WHAT IS CLAIMED IS:

1. A relay determination method, performed by a terminal device, comprising:

determining a relay determination strategy of the terminal device according to state information of the terminal device; and

determining a relay terminal device of the terminal device according to the relay determination strategy.

2. The method of claim 1, wherein determining the relay determination strategy of the terminal device according to the state information of the terminal device comprises:

determining that the relay determination strategy is that a serving cell of the relay terminal device is consistent with a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in a connected state; or

determining that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a first preference criterion, in response to the state information being that the terminal device is in a connected state, wherein the first preference criterion represents that a terminal device whose corresponding serving cell is consistent with a serving cell of the terminal device is preferentially selected as the relay terminal device.

3. The method of claim 1, wherein determining the relay determination strategy of the terminal device according to the state information of the terminal device comprises:

determining that the relay determination strategy is that a serving cell of the relay terminal device is consistent with a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in a connected state and the terminal device is connected with a network device via a relay device; or

determining that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a first preference criterion, in response to the state information being that the terminal device is in a connected state and the terminal device is a remote terminal device, wherein the first preference criterion represents that a terminal device whose corresponding serving cell is consistent with a serving cell of the terminal device is preferentially selected as the relay terminal device.

4. The method of claim 1, wherein determining the relay determination strategy of the terminal device according to the state information of the terminal device comprises:

determining that the relay determination strategy is that the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device in a connected state and the terminal device is not connected with a network device via a relay device.

5. The method of claim 1, wherein determining the relay determination strategy of the

terminal device according to the state information of the terminal device comprises:

determining that the relay determination strategy is that a serving cell of the relay terminal device is in a same radio access network (RAN) area as a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in an inactive state; or

determining that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a second preference criterion, in response to the state information being that the terminal device is in an inactive state, wherein the second preference criterion represents that a terminal device whose corresponding serving cell is in a same RAN area as a serving cell of the terminal device is preferentially selected as the relay terminal device.

6. The method of claim 1, wherein determining the relay determination strategy of the terminal device according to the state information of the terminal device comprises:

determining that the relay determination strategy is that the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in an idle state.

7. The method of claim 1, wherein determining the relay determination strategy of the terminal device according to the state information of the terminal device comprises:

determining that the relay determination strategy is that a serving cell of the relay terminal device is consistent with a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in a radio resource control (RRC) reestablishment process or a RRC recovery process; or

determining that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a first preference criterion, in response to the state information being that the terminal device is in a RRC reestablishment process or a RRC recovery process, wherein the first preference criterion represents that a terminal device whose corresponding serving cell is consistent with a serving cell of the terminal device is preferentially selected as the relay terminal device.

8. The method of claim 2, 3, or 7, wherein the relay determination strategy is that the relay terminal device satisfies the specified criterion and the first preference criterion, and determining the relay terminal device of the terminal device according to the relay determination strategy comprises:

acquiring candidate terminal devices satisfying the specified criterion; and

determining a target candidate terminal device as the relay terminal device of the terminal device, in response to the target candidate terminal device whose corresponding serving cell is consistent with the serving cell of the terminal device being present in the candidate terminal

devices; or

taking any one of the candidate terminal devices as the relay terminal device of the terminal device, in response to no target candidate terminal device whose corresponding serving cell is consistent with the serving cell of the terminal device being present in the candidate terminal devices.

9. The method of claim 5, wherein the relay determination strategy is that the relay terminal device satisfies the specified criterion and the second preference criterion, and determining the relay terminal device of the terminal device according to the relay determination strategy comprises:

acquiring candidate terminal devices satisfying the specified criterion; and

determining a target candidate terminal device as the relay terminal device of the terminal device, in response to the target candidate terminal device whose corresponding serving cell is in the same RAN area as the serving cell of the terminal device being present in the candidate terminal devices; or

taking any one of the candidate terminal devices as the relay terminal device of the terminal device, in response to no target candidate terminal device whose corresponding serving cell is in the same RAN area as the serving cell of the terminal device being present in the candidate terminal devices.

10. The method of any one of claims 2 to 9, wherein the specified criterion comprises at least one of:

a wireless channel quality of a sidelink between the relay terminal device and the terminal device being higher than a preset threshold;

a public land mobile network (PLMN) identifier of the serving cell of the relay terminal device being consistent with a PLMN identifier of the serving cell of the terminal device.

11. The method of any one of claims 2 to 9, wherein

the method is performed by the terminal device at an access stratum; or

the method is performed by the terminal device at a non-access stratum according to transfer information of an access stratum; wherein the transfer information comprises at least one of: the state information, a serving cell of each terminal device, ~~and~~ or a list of serving cells of each terminal device.

12. A relay determination apparatus, applied to a terminal device, comprising:

a processing unit configured to determine a relay determination strategy of the terminal device according to state information of the terminal device;

wherein the processing unit is further configured to determine a relay terminal device of the terminal device according to the relay determination strategy.

13. The apparatus of claim 12, wherein the processing unit is specifically configured to:

determine that the relay determination strategy is that a serving cell of the relay terminal device is consistent with a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in a connected state; or

determine that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a first preference criterion, in response to the state information being that the terminal device is in a connected state, wherein the first preference criterion represents that a terminal device whose corresponding serving cell is consistent with a serving cell of the terminal device is preferentially selected as the relay terminal device.

14. The apparatus of claim 12, wherein the processing unit is specifically configured to:

determine that the relay determination strategy is that a serving cell of the relay terminal device is consistent with a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in a connected state and the terminal device is connected with a network device via a relay device; or

determine that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a first preference criterion, in response to the state information being that the terminal device is in a connected state and the terminal device is a remote terminal device, wherein the first preference criterion represents that a terminal device whose corresponding serving cell is consistent with a serving cell of the terminal device is preferentially selected as the relay terminal device.

15. The apparatus of claim 12, wherein the processing unit is specifically configured to:

determine that the relay determination strategy is that the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device in a connected state and the terminal device is not connected with a network device via a relay device.

16. The apparatus of claim 12, wherein the processing unit is specifically configured to:

determine that the relay determination strategy is that a serving cell of the relay terminal device is in a same radio access network (RAN) area as a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in an inactive state; or

determine that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a second preference criterion, in response to the state information being that the terminal device is in an inactive state, wherein the second preference criterion represents that a terminal device whose corresponding serving cell is in a same RAN area as a serving cell of the terminal device is preferentially selected as the relay terminal device.

17. The apparatus of claim 12, wherein the processing unit is specifically configured to:

determine that the relay determination strategy is that the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in an idle state.

~~18. The apparatus of claim 12, wherein the processing unit is specifically configured to:~~

~~determine that the relay determination strategy is that a serving cell of the relay terminal device is consistent with a serving cell of the terminal device, and the relay terminal device satisfies a specified criterion, in response to the state information being that the terminal device is in a radio resource control (RRC) reestablishment process or a RRC recovery process; or~~

~~determine that the relay determination strategy is that the relay terminal device satisfies a specified criterion and a first preference criterion, in response to the state information being that the terminal device is in a RRC reestablishment process or a RRC recovery process, wherein the first preference criterion represents that a terminal device whose corresponding serving cell is consistent with a serving cell of the terminal device is preferentially selected as the relay terminal device.~~

~~19. The apparatus of claim 13, 14, or 18, wherein the processing unit is specifically configured to:~~

~~acquire candidate terminal devices satisfying the specified criterion; and~~

~~determine a target candidate terminal device as the relay terminal device of the terminal device, in response to the target candidate terminal device whose corresponding serving cell is consistent with the serving cell of the terminal device being present in the candidate terminal devices; or~~

~~take any one of the candidate terminal devices as the relay terminal device of the terminal device, in response to no target candidate terminal device whose corresponding serving cell is consistent with the serving cell of the terminal device being present in the candidate terminal devices.~~

~~20. The apparatus of claim 16, wherein the processing unit is specifically configured to:~~

~~acquire candidate terminal devices satisfying the specified criterion; and~~

~~determine a target candidate terminal device as the relay terminal device of the terminal device, in response to the target candidate terminal device whose corresponding serving cell is in the same RAN area as the serving cell of the terminal device being present in the candidate terminal devices; or~~

~~take any one of the candidate terminal devices as the relay terminal device of the terminal device, in response to no target candidate terminal device whose corresponding serving cell is in the same RAN area as the serving cell of the terminal device being present in the candidate terminal~~

~~devices.~~

~~21. The apparatus of any one of claims 13 to 20, wherein the specified criterion comprises at least one of:~~

~~a wireless channel quality of a sidelink between the relay terminal device and the terminal device being higher than a preset threshold;~~

~~a public land mobile network (PLMN) identifier of the serving cell of the relay terminal device being consistent with a PLMN identifier of the serving cell of the terminal device.~~

~~22. The apparatus of any one of claims 13 to 20, wherein~~

~~the processing unit performs a determination process of the relay terminal device at an access stratum; or~~

~~the processing unit performs a determination process of the relay terminal device at a non-access stratum according to transfer information of an access stratum; wherein the transfer information comprises at least one of: the state information, a serving cell of each terminal device, and a list of serving cells of each terminal device.~~

~~23~~18. A relay determination device, comprising:

a processor; and

an interface circuit configured to receive code instructions and transmit the code instructions to the processor;

wherein the processor is configured to run the code instructions to perform the method of any one of claims 1 to 11.

~~24~~19. A communication device, comprising:

a processor;

a transceiver; and

a memory storing a computer program executable by the processor; ~~and~~

~~a computer program stored in the memory,~~

wherein the processor is configured to run the computer program to implement the method of any one of claims 1 to 11.

~~25~~20. A computer-readable storage medium having stored therein instructions that, when executed, cause the method of any one of claims 1 to 11 to be implemented.