**3GPP TSG-SA WG6 Meeting #28 S6-190248**

**Kochi, India, 21st – 25th January 2019 (revision of S6-190121, 190155)**

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| *CR-Form-v11.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.379** | **CR** | **0176** | **rev** | **2** | **Current version:** | **16.1.0** |  |
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| *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:*** | Group regroup broadcast and rejection using preconfigured group | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Motorola Solutions | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | enh2MCPTT | | | | |  | | ***Date:*** | | 2018-01-24 |
|  |  | | | |  | | |  | |  |
| ***Category:*** | **B** |  | | | | | | ***Release:*** | | Rel-16 |
|  | *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-12 (Release 12)* *Rel-13 (Release 13) Rel-14 (Release 14) Rel-15 (Release 15) Rel-16 (Release 16)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The group regroup using preconfigured procedure should also support temporary broadcast group calls, where the MCPTT clients that are regrouped are not permitted to respond to the broadcast call.  There is a potential conflict with the group regrouping procedures specified in 3GPP TS 23.280.  Small editorial and numbering errors in 10.6.2.9.3.1 and 10.6.2.9.3.2 need to be corrected. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The use of configuration of a group configured as a broadcast group is included in the procedure description to show how the group broadcast service can be realised.  A restriction is placed on this procedure, preventing it from being applied to a group that has been regrouped according to procedures specified in 3GPP TS 23.280.  Editorial corrections are made to 10.6.2.9.3.1 and 10.6.2.9.3.2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | This procedure cannot support a broadcast call, and the conflict with group regrouping procedures in 3GPP TS 23.280 is not resolved. | | | | | | | | |
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| ***Clauses affected:*** | | 10.6.2.2.x (new), 10.6.2.2.y (new), 10.6.2.9.1, 10.6.2.9.2.1, 10.6.2.9.3.1, 10.6.2.9.3.2, 10.6.2.9.3.3 (new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

##### 10.6.2.2.x Preconfigured regroup reject (MCPTT server – MCPTT client)

Table 10.6.2.2.x-1 describes the information flow preconfigured regroup reject from the MCPTT server to the MCPTT client.

Table 10.6.2.2.x-1 Preconfigured regroup reject information elements

|  |  |  |
| --- | --- | --- |
| Information Element | Status | Description |
| MCPTT ID | M | The MCPTT ID of the requester of the regrouping |
| MCPTT group ID | M | MCPTT group ID of the regroup group |
| Reject reason | M | Reason for rejecting the regrouping operation |

##### 10.6.2.2.y Preconfigured regroup reject (MCPTT server – MCPTT server)

Table 10.6.2.2.y-1 describes the information flow preconfigured regroup reject from the MCPTT server to the MCPTT server.

Table 10.6.2.2.y-1 Preconfigured regroup reject information elements

|  |  |  |
| --- | --- | --- |
| Information Element | Status | Description |
| MCPTT group ID | M | MCPTT group ID of the regroup group |
| Reject reason | M | Reason for rejecting the regrouping operation |

\* \* \* Second Change \* \* \* \*

##### 10.6.2.9.1 General

A group regroup may be achieved by regrouping MCPTT groups into a preconfigured MCPTT regroup group, or by regrouping MCPTT groups into a new regroup group which uses the configuration of a preconfigured MCPTT group, where that preconfigured MCPTT group may be an MCPTT regroup group. The MCPTT regroup group configuration needs to be provided to the relevant MCPTT group members of the MCPTT groups that will be regrouped in advance of the regrouping operation.

NOTE 1: A regroup group is identified by a parameter in group configuration described in 3GPP TS 23.280 [16].

NOTE 2: Regroup groups may be defined according to the organizational structure of a mission critical organization, or by some other means which allows the MCPTT client of an authorized user to be aware of an appropriate regroup group for sets of MCPTT groups that will be regrouped together.

The regroup group can be specified to be a broadcast or non-broadcast type according to the configuration of the MCPTT group whose configuration is specified by the regroup request. The broadcast type of regroup is used for one-way communication where only an authorized MCX user is allowed to transmit and all other regroup members are only allowed to receive the communication (e.g. a call from a dispatcher to all regroup members). The non-broadcast type is used for two-way communication where all regroup members can transmit and receive (i.e, the regroup group call behaves like a normal non-broadcast group call).

These procedures provide a regrouping service for MCPTT only and are independent of group regrouping procedures specified in 3GPP TS 23.280 [16]. If the MCPTT server has been notified by the group management server that one of the MCPTT groups that has been requested for regrouping by means of this procedure has already been regrouped by the group regrouping procedure specified in 3GPP TS 23.280 [16], the MCPTT server shall reject the request for regrouping described in the following procedure.

Editor's note: These procedures provide a regrouping service for MCPTT only; any issues arising from conflicts with similar regrouping operations for MCVideo and MCData are FFS.

\* \* \* Third Change \* \* \* \*

###### 10.6.2.9.2.1 Regroup formation using preconfigured group in single MCPTT system

Figure 10.6.2.9.2.1-1 illustrates the procedure to initiate a regroup procedure using a preconfigured MCPTT regroup group. The procedure takes place prior to the establishment of a group call to the regroup group.

Pre-conditions:

- MCPTT client 2 is an affiliated member of MCPTT group 1 and MCPTT client 3 is an affiliated member of MCPTT group 2.

- The MCPTT group identity and group configuration for the regroup MCPTT group have been preconfigured in MCPTT clients 2 and 3, and MCPTT clients 2 and 3 have received the relevant security related information to allow them to communicate in the regroup MCPTT group.

- MCPTT client 1 is authorized to initiated a preconfigured regroup procedure.

- MCPTT client 1 is aware of a suitable preconfigured regroup group whose configuration has been preconfigured in the MCPTT UEs of the group members who will be regrouped.



Figure 10.6.2.9.2.1-1: Regroup procedure using preconfigured group in single MCPTT system

1. The authorized user of MCPTT client 1 initiates the regroup procedure, specifying the list of MCPTT groups to be regrouped (MCPTT groups 1 and 2), the MCPTT group ID of the regroup group and the MCPTT group ID of the group from which configuration information for the regroup group is to be taken.

NOTE 1: The MCPTT group ID of the regroup group and the MCPTT group ID of the group from which configuration is taken may be the same.

2. MCPTT client 1 sends the preconfigured regroup request to the MCPTT server.

3. The MCPTT server checks that MCPTT client 1 is authorized to initiate a preconfigured regroup procedure, and resolves the group identities of the MCPTT groups requested in step 1. The MCPTT server also checks which group members are affiliated to MCPTT groups 1 and 2. The MCPTT server may retrieve the configuration for the regroup group from the GMS if that configuration information is not already known to the MCPTT server. The MCPTT server also checks that none of the MCPTT groups that are requested for regrouping are already regrouped by any mechanism.

NOTE 2: This procedure does not require that that the authorized user of MCPTT client 1 is a group member of MCPTT groups 1 and 2, or that the authorized user of MCPTT client 1 is an affiliated group member of MCPTT groups 2 and 3.

NOTE 3: The list of groups included in the regroup is held in dynamic data in the MCPTT server, and is not used to update group configuration information in the group management server.

4. If the MCPTT server determines that any of the groups requested for regrouping, including the regroup group, have been regrouped by other group regrouping procedures, the MCPTT server then sends a preconfigured regroup reject back to MCPTT client 1 with a reject reason indicating that one of the groups has already been regrouped, and this procedure terminates.

5. If the preconfigured regroup request is not rejected, the MCPTT server sends the preconfigured regroup requests to MCPTT clients 2 and 3 in steps 5a and 5b respectively.

NOTE 4: Only group members that are affiliated to the MCPTT groups that are to be regrouped are sent a preconfigured regroup request.

6. MCPTT clients 2 and 3 notify their users of the regrouping in steps 7a and 7b respectively.

7. MCPTT clients 2 and 3 may send the preconfigured regroup response to the MCPTT server to acknowledge the regrouping action. These acknowledgements are not sent in response to a multicast transmission of the preconfigured regroup request.

8. The MCPTT server affiliates the regrouped MCPTT clients to the regroup group.

9. The MCPTT server sends a preconfigured regroup response to MCPTT client 1.

\* \* \* Fourth Change \* \* \* \*

###### 10.6.2.9.3.1 Regroup formation using preconfigured group in multiple MCPTT systems

Figure 10.6.2.9.3.1-1 illustrates the procedure to initiate a regroup procedure using a preconfigured MCPTT regroup group, where at least one of the groups to be regrouped is configured in a partner MCPTT system. The primary MCPTT system where the preconfigured group regrouping is initiated does not need to be aware of the list of group members belonging to groups whose group home system is the partner MCPTT system. If the group management server in the primary MCPTT of the regroup group shares the necessary security related parameters together with the group configuration of the MCPTT regroup group with the group management server in the partner MCPTT system and the group management server in the partner MCPTT system distributes this configuration including those security parameters to its served MCPTT users according to the procedures in 3GPP TS 23.280 [16] subclause 10.2.7, the primary MCPTT system does not need to be aware of the list of group members of the preconfigured regroup group that are receiving service in the partner MCPTT system.

The procedure takes place prior to the establishment of a group call to the regroup group.

In this procedure, any gateway MC servers in the primary or partner MCPTT systems are not shown.

Pre-conditions:

- MCPTT client 1 is authorized to initiated a preconfigured regroup procedure, and is receiving MCPTT service in the primary MCPTT system of MCPTT client 1.

- MCPTT client 2 is an affiliated member of MCPTT group 1 where MCPTT group 1 is defined in the partner MCPTT system and MCPTT client 2 is receiving service in the partner MCPTT system of MCPTT client 1.

- The MCPTT group identity and group configuration for the regroup MCPTT group have been preconfigured in MCPTT client 2, and MCPTT client 2 has received the relevant security related information to allow communication in the regroup MCPTT group.



Figure 10.6.2.9.3.1-1: Regroup procedure using preconfigured group in multiple MCPTT systems

1. The authorized user of MCPTT client 1 initiates the regroup procedure, specifying the list of MCPTT groups to be regrouped including MCPTT group 1, the MCPTT group ID of the regroup group and the MCPTT group ID of the group from which configuration information for the regroup group is to be taken.

NOTE 1: The MCPTT group ID of the regroup group and the MCPTT group ID of the group from which configuration is taken may be the same.

2. MCPTT client 1 sends the preconfigured regroup request to the MCPTT server.

3. The MCPTT server checks that MCPTT client 1 is authorized to initiate a preconfigured regroup procedure, and resolves the group identities of the MCPTT groups requested in step 1. The MCPTT server also checks which group members are affiliated to the requested MCPTT groups that are homed in the primary MCPTT system. The MCPTT server identifies any partner systems which are the group home systems for MCPTT groups identified in the list of groups to be regrouped. The MCPTT server may retrieve the configuration for the regroup group from the GMS if that configuration information is not already known to the MCPTT server.

NOTE 2: This procedure does not require that that the authorized user of MCPTT client 1 is a group member of the MCPTT groups listed in the regroup request, or that the authorized user of MCPTT client 1 is an affiliated group member of any of the listed MCPTT groups.

4. The MCPTT server sends the preconfigured regroup requests to the MCPTT server in the partner MCPTT system.

5. The partner MCPTT server checks the status of any MCPTT groups hosted by that partner MCPTT server, and identifies affiliated group members of any of the identified MCPTT groups (both MCPTT groups that are hosted in the primary MCPTT system and MCPTT groups that are hosted in the partner MCPTT system) that are receiving MCPTT service in the partner MCPTT system, which include MCPTT client 2.

6. The partner MCPTT server sends the preconfigured regroup request to MCPTT client 2.

NOTE 3: Only group members that are affiliated to the MCPTT groups that are to be regrouped are sent a preconfigured regroup request.

7. MCPTT client 2 notifies the user of the regrouping.

8. MCPTT client 2 may send the preconfigured regroup response to the partner MCPTT server to acknowledge the regrouping action. This acknowledgement is not sent in response to a multicast transmission of the preconfigured regroup request.

9. The partner MCPTT server affiliates the regrouped MCPTT client 2 to the regroup group.

10. The MCPTT server sends a preconfigured regroup response to the primary MCPTT server.

11. The primary MCPTT server sends the preconfigured regroup respone to MCPTT client 1.

\* \* \* Fifth Change \* \* \* \*

###### 10.6.2.9.3.2 Regroup cancellation using preconfigured group in multiple MCPTT systems

Figure 10.6.2.9.3.2-1 illustrates the procedure to cancel a regrouping that uses a preconfigured MCPTT regroup group where multiple MCPTT systems were involved in the regrouping.

Pre-conditions:

- MCPTT client 2 has been regrouped into the preconfigured MCPTT regroup group, and is receiving MCPTT service in the partner MCPTT system of the regroup group.

- MCPTT client 1 is authorized to cancel a regrouping that uses a preconfigured MCPTT regroup group, and is receiving MCPTT service in the primary MCPTT system of the regroup group.



Figure 10.6.2.9.3.2-1: Cancel preconfigured regroup procedure using preconfigured group in multiple MCPTT systems

1. The authorized user of MCPTT client 1 initiates the cancellation of the regrouping that uses a preconfigured MCPTT regroup group.

2. MCPTT client 1 sends the preconfigured regroup cancel request to the MCPTT server, specifying the MCPTT group ID of the regroup group.

3. The MCPTT server checks that MCPTT client 1 is authorized to cancel a regrouping that uses a preconfigured group regroup procedure.

4. The primary MCPTT server sends the regroup cancel request to the partner MCPTT server.

5. The partner MCPTT server sends the preconfigured regroup cancel requests to MCPTT client 2.

6. MCPTT client 2 notifies the user of the cancellation of the group regrouping.

7. MCPTT client 2 may send the preconfigured regroup remove response to the partner MCPTT server to acknowledge the cancellation of the regrouping function. Thise acknowledgement is not sent in response to a multicast transmission of the preconfigured regroup cancel request.

8. The partner MCPTT server deaffiliates MCPTT client 2 from the MCPTT regroup group.

9. The partner MCPTT server sends the preconfigured regroup cancel response to the primary MCPTT server.

10. The primary MCPTT server sends a preconfigured regroup cancel response to MCPTT client 1.

\* \* \* Sixth Change \* \* \* \*

###### 10.6.2.9.3.3 Regroup rejection using preconfigured group in multiple MCPTT systems

Figure 10.6.2.9.3.3-1 illustrates the case where the procedure to initiate a regroup procedure with multiple MCPTT systems using a preconfigured MCPTT regroup group described in subclause 10.6.2.9.3.1 commences, but where the request for the regroup is rejected by the partner MCPTT server, for example because one of the groups hosted by the partner MCPTT server is already regrouped by other group regrouping procedures.

In this procedure, any gateway MC servers in the primary or partner MCPTT systems are not shown.

Pre-conditions:

- MCPTT client 1 is authorized to initiated a preconfigured regroup procedure, and is receiving MCPTT service in the primary MCPTT system of MCPTT client 1.



Figure 10.6.2.9.3.1-1: Regroup rejection using preconfigured group in multiple MCPTT systems

1. The authorized user of MCPTT client 1 initiates the regroup procedure, specifying the list of MCPTT groups to be regrouped including MCPTT group 1, the MCPTT group ID of the regroup group and the MCPTT group ID of the group from which configuration information for the regroup group is to be taken.

NOTE 1: The MCPTT group ID of the regroup group and the MCPTT group ID of the group from which configuration is taken may be the same.

2. MCPTT client 1 sends the preconfigured regroup request to the MCPTT server.

3. The MCPTT server checks that MCPTT client 1 is authorized to initiate a preconfigured regroup procedure, and resolves the group identities of the MCPTT groups requested in step 1. The MCPTT server also checks which group members are affiliated to the requested MCPTT groups that are homed in the primary MCPTT system. The MCPTT server identifies any partner systems which are the group home systems for MCPTT groups identified in the list of groups to be regrouped. The MCPTT server may retrieve the configuration for the regroup group from the GMS if that configuration information is not already known to the MCPTT server.

NOTE 2: This procedure does not require that that the authorized user of MCPTT client 1 is a group member of the MCPTT groups listed in the regroup request, or that the authorized user of MCPTT client 1 is an affiliated group member of any of the listed MCPTT groups.

4. The MCPTT server sends the preconfigured regroup requests to the MCPTT server in the partner MCPTT system.

5. The partner MCPTT server checks the status of any MCPTT groups hosted by that partner MCPTT server, and determines that one or more requested MCPTT groups has already been regrouped by another group regrouping procedure.

6. The partner MCPTT server sends a preconfigured regroup reject to the primary MCPTT server, indicating the reason for rejection.

7. The primary MCPTT server sends a preconfigured regroup reject to MCPTT client 1, indicating the reason for rejection.