

[CLAIMS]

[Claim 1]

A settlement operation support system for a distributed ledger system including a plurality of nodes representing a plurality of organizations, respectively, at least a prescribed node out of the plurality of nodes comprising:

- a storage unit configured to store a distributed ledger;
- and

- a computation unit configured to:

- receive a transaction for a settlement operation associated with an order placement and an acceptance between at least two of the plurality of organizations;

- store the transaction in the distributed ledger after building a prescribed consensus in the distributed ledger system;

- manage a status of each procedure in the settlement operation as state information of the distributed ledger, wherein the state information is locally cached by the computation unit and comprises at least an indication of an unpaid amount of credit of a settlement corresponding to the settlement operation;

- determine, responsive to building the prescribed consensus in the distributed ledger system and determining that the transaction satisfies the unpaid amount of credit, that a status of the unpaid amount of credit of the settlement corresponding to the order placement or the acceptance in the state information has become credit completed; and

perform reconciliation processing of the order placement or the acceptance responsive to determining that the status of the unpaid amount of credit of the settlement in the state information has become credit completed.

[Claim 2]

The settlement operation support system according to claim 1, wherein the prescribed node is further configured to:

acquire information associated with a credit event concerning a prescribed account from a prescribed financial institution system upon receipt of a credit confirmation instruction from a user or in accordance with a status of a payment procedure of the unpaid amount of credit of the settlement in the state information, issue a transaction concerning credit of the unpaid amount of credit of the settlement in a case where the information indicates the credit of the unpaid amount of credit of the settlement of the order placement or acceptance action, and to store the transaction in the distributed ledger after building the consensus, and update a status of the unpaid amount of credit of the settlement in the state information with credit completed.

[Claim 3]

The settlement operation support system according to claim 2, wherein the prescribed node is further configured to:

determine a status of each procedure in the settlement operation associated with a second order placement or a second acceptance action of any a prescribed organization of

the plurality of organizations satisfying a predetermined condition and an organization operating the prescribed node by referring to the state information; and

display the status of each procedure on an output unit.

[Claim 4]

The settlement operation support system according to claim 3, wherein the prescribed node is further configured to:

receive a user instruction to carry out a payment registration concerning a certain procedure of the procedures of which statuses are displayed on the output unit, the certain procedure representing billing registration processing with a status indicated as completed;

issue a transaction concerning a payment procedure in an amount of settlement indicated in the billing registration;

store the transaction in the distributed ledger after building the consensus; and

update the status of the payment procedure in the state information with payment registration completed.

[Claim 5]

The settlement operation support system according to claim 4, wherein the prescribed node is further configured to:

receive a user instruction to perform payment in installments in a prescribed number of times concerning the certain procedure out of the procedures of which statuses are displayed on the output unit, the certain procedure representing the billing registration processing with the status indicated as completed;

issue a transaction concerning the payment procedures in the number of times corresponding to the prescribed number of times each in an amount obtained by dividing the amount of settlement indicated in the billing registration by the prescribed number of times;

store the transaction in the distributed ledger after building the consensus; and

update the status of the payment procedures in the state information with payment registration completed.

[Claim 6]

The settlement operation support system according to claim 4, wherein the prescribed node is further configured to:

receive a user instruction to perform lump-sum payment of a prescribed group of the order placement or acceptance actions concerning the certain procedure out of the procedures concerning the order placement or acceptance actions of which statuses are displayed on the output unit, the certain procedure representing the billing registration processing with the status indicated as completed;

issue a transaction concerning the payment procedure in an amount obtained by summing up amounts of the settlement of the respective order placement or acceptance actions forming the group of the order placement or acceptance actions;

store the transaction in the distributed ledger after building the consensus; and

update the status of the payment procedures in the state information with payment registration completed.

[Claim 7]

The settlement operation support system according to claim 2, wherein a second predetermined node of the plurality of nodes of the distributed ledger system is configured to:

- execute the reconciliation processing;

- acquire the information on the credit event;

- issue the transaction concerning the credit of the unpaid amount of credit of the settlement and store the transaction in the distributed ledger after building the consensus; and

- update the status of the unpaid amount of credit of the settlement in the state information with credit completed.

[Claim 8]

A settlement operation support method for a distributed ledger system including a plurality of nodes representing a plurality of organizations, respectively, in which at least a prescribed node of the plurality of nodes includes a storage unit configured to store a distributed ledger, the method comprising:

- receiving, by the prescribed node, a transaction for a settlement operation associated with an order placement and an acceptance between at least two of the plurality of organizations storing, by the prescribed node, the transaction in the distributed ledger after building a prescribed consensus in the distributed ledger system;

- managing, by the prescribed node, a status of each procedure in the settlement operation as state information of the distributed ledger, wherein the state information is locally cached by the prescribed node and comprises at least an indication of an unpaid amount of credit of a settlement corresponding to the settlement operation;

determining, by the prescribed node, responsive to building the prescribed consensus in the distributed ledger system and determining that the transaction satisfies the unpaid amount of credit, that a status of the unpaid amount of credit of the settlement corresponding to the order placement or the acceptance in the state information has become credit completed; and

performing, by the prescribed node, reconciliation processing of the order placement or the acceptance responsive to determining that the status of the unpaid amount of credit of the settlement in the state information has become credit completed.

[Claim 9]

The settlement operation support method according to claim 8, further comprising:

acquiring, by the prescribed node, information associated with a credit event concerning a prescribed account from a prescribed financial institution system upon receipt of a credit confirmation instruction from a user or in accordance with a status of a payment procedure of the unpaid amount of credit of the settlement in the state information ;

issuing, by the prescribed node, a transaction concerning credit of the unpaid amount of credit of the settlement in a case where the information indicates the credit of the unpaid amount of credit of the settlement of the order placement or acceptance action;

storing, by the prescribed node, the transaction in the distributed ledger after building the consensus; and

updating, by the prescribed node, a status of the unpaid amount of credit of the settlement in the state information with credit completed.

[Claim 10]

The settlement operation support method according to claim 9, further comprising:

determining, by the prescribed node, a status of each procedure in the settlement operation associated with an order placement or acceptance action of any of a prescribed organization satisfying a predetermined condition and an organization operating the prescribed node by referring to the state information; and

displaying, by the prescribed node, the status of each procedure on an output unit.

[Claim 11]

The settlement operation support method according to claim 10, further comprising:

receiving, by the prescribed node, a user instruction to carry out a payment registration concerning a certain procedure out of the procedures of which statuses are displayed on the output unit, the certain procedure representing billing registration processing with a status indicated as completed;

issuing, by the prescribed node, a transaction concerning the payment procedure in an amount of settlement indicated in the billing registration;

storing, by the prescribed node, the transaction in the distributed ledger after building the consensus; and

updating, by the prescribed node, the status of the payment procedure in the state information with payment registration completed.

[Claim 12]

The settlement operation support method according to claim 11, further comprising:

receiving, by the prescribed node, a user instruction to perform payment in installments in a prescribed number of times concerning the certain procedure out of the procedures of which statuses are displayed on the output unit, the certain procedure representing the billing registration processing with the status indicated as completed;

issuing, by the prescribed node, a transaction concerning the payment procedures in the number of times corresponding to the prescribed number of times each in an amount obtained by dividing the amount of settlement indicated in the billing registration by the prescribed number of times;

storing, by the prescribed node, the transaction in the distributed ledger after building the consensus; and

updating, by the prescribed node, the status of the payment procedures in the state information with payment registration completed.

[Claim 13]

The settlement operation support method according to claim 11, further comprising:

receiving, by the prescribed node, a user instruction to perform lump-sum payment of a prescribed group of the order placement or acceptance actions concerning the certain

procedure out of the procedures concerning the order placement or acceptance actions of which statuses are displayed on the output unit, the certain procedure representing the billing registration processing with the status indicated as completed;

issuing, by the prescribed node, a transaction concerning the payment procedure in an amount obtained by summing up amounts of the settlement of the respective order placement or acceptance actions forming the group of the order placement or acceptance actions;

storing, by the prescribed node, the transaction in the distributed ledger after building the consensus; and

updating, by the prescribed node, the status of the payment procedures in the state information with payment registration completed.

[Claim 14]

The settlement operation support method according to claim 9, further comprising:

executing, by a second predetermined node of the plurality of nodes, the reconciliation processing, acquiring, by the second predetermined node, the information on the credit event, issuing, by the second predetermined node, the transaction concerning the credit of the unpaid amount of credit of the settlement and to store the transaction in the distributed ledger after building the consensus, and updating, by the second predetermined node, the status of the unpaid amount of credit of the settlement in the state information with credit completed.