request includes request information, and the request information is used to indicate that a first MCPTT user requests to change an association relationship between a second MCPTT user and a first MCPTT group) to a first MCPTT server; and after determining that the second MCPTT user authorizes setting of the association relationship between the second MCPTT user and the first MCPTT group as a target association relationship, the first MCPTT server further determines whether the first MCPTT group authorizes setting of the association relationship between the second MCPTT user and the first MCPTT group as the target association relationship, and when the first MCPTT group authorizes the setting, the first MCPTT server stores the target association relationship between the second MCPTT user and the first MCPTT group. Therefore, the first MCPTT user can change an association relationship between the first MCPTT user and the first MCPTT group, thereby implementing that an MCPTT user changes an association relationship between another MCPTT user and a group.

It should be noted that the embodiment shown in FIG. 7 and the embodiment shown in FIG. 3 mainly have the following difference: In the embodiment shown in FIG. 3, after the first MCPTT group authorizes setting of an association relationship between the second MCPTT user and a first MCPTT group as a target association relationship, a change message is sent to the second UE; while in the embodiment shown in FIG. 7, before the first MCPTT group authorizes setting of an association relationship between the second MCPTT user and the first MCPTT group as a target association relationship, a change message is sent to the second UE, to ask for permission from the second MCPTT user.

FIG. 8 is a flowchart of Embodiment 8 of a method for changing an association relationship between an MCPTT user and an MCPTT group according to the present invention. An application scenario of this embodiment may be as follows: An MCPTT system that defines a user configuration file of a first MCPTT user and an MCPTT system that defines a user configuration file of a second MCPTT user are the same, but are different from an MCPTT system that defines a first MCPTT group. As shown in FIG. 8, the method in this embodiment may include the following steps.

Step 801. First UE sends an original association change request to a second MCPTT server, where the original association change request includes request information, and the request information is used to indicate that a first MCPTT user requests to change an association relationship between a second MCPTT user and a first MCPTT group.

The second MCPTT server is an MCPTT server in an MCPTT system that defines a user configuration file of the first MCPTT user.

It should be noted that step 801 is similar to step 301, and details are no longer described

MCPTT server determines whether the first MCPTT user is authorized to change an association relationship of the second MCPTT user.

It should be noted that the foregoing difference between the embodiment shown in FIG. 8 and the embodiment shown in FIG. 3 may further be applied to the embodiment shown in FIG. 4, to form a new technical solution.

FIG. 9 is a flowchart of Embodiment 9 of a method for changing an association relationship between an MCPTT user and an MCPTT group according to the present invention. An application scenario of this embodiment is the same as the application scenario of the embodiment shown in FIG. 8. As shown in FIG. 9, the method in this embodiment may include the following steps.

Step 901. First UE sends an original association change request to a second MCPTT server, where the original association change request includes request information, and the request information is used to indicate that a first MCPTT user requests to change an association relationship between a second MCPTT user and a first MCPTT group.

It should be noted that step 901 is similar to step 801, and details are no longer described herein.

Step 902. The second MCPTT server determines, according to a threshold of a quantity of MCPTT groups associated with the second MCPTT user, whether to change the association relationship between the second MCPTT user and the first MCPTT group.

If yes, step 903 is performed; otherwise, the change procedure ends, or an original association change response used to indicate a change failure is sent to the first UE.

Step 903. The second MCPTT server determines whether the first MCPTT user is authorized to change an association relationship of the second MCPTT user.

If yes, step 904 is performed; otherwise, the change procedure ends, or an original association change response used to indicate a change failure is sent to the first UE.

It should be noted that step 903 is similar to step 803, and details are no longer described herein.

Step 904. The second MCPTT server forwards the original association change request to a first MCPTT server.

It should be noted that step 904 is similar to step 804, and details are no longer described herein.

Step 905. The first MCPTT server sends an association change request to a group management server according to the original association change request.

Step 906. The group management server determines, according to a group policy of the first MCPTT group, whether the first MCPTT group authorizes setting of the association relationship

request the second MCPTT user to set the association relationship between the second MCPTT user and the first MCPTT group as the target association relationship) to second UE. Therefore, the first MCPTT user can change an association relationship between the first MCPTT user and the first MCPTT group, thereby implementing that an MCPTT user changes an association relationship between another MCPTT user and a group.

It should be noted that the embodiment shown in FIG. 9 and the embodiment shown in FIG. 5 mainly have the following difference: In the embodiment shown in FIG. 9, the first UE sends an original association change request to the second MCPTT server, and after determining that the first MCPTT user is authorized to change an association relationship of the second MCPTT user, the second MCPTT server sends an association change request to the first MCPTT server; while in FIG. 5, the first UE directly sends an association change request to the first MCPTT server, and the first MCPTT server determines whether the first MCPTT user is authorized to change an association relationship of the second MCPTT user.

It should be noted that the foregoing difference between the embodiment shown in FIG. 9 and the embodiment shown in FIG. 5 may further be applied to the embodiment shown in FIG. 6, to form a new technical solution.

FIG. 10 is a flowchart of Embodiment 10 of a method for changing an association relationship between an MCPTT user and an MCPTT group according to the present invention. An application scenario of this embodiment is the same as the application scenario of the embodiment shown in FIG. 8. As shown in FIG. 10, the method in this embodiment may include the following steps.

Step 1001. First UE sends an original association change request to a second MCPTT server, where the original association change request includes request information, and the request information is used to indicate that a first MCPTT user requests to change an association relationship between a second MCPTT user and a first MCPTT group.

The second MCPTT server is an MCPTT server in an MCPTT system that defines a user configuration file of the first MCPTT user.

It should be noted that step 1001 is similar to step 301, and details are no longer described herein.

Step 1002. The second MCPTT server determines whether the first MCPTT user is authorized to change an association relationship of the second MCPTT user.

If yes, step 1003 is performed; otherwise, the change procedure ends, or an original association change response used to indicate a change failure is sent to the first UE.

It should be noted that step 1002 is similar to step 303, and details are no longer described herein.

MCPTT user is authorized to change an association relationship of the second MCPTT user, the second MCPTT server sends the original association change request to a third MCPTT server; after determining, according to a threshold of a quantity of MCPTT groups associated with the second MCPTT user, to change the association relationship between the second MCPTT user and the first MCPTT group, the third MCPTT server sends an association change request to a first MCPTT server; and after determining that the first MCPTT group authorizes setting of the association relationship between the second MCPTT user and the first MCPTT group as a target association relationship, the first MCPTT server sends a change message (the change message is used to indicate that the association relationship between the second MCPTT user and the first MCPTT group is the target association relationship; or the change message is used to request the second MCPTT user to set the association relationship between the second MCPTT user and the first MCPTT group as the target association relationship) to second UE. Therefore, the first MCPTT user can change an association relationship between the first MCPTT user and the first MCPTT group, thereby implementing that an MCPTT user changes an association relationship between another MCPTT user and a group.

It should be noted that the embodiment shown in FIG. 12 and the embodiment shown in FIG. 8 mainly have the following difference: In the embodiment shown in FIG. 12, the first MCPTT server receives an association change request that is sent by the first UE by using the second MCPTT server; while in FIG. 8, the first MCPTT server receives an association change request that is sent by the first UE by using the second MCPTT server and the third MCPTT server.

It should be noted that the foregoing difference between the embodiment shown in FIG. 12 and the embodiment shown in FIG. 8 may further be applied to the embodiment shown in FIG. 8, to form a new technical solution.

FIG. 13 is a flowchart of Embodiment 13 of a method for changing an association relationship between an MCPTT user and an MCPTT group according to the present invention. An application scenario of this embodiment is the same as the application scenario of the embodiment shown in FIG. 12. As shown in FIG. 13, the method in this embodiment may include the following steps.

Step 1301. First UE sends an original association change request to a second MCPTT server, where the original association change request includes request information, and the request information is used to indicate that a first MCPTT user requests to change an association relationship between a second MCPTT user and a first MCPTT group.

The second MCPTT server is an MCPTT server in an MCPTT system that defines a user configuration file of the first MCPTT user.

It should be noted that step 1301 is similar to step 301, and details are no longer described

CLAIMS

1. A method for changing an association relationship between a mission critical push to talk, MCPTT, user and an MCPTT group, characterized by comprising:

receiving (101), by a first network element device, an association change request from first user equipment, UE, wherein the association change request comprises request information, the request information is used to indicate that a first MCPTT user requests to change an association relationship between a second MCPTT user and a first MCPTT group, the first MCPTT user is an MCPTT user using the first UE, and the request information comprises: a user identifier of the second MCPTT user and a group identifier of the first MCPTT group; and

setting (102), by the first network element device, the association relationship between the second MCPTT user and the first MCPTT group according to the association change request.

2. The method according to claim 1, wherein the first network element device is a group management server of the first MCPTT group, or the first network element device is a first MCPTT server, wherein the first MCPTT server is an MCPTT server in an MCPTT system that defines the first MCPTT group.

3. The method according to claim 1 or 2, wherein before the setting, by the first network element device, the association relationship between the second MCPTT user and the first MCPTT group according to the association change request, the method further comprises:

determining, by the first network element device, that the first MCPTT user is authorized to change an association relationship of the second MCPTT user.

4. The method according to any one of claims 1 to 3, wherein before the setting, by the first network element device, the association relationship between the second MCPTT user and the first MCPTT group according to the association change request, the method further comprises:

determining, by the first network element device according to a threshold of a quantity of MCPTT groups associated with the second MCPTT user, to change the association relationship between the second MCPTT user and the first MCPTT group.

5. The method according to any one of claims 1 to 4, wherein the setting, by the first network element device, the association relationship between the second MCPTT user and the first MCPTT group according to the association change request comprises:

setting, by the first network element device, the association relationship between the second MCPTT user and the first MCPTT group as a target association relationship according to the association change request, wherein the target association relationship is determined by the first network element device according to the association change request.

6. The method according to claim 5, wherein before the setting, by the first network element device, the association relationship between the second MCPTT user and the first MCPTT group as a target association relationship according to the association change request, the method further comprises:

determining, by the first network element device according to a group policy of the first MCPTT group, that the first MCPTT group authorizes setting of the association relationship between the second MCPTT user and the first MCPTT group as the target association relationship.

7. An apparatus for changing an association relationship between a mission critical push to talk, MCPTT, user and an MCPTT group, characterized in that the apparatus is of a first network element device, and the apparatus comprises:

a receiving module (1501), configured to receive an association change request from first user equipment, UE, wherein the association change request comprises request information, the request information is used to indicate that a first MCPTT user requests to change an association relationship between a second MCPTT user and a first MCPTT group, the first MCPTT user is an MCPTT user using the first UE, and the request information comprises: a user identifier of the second MCPTT user and a group identifier of the first MCPTT group; and

a setting module (1502), configured to set the association relationship between the second MCPTT user and the first MCPTT group according to the association change request.

8. The apparatus according to claim 7, wherein the first network element device is a group management server of the first MCPTT group, or the first network element device is a first MCPTT server, wherein the first MCPTT server is an MCPTT server in an MCPTT system that defines the first MCPTT group.

9. The apparatus according to claim 7 or 8, wherein the setting module (1502) is further configured to:

determine that the first MCPTT user is authorized to change an association relationship of the second MCPTT user.

10. The apparatus according to any one of claims 7 to 9, wherein the setting module (1502) is further configured to:

determine, according to a threshold of a quantity of MCPTT groups associated with the second MCPTT user, to change the association relationship between the second MCPTT user and the first MCPTT group.

11. The apparatus according to any one of claims 7 to 10, wherein the setting, by the setting module (1502), the association relationship between the second MCPTT user and the first MCPTT group according to the association change request specifically comprises:

setting the association relationship between the second MCPTT user and the first MCPTT group as a target association relationship according to the association change request, wherein the target association relationship is determined by the setting module according to the association change request.

12. The apparatus according to claim 11, wherein the setting module (1502) is further configured to:

determine, according to a group policy of the first MCPTT group, that the first MCPTT group authorizes setting of the association relationship between the second MCPTT user and the first MCPTT group as the target association relationship.