CLAIMS

What is claimed is:

1. A method for handling radio link failure, applied to a first node in a relay network architecture in which data transmission is implemented through a relay node, wherein the first node has dual connectivity with a donor node through a first link and a second link, and the method comprises:

obtaining a first failure report, wherein the first failure report indicates that the first node has received a notification of backhaul recovery failure from a parent node of the first node, or the first failure report indicates that link failure has occurred in the first link, wherein the parent node of the first node is in the first link; and

transmitting the first failure report to the donor node through the second link.

2. The method according to claim 1, wherein the first failure report comprises one or more of the following:

the notification of backhaul recovery failure from the parent node of the first node;

link quality information of the parent node of the first node;

link quality information of the first node;

a first measurement result, wherein the first measurement result comprises a result obtained by the parent node of the first node measuring a second node; and

a second measurement result, wherein the second measurement result comprises a result obtained by the first node measuring the second node; wherein

the second node comprises at least some of nodes through which the first failure report passes to be reported to the donor node.

3. The method according to claim 1, wherein the transmitting the first failure report to the donor node through the second link comprises:

transmitting the first failure report to the donor node through the second link in a manner of hop-by-hop transmission.

4. The method according to claim 1, wherein the relay network architecture is an integrated access and backhaul node IAB network architecture or a vehicle to everything architecture.

5. A method for handling radio link failure, applied to a donor node in a relay network architecture in which data transmission is implemented through a relay node, comprising:

obtaining, through a second link, a first failure report sent by a first node, wherein the first failure report indicates that the first node has received a notification of backhaul recovery failure from a parent node of the first node, or the first failure report indicates that backhaul recovery failure has occurred in the parent node of the first node, or the first failure report indicates that link failure has occurred in a first link, wherein the parent node of the first node is in the first link; wherein

the first node has dual connectivity with the donor node through the first link and the second link.

6. The method according to claim 5, further comprising:

adjusting, based on the first failure report, a network parameter or a network topology.

7. The method according to claim 5, wherein the first failure report comprises one or more of the following:

the notification of backhaul recovery failure from the parent node of the first node;

link quality information of the parent node of the first node;

link quality information of the first node;

a first measurement result, wherein the first measurement result comprises a result obtained by the parent node of the first node measuring a second node; and

a second measurement result, wherein the second measurement result comprises a result obtained by the first node measuring the second node; wherein

the second node comprises at least some of nodes through which the first failure report passes to be reported to the donor node.

8. The method according to claim 5, wherein the relay network architecture is an IAB network architecture or a vehicle to everything architecture.

9. A method for handling radio link failure (RLF), applied to a third node in a relay network architecture in which data transmission is implemented through a relay node, comprising:

in a case that RLF has occurred in a link between the third node and a parent node of the third node and a recovery attempt has failed, generating a second failure report; and

transmitting the second failure report to a child node of the third node, wherein the child node of the third node has dual connectivity with a donor node.

10. The method according to claim 9, wherein the generating a second failure report comprises:

in a case that the third node satisfies a first condition, generating the second failure report; wherein

the first condition comprises one or more of the following:

expiry of T310 in a secondary cell group;

failure of reconfiguration with sync in a secondary cell group;

reconfiguration failure in a secondary cell group;

failure of signaling radio bearer 3 integrity check;

a maximum number of uplink transmissions being exceeded; and

occurrence of a random access problem.

11. The method according to claim 10, wherein the second failure report comprises link quality information of the third node.

12. The method according to claim 9, wherein the relay network architecture is an IAB network architecture or a vehicle to everything architecture.

13. A first node, wherein the first node is located in a relay network architecture in which data transmission is implemented through a relay node, the first node has dual connectivity with a donor node through a first link and a second link, and the first node comprises:

a first obtaining module, configured to obtain a first failure report, where the first failure report indicates that the first node has received a notification of backhaul recovery failure from a parent node of the first node, or the first failure report indicates that backhaul recovery failure has occurred in the parent node of the first node, or the first failure report indicates that link failure has occurred in the first link, where the parent node of the first node is in the first link; and

a first transmitting module, configured to transmit the first failure report to the donor node through the second link.

14. The first node according to claim 13, wherein the first failure report comprises one or more of the following:

the notification of backhaul recovery failure from the parent node of the first node;

link quality information of the parent node of the first node;

link quality information of the first node;

a first measurement result, wherein the first measurement result comprises a result obtained by the parent node of the first node measuring a second node; and

a second measurement result, wherein the second measurement result comprises a result obtained by the first node measuring the second node; wherein

the second node comprises at least some of nodes through which the first failure report passes to be reported to the donor node.

15. The first node according to claim 13, wherein the first transmitting module is further configured to:

transmit the first failure report to the donor node through the second link in a manner of hop-by-hop transmission.

16. A donor node, wherein the donor node is located in a relay network architecture in which data transmission is implemented through a relay node, and the donor node comprises:

a second transmitting module, configured to obtain, through a second link, a first failure report sent by a first node, wherein the first failure report indicates that the first node has received a notification of backhaul recovery failure from a parent

node of the first node, or the first failure report indicates that backhaul recovery failure has occurred in the parent node of the first node, or the first failure report indicates that link failure has occurred in the first link, wherein the parent node of the first node is in the first link; wherein

the first node has dual connectivity with the donor node through the first link and the second link.

17. The donor node according to claim 16, wherein the donor node further comprises:

an adjustment module, configured to adjust, based on the first failure report, a network parameter or a network topology.

18. A third node, wherein the third node is located in a relay network architecture in which data transmission is implemented through a relay node, wherein the third node comprises:

a generation module, configured to, in a case that RLF has occurred in a link between the third node and a parent node of the third node and a recovery attempt has failed, generate a second failure report; and

a third transmitting module, configured to transmit the second failure report to a child node of the third node, wherein the child node of the third node has dual connectivity with a donor node.

19. A communications device, comprising a processor, a memory, and a program stored in the memory and capable of running on the processor, wherein when the program is executed by the processor, the steps of the method for handling radio link failure according to any one of claims 1 to 4 are implemented, or the steps of the method for handling radio link failure according to any one of claims 5 to 8 are implemented, or the method for handling radio link failure according to any one of claims 9 to 12 are implemented.

20. A computer-readable storage medium, wherein the computer-readable storage medium stores a computer program, and when the computer program is executed by a processor, the steps of the method for handling radio link failure according to any one of claims 1 to 4 are implemented, or the steps of the method for

handling radio link failure according to any one of claims 5 to 8 are implemented, or the method for handling radio link failure according to any one of claims 9 to 12 are implemented.