CLAIMS

What is claimed is:

1. A device interaction method, comprising:

receiving, by a first core network device, identifier information of at least one user equipment UE from a relay UE, wherein the at least one UE comprises at least one of the following: an UE that has established UE-to-network relay connection with the relay UE and an UE that is to establish UE-to-network relay connection with the relay UE; and

interacting, by the first core network device based on identifier information of a second UE, with a second core network device, wherein the second UE is any one of the at least one UE; wherein

the first core network device is a core network device serving the relay UE, and the second core network device is a core network device serving the second UE,

wherein the interacting, by the first core network device based on identifier information of second UE, with a second core network device comprises:

determining, by the first core network device based on the identifier information of the second UE, the second core network device;

transmitting, by the first core network device, a first request message to the second core network device, wherein the first request message carries the identifier information of the second UE, and the first request message is used to request to obtain a context of the second UE; and

receiving, by the first core network device, the context of the second UE sent by the second core network device.

2. The method according to claim 1, wherein after the receiving, by the first core network device, the context of the second UE sent by the second core network device, the method further comprises:

determining, by the first core network device based on the context of the second UE, whether the second UE is granted to implement UE-to-network relay communication.

3. The method according to claim 1, wherein before the receiving, by a first core network device, identifier information of at least one UE sent by the relay UE, the method further comprises:

transmitting, by the first core network device, an identifier request message to the relay UE, wherein the identifier request message is used to request to obtain identifier information of a UE that has established and/or is to establish UE-to-network relay connection with the relay UE.

4. The method according to claim 1, wherein the identifier information of the at least one UE is carried in a non-access stratum NAS message, an N2 interface message, or a response message corresponding to an identifier request message.

5. The method according to claim 1, wherein identifier information of any one of the at least one UE is any one of the following:

a 5G globally unique temporary identifier 5G-GUTI;

a 5G S-temporary mobile subscriber identifier 5G-S-TMSI;

an application layer identity;

a prose relay user key identity PRUK ID;

a permanent equipment identifier PEI;

a subscription concealed identifier SUCI; and

a subscription permanent identifier SUPI.

6. The method according to claim 1, wherein after the receiving, by a first core network device, identifier information of at least one UE sent by the relay UE, the method further comprises:

transmitting, by the first core network device, a second request message to a third core network device, wherein the second request message carries the identifier information of the second UE, and the second request message is used to request to obtain grant information for the second UE;

receiving, by the first core network device, grant information for the second UE sent by the third core network device; and

determining, by the first core network device based on the grant information for the second UE, whether the second UE is granted to implement UE-to-network relay communication.

7. A core network device, wherein the core network device is a first core network device, and the core network device comprises a receiving module and an interacting module;

the receiving module is configured to receive identifier information of at least one user equipment UE sent by a relay UE, wherein the at least one UE comprises at least one of the following: a UE that has established UE-to-network relay connection with the relay UE and a UE that is to establish UE-to-network relay connection with the relay UE; and

the interacting module is configured to: after the receiving module receives the identifier information of the at least one UE, interact with a second core network device based on identifier information of a second UE, wherein the second UE is any one of the at least one UE; wherein

the first core network device is a core network device serving the relay UE, and the second core network device is a core network device serving the second UE,

wherein the interacting module comprises a determining submodule, a transmitting submodule, and a receiving submodule;

the determining submodule is configured to determine the second core network device based on the identifier information of the second UE;

the transmitting submodule is configured to transmit a first request message to the second core

network device determined by the determining submodule, wherein the first request message carries the identifier information of the second UE, and the first request message is used to request to obtain a context of the second UE; and

the receiving submodule is configured to: after the transmitting submodule transmits the first request message to the second core network device, receive the context of the second UE sent by the second core network device.

8. The core network device according to claim 7, wherein the core network device further comprises a determining module; and

the determining module is configured to: after the receiving submodule receives the context of the second UE sent by the second core network device, determine, based on the context of the second UE, whether the second UE is granted to implement UE-to-network relay communication.

9. The core network device according to claim 7, wherein the core network device further comprises a transmitting module; and

the transmitting module is configured to: before the receiving module receives the identifier information of the at least one UE sent by the relay UE, transmit an identifier request message to the relay UE, wherein the identifier request message is used to request to obtain identifier information of the UE that has established and/or is to establish UE-to-network relay connection with the relay UE.

10. The core network device according to claim 7, wherein the identifier information of the at least one UE is carried in a non-access stratum NAS message, an N2 interface message, or a response message corresponding to an identifier request message.

11. The core network device according to claim 7, wherein identifier information of any one of the at least one UE is any one of the following:

a 5G globally unique temporary identifier 5G-GUTI;

a 5G S-temporary mobile subscriber identifier 5G-S-TMSI;

an application layer identity;

a prose relay user key identity PRUK ID;

a permanent equipment identifier PEI;

a subscription concealed identifier SUCI; and

a subscription permanent identifier SUPI.

12. The core network device according to claim 7, wherein the first core network device further comprises a transmitting module and a determining module;

the transmitting module is configured to: after the receiving module receives the identifier information of the at least one UE sent by the relay UE, transmit a second request message to a third core network device, wherein the second request message carries the identifier information of the

second UE, and the second request message is used to request to obtain grant information for the second UE;

the receiving module is further configured to: after the transmitting module transmits the second request message, receive the grant information for the second UE sent by the third core network device; and

the determining module is configured to determine, based on the grant information for the second UE received by the receiving module, whether the second UE is granted to implement UE-to-network relay communication.

13. A core 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 the instructions are executed by the processor, the steps of the device interaction method according to any one of claims 1 to 6 are implemented.

14. A readable storage medium, wherein the readable storage medium stores a program or instructions, and when the program or the instructions are executed by a processor, the steps of the device interaction method according to any one of claims 1 to 6 are implemented.

15. A computer program product, wherein the computer program product is executed by at least one processor, so as to implement the device interaction method according to any one of claims 1 to 6.

16. A core network device, wherein the core network device is configured to perform the steps of the device interaction method according to any one of claims 1 to 6.