**3GPP TSG-SA6 Meeting #37-e *S6-200635***

**Online, ,****14th May 2020 - 26th May 2020 (revision of S6-200573)**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.379** | **CR** | **0253** | **rev** | **2** | **Current version:** | **16.5.0** |  |
|  | | | | | | | | |
| *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:*** |  | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Kontron Transportation France | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | MONASTERY2 | | | | |  | ***Date:*** | | | 2020-05-06 |
|  |  | | | |  | |  | | |  |
| ***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 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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The current specification for call forwarding immediate and no answer in release 16 does not support media security. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The procedure for call forwarding immediate (and for call forwarding no answer in release 16) is changed that the initiating client gets knowledge of the target MCPPT Id and thus is able to perform media encryption. Clarified procedure to handle both manual and automatic commencement modes. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | No support for media encryption for call forwarding immediate and call forwarding no answer in release 16. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 10.7.5.1.2 (new), 10.7.5.1.3 (new), 10.7.5.2.2, 10.7.5.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*



##### 10.7.5.1.1 Void10.7.5.1.2 MCPTT private call forwarding request (MCPTT server to MCPTT client)

Table 10.7.5.1.2-1 describes the information flow of the MCPTT private call forwarding request from the MCPTT server to the MCPTT client.

Table 10.7.5.1.2-1: MCPTT private call forwarding request (MCPTT server to MCPTT client) information elements

|  |  |  |
| --- | --- | --- |
| Information Element | Status | Description |
| MCPTT ID | M | The MCPTT ID of the party to be forwarded |
| MCPTT ID | M | The target MCPTT ID of the call forwarding |

##### 10.7.5.1.3 MCPTT private call forwarding response (MCPTT client to MCPTT server)

Table 10.7.5.1.3-1 describes the information flow of the MCPTT private call forwarding response from the MCPTT client to the MCPTT server.

Table 10.7.5.1.3-1: MCPTT private call forwarding response (MCPTT client to MCPTT server) information elements

|  |  |  |
| --- | --- | --- |
| Information Element | Status | Description |
| MCPTT ID | M | The MCPTT ID of the party to be forwarded |
| MCPTT ID | M | The MCPTT ID of the target of the forwarding |
| Result | M | Result of the call forwarding request – success or fail |

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

##### 10.7.5.2.2 MCPTT immediate private call forwarding

Figure 10.7.5.2.2-1 below illustrates the procedure of immediate call forwarding of MCPTT private calls.

Pre-conditions:

1. MCPTT client 2 is authorized to use call forwarding and has immediate call forwarding enabled with the destination MCPTT client 3.

2. MCPTT client 1 is authorized to make private calls to client 2.

3. The redirection counter is below the limit.

4. MCPTT client 1 has the necessary security information to initiate a private call with MCPTT client 2 and MCPTT client 3 if end2end encryption is required for the private call.



Figure 10.7.5.2.2-1: Call forwarding immediate for private calls

1. MCPTT client 1 sends an MCPTT private call request towards the MCPTT server.

2. The MCPTT server detects that MCPTT client 2 has immediate call forwarding enabled.

3. The MCPTT server checks that the limit of immediate forwardings is not reached. The MCPTT server increments the redirection counter for immediate forwardings.

4. The MCPTT server sends a MCPTT private call forwarding request towards MCPTT client 1.

NOTE 1: The target MCPTT ID is based on the entry in the user profile for call forwarding immediate.

5. The user at MCPTT client 1 is notified that a call forwarding is in process.

6. Optionally MCPTT client 1 sends a MCPTT private call forwarding response back to the MCPTT server.

NOTE 2: Step 6 might not be sent, since it could be determined that the MCPTT call forwarding request was successful by receiving the MCPTT private call request initiated by MCPTT client 1.

7. MCPTT client 1 sends a MCPTT private call request towards the MCPTT server that includes a call forwarding indication set to true. MCPTT client 1 and MCPTT client 3 set up a security association if end-to-end encryption is used for this call.

8. The MCPTT server verifies that client 1 is authorized to perform the MCPTT private call as a result of the MCPTT private call forwarding request. The MCPTT server verifies that the MCPTT private call request contains MCPTT client 3 that is the authorized target from step 4, and the forwarding indication is set to true.

9. The MCPTT server sends a MCPTT private call request towards MCPTT client 3.

10. Optionally the MCPTT server sends a MCPTT progress indication to MCPTT client 1.

11. The user at MCPTT client 3 is alerted. MCPTT client 3 sends an MCPTT ringing to the MCPTT server. This step is not required in case of automatic commencement mode.

12. The MCPTT server sends an MCPTT ringing to MCPTT client 1. This step is not required in case of automatic commencement mode.

13. MCPTT client 3 sends an MCPTT private call response to the MCPTT server. In manual commencement mode this occurs after the user at MCPTT client 3 has accepted the call.

14. The MCPTT server sends an MCPTT private call response to MCPTT client1 indicating that MCPTT client3 has accepted the call.

15. The media plane for communication between MCPTT client 1 and MCPTT client 3 is established.

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

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

##### 10.7.5.2.3 MCPTT private call forwarding no answer

Figure 10.7.5.2.3-1 below illustrates the procedure of call forwarding no answer of MCPTT private calls.

NOTE 1: The condition no answer covers both the cases in which the user does not answer because he is not reachable, as well as the case in which he is reachable but does not answer.

Pre-conditions:

1. MCPTT client 2 is authorized to use call forwarding and has call forwarding no reply enabled with the destination MCPTT client 3.

2. MCPTT client 1 is authorized to make private calls to MCPTT client 2.

3. No forwarding with no answer has so far occurred in this call.

4. MCPTT client 1 has the necessary security information to initiate a private call with MCPTT client 2 and MCPTT client 3 if end2end encryption is required for the private call.



Figure 10.7.5.2.3-1: Call forwarding no answer for private call

1. MCPTT client 1 sends an MCPTT private call request towards the MCPTT server.

2. The MCPTT server checks if MCPTT client 2 has call forwarding no answer enabled. If the MCPTT server detects that MCPTT client 2 is not registered, the procedure continues with step 7. Otherwise the MCPTT server starts a timer with the configured no answer timeout.

3. The MCPTT server sends a MCPTT private call request in commencement mode towards MCPTT client 2. If the MCPTT server detects that MCPTT client 2 is not reachable, the procedure continues with step 7.

4. The user at MCPTT client 2 is alerted. MCPTT client 2 sends an MCPTT ringing to the MCPTT server.

5. In manual commencement mode the MCPTT server sends an MCPTT ringing to the MCPTT client 1.

6. The MCPPT server detects that MCPTT client 2 does not answer within the specified time interval.

7. The MCPTT server verifies that no other forwarding with the condition no answer has occurred so far.

8. The MCPTT server sends a MCPTT private call forwarding request towards MCPTT client 1.

NOTE 2: The target MCPTT ID is based on the entry in the user profile for call forwarding no answer.

9. The user at MCPTT client 1 is notified that a call forwarding is in process.

10. Optionally MCPTT client 1 sends a MCPTT private call forwarding response back to the MCPTT server.

NOTE 3: Step 10 might not be sent, since it could be determined that the MCPTT call forwarding request was successful by receiving the MCPTT private call request initiated by MCPTT client 1

11. MCPTT client 1 sends a MCPTT private call request towards the MCPTT server that includes a call forwarding indication set to true. MCPTT client 1 and MCPTT client 3 set up a security association if end-to-end encryption is used for this call.

12. The MCPTT server verifies that client 1 is authorized to perform the MCPTT private call as a result of the MCPTT private call forwarding request. The MCPTT server verifies that the MCPTT private call request contains MCPTT client 3 that is the authorized target from step 8, and the forwarding indication is set to true.

13. The MCPTT server sends a MCPTT private call request towards MCPTT client 3.

14. Optionally the MCPTT server sends a MCPTT progress indication to MCPTT client 1.

15. The user at MCPTT client 3 is alerted. MCPTT client 3 sends an MCPTT ringing to the MCPTT server. This step is not required in case of automatic commencement mode.

16. The MCPTT server sends an MCPTT ringing to MCPTT client 1. This step is not required in case of automatic commencement mode.

17. MCPTT client 3 sends an MCPTT private call response to the MCPTT server. In manual commencement mode this occurs after the user at MCPTT client 3 has accepted the call.

18. The MCPTT server sends an MCPTT private call response to MCPTT client 1 indicating that MCPTT client3 has accepted the call.

19. The media plane for communication between MCPTT client 1 and MCPTT client 3 is established.

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