

The invention claimed is:

1. An apparatus, comprising:

a portion of an instance of a distributed database at a first compute device configured to be included within a plurality of compute devices that implement via a network operatively coupled to the plurality of compute devices, the distributed database that includes a first record logically related to a first public key associated with the first compute device; and

a processor of the first compute device operatively coupled to the portion of the instance of the distributed database, the processor configured to:

receive from a second compute device from the plurality of compute devices, a first public key associated with the second compute device and (1) encrypted with the first public key associated with the first compute device and (2) logically related to a second record of the distributed database;

decrypt, at the first compute device, the first public key associated with the second compute device with a private key paired to the first public key associated with the first compute device;

send to the second compute device a second public key (1) associated with the first compute device, (2) logically related to a third record of the distributed database and (3) encrypted with a second public key associated with the second compute device and logically related to a fourth record of the distributed database;

define a transfer command by executing a lexicographical comparison between the second public key associated with the first compute device and the first public key associated with the second compute device; and

send a signal to post into the distributed database the transfer command configured to transfer a value from each source record from a plurality of source records including the first record and the fourth record to a different destination record from a plurality of destination records including the second record and the third record, the transfer command signed with the private key and configured to be executed such that an identity of a compute device associated with each destination record from the plurality of destination records is concealed among a set of compute devices including the first compute device and the second compute device.

2. The apparatus of claim 1, wherein the instance of the distributed database is a first instance of the distributed database, a second instance of the distributed database at a third

compute device from the plurality of compute devices includes a plurality of records including the first record, the second record, the third record and the fourth record, the first instance of the distributed database not including every record from the plurality of records.

3. The apparatus of claim 1, wherein the transfer command is configured to identify that each source record from the plurality of source records has at least the value prior to transferring the value from each source record from the plurality of source records to a different destination record from the plurality of destination records.

4. The apparatus of claim 1, wherein the transfer command is posted into the distributed database at a time, when each source record from the plurality of source records does not have at least the value at the time, the transfer command configured to delay the transfer until each record from the plurality of source records has at least the value.

5. The apparatus of claim 1, wherein the transfer command is associated with a time period, the transfer command configured to transfer the value from each record from the plurality of source records to a different destination record from the plurality of destination records when each record from the plurality of source records has at least the value at a time within the time period.

6. The apparatus of claim 1, wherein the transfer command is a first transfer command, the second record is a first destination record, and the set of compute devices is a first set of compute devices,

the processor configured to send a signal to post into the distributed database prior to the first transfer command being executed, a second transfer command configured to transfer the value from the first destination record to a second destination record such that an identity of a compute device associated with a private key corresponding to a public key logically related to the second destination record is concealed among a second set of compute devices including the first set of compute devices,

the second transfer command configured to transfer the value from the first destination record to the second destination record when the first destination record has the value at a time within a time period.

7. The apparatus of claim 1, wherein the processor is further configured to:

send to the second compute device the first public key associated with the first compute device and a numeric value to be subtracted from the first record and aggregated to each destination record from the plurality of destination records via an execution of the transfer command.

8. The apparatus of claim 1, wherein the transfer command is further configured to: include a time threshold conditioning the transfer command to be nullified when convergence is not reached via a consensus protocol before the time threshold.

9. The apparatus of claim 1, wherein the value corresponds to an amount of a digital asset.

10. An apparatus, comprising:

a portion of an instance of a distributed database at a first compute device configured to be included within a plurality of compute devices that implement via a network operatively coupled to the plurality of compute devices, the distributed database that includes a first record logically related to a first public key associated with the first compute device; and
a processor of the first compute device operatively coupled to the instance of the distributed database, the processor configured to:

receive from a second compute device from the plurality of compute devices,
(1) a first public key associated with the second compute device and (2) a value requested to be transferred from a second record logically related to the first public key associated with the second compute device;

encrypt a second public key associated with the first compute device with the first public key associated with the second compute device to define an encrypted second public key associated with the first compute device;

send, to the second compute device, the encrypted second public key associated with the first compute device;

define a transfer command by executing a lexicographical comparison between the second public key associated with the first compute device and a second public key associated with the second compute device; and

send a signal to post into the distributed database the transfer command configured to transfer the value from each source record from a plurality of source records including the first record and the second record to a different destination

record from a plurality of destination records including a third record logically related to the second public key associated with the first compute device and a fourth record logically related to the second public key associated with the second compute device, the transfer command signed with a private key paired to the first public key associated with the first compute device and configured to be executed such that an identity of a compute device associated with each destination record from the plurality of destination records is concealed among a set of compute devices including the first compute device and the second compute device.

11. The apparatus of claim 10, wherein the instance of the distributed database is a first instance of the distributed database, a second instance of the distributed database at a third compute device from the plurality of compute devices includes a plurality of records including the first record, the second record, the third record and the fourth record, the first instance of the distributed database not including every record from the plurality of records.

12. The apparatus of claim 10, wherein the transfer command is associated with a time period, the transfer command configured to transfer the value from each source record from the plurality of source records to a different destination record from the plurality of destination records when each source record from the plurality of source records has at least the value at a time within the time period.

13. The apparatus of claim 10, wherein the transfer command is a first transfer command, the third record is a first destination record, and the set of compute devices is a first set of compute devices,

the processor configured to send a signal to post into the distributed database prior to the first transfer command being executed, a second transfer command configured to transfer the value from the first destination record to a second destination record such that an identity of a compute device associated with a private key corresponding to a public key logically related to the second destination record is concealed among a second set of compute devices including the first set of compute devices,

the second transfer command configured to transfer the value from the first destination record to the second destination record when the first destination record has the value at a time within a time period.

14. The apparatus of claim 10, wherein the transfer command is further configured to:
include a time threshold conditioning the transfer command to be nullified when convergence
is not reached via a consensus protocol before the time threshold.
15. The apparatus of claim 10, wherein the value corresponds to an amount of a digital
asset.