

【DESCRIPTION】**【Disclosure Title】**

PARALLEL BLOCKCHAIN-BASED INFORMATION MANAGEMENT AND
OPERATION SYSTEM

【Technical Field】

[0001] The present disclosure relates to a parallel blockchain-based information management and operation system, and more specifically, to a parallel blockchain-based information management and operation system, which may connect a history block in which the information corresponding to each node is stored to a sub chain of the corresponding node block, thereby performing a fast information processing, and adopt a semi-centralized method in which the super nodes having the authority of the block generation participate in predetermined system operation matters through the vote according to the operation stake, thereby operating the system more quickly and stably.

【Background Art】

[0002] In recent years, various cryptocurrencies including a bitcoin based on the blockchain are attracting international issues. The bitcoin was first developed by a programmer named Satoshi Nakamoto in January 2009 and is currently the largest cryptocurrency, and widely known as the cryptocurrency used in the online transaction.

[0003] However, the technology field using the blockchain is

popular as a future core technology applicable to the conventional centralized data recording/verification system, as well as the cryptocurrency.

[0004] The blockchain has a structure in which a block including transaction information is connected like a chain with reference to the unique value of a prior block, and is a specialized network system, which allows anyone to search for transaction information by distributing and storing all blocks generated in a P2P network by the nodes (piers) participating in a P2P network or system participants and uses a procedure of compensating for goods issued by itself to a person who proves work in a unique work proof method and a balance adjustment procedure in the form of debit and credit.

[0005] Such a conventional blockchain system is relatively safe from the data loss when compared with the centralized data storage because each node stores all blocks with respect to the block propagated through the P2P network, and it has the transparent data propagation system because anyone may also receive the propagated block or transaction. Therefore, the conventional blockchain system has advantages in that it has increased security according to the development for the hash power and is safe from forgery and falsification.

[0006] However, it takes a very long time to verify the integrity of the transacted transaction, and each

participating node has inefficiency of having to store the books of tens to hundreds of Gbytes. Further, to approve the transaction, all participating nodes verify the transaction through the books, and the approval is made based on the verification result, such that all nodes participating in the system should store all of the same books, and perform all of the same verification works. For this reason, the conventional blockchain system has a limit in that efficiency is gradually lowered.

[0007] Further, as the consumer using the conventional blockchain system is explosively increased, the number of the transaction not included in the block is rapidly increased, such that there is a problem in that the processing time of the data is increased. Further, the anonymity of the participating node, the absence of the responsible person due to decentralization, and difficulties in responding appropriately to inflation or deflation of issued currencies are problematic.

【Disclosure】

【Technical Problem】

[0008] To solve the above problems, an object of the present disclosure is to provide a parallel blockchain system, which may classify the information to be stored into a node block and a history block, and connect the history block including and storing predetermined information to a sub chain of a

related node block and thus read only the history block information connected to the related node block or the sub chain thereof rather than the information of the entire block as in the conventional blockchain system, thereby largely shortening the data processing time.

[0009] Further, another object of the present disclosure is to provide a parallel blockchain system, which may adopt a semi-centralized method in which the approval is determined depending upon the approval of the super nodes holding each operation stake with respect to a predetermined approval request necessary for operating the system, thereby solving a problem of the absence of the responsibility due to the conventional decentralization.

【Technical Solution】

[0010] For achieving the objects, according to the present disclosure, in a parallel blockchain-based information storage and operation system in which a control module stores predetermined information in a block, connects the block to generate a blockchain, and distributes and stores the blockchain in a plurality of nodes participating in a P2P network, the block is classified into a node block and a history block, the node block stores information including a prior hash value, a public key, generation information, and an identification code, the history block stores information including the prior hash value, information

about a specific node block, and a history address, and the node blocks are sequentially connected in the generation order to form a main chain 180, and the history blocks are connected to a separate sub chain 190 connected from the related specific node block in the generating order.

[0011] The information stored in the node block may further include: corresponding node user information.

[0012] The information about the specific node stored in the history block includes: information of approval request matters about the specific node block within the system.

[0013] The node participating in the P2P network is classified into two or more super nodes having the block generation authority and a normal node having no block generation authority.

[0014] A broadcast communication module may propagate the block generated by the super node through the control module to all nodes participating in the P2P network.

[0015] A query communication module may receive a generation request signal of the history block from the normal node to propagate the generation request signal to the two or more super nodes, and the control module may receive a generation signal of the history block from one of the super nodes and then connect a history block according to the request to the sub chain 190 of the node block of the normal node.

[0016] The control module may connect an approval history

block generated by the super node approving the activation of the history block to the sub chain 190 to which the history block is connected.

[0017] The control module may activate the generated history block, if the sum of the operation stakes held by the super nodes generating the approval history block satisfies a predetermined setting criterion.

[0018] The setting criterion may be that the sum of the operation stakes held by the super nodes generating the approval history block exceeds 50% of all of operation stakes.

[0019] If the history block relates to the transaction of a currency used in the system, the control module automatically generates the approval history block from all super nodes and then connects the approval history block to the sub chain 190 to activate the history block about the transaction.

[0020] A cancellation request history block for deactivating the activated history block may be generated by one super node, and if the sum of the operation stakes of the super nodes approving the cancellation to generate a cancellation approval history block satisfies the predetermined setting criterion, the control module may deactivate the activated history block.

[0021] A hash value of the blockchain stored in each super node may be frequently shared between the super nodes through a super broadcast communication module, and

[0022] the control module may determine that the blockchain stored in one super node is changed, if the hash value of the blockchain stored in the one super node is not equal to the hash value of the blockchain equally stored in two or more super nodes at which the sum of the operation stakes exceeds 50%.

[0023] The block of the system according to the present disclosure is the currency available in the system and may further include: a token block storing information of a token to which predetermined authority is exclusively granted to at least one token operation node, and information including a prior hash value and an identification code, the token block may be connected to the main chain 180, and the authority exclusively granted to the token operation node may be the history generation request about token operation matters including a change in a transaction fee of the token, the transaction restriction of the token or the transaction of the token operation stake for a specific node.

[0024] Further, the token operation node may hold a token operation stake capable of participating in determining the token operation matters, and the control module may activate the history block about the token operation matters, if the sum of the token operation stakes held by the token operation nodes requesting the generation of an approval history block with respect to the activation of the history block about

the token operation matters satisfies the predetermined setting criterion.

【Advantageous Effects】

[0025] The present disclosure has the following effects.

[0026] 1. The conventional blockchain-based information storing and operating system may know current token-owned information only when reading all of the transaction of the ledger, but since the blockchain-based information storing and operating system according to the present disclosure stores the history block storing the related information for each node block by being connected by the sub chain of the corresponding node block, it is possible to have the fast searching and processing speed because the node block about the searching object is determined and only the information of the history block related thereto is read when searching for the predetermined information.

[0027] 2. To search for the node block more quickly, when the identification code information capable of identifying the node block is stored in the node block, it is possible to search for the node block more quickly even without copying the public key as in the conventional blockchain system.

[0028] 3. If the node user information is stored in the node block, the present disclosure may operate the real-name system to block the network participation of the node not approved, thereby improving the stability of the system.

[0029] 4. Since the present disclosure may be operated by the semi-centralized method granting the predetermined authority to the super nodes, one super node may quickly generate the corresponding history block when the normal node requests the block generation request to the super node through the query communication module, thereby solving the problem of the slow block generation due to the decentralization of the conventional blockchain system.

[0030] 5. Since the present disclosure may inevitably affect the system operating determination matter by only the operation stakes held by the plurality of super nodes, the corresponding history block is not activated when the approval exceeding 50% of the operation stake is not obtained even if some super nodes illegally generate the history block, and further, the related unfair coin movement may be canceled through the participation of the super nodes in which the sum of the operation stakes exceeds 50% even if the currency (coin) or the like used within the system is illegally lost by hacking or the like, thereby enhancing the stability of the system.

[0031] 6. The present disclosure may adjust the issuance volume and the fee of the currency (coin) used in the system through the decision by the vote of the super nodes, thereby minimizing the inflation/deflation problem occurring in the conventional blockchain-based cryptocurrency.

【Description of Drawings】

[0032] FIG. 1 is a diagram illustrating a schematic configuration of a parallel blockchain-based information management and operation system according to the present disclosure.

[0033] FIG. 2 is a conceptual diagram of a blockchain configured to include a node block and a history block according to the present disclosure.

[0034] FIG. 3 is an exemplary diagram illustrating the information stored in the node block according to the present disclosure.

[0035] FIG. 4 is an exemplary diagram illustrating the information stored in the history block generated with regard to transaction according to the present disclosure.

[0036] FIG. 5 is a conceptual diagram on a network of a super board and a general board according to the present disclosure.

[0037] FIG. 6 is a flowchart illustrating a transaction approval procedure within the system according to the present disclosure.

[0038] FIG. 7 is a flowchart illustrating a transaction cancellation procedure within the system according to the present disclosure.

【Best Mode】

[0039] Hereinafter, an exemplary embodiment of the present disclosure will be described with reference to the

accompanying drawings. The technical spirit of the present disclosure may be clearly understood by the exemplary embodiment. Further, it will be apparent to those skilled in the art that the present disclosure is not limited to the exemplary embodiment to be described below but may be changed in various forms within the scope of the technical spirit to which the present disclosure pertains.

[0040] FIG. 1 is a diagram illustrating a schematic configuration of a parallel blockchain-based information management and operation system 10 (hereinafter, referred to as 'system') according to the present disclosure. The system 10 relates to the system 10 operated to distribute and store a blockchain 100 storing a predetermined fixed price in a plurality of nodes (1, 2, ..., n) participating in a P2P network without a separate central management server, and allow the nodes (1, 2, ..., n) to perform a predetermined activity within the system based on the blockchain 100. Here, the P2P network stands for a peer to peer, and means a network directly connected between personal computers through the Internet even without a conventional server and client.

[0041] The concept of the general blockchain is a form of a distribution database continuously accumulated and grown, in which a plurality of blocks form one chain, and a next block has a hash value for the just prior block, such that when

the block is arbitrarily changed, whether it is changed may be easily recognized, and the arbitrary operation is actually impossible because such a blockchain is equally distributed to and stored in a plurality of nodes.

[0042] As illustrated in FIG. 2, the blockchain 100 according to the present disclosure may be classified into a node block 110 and a history block 120.

[0043] The node block 110 basically stores information about nodes (1, 2, ..., n) participating in the P2P network, and more specifically, as illustrated in FIG. 3, may include at least a prior hash value for the just prior block, a node public key for security, a birth about the generation time of the block, and an identification code capable of easily identifying the corresponding block 100 upon searching. The identification code may be the hash value of the corresponding block 100 or index information notifying the order in the chain to which the node block 110 is connected. Further, the node block 110 may further include the corresponding node user information. In this case, since the nodes (1, 2, ..., n) participating in the P2P network are operated based on the real-name system, the node not approved may not participate in the network, thereby enhancing the stability of the system 10.

[0044] The plurality of node blocks 110 are sequentially connected according to the generation order to form a main

chain 180.

[0045] The history block 120 basically stores information about the specific node block 110, and more specifically, as illustrated in FIG. 4, stores the prior hash value for the just prior block and the information about the specific node block 110, and also stores history address information representing the address of the corresponding history block 120. The information about the specific node block 110 may be representatively the transaction of the currency used within the system 10, and in addition thereto, may be various information requiring the approval with regard to the specific node block 110 within the system 10. Therefore, the blockchain 100 according to the present disclosure is not limited to only the distribution books of the transaction of the currency which is the main function of the conventional blockchain system, and may store information about all activities occurring within the system 10 according to the present disclosure.

[0046] The history block 120 is connected to a separate sub chain 190 connected from the related specific node block 120 in the generation order, in which the history block 120 storing the related information for each node block 110 has the form of a kind of parallel blockchain connected by the sub chain 190 of the corresponding node block 110 unlike the conventional blockchain composed of one chain, thereby

having an advantage capable of reading the information more quickly. As an example, when searching for the transaction of a node (n), the conventional blockchain composed of a single chain should read from the first block to the final block, but the parallel blockchain 100 according to the present disclosure reads only the node block 110 for the node (n) and the history block 120 connected to the node block 110 by the sub chain 190, thereby having very fast processing speed.

[0047] The system 10 according to the present disclosure includes a communication module 200 capable of transmitting and receiving the information between the nodes (1, 2, ..., n). Detailed modules included in the communication module 200 will be described later.

[0048] Further, the system 10 according to the present disclosure includes a control module 300 which is in charge of the overall operation management of the system 10. The control module 300 is in charge of the generation of the blocks and the blockchain 100 to which the blocks are connected, and receives signals transmitted from the nodes (1, 2, ..., n) to process the system control according to the reception of the signal.

[0049] Next, the parallel blockchain 100-based information management and operation system according to the present disclosure will be described in more detail.

[0050] For reference, the system 10 according to the present disclosure is the system 10 devised not only to store and manage only the transaction between the nodes as in the conventional blockchain system, but also to enable various network activities performed between two or more super nodes (S) having a predetermined authority and a normal node (N) having no predetermined authority within the system 10. The conventional blockchain system has the decentralized form, such that there are problems in that it takes a considerable time to generate the block and the method which appropriately copes with the inflation of the currency transacted within the system is improper, but the system 10 according to the present disclosure may take the semi-centralized form, thereby solving the conventional problems. That is, in the centralized form, the system is operated by one node having the absolute authority, whereas the semi-centralized system 10 according to the present disclosure includes a plurality of super nodes (S) having the predetermined authority, and the decision for the operation matters is made through the democratic consensus procedure of the super nodes. Each of the super nodes (S) holds a predetermined operation stake, and may vote for the operation matters of the system 10 by the held operation stake, thereby affecting the decision thereof. As an example, when one super node (S1) is prevented from transacting the specific node (n) in the system, such

a measure may be activated only when the sum of the operation stakes held by the super nodes (S) approving the same satisfies at least a predetermined setting criterion in order to activate such a measure. A configuration of the present disclosure for operating the system will be described in detail below.

[0051] The plurality of nodes (1, 2, ..., n) participating in the system 10 according to the present disclosure may be classified into the super node (S) having the block generation authority and the normal node (N) having no block generation authority. At least two super nodes (S) exist, and the presence or absence of the approval is differently influenced according to the aforementioned operation stake. Therefore, the super node (S) may participate in determining the operation, such as the issuance volume of the currency (coin) used in the system or the transactional fee, through the voting, thereby quickly solving the inflation or deflation of the system transaction currency (coin) with the free market logic. Further, the super node (S) may determine the decision or cancellation of the transaction of the specific node (n), the prohibition/permission of receiving or sending the transaction of the specific node (n), the restriction and release of the function within the system of the specific node (n), and the like through the voting.

[0052] The super node (S) has the authority capable of

generating the node block 110 or the history block 120, and if such a block is generated, the block generated by the super node (S) is propagated to all nodes (1, 2, ..., n) participating in the network through a broadcast communication module 210.

[0053] If the normal node (N) wants to generate a predetermined history block 120 necessary for the activity of the system 10 such as the currency transaction, a generation request signal of the history block 120 is propagated to all of the super nodes (S) through a query communication module 230, and when one of the super nodes (S) sends the generation signal for generating the history block 120, the control module 300 receives the generation signal and then connects the history block 120 according to the request to the sub chain 190 of the node block 110 of the normal node (N) requesting the block generation.

[0054] However, the history block 120 is not activated immediately upon generation, but activated only when the approval of the super node (S) satisfying the predetermined setting criterion exists, and the form of the approval of the super node (S) is expressed as generating the approval history block 120 for the activation of the generated history block 120. The generated history block 120 is activated only when the approval history block 120 is generated enough to satisfy the predetermined setting criterion to be connected

to the sub chain 190. Here, the activation of the history block 120 means that a predetermined approval request matter stored within the corresponding block is approved and processed on the system 10.

[0055] As an example, assuming that one normal node (N1) donates the system currency of 100 coins to another normal node (N2), the normal node (N1) requests the generation of the history block 120 including the content of "N1 donates 100 coins to N2" to all super nodes (S) through the query communication module 230, and when one super node (S) generates the history block 120, the corresponding history block 120 is connected to the sub chain 190 of each node block 110 corresponding to the normal node (N1) and another normal node (N2). However, even if the history block is generated, the corresponding information is not approved yet, and the approval history blocks 120 of the super nodes (S) are generated in the corresponding sub chain 190 and when the generation of the history block satisfies the predetermined setting criterion, the content of "N1 donates 100 coins to N2" is finally approved and processed.

[0056] In the system 10 according to the present disclosure, if the generated history block 120 relates to the transaction of the coin used as the currency in the system 10, the transaction occurs very frequently, and when the super nodes (S) should generate the approval history block 120 every

time the transaction occurs, the transaction approval may be delayed, such that specially in this case, the control module 300 may process as automatically generating the approval history block 120 from all super nodes (S), and may preferentially activate the corresponding history block 120 by connecting the approval history block 120 to the corresponding sub chain 190.

[0057] If one super node (S) is intended to cancels the activation of the activated history block 120, the cancellation request history block 120 for cancelling the activation of the activated history block 120 is generated, and in this case, the cancellation request history block 120 is connected to the sub chain 190 to which the history block 120 previously activated by the control module 300 is connected. The generation of the corresponding cancellation request history block 120 is propagated to all super nodes (S) through a super broadcast communication module 220, and the super node (S) approving the cancellation generates the cancellation approval history block 120, and the cancellation approval history block 120 is connected to the sub chain 190 by the control module 300. When the sum of the stakes held by the super nodes (S) generating the cancellation approval history block 120 satisfies the setting criterion, the control module 300 deactivates the activated history block 120 again.

[0058] For reference, the setting criterion may be the condition where the sum of the operation stakes held by the super nodes (S) generating the approval history block 120 exceeds 50% of a total of operation stakes held by all super nodes (S), but is not necessarily limited thereto, and the setting criterion may be changed, as necessary.

[0059] The hash value of the blockchain 100 stored in each super node (S) is frequently shared between the super nodes (S) through the super broadcast communication module 220. Here, the super broadcast communication module 220 means a communication means capable of transmitting and receiving the hash value between only the super nodes (S). As the result of sharing the hash value, if the hash value of the blockchain 100 stored in one super node (S) is not equal to the hash values of the blockchain 100 equally stored in two or more super nodes (S) in which the sum of the remaining operation stakes exceeds 50%, it is determined that the blockchain stored in one super node (S) is arbitrarily changed, and the blockchain may be replaced with the blockchain 100 equally stored in two or more super nodes (S) in which the sum of the operation stakes exceeds 50%.

[0060] Hereinafter, the transaction approval process within the system 10 according to the present disclosure will be described with reference to FIG. 6 and the transaction cancellation process within the system 10 according to the

present disclosure will be described with reference to FIG. 7.

[0061] First, when one super node (S1) holding the operation stake of 20% generates the corresponding node block 110 such that the normal node (N1) may participate in the system 10 and generates the history block 120 which donates the currency of 100 coins to the normal node (N1), the history block 120 is connected to the node block 110 of the super node (S1) about the transaction and the sub chain 190 of the node block 110 of the normal node (N1). The approval history block is automatically generated from all remaining super nodes (S2, ..., Sn) for the currency transaction to be connected after the history block for the donation of 100 coins, and the history block 120 for the donation of 100 coins is activated. As a result, the approval for the corresponding transaction is quickly made.

[0062] At this time, when determining that the donation of 100 coins is caused by hacking and intending to cancel the corresponding transaction, one super node (S2) generates the cancellation history block 120 for deactivating the activation of the history block 120 for the corresponding donation of 100 coins, and at this time, the control module 300 connects the cancellation history block 120 to the sub chain 190 of the previously corresponding node block 110.

[0063] When the fact that the cancellation history block 120

is generated is propagated through the broadcast communication module 210, each of the remaining super nodes (S) determines whether to cancel the coin donation, and then the super node (S) determining the cancellation generates the cancellation approval history block 120. Then, the control module 300 connects the cancellation approval history block 120 to the sub chain 190 of the corresponding node block 110, and if the sum of the operation stakes of the super nodes (S) generating the cancellation approval history block 120 exceeds 50% of all of the operation stakes, the control module 300 deactivates the activation of the history block 120 for the coin donation again, and if the sum thereof does not exceed 50% of all of the operation stakes, it is recognized as the still valid transaction.

[0064] Next, the block of the system 10 according to the present disclosure is the currency available in the system 10 and may further include a token block which stores information of the token to which a predetermined authority is exclusively granted to at least one token operation node (R), and information including a prior hash value and an identification code. The token block 130 is similar to the node block 110 in terms of being connected to the main chain 180 of the blockchain 100, but has a difference in terms of being related to the token which is one of the currencies available in the system 10, rather than being related to the

node participating in the P2P network according to the present disclosure. Therefore, the token block 130 may basically store the information of the token, and the information including the prior hash value and the identification code.

[0065] Here, the token means one of the currencies which are the transaction means available in the system 10 according to the present disclosure. The most basic currency used in the system 10 according to the present disclosure is the coin, and distinguished from the token. For reference, in the case of the coin, the important operation matters (a change in the coin issuance volume, a change in the transaction fee, and the like) are determined by the super node (S) holding the predetermined operation stake, whereas in the case of the token, one super node (S) may arbitrarily generate the token block 130, and the token is operated in the method of designating any node as the token operation node (R) and exclusively granting the predetermined operation authority for the important token operation matters. The token operation node (R) may be two or more.

[0066] The exclusive authority delegated to the token operation node (R) may be the matters including the change in the transaction fee of the token, the transaction restriction of the token, the transaction of the token operation stake, and the like for the specific node

(hereinafter, referred to as 'token operation matters'). Therefore, since the exclusive authority for the token operation matters is granted to only the token operation node (R), only the token operation node (R) may request the related history generation. The super node (S) or the normal node (N) not authorized may not generate or request the history for the aforementioned matters, and when the super node (S) or the normal node (N) having no delegation of the authority sends a related history generation (request) signal, the control module 300 blocks the generation of the history block even when receiving the history generation (request) signal.

[0067] The token operation node (R) may hold the token operation stake capable of participating in determining the token operation matters, and the control module 300 may activate the history block about the token operation matters, if the sum of the token operation stakes, which is held by the token operation nodes requesting the generation of the approval history block with respect to the activation of the history block about the token operation matters, satisfies the predetermined setting criterion. That is, the super node (S) may not generate the approval history block alone with respect to the token operation matters, and generates the corresponding approval history block 120 according to the request of the token operation node (R) holding the token

operation stake. Therefore, the authority of the token operation node (R) is partially allowed for the token operation matters.

[0068] While the preferred exemplary embodiment of the present disclosure has been described above, the scope of the present disclosure is not limited thereto and it should be understood that the scope of the present disclosure includes the scope substantially equivalent to the exemplary embodiment of the present disclosure, and the present disclosure may be variously changed by those skilled in the art to which the disclosure pertains without departing from the spirit of the present disclosure.

[0069] The exemplary embodiment of the present disclosure has been described together with the best mode for carrying out the disclosure.

【Industrial Applicability】

[0070] The exemplary embodiment of the present disclosure relates to the parallel blockchain-based information management and operation system, and has repeatability and industrial applicability in the database management solution field or the like.

【CLAIMS】

【Claim 1】

A parallel blockchain-based information management and operation system in which a control module stores predetermined information in a block, connects the block to generate a blockchain, and distributes and stores the blockchain in a plurality of nodes participating in a network,

wherein the block is classified into a node block and a history block,

wherein the node block stores information comprising a prior hash value, a public key, generation information, and an identification code,

wherein the history block stores information comprising the prior hash value, information about a specific node block, and a history address, and

wherein the node blocks are sequentially connected in the generation order to form a main chain, and the history blocks are connected to a separate sub chain connected from the related specific node block in the generating order,

wherein the node network is classified into two or more super nodes having the block generation authority and a normal node having no block generation authority,

wherein one of the super node, receives a generation request signal of specific history block transmitted by specific normal node, transmits a generation signal of

specific history block to the control module, and connected to the sub chain of the node block related to the specific history block after generating the specific history block by the control module,

wherein an activation of the specific history block is determined by a predetermined setting criterion of the plurality of super nodes.

【Claim 2】

The parallel blockchain-based information management and operation system of claim 1,

wherein the information stored in the node block further comprises: corresponding node user information.

【Claim 3】

The parallel blockchain-based information management and operation system of claim 2,

wherein the information about the specific node stored in the history block comprises: information of approval request matters about the specific node block within the system.

【Claim 4】

The parallel blockchain-based information management and operation system of claim 1,

wherein the system propagates the block generated by the super node through the control module to all nodes participating in the network by a broadcast communication

module.

【Claim 5】

The parallel blockchain-based information management and operation system of claim 1,

wherein the system propagates the generation request signal of the history block transmitted by the normal node to the plurality of the super nodes by a query communication module.

【Claim 6】

The parallel blockchain-based information management and operation system of claim 1,

wherein the control module connects an approval history block generated by the super node approving the activation of the specific history block to the sub chain to which the specific history block is connected.

【Claim 7】

The parallel blockchain-based information management and operation system of claim 1,

wherein the control module activates the generated history block, if the sum of the operation stakes held by the super nodes generating the approval history block satisfies a predetermined criterion.

【Claim 8】

The parallel blockchain-based information management and operation system of claim 7,

wherein the criterion is that the sum of the operation stakes held by the super nodes generating the approval history block exceeds 50% of all of operation stakes.

【Claim 9】

The parallel blockchain-based information management and operation system of claim 7,

wherein if the history block relates to a transaction of a currency used in the system, the control module automatically generates the approval history block from all super nodes and then connects the approval history block to the sub chain to activate the history block about the transaction.

【Claim 10】

The parallel blockchain-based information management and operation system of claim 7 or claim 9,

wherein a cancellation request history block for deactivating the activated history block is generated by one super node, and if the sum of the operation stakes of the super nodes approving the cancellation to generate a cancellation approval history block satisfies the predetermined setting criterion, the control module deactivates the activated history block.

【Claim 11】

The parallel blockchain-based information management and operation system of claim 6,

wherein a hash value of the blockchain stored in each super node is frequently shared between the super nodes through a super broadcast communication module, and the control module determines that the blockchain stored in one super node is changed, if the hash value of the blockchain stored in the one super node is not equal to the hash value of the blockchain equally stored in two or more super nodes at which the sum of the operation stakes exceeds 50%.

【Claim 12】

The parallel blockchain-based information management and operation system of claim 10,

wherein the block of the system is the currency available in the system and comprises: a token block storing information of a token to which predetermined authority is exclusively granted to at least one token operation node, and information comprising a prior hash value and an identification code, the token block is connected to the main chain, and the authority exclusively granted to the token operation node is the history generation request about token operation matters comprising a change in a transaction fee of the token, the transaction restriction of the token or the transaction of the token operation stake for a specific node.

【Claim 13】

The parallel blockchain-based information management

and operation system of claim 12,

wherein the token operation node holds a token operation stake capable of participating in determining the token operation matters, and the control module activates the history block about the token operation matters, if the sum of the token operation stakes held by the token operation nodes requesting the generation of an approval history block with respect to the activation of the history block about the token operation matters satisfies the predetermined setting criterion.