

to the two data transmission channels. After the data is received, the DU sends the data on different transmission channels to the terminal through different logical channels. Radio resource control (RRC), PDCP and the like in FIG. 3 respectively correspond to new radio (NR) RRC, NR PDCP and the like in FIG. 2.

5 As shown in FIG. 4, the terminal establishes multiple connections with multiple DUs under one CU in a manner of multi-DU connection. The CU is connected to each different DU through a respective F1 data channel. The CU sends the duplicated data (PDCP PDU1 in FIG. 4) to two DUs. After the data is received, the DUs send the data to the terminal.

10 However, a problem exists that the transmission resource consumption is large when the data transmission is performed in the manner of duplication transmission in relevant technology.

SUMMARY

15 Embodiments of the present disclosure provide a data transmission method and a data transmission apparatus for at least solving the problem, in relevant technology, that the transmission resource consumption is large when the data transmission is performed in the manner of duplication transmission.

20 An embodiment of the present disclosure provides a data transmission method. The data transmission method includes: obtaining measurement results of channel transmission qualities of multiple channels, where a data duplication transmission function is configured on the multiple channels to support transmission of duplicated data on the multiple channels; determining, according to the obtained measurement results, whether to activate the data duplication transmission function; and performing data transmission with a terminal on the plurality of channels according to the determination.

25 An embodiment of the present disclosure provides a data transmission apparatus. The data transmission apparatus includes at least one processor configured to: obtain measurement results of channel transmission qualities of multiple channels, where a data duplication transmission function is configured on the multiple channels to support transmission of duplicated data on the multiple channels; determine, according to the obtained measurement results, whether to activate the data duplication transmission function; and perform a data
30 transmission with a terminal on the multiple channels according to the determination.

An embodiment of the present disclosure further provides a CU. The CU includes any data transmission apparatus described above.

An embodiment of the present disclosure further provides a DU. The DU includes any data transmission apparatus described above.

An embodiment of the present disclosure further provides a storage medium. The storage medium includes stored programs which, when being executed, perform any data transmission method described above.

An embodiment of the present disclosure further provides a processor. The processor is arranged to execute programs which, when being executed, perform any data transmission method described above.

Through the present disclosure, the data duplication transmission function is configured on the multiple channels, and it is determined whether to activate the data duplication transmission function according to the measurement results of the channel transmission qualities of the multiple channels, so that the data duplication transmission function is activated when necessary. Thus, the link transmission quality is guaranteed and the waste of transmission resources is avoided at the same time. Therefore, the problem in relevant technology that the transmission resource consumption is large when the data transmission is performed in the manner of duplication transmission can be solved, and the effects of improving link transmission quality and reducing transmission resource consumption are achieved.

BRIEF DESCRIPTION OF DRAWINGS

The drawings described herein are used to provide a further understanding of the present disclosure, and form a part of the present application. The exemplary embodiments and descriptions thereof in the present disclosure are used to explain the present disclosure and do not limit the present disclosure in any improper way. In the drawings:

FIG. 1 is a schematic diagram of an interface between a first network element and a second network element in relevant technology;

FIG. 2 is a schematic diagram of a CU-DU higher-layer separation solution in relevant technology;

FIG. 3 is a schematic diagram of duplication transmission in a carrier aggregation manner in relevant technology;

FIG. 4 is a schematic diagram of duplication transmission based on connections with multiple

What is claimed is

1. A data transmission method, comprising:

obtaining measurement results of channel transmission qualities of a plurality of channels,
wherein a data duplication transmission function is configured on the plurality of channels to
5 support transmission of duplicated data on the plurality of channels;

determining, according to the obtained measurement results, whether to activate the data
duplication transmission function; and

performing a data transmission with a terminal on the plurality of channels according to the
determination.

10 2. The data transmission method of claim 1, wherein the performing the data transmission with
the terminal on the plurality of channels according to the determination comprises:

in a case that the data duplication transmission function is activated, performing transmissions
of the duplicated data with the terminal on the plurality of channels.

15 3. The data transmission method of claim 1, wherein the performing the data transmission with
the terminal on the plurality of channels according to the determination comprises:

in a case that the data duplication transmission function is not activated, determining a channel
from the plurality of channels to perform the data transmission with the terminal.

4. The data transmission method of claim 1, wherein the obtaining the measurement results of
the channel transmission qualities of the plurality of channels comprises:

20 receiving, by a first node, the measurement results from one or more second nodes, wherein the
measurement results are obtained after the one or more second nodes measure the channel
transmission qualities of the plurality of channels.

5. The data transmission method of claim 1, further comprising:

25 receiving, by a first node from a second node, an indication of whether to activate the data
duplication transmission function.

6. The data transmission method of claim 1, wherein each of the measurement results comprises
at least one of:

a channel quality indication (CQI) or a hybrid automatic repeat request (HARQ)
retransmission number.

30 7. A data transmission apparatus, comprising at least one processor configured to:

obtain measurement results of channel transmission qualities of a plurality of channels,

wherein a data duplication transmission function is configured on the plurality of channels to support transmission of duplicated data on the plurality of channels;

determine, according to the obtained measurement results, whether to activate the data duplication transmission function; and

5 perform a data transmission with a terminal on the plurality of channels according to the determination.

8. The data transmission apparatus of claim 7, wherein the at least one processor is configured to: in a case that the data duplication transmission function is activated, perform transmission of the duplicated data with the terminal on the plurality of channels.

10 9. The data transmission apparatus of claim 7, wherein the at least one processor is configured to: in a case that the data duplication transmission function is not activated, determine a channel from the plurality of channels to perform the data transmission with the terminal.

10. The data transmission apparatus of claim 7, wherein each of the measurement results comprises at least one of: a channel quality indication (CQI) or a hybrid automatic repeat request (HARQ) retransmission number.

15 11. The data transmission apparatus of claim 7, wherein the at least one processor is configured to receive the measurement results from one or more nodes, wherein the measurement results are obtained after the one or more nodes measure the channel transmission qualities of the plurality of channels.

20 12. The data transmission apparatus of claim 7, wherein the at least one processor is configured to receive, from a node, an indication of whether to activate the data duplication transmission function.

13. The data transmission apparatus of any of claims 7-12, wherein the data transmission apparatus comprises a centralized unit (CU).

25 14. The data transmission apparatus of claim 11, wherein the data transmission apparatus comprises a centralized unit (CU), and each of the one or more nodes comprises a distributed unit (DU).

15. The data transmission apparatus of claim 12, wherein the data transmission apparatus comprises a centralized unit (CU), and the node comprises a distributed unit (DU).

30 16. A non-transitory storage medium, comprising stored programs which, when executed, perform the data transmission method of any of claims 1-6.