**3GPP TSG-CT WG1 Meeting #129-eC1-21xxxx was C1-212187**

**Electronic meeting, 19-23 April 2021**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **24.301** | **CR** | **3521** | **rev** | **1** | **Current version:** | **17.2.0** |  |
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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 |  |

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| ***Title:***  | The MUSIM capable UE shall not initiate Service Request procedure for Leaving the network if Emergency service is ongoing |
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| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | C1 |
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| ***Work item code:*** | MUSIM |  | ***Date:*** | 2021-04-06 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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 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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | The MUSIM capable UE shall not initiate Service Request procedure for Leaving the network if Emergency service is ongoing, because this leads to interruption and drop of the emergency service.There is also a note added in the agreed stage-2 CR S2-2101102, which supports this behaviour as following:NOTE X: It is not expected that UE in MUSIM mode will execute UE triggered service request procedure with Leaving/Release Request indication if regulatory prioritized services (e.g. emergency service, emergency callback waiting) are ongoing. |
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| ***Summary of change:*** | Adding a requirement that the MUSIM capable UE shall not initiate Service Request procedure for Leaving the network if Emergency service is ongoing |
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| ***Consequences if not approved:*** | The emergency service may be interrupted resulting in critical situations. |
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| ***Clauses affected:*** | 5.6.1.1 |
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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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\*\*\* First change \*\*\*\*\*

5.6.1.1 General

The purpose of the service request procedure is to transfer the EMM mode from EMM-IDLE to EMM-CONNECTED mode. If the UE is not using EPS services with control plane CIoT EPS optimization, this procedure is used to establish the radio and S1 bearers when user data or signalling is to be sent. If the UE is using EPS services with control plane CIoT EPS optimization, this procedure can be used for UE initiated transfer of user data via the control plane. Another purpose of this procedure is to invoke MO/MT CS fallback or 1xCS fallback procedures.

This procedure is used when:

- the network has downlink signalling pending;

- the UE has uplink signalling pending;

- the UE or the network has user data pending and the UE is in EMM-IDLE mode;

- the UE is in EMM-CONNECTED mode and has a NAS signalling connection only; the UE is using EPS services with control plane CIoT EPS optimization, and it has user data pending which is to be transferred via user plane radio bearers;

- the UE in EMM-IDLE or EMM-CONNECTED mode has requested to perform mobile originating/terminating CS fallback or 1xCS fallback;

- the network has downlink cdma2000® signalling pending;

- the UE has uplink cdma2000® signalling pending;

- the UE has to request resources for ProSe direct discovery or Prose direct communication; or

- the UE has to request resources for V2X communication over PC5.

The service request procedure is initiated by the UE, however, for the downlink transfer of signalling, cdma2000® signalling or user data in EMM-IDLE mode, the trigger is given by the network by means of the paging procedure (see subclause 5.6.2).

The UE shall invoke the service request procedure when:

a) the UE in EMM-IDLE mode receives a paging request using S-TMSI with CN domain indicator set to "PS" from the network;

b) the UE, in EMM-IDLE mode, has pending user data to be sent;

c) the UE, in EMM-IDLE mode, has uplink signalling pending;

d) the UE in EMM-IDLE or EMM-CONNECTED mode is configured to use CS fallback and has a mobile originating CS fallback request from the upper layer;

e) the UE in EMM-IDLE mode is configured to use CS fallback and receives a paging request with CN domain indicator set to "CS", or the UE in EMM-CONNECTED mode is configured to use CS fallback and receives a CS SERVICE NOTIFICATION message;

f) the UE in EMM-IDLE or EMM-CONNECTED mode is configured to use 1xCS fallback and has a mobile originating 1xCS fallback request from the upper layer;

g) the UE in EMM-CONNECTED mode is configured to use 1xCS fallback and accepts cdma2000® signalling messages containing a 1xCS paging request received over E-UTRAN;

h) the UE, in EMM-IDLE mode, has uplink cdma2000® signalling pending to be transmitted over E-UTRAN;

i) the UE, in EMM-IDLE or EMM-CONNECTED mode, is configured to use 1xCS fallback, accepts cdma2000® signalling messages containing a 1xCS paging request received over cdma2000® 1xRTT, and the network supports dual Rx CSFB or provide CS fallback registration parameters (see 3GPP TS 36.331 [22]);

j) the UE, in EMM-IDLE or EMM-CONNECTED mode, has uplink cdma2000® signalling pending to be transmitted over cdma2000® 1xRTT, and the network supports dual Rx CSFB or provide CS fallback registration parameters (see 3GPP TS 36.331 [22]);

k) the UE performs an inter-system change from S101 mode to S1 mode and has user data pending;

l) the UE in EMM-IDLE mode has to request resources for ProSe direct discovery or Prose direct communication (see 3GPP TS 36.331 [22]); or

m) the UE, in EMM-CONNECTED mode and has a NAS signalling connection only, is using EPS services with control plane CIoT EPS optimization and has pending user data to be sent via user plane radio bearers; or

n) the UE in EMM-IDLE mode has to request resources for V2X communication over PC5 (see 3GPP TS 23.285 [47]).

If one of the above criteria to invoke the service request procedure is fulfilled, then the service request procedure may only be initiated by the UE when the following conditions are fulfilled:

- its EPS update status is EU1 UPDATED, and the TAI of the current serving cell is included in the TAI list; and

- no EMM specific procedure is ongoing.

The UE that is MUSIM capable shall not initiate service request procedure for case o if the UE is attached for emergency bearer services or if the UE has a PDN connection for emergency bearer services established.

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NOTE 1: AS indications (indications from lower layers) are results of procedures triggered by MME in service request procedure. Triggered procedures could be e.g. RRC connection reconfiguration procedure (see 3GPP TS 36.331 [22]) and inter system PS handover to GERAN or UTRAN procedure as a result of CSFB procedure (see 3GPP TS 23.272 [9]).

NOTE 2: For 1xCS fallback, the UE sends the EXTENDED SERVICE REQUEST message and starts timer T3417. The procedure is considered completed upon receiving indication of system change from AS.

**Figure 5.6.1.1.1: Service request procedure (part 1)**

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NOTE 1: Security protected NAS message: this could be e.g. a SECURITY MODE COMMAND, SERVICE ACCEPT, or ESM DATA TRANSPORT message.

NOTE 2: AS indications (indications from lower layers) are results of procedures triggered by MME in service request procedure. Triggered procedures could be e.g. an RRC connection release procedure or RRC connection reconfiguration procedure (see 3GPP TS 36.331 [22]).

**Figure 5.6.1.1.2: Service request procedure (part 2)**

A service request attempt counter is used to limit the number of service request attempts and no response from the network. The service request attempt counter shall be incremented as specified in subclause 5.6.1.6.

The service request attempt counter shall be reset when:

- a normal or periodic tracking area updating or a combined tracking area updating procedure is successfully completed;

- a service request procedure in order to obtain packet services is successfully completed;

- a service request procedure is rejected as specified in subclause 5.6.1.5 or subclause 5.3.7b; or

- the UE moves to EMM-DEREGISTERED state.

\*\*\*\*\* End of changes \*\*\*\*\*