

[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 ~~execute:~~

~~processing to~~ receive a transaction for a settlement operation associated with an order placement and an acceptance between ~~prescribed organizations out at least~~ two of the plurality of the organizations; ~~and to~~

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

~~processing to~~ manage a status in of each of ~~procedures~~ 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

~~processing to perform reconciliation processing of a relevant~~the order placement or the acceptance responsive to determining that the action in a case where a status of anthe 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 ~~executes processing~~is further configured to:

acquire information ~~on~~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,

~~processing to~~ 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

~~processing to~~ 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 ~~determines~~ is further configured
to:

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

~~displays~~ the status of each procedure on an output unit.

[Claim 4]

The settlement operation support system according to claim 3,
wherein ~~in a case where the~~ prescribed node ~~receives~~ is
further configured to:

receive 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~~, the~~
~~prescribed node issues;~~

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

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

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 ~~in a case where~~ the prescribed node is further
configured to:

receives 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; τ_i

~~the prescribed node~~ issues 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; τ_i

stores the transaction in the distributed ledger after
 building the consensus; τ_i and

updates 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 ~~in a case where~~ the prescribed node is further
configured to:

receives 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; i, τ

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

~~stores~~ the transaction in the distributed ledger after building the consensus~~;~~; and

~~updates~~ 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 ~~specifies~~second predetermined node ~~determined in advance out of the~~ plurality of nodes of the distributed ledger system is configured to:

~~executes the reconciliation processing, the processing to~~
;

~~acquire the information on the credit event, the~~
~~processing to~~;

issue 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 ~~the processing to~~

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 ~~out of the plurality of~~ nodes includes a storage unit configured to store a distributed ledger, the method comprising ~~executing, in:~~

receiving, by the prescribed node:~~processing to receive,~~ a transaction for a settlement operation associated with an order placement and an acceptance between ~~prescribed at least two of the plurality of organizations out of~~ storing, by the organizations, and to store~~prescribed node,~~ the transaction in the distributed ledger after building a prescribed consensus in the distributed ledger system,~~processing to~~ manage;

managing, by the prescribed node, a status ~~in of each of~~ ~~procedures~~ procedure in the settlement operation as state information of the distributed ledger, ~~and processing 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 ~~perform~~ 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 a relevant~~ the order placement or the acceptance action in a case where ~~a~~ responsive to determining that the status of ~~an~~ the unpaid amount of credit of the settlement in the state information becomes has become credit completed.

[Claim 9]

The settlement operation support method according to claim 8,
~~wherein~~

further comprising:

acquiring, by the prescribed node~~executes processing to~~
~~acquire,~~ information on~~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~~, processing to issue;~~

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~~, and to store;~~

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

~~processing to update~~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,
~~wherein~~further comprising:

determining, by the prescribed node~~determines,~~ 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 ~~T;~~ and ~~displays~~ 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, ~~wherein in a case where~~ further comprising:

receiving, by the prescribed node ~~receives,~~ 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 ~~T;~~

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

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

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, ~~wherein in a case where~~ further comprising:

receiving, by the prescribed node ~~receives,~~ 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~~7;~~

issuing, by the prescribed node~~issues,~~ 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~~7; stores;~~

storing, by the prescribed node, the transaction in the distributed ledger after building the consensus~~7;~~ and~~updates~~
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, ~~wherein in a case where~~further comprising:

receiving, by the prescribed node~~receives,~~ 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~~7;~~

issuing, by the prescribed node~~issues,~~ a transaction concerning the payment procedure in an amount obtained by summing up ~~the~~ amounts of the settlement of the respective

order placement or acceptance actions forming the group of the order placement or acceptance actions, ~~stores;~~

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

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, ~~wherein further comprising:~~

executing, by a ~~specific~~ second predetermined node-
~~determined in advance out of the plurality of nodes of the~~
~~distributed ledger system executes,~~ the reconciliation
processing, ~~the processing to acquire~~ acquiring, by the second
predetermined node, the information on the credit event, ~~the~~
~~processing to issue~~ 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 ~~the~~
~~processing to update~~ updating, by the second predetermined
node, the status of the unpaid amount of credit of the
settlement in the state information with credit completed.