**3GPP TSG-CT WG1 Meeting #137-eC1-224909**

**E-Meeting, 18th – 26th August 2022**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **24.173** | **CR** | **0151** | **rev** | **-** | **Current version:** | **17.2.0** |  |
|  |
| *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 |  |

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| ***Title:***  | Indication to the NAS layer for an MT call or handed-over call |
|  |  |
| ***Source to WG:*** | MediaTek Inc. |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc18 |  | ***Date:*** | 2022-07-07 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *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 canbe 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:*** | As specified in 24.501, 4.5.5, the NAS layer will avoid double barring for an ongoing MMTEL voice/video call based on the indication from the upper layers. *For services b) to h) the 5GMM receives explicit start and stop indications from the upper layers.*Then the NAS layer will provide a correct RRC establishment cause based on that. e.g. SR after redirection, SR for RTCP packet while holding call. (The network might release the connection when there is no data in 4 seconds. And the UE is sending RTCP data in a period of 5 seconds.)However, the UE is not sending the indication to the NAS layer when the MT MMTEL call starts.Moreover, the indication for stop is only specified when an MO call stops, the indication should also be sent for an MT call or a handed-over call. |
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| ***Summary of change:*** | 1. Adding that the UE sends the indication for start to the NAS layer when MT call starts
2. Adding that the UE sends the indication for stop when the MT or the handed-over call stops
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| ***Consequences if not approved:*** | The UE will provide a wrong RRC connection establishment cause and be unable to avoid double barring during an MT call or a handed-over call. |
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| ***Clauses affected:*** |  |
|  |  |
|  | **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 \* \* \* \*

### J.2.1.2 Smart Congestion Mitigation

The following information is provided to the non-access stratum:

- MO-MMTEL-voice-started;

- MO-MMTEL-voice-ended;

- MO-MMTEL-video-started;

- MO-MMTEL-video-ended;

- MT-MMTEL-voice-started;

- MT-MMTEL-voice-ended;

- MT-MMTEL-video-started; and

- MT-MMTEL-video-ended.

Upon request from a user to establish an originating multimedia telephony communication session as described in clause 5.2, and if the session establishment is continued after performing the Service Specific Access Control as specified in clause J.2.1.1:

1) if only audio or only real-time text or only both audio and real-time text (see clause 4.2 for 3GPP systems) are offered in the multimedia telephony communication session, and no other originating multimedia telephony communication session initiated with offering only audio or only real-time text or only both audio and real-time textexists, the UE sends the MO-MMTEL-voice-started indication to the non-access stratum and continue with session establishment as described in clause 5.2;

2) if video is offered in the multimedia telephony communication session, and no other originating multimedia telephony communication session initiated with offering video exists, the UE sends the MO-MMTEL-video-started indication to the non-access stratum and continue with session establishment as described in clause 5.2.

When a terminating multimedia telephony communication session starts (i.e. an INVITE is received), the terminating multimedia telephony communication session is offering only audio or only real-time text or only both audio and real-time text (i.e. in the SDP offer in the INVITE request), and no other terminating multimedia telephony communication session started with offering only audio or only real-time text or only both audio and real-time text exists, the UE sends the MT-MMTEL-voice-started to the non-access stratum.

When a terminating multimedia telephony communication session starts (i.e. an INVITE is received), the terminating multimedia telephony communication session is offering video (i.e. in the SDP offer in the INVITE request), and no other terminating multimedia telephony communication session started with offering video exists, the UE sends the MT-MMTEL-video-started to the non-access stratum.

When an originating multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the originating multimedia telephony communication session was initiated with offering only audio or only real-time text or only both audio and real-time text (i.e. in the SDP offer in the initial INVITE request), and no other originating multimedia telephony communication session initiated with offering only audio or only real-time text or only both audio and real-time text exists, the UE sends the MO-MMTEL-voice-ended to the non-access stratum.

When an originating multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the originating multimedia telephony communication session was initiated with offering video (i.e. in the SDP offer in the initial INVITE request), and no other originating multimedia telephony communication session initiated with offering video exists, the UE sends the MO-MMTEL-video-ended indication to the non-access stratum.

When a terminating multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the terminating multimedia telephony communication session was initiated with offering only audio or only real-time text or only both audio and real-time text (i.e. in the SDP offer in the initial INVITE request), and no other terminating multimedia telephony communication session initiated with offering only audio or only real-time text or only both audio and real-time text exists, the UE sends the MO-MMTEL-voice-ended to the non-access stratum.

When a terminating multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the terminating multimedia telephony communication session was initiated with offering video (i.e. in the SDP offer in the initial INVITE request), and no other terminating multimedia telephony communication session initiated with offering video exists, the UE sends the MO-MMTEL-video-ended indication to the non-access stratum.

NOTE 1: If the UE supports other 3GPP specific mechanisms for communicating with the non-access stratum protocol implementation, e.g. DHCP discovery via PCO, then the UE is expected to support the transfer of information elements needed for the smart congestion mitigation enforcement.

NOTE 2: Adding or removing media during the multimedia telephony communication session has no impact on the information relating to smart congestion mitigation.

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

### M.2.1.1 Indications to lower layers about start and stop of MMTEL sessions

The following information is provided to the non-access stratum:

- MO-MMTEL-voice-started;

- MO-MMTEL-voice-ended;

- MO-MMTEL-video-started;

- MO-MMTEL-video-ended;

- MT-MMTEL-voice-started;

- MT-MMTEL-voice-ended;

- MT-MMTEL-video-started;

- MT-MMTEL-video-ended;

- for 3GPP access only, handover of ongoing MMTEL voice call from non-3GPP access; and

- for 3GPP access only, handover of ongoing MMTEL video call from non-3GPP access.

Upon request from a user to establish an originating multimedia telephony communication session as described in clause 5.2:

1) if the multimedia telephony communication session to be established is an emergency session, then skip the rest of steps below and continue with session establishment as described in clause 5.2;

2) if only audio or only real-time text or only both audio and real-time text (see clause 4.2 for 3GPP systems) are offered in the multimedia telephony communication session, and no other originating multimedia telephony communication session initiated with offering only audio or only real-time text or only both audio and real-time text exists, the UE sends the MO-MMTEL-voice-started indication to the non-access stratum and

a) if the barring result is "not-barred", continue with session establishment as described in clause 5.2; and

b) if the barring result is "barred", reject the multimedia telephony communication session establishment and skip the rest of steps below; and

3) if video is offered in the multimedia telephony communication session, and no other originating multimedia telephony communication session initiated with offering video exists, the UE sends the MO-MMTEL-video-started indication to the non-access stratum and

a) if the barring result is "not-barred", continue with session establishment as described in clause 5.2; and

b) if the barring result is "barred", reject the multimedia telephony communication session establishment and skip the rest of steps below.

NOTE: Adding or removing media during the multimedia telephony communication session is not subject to unified access control.

When a terminating multimedia telephony communication session starts (i.e. an INVITE is received), the terminating multimedia telephony communication session is offering only audio or only real-time text or only both audio and real-time text (i.e. in the SDP offer in the INVITE request), and no other terminating multimedia telephony communication session started with offering only audio or only real-time text or only both audio and real-time text exists, the UE sends the MT-MMTEL-voice-started to the non-access stratum.

When a terminating multimedia telephony communication session starts (i.e. an INVITE is received), the terminating multimedia telephony communication session is offering video (i.e. in the SDP offer in the INVITE request), and no other terminating multimedia telephony communication session started with offering video exists, the UE sends the MT-MMTEL-video-started to the non-access stratum.

When an originating or a handed-over multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the originating or the handed-over multimedia telephony communication session was initiated with offering only audio or only real-time text or only both audio and real-time text (i.e. in the SDP offer in the initial INVITE request), and no other originating or handed-over multimedia telephony communication session initiated with offering only audio or only real-time text or only both audio and real-time text exists, the UE sends the MO-MMTEL-voice-ended to the non-access stratum.

When an originating or a handed-over multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the originating or the handed-over multimedia telephony communication session was initiated with offering video (i.e. in the SDP offer in the initial INVITE request), and no other originating or handed-over multimedia telephony communication session initiated with offering video exists, the UE sends the MO-MMTEL-video-ended indication to the non-access stratum.

When a terminating multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the terminating multimedia telephony communication session was initiated with offering only audio or only real-time text or only both audio and real-time text (i.e. in the SDP offer in the initial INVITE request), and no other terminating multimedia telephony communication session initiated with offering only audio or only real-time text or only both audio and real-time text exists, the UE sends the MO-MMTEL-voice-ended to the non-access stratum.

When a terminating multimedia telephony communication session ends (i.e. a response to a BYE or a failure response to the initial INVITE request is transferred), the terminating multimedia telephony communication session was initiated with offering video (i.e. in the SDP offer in the initial INVITE request), and no other terminating multimedia telephony communication session initiated with offering video exists, the UE sends the MO-MMTEL-video-ended indication to the non-access stratum.

When an ongoing multimedia telephony communication session is handed over from non-3GPP access to 3GPP access:

1) if only audio or only real-time text or only both audio and real-time text (see clause 4.2 for 3GPP systems) are used in the multimedia telephony communication session, the UE sends the MO-MMTEL-voice-started indication and the handover of ongoing MMTEL voice call from non-3GPP access indication to the non-access stratum; and

2) if video is used in the multimedia telephony communication session, the UE sends the MO-MMTEL-video-started indication and the handover of ongoing MMTEL video call from non-3GPP access indication to the non-access stratum.

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