CLAIMS

What is claimed is:

1. A management and control method for a data analysis apparatus, applied to a first management apparatus, and comprising:

determining configuration information of a data analysis apparatus, wherein the configuration information is used to configure a data analysis function of the data analysis apparatus, and the configuration information comprises at least one of the following:

state information, used to activate or de-activate the data analysis function of the data analysis apparatus; and

scope information, indicating a scope of data analysis performed by the data analysis apparatus; and

sending the configuration information.

2. The method according to claim 1, wherein the configuration information further comprises at least one of the following:

data source information, indicating a data source of data analysis performed by the data analysis apparatus; and

a constraint, indicating a constraint of data analysis performed by the data analysis apparatus.

3. The method according to claim 1 or 2, wherein the configuration information further comprises:

N data analysis types, wherein the data analysis type indicates an analysis type of data analysis performed by the data analysis apparatus, and N is an integer greater than or equal to 1.

4. The method according to claim 3, wherein the N data analysis types comprise at least one of the following:

load data analysis, service experience data analysis, network performance data analysis, congestion data analysis, QoS data analysis, energy saving data analysis, traffic steering data analysis, MIMO data analysis, and UE trajectory data analysis.

5. The method according to claim 3 or 4, wherein

the state information is used to activate or de-activate a data analysis function for each of the N data analysis types;

the scope information indicates a scope of data analysis for each of the N data analysis types;

the data source information indicates a data source of data analysis for each of the N data analysis types; and

the constraint specifically indicates a constraint of data analysis for each of the N data analysis types.

6. The method according to any one of claims 2 to 5, wherein the scope information comprises at least one of the following:

a network element list, indicating the data analysis apparatus to analyze data of a network element in the network element list;

a tracking area code list, indicating the data analysis apparatus to analyze data of a tracking area code in the tracking area code list;

a cell list, indicating the data analysis apparatus to analyze data of a cell in the cell list;

a network slice list, indicating the data analysis apparatus to analyze data of a network slice in the network slice list; and

a geographical area, indicating the data analysis apparatus to analyze data in the geographical area.

7. The method according to any one of claims 2 to 6, wherein the constraint comprises at least one of the following:

an analysis granularity, indicating a data granularity for data analysis performed by the data analysis apparatus, wherein the granularity comprises at least one of a UE granularity, a cell granularity, a network slice granularity, a 5QI granularity, a service class granularity, and a beam granularity; and

an analysis period, indicating a period for data analysis performed by the data analysis apparatus.

8. The method according to any one of claims 1 to 7, wherein the sending the configuration information comprises:

sending a first configuration request to a second management apparatus, wherein the first configuration request comprises the configuration information, and the first configuration request is used to request the second management apparatus to configure the data analysis function of the data analysis apparatus; or

sending the configuration information to the data analysis apparatus.

9. A management and control method for a data analysis apparatus, applied to a receiving end, and comprising:

receiving configuration information, wherein the configuration information is used to configure a data analysis function of a data analysis apparatus, and the configuration information comprises at least one of the following:

state information, used to activate or de-activate the data analysis function of the data analysis apparatus; and

scope information, indicating a scope of data analysis performed by the data analysis apparatus; and

when the receiving end is the data analysis apparatus, performing data analysis based on the configuration information; or

when the receiving end is a second management apparatus, sending the configuration information to the data analysis apparatus, wherein the second management apparatus is an apparatus for managing the data analysis apparatus.

10. The method according to claim 9, wherein the configuration information further comprises at least one of the following:

data source information, indicating a data source of data analysis performed by the data analysis apparatus; and

a constraint, indicating a constraint of data analysis performed by the data analysis apparatus.

11. The method according to claim 9 or 10, wherein the configuration information further comprises:

N data analysis types, wherein the data analysis type indicates an analysis type of data analysis performed by the data analysis apparatus, and N is an integer greater than or equal to 1.

12. The method according to claim 11, wherein the N data analysis types comprise at least one of the following:

load data analysis, service experience data analysis, network performance data analysis, congestion data analysis, QoS data analysis, energy saving data analysis, traffic steering data analysis, MIMO data analysis, and UE trajectory data analysis.

13. The method according to claim 11 or 12, wherein

the state information is used to activate or de-activate a data analysis function for each of the N data analysis types;

the scope information indicates a data scope of data analysis for each of the N data analysis types;

the data source information indicates a data source of data analysis for each of the N data analysis types; and

the constraint indicates a constraint of data analysis for each of the N data analysis types.

14. The method according to any one of claims 10 to 13, wherein the scope information comprises at least one of the following:

a network element list, indicating the data analysis apparatus to analyze data of a network element in the network element list;

a tracking area code list, indicating the data analysis apparatus to analyze data of a tracking area code in the tracking area code list;

a cell list, indicating the data analysis apparatus to analyze data of a cell in the cell list;

a network slice list, indicating the data analysis apparatus to analyze data of a network slice in the network slice list; and

a geographical area, indicating the data analysis apparatus to analyze data in the geographical area.

15. The method according to any one of claims 10 to 14, wherein the constraint comprises at least one of the following:

an analysis granularity, indicating a data granularity for data analysis performed by the data analysis apparatus, wherein the granularity comprises at least one of a UE granularity, a cell granularity, a network slice granularity, a 5QI granularity, a service class granularity, and a beam granularity; and

an analysis period, indicating a period for data analysis performed by the data analysis apparatus.

16. The method according to any one of claims 9 to 15, wherein

when the receiving end is the second management apparatus, the receiving configuration information comprises: receiving a first configuration request from a first management apparatus, wherein the first configuration request comprises the configuration information, and the first configuration information is used to request the second management apparatus to configure the data analysis function of the data analysis apparatus; or

when the receiving end is the data analysis apparatus, the receiving configuration information

comprises: receiving the configuration information from the first management apparatus or the second management apparatus.

17. A communication apparatus, comprising:

a processing unit, configured to determine configuration information of a data analysis apparatus, wherein the configuration information is used to configure a data analysis function of the data analysis apparatus, and the configuration information comprises at least one of the following:

state information, used to activate or de-activate the data analysis function of the data analysis apparatus; and

scope information, indicating a scope of data analysis performed by the data analysis apparatus; and

a communication unit, configured to send the configuration information.

18. The apparatus according to claim 17, wherein the configuration information further comprises at least one of the following:

data source information, indicating a data source of data analysis performed by the data analysis apparatus; and

a constraint, indicating a constraint of data analysis performed by the data analysis apparatus.

19. The apparatus according to claim 17 or 18, wherein the configuration information further comprises:

N data analysis types, wherein the data analysis type indicates an analysis type of data analysis performed by the data analysis apparatus, and N is an integer greater than or equal to 1.

20. The apparatus according to claim 19, wherein the N data analysis types comprise at least one of the following:

load data analysis, service experience data analysis, network performance data analysis, congestion data analysis, QoS data analysis, energy saving data analysis, traffic steering data analysis, MIMO data analysis, and UE trajectory data analysis.

21. The apparatus according to claim 19 or 20, wherein

the state information is used to activate or de-activate a data analysis function for each of the N data analysis types;

the scope information indicates a data scope of data analysis for each of the N data analysis types;

the data source information indicates a data source of data analysis for each of the N data analysis types; and

the constraint specifically indicates a constraint of data analysis for each of the N data analysis types.

22. The apparatus according to any one of claims 18 to 21, wherein the scope information comprises at least one of the following:

a network element list, indicating the data analysis apparatus to analyze data of a network element in the network element list;

a tracking area code list, indicating the data analysis apparatus to analyze data of a tracking area code in the tracking area code list;

a cell list, indicating the data analysis apparatus to analyze data of a cell in the cell list;

a network slice list, indicating the data analysis apparatus to analyze data of a network slice in the network slice list; and

a geographical area, indicating the data analysis apparatus to analyze data in the geographical area.

23. The apparatus according to any one of claims 18 to 22, wherein the constraint comprises at least one of the following:

an analysis granularity, indicating a data granularity for data analysis performed by the data analysis apparatus, wherein the granularity comprises at least one of a UE granularity, a cell granularity, a network slice granularity, a 5QI granularity, a service class granularity, and a beam granularity; and

an analysis period, indicating a period for data analysis performed by the data analysis apparatus.

24. The apparatus according to any one of claims 18 to 23, wherein the communication unit is specifically configured to:

send a first configuration request to a second management apparatus, wherein the first configuration request comprises the configuration information, and the first configuration request is used to request the second management apparatus to configure the data analysis function of the data analysis apparatus; or

send the configuration information to the data analysis apparatus.

25. A communication apparatus, comprising a communication unit and a processing unit,

wherein

the communication unit is configured to receive configuration information, wherein the configuration information is used to configure a data analysis function of a data analysis apparatus, and the configuration information comprises at least one of the following:

state information, used to activate or de-activate the data analysis function of the data analysis apparatus; and

scope information, indicating a scope of data analysis performed by the data analysis apparatus; and

when the communication apparatus is the data analysis apparatus, the processing unit is configured to perform data analysis based on the configuration information; or

when the communication apparatus is a second management apparatus, the communication unit is further configured to send the configuration information to the data analysis apparatus, wherein the second management apparatus is an apparatus for managing the data analysis apparatus.

26. The communication apparatus according to claim 25, wherein the configuration information further comprises at least one of the following:

data source information, indicating a data source of data analysis performed by the data analysis apparatus; and

a constraint, indicating a constraint of data analysis performed by the data analysis apparatus.

27. The communication apparatus according to claim 25 or 26, wherein the configuration information further comprises:

N data analysis types, wherein the data analysis type indicates an analysis type of data analysis performed by the data analysis apparatus, and N is an integer greater than or equal to 1.

28. The communication apparatus according to claim 28, wherein the N data analysis types comprise at least one of the following:

load data analysis, service experience data analysis, network performance data analysis, congestion data analysis, QoS data analysis, energy saving data analysis, traffic steering data analysis, MIMO data analysis, and UE trajectory data analysis.

29. The communication apparatus according to claim 27 or 28, wherein

the state information is used to activate or de-activate a data analysis function for each of the N data analysis types;

the scope information indicates a data scope of data analysis for each of the N data analysis types;

the data source information indicates a data source of data analysis for each of the N data analysis types; and

the constraint indicates a constraint of data analysis for each of the N data analysis types.

30. The communication apparatus according to any one of claims 26 to 29, wherein the scope information comprises at least one of the following:

a network element list, indicating the data analysis apparatus to analyze data of a network element in the network element list;

a tracking area code list, indicating the data analysis apparatus to analyze data of a tracking area code in the tracking area code list;

a cell list, indicating the data analysis apparatus to analyze data of a cell in the cell list;

a network slice list, indicating the data analysis apparatus to analyze data of a network slice in the network slice list; and

a geographical area, indicating the data analysis apparatus to analyze data in the geographical area.

31. The communication apparatus according to any one of claims 26 to 30, wherein the constraint comprises at least one of the following:

an analysis granularity, indicating a data granularity for data analysis performed by the data analysis apparatus, wherein the granularity comprises at least one of a UE granularity, a cell granularity, a network slice granularity, a 5QI granularity, a service class granularity, and a beam granularity; and

an analysis period, indicating a period for data analysis performed by the data analysis apparatus.

32. The communication apparatus according to any one of claims 25 to 31, wherein

when the communication apparatus is the second management apparatus, the communication unit is specifically configured to receive a first configuration request sent by a first management apparatus, wherein the first configuration request comprises the configuration information, and the first configuration information is used to request the second management apparatus to configure the data analysis function of the data analysis apparatus; or

when the communication apparatus is the data analysis apparatus, the communication unit is

specifically configured to receive the configuration information sent by the first management apparatus or the second management apparatus.

33. A management and control method for a data analysis apparatus, applied to a communication system, wherein the communication system comprises a first management apparatus and a data analysis apparatus, or the communication system comprises a first management apparatus, a second management apparatus, and a data analysis apparatus, and the method comprises:

determining, by the first management apparatus, configuration information of the data analysis apparatus, wherein the configuration information is used to configure a data analysis function of the data analysis apparatus, and the configuration information comprises at least one of the following:

state information, used to activate or de-activate the data analysis function of the data analysis apparatus; and

scope information, indicating a scope of data analysis performed by the data analysis apparatus;

sending, by the first management apparatus, the configuration information; and

when the communication system comprises the first management apparatus and the data analysis apparatus, receiving, by the data analysis apparatus, the configuration information, and performing data analysis based on the configuration information; or

when the communication system comprises the first management apparatus, the second management apparatus, and the data analysis apparatus, receiving, by the second management apparatus, the configuration information, and sending the configuration information to the data analysis apparatus; and performing, by the data analysis apparatus, data analysis based on the configuration, wherein

the second management apparatus is an apparatus for managing the data analysis apparatus, and the first management apparatus is an apparatus for managing the second management apparatus.

34. A communication system, comprising:

the first management apparatus configured to implement the method according to any one of claims 1 to 8, and the receiving end configured to implement the method according to any one of claims 9 to 16.

35. A computer-readable storage medium, comprising a computer program, wherein when the computer program runs on a computer, the computer is enabled to perform the method according to any one of claims 1 to 16.

36. A computer program product, comprising instructions, wherein when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 16.