Claims

1. A computer-based method configured and adapted to execute synchronized financial trading in an electronic trading environment that includes a plurality of financial exchanges, the method comprising acts of:

storing, by a trading server, a first transaction order;

dividing, by the trading server, the first transaction order into a plurality of smaller second transaction orders;

determining, by the trading server, a transaction execution time at which the plurality of smaller second transaction orders are to be submitted for execution;

generating, by the trading server, a plurality of financial trade instructions, each of the plurality of financial trade instructions containing a respective one of the smaller second transaction orders and the transaction execution time;

transmitting, by the trading server, each of the plurality of financial trade instructions to a respective one of a plurality of co-located servers, the plurality of co-located servers being respectively co-located at financial exchanges where respective smaller second transaction orders are to be executed;

storing, by each of the plurality of co-located servers, the respective smaller second transaction order and the transaction execution time contained in the transmitted respective financial trade instruction;

determining, by each of the plurality of co-located servers, a current time; and

comparing, by each of the plurality of co-located servers, the determined current time and the stored transaction execution time, and when the determined current time is equal to the stored transaction execution time, each of the plurality of co-located servers submitting the stored smaller second transaction order to the financial exchange where it is co-located.

2. The method of claim 1, wherein the act of determining a current time by each of the plurality of co-located servers comprises determining a current time from a clock, including an atomic clock, an optical clock, a quantum clock, or a GPS clock.

3. The method of claim 2, wherein each of the plurality of co-located servers includes its own clock, the method further comprising periodically synchronizing the clocks used by the co-located servers with GPS satellites or terrestrial sources that carry National Institute of Standards and Technology atomic clock time, wherein each of the clocks checks the accuracy of the time it is keeping and makes adjustments as necessary.

4. The method of claim 1, wherein the act of determining a current time by each of the plurality of co-located servers comprises determining a current time measurable to microsecond accuracy.

5. The method of claim 1, wherein the act of transmitting each of the plurality of financial trade instructions by the trading server to a respective one of a plurality of co-located servers further comprising transmitting each of the plurality of financial trade instructions to the respective one of a plurality of co-located servers before the transaction execution time, wherein the respective one of a plurality of co-located servers has time to submit the stored smaller second transaction order to its respective exchange before the transaction execution time.

6. The method of claim 1, wherein the act of storing the first transaction order by the trading server further comprises storing an order of stocks, bonds, options, contract interests, currencies, loans, commodities, or other similar financial interests.

7. The method of claim 1, wherein the act of determining, by the trading server, a transaction execution time at which the plurality of smaller second transaction orders are to be submitted for execution further comprises determining a specific time and determining a small amount of time to be added to the determined specific time.

8. The method of claim 7, wherein the act of determining the small amount of time to be added to the determined specific time further requires determining the small amount of time in microseconds.

9. The method of claim 8, wherein the act of determining a transaction execution time at which the plurality of smaller second transaction orders are to be submitted for execution by the trading server further comprises combining the determined specific time and the determined small amount of time to be added to the specific time.

10. The method of claim 1, further comprising receiving, by the trading server, a notification that the respective one of the smaller second transaction orders has been submitted to the respective one of the plurality of financial exchanges.

11. A computer-based system for executing synchronized financial trading in an electronic trading environment that includes a plurality of financial exchanges comprising:

control circuitry that controls operation of the system;

a plurality of co-located servers with each being co-located at a respective one of the plurality of financial exchanges and being connected to the respective one of the plurality of financial exchanges;

a trading server operated by a trading entity, the trading server being connected to the plurality of co-located servers; and

wherein the control circuitry is operable to:

store, by the trading server, a first transaction order;

divide, by the trading server, the first transaction order into a plurality of smaller second transaction orders;

determine, by the trading server, a transaction execution time at which the plurality of smaller second transaction orders are to be submitted for execution;

generate, by the trading server, a plurality of financial trade instructions, each of the plurality of financial trade instructions containing a respective one of the smaller second transaction orders and the transaction execution time;

transmit, by the trading server, each of the plurality of financial trade instructions to a respective one of the plurality of co-located servers:

store, by each of the plurality of co-located servers, the respective smaller second transaction order and the transaction execution time contained in the transmitted respective financial trade instruction;

determine, by each of the plurality of co-located servers, a current time; and

compare, by each of the plurality of co-located servers, the determined current time and the stored transaction execution time, and when the determined current time is equal to the stored transaction execution time, each of the plurality of co-located servers submits the stored smaller second transaction order to the financial exchange where it is co-located.

12. The system according to claim 11, further comprising a clock in each of the plurality of co-located servers, wherein each of the clocks in the plurality of co-located servers comprises an atomic clock, an optical clock, a quantum clock, or a GPS clock.

13. The system according to claim 12, wherein the clock in each of the plurality of co-located servers is not continuously connected to GPS satellites or terrestrial sources that carry National Institute of Standards and Technology atomic clock time, and wherein each clock and has a capability to synchronize with the GPS satellites or the terrestrial sources for the clock to check the accuracy of the time it is keeping and make adjustments as necessary.

14. The system according to claim 11, wherein the determined current time is measurable to microsecond accuracy.

15. The system according to claim 11, wherein the trading server transmits each of the plurality of financial trade instructions to the respective one of the plurality of co-located servers before the transaction execution time, wherein the respective one of the plurality of co-located servers has time to submit the stored smaller second transaction order to its respective exchange before the transaction execution time.

16. The system according to claim 11, wherein the first transaction order further comprises an order of stocks, bonds, options, contract interests, currencies, loans, commodities, or other similar financial interests.

17. The system according to claim 11, wherein the determined transaction execution time further comprises a determined specific time and a determined small amount of time to be added to the determined specific time.

18. The system according to claim 17, wherein the determined small amount of time to be added to the determined specific time further requires determining the small amount of time in microseconds.

19. The system according to claim 18, wherein the determined transaction execution time is a combination of the determined specific time and the determined small amount of time to be added to the determined specific time.

20. The system according to claim 11, wherein the control circuitry is further operable to receive, by the trading server, a notification that the respective one of the smaller second transaction orders has been submitted to the respective one of the plurality of financial exchanges.

21. A computer-based system for executing synchronized financial trading in an electronic trading environment that includes a plurality of financial exchanges comprising:

a memory that includes instructions for operating the system;

communication circuitry for communicating with other computer systems;

control circuitry coupled to the memory and coupled to the communication circuitry, the control circuitry capable of executing the instructions and is operable to at least:

store a first transaction order in the memory;

divide the first transaction order into a plurality of smaller second transaction orders;

determine a transaction execution time at which the plurality of smaller second transaction orders are to be submitted to their respective financial exchanges for execution;

generate a plurality of financial trade instructions, each of the plurality of financial trade instructions containing a respective one of the smaller second transaction orders and the transaction execution time; and

transmit, by the communication circuitry, each of the plurality of financial trade instructions to a respective one of a plurality of servers co-located at respective financial exchanges.

22. The system according to claim 21, wherein the first transaction order further comprises an order of stocks, bonds, options, contract interests, currencies, loans, commodities, or other similar financial interests.

23. The system according to claim 21, wherein the determined transaction execution time further comprises a determined specific time and a determined small amount of time to be added to the determined specific time.

24. The system according to claim 23, wherein the determined small amount of time to be added to the determined specific time further requires determining the small amount of time in microseconds.

25. The system according to claim 24, wherein the determined transaction execution time is a combination of the determined specific time and the determined small amount of time to be added to the determined specific time.

26. A computer-based method configured and adapted to execute synchronized financial trading in an electronic trading environment that includes a plurality of servers co-located, respectively, at a plurality of financial exchanges, the method comprising the acts, at each of the co-located server, of:

receiving, from a trading server, a financial transaction order, wherein transaction orders received by the respective servers are related to a single transaction order in the trading server receiving a transaction execution time;

determining a current time; and

comparing, the determined current time and the received transaction execution time, and when the determined current time is equal to the received transaction execution time, submitting the received financial transaction order to a respective one of the plurality of financial exchanges.

27. The method according to claim 26, wherein the financial transaction order and the transaction execution time are received in a single financial trade instruction by each of the plurality of co-located servers.

28. The method according to claim 27, wherein the financial transaction order received from the trading server is an order obtained by the trading server dividing the single transaction order.

29. The method according to claim 28, wherein the financial transaction orders further comprises dividing an order of stocks, bonds, options, contract interests, currencies, loans, commodities, or other similar financial interests.

30. The method according to claim 27, wherein the transaction execution time received from the trading server is a time determined by combining a specific time and a small amount of time to be added to the specific time.

31. The method according to claim 30, wherein the small amount of time to be added to the specific time is determined by the trading server in microseconds.

32. The method according to claim 26, wherein the act of determining a current time by each of the plurality of co-located servers comprises determining a current time from a clock including an atomic clock, an optical clock, a quantum clock, or a GPS clock.

33. The method according to claim 26, wherein each of the co-located servers includes its own clock, the method further comprising periodically synchronizing the clocks used by the co-located servers with GPS satellites or the terrestrial sources that carry National Institute of Standards and Technology atomic clock time, wherein each of the clocks check the accuracy of the time it is keeping and makes adjustments as necessary.

34. The method according to claim 26, wherein the act of determining a current time by each of the plurality of co-located servers comprises determining a current time measurable to microsecond accuracy.

35. A computer-based method configured and adapted to execute synchronized financial trading in an electronic trading environment that includes a plurality of financial exchanges, the method executable on a trading server and comprising the acts of:

storing, in a memory of the trading server, a first transaction order;

dividing, by the trading server, the first transaction order into a plurality of smaller second transaction orders;

determining, by the trading server, a transaction execution time at which the plurality of smaller second transaction orders are to be submitted to the plurality of financial exchanges for execution;

generating, by the trading server, a plurality of financial trade instructions, each of the plurality of financial trade instructions containing a respective one of the smaller second transaction orders and the transaction execution time;

transmitting, by the trading server, each of the plurality of financial trade instructions to a respective one of a plurality of co-located servers, the plurality of co-located servers being respectively co-located at financial exchanges where respective smaller second transaction orders are to be executed; and

receiving, by the trading server, a notification that the respective one of the smaller second transaction orders has been submitted to a respective one of the plurality of financial exchanges at the determined transaction execution time.

36. The method according to claim 35, wherein the act of storing the first transaction order by the trading server further comprises storing an order of stocks, bonds, options, contract interests, currencies, loans, commodities, or other similar financial interests.

37. The method according to claim 35, wherein the act of determining, by the trading server, a transaction execution time at which the plurality of smaller second transaction orders are to be submitted for execution further comprises determining a

specific time and determining a small amount of time to be added to the determined specific time.

38. The method according to claim 37, wherein the act of determining the small amount of time to be added to the determined specific time further requires determining the small amount of time in microseconds.

39. The method according to claim 38, wherein the act of determining, by the trading server, a transaction execution time at which the plurality of smaller second transaction orders are to be submitted for execution further comprises combining the determined specific time and the determined small amount of time to be added to the specific time.