CLAIMS

1. A communication method, comprising:

obtaining, by a first communication apparatus, first information, wherein the first information is used to determine that a first terminal device is allowed to obtain a service by using a first fixed network gateway device, and wherein the first communication apparatus supports a 3rd generation partnership project, 3GPP, wireless access technology, and wherein the first communication apparatus is one of the following: an access network device, an apparatus in the access network device, or an apparatus that is used together with the access network device;

establishing, by the first communication apparatus, a user plane connection to the first terminal device based on the first information via the 3GPP wireless access technology; and

obtaining, by the first communication apparatus, user plane data of the first terminal device via the user plane connection, and sending the user plane data to the first fixed network gateway device.

2. The method according to claim 1, wherein the first information indicates that a type of the first terminal device is a target type and/or indicates that the first terminal device is allowed to obtain a service by using the first fixed network gateway device, and wherein the target type comprises one or more of a residential gateway, a home terminal, and customer-premises equipment.

3. The method according to claim 1 or 2, wherein the first information is from the first terminal device, and the first information indicates that the type of the first terminal device is the target type.

4. The method according to claim 1 or 2, wherein the first information is pre-configured in the access network device or the first information is from the first fixed network gateway device; and the first information comprises subscription data information corresponding to the first terminal device, and the subscription data information is used to determine that the first terminal device is allowed to obtain the service by using the first fixed network gateway device.

5. The method according to any one of claims 1 to 4, wherein the method further comprises:

sending, by the first communication apparatus, second information to the first fixed network gateway device, wherein the second information is used to request to manage a connection between the first terminal device and the first fixed network gateway device.

6. The method according to claim 5, wherein the method further comprises:

receiving, by the first communication apparatus, third information from the first fixed network gateway device, wherein the third information comprises at least one of the following:

identification information of the first terminal device;

authentication information of the first terminal device, wherein the authentication information indicates that the first terminal device passes authentication of a fixed network corresponding to the first fixed network gateway device;

subscription data information of the first terminal device, wherein the subscription data information comprises one or more pieces of fixed network service information, quality of service QoS information, and priority information; and

security context information of the first terminal device, wherein the security context information is used to establish a security connection between the first communication apparatus and the first terminal device.

7. The method according to claim 6, wherein the method further comprises:

performing, by the first communication apparatus, a user plane connection management procedure based on the third information, wherein the user plane management procedure comprises at least one of the following operations: establishing a user plane resource, modifying a user plane resource, or releasing a user plane resource.

8. The method according to any one of claims 1 to 4, wherein

establishing, by the first communication apparatus, a connection with at least one fixed network gateway device, wherein the at least one fixed network gateway device comprises the first fixed network gateway device.

9. The method according to any one of claims 1 to 8, wherein the method further comprises:

obtaining, by the first communication apparatus, fourth information from the first terminal device, wherein the fourth information is used to determine security context information of the first terminal device; and

establishing, by the first communication apparatus based on the fourth information, the security connection between the first communication apparatus and the first terminal device by using the security context information of the first terminal device.

10. The method according to claim 9, wherein the fourth information comprises a first sequence number corresponding to the security context information of the first terminal device; and

the establishing, by the first communication apparatus based on the fourth information, the security connection between the first communication apparatus and the first terminal device by using the security context information of the first terminal device comprises:

obtaining, by the first communication apparatus, security context information of at least one terminal device and an identifier set, wherein the identifier set comprises a first sequence number set used to indicate the security context information of the at least one terminal device, and the first sequence number set comprises the first sequence number;

obtaining, by the first communication apparatus based on the first sequence number, the security context information of the first terminal device from the security context information of the at least one terminal device; and

establishing, by the first communication apparatus, the security connection between the first communication apparatus and the first terminal device by using the security context information of the first terminal device.

11. The method according to claim 10, wherein the identifier set further comprises a second sequence number set; and

after the establishing, by the first communication apparatus, the security connection between the first communication apparatus and the first terminal device by using the security context information of the first terminal device, the method further comprises:

replacing the first sequence number with a second sequence number in the second sequence number set, and sending the second sequence number to the first terminal device, wherein the second sequence number is used to indicate the security context information of the first terminal device.

12. The method according to any one of claims 9 to 11, wherein the fourth information further comprises identification information of the fixed network corresponding to the first fixed network gateway device.

13. The method according to any one of claims 9 to 12, wherein the method further comprises:

sending, by the first communication apparatus, at least one piece of the following information:

capability information of the first communication apparatus, wherein the capability information indicates that the first communication apparatus supports fixed network transmission;

identification information of a fixed network supported by the first communication apparatus, wherein the fixed network supported by the first communication apparatus comprises the fixed network corresponding to the first fixed network gateway device; and

network priority information, wherein the network priority information indicates a priority of a mobile operator to which the first communication apparatus belongs.

14. The method according to any one of claims 9 to 12, wherein the method further comprises:

obtaining, by the first communication apparatus, information from the first terminal device which indicates that the type of the first terminal device is the target type and/or identification information of a fixed network that the first terminal device requests to access; and

determining, by the first communication apparatus based on the type of the first terminal device and/or the identification information of the fixed network that the first terminal device requests to access, that the first communication apparatus supports fixed network transmission of the first terminal device.

15. A communication apparatus, used in an first communication apparatus supporting a 3rd generation partnership project 3GPP wireless access technology, and comprising a communication module and a processing module, wherein the communication module and the processing module are configured to process the method according to any one of claims 1-14.

16. A communication apparatus, wherein the communication apparatus comprises a processor and a memory, wherein the memory is coupled to the processor, and the processor is configured to perform the method according to any one of claims 1 to 14.

17. A computer-readable storage medium, wherein the computer-readable storage medium comprises instructions, and when the instructions are run on a computer, the computer is enabled to perform the method according to any one of claims 1 to 14.

18. A communication system comprising an first communication apparatus supporting a 3rd generation partnership project 3GPP wireless access technology and a first fixed network gateway device, wherein the first communication apparatus is configured to perform the method according to any one of claims 1 to 14.

19. The communication system according to claim 18, wherein the communication system further comprises a first terminal device.