CLAIMS

What is claimed is:

1. A positioning method, wherein the method comprises:

sending, by a location management function device, target configuration information to a target device, wherein

the target configuration information comprises at least one of the following: a first frequency layer identifier and a first frequency layer quantity;

the target configuration information is used to configure at least one of the following for a network device or user equipment UE:

a first target signal to be sent at a frequency layer indicated by the first frequency layer identifier;

a first target signal to be sent at a frequency layer corresponding to the first frequency layer quantity and related information for sending the first target signal, wherein

the first target signal is used to determine a location of the UE.

2. The method according to claim 1, wherein the target configuration information comprises at least one of the following: first indication information, first resource information, first period-related information, second indication information, and third indication information, wherein

the first indication information is used to indicate that the target device starts or stops sending the first target signal, the first resource information is used to indicate a frequency domain resource for sending a second target signal by the target device, the first period-related information is used to indicate a period for sending a third target signal by the target device, the second indication information is used to indicate corresponding transmission and reception point TRP-related information for sending a fourth target signal by the network device, and the third indication information is used to indicate resource usage of the first target signal; and all of the second target signal, the third target signal, and the fourth target signal comprise the first target signal.

3. The method according to claim 2, wherein the first resource information comprises at least one of the following: carrier information, bandwidth part BWP information, a start resource position in a physical resource block PRB, and a bandwidth in the PRB.

4. The method according to claim 2, wherein the first period-related information comprises at least one of the following: a period value set, a muting parameter set, a repetition factor set, a first set, and a second set, wherein

the first set comprises at least one period value in the period value set and at least one muting parameter in the muting parameter set; and the second set comprises at least one period value in the

period value set and at least one repetition factor in the repetition factor set, or the second set comprises at least one period value in the period value set, at least one muting parameter in the muting parameter set, and at least one repetition factor in the repetition factor set.

5. The method according to claim 2, wherein the TRP-related information comprises at least one of the following: a target identifier corresponding to a TRP and a TRP-related quantity, the target identifier comprises at least one of the following: a first TRP identifier, a first signal set identifier, and a first signal identifier, and the TRP-related quantity comprises at least one of the following: a first TRP quantity, a first signal set quantity, a first signal quantity, and a first target quantity, wherein

the first TRP identifier is an identifier of a TRP that sends signals in at least one TRP corresponding to the network device, the first signal set identifier is an identifier of a signal set to be sent in the TRP, and the first signal identifier is an identifier of a signal to be sent in the signal set; and the first TRP quantity is a quantity of TRPs that send signals in the at least one TRP, the first signal set quantity is a quantity of signal sets to be sent by each TRP in the at least one TRP, the first signal quantity is a quantity of signals in each signal set, and the first target quantity is a quantity of symbols occupied by each signal.

6. The method according to claim 2, wherein the third indication information comprises at least one of the following: a slot offset, a symbol offset, a frequency domain offset, and a comb size.

7. The method according to any one of claims 2 to 6, wherein there is an association relationship between the target configuration information and first target information, and the association relationship is used to determine the first target signal, wherein

the first target information is configuration information of a fifth target signal before the target configuration information is configured.

8. The method according to claim 1 or 2, wherein before the sending, by a location management function device, target configuration information to a target device, the method further comprises:

receiving, by the location management function device, a location service request sent by a location service client, wherein the location service request is used to request a location of at least one UE, and the at least one UE comprises the UE; and

the sending, by a location management function device, target configuration information to a target device comprises:

sending, by the location management function device, the target configuration information to the target device based on the location service request.

9. The method according to claim 1, wherein the target configuration information comprises a target time, wherein

the target time is a time when the target device activates the target configuration information, and the target time comprises any one of the following: a universal time coordinated UTC, a frame number, and a slot number; or

the target time is an offset relative to a first time point, and the first time point is predefined or specified in a protocol.

10. The method according to claim 1, wherein the method further comprises:

receiving, by the location management function device, a target message sent by the network device, wherein the target message comprises capability information of the network device; or

sending, by the location management function device, a first request message to the network device, and receiving a first response message sent by the network device, wherein the first request message is used to request capability information of the network device, and the first response message comprises the capability information, wherein

the capability information is used to indicate whether the network device supports sending the first target signal based on the target configuration information.

11. The method according to claim 1 or 10, wherein after the sending, by a location management function device, target configuration information to a target device, the method further comprises:

receiving, by the location management function device, failure indication information sent by the target device, wherein the failure indication information is used to indicate that the target device cannot send the first target signal based on the target configuration information.

12. The method according to claim 1, wherein after the sending, by a location management function device, target configuration information to a target device, the method further comprises:

sending, by the location management function device, second target information to the target device, wherein the second target information is used to indicate that the target device activates a part or all of configuration information in the target configuration information.

13. The method according to claim 12, wherein the target configuration information comprises N groups of configuration information; and

the second target information is used to indicate that the target device activates M groups of configuration information in the N groups of configuration information, or the second target information is used to indicate that the network device activates L groups of configuration information in the N groups of configuration information, wherein the L groups of configuration information are configuration information that the network device is allowed to send to the UE, N, M, and L are all positive integers, M is less than or equal to N, and L is less than or equal to N.

14. The method according to claim 13, wherein before the sending, by a location management function device, target configuration information to a target device, the method further comprises:

sending, by the location management function device, a positioning information request to the target device, wherein the positioning information request is used to request the target device to send configuration information of the first target signal;

receiving, by the location management function device, a positioning information response sent by the target device; and

determining, by the location management function device based on a location service request sent by a location service client and the positioning information response, whether to send the target configuration information to the target device.

15. A positioning method, wherein the method comprises:

receiving, by a network device, target configuration information sent by a location management function device, wherein

the target configuration information comprises at least one of the following: a first frequency layer identifier and a first frequency layer quantity;

the target configuration information is used to configure at least one of the following for the network device or user equipment UE:

a first target signal to be sent at a frequency layer indicated by the first frequency layer identifier;

a first target signal to be sent at a frequency layer corresponding to the first frequency layer quantity and related information for sending the first target signal, wherein

the first target signal is used to determine a location of the UE.

16. A positioning method, wherein the method comprises:

receiving, by user equipment UE, target configuration information sent by a first device, wherein

the target configuration information comprises at least one of the following: a first frequency layer identifier and a first frequency layer quantity;

the first device is a location management function device or a network device, and the target configuration information is used to configure at least one of the following for the UE:

a first target signal to be sent by the UE at a frequency layer indicated by the first frequency layer identifier, a first target signal to be sent by the UE at a frequency layer corresponding to the first frequency layer quantity and related information for sending the first target signal by the UE; or

receiving, by the UE, a first target signal sent by a network device, wherein

the first target signal is used to determine a location of the UE.

17. A location management function device, comprising a processor, a memory, and a program or instructions stored in the memory and capable of running on the processor, wherein when the program or instructions are executed by the processor, the steps of the positioning method according to any one of claims 1 to 14 are implemented.

18. A network device, comprising a processor, a memory, and a program or instructions stored in the memory and capable of running on the processor, wherein when the program or instructions are executed by the processor, the steps of the positioning method according to claim 15 is implemented.

19. User equipment UE, comprising a processor, a memory, and a program or instructions stored in the memory and capable of running on the processor, wherein when the program or instructions are executed by the processor, the steps of the positioning method according to claim 16 is implemented.