**3GPP TSG-SA WG6 Meeting #30 S6-190881**

**Newport Beach, CA, USA, 8th – 12th April 2019 (revision of S6-190566, 190685, 190801)**

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| *CR-Form-v11.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.379** | **CR** | **0192** | **rev** | **3** | **Current version:** | **16.2.0** |  |
|  | | | | | | | | |
| *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:*** | Preconfigured regroup cancellation on log off | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Motorola Solutions, FirstNet | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | enh2MCPTT | | | | |  | | ***Date:*** | | 2018-04-09 |
|  |  | | | |  | | |  | |  |
| ***Category:*** | **C** |  | | | | | | ***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)* | |
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| ***Reason for change:*** | | The group regroup using preconfigured procedure is persistent until cancelled by the MCPTT server, until deaffiliation from the regrouped groups occurs, and may also need to be only persistent in the MCPTT client until the MCPTT user logs off from or loses MCPTT service. Otherwise the regrouping state of the MCPTT client will be out of step with the MCPTT server if the MCPTT server cancels the regrouping while the MCPTT user is not receiving MCPTT service.  Also to fix one missed carriage return and one typo. | | | | | | | | |
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| ***Summary of change:*** | | Additional statements are added in two procedures to state that the regrouping is removed in the client under these circumstances.  Additional <CR> between steps 4 and 5 in 10.6.2.9.2.1 and typo in 'response' in step 11 in 10.6.2.9.3.1. | | | | | | | | |
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| ***Consequences if not approved:*** | | Potential conflicting states in MCPTT client and MCPTT server when the MCPTT user next becomes service authorized. | | | | | | | | |
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| ***Clauses affected:*** | | 10.6.2.9.2.1, 10.6.2.9.3.1 | | | | | | | | |
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|  | | **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 \* \* \* \*

###### 10.6.2.9.2.1 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 5a and 5b 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.

After the group regrouping procedure, the regrouping remains in effect until explicitly cancelled by the procedure in 10.6.2.9.2.2.

MCPTT client participation in the ongoing regroup persists until the MCPTT client is no longer affiliated to any of the regrouped groups (group 1 or 2 in this procedure).

MCPTT client affiliation to the regroup group may cease when the UE's MCPTT service ceases, e.g. when the UE is powered down, or by performing a log-off operation.

Editor's note: Data persistence in the MCPTT client following a user log-off or power down needs further study.

\* \* \* Second 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 response to MCPTT client 1.

After the group regrouping procedure, the regrouping remains in effect until explicitly cancelled by the procedure in 10.6.2.9.3.2.

MCPTT client participation in the ongoing regroup persists until the MCPTT client is no longer affiliated to any of the regrouped groups (group 1 or 2 in this procedure).

MCPTT client affiliation to the regroup group may cease when the UE's MCPTT service ceases, e.g. when the UE is powered down, or by performing a log-off operation.

Editor's note: Data persistence in the MCPTT client following a user log-off or power down needs further study.