CLAIMS

What is claimed is:

1. A method for splitting end-to-end quality of service QoS requirement information, wherein the method comprises:

splitting, by a target device, end-to-end QoS requirement information into PC5-segment QoS information and Uu-segment QoS information, wherein the target device comprises at least one of a target UE and an access network device.

2. The method according to claim 1, wherein the PC5-segment QoS information and the Uu-segment QoS information satisfy the end-to-end QoS requirement information.

3. The method according to claim 1, wherein the PC5-segment QoS information comprises a PC5-segment QoS parameter and a PC5-segment QoS attribute, the PC5-segment QoS parameter comprises a PC5 QoS identifier PQI, and the PC5-segment QoS attribute comprises a PDB; and the Uu-segment QoS information comprises a Uu-segment QoS parameter and a Uu-segment QoS attribute, the Uu-segment QoS parameter comprises a 5G QoS identifier 5QI, and the Uu-segment QoS attribute comprises a PDB.

4. The method according to claim 2, wherein in a case that the target UE is a remote UE, after the splitting, by a target device, end-to-end QoS requirement information into PC5-segment QoS information and Uu-segment QoS information, the method further comprises:

sending, by the remote UE, the Uu-segment QoS information and the PC5-segment QoS information to a relay UE, wherein

the Uu-segment QoS information is used by the relay UE to establish a corresponding Uu-segment QoS flow in a PDU session establishment or modification procedure; and the PC5-segment QoS information is used by the relay UE to establish a corresponding PC5-segment QoS flow in a direct link modification procedure.

5. The method according to claim 2, wherein in a case that the target UE is relay UE, before the splitting, by a target device, end-to-end QoS requirement information

into PC5-segment QoS information and Uu-segment QoS information, the method further comprises:

receiving, by the relay UE, the end-to-end QoS requirement information from remote UE; and

after the splitting, by a target device, end-to-end QoS requirement information into PC5-segment QoS information and Uu-segment QoS information, the method further comprises:

initiating, by the relay UE, a PDU session establishment or modification procedure based on the Uu-segment QoS information to establish a corresponding Uu-segment QoS flow, and initiating, by the relay UE, a direct link modification procedure based on the PC5-segment QoS information to establish a corresponding PC5-segment QoS flow.

6. The method according to claim 4 or 5, wherein the splitting, by a target device, end-to-end QoS requirement information into PC5-segment QoS information and Uu-segment QoS information comprises:

splitting, by the target UE, the end-to-end QoS requirement information into the PC5-segment QoS information and the Uu-segment QoS information based on a first mapping relationship or first information, wherein

the first mapping relationship comprises a mapping relationship between the end-to-end QoS requirement information and the PC5-segment QoS information and Uu-segment QoS information; and

the first information comprises a QoS parameter of a PC5 interface and a QoS parameter of a Uu interface that are detected by the target UE.

7. The method according to claim 6, wherein the first mapping relationship is configured by a network side or preconfigured.

8. The method according to claim 1, wherein in a case that the target device is the access network device, after the splitting, by a target device, end-to-end QoS requirement information into PC5-segment QoS information and Uu-segment QoS information, the method further comprises:

establishing, by the access network device, a PC5-segment bearer based on the PC5-segment QoS information, and establishing a Uu-segment bearer based on the Uu-segment QoS information.

9. The method according to claim 1, wherein in a case that the target device is the access network device, the splitting, by a target device, end-to-end QoS requirement information into PC5-segment QoS information and Uu-segment QoS information comprises:

splitting, by the access network device, the end-to-end QoS requirement information into the PC5-segment QoS information and the Uu-segment QoS information based on a second mapping relationship or second information, wherein

the second mapping relationship comprises a mapping relationship between the end-to-end QoS requirement information and the PC5-segment QoS information and Uu-segment QoS information; and

the second information comprises a QoS parameter of a PC5 interface and a QoS parameter of a Uu interface that are detected by the access network device.

~~10. The method according to claim 9, wherein the second mapping relationship is configured by a network side or preconfigured.~~

~~11. A method for splitting end-to-end QoS requirement information, wherein the method comprises:~~

~~sending, by a core network device, end-to-end QoS requirement information to an access network device, wherein the end-to-end QoS requirement information comprises an end-to-end QoS requirement text.~~

~~12~~10. A method for splitting end-to-end QoS requirement information, wherein the method comprises:

splitting, by a target core network device, end-to-end QoS requirement information to obtain PC5-segment QoS information and Uu-segment QoS information; and

before the splitting, by a target core network device, end-to-end QoS requirement information, receiving the end-to-end QoS requirement information from relay UE, wherein the end-to-end QoS requirement information is sent by remote UE to the relay UE; or after the splitting, by a target core network device, end-to-end QoS requirement

information, sending the PC5-segment QoS information and the Uu-segment QoS information to an access network device, wherein

the PC5-segment QoS information comprises a PC5-segment QoS parameter and a PC5-segment QoS attribute, the PC5-segment QoS parameter comprises a PQI, and the PC5-segment QoS attribute comprises a PDB; and the Uu-segment QoS information comprises a Uu-segment QoS parameter and a Uu-segment QoS attribute, the Uu-segment QoS parameter comprises a 5QI, and the Uu-segment QoS attribute comprises a PDB.

~~13~~11. The method according to claim ~~12~~10, wherein the target core network device comprises a first core network device and a second core network device, and the splitting, by a target core network device, end-to-end QoS requirement information to obtain PC5-segment QoS information and Uu-segment QoS information comprises:

splitting, by the first core network device, the end-to-end QoS requirement information to obtain the PC5-segment QoS information and a first rule; and

sending, by the first core network device, the PC5-segment QoS information and the first rule to the second core network device, wherein the first rule is used by the second core network device to generate the Uu-segment QoS information.

~~14~~12. The method according to claim ~~13~~11, wherein the splitting, by the first core network device, the end-to-end QoS requirement information to obtain the PC5-segment QoS information and a first rule comprises:

splitting, by the first core network device, the end-to-end QoS requirement information based on target information to obtain the PC5-segment QoS information and the first rule, wherein

the target information comprises at least one of the following: subscription information of the remote UE, subscription information of the relay UE, a payment policy, relay communication policy information authorized by the remote UE, and relay communication policy information authorized by the relay UE.

~~15~~13. The method according to claim ~~12~~10, wherein in a case that the target core network device comprises a first core network device, the splitting, by a target core

network device, end-to-end QoS requirement information to obtain PC5-segment QoS information and Uu-segment QoS information comprises:

splitting, by the first core network device, the end-to-end QoS requirement information to obtain a first rule and the PC5-segment QoS information.

~~16~~14. The method according to claim ~~12~~10, wherein in a case that the target core network device comprises a first core network device, the receiving the end-to-end QoS requirement information from relay UE comprises:

receiving, by the first core network device, the end-to-end QoS requirement information forwarded by the relay UE through a second core network device, wherein the end-to-end QoS requirement information is sent by the remote UE to the relay UE.

~~17~~15. The method according to claim ~~12~~10, wherein the target core network device comprises a second core network device, and before the sending the PC5-segment QoS information and the Uu-segment QoS information to an access network device, the splitting, by a target core network device, end-to-end QoS requirement information to obtain PC5-segment QoS information and Uu-segment QoS information comprises:

splitting, by the second core network device, the end-to-end QoS requirement information to obtain the PC5-segment QoS information and the Uu-segment QoS information.

~~18~~16. The method according to claim ~~17~~15, wherein the splitting, by the second core network device, the end-to-end QoS requirement information to obtain the PC5-segment QoS information and the Uu-segment QoS information comprises:

splitting, by the second core network device, the end-to-end QoS requirement information based on target information to obtain the PC5-segment QoS information and the Uu-segment QoS information, wherein

the target information comprises at least one of the following: subscription information of the remote UE, subscription information of the relay UE, a payment policy, relay communication policy information authorized by the remote UE, and relay communication policy information authorized by the relay UE.

~~19~~17. The method according to claim ~~12~~10, wherein the sending the PC5-segment QoS information and the Uu-segment QoS information to an access network device comprises:

sending, by the target core network device, the PC5-segment QoS information and the Uu-segment QoS information to the access network device in a PDU session establishment procedure and a direct link modification procedure.

~~20~~18. The method according to any one of claims ~~12~~ 10 to ~~19~~17, wherein the PC5-segment QoS information comprises a PC5-segment QoS text, and the Uu-segment QoS information comprises a Uu-segment QoS text.

~~21. A method for splitting end-to-end QoS requirement information, wherein the method comprises:~~

~~receiving, by an access network device, PC5-segment QoS information and Uu-segment QoS information from a target core network device, wherein the PC5-segment QoS information and the Uu-segment QoS information are obtained by splitting end-to-end QoS requirement information; and~~

~~establishing, by the access network device, a PC5-segment bearer and a Uu-segment bearer based on the PC5-segment QoS information and the Uu-segment QoS information.~~

~~22. A method for splitting end-to-end QoS requirement information, wherein the method comprises:~~

~~receiving, by relay UE, end-to-end QoS requirement information from remote UE; and~~

~~sending, by the relay UE, the end-to-end QoS requirement information to a target core network device.~~

~~23. The method according to claim 22, wherein the target core network device comprises a first core network device; and the sending, by the relay UE, the end-to-end QoS requirement information to a target core network device comprises:~~

~~forwarding, by the relay UE, the end-to-end QoS requirement information to the first core network device through a second core network device.~~

~~24. An apparatus for splitting end-to-end QoS requirement information, wherein the apparatus comprises a splitting module, wherein~~

~~the splitting module is configured to split end-to-end QoS requirement information into PC5-segment QoS information and Uu-segment QoS information, wherein a target device comprises target UE and an access network device.~~

~~25. An apparatus for splitting end-to-end QoS requirement information, wherein the apparatus comprises a sending module, wherein~~

~~the sending module is configured to send end-to-end QoS requirement information to an access network device, wherein the end-to-end QoS requirement information comprises an end-to-end QoS requirement text.~~

~~26. An apparatus for splitting end-to-end QoS requirement information, wherein the apparatus comprises a splitting module, a receiving module, and a sending module, wherein~~

~~the splitting module is configured to split end-to-end QoS requirement information to obtain PC5-segment QoS information and Uu-segment QoS information; and~~

~~the receiving module is configured to receive the end-to-end QoS requirement information from relay UE before the splitting module splits the end-to-end QoS requirement information, wherein the end-to-end QoS requirement information is sent by remote UE to the relay UE;~~

~~or~~

~~the sending module is configured to send the PC5-segment QoS information and the Uu-segment QoS information to an access network device after the target core network device splits the end-to-end QoS requirement information, wherein~~

~~the PC5-segment QoS information comprises a PC5-segment QoS parameter and a PC5-segment QoS attribute, the PC5-segment QoS parameter comprises a PQI, and the PC5-segment QoS attribute comprises a PDB; and the Uu-segment QoS information comprises a Uu-segment QoS parameter and a Uu-segment QoS attribute, the Uu-segment QoS parameter comprises a 5QI, and the Uu-segment QoS attribute comprises a PDB.~~

~~27. An apparatus for splitting end-to-end QoS requirement information, wherein the apparatus comprises a receiving module and an establishing module, wherein~~

~~the receiving module is configured to receive PC5-segment QoS information and Uu-segment QoS information from a target core network device, wherein the PC5-segment QoS information and the Uu-segment QoS information are obtained by splitting end-to-end QoS requirement information; and~~

~~the establishing module is configured to establish a PC5-segment bearer and a Uu-segment bearer based on the PC5-segment QoS information and the Uu-segment QoS information.~~

~~28. An apparatus for splitting end-to-end QoS requirement information, wherein the apparatus comprises a receiving module and a sending module, wherein~~

~~the receiving module is configured to receive end-to-end QoS requirement information from remote UE; and~~

~~the sending module is configured to send the end-to-end QoS requirement information received by the receiving module to a target core network device.~~

~~29~~19. A terminal, 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 instructions are executed by the processor, the steps of the method for splitting end-to-end QoS requirement information according to any one of claims 1 to ~~10~~ 9 are implemented, ~~or the step of the method for splitting end-to-end QoS requirement information according to claim 11 is implemented,~~ or the method for splitting end-to-end QoS requirement information according to any one of claims ~~12~~ 10 to ~~20~~ 18 is implemented~~, or the steps of the method for splitting end-to-end QoS requirement information according to claim 21 are implemented, or the steps of the method for splitting end-to-end QoS requirement information according to claim 22 or 23 are implemented~~.

~~30~~20. A network-side 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 instructions are executed by the processor, the steps of the method for splitting end-to-end QoS requirement information according to any one of claims 1

to ~~10~~ 9 are implemented, ~~or the step of the method for splitting end-to-end QoS requirement information according to claim 11 is implemented,~~ or the method for splitting end-to-end QoS requirement information according to any one of claims ~~12~~ 10 to ~~20~~ 18 is implemented~~, or the steps of the method for splitting end-to-end QoS requirement information according to claim 21 are implemented, or the steps of the method for splitting end-to-end QoS requirement information according to claim 22 or 23 are implemented~~.

~~31. A readable storage medium, wherein the readable storage medium stores a program or instructions, and when the program or instructions are executed by a processor, the steps of the method for splitting end-to-end QoS requirement information according to any one of claims 1 to 10 are implemented, or the step of the method for splitting end-to-end QoS requirement information according to claim 11 is implemented, or the method for splitting end-to-end QoS requirement information according to any one of claims 12 to 20 is implemented, or the steps of the method for splitting end-to-end QoS requirement information according to claim 21 are implemented, or the steps of the method for splitting end-to-end QoS requirement information according to claim 22 or 23 are implemented.~~

~~32. A computer program product, wherein the program product is stored in a non-volatile storage medium, and the program product is executed by at least one processor to implement the steps of the method for splitting end-to-end QoS requirement information according to any one of claims 1 to 10, or claim 11, or any one of claims 12 to 20, or claim 21, or claim 22 or 23.~~

~~33. An electronic device, wherein the electronic device is configured to perform the steps of the method for splitting end-to-end QoS requirement information according to any one of claims 1 to 10, or claim 11, or any one of claims 12 to 20, or claim 21, or claim 22 or 23.~~

~~34. A chip, wherein the chip comprises a processor and a communications interface, the communications interface is coupled to the processor, and the processor is configured to run a program or instructions to implement the steps of the method for~~

~~splitting end-to-end QoS requirement information according to any one of claims 1 to 10, or claim 11, or any one of claims 12 to 20, or claim 21, or claim 22 or 23.~~