**3GPP TSG-SA WG6 Meeting #36-e S6-200374rev1**

**E-meeting, 24th - 28th Feb 2020 (revision of S6-20xxxx)**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **23.379** | **CR** | **0251** | **rev** | **-** | **Current version:** |  |  |
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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:***  | Clarification on target recipients in first-to-answer calls |
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| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, Kontron Transportation |
| ***Source to TSG:*** | S6 |
|  |  |
| ***Work item code:*** | MONASTERY2 |  | ***Date:*** | 2020-02-10 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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 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-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 current first-to-answer call setup procedure offers as target recipient address the use of an MCPTT ID and a functional alias. Unfortunatelly, it does not describe if both IDs can be used in conjunction or whether their use is exclusive. Further, the procedure mentions the option to address multiple target receipents per request, but it does not allow to send more than one MCPTT ID per request. |
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| ***Summary of change:*** | A list of MCPTT IDs is introduced and it is clarified that either this list or a functional alias is used as target address, but not both together. Since the originating MCPTT client does not know the MCPTT ID of the final terminating client until after FA and first-to-answer call resoultion, a step is added to set up the security association needed if end-to-end encryption is used. A note is added to clarify the behavier of the MCPTT server when multiple MCPTT clients share the same MCPTT ID. |
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| ***Consequences if not approved:*** | Unclear specification and stage 3 guidance. |
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| ***Clauses affected:*** | 10.15.2.1, 10.15.3 |
|  |  |
|  | **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 \* \* \* \*

#### 10.15.2.1 MCPTT first-to-answer call request (MCPTT client to MCPTT server)

Table 10.15.2.1-1 describes the information flow MCPTT first-to-answer call request from the MCPTT client to the MCPTT server.

Table 10.15.2.1-1: MCPTT first-to-answer call request (MCPTT client to MCPTT server) information elements

|  |  |  |
| --- | --- | --- |
| Information Element | Status | Description |
| MCPTT ID | M | The MCPTT ID of the calling party |
| Functional alias | O | The functional alias of the calling party |
| MCPTT ID list (see NOTE) | O | The list of MCPTT IDs of the called party |
| Functional alias (see NOTE) | O | The functional alias of the called party |
| Use floor control indication | M | This element indicates whether floor control will be used for the private call. |
| SDP offer | O | Media parameters of MCPTT client.  |
| Implicit floor request | O | An indication that the user is also requesting the floor.  |
| Location information  | O | Location of the calling party |
| NOTE: At least one identity must be present. |

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

### 10.15.3 Procedure

All clients are served by the primary MCPTT service provider in figure 10.15.3-1.

Pre-conditions:

1. The calling MCPTT user has selected first-to-answer call

2. MCPTT clients 1 to n are registered and their respective users, MCPTT user 1 to MCPTT user n, are authenticated and authorized to use the MCPTT service, as per procedure in subclause 10.2.

3. MCPTT clients 2 to n have activated the same functional alias.

4. The MCPTT server has subscribed to the MCPTT functional alias controlling server within the MC system for functional alias activation/de-activation updates.



Figure 10.15.3-1: MCPTT first-to-answer call – MCPTT users in the same MCPTT system

1. MCPTT user at MCPTT client 1 would like to establish a MCPTT first-to-answer call indicating a set of potential target recipients or by calling a functional alias. For a MCPTT first-to-answer call with floor control, floor control is to be established. For first-to-answer call without floor control, both users will have the ability to transmit without floor arbitration.

2. MCPTT client 1 sends an MCPTT first-to-answer call request including a set of potential target recipients, using either a list ofMCPTT service identifiers as defined in 3GPP TS 23.228 [5] (possible for the SIP core to route the request to the MCPTT server) or a functional alias. The MCPTT first-to-answer call request contains the MCPTT ID and may contain the functional alias of originating user and an SDP offer containing one or more media types. The MCPTT first-to-answer call request may also contain a data element that indicates that MCPTT client 1 is requesting the floor, for a first-to-answer call with floor control. The MCPTT client 1 includes a first-to-answer call indication that the call is to be established only to the first answering user.

3. The MCPTT server confirms that MCPTT users are authorized for the call and whether the MCPTT user at MCPTT client 1 is authorized to initiate a first-to-answer call. The MCPTT server checks whether the provided functional alias of the calling user, if present, can be used and has been activated for the MCPTT user.

4. The MCPTT server determines the list of MCPTT users to send MCPTT first-to-answer call request, based on a set of potential target recipients obtained from the request from MCPTT client 1. Alternatively, when a functional alias is used as target address, the MCPTT server uses the functional alias to identify the related MCPTT IDs of MCPTT client 2 to MCPTT client n. The functional alias must have been activated to identify the MCPTT IDs of the called users.

NOTE 1: The MCPTT server resolves the functional alias to a corresponding list of MCPTT clients if more than one MCPTT user has activated the functional alias.5a, 5b, 5c. The MCPTT server includes information that it communicates using MCPTT service, offers the same media types or a subset of the media types contained in the initial received request and sends similar MCPTT first-to-answer call request to each potential target recipient, including the MCPTT ID and, if present, the functional alias of the calling MCPTT user at MCPTT client 1. If one or more called MCPTT users have registered to the MCPTT service with multiple MCPTT UEs and has designated the MCPTT UE for receiving the calls, then the incoming MCPTT first-to-answer call request is delivered only to the designated MCPTT UE. Otherwise MCPTT first-to-answer call request may be delivered to all the registered MCPTT UEs.

6a, 6b, 6c. The MCPTT users are alerted, regardless of the commencement mode.

7. MCPTT user at MCPTT client 2 accepted the call which causes MCPTT client 2 to send an MCPTT first-to-answer call response to the MCPTT server.

NOTE 2: MCPTT server does not divert MCPTT first-to-answer call to voicemail if MCPTT user at MCPTT client 2 has not accepted the incoming call.

8. The MCPTT server sends an MCPTT first-to-asnwer call response to MCPTT client 1 indicating that MCPTT user at MCPTT client 2 has accepted the call, including the accepted media parameters.

9. MCPTT client 1 sets up the security association for the media with terminating MCPTT client 2 if end-to-end encryption is used for this call.

10. The media plane for communication is established. Either user can transmit media individually when using floor control. For successful call establishment for first-to-answer call with floor request from MCPTT client 1, the floor participant associated with MCPTT client 1 is granted the floor initially. At the same time the floor participant associated with MCPTT client 2 is informed that the floor is taken. For a first-to-answer call without floor control both users are allowed to transmit simultaneously.

11. MCPTT user at MCPTT client 3 has also accepted the call which causes MCPTT client 3 to send an MCPTT first-to-answer call response to the MCPTT server.

12. Since the MCPTT first-to-answer call response from MCPTT client 2 is already accepted, the MCPTT server sends a MCPTT first-to-answer call cancel request to MCPTT client 3.

13-14. MCPTT user at MCPTT client 3 may be notified that the MCPTT first-to-answer call is released with a reason for call release and MCPTT client 3 sends a MCPTT first-to-answer call cancel response.

15. MCPTT server sends a MCPTT first-to-answer call cancel request to all other MCPTT first-to-answer call request receiving users from that call. This step may happen immediately after Step 9.

16-17. MCPTT user at MCPTT client n may be notified that the MCPTT first-to-answer call is cancelled with a reason for call cancel and MCPTT client n sends a MCPTT first-to-answer call cancel response.

\* \* \* End of Change \* \* \* \*