction initiation party on the blockchain. The address information corresponding to the transaction initiation party can be determined by executing the transaction contract.

[0142] Based on this, after the transaction request submitted by the transaction initiation party
15 is received, the transaction contract is invoked and executed on the blockchain based on the transaction request submitted by the transaction initiation party. The address information of the transaction initiation party can be determined by executing the transaction contract. The address information of the transaction initiation party is used to determine the account management contract corresponding to the address information on the blockchain.

20 [0143] In actual applications, a blockchain node on which the transaction contract is deployed is configured to receive and process the transaction request submitted by the transaction initiation party, and is configured to store the transaction information included in the transaction request submitted by the transaction initiation party. Therefore, if the transaction initiation party has a transaction requirement, the transaction initiation party can first submit the transaction request to
25 the blockchain node. The blockchain node receives the transaction request, and stores the transaction information carried in the transaction request, to execute a subsequent task.

[0144] Further, in consideration that a relatively large quantity of resources are wasted when one account management contract is created for each transaction initiation party, all accounts can be managed by creating one account management contract. A specific implementation is as follows:

30 [0145] Contract address information is determined by executing the transaction contract, and the contract address information is used as the address information of the transaction initiation

party; and correspondingly, determining the target account management contract corresponding to the transaction initiation party on the blockchain based on the address information includes: determining a global account management contract on the blockchain based on the contract address information, and using the global account management contract as the target account management contract, where a global account list included in the global account management contract stores account information corresponding to at least one transaction initiation party.

[0146] Specifically, the contract address information is address information, on the blockchain, of a global account management contract that correspond to all transaction initiation parties corresponding to the blockchain. The global account management contract can be found on the blockchain based on the contract address information. The global account management contract includes a global account list, and the global account list stores account information of all the transaction initiation parties corresponding to the blockchain.

[0147] Based on this, the transaction contract includes the contract address information, and the contract address information can be determined by executing the transaction contract. The global account management contract of all the transaction initiation parties corresponding to the blockchain can be determined on the blockchain based on the contract address information, the global account management contract includes the global account list, and the global account list stores the account information corresponding to all the transaction initiation parties. When a transaction request submitted by any transaction initiation party is received, address information of the global account management contract can be determined by executing the transaction contract, and then the global account management contract is invoked.

[0148] The above-mentioned example is still used. Account information of a fund receiver that can receive funds and that corresponds to a transaction initiation party 1 and a transaction initiation party 2 that correspond to the blockchain is stored in the global account list, and the global account management contract includes the global account list. The transaction contract includes the contract address information of the global account management contract. When receiving a transaction request submitted by the transaction initiation party 1 or the transaction initiation party 2, the transaction contract can be invoked, the contract address information of the global account management contract can be determined by executing the transaction contract, and the global account list in the global account management contract is determined, to detect the global account list.

[0149] In conclusion, the address information of the global account management contract is stored in the transaction contract, so that the global account management contract is invoked when the transaction request is received, to improve smart contract invocation efficiency and reduce account management complexity.

5 **[0150]** Further, in consideration that different detection results are obtained when the transaction account list included in the global account management contract is detected by executing the global account management contract, different information needs to be generated based on different detection results and is fed back to the transaction initiation party. A specific implementation is as follows:

10 **[0151]** A transaction account list included in the global account management contract is detected by executing the global account management contract; if it is detected that the transaction account list includes transaction initiation account information and transaction receiving account information that are associated with the transaction request, prompt information is generated and fed back to the transaction initiation party associated with the transaction request; or if it is detected
15 that the transaction account list does not include transaction initiation account information and/or transaction receiving account information that are/is associated with the transaction request, alert information is generated and fed back to the transaction initiation party associated with the transaction request.

[0152] Specifically, the transaction receiving account information is the account information
20 of the fund receiver corresponding to the transaction initiation party. The alert information is prompt information used to prompt the transaction initiation party with a case in which the fund transfer-out account information is not detected, and further indicates that a transaction task corresponding to a current transaction request cannot continue to be executed or detection fails, that is, execution fails. Correspondingly, the prompt information is notification information used
25 to notify the transaction initiation party that the fund transfer-out account information is detected, and further indicates that the transaction task corresponding to the current transaction request can continue to be executed or detection succeeds.

[0153] Based on this, the transaction account list included in the global account management contract is detected by executing the global account management contract. If the transaction
30 account included in the transaction account list is detected, and it is detected that the transaction account list includes fund transfer-out account information and fund transfer-in account

information that are associated with the transaction request, it indicates that the transaction initiation party and a fund transfer-out party corresponding to the transaction initiation party exist in the transaction account list. Therefore, current detection of the transaction task corresponding to the transaction request succeeds, and the transaction task can continue to be performed, or a downstream task can continue to be processed. Further, the prompt information is generated and fed back to the transaction initiation party associated with the transaction request. If it is detected that the transaction account list does not include transaction initiation account information and/or transaction receiving account information that are associated with the transaction request, it indicates that the transaction initiation party and/or a transaction receiving party corresponding to the transaction initiation party do not exist in the transaction account list. Therefore, the transaction task corresponding to the transaction request cannot continue to be executed. Further, the alert information is generated and fed back to the transaction initiation party associated with the transaction request.

[0154] The above-mentioned example is still used. The transaction initiation party is the user A, and transaction receiving parties are the user B and the user C. When the transaction account included in the transaction account list is detected based on the user B and the user C, if the transaction account list includes account information of the user A, account information of the user B, and account information of the user C, it indicates that detection succeeds, and notification information indicating that detection succeeds is fed back to the user A; or if the transaction account list does not include account information of the user A, and/or account information of the user B, and/or account information of the user C, it indicates that detection fails, and notification information indicating that detection fails is fed back to the user A, and includes a reason why detection fails.

[0155] In conclusion, the transaction account list included in the global account management contract is detected by executing the global account management contract, and then different information is fed back to the transaction initiation party based on different detection results, thereby facilitating subsequent processing based on different feedback information, and improving transaction flexibility.

[0156] Step S606: Determine, on the blockchain based on the address information, the target account management contract corresponding to the transaction initiation party, where the target account management contract includes a transaction account list corresponding to the transaction

initiation party.

[0157] Specifically, after the transaction contract is invoked on the blockchain based on the transaction request, and the address information corresponding to the transaction initiation party is determined by executing the transaction contract, the target account management contract
5 corresponding to the transaction initiation party can be determined on the blockchain based on the address information. The target account management contract includes the transaction account list corresponding to the transaction initiation party. The target account management contract is a smart contract deployed on the blockchain, the target account management contract includes the transaction account list corresponding to the transaction initiation party, the transaction account
10 list stores a fund receiver that corresponds to the transaction initiation party and that can receive funds transferred out by the transaction initiation party, the transaction account list can further store a fund transfer-out party that corresponds to the transaction initiation party and that can transfer out to-be-transferred-out funds, and a receiver of the to-be-transferred-out funds is the transaction initiation party.

[0158] Based on this, after the transaction contract is invoked on the blockchain based on the transaction request, and the address information corresponding to the transaction initiation party is determined by executing the transaction contract, the target account management contract
15 corresponding to the transaction initiation party is determined from a plurality of account management contracts deployed on the blockchain based on the address information. The target account management contract includes the transaction account list corresponding to the transaction
20 initiation party, and the target account management contract can further include the address information of the transaction contract.

[0159] In actual applications, each transaction initiation party on the blockchain can correspond to one account management contract, and the account management contract includes
25 a fund receiver list used to store information about a fund receiver corresponding to the transaction initiation party. Therefore, after the transaction request is received, the transaction contract is invoked and executed, the address information corresponding to the transaction initiation party is determined, the account management contract corresponding to the transaction initiation party is determined on the blockchain based on the address information, whether information about a fund
30 receiver corresponding to the transaction request is stored in the fund receiver list is determined by executing the account management contract, and whether the transaction operation

corresponding to the transaction request can be performed on the blockchain is determined.

[0160] Step S608: Detect, by executing the target account management contract, a transaction account included in the transaction account list, and feed back a detection result to the transaction initiation party.

5 **[0161]** Specifically, after the target account management contract corresponding to the transaction initiation party is determined on the blockchain based on the address information, and the target account management contract includes the transaction account list corresponding to the transaction initiation party, the transaction account included in the transaction account list is detected by executing the target account management contract, and a detection result is fed back
10 to the transaction initiation party. The transaction account is an account that corresponds to the transaction initiation party and that can receive funds transferred out by the transaction initiation party, and the transaction account included in the transaction account list can implement blockchain transfer. Detection is performed to determine whether an account of the transaction receiving party corresponding to the transaction request is stored in the transaction account list. If
15 the account of the transaction receiving party corresponding to the transaction request is stored in the transaction account list, it indicates that the transaction receiving party corresponding to the transaction request can implement the blockchain transfer, and a current transaction request can be executed. If the account of the transaction receiving party corresponding to the transaction request is not stored in the transaction account list, it indicates that the transaction receiving party
20 corresponding to the transaction request cannot implement the blockchain transfer, and a current transaction request cannot be executed. Correspondingly, detection results can be that detection succeeds and detection fails, and can further include or do not include detection information indicating that whether the transaction account list includes a transaction receiving party account corresponding to the transaction initiation party.

25 **[0162]** Based on this, after the target account management contract corresponding to the transaction initiation party is determined on the blockchain based on the address information, the target account management contract is executed, the transaction account list included in the target account management contract is detected, whether the transaction account associated with the transaction request exists in transaction accounts included in the transaction account list, and a
30 detection result is fed back to the transaction initiation party. If it is detected that the transaction account list does not include the transaction account associated with the transaction request, the

transaction operation corresponding to the transaction request cannot continue to be performed, and prompt information indicating a meaning such as a failure is fed back to the transaction initiation party. If it is detected that the transaction account list includes the transaction account associated with the transaction request, the transaction operation corresponding to the transaction request can continue to be performed, and prompt information indicating a meaning such as a detection success is fed back to the transaction initiation party.

[0163] Further, in consideration that there are two different detection results when the transaction account included in the transaction account list is detected, to facilitate execution of a subsequent task, different information needs to be fed back to the transaction initiation party for the different detection results, to play a prompt function. A specific implementation is as follows:

if it is detected that the transaction account list does not include resource processing account information associated with the transaction request, transaction warning information is generated, and the transaction warning information is fed back to the transaction initiation party as the detection result; or if it is detected that the transaction account list includes resource processing account information associated with the transaction request, transaction notification information is generated, and the transaction notification information is fed back to the transaction initiation party as the detection result.

[0164] Specifically, the transaction receiving account information is account information of a transaction receiving party corresponding to the transaction initiation party. The transaction warning information is prompt information used to prompt the transaction initiation party with a case in which the transaction initiation account information is not detected, and further indicates that a transaction task corresponding to a current transaction request cannot continue to be executed or detection fails, that is, execution fails. Correspondingly, the transaction notification information is notification information used to notify the transaction initiation party that the transaction initiation account information is detected, and further indicates that the transaction task corresponding to the current transaction request can continue to be executed or detection succeeds.

[0165] Based on this, if the transaction account included in the transaction account list is detected, and it is detected that the transaction account list does not include the transaction initiation account information associated with the transaction request, it indicates that no transaction receiving party corresponding to the transaction initiation party exists in the transaction account list. Therefore, the transaction task corresponding to the transaction request cannot continue to be executed, the transaction warning information is generated, and the transaction

warning information is fed back to the transaction initiation party as the detection result. If it is detected that the transaction account list includes the transaction initiation account information associated with the transaction request, it indicates that the transaction receiving party corresponding to the transaction initiation party exists in the transaction account list. Therefore, current detection of the transaction task corresponding to the transaction request succeeds, and the transaction task can continue to be performed or the downstream task can continue to be processed. Further, the transaction notification information is generated, and the transaction notification information is fed back to the transaction initiation party as the detection result.

[0166] The above-mentioned example is still used. The transaction initiation party is the user A, and transaction receiving parties are the user B and the user C. When the transaction account included in the transaction account list is detected based on the user B and the user C, if the transaction account list includes account information of the user B and account information of the user C, it indicates that detection succeeds, and notification information indicating that detection succeeds is fed back to the user A; or if the transaction account list does not include account information of the user B and/or account information of the user C, it indicates that detection fails, and notification information indicating that detection fails is fed back to the user A, and includes a reason why detection fails. When a subsequent transaction is performed, a bank corresponding to a transaction account can perform transaction processing, or a service platform corresponding to the blockchain can perform processing.

[0167] In conclusion, the transaction account included in the transaction account list is detected by executing the target account management contract, and then different information is fed back to the transaction initiation party based on different detection results, to prompt the transaction initiation party, so that the transaction initiation party learns of an execution progress of the transaction task corresponding to the transaction request, to improve user experience.

[0168] Further, in consideration that the target account management contract includes the transaction account list of the transaction initiation party, and the transaction initiation account information recorded in the transaction account list is not unchanged, to improve execution efficiency and an execution success rate of the transaction task, the transaction account list can be queried in advance before the transaction request is submitted. A specific implementation is as follows:

[0169] An account query request submitted by the transaction initiation party is received; the

target account management contract is invoked based on the account query request, and the transaction account list included in the target account management contract is queried; and a query result is fed back to the transaction initiation party; or an information query request submitted by the transaction initiation party is received, where the information query request carries information about a queried party; and a first account management contract corresponding to the queried party is invoked based on the information about the queried party, a first transaction account list included in the first account management contract is queried, and a query result is fed back to the transaction initiation party.

[0170] Specifically, the account query request is a computer instruction used to query transaction initiation account information corresponding to the transaction initiation party, and a transaction account corresponding to the transaction initiation party can be an account of a fund sender that transfers funds to the transaction initiation party. The information query request is a computer instruction for querying transaction initiation account information corresponding to the queried party. A transaction account corresponding to the queried party can be an account of a fund receiver that can receive funds transferred by the transaction initiation party. The information about the queried party is another transaction initiation party that corresponds to the information query request, that needs to be obtained by the transaction initiation party, and that can perform a fund transfer-in and a fund transfer-out. Correspondingly, the first account management contract is an account management contract corresponding to the queried party, and includes a transaction initiation party associated with the queried party. The first transaction account list is a list that stores account information of a transaction initiation party associated with the queried party.

[0171] Based on this, when the transaction initiation party needs to query the transaction account corresponding to the transaction initiation party, an account query request can be submitted for the blockchain node. After receiving the account query request submitted by the transaction initiation party, the blockchain node invokes, based on the account query request, the target account management contract of the transaction account list that stores the transaction initiation account information corresponding to the transaction initiation party, queries the transaction account list included in the target account management contract, and feeds back a query result to the transaction initiation party. Therefore, a fund sender that corresponds to the transaction initiation party and that can receive funds is determined based on the query result. The account query request can be to query all transaction accounts corresponding to the transaction initiation

party, or can be to submit an account query request for a transaction account, to determine whether the account has a transaction relationship with the transaction initiation party.

[0172] In addition, when the transaction initiation party needs to query transaction initiation account information corresponding to another transaction initiation party, the transaction initiation party can submit an information query request for the blockchain node. After receiving the information query request submitted by the transaction initiation party, the blockchain node invokes, based on information that is about the queried party and that is carried in the information query request, the first account management contract corresponding to the queried party, queries the first transaction account list included in the first account management contract, and feeds back the query result to the transaction initiation party. Therefore, a fund receiver that corresponds to the transaction initiation party and that can send funds can be determined based on the query result. The information query request can be an information query request submitted for a resource processing party, and is used to query whether the fund processing party can receive funds sent by a transaction initiation party that submits the information query request.

[0173] The above-mentioned example is still used. If the transaction initiation party, namely, the user A needs to query all users such as a fund receiver or a fund sender that can complete a transaction based on the blockchain, the user A can submit an account query request to the blockchain node, to obtain an account list of the users. If the transaction initiation party, namely, the user A needs to query whether the user B can complete a transaction based on the blockchain, the user A can submit an account query request to the blockchain node for the user B, to determine whether the user B can receive funds transferred by the user A or whether the user A can send funds to the user B.

[0174] In addition, if the transaction initiation party, namely, the user A needs to query all users such as a fund receiver or a fund sender that corresponds to another resource transfer party, namely, the user C and that can complete a transaction based on the blockchain, the user A can submit an information query request to the blockchain node, to obtain an account list of the users. Whether the user C can receive funds sent by the user A and whether the user C can send funds to the user A can be learned of based on the obtained account list.

[0175] In conclusion, before the transaction request is submitted, the transaction account list is queried in advance, thereby improving execution efficiency and an execution success rate of the transaction task, and improving flexibility of performing an information query by the transaction

initiation party.

[0176] Further, in consideration that the target account management contract includes the transaction account list of the transaction initiation party, and the transaction initiation account information recorded in the transaction account list needs to be updated, to improve convenience of maintaining the transaction account list by the transaction initiation party, an account update request can be directly submitted, to implement targeted update of the account information recorded in the transaction account list. A specific implementation is as follows:

[0177] An account update request submitted by the transaction initiation party is received; the target account management contract corresponding to the transaction initiation party is determined based on the account update request; the transaction account list corresponding to the transaction initiation party is determined in the target account management contract; and the transaction account list is updated, and an update result is broadcast on the blockchain.

[0178] Based on this, the account update request is a computer instruction used to update information in the transaction account list corresponding to the transaction initiation party. Update includes but is not limited to deleting and modifying information in the transaction account list, and adding information. If the transaction initiation party needs to update the information in the transaction account list, the transaction initiation party submits the account update request to the blockchain node. After receiving the account update request submitted by the transaction initiation party, the blockchain node determines the target account management contract corresponding to the transaction initiation party based on the account update request, determines the transaction account list corresponding to the transaction initiation party in the target account management contract, updates the transaction account list, and broadcasts the update result on the blockchain. Updating the transaction account list can be: predetermining transaction initiation account information that needs to be stored in the transaction account list; uploading the transaction initiation account information to the blockchain node; and after the blockchain completes a consensus, storing the transaction initiation account information in the transaction account list, and performing a consensus between blockchain nodes, to update the transaction account list. In actual applications, updating of the transaction account list can be completed by using another smart contract on the blockchain. In addition, transaction initiation account information that needs to be modified or deleted is determined in the transaction account list, and modification and deletion of the information are completed by using another smart contract on the blockchain, thereby

completing a consensus on the blockchain, to update the transaction initiation account information in the transaction account list and perform broadcasting on the blockchain.

[0179] The above-mentioned example is still used. The transaction account list stores the user B, the user C, and a user D that can perform a transaction with the transaction initiation party, namely, the user A. If information about the user C needs to be modified or deleted, the transaction initiation party, namely, the user A can submit an account update request, determine the information corresponding to the user C in the transaction account list based on the account update request, modify or delete the information, and perform broadcasting on the blockchain. If information about a user E needs to be stored in the transaction account list, the transaction initiation party, namely, the user A can submit an account update request, chain the information about the user E, update the transaction account list based on the chained information about the user E, store the information about the user E in the transaction account list, and perform broadcasting on the blockchain.

[0180] In conclusion, the transaction contract and the account management contract are deployed on the blockchain. After the transaction request is received, the transaction contract is executed, to determine the account management contract based on the address information included in the transaction contract. The transaction account included in the transaction account list is detected by executing the transaction management contract, to detect whether a transaction corresponding to a current transaction request can be performed, thereby determining whether the transaction can be performed, and improving a transaction success rate. A transaction account list for which a transaction can be performed is maintained based on the account management contract on the blockchain, to avoid low security caused by maintaining account information by using a centralized system, prevent the account information from being tampered with, and improve security of a transaction and transaction account management.

[0181] With reference to FIG. 7, the following further describes the blockchain-based account management method by using an example in which the blockchain-based account management method provided in this specification is applied to data transfer account management. FIG. 7 is a flowchart illustrating a processing process of another blockchain-based account management method, according to an embodiment of this specification. The following steps are specifically included.

[0182] Step S702: Create an account management contract based on a transaction account list

submitted by a transaction initiation party, create an initial transaction contract, and upload the initial transaction contract and the account management contract to a blockchain.

[0183] During initialization, a transaction contract and the account management contract are deployed on the blockchain.

5 **[0184]** Step S704: Determine address information of the account management contract, and update the initial transaction contract to the transaction contract based on the address information.

[0185] After the transaction contract and the account management contract are deployed on the blockchain, an address of the account management contract can be set in the transaction contract. The address is set, so that when the transaction contract subsequently initiates a new
10 blockchain transaction, the account management contract is automatically invoked, and compliance of an account associated with a blockchain transaction is verified.

[0186] Step S706: Parse a transaction request submitted by the transaction initiation party, determine resource transfer-out party information, resource transfer-in party information, resource information, and resource prompt information based on a parsing result, and update resource
15 record information included in the transaction contract.

[0187] If a user initiates a new on-chain transaction, the on-chain transaction contract is invoked, a new transaction is submitted, and transaction details, namely, information such as a collection/payment account, a bank, an amount, and appendices are filled in. The transaction details can be recorded on the blockchain.

20 **[0188]** Step S708: Invoke the transaction contract on the blockchain based on the transaction request, and determine address information corresponding to the transaction initiation party by executing the transaction contract.

[0189] Step S710: Determine, on the blockchain based on the address information, a target account management contract corresponding to the transaction initiation party, where the target
25 account management contract includes a transaction account list corresponding to the transaction initiation party.

[0190] Step S712: Detect a transaction account included in the transaction account list by executing the target account management contract.

[0191] Step S714: If it is detected that the transaction account list does not include transaction
30 initiation account information associated with the transaction request, generate transaction warning information, and feed back the transaction warning information to the transaction

initiation party as a detection result.

[0192] Transaction information corresponding to the transaction request includes collection account information and payment account information. If it is detected that the transaction account list does not include the collection account information and/or the payment account information,
5 a current transaction fails.

[0193] In actual applications, when the user invokes the transaction contract to submit a new transaction, the transaction contract immediately invokes an account management contract internally, to query whether a payment account of a current transaction is in a payment account list and whether a collection account is in a collection account list. If it is found, through a query, that
10 any account does not support blockchain transfer, the transaction contract automatically sets the current transaction to be in a failure state.

[0194] Step S716: If it is detected that the transaction account list includes all transaction initiation account information associated with the transaction request, generate transaction notification information, and feed back the transaction notification information to the transaction
15 initiation party as a detection result.

[0195] Correspondingly, if verification succeeds, another verification and advancement procedure of the on-chain transaction continues to be performed.

[0196] Step S718: Invoke the target account management contract based on an account query request submitted by the transaction initiation party, query the transaction account list included in
20 the target account management contract, and feed back a query result to the transaction initiation party.

[0197] Step S720: Invoke a first account management contract corresponding to a queried party based on information that is about the queried party and that is carried in an information query request submitted by the transaction initiation party, query a first transaction account list
25 included in the first account management contract, and feed back a query result to the transaction initiation party.

[0198] Any on-chain user (including a user who initiates a transaction and having an on-chain identity) can invoke a query interface in the account management contract, to query a transaction account list supported by each transaction initiation party. If any one of transaction
30 collection/payment accounts that the on-chain user prepares to submit does not support blockchain transfer, information does not need to be submitted to the transaction contract, to avoid a potential

failed transaction and improve a transaction success rate.

[0199] Step S722: Determine the target account management contract corresponding to the transaction initiation party based on an account update request submitted by the transaction initiation party.

5 **[0200]** Step S724: Determine the transaction account list corresponding to the transaction initiation party in the target account management contract.

[0201] Step S726: Update the transaction account list, and broadcast an update result on the blockchain.

[0202] The account management contract provides an update interface, to allow the on-chain
10 user to update a transaction account list of the on-chain user, including adding a new transaction account to the transaction account list, and modifying and deleting transaction initiation account information that has been in the transaction account list.

[0203] The user can perform a pre-query, to avoid in advance a transaction that is not supported
15 in the blockchain, reduce processing load of the blockchain, and improve a transaction success rate of the blockchain. The account management contract is deployed, to avoid a security problem existing when a centralized system maintains the account information, and prevent information from being tampered with. A method for automatically associating the account management contract and the transaction contract is designed, to ensure that if an initiated blockchain transaction is not compliant, a failed state can be entered through automatic advancement, so that
20 a transaction state can be advanced only after two times of confirmation are performed.

[0204] In conclusion, the transaction contract and the account management contract are
deployed on the blockchain. After the transaction request is received, the transaction contract is executed, to determine the account management contract based on the address information included in the transaction contract. The transaction account included in the transaction account
25 list is detected by executing the transaction management contract, to detect whether a transaction corresponding to a current transaction request can be performed, thereby determining whether the transaction can be performed, and improving a transaction success rate. A transaction account list for which a transaction can be performed is maintained based on the account management contract on the blockchain, to avoid low security caused by maintaining account information by using a
30 centralized system, prevent the account information from being tampered with, and improve security of a transaction and transaction account management.

[0205] Corresponding to the method embodiments, this specification further provides an embodiment of a blockchain-based account management apparatus. FIG. 8 is a schematic structural diagram illustrating another blockchain-based account management apparatus, according to an embodiment of this specification. As shown in FIG. 8, the apparatus is applied to a blockchain node corresponding to a server, and includes:

- a receiving module 802, configured to receive a transaction request submitted by a transaction initiation party;
- an execution module 804, configured to: invoke a transaction contract on a blockchain based on the transaction request, and determine address information corresponding to the transaction initiation party by executing the transaction contract;
- a determining module 806, configured to determine, on the blockchain based on the address information, a target account management contract corresponding to the transaction initiation party, where the target account management contract includes a transaction account list corresponding to the transaction initiation party; and
- a detection module 808, configured to: detect, by executing the target account management contract, a transaction account included in the transaction account list, and feed back a detection result to the transaction initiation party.

[0206] In an optional embodiment, the receiving module 802 is further configured to: create an account management contract based on the transaction account list submitted by the transaction initiation party, and create an initial transaction contract; upload the initial transaction contract and the account management contract to the blockchain; and determine address information of the account management contract, and update the initial transaction contract to the transaction contract based on the address information.

[0207] In an optional embodiment, the execution module 804 is further configured to: parse the transaction request, and determine transaction initiation party information, transaction receiving party information, resource information, and transaction prompt information based on a parsing result; and generate transaction information based on the transaction initiation party information, the transaction receiving party information, the resource information, and the transaction prompt information, and update, based on the transaction information, resource record information included in the transaction contract.

[0208] In an optional embodiment, the detection module 808 is further configured to: if it is detected that the transaction account list does not include resource processing account information associated with the transaction request, generate transaction warning information, and feed back the transaction warning information to the transaction initiation party

as the detection result; or if it is detected that the transaction account list includes resource processing account information associated with the transaction request, generate transaction notification information, and feed back the transaction notification information to the transaction initiation party as the detection result.

5 **[0209]** In an optional embodiment, the detection module 808 is further configured to:
 receive an account query request submitted by the transaction initiation party; invoke
 the target account management contract based on the account query request, and query the
 transaction account list included in the target account management contract; and feed back a query
 result to the transaction initiation party; or receive an information query request submitted by the
10 transaction initiation party, where the information query request carries information about a
 queried party; and invoke, based on the information about the queried party, a first account
 management contract corresponding to the queried party, query a first transaction account list
 included in the first account management contract, and feed back a query result to the transaction
 initiation party.

15 **[0210]** In an optional embodiment, the detection module 808 is further configured to:
 receive an account update request submitted by the transaction initiation party;
 determine the target account management contract corresponding to the transaction initiation party
 based on the account update request; determine the transaction account list corresponding to the
 transaction initiation party in the target account management contract; and update the transaction
20 account list, and broadcasting an update result on the blockchain.

[0211] In an optional embodiment, the determining module 806 is further configured to:
 determine contract address information by executing the transaction contract, and use
 the contract address information as the address information of the transaction initiation party; and
 correspondingly, determining, on the blockchain based on the address information, the target
25 account management contract corresponding to the transaction initiation party includes:
 determining a global account management contract on the blockchain based on the contract
 address information, and using the global account management contract as the target account
 management contract, where a global account list included in the global account management
 contract stores account information corresponding to at least one transaction initiation party.

30 **[0212]** In an optional embodiment, the determining module 806 is further configured to:
 detect, by executing the global account management contract, a transaction account list
 included in the global account management contract; and if it is detected that the transaction
 account list includes transaction initiation account information and transaction receiving account
 information that are associated with the transaction request, generate prompt information, and feed
35 back the prompt information to the transaction initiation party associated with the transaction

request; or if it is detected that the transaction account list does not include transaction initiation account information and/or transaction receiving account information that are/is associated with the transaction request, generate alert information, and feed back the alert information to the transaction initiation party associated with the transaction request.

5 **[0213]** In conclusion, the transaction contract and the account management contract are deployed on the blockchain. After the transaction request is received, the transaction contract is executed, to determine the account management contract based on the address information included in the transaction contract. The transaction account included in the transaction account list is detected by executing the transaction management contract, to detect whether a transaction
10 corresponding to a current transaction request can be performed, thereby determining whether the transaction can be performed, and improving a transaction success rate. A transaction account list for which a transaction can be performed is maintained based on the account management contract on the blockchain, to avoid low security caused by maintaining account information by using a centralized system, prevent the account information from being tampered with, and improve
15 security of a transaction and transaction account management.

[0214] A schematic solution of a blockchain-based account management apparatus in the embodiments is described above. It should be noted that the technical solution of the blockchain-based account management apparatus and the technical solution of the blockchain-based account management method belong to the same concept. For detailed content not described in detail in
20 the technical solution of the blockchain-based account management apparatus, references can be made to descriptions of the technical solution of the blockchain-based account management method.

[0215] FIG. 9 is a structural block diagram illustrating a computing device 900, according to an embodiment of this specification. Components of the computing device 900 include but are not
25 limited to a memory 910 and a processor 920. The processor 920 and the memory 910 are connected by using a bus 930, and a database 950 is configured to store data.

[0216] The computing device 900 further includes an access device 940. The access device 940 enables the computing device 900 to communicate via one or more networks 960. Examples of these networks include a public switched telephone network (PSTN), a local area network (LAN), a wide area network (WAN), a personal access network (PAN), or a combination of
30 communication networks such as the Internet. The access device 940 can include one or more of

any types of wired or wireless network interfaces (for example, a network interface controller (NIC)) such as an IEEE 802.11 wireless local area network (WLAN) wireless interface, a worldwide interoperability for microwave access (Wi-MAX) interface, an Ethernet interface, a universal serial bus (USB) interface, a cellular network interface, a Bluetooth interface, and a near field communication (NFC) interface.

[0217] In an embodiment of the present application, the components of the computing device 900 and other components not shown in FIG. 9 may also be connected to each other, for example, through a bus. It should be understood that the structural block diagram of the computing device shown in FIG. 9 is for an illustrative purpose only and is not intended to limit the scope of this application. A person skilled in the art can add or replace other components as needed.

[0218] The computing device 900 can be any type of stationary or mobile computing device, including a mobile computer or a mobile computing device (for example, a tablet computer, a personal digital assistant, a laptop computer, a notebook computer, or a netbook), a mobile phone (for example, a smartphone), a wearable computing device (for example, a smart watch or smart glasses), or other types of mobile devices, or a stationary computing device such as a desktop computer or a personal computer (PC). The computing device 900 can alternatively be a mobile or stationary server. The processor 920 is configured to execute computer-executable instructions, and when the computer-executable instructions are executed by the processor, steps of the blockchain-based account management method are implemented:

[0219] A schematic solution of the computing device in the embodiments is described above. It should be noted that the technical solution of the computing device and the technical solution of the blockchain-based account management method belong to the same concept. For detailed content not described in detail in the technical solution of the computing device, references can be made to the descriptions of the technical solution of the blockchain-based account management method.

[0220] An embodiment of this specification further provides a computer-readable storage medium. The computer-readable storage medium stores computer-executable instructions, and when the computer-executable instructions are executed by a processor, steps of the blockchain-based account management method are implemented.

[0221] A schematic solution of the computer-readable storage medium in the embodiments is described above. It should be noted that the technical solution of the storage medium and the

technical solution of the blockchain-based account management method belong to the same concept. For detailed content not described in detail in the technical solution of the storage medium, references can be made to the descriptions of the technical solution of the blockchain-based account management method.

5 **[0222]** An embodiment of this specification further provides a computer program. When the computer program is executed on a computer, the computer is enabled to perform steps of the blockchain-based account management method.

[0223] A schematic solution of the computer program in the embodiments is described above. It should be noted that the technical solution of the computer program and the technical solution
10 of the blockchain-based account management method belong to the same concept. For detailed content not described in detail in the technical solution of the computer program, references can be made to the descriptions of the technical solution of the blockchain-based account management method.

[0224] Specific embodiments of this specification are described above. Other embodiments
15 fall within the scope of the appended claims. In some cases, the actions or steps described in the claims can be performed in an order different from that in the embodiments, and the desired results can still be achieved. In addition, processes described in the accompanying drawings do not necessarily need a specific order or a sequential order shown to achieve the desired results. In some implementations, multi-tasking and concurrent processing are feasible or may be advantageous.

20 **[0225]** The computer instructions include computer program code, and the computer program code may be in a source code form, an object code form, an executable file form, some intermediate forms, etc. The computer-readable medium may include any entity or apparatus capable of carrying the computer program code, a recording medium, a USB flash drive, a removable hard disk, a magnetic disk, an optical disc, a computer memory, a read-only memory
25 (ROM), a random access memory (RAM), an electrical carrier signal, a telecommunication signal, a software distribution medium, etc. It should be noted that the content contained in the computer-readable medium can be appropriately increased or decreased in accordance with the requirements of the legislation and patent practice in the jurisdiction, for example, in some jurisdictions, the computer-readable medium does not include electrical carrier signals or telecommunication
30 signals in accordance with the legislation and patent practice.

[0226] It should be noted that, for a brief description, the above-mentioned method

embodiments are represented as a series of actions. However, a person skilled in the art should understand that some embodiments of this specification are not limited to the described order of the actions, because according to some embodiments of this specification, some steps can be performed in another order or simultaneously. In addition, a person skilled in the art should also
5 understand that all the embodiments described in this specification are example embodiments, and the related actions and modules are not necessarily mandatory to some embodiments of this specification.

[0227] In the above-mentioned embodiments, the descriptions of the embodiments have respective focuses. For a part that is not described in detail in an embodiment, references can be
10 made to related descriptions in other embodiments.

[0228] The example embodiments of this specification disclosed above are intended merely to help describe this specification. The optional embodiments do not describe all the details in detail, nor do they limit the present invention to the specific implementations described. Apparently, many modifications and changes can be made according to the content of the embodiments of this
15 specification. These embodiments are selected and described in detail in this specification in order to better explain the principles and practical applications of some embodiments of this specification, so that a person skilled in the art can well understand and use this specification. This specification is limited only by the claims and their full scope and equivalents.

CLAIMS

What is claimed is:

1. A blockchain-based account management method, applied to a blockchain node corresponding to a server, comprising:

5 receiving a resource transfer request submitted by a resource transfer party;

invoking a resource transfer contract on a blockchain based on the resource transfer request, and determining address information corresponding to the resource transfer party by executing the resource transfer contract;

determining a target account management contract corresponding to the resource transfer
10 party on the blockchain based on the address information, wherein the target account management contract comprises a resource transfer account list corresponding to the resource transfer party;
and

detecting, by executing the target account management contract, a resource transfer account
comprised in the resource transfer account list, and feeding back a detection result to the resource
15 transfer party.

2. The method according to claim 1, wherein before the step of receiving a resource transfer request submitted by a resource transfer party is performed, the method further comprises:

creating an account management contract based on the resource transfer account list submitted by the resource transfer party, and creating an initial resource transfer contract;

20 uploading the initial resource transfer contract and the account management contract to the blockchain; and

determining address information of the account management contract, and updating the initial resource transfer contract to the resource transfer contract based on the address information.

3. The method according to claim 1, wherein after the step of receiving a resource transfer
25 request submitted by a resource transfer party is performed, the method further comprises:

parsing the resource transfer request, and determining resource transfer-out party information, resource transfer-in party information, resource information, and resource prompt information based on a parsing result; and

generating resource transfer information based on the resource transfer-out party information,
30 the resource transfer-in party information, the resource information, and the resource prompt

information, and updating, based on the resource transfer information, resource record information comprised in the resource transfer contract.

4. The method according to claim 1, wherein the feeding back a detection result to the resource transfer party comprises:

5 if it is detected that the resource transfer account list does not comprise resource processing account information associated with the resource transfer request, generating resource transfer warning information, and feeding back the resource transfer warning information to the resource transfer party as the detection result; or

if it is detected that the resource transfer account list comprises resource processing account
10 information associated with the resource transfer request, generating resource transfer notification information, and feeding back the resource transfer notification information to the resource transfer party as the detection result.

5. The method according to any one of claims 1 to 4, wherein the method further comprises:

receiving an account query request submitted by the resource transfer party; invoking the
15 target account management contract based on the account query request, and querying the resource transfer account list comprised in the target account management contract; and feeding back a query result to the resource transfer party; or

receiving an information query request submitted by the resource transfer party, wherein the
information query request carries information about a queried party; and invoking a first account
20 management contract corresponding to the queried party based on the information about the queried party, querying a first resource transfer account list comprised in the first account management contract, and feeding back a query result to the resource transfer party.

6. The method according to any one of claims 1 to 4, wherein the method further comprises:

receiving an account update request submitted by the resource transfer party;

25 determining the target account management contract corresponding to the resource transfer party based on the account update request;

determining the resource transfer account list corresponding to the resource transfer party in the target account management contract; and

updating the resource transfer account list, and broadcasting an update result on the
30 blockchain.

7. The method according to claim 1, wherein the determining address information

corresponding to the resource transfer party by executing the resource transfer contract comprises:

determining contract address information by executing the resource transfer contract, and using the contract address information as the address information of the resource transfer party; and

5 correspondingly, the determining a target account management contract corresponding to the resource transfer party on the blockchain based on the address information comprises:

determining a global account management contract on the blockchain based on the contract address information, and using the global account management contract as the target account management contract, wherein a global account list comprised in the global account management
10 contract stores account information corresponding to at least one resource transfer party.

8. The method according to claim 7, wherein after the step of determining a global account management contract on the blockchain based on the contract address information, and using the global account management contract as the target account management contract is performed, the method further comprises:

15 detecting, by executing the global account management contract, a resource transfer account list comprised in the global account management contract; and

if it is detected that the resource transfer account list comprises resource transfer-out account information and resource transfer-in account information that are associated with the resource transfer request, generating prompt information, and feeding back the prompt information to the
20 resource transfer party associated with the resource transfer request; or

if it is detected that the resource transfer account list does not comprise resource transfer-out account information and/or resource transfer-in account information that are/is associated with the resource transfer request, generating alert information, and feeding back the alert information to the resource transfer party associated with the resource transfer request.

25 9. A blockchain-based account management system, comprising a first blockchain node corresponding to a server and a second blockchain node corresponding to a transaction initiation party, wherein

the first blockchain node is configured to: invoke a transaction contract on a blockchain in response to a transaction request, and determine address information corresponding to the
30 transaction initiation party by executing the transaction contract;

the first blockchain node is further configured to determine, on the blockchain based on the

address information, a target account management contract corresponding to the transaction initiation party, wherein the target account management contract comprises a transaction account list corresponding to the transaction initiation party;

the first blockchain node is further configured to: detect, by executing the target account management contract, a transaction account comprised in the transaction account list, and feed back a detection result to the second blockchain node; and

the second blockchain node is configured to execute a transaction task corresponding to the transaction request in response to the detection result.

10. A blockchain-based account management method, applied to a blockchain node corresponding to a server, comprising:

receiving a transaction request submitted by a transaction initiation party;

invoking a transaction contract on a blockchain based on the transaction request, and determining address information corresponding to the transaction initiation party by executing the transaction contract;

determining, on the blockchain based on the address information, a target account management contract corresponding to the transaction initiation party, wherein the target account management contract comprises a transaction account list corresponding to the transaction initiation party; and

detecting, by executing the target account management contract, a transaction account comprised in the transaction account list, and feeding back a detection result to the transaction initiation party.

11. The method according to claim 10, wherein before the step of receiving a transaction request submitted by a transaction initiation party, the method further comprises:

creating an account management contract based on the transaction account list submitted by the transaction initiation party, and creating an initial transaction contract;

uploading the initial transaction contract and the account management contract to the blockchain; and

determining address information of the account management contract, and updating the initial transaction contract to the transaction contract based on the address information.

12. The method according to claim 10, wherein after the step of receiving a transaction request submitted by a transaction initiation party is performed, the method further comprises:

parsing the transaction request, and determining transaction initiation party information, transaction receiving party information, resource information, and transaction prompt information based on a parsing result; and

generating transaction information based on the transaction initiation party information, the transaction receiving party information, the resource information, and the transaction prompt information, and updating, based on the transaction information, resource record information comprised in the transaction contract.

13. The method according to claim 10, wherein the feeding back a detection result to the transaction initiation party comprises:

if it is detected that the transaction account list does not comprise resource processing account information associated with the transaction request, generating transaction warning information, and feeding back the transaction warning information to the transaction initiation party as the detection result; or

if it is detected that the transaction account list comprises resource processing account information associated with the transaction request, generating transaction notification information, and feeding back the transaction notification information to the transaction initiation party as the detection result.

14. The method according to any one of claims 10 to 13, wherein the method further comprises:

receiving an account query request submitted by the transaction initiation party; invoking the target account management contract based on the account query request, and querying the transaction account list comprised in the target account management contract; and feeding back a query result to the transaction initiation party; or

receiving an information query request submitted by the transaction initiation party, wherein the information query request carries information about a queried party; and invoking, based on the information about the queried party, a first account management contract corresponding to the queried party, querying a first transaction account list comprised in the first account management contract, and feeding back a query result to the transaction initiation party.

15. The method according to any one of claims 10 to 13, wherein the method further comprises:

receiving an account update request submitted by the transaction initiation party;

determining the target account management contract corresponding to the transaction initiation party based on the account update request;

determining the transaction account list corresponding to the transaction initiation party in the target account management contract; and

5 updating the transaction account list, and broadcasting an update result on the blockchain.

16. The method according to claim 10, wherein the determining address information corresponding to the transaction initiation party by executing the transaction contract comprises:

determining contract address information by executing the transaction contract, and using the contract address information as the address information of the transaction initiation party; and

10 correspondingly, the determining, on the blockchain based on the address information, a target account management contract corresponding to the transaction initiation party comprises:

determining a global account management contract on the blockchain based on the contract address information, and using the global account management contract as the target account management contract, wherein a global account list comprised in the global account management contract stores account information corresponding to at least one transaction initiation party.

15 17. The method according to claim 16, wherein after the step of determining a global account management contract on the blockchain based on the contract address information, and using the global account management contract as the target account management contract is performed, the method further comprises:

20 detecting, by executing the global account management contract, a transaction account list comprised in the global account management contract; and

if it is detected that the transaction account list comprises transaction initiation account information and transaction receiving account information that are associated with the transaction request, generating prompt information, and feeding back the prompt information to the transaction initiation party associated with the transaction request; or

25 if it is detected that the transaction account list does not comprise transaction initiation account information and/or transaction receiving account information that are/is associated with the transaction request, generating alert information, and feeding back the alert information to the transaction initiation party associated with the transaction request.

30 18. A computing device, comprising:

a memory and a processor, wherein

the memory is configured to store computer-executable instructions, the processor is configured to execute the computer-executable instructions, and when the computer-executable instructions are executed by the processor, steps of the blockchain-based account management method according to any one of claims 1 to 8 or claims 10 to 17 are implemented.

- 5 19. A computer-readable storage medium, wherein the computer-readable storage medium stores computer-executable instructions, and when the computer-executable instructions are executed by a processor, steps of the blockchain-based account management method according to any one of claims 1 to 8 or claims 10 to 17 are implemented.