

CLAIMS

1. A method for multicast service session operation, applied to a first network function of a communications device, comprising:

receiving from a terminal a request comprising multicast service information; and

5 sending a first invocation parameter to a second network function, wherein the first invocation parameter is used for invoking a multicast context service operation of the second network function,

wherein the first network function is an access management function (AMF) or a session management function (SMF); and the second network function is a multicast
10 broadcast session management (MBSF), or a network function integrating the MBSF and a multicast broadcast policy control function (MBPCF),

wherein the first invocation parameter comprises at least one of the following:

operation type indication information, wherein the operation type indication
information is used to indicate any one of the following: user add, user delete, multicast
15 session establishment, and multicast session release;

multicast service information, wherein the multicast service information is received from the terminal;

quality of service capability information, wherein the quality of service capability
information is received from the terminal; and

20 information about a radio access network (RAN) node serving a User Equipment (UE).

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

receiving a first invocation result returned by the second network function; and

25 sending a multicast service operation result to the terminal according to the first invocation result; or

refusing to send information to the terminal, according to the first invocation result.

3. The method according to claim 1, wherein the request comprising multicast service information comprises any one of the following:

a multicast session establishment request message;

a first data packet for requesting to join a corresponding multicast group;
a multicast session release request message; and
a second data packet for requesting to leave a corresponding multicast group.

4. The method according to claim 2, wherein the multicast service operation result
5 comprises any one of the following:

a multicast session establishment success message;
a multicast session establishment failure message;
multicast service activation information;
multicast service deactivation information; and

10 information that leaving a multicast session is allowed.

5. The method according to claim 1, wherein the first invocation parameter is specifically used for any one of the following:

invoking a multicast context user add service operation of the second network function; and

15 invoking a multicast context user delete service operation of the second network function.

6. The method according to claim 1, wherein the multicast service information comprises at least one of the following:

a multicast service address;

20 a multicast group identifier; and

a uniform resource locator.

7. The method according to claim 2, wherein the first invocation result comprises at least one of the following:

a multicast group identifier;

25 information for notifying a RAN to create or update a radio resource; and

the multicast service operation result.

8. A method for multicast service session operation, applied to a second network function of a communications device, comprising:

sending a multicast service operation result to a terminal,

wherein before the sending a multicast service operation result to a terminal, the method further comprises:

receiving from the terminal a request comprising multicast service information; or

5 receiving a first invocation parameter sent by a first network function, wherein the first invocation parameter is used for invoking a multicast context service operation of the second network function,

and,

10 wherein before the sending a multicast service operation result to a terminal, the method further comprises:

sending a second invocation parameter to a third network function, wherein the second invocation parameter is used for invoking an authorization service operation of the third network function; and

receiving a second invocation result sent by the third network function,

15 wherein the first network function is an access management function (AMF) or a session management function (SMF); the second network function is a multicast broadcast session management (MBSF), or a network function integrating the MBSF and a multicast broadcast policy control function (MBPCF), and the third network function is the MBPCF,

20 wherein the first invocation parameter comprises at least one of the following:

operation type indication information, wherein the operation type indication information is used to indicate any one of the following: user add, user delete, multicast session establishment, and multicast session release;

25 multicast service information, wherein the multicast service information is received from the terminal;

quality of service capability information, wherein the quality of service capability information is received from the terminal; and

information about a radio access network (RAN) node serving a UE.

9. The method according to claim 8, wherein after the receiving a first invocation

parameter sent by a first network function, the sending a multicast service operation result to a terminal comprises:

sending the multicast service operation result to the terminal via the first network function.

5 10. The method according to claim 8, wherein the sending a multicast service operation result to a terminal comprises:

sending the multicast service operation result to the terminal according to the second invocation result.

10 11. The method according to claim 8, wherein the first invocation parameter is specifically used for any one of the following:

invoking a multicast context user add service operation of the second network function; and

invoking a multicast context user delete service operation of the second network function,

15 or,

wherein the request comprising multicast service information comprises any one of the following:

a multicast session establishment request message; and

a multicast session release request message.

20 12. The method according to claim 8, further comprising:

subscribing terminal message notifications from an access management function;

or

sending a radio session request message to a RAN node, wherein

the radio session request message comprises at least one of the following:

25 security information;

multicast service information;

user plane function information;

a multicast group identifier;

a multicast tunnel identifier; and

information for creating or updating a radio resource.

13. The method according to claim 8, wherein the second invocation parameter is specifically used for any one of the following:

5 invoking a user add authorization service operation of the third network function;
 invoking a user delete authorization service operation of the third network function;
and

 invoking a create authorization service operation of the third network function,
and,

10 wherein the second invocation parameter comprises at least one of the following:

 a user identifier;

 multicast service information;

 quality of service capability information; and

 information about a RAN node,

15 and

 wherein the second invocation result comprises at least one of the following:

 security information; and

 a multicast group identifier.

14. A method for multicast service session operation, applied to a third network
20 function of a communications device, comprising:

 receiving a second invocation parameter sent by a second network function,
 wherein the second invocation parameter is used for invoking an authorization service
 operation of the third network function, and the second invocation parameter comprises
 multicast service information; and

25 sending a second invocation result to the second network function,

 wherein the second network function is a multicast broadcast session management
 (MBSF), or a network function integrating the MBSF and a multicast broadcast policy
 control function (MBPCF); and the third network function is the MBPCF, and

wherein the second invocation parameter is specifically used for any one of the following:

invoking a user add authorization service operation of the third network function;

invoking a user delete authorization service operation of the third network function;

5 and

invoking a create authorization service operation of the third network function.

15. The method according to claim 14, wherein the sending a second invocation result to the second network function comprises:

10 determining the second invocation result based on a user identifier and the multicast service information that are comprised in the second invocation parameter, and sending the second invocation result to the second network function;

or

15 determining the second invocation result based on quality of service capability information supported by a terminal and comprised in the second invocation parameter, and sending the second invocation result to the second network function;

or

20 sending a decision request message to a fourth network function, receiving a decision result returned by the fourth network function based on the decision request message, and sending the second invocation result to the second network function based on the decision result.

16. The method according to claim 14, wherein before the receiving a second invocation parameter sent by a second network function, the method further comprises:

receiving configuration information sent by the fourth network function; wherein

25 the configuration information comprises event operation information, and the event operation information comprises any one of the following:

an event type; and

an event type and a manner of notifying a content provider of event occurrence.

17. An apparatus for multicast service session operation, applied to a first network function of a communications device, comprising:

a first receiving module, configured to receive from a terminal a request comprising multicast service information; and

a first sending module, configured to send a first invocation parameter to a second network function, wherein the first invocation parameter is used for invoking a multicast context service operation of the second network function,

wherein the first network function is an access management function (AMF) or a session management function (SMF); and the second network function is a multicast broadcast session management (MBSF), or a network function integrating the MBSF and a multicast broadcast policy control function (MBPCF),

wherein the first invocation parameter comprises at least one of the following:

operation type indication information, wherein the operation type indication information is used to indicate any one of the following: user add, user delete, multicast session establishment, and multicast session release;

multicast service information, wherein the multicast service information is received from the terminal;

quality of service capability information, wherein the quality of service capability information is received from the terminal; and

information about a radio access network (RAN) node serving a UE.

18. An apparatus for multicast service session operation, applied to a second network function of a communications device, comprising:

a third sending module, configured to send a multicast service operation result to a terminal,

wherein before the sending a multicast service operation result to a terminal, the third sending module is configured to:

receive from the terminal a request comprising multicast service information; or

receive a first invocation parameter sent by a first network function, wherein the first invocation parameter is used for invoking a multicast context service operation of the second network function,

and,

send a second invocation parameter to a third network function, wherein the second invocation parameter is used for invoking an authorization service operation of the third network function; and receive a second invocation result sent by the third network function,

5 wherein the first network function is an access management function (AMF) or a session management function (SMF); the second network function is a multicast broadcast session management (MBSF), or a network function integrating the MBSF and a multicast broadcast policy control function (MBPCF), and the third network function is the MBPCF,

10 wherein the first invocation parameter comprises at least one of the following:

operation type indication information, wherein the operation type indication information is used to indicate any one of the following: user add, user delete, multicast session establishment, and multicast session release;

15 multicast service information, wherein the multicast service information is received from the terminal;

quality of service capability information, wherein the quality of service capability information is received from the terminal; and

information about a radio access network (RAN) node serving a UE.

19. An apparatus for multicast service session operation, applied to a third network
20 function of a communications device, comprising:

a fifth receiving module, configured to receive a second invocation parameter sent by a second network function, wherein the second invocation parameter is used for invoking an authorization service operation of the third network function, and the second invocation parameter comprises multicast service information; and

25 a sixth sending module, configured to send a second invocation result to the second network function,

wherein the second network function is a multicast broadcast session management (MBSF), or a network function integrating the MBSF and a multicast broadcast policy control function (MBPCF); and the third network function is the MBPCF, and

30 wherein the second invocation parameter is specifically used for any one of the

following:

invoking a user add authorization service operation of the third network function;

invoking a user delete authorization service operation of the third network function;

and

5 invoking a create authorization service operation of the third network function.