CLAIMS

1. A cryptographic asset blockchain processing apparatus, comprising at least:

a data collection unit; and

a data conversion unit, wherein

the data collection unit accesses a cryptographic asset blockchain designated by a user and collects blockchain data from the cryptographic asset blockchain based on a request range predetermined,

the data conversion unit converts the blockchain data into analyzable transaction data, and

the blockchain data and the analyzable transaction data are stored in a data storage apparatus connected to the cryptographic asset blockchain processing apparatus, wherein

the blockchain data includes transaction data to which an identifiable block number is assigned,

the transaction data includes at least one or more pieces of unit price transaction data for unit price setting and one or more pieces of quantity transaction data for quantity designation, and

the data conversion unit searches, for each of the one or more pieces of quantity transaction data, unit price transaction data to which a block number closest to a block number assigned to the one or more pieces of quantity

transaction data is assigned, and calculates an amount of money related to a transaction by multiplying a value of a unit price of the unit price transaction data searched by a quantity of the one or more pieces of quantity transaction data,

wherein

the data storage apparatus includes a blockchain data storage apparatus and a transaction data storage apparatus,

the blockchain data collected by the data collection unit is stored in the blockchain data storage apparatus, and

transaction data including the amount of money calculated by the data conversion unit is stored in the transaction data storage apparatus,

wherein the cryptographic asset blockchain processing apparatus further comprises a data analysis unit, and

wherein

the data analysis unit acquires the transaction data matching a block number from a first block number to a block number at a specific time point from the transaction data storage apparatus, and

calculates a balance by adding an amount of money of the transaction data acquired for each address that is a recording unit corresponding to a bank account number in

the cryptographic asset blockchain.

2. The cryptographic asset blockchain processing apparatus according to claim 1, wherein

the data storage apparatus is a cloud storage accessible by the cryptographic asset blockchain processing apparatus via a network.

3. The cryptographic asset blockchain processing apparatus according to claim 1 or 2, wherein

the data collection unit operates in a static mode,

the data collection unit operating in the static mode designates the number of transaction data for each data batch and sets an end point of the request range, and

sets identification information of last transaction data of data collected last time as a start point of the request range.

4. The cryptographic asset blockchain processing apparatus according to claim 1 or 2, wherein

the data collection unit operates in a dynamic mode,

the data collection unit operating in the dynamic mode designates a data size for each data batch and sets an end point of the request range, and

sets identification information of last transaction

data of data collected last time as a start point of the request range.

5. The cryptographic asset blockchain processing apparatus according to claim 1 or 2, wherein

the data collection unit operates in an automatic collection mode,

the data collection unit operating in the automatic collection mode acquires identification information of latest data on the cryptographic asset blockchain and sets the identification information as an end point of the request range, and

sets identification information of last transaction data of data collected last time by the data collection unit as a start point of the request range.

6. The cryptographic asset blockchain processing apparatus according to claim 5, wherein

when a previous collection mode is a static mode in which the number of transaction data for each data batch is designated or a dynamic mode in which a data size for each data batch is designated, the data collection unit recalculates identification information of last transaction data of data collected last time based on the number of transaction data or the data size of the previous

collection mode and sets the identification information as a start point of the request range.

7. The cryptographic asset blockchain processing apparatus according to any one of claims 1 to 6, wherein

the blockchain data includes at least block data and transaction data,

the data conversion unit adds an attribute of year/month/date related to a transaction date and time to each of the block data and the transaction data to convert the block data and the transaction data into transaction data distinguishable by year/month/date, and

the transaction data is classified by year/month/date and stored in the data storage apparatus.

8. The cryptographic asset blockchain processing apparatus according to claim 7, wherein

the data storage apparatus includes a blockchain data storage apparatus and a transaction data storage apparatus,

the blockchain data collected by the data collection unit is stored in the blockchain data storage apparatus, and

the transaction data to which the attribute of the year/month/date is added by the data conversion unit and

which can be distinguished by the year/month/date is stored in the transaction data storage apparatus.

9. The cryptographic asset blockchain processing apparatus according to any one of claims 1 to 8, wherein

the cryptographic asset blockchain processing apparatus further includes a data analysis unit,

the data conversion unit divides the transaction data into transaction input data and transaction output data, and

the data analysis unit calculates total revenue and total expenditure in a range of a specific block number based on the transaction input data and the transaction output data for each address that is a recording unit corresponding to a bank account number in the cryptographic asset blockchain.

10. The cryptographic asset blockchain processing apparatus according to any one of claims 1 to 8, wherein

the cryptographic asset blockchain processing apparatus further includes a data analysis unit, and

the data analysis unit calculates a balance for each address based on the transaction data and a result of a smart contract for each address that is a recording unit corresponding to a bank account number in the cryptographic

asset blockchain.

11. The cryptographic asset blockchain processing apparatus according to any one of claims 1 to 6, wherein

the cryptographic asset blockchain processing apparatus further includes a consistency verification unit,

the transaction data includes block data to which a sequence number is assigned in a generation order,

the consistency verification unit checks whether the sequence number is duplicated or missing by sequentially collating the sequence number of the block data, and

in a case where there is a duplication or missing in the sequence number, notification of inconsistency of the block data corresponding to the sequence number is provided.

12. The cryptographic asset blockchain processing apparatus according to claim 11, wherein

the consistency verification unit counts the number of transaction data for each sequence number with respect to transaction data having a sequence number of a belonging block, and compares the number counted of transaction data with the number of transactions recorded in block data to which the sequence number is assigned, and

provides notification of an inconsistency of the

block data in a case where there is a difference.

13. The cryptographic asset blockchain processing apparatus according to claim 1 or 10, wherein

the cryptographic asset blockchain processing apparatus further includes a consistency verification unit,

the consistency verification unit calculates a verification balance of an address designated by a user using a block explorer managed by a third party,

acquires a balance at the address designated from a balance calculated for each address by the data analysis unit, and compares the balance calculated by the data analysis unit with the verification balance, and

provides notification that there is an inconsistency in data of the address designated in a case where there is a difference.

14. The cryptographic asset blockchain processing apparatus according to any one of claims 11 to 13, wherein

the consistency verification unit accesses a site that manages a version of node software of a cryptographic asset, checks a latest version of node software of a cryptographic asset desired, compares the latest version with a version of node software of the cryptographic asset stored in the data storage apparatus, and provides

notification that there is an inconsistency in the version of the node software of the cryptographic asset in a case where there is a difference in the version.

15. A cryptographic asset blockchain processing method comprising:

a step of accessing a cryptographic asset blockchain designated by a user;

a step of collecting blockchain data from the cryptographic asset blockchain based on a request range predetermined; and

a step of converting the blockchain data into analyzable transaction data, wherein

the blockchain data and the analyzable transaction data are stored in a data storage apparatus connected to the cryptographic asset blockchain processing apparatus, wherein

the blockchain data includes transaction data to which an identifiable block number is assigned, and

the transaction data includes at least one or more pieces of unit price transaction data for unit price setting and one or more pieces of quantity transaction data for quantity designation,

wherein the cryptographic asset blockchain processing method comprises:

a step of searching, for each of the one or more pieces of quantity transaction data, transaction data for unit price setting to which a block number closest to a block number assigned to the one or more pieces of quantity transaction data is assigned; and

a step of calculating an amount of money related to a transaction by multiplying a value of a unit price of the unit price transaction data searched by a quantity of the one or more pieces of quantity transaction data,

wherein

the data storage apparatus includes a blockchain data storage apparatus and a transaction data storage apparatus, and

the step of collecting the blockchain data includes storing the blockchain data collected in the blockchain data storage apparatus,

the cryptographic asset blockchain processing method further comprising

a step of storing transaction data including the amount of money calculated in the transaction data storage apparatus, and

wherein the cryptographic asset blockchain processing method comprises:

a step of acquiring the transaction data matching a block number from a first block number to a block number at

a specific time point from the transaction data storage apparatus; and

a step of calculating a balance by adding an amount of money of the transaction data acquired for each address that is a recording unit corresponding to a bank account number in the cryptographic asset blockchain.

16. The cryptographic asset blockchain processing method according to claim 15, wherein

the data storage apparatus is a cloud storage accessible by the cryptographic asset blockchain processing apparatus via a network.

17. The cryptographic asset blockchain processing method according to claim 15 or 16, further comprising a step of designating the number of transaction data for each data batch and setting an end point of the request range, and setting identification information of last transaction data of data collected last time as a start point of the request range, according to a static mode designated by a user.

18. The cryptographic asset blockchain processing method according to claim 15 or 16, further comprising a step of designating a data size for each data batch and setting an end point of the request range, and setting identification

information of last transaction data of data collected last time as a start point of the request range, according to a static mode designated by a user.

19. The cryptographic asset blockchain processing method according to claim 15 or 16, further comprising:

a step of acquiring identification information of latest data on the cryptographic asset blockchain, and setting the identification information as an end point of the request range, according to an automatic collection mode designated by a user; and

a step of setting identification information of last transaction data of data collected last time by the data collection unit as a start point of the request range.

20. The cryptographic asset blockchain processing method according to claim 19, further comprising a step of, when a previous collection mode is a static mode in which the number of transaction data for each data batch is designated or a dynamic mode in which a data size for each data batch is designated, recalculating identification information of last transaction data of data collected last time based on the number of transaction data or the data size of the previous collection mode and sets the identification information as a start point of the request

range.

21. The cryptographic asset blockchain processing method according to any one of claims 15 to 20, wherein

the blockchain data includes at least block data and transaction data,

the cryptographic asset blockchain processing method further comprising:

a step of adding an attribute of year/month/date related to a transaction date and time to each of the block data and the transaction data to convert the block data and the transaction data into transaction data distinguishable by year/month/date; and

a step of classifying the transaction data for each year/month/date and storing the transaction data classified in the data storage apparatus.

22. The cryptographic asset blockchain processing method according to claim 21, wherein

the data storage apparatus includes a blockchain data storage apparatus and a transaction data storage apparatus, and

the step of collecting the blockchain data includes storing the blockchain data collected in the blockchain data storage apparatus,

the cryptographic asset blockchain processing method further comprising

a step of storing the transaction data to which the attribute of the year/month/date is added by the data conversion unit and which can be distinguished by the year/month/date in the transaction data storage apparatus.

23. The cryptographic asset blockchain processing method according to any one of claims 15 to 22, further comprising:

a step of dividing the transaction data into transaction input data and transaction output data; and

a step of calculating total revenue and total expenditure in a range of a specific block number based on the transaction input data and the transaction output data for each address that is a recording unit corresponding to a bank account number in the cryptographic asset blockchain.

24. The cryptographic asset blockchain processing method according to any one of claims 15 to 22, further comprising a step of calculating a balance for each address based on the transaction data and a result of a smart contract for each address that is a recording unit corresponding to a bank account number in the cryptographic asset blockchain.

25. The cryptographic asset blockchain processing method according to any one of claims 15 to 20, wherein

the transaction data includes block data to which a sequence number is assigned in a generation order,

the cryptographic asset blockchain processing method further comprising:

a step of checking whether the sequence number is duplicated or missing by sequentially collating the sequence number of the block data; and

a step of, in a case where there is a duplication or missing in the sequence number, providing notification of inconsistency of the block data corresponding to the sequence number.

26. The cryptographic asset blockchain processing method according to claim 25, further comprising:

a step of counting the number of transaction data for each sequence number with respect to transaction data having a sequence number of a belonging block, and compares the number counted of transaction data with the number of transactions recorded in block data to which the sequence number is assigned; and

a step of providing notification of an inconsistency of the block data in a case where there is a difference.

27. The cryptographic asset blockchain processing method according to claim 15 or 24, further comprising:

a step of calculating a verification balance of an address designated by a user using a block explorer managed by a third party;

a step of acquiring a balance at the address designated from a balance calculated for each address by the data analysis unit, and comparing the balance calculated by the data analysis unit with the verification balance; and

a step of providing notification that there is an inconsistency in data of the address designated in a case where there is a difference.

28. The cryptographic asset blockchain processing method according to any one of claims 25 to 27, further comprising:

a step of accessing a site that manages a version of node software of a cryptographic asset;

a step of checking a latest version of node software of a cryptographic asset desired;

a step of comparing the latest version with a version of node software of the cryptographic asset stored in the data storage apparatus; and

a step of providing notification that there is an

inconsistency in the version of the node software of the cryptographic asset in a case where there is a difference in the version.

29. A cryptographic asset blockchain processing system comprising:

the cryptographic asset blockchain processing apparatus according to any one of claims 1 to 14;

an information processing terminal; and

a cloud storage, wherein

the cryptographic asset blockchain processing apparatus, the information processing apparatus, and the cloud storage are connected via a network.

30. A cryptographic asset blockchain processing program that is executed by a computer to cause the computer to function as each unit of the cryptographic asset blockchain processing apparatus according to any one of claims 1 to 14.

31. A cryptographic asset blockchain processing program that is executed by a computer to cause the computer to execute each step of the cryptographic asset blockchain processing method according to any one of claims 15 to 28.