**3GPP TSG-CT WG1 Meeting #125-eC1-20XXXX**

**Electronic meeting, 20-28 August 2020**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.229** | **CR** | **6435** | **rev** | **1** | **Current version:** | **16.6.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | IMS behavior for EPS fallback | | | | | | | | | |
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| ***Source to WG:*** | Lenovo, Motorola Mobility | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2020-08-13 |
|  |  | | | |  | |  | | |  |
| ***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) Rel-17 (Release 17)* | |
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| ***Reason for change:*** | | TS 23.502, TS 23.228 andTS 29.514 enhance the signalling to enable the P-CSCF to optimize the call session setup which was originally initiated in NR. The P-CSCF is therefore made aware once the IMS packet transmission is disabled in the NR and once the IMS packet transmission is reenabled in the EPS. This enables the P-CSCF to improve the IMS session establishment. TS 29.513 elaborates on this enhancement by P-CSCF subscribing to the EPS fallback and access network information to avoid loss of SIP signalling and to perform resource allocation in prior to forwarding the SIP message containing SDP. | | | | | | | | |
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| ***Summary of change:*** | | The CR implements the procedures for the P-CSCF to subscibe to event notifications defined in TS 29.514 to improve the IMS session establishment. | | | | | | | | |
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| ***Consequences if not approved:*** | | The functionality that the P-CSCF may choose to perform the resource allocation at the time of EPS fallback prior to forward SIP signalling when the interworking is supported without N26 interface, is not implemented. | | | | | | | | |
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| ***Clauses affected:*** | | U.3.2.X (new) | | | | | | | | |
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|  | | **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:*** | |  | | | | | | | | |

**U.3.2.X EPS fallback**

While establishing an IMS session upon authorizing the resources necessary for this IMS session over NR, a P-CSCF may subscribe to be notified when an EPS fallback starts and when the EPS fallback is completed:

a) for events for the EPS fallback and the access type change as specified in 3GPP TS 29.514 [273] for the N5 reference point; and

b) for events for the EPS fallback and the IP-CAN type change as specified in 3GPP TS 29.214 [13D] for the Rx reference point.

If the P-CSCF is subscribed to the EPS fallback and the access network information, upon a notification for an EPS fallback, the P-CSCF shall not forward any received SIP message from the remote UE, destined to the targeted UE as identified in the Contact header field of the SIP message. The received SIP message shall be forwarded to the destined UE when the P-CSCF is notified by the EPS fallback is complete i.e. a succeful havdover from NR to EPS with established voice bearer.

The P-CSCF may receive duplicate copies of the same SIP message during the completion of EPS fallback, the P-CSCF may ignore the duplicates. If the P-CSCF is not notified the EPS fallback is complete within a maximum of time duration, the P-CSCF shall consider that the EPS fallback has failed and shall proceed with the session cancellation as specified in subclause 5.2.8.1.1.

NOTE: The value of the maximum of time duration is an implementation issue.