CLAIMS

What is claimed is:

1. A data packet transmission method, comprising:

determining(401), by an integrated access and backhaul, IAB, donor, first configuration information, wherein the first configuration information ~~is used to~~ indicates a first backhaul link, BH, radio link control, RLC, channel, and the first BH RLC channel is used to transmit a control protocol data unit, PDU, at a backhaul adaptation protocol, BAP, layer; and

sending(402), by the IAB donor, the first configuration information to an IAB node.

2. The method according to claim 1, wherein the first configuration information comprises a channel identifier of the first BH RLC channel; or

the first configuration information comprises a logical channel identifier, and a logical channel indicated by the logical channel identifier corresponds to the first BH RLC channel.

3. A data packet transmission method, comprising:

receiving(403), by an integrated access and backhaul, IAB, node from an IAB donor, first configuration information indicating a first backhaul link, BH, radio link control, RLC, channel, and the first BH RLC channel is used to transmit a control protocol data unit, PDU, at a backhaul adaptation protocol, BAP, layer;

determining(404), by ~~an integrated access and backhaul~~the IAB node based on the first configuration information, ~~a~~the first ~~backhaul link~~ BH ~~radio link control~~ RLC channel used to transmit ~~a~~the control ~~protocol data unit~~ PDU at ~~a~~the BAP layer; and

sending(405), by the IAB node, the control PDU at the BAP layer to an adjacent node of the IAB node through the first BH RLC channel.

~~4. The method according to claim 3, wherein the determining, by an IAB node, a first backhaul link, BH, radio link control RLC channel used to transmit a control protocol data unit PDU at a BAP layer comprises:~~

~~obtaining, by the IAB node, first configuration information from an IAB donor, wherein the first configuration information is used to indicate the first BH RLC channel used to transmit the control PDU at the BAP layer; and~~

~~determining, by the IAB node, the first BH RLC channel based on the first configuration information.~~

~~5~~4. The method according to claim ~~4~~3, wherein the first configuration information comprises a channel identifier of the first BH RLC channel; or

the first configuration information comprises a logical channel identifier, and a logical channel indicated by the logical channel identifier corresponds to the first BH RLC channel.

~~6~~5. A bearer mapping method for a data packet, comprising:

determining(501), by an integrated access and backhaul, IAB, donor, second configuration information, wherein the second configuration information ~~is used to~~ indicates a second backhaul link, BH, radio link control, RLC, channel, the second BH RLC channel is used to transmit a first-type data payload, and the first-type data payload is a data payload other than an F1 user plane, F1-U, data payload and an F1 control plane, F1-C, data payload; and

sending(502), by the IAB donor, the second configuration information to an IAB node.

~~7~~6. The method according to claim ~~6~~5, wherein the first-type data payload comprises any one of the following:

an operation, administration, and maintenance, OAM, traffic packet;

a packet used to request an internet protocol, IP, address;

a packet used to establish an internet protocol security, IPsec, transmission channel;

a stream control transport protocol, SCTP, association setup packet;

an SCTP association shutdown packet; and

an SCTP association heartbeat packet.

~~8~~7. The method according to claim 5 or ~~7~~6, wherein the second configuration information comprises any one or more of the following:

a first type, wherein the first type is a type of a data payload, and the first type corresponds to the second BH RLC channel;

first differentiated service information, wherein the first differentiated service information corresponds to the first type and/or the second BH RLC channel; and

a first flow label, wherein the first flow label corresponds to the first type and/or the second BH RLC channel.

~~9~~8. The method according to any one of claims 5 to ~~8~~7, wherein the method further comprises:

generating, by the IAB donor, a first data payload, wherein the first data payload is the first-type data payload; and

if packet header information corresponding to the first data payload carries the first differentiated service information, sending, by the IAB donor, a first data packet to the IAB node through the second BH RLC channel corresponding to the first differentiated service information; or

if packet header information corresponding to the first data payload carries the first flow label, sending, by the IAB donor, a first data packet to the IAB node through the second BH RLC channel corresponding to the first flow label, wherein the first data packet comprises the first data payload.

~~10~~9. The method according to any one of claims 5 to ~~9~~8, wherein the second configuration information comprises identification information ~~used to~~ identif~~y~~ies the second BH RLC channel, and the identification information is a

channel identifier of the second BH RLC channel, or the identification information is a logical channel identifier corresponding to the second BH RLC channel.

~~11~~10. A bearer mapping method for a data packet, comprising:

receiving(503), by an integrated access and backhaul, IAB, node, second configuration information from an IAB donor, wherein the second configuration information ~~is used to~~ indicates a second backhaul link, BH, radio link control, RLC, channel, the second BH RLC channel is used to transmit a first-type data payload, and the first-type data payload is a data payload other than an F1 user plane, F1-U, data payload and an F1 control plane, F1-C, data payload; and

transmitting(504), by the IAB node, the first-type data payload based on the second configuration information.

~~12~~11. The method according to claim ~~11~~10, wherein the first-type data payload comprises any one of the following:

an operation, administration, and maintenance, OAM, traffic packet;

a packet used to request an internet protocol, IP, address;

a packet used to establish an internet protocol security, IPsec, transmission channel;

a stream control transport protocol, SCTP, association setup packet;

an SCTP association shutdown packet; and

an SCTP association heartbeat packet.

~~13~~12. The method according to claim 10 or ~~12~~11, wherein the second configuration information comprises any one or more of the following:

a first type, wherein the first type is a type of a data payload, and the first type corresponds to the second BH RLC channel;

first differentiated service information, wherein the first differentiated service information corresponds to the first type and/or the second BH RLC channel; and

a first flow label, wherein the first flow label corresponds to the first type and/or the second BH RLC channel.

~~14~~13. The method according to any one of claims ~~11~~10 to 12, wherein the second configuration information comprises identification information used to identify the second BH RLC channel, and the identification information is a channel identifier of the second BH RLC channel, or the identification information is a logical channel identifier corresponding to the second BH RLC channel.

14. An apparatus, which is configured to perform the method according to claim 1 or 2, or according to claim 3 or 4, or according to any one of claims 5 to 9, or according to any one of claims 10 to 13.

15. A communications system, comprising: an integrated access and backhaul, IAB, donor and an IAB node;

wherein the IAB donor is configured to perform the method according to claim 1 or 2, and the IAB node is configured to perform the method according to claim 3 or 4; or the IAB donor is configured to perform the method according to any one of claims 5 to 9 and the IAB node is configured to perform the method according to any one of claims 10 to 13.~~15. A communications apparatus, comprising:~~

~~a processing unit, configured to determine first configuration information, wherein the first configuration information is used to indicate a first backhaul link BH radio link control RLC channel, and the first BH RLC channel is used to transmit a control protocol data unit PDU at a backhaul adaptation protocol BAP layer; and~~

~~a communications unit, configured to send the first configuration information to an IAB node.~~

~~16. The apparatus according to claim 15, wherein the first configuration information comprises a channel identifier of the first BH RLC channel; or~~

~~the first configuration information comprises a logical channel identifier, and a logical channel indicated by the logical channel identifier corresponds to the first BH RLC channel.~~

~~17. A data packet transmission apparatus, comprising:~~

~~a processing unit, configured to determine a first backhaul link BH radio link control RLC channel used to transmit a control protocol data unit PDU at a BAP layer; and~~

~~a communications unit, configured to send the control PDU at the BAP layer to an adjacent node of the IAB node through the first BH RLC channel.~~

~~18. The apparatus according to claim 17, wherein the processing unit is specifically configured to:~~

~~obtain first configuration information from an IAB donor, wherein the first configuration information is used to indicate the first BH RLC channel used to transmit the control PDU at the BAP layer; and~~

~~determine the first BH RLC channel based on the first configuration information.~~

~~19. The apparatus according to claim 18, wherein the first configuration information comprises a channel identifier of the first BH RLC channel; or~~

~~the first configuration information comprises a logical channel identifier, and a logical channel indicated by the logical channel identifier corresponds to the first BH RLC channel.~~

~~20. A bearer mapping apparatus for a data packet, comprising:~~

~~a processing unit, configured to determine second configuration information, wherein the second configuration information is used to indicate a second backhaul link BH radio link control RLC channel, the second BH RLC channel is used to transmit a first type data payload, and the first type data payload is a data payload other than an F1 user plane F1-U data payload and an F1 control plane F1-C data payload; and~~

~~a communications unit, configured to send the second configuration information to an IAB node.~~

21. The apparatus according to claim 20, wherein the first type data payload comprises any one of the following:

an operation, administration, and maintenance OAM traffic packet;

a packet used to request an internet protocol IP address;

a packet used to establish an internet protocol security IPsec transmission channel;

a stream control transport protocol SCTP association setup packet;

an SCTP association shutdown packet; and

an SCTP association heartbeat packet.

22. The apparatus according to claim 21, wherein the second configuration information comprises any one or more of the following:

a first type, wherein the first type is a type of a data payload, and the first type corresponds to the second BH RLC channel;

first differentiated service information, wherein the first differentiated service information corresponds to the first type and/or the second BH RLC channel; and

a first flow label, wherein the first flow label corresponds to the first type and/or the second BH RLC channel.

23. The apparatus according to claim 22, wherein the processing unit is further configured to:

generate a first data payload, wherein the first data payload is the first type data payload; and

if packet header information corresponding to the first data payload carries the first differentiated service information, the communications unit is further configured to send a first data packet to the IAB node through the second BH RLC channel corresponding to the first differentiated service information; or if packet header information corresponding to the first data payload carries the first flow label, the communications unit is further configured to send a first data packet to the IAB node through the second BH RLC channel corresponding to the first flow label, wherein the first data packet comprises the first data payload.

24. The apparatus according to claim 23, wherein the second configuration information comprises identification information used to identify the second BH RLC channel, and the identification information is a channel identifier of the second BH RLC channel, or the identification information is a logical channel identifier corresponding to the second BH RLC channel.

25. A bearer mapping apparatus for a data packet, comprising:

a communications unit, configured to receive second configuration information from an IAB donor, wherein the second configuration information is used to indicate a second backhaul link BH radio link control RLC channel, the second BH RLC channel is used to transmit a first type data payload, and the first type data payload is a data payload other than an F1 user plane F1-U data payload and an F1 control plane F1-C data payload; and

~~a processing unit, configured to transmit the first type data payload based on the second configuration information.~~

~~26. The apparatus according to claim 25, wherein the first type data payload comprises any one of the following:~~

~~an operation, administration, and maintenance OAM traffic packet;~~

~~a packet used to request an internet protocol IP address;~~

~~a packet used to establish an internet protocol security IPsec transmission channel;~~

~~a stream control transport protocol SCTP association setup packet;~~

~~an SCTP association shutdown packet; and~~

~~an SCTP association heartbeat packet.~~

~~27. The apparatus according to claim 26, wherein the second configuration information comprises any one or more of the following:~~

~~a first type, wherein the first type is a type of a data payload, and the first type corresponds to the second BH RLC channel;~~

~~first differentiated service information, wherein the first differentiated service information corresponds to the first type and/or the second BH RLC channel; and~~

~~a first flow label, wherein the first flow label corresponds to the first type and/or the second BH RLC channel.~~

~~28. The apparatus according to claim 25, wherein the second configuration information comprises identification information used to identify the second BH RLC channel, and the identification information is a channel identifier of the second BH RLC channel, or the identification information is a logical channel identifier corresponding to the second BH RLC channel.~~

~~29~~16. A communications apparatus, comprising a memory and a processor, wherein the memory is configured to store instructions, the processor is configured to execute the instructions stored in the memory, ~~and when~~wherein ~~executing~~ the instructions stored in the memory~~,~~ are executed by the processor ~~is~~to make ~~configured to~~the apparatus perform the method according to ~~any one of~~ claim~~s~~ 1 ~~to~~or 2, or according to 3 or 4, or according to any one of claims 5 to 9, or according to any one of claims 10-~~14~~13.

~~30~~17. A computer-readable storage medium, comprising computer-readable instructions, wherein ~~when a communications apparatus reads and executes~~ the computer-readable instructions are executed by a communications apparatus~~,~~ to ~~the communications apparatus is enabled to~~ perform the method according to ~~any one of claims 1 to 14~~ according to claim 1 or 2, or according to 3 or 4, or according to any one of claims 5 to 9, or according to any one of claims 10-13.

~~31. A computer program product, comprising computer readable instructions, wherein when a communications~~

~~apparatus reads and executes the computer-readable instructions, the communications apparatus is enabled to perform the method according to any one of claims 1 to 14.~~