**3GPP TSG-SA WG6 Meeting #63 S6-244448**

**Hyderabad, India, 14th – 18th October 2024 (revision of S6-244277)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** | **0446** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** | Update the ad-hoc group call modify procedures | | | | | | | | | |
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| ***Source to WG:*** | Huawei, Hisilicon | | | | | | | | | |
| ***Source to TSG:*** | SA6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | FRMCS\_Ph5 | | | | |  | ***Date:*** | | | 2024-09-26 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
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| ***Reason for change:*** | | In SA6#59, a CR0401 was agreed to allow the authorized MC service user to add/remove participant to an ad hoc group call which is initially setup with the criteria provided by a initiating user, and those added/removed participant will not further being removed/added by the call criteria.  However, in 10.19.3.1.5 and 10.19.3.1.6, there is no such description which may cause the participant added/removed by the authorized user is removed/added by the MC service server based on the call critera. | | | | | | | | |
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| ***Summary of change:*** | | 1. Add new text in 10.19.3.1.4 to capture the MC service server should mark the added/removed participant by the authorized user. 2. Add new text in 10.19.3.1.5 and 10.19.3.1.6 to capture that the participant added/removed by the authorized user SHALL NOT removed/added by the MC service server based on the call critera. | | | | | | | | |
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| ***Consequences if not approved:*** | | The participant added/removed by the authorized user to the ad hoc group call is removed/added by the MC service server based on the call critera. | | | | | | | | |
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| ***Clauses affected:*** | | 10.19.3.1.4, 10.19.3.1.5, 10.19.3.1.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **x** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

/\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\* 1st changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*/

##### 10.19.3.1.4 Modification of ad hoc group call participants by an authorized user

Figure 10.19.3.1.4-1 below illustrates the modification of ad hoc group call participants procedure by an authorized user.

Pre-conditions:

1. An ad hoc group call is already in progress and the participants list is provided by the originating MCPTT user while initiating the MCPTT ad hoc group call.

2. The participants of the MCPTT ad hoc group call belong to the single MCPTT system.

3. The MCPTT users on MCPTT client 1, MCPTT client 3 to MCPTT client n are on an ongoing ad hoc group call.

4. The MCPTT user at MCPTT client 1 determines to remove the user of MCPTT client 3 from the ad hoc group call and add user of MCPTT client 2 into the on-going ad hoc group call.



Figure 10.19.3.1.4-1: Modification of ad hoc group call participants by an authorized user

1. The MCPTT user at the MCPTT client 1 is authorized and requests to modify ad hoc group call participants. The MCPTT client 1 sends the modify ad hoc group call participants request to the MCPTT server in order to remove MCPTT client 3 from the ongoing ad hoc group call and add MCPTT client 2 into it.

2. The MCPTT server verifies whether the MCPTT client 1 is authorized to add or remove (modify) the participants of the on-going ad hoc group call regardless of the original group call setup parameters. When the group participants were initially determined by the MCPTT server with criteria and MCPTT users are to be removed, the MCPTT server removes MCPTT clients and marks them so that the MCPTT server will not add them back to the ad hoc group call based on the criteria. Participants to be added shall be marked and kept in the ad hoc group call and shall not be removed by the MCPTT server even if they do not meet the call criteria.

NOTE 1: In the above case participants being removed can be added back and the participants being added can be removed by the authorized user via the modify ad hoc group call participants request.

3. The MCPTT server sends modify ad hoc group call participants response to the MCPTT client 1.

4. The MCPTT server sends the ad hoc group call leave request to the MCPTT client 3 in order to remove it from the on-going ad hoc group call.

5. The MCPTT client 3 notifies the user of the ad hoc group call leave request.

6. The MCPTT client 3 sends the ad hoc group call leave response to the MCPTT server.

7. The MCPTT server sends the ad hoc group call request towards MCPTT client 2.

NOTE 2: Steps 7 to 9 can occur at any time following step 3.

8. The receiving MCPTT client 2 notifies the user about the incoming ad hoc group call.

9. The MCPTT client 2 accepts the ad hoc group call request and send ad hoc group call responses to the MCPTT server. The response may also contain a functional alias of the responding MCPTT user, which is verified (valid and activated for the user) by the MCPTT server. The MCPTT server considers the MCPTT user as implicitly affiliated to the ad hoc group.

10. The MCPTT server may notify the initiating MCPTT user of all the users who are added to the on-going ad hoc group call. This notification may be sent to the initiating MCPTT user by the MCPTT server more than once during the call when MCPTT users join or leave the ad hoc group call.

11. The MCPTT server may notify the participants about the change in the participants of on-going ad hoc group call.

##### 10.19.3.1.5 Modification of ad hoc group call participants by the MCPTT server

Figure 10.19.3.1.5-1 below illustrates the modification of ad hoc group call participants procedure by the MCPTT server.

Pre-conditions:

1. The MCPTT client 1 is the initiator of the ad hoc group call.

2. MCPTT server determined the participants for the ad hoc group call based on the criteria specified by the MCPTT client 1 while initiating the ad hoc group call.

3. MCPTT server continuously evaluates the criteria to monitor the list of users who meets or not meets the criteria for participating in the on-going ad hoc group call.

4. The MCPTT server detects that the MCPTT client 5 satisfies the criteria and MCPTT client 4 stops to meet the criteria specified by the MCPTT client 1.



Figure 10.19.3.1.5-1: Modification of ad hoc group call participants by the MCPTT server

1. The ad hoc group call is established and on-going with the participants MCPTT client 1, MCPTT client 2, MCPTT client 3 and MCPTT client 4. The participants list is determined by the MCPTT server based on the criteria specified by the MCPTT client 1 while initiating the call

2. The MCPTT server detects that the MCPTT client 5 satisfies the criteria specified by the MCPTT client 1 and checks whether it has been previously removed by an authroized user as described in clause 10.19.3.1.4. If MCPTT client 5 has already been removed by an authroized user, the MCPTT server does not add the MCPTT client 5 back to the ad hoc group call and it skips step 3 to step 6. If MCPTT client 5has not been already removed by an authroized user, the procedure continues with step 3.

3. The MCPTT server sends the ad hoc group call request to the MCPTT client 5.

4. The MCPTT client 5 notifies the user about the incoming ad hoc group call.

5. The MCPTT client 5 accepts the ad hoc group call request and sends the ad hoc group call response to the MCPTT server.

6. The on-going ad hoc group call is updated by adding MCPTT client 5 which satisfies the criteria specified by the MCPTT client 1.

7. The MCPTT server detects that the MCPTT client 4 is no more satisfying the criteria to be the participant of the ad hoc group call and checks whether it has been previously added by an authorized user as described clause 10.19.3.1.4. If MCPTT client 4 has already been added by an authroized user, the MCPTT server does not remove it from the ad hoc group call and skips step 8 to step 11. If MCPTT client 4 has not been already added by an authroized user, the procedure continues with step 8.

8. The MCPTT server sends the ad hoc group call leave request to the MCPTT client 4 and removes it from the on-going ad hoc group call.

9. The MCPTT client 4 notifies the user of the ad hoc group call leave request.

10. The MCPTT client 4 sends the ad hoc group call leave response to the MCPTT server.

11. The on-going ad hoc group call is updated by removing MCPTT client 4, which no more satisfies the criteria specified by the MCPTT client 1.

##### 10.19.3.1.6 Modification of ad hoc group call criteria by an authorized user

Figure 10.19.3.1.6-1 below illustrates the modification of ad hoc group call criteria procedure by an authorized user.

Pre-conditions:

1. The MCPTT user at the MCPTT client 1 is authorized to modify the criteria.

2. Both the MCPTT server and the MCPTT client 1 are aware of the criteria related to the ongoing ad hoc group call.



Figure 10.19.3.1.6-1: Modification of ad hoc group call criteria by the authorized user

1. The MCPTT user at the MCPTT client 1 is authorized and requests to modify the criteria for determining the list of participants. The MCPTT client 1 sends the modify ad hoc group call criteria request to the MCPTT server which contains an updated criteria to determine the list of participants.

2. The MCPTT server verifies whether the MCPTT client 1 is authorized to modify the criteria which determines the list of participants during on-going ad hoc group voice communication. The MCPTT server determines the list of ad hoc group call participants based on the criteria provided and the added/removed participant by the authorized user as marked in clause 10.9.3.1.4.

If MCPTT client 3 satisfies the new criteria to be removed and

* has been alaredy added by an authorized user, the MCPTT server does not remove it from the call and skips the step 4 to step 6.
* has not been already added by an authorized user, the procedure continues with step 4.

If MCPTT client 2 satisfies the new criteria to be added and

* has been previously removed by an authorized user, the MCPTT server does not add it back to the call and skips the step 7 to step 9.
* has not been already removed by an authorized user, the procedure continues with step 4.

3. The MCPTT server sends modify ad hoc group call criteria response to MCPTT client 1.

4. The MCPTT server sends the ad hoc group call leave request to the MCPTT client 3 to remove it from the on-going ad hoc group call.

5. The MCPTT client 3 notifies the user of the ad hoc group call leave request.

6. The MCPTT client 3 sends the ad hoc group call leave response to the MCPTT server.

7. The MCPTT server sends the ad hoc group call request towards MCPTT client 2.

NOTE 1: Steps 7 to 9 can occur at any time following step 3.

8. The receiving MCPTT client 2 notifies the user about the incoming ad hoc group call.

9. The MCPTT client 2 accepts the ad hoc group call request and send ad hoc group call responses to the MCPTT server. The response may also contain a functional alias of the responding MCPTT user, which is verified (valid and activated for the user) by the MCPTT server. The MCPTT server considers the MCPTT user as implicitly affiliated to the ad hoc group.

10. The MCPTT server may notify the initiating MCPTT user of all the users who are added to the on-going ad hoc group call. This notification may be sent to the initiating MCPTT user by the MCPTT server more than once during the call when MCPTT users join or leave the ad hoc group call.

11. The MCPTT server may notify the participants about the change in the participants list of on-going ad hoc group call.

The MCPTT server continuously checks whether other MCPTT clients meet or if participating MCPTT clients no longer meet the criteria for the ad hoc group emergency call.

NOTE 2: If the ad hoc group call is associated with an ad hoc group emergency alert and the change of criteria caused the modification of ad hoc group call participant list then the ongoing ad hoc group emergency alert is modified accordingly.