CLAIMS

What is claimed is:

1. A method for releasing a relay connection, wherein the method comprises:

obtaining, by a first network element, relay service subscription information of first user equipment UE; and

sending, by the first network element, first information based on the relay service subscription information of the first UE, wherein

the first information is used to release a relay connection corresponding to the first UE, or release a relay connection corresponding to a relay service between the first UE and second UE.

2. The method according to claim 1, wherein when the first information is used to release the relay connection corresponding to the first UE, the first information is first relay service authorization revocation information or first relay connection release information, wherein

the first relay service authorization revocation information indicates to revoke an authorization of using the first UE as relay UE or remote UE; and

the first relay connection release information indicates to release the relay connection corresponding to the first UE.

3. The method according to claim 1 or 2, wherein the first UE is relay UE, and the sending, by the first network element, first information based on the relay service subscription information of the first UE comprises:

sending, by the first network element, the first information when the relay service subscription information of the first UE changes from comprising identification information of remote UE for which the first UE is allowed to provide a relay service to not comprising the identification information of the remote UE for which the first UE is allowed to provide the relay service; or

sending, by the first network element, the first information when the first network element determines, based on the relay service subscription information, that the first UE changes from being allowed to provide a relay service for remote UE to not being allowed to provide the relay service for the remote UE, wherein

the first information is used to release the relay connection corresponding to the first UE.

4. The method according to claim 1 or 2, wherein the first UE is remote UE, and the sending,

by the first network element, first information based on the relay service subscription information of the first UE comprises:

sending, by the first network element, the first information when the relay service subscription information of the first UE changes from comprising identification information of relay UE whose relay service is allowed to be accepted by the first UE to not comprising the identification information of the relay UE whose relay service is allowed to be accepted by the first UE; or

sending, by the first network element, the first information when the first network element determines, based on the relay service subscription information, that the first UE changes from being allowed to accept a relay service to not being allowed to accept the relay service, wherein

the first information is used to release the relay connection corresponding to the first UE.

5. The method according to claim 1, wherein

when the first information is used to release the relay connection corresponding to the relay service between the first UE and the second UE, the first information is second relay service authorization revocation information or second relay connection release information, wherein

the second relay service authorization revocation information indicates to revoke an authorization for the first UE to provide the relay service for the second UE, or revoke an authorization for the first UE to accept the relay service provided by the second UE; and the second relay connection release information indicates to release the relay connection corresponding to the relay service between the first UE and the second UE.

6. The method according to claim 1 or 5, wherein the first UE is relay UE, and the sending, by the first network element, first information based on the relay service subscription information of the first UE comprises:

sending, by the first network element, the first information when the relay service subscription information of the first UE changes from comprising identification information of remote UE for which the first UE is allowed to provide a relay service to not comprising the identification information of the remote UE for which the first UE is allowed to provide the relay service, wherein the identification information of the remote UE comprises identification information of the second UE;

sending, by the first network element, the first information when identification information, in the relay service subscription information of the first UE, of remote UE for which the first UE

is allowed to provide a relay service changes from comprising identification information of the second UE to not comprising the identification information of the second UE; or

sending, by the first network element, the first information when the first network element determines, based on the relay service subscription information of the first UE, that the first UE changes from being allowed to provide the relay service for the second UE to not being allowed to provide the relay service for the second UE, wherein

the first information is used to release the relay connection corresponding to the relay service between the first UE and the second UE.

7. The method according to claim 1 or 5, wherein the first UE is remote UE, and the sending, by the first network element, first information based on the relay service subscription information of the first UE comprises:

sending, by the first network element, the first information when the relay service subscription information of the first UE changes from comprising identification information of relay UE whose relay service is allowed to be accepted by the first UE to not comprising the identification information of the relay UE whose relay service is allowed to be accepted by the first UE, wherein the identification information of the relay UE comprises identification information of the second UE;

sending, by the first network element, the first information when identification information, in the relay service subscription information of the first UE, of relay UE whose relay service is allowed to be accepted by the first UE changes from comprising identification information of the second UE to not comprising the identification information of the second UE; or

sending, by the first network element, the first information when the first network element determines, based on the relay service subscription information of the first UE, that the first UE changes from being allowed to accept the relay service provided by the second UE to not being allowed to accept the relay service provided by the second UE, wherein

the first information is used to release the relay connection corresponding to the relay service between the first UE and the second UE.

8. The method according to claim 6 or 7, wherein the first information comprises the identification information of the second UE.

9. The method according to any one of claims 1 to 8, wherein the sending, by the first network element, the first information comprises:

sending, by the first network element, the first information to an access network device, the first UE, or a session management function SMF network element of the first UE.

10. The method according to any one of claims 1 to 9, wherein the first network element is an access and mobility management function AMF network element or a policy control function PCF network element.

11. The method according to any one of claims 1 to 10, wherein the first information comprises a relay connection release cause value, and the relay connection release cause value is used to represent a reason for releasing the relay connection.

12. The method according to claim 11, wherein the reason for releasing the relay connection comprises: the relay service subscription information of the first UE changes.

13. A method for releasing a relay connection, wherein the method comprises:

receiving, by an access network device, second information, wherein the second information is used to release a relay connection corresponding to first user equipment UE; and

releasing, by the access network device based on the second information, the relay connection corresponding to the first UE.

14. The method according to claim 13, wherein the second information is first relay service authorization revocation information or first relay connection release information, wherein

the first relay service authorization revocation information indicates to revoke an authorization of using the first UE as relay UE or remote UE; and

the first relay connection release information indicates to release the relay connection corresponding to the first UE.

15. The method according to claim 13 or 14, wherein the receiving, by an access network device, second information comprises:

receiving, by the access network device, the second information from a first network element, wherein the first network element is a policy control function PCF network element of the first UE or an access and mobility management function AMF network element of the first UE; or

receiving, by the access network device, the second information from the first UE.

16. The method according to any one of claims 13 to 15, wherein the first UE is relay UE, and the releasing, by the access network device based on the second information, the relay connection corresponding to the first UE comprises:

releasing, by the access network device based on the second information, a communication

resource used for the relay connection between the first UE and the access network device.

17. The method according to claim 16, wherein the releasing, by the access network device based on the second information, the relay connection corresponding to the first UE further comprises:

releasing, by the access network device based on the second information, a communication resource used for the relay connection between the first UE and the remote UE.

18. The method according to any one of claims 13 to 15, wherein the first UE is remote UE, and the releasing, by the access network device based on the second information, the relay connection corresponding to the first UE comprises:

releasing, by the access network device based on the second information, at least one of the following resources:

a communication resource used by the access network device for the relay connection; and

a communication resource used for the relay connection between the first UE and the relay UE.

19. The method according to any one of claims 13 to 18, wherein the second information comprises a relay connection release cause value, and the relay connection release cause value is used to represent a reason for releasing the relay connection, wherein

the reason for releasing the relay connection comprises: relay service subscription information of the first UE changes.

20. A method for releasing a relay connection, wherein the method comprises:

receiving, by first user equipment UE, second information, wherein the second information is used to release a relay connection corresponding to a relay service between the first UE and second UE; and

releasing, by the first UE, the relay connection based on the second information.

21. The method according to claim 20, wherein the receiving, by first UE, second information comprises:

receiving, by the first UE, the second information from a second network element, wherein

the second network element is an access network device or an access and mobility management function AMF network element of the first UE.

22. The method according to claim 20 or 21, wherein the second information is second relay service authorization revocation information or second relay connection release information,

wherein

the second relay service authorization revocation information indicates to revoke an authorization for the first UE to provide the relay service for the second UE, or revoke an authorization for the first UE to accept the relay service provided by the second UE; and

the second relay connection release information indicates to release the relay connection corresponding to the relay service between the first UE and the second UE.

23. The method according to any one of claims 20 to 22, wherein the first UE is relay UE, the second UE is remote UE that accepts the relay service provided by the first UE, and the releasing, by the first UE, the relay connection based on the second information comprises:

sending, by the first UE, third information to the access network device based on the second information, wherein the third information is used to release a communication resource used for the relay connection between the first UE and the access network device; or

sending, by the first UE, fourth information to the AMF network element of the first UE based on the second information, wherein the fourth information is used to delete a context of the second UE in a PDU session used by the first UE to provide the relay service.

24. The method according to any one of claims 20 to 22, wherein the first UE is remote UE, the second UE is relay UE that provides the relay service for the first UE, and the releasing, by the first UE, the relay connection based on the second information comprises:

sending, by the first UE, fifth information to the access network device based on the second information, wherein

the fifth information is used to release a communication resource used by the access network device for the relay connection.

25. The method according to claim 23 or 24, wherein the method further comprises:

sending, by the first UE, sixth information to the second UE based on the second information, wherein the sixth information is used to release a communication resource used for the relay connection between the first UE and the second UE.

26. The method according to any one of claims 20 to 25, wherein the second information comprises identification information of the second UE.

27. The method according to any one of claims 20 to 26, wherein the second information comprises a relay connection release cause value, and the relay connection release cause value is used to represent a reason for releasing the relay connection, wherein

the reason for releasing the relay connection comprises: relay service subscription information of the first UE changes.

28. A method for releasing a relay connection, wherein the method comprises:

receiving, by first relay user equipment UE, seventh information, wherein the seventh information is used to release a first protocol data unit PDU session, and the first PDU session is used by the first relay UE to provide a relay service for remote UE; and

releasing, by the first relay UE based on the seventh information, a relay connection corresponding to the first PDU session, wherein the relay connection is used for communication between the first relay UE and the remote UE.

29. The method according to claim 28, wherein the receiving, by first relay UE, seventh information comprises:

receiving, by the first relay UE, the seventh information from a second network element, wherein

the second network element is an access and mobility management function AMF network element corresponding to the first relay UE, a policy control function PCF network element corresponding to the first relay UE, or a session management function SMF network element corresponding to the first relay UE.

30. The method according to claim 28 or 29, wherein the releasing, by the first relay UE based on the seventh information, a relay connection corresponding to the first PDU session comprises:

determining, by the first relay UE, the relay connection based on the seventh information; and

releasing, by the first relay UE, the relay connection.

31. The method according to claim 30, wherein the relay connection comprises a relay connection between the first relay UE and first remote UE, and the releasing, by the first relay UE, the relay connection comprises:

sending, by the first relay UE, eighth information to the first remote UE, wherein the eighth information is used to release the relay connection between the first relay UE and the first remote UE.

32. The method according to any one of claims 28 to 31, wherein the seventh information is a protocol data unit PDU session release command.

33. A communication apparatus, comprising:

a memory, configured to store a computer program; and

a processor, configured to execute the computer program, to implement the method according to any one of claims 1 to 12.

34. A communication apparatus, comprising:

a memory, configured to store a computer program; and

a processor, configured to execute the computer program, to implement the method according to any one of claims 13 to 19.

35. A communication apparatus, comprising:

a memory, configured to store a computer program; and

a processor, configured to execute the computer program, to implement the method according to any one of claims 20 to 27.

36. A communication apparatus, comprising:

a memory, configured to store a computer program; and

a processor, configured to execute the computer program, to implement the method according to any one of claims 28 to 32.

37. A communication system, wherein the communication system comprises:

the communication apparatus according to claim 33; and

the communication apparatus according to claim 34.

38. The communication system according to claim 37, wherein the communication system further comprises:

the communication apparatus according to claim 35.

39. A computer-readable storage medium, wherein the computer-readable storage medium stores computer program code; and when the computer program code is executed by a processing circuit, the method according to any one of claims 1 to 32 is implemented.