

CLAIMS

1. A resource configuration method, applied to a centralized unit CU, wherein the CU communicates with a first IAB node and a second IAB node, the first IAB node and the second IAB node schedule data transmission over a first hop and a second hop of the first IAB node, respectively, and the method comprises:

determining a multiplexing pattern between the first hop and the second hop; and

sending multiplexing resource configuration information for the first hop and/or the second hop, wherein the multiplexing resource configuration information is used to indicate a resource configuration for the multiplexing pattern.

2. The method according to claim 1, wherein the sending multiplexing resource configuration information for the first hop and/or the second hop comprises:

sending the multiplexing resource configuration information for the first hop to the first IAB node, and/or sending the multiplexing resource configuration information for the second hop to the second IAB node.

3. The method according to claim 1, further comprising:

sending at least part of the multiplexing resource configuration information for the first hop to the second IAB node, wherein the second IAB node determines the multiplexing pattern between the first hop and the second hop based on the at least part of the multiplexing resource configuration information for the first hop and the multiplexing resource configuration information for the second hop~~the at least part of the multiplexing resource configuration information for the first hop is used by the second IAB node for determining the multiplexing pattern between the first hop and the second hop based on the at least part of the multiplexing resource configuration information for the first hop and the multiplexing resource configuration information for the second hop~~; or

sending at least part of the multiplexing resource configuration information for the second hop to the first IAB node, wherein the at least part of the multiplexing

resource configuration information for the second hop is used by the first IAB node for determining the multiplexing pattern between the first hop and the second hop based on the at least part of the multiplexing resource configuration information for the second hop and the multiplexing resource configuration information for the first hop.

4. The method according to any one of claims 1 to 3, wherein the multiplexing resource configuration information comprises a time domain resource parameter.

5. The method according to claim 4, wherein the multiplexing resource configuration information further comprises one or more of the following:

a frequency domain resource parameter, a multiplexing pattern parameter, a power control parameter, a periodicity parameter, and a multiplexing pattern configuration parameter.

6. The method according to claim 1, wherein the multiplexing pattern comprises one or more of the following:

space division multiplexing transmission for the first hop and the second hop, space division multiplexing reception for the first hop and the second hop, frequency division multiplexing transmission for the first hop and the second hop, frequency division multiplexing reception for the first hop and the second hop, co-frequency co-time multiplexing for uplink reception over the first hop and uplink transmission over the second hop, co-frequency co-time multiplexing for downlink transmission over the first hop and downlink reception over the second hop, inter-frequency co-time multiplexing for uplink reception over the first hop and uplink transmission over the second hop, and inter-frequency co-time multiplexing for downlink transmission over the first hop and downlink reception over the second hop.

7. The method according to claim 1, wherein the multiplexing resource configuration information is carried in radio resource control RRC signaling or F1-AP signaling.

8. The method according to any one of claims 1 to 3, wherein the first IAB node is a child IAB node of the second IAB node.

9. A resource configuration method, applied to an IAB node, wherein the IAB

node communicates with a centralized unit CU, and the method comprises:

receiving multiplexing resource configuration information sent by the CU,
wherein the multiplexing resource configuration information is used to indicate a
resource configuration for a multiplexing pattern between a hop scheduled by the
5 IAB node and a hop scheduled by another IAB node; and

scheduling data transmission over the hop of the IAB node according to the
resource configuration indicated by the multiplexing resource configuration
information, wherein

the IAB node is a child IAB node or a parent IAB node of the another IAB node.

10 10. The method according to claim 9, further comprising:

receiving at least part of the multiplexing resource configuration information
that is sent by the CU and that is for the hop scheduled by the another IAB node; and

obtaining, based on the multiplexing resource configuration information for the
hop scheduled by the IAB node and the at least part of the multiplexing resource
15 configuration information for the hop scheduled by the another IAB node, the
multiplexing pattern for the hop scheduled by the another IAB node.

11. The method according to claim 9 or 10, wherein the multiplexing resource
configuration information comprises a time domain resource parameter.

12. The method according to claim 11, wherein the multiplexing resource
20 configuration information further comprises one or more of the following:

a frequency domain resource parameter, a multiplexing pattern parameter, a
power control parameter, a periodicity parameter, and a multiplexing pattern
configuration parameter.

13. The method according to claim 9, wherein the multiplexing pattern
25 comprises one or more of the following:

space division multiplexing transmission for the hop scheduled by the IAB
node and the hop scheduled by the another IAB node, space division multiplexing
reception for the hop scheduled by the IAB node and the hop scheduled by the
another IAB node, frequency division multiplexing transmission for the hop
30 scheduled by the IAB node and the hop scheduled by the another IAB node,

frequency division multiplexing reception for the hop scheduled by the IAB node and the hop scheduled by the another IAB node, co-frequency co-time multiplexing for uplink reception over the hop scheduled by the IAB node and uplink transmission over the hop scheduled by the another IAB node, co-frequency co-time multiplexing for downlink transmission over the hop scheduled by the IAB node and downlink reception over the hop scheduled by the another IAB node, inter-frequency co-time multiplexing for uplink reception over the hop scheduled by the IAB node and uplink transmission over the hop scheduled by the another IAB node, and inter-frequency co-time multiplexing for downlink transmission over the hop scheduled by the IAB node and downlink reception over the hop scheduled by the another IAB node.

14. The method according to claim 9 or 10, wherein the multiplexing resource configuration information is carried in radio resource control RRC signaling or F1-AP signaling.

15. A resource configuration apparatus, wherein the resource configuration apparatus communicates with a first IAB node and a second IAB node, the first IAB node and the second IAB node schedule data transmission over a first hop and a second hop of the first IAB node, respectively, and the resource configuration apparatus comprises:

a multiplexing pattern determining module, configured to determine a multiplexing pattern between the first hop and the second hop; and

a sending module, configured to send multiplexing resource configuration information for the first hop and/or the second hop, wherein the multiplexing resource configuration information is used to indicate a resource configuration for the multiplexing pattern.

16. The resource configuration apparatus according to claim 15, wherein the sending module is specifically configured to:

send the multiplexing resource configuration information for the first hop to the first IAB node, and/or send the multiplexing resource configuration information for the second hop to the second IAB node.

17. The resource configuration apparatus according to claim 15, wherein

the sending module is further configured to send at least part of the multiplexing resource configuration information for the first hop to the second IAB node, wherein the second IAB node determines the multiplexing pattern between the first hop and the second hop based on the at least part of the multiplexing resource configuration information for the first hop and the multiplexing resource configuration information for the second hop~~the at least part of the multiplexing resource configuration information for the first hop is used by the second IAB node for determining the multiplexing pattern between the first hop and the second hop based on the at least part of the multiplexing resource configuration information for the first hop and the multiplexing resource configuration information for the second hop~~; or

the sending module is further configured to send at least part of the multiplexing resource configuration information for the second hop to the first IAB node, wherein the at least part of the multiplexing resource configuration information for the second hop is used by the first IAB node for determining the multiplexing pattern between the first hop and the second hop based on the at least part of the multiplexing resource configuration information for the second hop and the multiplexing resource configuration information for the first hop.

~~18. The resource configuration apparatus according to any one of claims 15 to 17, wherein the multiplexing resource configuration information comprises a time domain resource parameter.~~

~~19. The resource configuration apparatus according to claim 18, wherein the multiplexing resource configuration information further comprises one or more of the following:~~

~~a frequency domain resource parameter, a multiplexing pattern parameter, a power control parameter, a periodicity parameter, and a multiplexing pattern configuration parameter.~~

~~20. The resource configuration apparatus according to claim 15, wherein the multiplexing pattern comprises one or more of the following:~~

~~space division multiplexing transmission for the first hop and the second hop, space division multiplexing reception for the first hop and the second hop, frequency division multiplexing transmission for the first hop and the second hop, frequency division multiplexing reception for the first hop and the second hop, co-frequency co-time multiplexing for uplink reception over the first hop and uplink transmission over the second hop, co-frequency co-time multiplexing for downlink transmission over the first hop and downlink reception over the second hop, inter-frequency co-time multiplexing for uplink reception over the first hop and uplink transmission over the second hop, and inter-frequency co-time multiplexing for downlink transmission over the first hop and downlink reception over the second hop.~~

~~21. The resource configuration apparatus according to claim 15, wherein the multiplexing resource configuration information is carried in radio resource control RRC signaling or F1-AP signaling.~~

~~22. The resource configuration apparatus according to any one of claims 15 to 17, wherein the first IAB node is a child IAB node of the second IAB node.~~

23~~18~~. A resource configuration apparatus, wherein the resource configuration apparatus communicates with a centralized unit CU, and the resource configuration apparatus comprises:

a receiving module, configured to receive multiplexing resource configuration information sent by the CU, wherein the multiplexing resource configuration information is used to indicate a resource configuration for a multiplexing pattern between a hop scheduled by the resource configuration apparatus and a hop scheduled by another resource configuration apparatus; and

a scheduling module, configured to schedule data transmission over the hop of the resource configuration apparatus according to the resource configuration indicated by the multiplexing resource configuration information, wherein

the resource configuration apparatus is a child resource configuration apparatus or a parent resource configuration apparatus of the another resource configuration apparatus.

~~24. The resource configuration apparatus according to claim 23, wherein the~~

receiving module is further configured to:

receive at least part of the multiplexing resource configuration information that is sent by the CU and that is for the hop scheduled by the another resource configuration apparatus; and

obtain, based on the multiplexing resource configuration information for the hop scheduled by the resource configuration apparatus and the at least part of the multiplexing resource configuration information for the hop scheduled by the another resource configuration apparatus, the multiplexing pattern for the hop scheduled by the another resource configuration apparatus.

25. The resource configuration apparatus according to claim 23 or 24, wherein the multiplexing resource configuration information comprises a time domain resource parameter.

26. The resource configuration apparatus according to claim 25, wherein the multiplexing resource configuration information further comprises one or more of the following:

a frequency domain resource parameter, a multiplexing pattern parameter, a power control parameter, a periodicity parameter, and a multiplexing pattern configuration parameter.

27. The resource configuration apparatus according to claim 23, wherein the multiplexing pattern comprises one or more of the following:

space division multiplexing transmission for the hop scheduled by the resource configuration apparatus and the hop scheduled by the another resource configuration apparatus, space division multiplexing reception for the hop scheduled by the resource configuration apparatus and the hop scheduled by the another resource configuration apparatus, frequency division multiplexing transmission for the hop scheduled by the resource configuration apparatus and the hop scheduled by the another resource configuration apparatus, frequency division multiplexing reception for the hop scheduled by the resource configuration apparatus and the hop scheduled by the another resource configuration apparatus, co-frequency co-time multiplexing for uplink reception over the hop scheduled by the resource configuration apparatus

~~and uplink transmission over the hop scheduled by the another resource configuration apparatus, co-frequency co-time multiplexing for downlink transmission over the hop scheduled by the resource configuration apparatus and downlink reception over the hop scheduled by the another resource configuration apparatus, inter-frequency co-time multiplexing for uplink reception over the hop scheduled by the resource configuration apparatus and uplink transmission over the hop scheduled by the another resource configuration apparatus, and inter-frequency co-time multiplexing for downlink transmission over the hop scheduled by the resource configuration apparatus and downlink reception over the hop scheduled by the another resource configuration apparatus.~~

~~28. The resource configuration apparatus according to claim 23 or 24, wherein the multiplexing resource configuration information is carried in radio resource control RRC signaling or F1-AP signaling.~~

~~29~~19. A resource configuration device, comprising a processor, a memory, and a computer program stored in the memory and capable of running on the processor, wherein when the computer program is executed by the processor, the resource configuration method according to any one of claims 1 to 8 or the resource configuration method according to any one of claims 9 to 14 is implemented.

~~30~~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 resource configuration method according to any one of claims 1 to 8 or the resource configuration method according to any one of claims 9 to 14 is implemented.