WHAT IS CLAIMED IS

1. A method performed by a plurality of nodes of a distributed transaction consensus network, wherein the plurality of nodes includes a first digital property issuer and a second digital property issuer which are communicatively connected to each other, the method comprising:

(a) receiving a transaction request, by the distributed transaction consensus network, to transfer a first type of digital property issued by the first digital property issuer from a first virtual wallet associated with the first digital property issuer to a second virtual wallet associated with the second digital property issuer;

(b) causing the second virtual wallet to receive a second type of digital property issued by the second digital property issuer; and

(c) recording the requested transaction in a distributed ledger.

2. The method of claim 1, wherein the first type of digital property is one of digital currencies, digital securities, digital bonds, digital futures, and digital precious metals, and the second type of digital property is one of digital currencies, digital securities, digital bonds, digital futures, and digital precious metals.

3. The method of claim 1, wherein the step (b) comprises:

(b1) the first digital property issuer transferring the first type of digital property issued by the first digital property issuer from the first virtual wallet owned by a first subscriber to a first virtual treasury owned by the first digital property issuer;

(b2) the first digital property issuer transferring one or more selected types of digital property issued by the first digital property issuer or by the second digital property issuer from the first virtual treasury to a second virtual treasury owned by the second digital property issuer, wherein the one or more selected types of digital property are selected from any type of digital property contained in the first virtual treasury; and

(b3) the second digital property issuer transferring the second type of digital property issued by the second digital property issuer from the second virtual treasury to the second virtual wallet owned by a second subscriber.

4. The method of claim 1, wherein the step (b) comprises:

(b1) the first digital property issuer transferring the first type of digital property issued by the first digital property issuer from the first virtual wallet owned by a first subscriber to a first virtual treasury owned by the first digital property issuer;

(b2) the first digital property issuer transferring the first type of digital property issued by the first digital property issuer or by the second digital property issuer from the first virtual treasury to a second virtual treasury owned by the second digital property issuer; and

(b3) the second digital property issuer transferring the second type of digital property issued by the second digital property issuer from the second virtual treasury to the second virtual wallet owned by a second subscriber, wherein the second type of digital property is the same as the first type of digital property.

5. The method of claim 4, wherein, in the step (b2), the first digital property issuer transfers from the first virtual treasury, as a priority, the first type of digital property issued by the second digital property issuer to the second virtual treasury when the first virtual treasury contains the first type of digital property issued by the second digital property issuer; and the first digital property issuer transfers from the first virtual treasury a remaining amount of the first type of digital property issued by the first digital property issuer to the second virtual treasury when the first virtual treasury does not contain a requested amount of the first type of digital property issued by the second digital property issuer.

6. The method of claim 4, wherein the second digital property issuer sets an exposure limit of holding the first type of digital property issued by the first digital property issuer.

7. The method of claim 6, wherein the transaction request is denied when the transaction causes the second digital property issuer to hold more amount of the first type of digital property issued by the first digital property issuer than the exposure limit set by the second digital property issuer.

8. The method of claim 6, wherein the second digital property issuer's exposure limit of holding the first type of digital property issued by the first digital property issuer is set to zero when a private key to transfer the first type of digital property issued by the first digital property issuer is stolen or lost.

9. The method of claim 1, wherein the first virtual wallet is capable of storing one or more types of digital property issued by the first digital property issuer, but not any type of digital property issued by the second digital property issuer; and the second virtual wallet is capable of storing one or more types of digital property issued by the second digital property issuer, but not any type of digital property issued by the first digital property issuer.

10. The method of claim 1, further comprising:

(d) charging, by the first digital property issuer, a first transaction fee to the first virtual wallet; and

(e) charging, by the second digital property issuer, a second transaction fee to the second virtual wallet.

11. The method of claim 1, further comprising:

(f) charging, by a miner, a third transaction fee to the first virtual treasury or the second virtual treasury for generating a new block to record the transaction.

12. The method of claim 1, wherein the distributed transaction consensus network has an administrator.

13. The method of claim 12, wherein the administrator issues a digital fee token.

14. The method of claim 13, further comprising:

charging, by the administrator, a fourth transaction fee to the first virtual treasury or the second virtual treasury.

15. The method of claim 12, wherein the administrator authorizes the first digital property issuer or the second digital property issuer to issue one or more types of digital property.

16. The method of claim 12, wherein the administrator authorizes a miner to generate a new block recording the transaction, and sets rules for miners to compete against or support with each another.

17. A computer program product comprising one or more computer usable non-transitory media having computer readable program code embedded therein for controlling a digital property management system, the computer readable program code configured to cause the digital property management system to execute a transaction process in a distributed transaction consensus network with a plurality of nodes including a first digital property issuer and a second digital property issuer which are communicatively connected to each other, the process comprising:

(a) receiving a transaction request, by the distributed transaction consensus network, to transfer a first type of digital property issued by the first digital property issuer from a first virtual wallet associated with the first digital property issuer to a second virtual wallet associated with the second digital property issuer;

(b) causing the second virtual wallet to receive a second type of digital property issued by the second digital property issuer; and

(c) recording the requested transaction in a distributed ledger.

18. The computer program product of claim 17, wherein the step (b) comprises:

(b1) the first digital property issuer transferring the first type of digital property issued by the first digital property issuer from the first virtual wallet owned by a first subscriber to a first virtual treasury owned by the first digital property issuer;

(b2) the first digital property issuer transferring one or more selected types of digital property issued by the first digital property issuer or by the second digital property issuer from the first virtual treasury to a second virtual treasury owned by the second digital property issuer wherein the one or more selected types of digital property are selected from any type of digital property contained in the first virtual treasury; and

(b3) the second digital property issuer transferring the second type of digital property issued by the second digital property issuer from the second virtual treasury to the second virtual wallet owned by a second subscriber.

19. The method of claim 1, wherein each of the first digital property issuer and the second digital property issuer is one of a bank, an investment institute, a trading institute, and a telecom operator.

20. The method of claim 1, wherein the distributed ledger uses a blockchain data structure.

21. The method of claim 1, wherein the first virtual wallet corresponds to a first phone number and the second virtual wallet corresponds to a second phone number.

22. A method performed by a plurality of nodes of a distributed transaction consensus network, wherein the plurality of nodes includes a first telecom operator and a second telecom operator which are communicatively connected to each other, the method comprising:

(a) receiving a transaction request, by a distributed transaction consensus network, to transfer a first type of digital property issued by a first telecom operator from a first virtual wallet corresponding to a first phone number to a second virtual wallet corresponding to a second phone number;

(b) causing the second virtual wallet to receive a second type of digital property issued by the second telecom operator; and

(c) recording the requested transaction in a distributed ledger.

23. The method of claim 22, wherein the step (b) comprises:

(b1) the first telecom operator transferring the first type of digital property issued by the first telecom operator from the first virtual wallet owned by a first subscriber to a first virtual treasury owned by the first telecom operator;

(b2) the first telecom operator transferring one or more selected types of digital property issued by the first telecom operator or by the second telecom operator from the first virtual treasury to a second virtual treasury owned by the second telecom operator, wherein the one or more selected types of digital property are selected from any type of digital property contained in the first virtual treasury; and

(b3) the second telecom operator transferring the second type of digital property issued by the second telecom operator from the second virtual treasury to the second virtual wallet owned by a second subscriber.

24. The method of claim 22, wherein the first phone number is associated with the first telecom operator and the second phone number is associated with the second telecom operator.

25. The method of claim 1, wherein each of the first type of digital property and the second type of digital property is characterized by a combination of ~~at-leas~~t a type of digital currency and its issuer and the combination is represented by ~~at-leas~~t a symbol for the type of digital currency and a symbol for the issuer.

26. The computer program product of claim 17, wherein each of the first type of digital property and the second type of digital property is characterized by a combination of ~~at-lea~~st a type of digital currency and its issuer and the combination is represented by ~~at-leas~~t a symbol for the type of digital currency and a symbol for the issuer.

27. The method of claim 22, wherein each of the first type of digital property and the second type of digital property is characterized by a combination of ~~at-leas~~t a type of digital currency and its issuer and the combination is represented by ~~at-leas~~t a symbol for the type of digital currency and a symbol for the issuer.