TITLE: Trading Circles

BACKGROUND

[0001] An electronic trading system generally includes a trading device in communication with an electronic exchange. The electronic exchange transmits market data to the trading device. Market data includes, for example, price data, market depth data, last traded quantity data, and/or other data related to a market for a tradeable object. In some electronic trading systems, the trading device sends trade orders to the electronic exchange. A trade order may include, for example, a price, a quantity, one or more order thresholds or limits, and/or other data provided to the electronic exchange and related to transactions involving one or more of the tradeable objects. Upon receiving a trade order, the electronic exchange may enter the trade order into an exchange order book and attempt to match quantity of the trade order with quantity of one or more contra-side trade orders.

SUMMARY OF INVENTION

[0001a] According to a first aspect of the present invention, there is provided a method including:

receiving by a computing device a definition for a trading group, wherein the trading group includes a first application and a second application, wherein the first application and the second application are trading applications executing on the computing device, wherein the first application is working a first trading strategy including a first tradeable object and a second tradeable object, wherein the second application is working a second trading strategy including the second tradeable object and a third tradeable object, wherein the first trading strategy is quoting the first tradeable object and leaning on the second tradeable object, wherein the second trading strategy is quoting the third tradeable object and leaning on the second tradeable object;

detecting by the computing device that a hedge order has been sent from the first application for the second tradeable object of the first trading strategy to an electronic exchange;

communicating by the computing device, in response to detecting that the hedge order has been sent, before a market effect of the hedge order is received from the electronic exchange, data related to the hedge order to the second trading application;

determining by the computing device, before the market effect of the hedge order is received from the electronic exchange, a new lean price of the third tradeable object for the second trading strategy based on a result that the hedge order will have in ~~the~~ a quantity of the second tradeable object leaned on by the second trading strategy; and

sending by the computing device, before the market effect of the hedge order is received from the electronic exchange, a command to change a quoting order for the third tradeable object of the second trading strategy based on the new lean price.

[0001b] According to a second aspect of the present invention, there is provided a computer readable medium storing instructions that, when executed, cause a computing device at least to perform operations including:

receiving by a computing device a definition for a trading group, wherein the trading group includes a first application and a second application, wherein the first application and the second application are trading applications executing on the computing device, wherein the first application is working a first trading strategy including a first tradeable object and a second tradeable object, wherein the second application is working a second trading strategy including the second tradeable object and a third tradeable object, wherein the first trading strategy is quoting the first tradeable object and leaning on the second tradeable object, wherein the second trading strategy is quoting the third tradeable object and leaning on the second tradeable object;

detecting by the computing device that a hedge order has been sent from the first application for the second tradeable object of the first trading strategy to an electronic exchange;

communicating by the computing device, in response to detecting that the hedge order has been sent, before a market effect of the hedge order is received from the electronic exchange, data related to the hedge order to the second trading application;

determining by the computing device, before the market effect of the hedge order is received from the electronic exchange, a new lean price of the third tradeable object for the second trading strategy based on a result that the hedge order will have in ~~the~~ a quantity of the second tradeable object leaned on by the second trading strategy; and

sending by the computing device, before the market effect of the hedge order is received from the electronic exchange, a command to change a quoting order for the third tradeable object of the second trading strategy based on the new lean price.

[0001c] According to a third aspect of the present invention, there is provided a system including:

a processor; and

a memory storing instructions that, when executed, cause the system to perform at least operations including:

receiving by a computing device a definition for a trading group, wherein the trading group includes a first application and a second application, wherein the first application and the second application are trading applications executing on the computing device, wherein the first application is working a first trading strategy including a first tradeable object and a second tradeable object, wherein the second application is working a second trading strategy including the second tradeable object and a third tradeable object, wherein the first trading strategy is quoting the first tradeable object and leaning on the second tradeable object, wherein the second trading strategy is quoting the third tradeable object and leaning on the second tradeable object;

detecting by the computing device that a hedge order has been sent from the first application for the second tradeable object of the first trading strategy to an electronic exchange;

communicating by the computing device, in response to detecting that the hedge order has been sent, before a market effect of the hedge order is received from the electronic exchange, data related to the hedge order to the second trading application;

determining by the computing device, before the market effect of the hedge order is received from the electronic exchange, a new lean price of the third tradeable object for the second trading strategy based on a result that the hedge order will have in ~~the~~ a quantity of the second tradeable object leaned on by the second trading strategy; and

sending by the computing device, before the market effect of the hedge order is received from the electronic exchange, a command to change a quoting order for the third tradeable object of the second trading strategy based on the new lean price.

BRIEF DESCRIPTION OF THE DRAWINGS

[0002] Certain embodiments are disclosed with reference to the following drawings.

[0003] FIG. 1 illustrates a block diagram of an example electronic trading system in which embodiments disclosed herein may be employed.

[0004] FIG. 2 illustrates a block diagram of an example computing device that may be used to implement the disclosed embodiments.

[0005] FIG. 3 illustrates a block diagram of an example apparatus that may be used to implement an example trading circle manager.

[0006] FIGS. 4A to 4C illustrate a plurality of example trading circle configurations defined in the example trading circle manager of FIG. 3.

[0007] FIG. 5 illustrates a screenshot associated with the example price data expander of FIG. 3.

[0008] FIG. 6 is a first flow diagram illustrative of machine readable instructions that may be executed to implement the example circle definer of FIG. 3.

[0009] FIG. 7 is a second flow diagram illustrative of machine readable instructions that may be executed to implement the example trading circle manager of FIG. 3.

CLAIMS

1. A method including:

receiving by a computing device a definition for a trading group, wherein the trading group includes a first application and a second application, wherein the first application and the second application are trading applications executing on the computing device, wherein the first application is working a first trading strategy including a first tradeable object and a second tradeable object, wherein the second application is working a second trading strategy including the second tradeable object and a third tradeable object, wherein the first trading strategy is quoting the first tradeable object and leaning on the second tradeable object, wherein the second trading strategy is quoting the third tradeable object and leaning on the second tradeable object;

detecting by the computing device that a hedge order has been sent from the first application for the second tradeable object of the first trading strategy to an electronic exchange;

communicating by the computing device, in response to detecting that the hedge order has been sent, before a market effect of the hedge order is received from the electronic exchange, data related to the hedge order to the second trading application;

determining by the computing device, before the market effect of the hedge order is received from the electronic exchange, a new lean price of the third tradeable object for the second trading strategy based on a result that the hedge order will have in ~~the~~ a quantity of the second tradeable object leaned on by the second trading strategy; and

sending by the computing device, before the market effect of the hedge order is received from the electronic exchange, a command to change a quoting order for the third tradeable object of the second trading strategy based on the new lean price.

2. The method of claim 1, wherein the first trading application is the same as the second trading application.

3. The method of claim 1, wherein the first trading application is different from the second trading application.

4. The method of claim 1, wherein the first trading strategy is the same as the second trading strategy.

5. The method of claim 1, wherein the first trading strategy is different from the second trading strategy.

6. The method of claim 1, wherein the first tradeable object is the same as the third tradeable object.

7. The method of claim 1, wherein the first tradeable object is different from the third tradeable object.

8. The method of any one of claims 1-7, wherein the hedge order is sent in response to the first application receiving a fill notification for the quoting order of the first tradeable object.

9. The method of any one of claims 1-8, further including:
determining by the computing device the result that the hedge order will have in the quantity of the second tradeable object leaned on by the second trading strategy.

10. The method of any one of claims 1-9, wherein communicating the data related to the hedge order to the second trading application is further in response to the determined result.

11. The method of any one of claims 1-10, wherein the trading group further includes a plurality of other members.

12. The method of any one of claims 1-11, further including:
communicating by the computing device the data related to the hedge order to another member of the trading group.

13. The method of any one of claims 1-12, further including:

determining by the computing device that one or more other members of the trading group are interested in the result the hedge order will have in the quantity of the second tradeable object; and

communicating by the computing device the data related to the hedge order to the one or more other members of the trading group.

14. A computer readable medium storing instructions that, when executed, cause a computing device at least to perform operations including:

receiving by a computing device a definition for a trading group, wherein the trading group includes a first application and a second application, wherein the first application and the second application are trading applications executing on the computing device, wherein the first application is working a first trading strategy including a first tradeable object and a second tradeable object, wherein the second application is working a second trading strategy including the second tradeable object and a third tradeable object, wherein the first trading strategy is quoting the first tradeable object and leaning on the second tradeable object, wherein the second trading strategy is quoting the third tradeable object and leaning on the second tradeable object;

detecting by the computing device that a hedge order has been sent from the first application for the second tradeable object of the first trading strategy to an electronic exchange;

communicating by the computing device, in response to detecting that the hedge order has been sent, before a market effect of the hedge order is received from the electronic exchange, data related to the hedge order to the second trading application;

determining by the computing device, before the market effect of the hedge order is received from the electronic exchange, a new lean price of the third tradeable object for the second trading strategy based on a result that the hedge order will have in ~~the~~ a quantity of the second tradeable object leaned on by the second trading strategy; and

sending by the computing device, before the market effect of the hedge order is received from the electronic exchange, a command to change a quoting order for the third tradeable object of the second trading strategy based on the new lean price.

15. The computer readable medium of claim 14, wherein the first trading application is the same as the second trading application.

16. The computer readable medium of claim 14, wherein the first trading application is different from the second trading application.

17. The computer readable medium of claim 14, wherein the first trading strategy is the same as the second trading strategy.

18. The computer readable medium of claim 14, wherein the first trading strategy is different from the second trading strategy.

19. The computer readable medium of claim 14, wherein the first tradeable object is the same as the third tradeable object.

20. The computer readable medium of claim 14, wherein the first tradeable object is different from the third tradeable object.

21. The computer readable medium of any one of claims 14-20, wherein the hedge order is sent in response to the first application receiving a fill notification for the quoting order of the first tradeable object.

22. The computer readable medium of any one of claims 14-21, wherein the instructions further cause the computing device to determine by the computing device the result that the hedge order will have in the quantity of the second tradeable object leaned on by the second trading strategy.

23. The computer readable medium of any one of claims 14-22, wherein communicating the data related to the hedge order to the second trading application is further in response to the determined result.

24. The computer readable medium of any one of claims 14-23, wherein the trading group further includes a plurality of other members.

25. The computer readable medium of any one of claims 14-24, wherein the instructions further cause the computing device to communicate by the computing device the data related to the hedge order to another member of the trading group.

26. The computer readable medium of any one of claims 14-25, wherein the instructions further cause the computing device to:

determine by the computing device that one or more other members of the trading group are interested in the result the hedge order will have in the quantity of the second tradeable object; and

communicate by the computing device the data related to the hedge order to the one or more other members of the trading group.

27. A system including:

a processor; and

a memory storing instructions that, when executed, cause the system to perform at least operations including:

receiving by a computing device a definition for a trading group, wherein the trading group includes a first application and a second application, wherein the first application and the second application are trading applications executing on the computing device, wherein the first application is working a first trading strategy including a first tradeable object and a second tradeable object, wherein the second application is working a second trading strategy including the second tradeable object and a third tradeable object, wherein the first trading strategy is quoting the first tradeable object and leaning on the second tradeable object, wherein the second trading strategy is quoting the third tradeable object and leaning on the second tradeable object;

detecting by the computing device that a hedge order has been sent from the first application for the second tradeable object of the first trading strategy to an electronic exchange;

communicating by the computing device, in response to detecting that the hedge order has been sent, before a market effect of the hedge order is received from the electronic exchange, data related to the hedge order to the second trading application;

determining by the computing device, before the market effect of the hedge order is received from the electronic exchange, a new lean price of the third tradeable object for the second trading strategy based on a result that the hedge order will have in ~~the~~ a quantity of the second tradeable object leaned on by the second trading strategy; and

sending by the computing device, before the market effect of the hedge order is received from the electronic exchange, a command to change a quoting order for the third tradeable object of the second trading strategy based on the new lean price.

28. The system of claim 27, wherein the first trading application is the same as the second trading application.

29. The system of claim 27, wherein the first trading application is different from the second trading application.

30. The system of claim 27, wherein the first trading strategy is the same as the second trading strategy.

31. The system of claim 27, wherein the first trading strategy is different from the second trading strategy.

32. The system of claim 27, wherein the first tradeable object is the same as the third tradeable object.

33. The system of claim 27, wherein the first tradeable object is different from the third tradeable object.

34. The system of any one of claims 27-33, wherein the hedge order is sent in response to the first application receiving a fill notification for the quoting order of the first tradeable object.

35. The system of any one of claims 27-34, wherein the instructions further cause the system to determine by the computing device the result that the hedge order will have in the quantity of the second tradeable object leaned on by the second trading strategy.

36. The system of any one of claims 27-35, wherein communicating the data related to the hedge order to the second trading application is further in response to the determined result.

37. The system of any one of claims 27-36, wherein the trading group further includes a plurality of other members.

38. The system of any one of claims 27-37, wherein the instructions further cause the system to communicate by the computing device the data related to the hedge order to another member of the trading group.

39. The system of any one of claims 27-38, wherein the instructions further cause the system to:

determine by the computing device that one or more other members of the trading group are interested in the result the hedge order will have in the quantity of the second tradeable object; and

communicate by the computing device the data related to the hedge order to the one or more other members of the trading group.