**3GPP TSG- Meeting #4*****S6-245363***

**Orlando, United States, 18th Nov 2024 - 22nd Nov 2024 was S6-245021**

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| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **379** | **CR** | **447** | **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 |  | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** | MCPTT control plane user plane separation | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Kontron Transportation France, Nokia, Ericsson, Deutsche Bahn AG, UIC, BDBOS | | | | | | | | | |
| ***Source to TSG:*** | SA6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** |  | | | | |  | ***Date:*** | | | 28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The FRMCS\_Ph5 WID contains an objective to specify the architecture and procedures to support the separation of the signalling and the media paths within an MC system. This CR contains the necessary changes to allow separate path for signalling and media for MCPTT. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 7.4.2.3.4: Add the option to deploy the floor control server separate from the MCPTT server  7.4.2.3.5: Add the option to deploy the MDF separate from the MCPTT server | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Requirement for FRMCS is not fufilled | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 7.4.2.3.4, 7.4.2.3.5 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

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

##### 7.4.2.3.4 Floor control server

This functional entity provides support for centralised floor control for on-network and distributed floor control for off-network operation. It may provide arbitration between floor control requests between different users, grant the floor in response to successful requests, and provide queuing in cases of contention. For on-network operation, this functional entity is located with the MCPTT server, however the floor control server may use a different IP address. For off-network operation, this functional entity is located in the UE.

\* \* \* Next Change \* \* \* \*

##### 7.4.2.3.5 Media distribution function

The media distribution function is responsible for the distribution of media to call participants. The media distribution function may use a different IP address than the MCPTT server. By means of information provided by the MCPTT server (e.g. IP addresses, transport layer ports), it will provide the following functionality:

- provide for the reception of uplink MCPTT UE media transmission by means of the MCPTT-7 reference point;

- replicate the media as needed for distribution to those participants using unicast transport;

- distribute downlink media to MCPTT UEs by IP unicast transmission to those participants utilizing unicast transport by means of the MCPTT-7 reference point;

- distribute downlink media to MCPTT UEs using multicast downlink transport of media for the call by means of the MCPTT-8 reference point; and

- provide a media mixing function where multiple media streams are combined (e.g. multi-talker control) into a single media stream for transmission to the MCPTT UE.

NOTE 1: If media mixing function occurs within the media distribution function, it operates independently of the media mixer in the UE.

NOTE 2: A media mixing function within the media distribution function is not possible where the media is end to end encrypted.

Group configuration data determines whether audio mixing for multi-talker control is applied by the media mixing function in the MCPTT server.

NOTE 3: If media mixing in the network is utilized, care should be taken to minimize the feedback of the user's own voice from the mixed audio in order to avoid echoes.

\* \* \* End of Changes \* \* \* \*