

CLAIMS

1. A ranging/sidelink positioning method, performed by a first terminal device, comprising:
receiving a first ranging/sidelink positioning service request sent by a location management function (LMF), wherein the first ranging/sidelink positioning service request carries indication information;

initiating ranging/sidelink positioning between the first terminal device and a second terminal device in response to the first ranging/sidelink positioning service request; and

sending measurement data and/or a measurement result of the ranging/sidelink positioning to the LMF according to the indication information.

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

a measurement result calculation mode of the ranging/sidelink positioning; or

requested information for the ranging/sidelink positioning for the first terminal device and the second terminal device.

3. The method according to claim 2, wherein the measurement result calculation mode of the ranging/sidelink positioning comprises at least one of:

a measurement result calculation mode based on the LMF;

a measurement result calculation mode based on the first terminal device and/or the second terminal device; or

a hybrid measurement result calculation mode based on at least one terminal device and the LMF, wherein the at least one terminal device comprises the first terminal device and/or the second terminal device.

4. The method according to claim 2 or 3, wherein the requested information for the ranging/sidelink positioning for the first terminal device and the second terminal device comprises at least one of:

requested information of the measurement data;

requested information of the measurement result; or

requested information of the measurement data and the measurement result.

5. The method according to any one of claims 2 to 4, wherein sending the measurement data and/or the measurement result comprises one of:

sending the measurement data of the measurement data and the measurement result to the LMF when the measurement result calculation mode is a measurement result calculation mode based on the LMF;

sending the measurement data of the measurement data and the measurement result to the LMF when the requested information is requested information of the measurement data;

sending the measurement result of the measurement data and the measurement result to the LMF when the measurement result calculation mode is a measurement result calculation mode based on the first terminal device;

sending the measurement result of the measurement data and the measurement result to the LMF when the requested information is requested information of the measurement result;

sending the measurement data and the measurement result to the LMF when the measurement result calculation mode is a hybrid measurement result calculation mode based on at least one terminal device and the LMF, wherein the at least one terminal device comprises the first terminal device and/or the second terminal device; or

sending the measurement data and the measurement result to the LMF when the requested information is requested information of the measurement data and the measurement result.

6. The method according to claim 5, wherein sending the measurement result of the measurement data and the measurement result to the LMF comprises:

obtaining the measurement data;

obtaining the measurement result by performing result calculation of the ranging/sidelink positioning on the measurement data; and

sending the measurement result to the LMF;

sending the measurement data and the measurement result to the LMF comprises:

obtaining the measurement data;

obtaining a first measurement result by performing result calculation of the ranging/sidelink positioning on the measurement data; and

sending the measurement data and the first measurement result to the LMF.

7. The method according to any one of claims 1 to 6, further comprising:

sending preference computing node information of the ranging/sidelink positioning to the LMF.

8. A ranging/sidelink positioning method, performed by a location management function (LMF), comprising:

receiving a second ranging/sidelink positioning service request sent by an access and mobility management function (AMF);

sending a first ranging/sidelink positioning service request to a first terminal device in response to the second ranging/sidelink positioning service request, wherein the first ranging/sidelink positioning service request carries indication information; and

receiving measurement data and/or a measurement result of ranging/sidelink positioning sent by the first terminal device for the first ranging/sidelink positioning service request.

9. The method according to claim 8, wherein the indication information comprises at least one of:

a measurement result calculation mode of the ranging/sidelink positioning; or

requested information for the ranging/sidelink positioning for the first terminal device and a second terminal device.

10. The method according to claim 9, wherein receiving the measurement data and/or the measurement result comprises one of:

receiving the measurement data, of the measurement data and the measurement result, sent by the first terminal device for the first ranging/sidelink positioning service request when the measurement result calculation mode is a measurement result calculation mode based on the LMF;

receiving the measurement data, of the measurement data and the measurement result, sent by the first terminal device for the first ranging/sidelink positioning service request when the requested information is requested information of the measurement data;

receiving the measurement result, of the measurement data and the measurement result, sent by the first terminal device for the first ranging/sidelink positioning service request when the measurement result calculation mode is a measurement result calculation mode based on at least one terminal device, and the at least one terminal device comprises the first terminal device and/or the second terminal device;

receiving the measurement result, of the measurement data and the measurement result, sent by the first terminal device for the first ranging/sidelink positioning service request when the requested information is requested information of the measurement result;

receiving the measurement data and a first measurement result sent by the first terminal device for the first ranging/sidelink positioning service request when the measurement result calculation mode is a hybrid measurement result calculation mode based on at least one terminal device and the LMF, wherein the at least one terminal device comprises the first terminal device and/or the second terminal device; or

receiving the measurement data and the first measurement result sent by the first terminal device for the first ranging/sidelink positioning service request when the requested information is requested information of the measurement data and the measurement result.

11. The method according to claim 10, wherein after the measurement data and/or the measurement result sent by the first terminal device for the first ranging/sidelink positioning service request is received, the method further comprises:

obtaining the measurement result by performing result calculation of the ranging/sidelink positioning on the measurement data; or

wherein after the measurement data and the first measurement result sent by the first terminal device for the first ranging/sidelink positioning service request are received, the method further comprises:

determining a second measurement result according to the measurement data and the first measurement result.

12. The method according to any one of claims 8 to 11, further comprising:
sending the measurement result to the AMF.

13. The method according to any one of claims 9 to 11, wherein the method further comprises at least one of:

determining the measurement result calculation mode; or

determining the requested information for the ranging/sidelink positioning for the first terminal device and the second terminal device.

14. The method according to claim 13, wherein determining the measurement result calculation mode comprises one of:

determining a measurement result calculation mode based on the first terminal device and/or the second terminal device as the measurement result calculation mode if the first terminal device and/or the second terminal device supports measurement result calculation;

determining a measurement result calculation mode based on the LMF as the measurement result calculation mode if only the LMF supports measurement result calculation; or

determining the measurement result calculation mode according to a mode selection policy if both the at least one terminal device and the LMF support measurement result calculation, wherein the at least one terminal device comprises the first terminal device and/or the second terminal device.

15. The method according to claim 14, wherein determining the measurement result calculation mode according to the mode selection policy comprises at least one of:

determining the measurement result calculation mode according to preference computing node information of the ranging/sidelink positioning;

determining the measurement result calculation mode according to operator policy information;

determining the measurement result calculation mode according to the preference computing node information of the ranging/sidelink positioning sent by the AMF; or

determining the measurement result calculation mode according to the preference computing node information of the ranging/sidelink positioning sent by the terminal device.

16. The method according to any one of claims 13 to 15, wherein determining the requested information for the ranging/sidelink positioning for the first terminal device and the second terminal device comprises:

determining the requested information for the ranging/sidelink positioning for the first terminal device and the second terminal device according to the measurement result calculation mode determined.

17. A ranging/sidelink positioning method, performed by an access and mobility management function (AMF), comprising:

sending a second ranging/sidelink positioning service request to a location management function (LMF); and

receiving a measurement result sent by the LMF for the second ranging/sidelink positioning service request.

18. The method according to claim 17, wherein before sending the second ranging/sidelink positioning service request to the LMF, the method further comprises:

selecting the LMF in an LMF list according to a default rule.

19. A terminal device, comprising:

a processor, and

a memory having stored therein a computer program that, when executed by the processor, causes the device to implement the method according to any one of claims 1 to 7.

20. A location management function (LMF), comprising:
a processor, and
a memory having stored therein a computer program that, when executed by the processor,
causes the device to implement the method according to any one of claims 8 to 16.