**3GPP TSG-CT WG1 Meeting #128-eC1-21xxxx**

**Electronic meeting, 25 Feb - 05 March 2021 (was C1-210792)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.008** | **CR** | **3258** | **rev** | **1** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Correction to call state to be chosen after a b-SRVCC call transfer | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Apple | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SAES17 | | | | |  | ***Date:*** | | | 2021-02-17 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The current state selection for a b-SRVCC call (i.e pre-alerting state) after the call moves to CS domain, requires the UE to send CALL CONFIRMED in order to progress the call, which is technically not nessesary. But as this was defined in Rel-16 with C1-180117 there is no backeards compatible solution to avoid this. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | In order to avoid missinterpretations, it is propoosed to highlight in a Note that the UE must transmit a CALL CONFIRMED message to the network, even the call context (including codecs) is already available at the MSC and the CS RAB’s are already setup. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Risk of erronious UE implementation which will not send the CALL CONFIRMED message and in consequence the call is not progressed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.3.1.4 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \*\*\*\*\*

#### 5.2.4.2 Call activation for SRVCC

If the MS

- supports SRVCC and the MS has a voice media stream previously carried over the PS domain that is handed over to the CS domain via SRVCC;

- supports SRVCC or vSRVCC and the MS has a voice media stream and a video media stream of a single session previously in S1 mode carried over the PS domain and only the voice media stream is handed over to the CS domain via SRVCC; or

- supports 5G-SRVCC handover from NG-RAN to UTRAN and the MS has a voice media stream previously in the N1 mode that is handed over to the CS domain via 5G-SRVCC handover from NG-RAN to UTRAN

and the session is in the "confirmed" state (defined in IETF RFC 3261 [137]), and the call control entity in "null" state receives indication "MM connection establishment due to SRVCC handover", the call control entity of the MS shall enter the "active" state, set the auxiliary state (defined in 3GPP TS 24.083 [27]) to "idle", set the multi party auxiliary state (defined in 3GPP TS 24.084 [28]) to "idle" and indicate the call establishment to upper layers. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call. If a single voice media stream is handed over and:

- if the session is on hold, the setting of the auxiliary state (as defined in 3GPP TS 24.083 [27]) is described in 3GPP TS 24.237 [136]; and

- if the session is a conferencing session, the setting of the multi party auxiliary state (as defined in 3GPP TS 24.084 [28]) is described in 3GPP TS 24.237 [136].

If the MS supports single radio PS to CS access transfer for calls in alerting state as specified in 3GPP TS 24.237 [136] subclause 12.2.3B, and the MS has a single voice media stream over the PS domain that is handed over to the CS domain via SRVCC, and the call control entity of the MS in the "null" state receives an indication "MM connection establishment due to SRVCC handover" then:

- the call control entity shall indicate to the upper layers that call establishment is due to SRVCC handover;

- if the upper layers indicate that the media stream(s) is/are associated with a mobile originated session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.2, the call control entity of the MS shall enter the "call delivered" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call; and

- if the upper layers indicate that the media stream(s) is/are associated with a mobile terminating session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.1, the call control entity of the MS shall enter the "call received" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call.

If the MS supports single radio PS to CS SRVCC for originating calls in pre-alerting phase as specified in 3GPP TS 24.237 [136] subclause 12.2.3B, and the MS has a single voice media stream over the PS domain that is handed over to the CS domain via SRVCC, and the call control entity of the MS in the "null" state receives an indication "MM connection establishment due to SRVCC handover" then:

- the call control entity shall indicate to the upper layers that call establishment is due to SRVCC handover; and

- if the upper layers indicate that the media stream(s) is/are associated with a mobile originated session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.3, the call control entity of the MS shall enter the "mobile originating call proceeding" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call.

If the MS supports single radio PS to CS SRVCC for terminating calls in pre-alerting phase as specified in 3GPP TS 24.237 [136] subclause 12.2.3B, and the MS has a single voice media stream over the PS domain that is handed over to the CS domain via SRVCC, and the call control entity of the MS in the "null" state receives an indication "MM connection establishment due to SRVCC handover" then:

- the call control entity shall indicate to the upper layers that call establishment is due to SRVCC handover; and

- if the upper layers indicate that the media stream(s) is/are associated with a mobile terminated session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.2, the call control entity of the MS shall enter the "call present" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call.

Note: As the UE is entering "call present" state, it must send a CALL CONFIRMED message to the network, even even the call context (including codecs) is already available at the MSC in order to enter "mobile terminating call confirmed" state.

If the MS has additional voice media streams carried over the PS domain that are handed over to the CS domain via SRVCC, the call states for the transactions and the setting of the TI value and TI flag for these additional media streams are described in 3GPP TS 24.237 [136].

If the MS supports multicall, the MS shall locally set SI value to "1" and the MS shall assume that the network does not support multicall. The network shall also locally set SI value to "1".

If the MS has a mobile originating session in the "early" state (as defined in IETF RFC 3261 [137]) and is providing an internally generated alerting indication to the user prior to the SRVCC handover, then after transitioning from the PS domain, the MS shall continue to provide the internal alerting indication to the user. The alerting indication is stopped when the user connection is attached.

If the MS has a mobile originated session established upon a request from the upper layers to establish an eCall over IMS, then after transitioning from the PS domain, the MS shall support inband transfer of the updated MSD according to 3GPP TS 26.267 [161].

\*\*\*\*\* Next change \*\*\*\*\*

#### 5.2.4.2a Call activation for vSRVCC

If the MS supports vSRVCC, the MS has a voice media stream and a video media stream of a single session previously in S1 mode carried over the PS domain that are handed over to the CS domain via vSRVCC, the session associated with these media streams is in the "confirmed" state (defined in IETF RFC 3261 [137]), and the call control entity in "null" state receives indication "MM connection establishment due to vSRVCC handover", then the call control entity of the MS shall enter the "active" state, set the auxiliary state (defined in 3GPP TS 24.083 [27]) to "idle", set the multi party auxiliary state (defined in 3GPP TS 24.084 [28]) to "idle" and indicate the call establishment is due to vSRVCC handover to the upper layers. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call.

If the MS supports single radio PS to CS access transfer for calls in alerting state as specified in 3GPP TS 24.237 [136] subclause 12.2.3B, and the MS has a single voice media stream and a single video media stream carried over the PS domain that is handed over to the CS domain via vSRVCC, and the call control entity of the MS in the "null" state receives indication "MM connection establishment due to vSRVCC handover" then:

- the call control entity shall indicate to the upper layers that call establishment is due to vSRVCC handover;

- if the upper layers indicate that the media stream(s) is/are associated with a mobile originated session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.2, the call control entity of the MS shall enter the "call delivered" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call; and

- if the upper layers indicate that the media stream(s) is/are associated with a mobile terminating session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.1, the call control entity of the MS shall enter the "call received" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call.

If the MS supports single radio PS to CS SRVCC for originating calls in pre-alerting phase as specified in 3GPP TS 24.237 [136] subclause 12.2.3B, and the MS has a single voice media stream and a single video media stream carried over the PS domain that is handed over to the CS domain via vSRVCC, and the call control entity of the MS in the "null" state receives indication "MM connection establishment due to vSRVCC handover" then:

- the call control entity shall indicate to the upper layers that call establishment is due to vSRVCC handover; and

- if the upper layers indicate that the media stream(s) is/are associated with a mobile originated session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.3, the call control entity of the MS shall enter the "mobile originating call proceeding" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call.

If the MS supports single radio PS to CS SRVCC for terminating calls in pre-alerting phase as specified in 3GPP TS 24.237 [136] subclause 12.2.3B, and the MS has a single voice media stream and a single video media stream carried over the PS domain that is handed over to the CS domain via vSRVCC, and the call control entity of the MS in the "null" state receives indication "MM connection establishment due to vSRVCC handover" then:

- the call control entity shall indicate to the upper layers that call establishment is due to vSRVCC handover; and

- if the upper layers indicate that the media stream(s) is/are associated with a mobile originated session in the "early" state (defined in IETF RFC 3261 [137]) according to the conditions specified in 3GPP TS 24.237 [136] subclause 12.2.3B.3.2, the call control entity of the MS shall enter the "mobile terminating call confirmed" state for this transaction. The MS and the network shall locally set the TI value of the call to "000" and the TI flag value as in mobile terminated call.

If the MS supports multicall, the MS shall locally set SI value to "1" and the MS shall assume that the network does not support multicall. The network shall also locally set SI value to "1".If the MS has a mobile originating session in the "early" state (as defined in IETF RFC 3261 [137]) and is providing an internally generated alerting indication to the user prior to the vSRVCC handover, then after transitioning from the PS domain, the MS shall continue to provide the internal alerting indication to the user. The alerting indication is stopped when the user connection is attached.