

What is claimed is:

1. An apparatus, comprising:

a hardware processor configured to:

generate a block comprising a plurality of blockchain transactions;

identify a blockchain transaction, among the plurality of blockchain transactions, in the block which comprises noisy key-value pairs stored therein and which are configured to change valid key-value pairs stored on a blockchain ledger to the noisy key-value pairs based on a tag value included in the block, wherein

the tag value identifies the blockchain transaction as a noisy blockchain transaction,

the block further includes a key identifier indicative of a secret key that encrypts the tag value, and

the identification as the noisy blockchain transaction includes decrypting the tag value based on the secret key indicated by the key identifier; and

execute an update to the blockchain ledger based on the plurality of blockchain transactions included in the block, wherein the hardware processor is configured to skip execution of the noisy blockchain transaction which changes the valid key-value pairs stored on the blockchain ledger to the noisy key-value pairs based on the identification.

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

receive signatures and read-write sets with respect to the noisy blockchain transaction from endorser peers of the blockchain ledger; and

store the signatures and the read-write sets in the noisy blockchain transaction.

3. The apparatus of claim 1, wherein the hardware processor is further configured to generate the noisy blockchain transaction based on a historical pattern of behavior of multiple clients on the blockchain ledger.

4. The apparatus of claim 1, wherein the hardware processor is further configured to obscure the tag value based on the secret key prior to transmission of the noisy blockchain transaction to another peer node.

5. The apparatus of claim 4, wherein

the secret key comprises a public key of an asymmetric public and private key pair, and

a private key of the asymmetric public and private keypair is shared by blockchain clients within a blockchain network that created the noisy blockchain transaction but not shared by other blockchain clients within the blockchain network.

6. An apparatus, comprising:

a network interface configured to receive a block comprising a plurality of blockchain transactions; and

a hardware processor configured to:

identify a blockchain transaction, among the plurality of blockchain transactions, in the block that comprises noisy key-value pairs stored therein and which are configured to change valid key-value pairs stored on a blockchain ledger to the noisy key-value pairs based on a tag value, wherein

the tag value identifies the blockchain transaction as a noisy blockchain transaction,

the block further includes a key identifier indicative of a secret key that encrypts the tag value, and

the identification as the noisy blockchain transaction includes decrypting the tag value based on the secret key indicated by the key identifier; and

execute an update to the blockchain ledger based on the plurality of blockchain transactions included in the block, wherein the hardware processor is configured to skip execution of the noisy blockchain transaction which changes the valid key-value pairs stored on the blockchain ledger to the noisy key-value pairs based on the identification.

7. The apparatus of claim 6, wherein the hardware processor is further configured to:

verify signatures and read-write sets with respect to the noisy blockchain transaction from endorser peers of the noisy blockchain transaction; and

store the signatures and the read-write sets within a data block.

8. The apparatus of claim 6, wherein the tag value comprises an obscured tag value that has been obscured based on the secret key.

9. The apparatus of claim 8, wherein

the secret key comprises a public key of an asymmetric public and private key pair, and

a private key of the asymmetric public and private key pair is shared by blockchain clients within a blockchain network that created the noisy blockchain transaction but not shared by other blockchain clients within the blockchain network.

10. The apparatus of claim 6, wherein

the network interface is further configured to receive a non-noisy blockchain transaction that comprises live data for the blockchain ledger, and a specific tag value, wherein the specific tag value identifies that the non-noisy blockchain transaction is not noise.

11. A method, comprising:

generating, by a first blockchain peer, a blockchain transaction that comprises noisy key-value pairs stored therein which are configured to change valid key-value pairs stored on a blockchain ledger to the noisy key-value pairs;

generating, by the first blockchain peer, a tag value which identifies the blockchain transaction as a noisy blockchain transaction;

storing, by the first blockchain peer, the tag value within the blockchain transaction; and

transmitting, from the first blockchain peer, the blockchain transaction to one or more blockchain peers of the blockchain ledger different from the first blockchain peer;

receiving, by at least a second blockchain peer of the one or more blockchain peers, a block comprising a plurality of blockchain transactions including the blockchain transaction that is tagged as the noisy blockchain transaction;

identifying, by the at least second blockchain peer, the blockchain transaction, among the plurality of blockchain transactions, as the noisy blockchain transaction based on the tag value, wherein

the block further includes a key identifier indicative of a secret key that encrypts the tag value, and

the identifying of the blockchain transaction as the noisy blockchain transaction includes decrypting the tag value based on the secret key indicated by the key identifier; and

executing, by the at least second blockchain peer, an update to the blockchain ledger based on the plurality of blockchain transactions included in the block, wherein the executing comprises skipping execution of the noisy blockchain transaction which changes the valid key-value pairs stored on the blockchain ledger to the noisy key-value pairs based on the identification.

12. The method of claim 11, further comprising:

receiving signatures and read-write sets with respect to the noisy blockchain transaction from endorser peers of the blockchain ledger; and

storing the signatures and the read-write sets in the noisy blockchain transaction.

13. The method of claim 11, wherein the generating of the blockchain transaction comprises generating the blockchain transaction based on a historical pattern of behavior of multiple clients of the blockchain ledger.

14. The method of claim 11, wherein the generating of the tag value further comprises obscuring the tag value with the secret key prior to the transmitting of the blockchain transaction.