CLAIMS

What is claimed is:

1. A communication method, comprising:

obtaining, by a session management network element, first indication information in a process of session establishment in a first network for a terminal device, wherein the first indication information indicates that user plane integrity protection in a second network is supported;

sending, by the session management network element, a first request message to an access and mobility management function network element in the first network based on the first indication information, wherein the first request message is used to request to assign a bearer identifier to the session, and the bearer identifier corresponds to a bearer context of the terminal device in the second network; and

receiving, by the session management network element, a first response message from the access and mobility management function network element, wherein the first response message comprises the bearer identifier.

2. The method according to claim 1, wherein the method further comprises:

mapping, by the session management network element, a user plane security policy of the terminal device in the first network to a user plane security policy of the terminal device in the second network; and

storing, by the session management network element, the user plane security policy in the second network in the bearer context.

3. The method according to claim 2, wherein the method further comprises:

obtaining, by the session management network element, third indication information, wherein the third indication information indicates to perform user plane security policy mapping; and

the mapping, by the session management network element, a user plane security policy of the terminal device in the first network to a user plane security policy of the terminal device in the second network comprises:

mapping, by the session management network element, the user plane security policy of the terminal device in the first network to the user plane security policy of the terminal device in the second network based on the third indication information.

4. The method according to claim 2 or 3, wherein the method further comprises:

sending, by the session management network element, the bearer context to a target mobility management entity in the second network via the access and mobility management function network element, wherein the target mobility management entity is a network element that serves the terminal device when the session is handed over to the second network.

~~5. The method according to any one of claims 1 to 4, wherein the sending, by the session management network element, a first request message to an access and mobility management function network element in the first network based on the first indication information comprises:~~

~~sending, by the session management network element, the first request message to the access and mobility management function network element based on the first indication information without considering the user plane security policy of the terminal device in the first network.~~

~~6. The method according to any one of claims 1 to 5, wherein the method further comprises:~~

~~sending, by the session management network element, a fully qualified domain name of the session management network element on an S5/S8 interface to a unified data management network element based on the first indication information without considering the user plane security policy of the terminal device in the first network.~~

~~7~~5. The method according to any one of claims 1 to 4~~claim 5 or 6~~, wherein the user plane security policy of the terminal device in the first network comprises activating user plane integrity protection.

~~8~~6. The method according to any one of claims 1 to ~~7~~5, wherein the obtaining, by a session management network element, first indication information comprises:

receiving, by the session management network element, the first indication information from the access and mobility management function network element.

~~9. The method according to claim 8, wherein the first indication information is comprised in a protocol data unit session session management context establishment request message.~~

~~10. The method according to any one of claims 1 to 9, wherein the obtaining, by a session management network element, first indication information comprises:~~

~~receiving, by the session management network element, the first indication information from the terminal device via the access and mobility management function network element.~~

~~11~~7. The method according to any one of claims 1 to ~~10~~6, wherein the first network is a 5th generation communication system network, the second network is an evolved packet system network, and the bearer context is an evolved packet system bearer context.

~~12~~8. A communication method, comprising:

receiving, by an access and mobility management function network element in a first network, a registration request message from a terminal device, wherein the registration request message comprises second indication information, and the second indication information indicates that the terminal device supports user plane integrity protection in a second network;

in a process of session establishment in the first network for the terminal device, sending, by the access and mobility management function network element, first indication information to a session management network element based on the second indication information, wherein the first indication information indicates that support user plane integrity protection in the second network is supported;

receiving, by the access and mobility management function network element, a first request message, wherein the first request message is used to request to assign a bearer identifier to the session, and the bearer identifier corresponds to a bearer context of the terminal device in the second network; and

sending, by the access and mobility management function network element, a first response message to the session management network element, wherein the first response message comprises the bearer identifier.

~~13~~9. The method according to claim ~~12~~8, wherein the method further comprises:

sending, by the access and mobility management function network element, a second request message to the session management function network element;

receiving, by the access and mobility management function network element, a second response message from the session management network element, wherein the second response message comprises the bearer context, the bearer context comprises a user plane security policy of the terminal device in the second network, and the user plane security policy in the second network is obtained according to a user plane security policy of the terminal device in the first network; and

sending, by the access and mobility management function network element, the bearer context to a target mobility management entity in the second network, wherein the target mobility management entity is a network element that serves the terminal device when the session is handed over to the second network.

~~14. The method according to claim 13, wherein the second request message comprises third~~

~~indication information, and the third indication information indicates to perform user plane security policy mapping; and~~

~~the method further comprises:~~

~~determining, by the access and mobility management function network element according to a second local policy, to add the third indication information to the second request message, wherein~~

~~the second local policy comprises one or more of the following: whether the session supports interworking with the second network, and whether the target mobility management entity supports user plane integrity protection, wherein the target mobility management entity is a network element that serves the terminal device when the session is handed over to the second network.~~

1~~5~~0. The method according to claim ~~13 or 14~~9, wherein

a granularity of the user plane security policy in the first network is a granularity of a protocol data unit session; and

a granularity of the user plane security policy in the second network is a granularity of an evolved packet system bearer.

~~16. The method according to any one of claims 12 to 15, wherein the method further comprises:~~

~~determining, by the access and mobility management function network element according to a first local policy, to send the first indication information to the session management network element, wherein the first local policy comprises: whether the session supports interworking with the second network.~~

~~17~~11. The method according to any one of claims ~~12~~ 8 to ~~16~~10, wherein the first network is a 5th generation communication system network, the second network is an evolved packet system network, and the bearer context is an evolved packet system bearer context.

~~18~~12. A communication method, comprising:

sending, by a communication~~terminal~~ device, second indication information to an access and mobility management function network element in a first network, wherein the second indication information indicates that ~~the~~ a terminal device supports user plane integrity protection in a second network; and

receiving, by the communication~~terminal~~ device, radio resource control reconfiguration sent

by an access network device in the second network, wherein the radio resource control reconfiguration comprises indication information for activating user plane integrity protection.

~~19~~13. The method according to claim ~~18~~12, wherein the second indication information is comprised in a registration request message.

~~20. The method according to claim 18, wherein the second indication information is comprised in a protocol data unit session establishment request message.~~

~~21. A communication apparatus, comprising a transceiver unit, wherein~~

~~the transceiver unit is configured to obtain first indication information in a process of session establishment in a first network for a terminal device, wherein the first indication information indicates that user plane integrity protection in a second network is supported;~~

~~the transceiver unit is further configured to send a first request message to an access and mobility management function network element in the first network based on the first indication information, wherein the first request message is used to request to assign a bearer identifier to the session, and the bearer identifier corresponds to a bearer context of the terminal device in the second network; and~~

~~the transceiver unit is further configured to receive a first response message from the access and mobility management function network element, wherein the first response message comprises the bearer identifier.~~

~~22. The communication apparatus according to claim 21, wherein the communication apparatus further comprises a processing unit, wherein~~

~~the processing unit is configured to map a user plane security policy of the terminal device in the first network to a user plane security policy of the terminal device in the second network; and~~

~~the processing unit is further configured to store the user plane security policy in the second network in the bearer context.~~

~~23. The communication apparatus according to claim 22, wherein the transceiver unit is further configured to obtain third indication information, wherein the third indication information indicates to perform user plane security policy mapping; and~~

~~the processing unit is specifically configured to map the user plane security policy of the terminal device in the first network to the user plane security policy of the terminal device in the second network based on the third indication information.~~

~~24. The communication apparatus according to claim 22 or 23, wherein the transceiver unit is further configured to send the bearer context to a target mobility management entity in the second network via the access and mobility management function network element, wherein the target mobility management entity is a network element that serves the terminal device when the session is handed over to the second network.~~

~~25. The communication apparatus according to any one of claims 21 to 24, wherein the transceiver unit is specifically configured to send the second request message to the access and mobility management function network element based on the first indication information without considering the user plane security policy of the terminal device in the first network.~~

~~26. The communication apparatus according to any one of claims 21 to 25, wherein the transceiver unit is further configured to send a fully qualified domain name of the communication apparatus on an S5/S8 interface to a unified data management network element based on the first indication information without considering the user plane security policy of the terminal device in the first network.~~

~~27. The communication apparatus according to claim 25 or 26, wherein the user plane security policy of the terminal device in the first network comprises activating user plane integrity protection.~~

~~28. The communication apparatus according to any one of claims 21 to 27, wherein the transceiver unit is specifically configured to receive the first indication information from the access and mobility management function network element.~~

~~29. The communication apparatus according to any one of claims 21 to 28, wherein the transceiver unit is specifically configured to receive the first indication information from the terminal device via the access and mobility management function network element.~~

~~30. The communication apparatus according to claim 29, wherein the first indication information is comprised in a protocol data unit session establishment request message.~~

~~31. The communication apparatus according to any one of claims 21 to 30, wherein the first network is a 5th generation communication system network, the second network is an evolved packet system network, and the bearer context is an evolved packet system bearer context.~~

~~32. A communication apparatus, comprising a transceiver unit, wherein~~

~~the transceiver unit is configured to receive a registration request message from a terminal device in a first network, wherein the registration request message comprises second indication~~

information, and the second indication information indicates that the terminal device supports user plane integrity protection in a second network;

the transceiver unit is further configured to: in a process of session establishment in the first network for the terminal device, send first indication information to a session management network element based on the second indication information, wherein the first indication information indicates that support user plane integrity protection in the second network is supported;

the transceiver unit is further configured to receive a first request message, wherein the first request message is used to request to assign a bearer identifier to the session, and the bearer identifier corresponds to a bearer context of the terminal device in the second network; and

the transceiver unit is further configured to send a first response message to the session management network element, wherein the first response message comprises the bearer identifier.

33. The communication apparatus according to claim 32, wherein the transceiver unit is further configured to send a second request message to the session management function network element;

the transceiver unit is further configured to receive a second response message from the session management network element, wherein the second response message comprises the bearer context, the bearer context comprises a user plane security policy of the terminal device in the second network, and the user plane security policy in the second network is obtained according to a user plane security policy of the terminal device in the first network; and

the transceiver unit is further configured to send the bearer context to a target mobility management entity in the second network, wherein the target mobility management entity is a network element that serves the terminal device when the session is handed over to the second network.

34. The communication apparatus according to claim 33, wherein the second request message comprises third indication information, and the third indication information indicates to perform user plane security policy mapping; and

the communication apparatus further comprises a processing unit, wherein

the processing unit is configured to determine, according to a second local policy, to add the third indication information to the second request message, wherein

the second local policy comprises one or more of the following: whether the session supports interworking with the second network, and whether the target mobility management entity

~~supports user plane integrity protection, wherein the target mobility management entity is a network element that serves the terminal device when the session is handed over to the second network.~~

~~35. The communication apparatus according to claim 33 or 34, wherein~~

~~a granularity of the user plane security policy in the first network is a granularity of a protocol data unit session; and~~

~~a granularity of the user plane security policy in the second network is a granularity of an evolved packet system bearer.~~

~~36. The communication apparatus according to any one of claims 32 to 35, wherein the communication apparatus further comprises a processing unit, wherein~~

~~the processing unit is configured to determine, according to a local policy, to send the first indication information to the session management network element, wherein the local policy comprises: whether the session supports interworking with the second network.~~

~~37. The communication apparatus according to any one of claims 32 to 36, wherein the first network is a 5th generation communication system network, the second network is an evolved packet system network, and the bearer context is an evolved packet system bearer context.~~

~~38. A communication apparatus, comprising a transceiver unit, wherein~~

~~the transceiver unit is configured to send second indication information to an access and mobility management function network element in a first network, wherein the second indication information indicates that the communication apparatus supports user plane integrity protection in a second network; and~~

~~the transceiver unit is further configured to receive radio resource control reconfiguration sent by an access network device in the second network, wherein the radio resource control reconfiguration comprises indication information for activating user plane integrity protection.~~

~~39. The communication apparatus according to claim 38, wherein the second indication information is comprised in a registration request message.~~

~~40. The communication apparatus according to claim 38, wherein the second indication information is comprised in a protocol data unit session establishment request message.~~

~~41~~14. A communication device, comprising:

a memory, wherein the memory is configured to store a computer program;

a transceiver, wherein the transceiver is configured to perform sending and receiving steps;

and

a processor, wherein the processor is configured to invoke the computer program from the memory and run the computer program, to enable the communication device to perform the method according to any one of claims 1 to ~~20~~13.

15. A communication device, comprising:

one or more functional units configured to perform the method according to any one of claims 1 to 13.

~~42~~16. A computer-readable storage medium, wherein the computer-readable medium stores a computer program; and when the computer program is run on a computer, the computer is enabled to perform the method according to any one of claims 1 to ~~20~~13.

17. A system comprising: a session management network element configured to perform the method according to any one of claims 1 to 7, and an access and mobility management function network element configured to perform the method according to any one of claims 8 to 11.

18.The system according to claim 17, further comprising:

a terminal device configured to perform the method according to any one of claims 12 to 13.

19. A communication method, comprising:

receiving, by an access and mobility management function network element in a first network, a registration request message from a terminal device, wherein the registration request message comprises second indication information, and the second indication information indicates that the terminal device supports user plane integrity protection in a second network;

in a process of session establishment in the first network for the terminal device, sending, by the access and mobility management function network element, first indication information to a session management network element based on the second indication information, wherein the first indication information indicates that support user plane integrity protection in the second network is supported;

sending, by the session management network element, a first request message to the access and mobility management function network element in the first network based on the first indication information, wherein the first request message is used to request to assign a bearer identifier to the session, and the bearer identifier corresponds to a bearer context of the terminal device in the second network; and

sending, by the access and mobility management function network element, a first response

message to the session management network element, wherein the first response message comprises the bearer identifier.

20. The method according to claim 19, wherein the method further comprises:

sending, by the terminal device, the registration request message to the access and mobility management function network element in the first network; and

receiving, by the communication device, radio resource control reconfiguration from an access network device in the second network, wherein the radio resource control reconfiguration comprises indication information for activating user plane integrity protection.