**3GPP TSG-SA WG6 Meeting #55 S6-23xxxx**

**Berlin, Germany 22nd – 26th May 2023 (revision of S6-23xxxx)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **TS23.379** | **CR** | xxxx | **rev** | **-** | **Current version:** | 18.5.1 |  |
|  | | | | | | | | |
| *For* [***HELP***](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:*** | Bearer establishment failure indication during Pre-established Session based Call Setup | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Motorola Solutions, UKHO | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | enh4MCPTT | | | | |  | ***Date:*** | | | 2023-05-10 |
|  |  | | | |  | |  | | |  |
| ***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 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | An MCPTT Call setup involves setting up unicast bearers for originating and terminating legs media path with applicable QoS and Priority characteristics. While these bearers are requested with Mission Critical Priority (QCI-65), there are possibility that sometime one or more of these bearers are failed to setup successfully by the EPC/RAN.  In such cases the MCPTT server is expected to abandon the call and indicate a failure to the originating Client.  When an MCPTT Call setup using Pre-established Session, the MCPTT Server can abandon the call setup by sending Call Disconnect message to the originator. However, the Call Disconnect message don’t include any parameter to indicate the Reason code why call is failed. This change proposed to adds the Reason Cause code value in the Call Disconnect message.  For the MCPTT Calls that are failed because of bearer setup failure can be indicated in this Reason Cause code field so that MCPTT Client can take appropriate action. | | | | | | | | |
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| ***Summary of change:*** | | * In 10.5.2.6, added Information Element for Reason Code. * In 10.5.3.2.2, added media bearer establishment failure as a reason for call disconnect in Point 2 | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | It will not be possible for client to know the exact reason for call failure, including the failure that is due to media bearer establishment resulting in unreliable service behaviour. | | | | | | | | |
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| ***Clauses affected:*** | | 10.5.2.6, 10.5.3.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 Change \* \* \* \*

#### 10.5.2.5 Pre-established session call connect request

Table 10.5.2.5-1 describes the information flow pre-established session call connect request from the MCPTT server to the MCPTT client, for the procedure defined in subclause 10.5.3.2.1 of the present document.

**Table 10.5.2.5-1: Pre-established session call connect request**

|  |  |  |
| --- | --- | --- |
| **Information element** | **Status** | **Description** |
| MCPTT group ID | O | Identity of the MCPTT group (see NOTE) |
| MCPTT ID | O | MCPTT ID of the private call MCPTT user (see NOTE) |
| Session ID | M | This element identifies the specific session ID used for pre-established sessions. |
| NOTE: Depending on type of connection either MCPTT group ID or MCPTT ID shall be present | | |

#### 10.5.2.6 Pre-established session call disconnect request

Table 10.5.2.1.6-1 describes the information flow pre-established session call disconnect request from the MCPTT server to the MCPTT client, for the procedure defined in subclause 10.5.3.2.2 of the present document.

**Table 10.5.2.6-1: Pre-established session call disconnect request**

|  |  |  |
| --- | --- | --- |
| **Information element** | **Status** | **Description** |
| MCPTT group ID | O | Identity of the MCPTT group (see NOTE) |
| MCPTT ID | O | MCPTT ID of the private call MCPTT user (see NOTE) |
| Session ID | M | This element identifies the specific session ID used for pre-established sessions. |
| Reason Cause | O | This element is set in case of call setup failure |
| NOTE: Depending on type of connection either MCPTT group ID or MCPTT ID shall be present | | |

\* \* \* 2nd Change \* \* \* \*

### 10.5.3 Procedures

#### 10.5.3.1 General

The MCPTT server and MCPTT client make use of the procedures defined in the following subclauses of the present document and the following procedures in 3GPP TS 23.280 [16]:

- pre-established session establishment;

- pre-established session modification; and

- pre-established session release.

#### 10.5.3.2 Call connect and disconnect procedures using pre-established session

##### 10.5.3.2.1 Call connect over unicast

Call connect and disconnect information flows are sent over non-SIP media plane signalling using MCPTT-4 for including or releasing an MCPTT client in the call using a pre-established session.

Figure 10.5.3.2.1-1 shows the high level procedure where a call connect information flow is sent by the MCPTT server to inform MCPTT client(s) using a pre-established session that the MCPTT client(s) has/have been connected to an MCPTT private call or group call.

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**Figure 10.5.3.2.1-1: Connect procedure**

1. Pre-established session exists between MCPTT client A and MCPTT server.

2. MCPTT server has determined to include MCPTT client A in the call e.g., upon receiving the request from another MCPTT client to include MCPTT client A in the call.

3. Pre-established session call connect request information flow is sent by the MCPTT server to inform MCPTT client A using a pre-established session that it has been connected to MCPTT private or group call. The floor control is established between floor participant A and floor control server.

##### 10.5.3.2.2 Call disconnect over unicast

Figure 10.5.3.2.2-1 shows the high level procedure where a disconnect information flow is sent by the MCPTT server to the MCPTT client A to indicate that the MCPTT private call or group call using a pre-established session has been released.

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**Figure 10.5.3.2.2-1: Disconnect procedure**

1. Floor control is ongoing within a private or group call established using pre-established session.

2. MCPTT server has determined to release MCPTT client A from the call e.g., due to call release.

3. Pre-established session call disconnect request message is sent by the MCPTT server to indicate to MCPTT client A that the MCPTT private call or group call using a pre-established session has been released. MCPTT Server may include Reason Cause if call was released due to error conditions such as media bearer setup failure. Pre-established session between MCPTT client A and MCPTT server remains for further use.