CLAIMS

What is claimed is:

1. A user equipment positioning method, comprising:

sending, by a gateway mobile location center, a first positioning request message to a location management function, wherein the first positioning request message indicates the location management function to position a first user equipment (UE) through a second UE, and the first positioning request message comprises identification information of the first UE and identification information of the second UE; and

receiving, by the gateway mobile location center, a first positioning request response message from the location management function, wherein the first positioning request response message comprises first location information of the first UE, wherein the first location information of the first UE is determined by the location management function based on the location information of the second UE and relative location information between the first UE and the second UE.

2. The method according to claim 1, wherein the first positioning request message further comprises positioning precision information.

3. The method according to claim 1 or 2, wherein before the sending, by a gateway mobile location center, a first positioning request message to a location management function, the method further comprises:

sending, by the gateway mobile location center, a second positioning request message to the location management function, wherein the second positioning request message indicates the location management function to position the first UE; and

receiving, by the gateway mobile location center, a second positioning request response message from the location management function, wherein the second positioning request response message comprises second location indication information of the first UE, and the second location indication information indicates that precision information of a second location of the first UE does not meet the positioning precision information, or indicates second location information of the first UE.

4. The method according to claim 3, wherein the sending, by a gateway mobile location center, a first positioning request message to a location management function comprises:

sending, by the gateway mobile location center, the first positioning request message to the

location management function based on the second location indication information of the first UE.

5. A user equipment positioning method, comprising:

receiving, by a location management function, a first positioning request message from a gateway mobile location center, wherein the first positioning request message indicates the location management function to position a first user equipment (UE) through a second UE; and the first positioning request message comprises identification information of the first UE and identification information of the second UE;

positioning, by the location management function, the first UE through the second UE, and sending a first positioning request response message to the gateway mobile location center, wherein the first positioning request response message comprises location information of the first UE;

wherein the positioning, by the location management function, the first UE through the second UE comprises:

sending, by the location management function, a fourth positioning request message to the first UE, wherein the fourth positioning request message indicates the first UE to determine relative location information between the first UE and the second UE, the fourth positioning request message comprises the identification information of the second UE;

receiving, by the location management function, the relative location information from the first UE, and determining location information of the second UE based on the identification information of the second UE; and

determining, by the location management function, the location information of the first UE based on the relative location information and the location information of the second UE.

6. The method according to claim 5, wherein the first positioning request message further comprises positioning precision information.

7. The method according to claim 5 or 6, wherein the fourth positioning request message further comprises a positioning algorithm.

8. A user equipment positioning apparatus, comprising:

a sending unit, configured to send a first positioning request message to a location management function, wherein the first positioning request message indicates the location management function to position a first user equipment (UE) through a second UE, and the first positioning request message comprises identification information of the first UE and identification

information of the second UE; and

a receiving unit, configured to receive a first positioning request response message sent by the location management function, wherein the first positioning request response message comprises first location information of the first UE, wherein the first location information of the first UE is determined by the location management function based on the location information of the second UE and relative location information between the first UE and the second UE.

9. The apparatus according to claim 8, wherein the first positioning request message further comprises positioning precision information.

10. The apparatus according to claim 8 or 9, wherein the sending unit is further configured to send a second positioning request message to the location management function, wherein the second positioning request message indicates the location management function to position the first UE; and

the receiving unit is further configured to receive a second positioning request response message from the location management function, wherein the second positioning request response message comprises second location indication information of the first UE, and the second location indication information indicates that precision information of a second location of the first UE does not meet the positioning precision information, or indicates second location information of the first UE.

11. The apparatus according to claim 10, wherein the sending unit is specifically configured to send the first positioning request message to the location management function in the following manner:

sending the first positioning request message to the location management function based on the second location indication information of the first UE.

12. A user equipment positioning apparatus, comprising:

a receiving unit, configured to receive a first positioning request message from a gateway mobile location center, wherein the first positioning request message indicates a location management function to position a first user equipment (UE) through a second UE; and the first positioning request message comprises identification information of the first UE and identification information of the second UE

a positioning unit, configured to position the first UE through the second UE; and

a sending unit, configured to send a first positioning request response message to the gateway

mobile location center, wherein the first positioning request response message comprises location information of the first UE;

wherein the positioning unit is configured to position the first UE through the second UE by:

sending, by the location management function, a fourth positioning request message to the first UE, wherein the fourth positioning request message indicates the first UE to determine relative location information between the first UE and the second UE, the fourth positioning request message comprises the identification information of the second UE;

receiving, by the location management function, the relative location information from the first UE, and determining location information of the second UE based on the identification information of the second UE; and

determining, by the location management function, the location information of the first UE based on the relative location information and the location information of the second UE.

13. The apparatus according to claim 12, wherein the first positioning request message further comprises positioning precision information.

14. The apparatus according to claim 12 or 13, wherein the fourth positioning request message further comprises a positioning algorithm.

15. A user equipment positioning apparatus, comprising a processor and a memory, wherein the memory is configured to store one or more programs, the one or more programs comprise computer-executable instructions, and when the apparatus is operating, the processor executes the one or more programs stored in the memory, to enable the apparatus to perform the method according to any one of claims 1 to 4.

16. A user equipment positioning apparatus, comprising a processor and a memory, wherein the memory is configured to store one or more programs, the one or more programs comprise computer-executable instructions, and when the apparatus is operating, the processor executes the one or more programs stored in the memory, to enable the apparatus to perform the method according to any one of claims 5 to 7.

17. A user equipment positioning system, comprising the user equipment positioning apparatus according to any one of claims 10 to 13 and the user equipment positioning apparatus according to any one of claims 12 to 14.

18. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and when the computer program is run, the method according to any

one of claims 1 to 4 or the method according to any one of claims 5 to 7 is implemented.

19. A user equipment positioning method, comprising:

sending, by a gateway mobile location center, a first positioning request message to a location management function, wherein the first positioning request message indicates the location management function to position a first user equipment (UE) through a second UE, and wherein the first positioning request message comprises identification information of the first UE, and identification information of the second UE;

receiving, by the location management function, the first positioning request message;

positioning, by the location management function, the first UE through the second UE, and sending a first positioning request response message to the gateway mobile location center, wherein the first positioning request response message comprises location information of the first UE; and

receiving, by the gateway mobile location center, the first positioning request response message,

wherein the positioning, by the location management function, the first UE through the second UE comprises:

sending, by the location management function, a fourth positioning request message to the first UE, wherein the fourth positioning request message indicates the first UE to determine relative location information between the first UE and the second UE;

receiving, by the location management function, the relative location information from the first UE, and determining location information of the second UE based on the identification information of the second UE; and

determining, by the location management function, the location information of the first UE based on the relative location information and the location information of the second UE.