**3GPP TSG-CT WG1 Meeting #129-eC1-212135**

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

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **23.122** | **CR** | **0687** | **rev** | **-** | **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:*** | UE behavior upon updating "user controlled list of services exempted from release due to SOR" | | | | | | | | | |
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| ***Source to WG:*** | SHARP | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
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| ***Work item code:*** | eCPSOR\_CON | | | | |  | ***Date:*** | | | 2021-04-12 |
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| ***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 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)* | |
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| ***Reason for change:*** | | A "user controlled list of services exempted from release due to SOR" was introduced in the last CT1 meeting. According to the current CT1 specification, the user may configure the UE with the "user controlled list of services exempted from release due to SOR". In other words, the user may update the UE with the new "user controlled list of services exempted from release due to SOR".  However, the UE behavior is missing upon updating "user controlled list of services exempted from release due to SOR". As with the UE behavior upon receiving a new SOR-CMCI, the current value of the running Tsor-cm timer for the associated service shall be updated upon updating "user controlled list of services exempted from release due to SOR". | | | | | | | | |
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| ***Summary of change:*** | | Add the UE behavior upon updating "user controlled list of services exempted from release due to SOR" as follows:  a) if a matching criterion is found in "user controlled list of services exempted from release due to SOR",  => Tsor-cm timer for the associated service shall be set to infinity;  b-1) if a matching criterion is not found in "user controlled list of services exempted from release due to SOR" and is found in SOR-CMCI,  => Tsor-cm timer for the associated service shall be set to a value in SOR-CMCI;  b-2) if a matching criterion is not found in "user controlled list of services exempted from release due to SOR" and is not found in SOR-CMCI,  => Tsor-cm timer for the associated service shall be set to zero; or  c) for all other cases,  => Tsor-cm timer for the associated service shall not be changed. | | | | | | | | |
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| ***Consequences if not approved:*** | | Even if the user removes a service from "user controlled list of services exempted from release due to SOR", the value of the running Tsor-cm timer for the associated service remains infinity. | | | | | | | | |
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| ***Clauses affected:*** | | C.4.1 | | | | | | | | |
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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 ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
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| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* Change \* \* \* \*

## C.4.1 General

The HPLMN, based on operator policy, may provide the UE with SOR-CMCI to control the timing when the UE enters idle mode and perform higher priority PLMN /access technology selection. This is achieved by the HPLMN indicating to the UE the criteria for releasing specific PDU session(s) or services to enter idle mode.

NOTE 1: The released PDU sessions may be re-established by the application once the UE successfully registers on a higher priority PLMN. User interaction is required for some applications.

The HPLMN may configure the SOR-CMCI in the UE, and may also provide the SOR-CMCI to the UE over N1 NAS signalling. The SOR-CMCI received over N1 NAS signalling takes precedence over the SOR-CMCI configured in the UE.

If the UE receives SOR information without SOR-CMCI, then:

1) if the UE has SOR-CMCI stored in the non-volatile memory of the ME, the UE shall use the SOR-CMCI stored in the non-volatile memory of the ME; and

2) if the UE has no SOR-CMCI stored in the non-volatile memory of the ME, the UE shall use the SOR-CMCI stored in the USIM, if any.

The UE shall store the SOR-CMCI in the non-volatile memory of the ME when:

1) the ME receives SOR-CMCI in the USAT REFRESH with command qualifier (see 3GPP TS 31.111 [41]) of type "Steering of Roaming"; or

2) the UE receives the steering of roaming information containing the SOR-CMCI over N1 NAS signalling;

The ME shall not delete the SOR-CMCI when the UE is switched off. The ME shall delete the SOR-CMCI when a new USIM is inserted.

Editor's Note: It is FFS whether the USIM or ME always needs to store the SOR-CMCI or the HPLMN needs to indicate to the UE to store the SOR-CMCI in the USIM or ME.

SOR-CMCI consists of the following parameters:

i) criteria consisting of zero, one or more PDU session attribute criterion types and zero, one or more service criteria types:

1) PDU session attribute type criterion:

a) DNN of the PDU session; and

b) S-NSSAI of the PDU session;

Editor's Note: It is FFS whether 5QI is considered as part of the PDU session attribute type criteria.

2) service type criterion:

a) IMS registration related signalling;

b) MMTEL voice call;

c) MMTEL video call;

d) MO SMS over NAS or MO SMSoIP; and

3) match all type criterion; and

Editor's Note: It is FFS whether other service criterion types or parameters are to be added.

ii) a value for Tsor-cm timer associated with each criterion presented in i) indicating the time the UE shall wait before releasing the PDU sessions and entering idle mode.

If there are more than one criterion applicable for a PDU session (ex. a criterion for the PDU session and another one for the service) then the timer Tsor-cm with the highest value shall apply.

If there are more than one criterion applicable to different ongoing PDU sessions or services leading to multiple applicable Tsor-cm timers, then all the applicable Tsor-cm timers shall be started. Further handling of such cases is described in subclause C.4.2.

If the value for Tsor-cm timer equals "infinity" then the UE shall wait until the PDU session is released or the service is stopped.

The timer Tsor-cm is applicable only if the UE is in automatic network selection mode.

Upon switching to the manual network selection mode, the UE shall stop any timer Tsor-cm, if running. In this case, the UE is not required to enter idle mode and perform the de-registration procedure.

The UE shall consider the following services as exempted from being forced to release the related established PDU session, if any, enter idle mode and perform high priority PLMN/Access technology selection. These services are known to the UE by default and the UE shall not follow the SOR-CMCI criteria even if configured to interrupt such services:

i) emergency services.

The UE configured with high priority access in the selected PLMN shall consider all services to be exempted from being forced to release the related established PDU session , if any, enter idle mode and perform high priority PLMN/Access technology selection.

The user may configure the UE with a "user controlled list of services exempted from release due to SOR", consisting of one or more of the following:

i) MMTEL voice call;

ii) MMTEL video call; and

ii) SMS over NAS or SMSoIP.

The UE shall set the value for Tsor-cm timer for all services included in the "user controlled list of services exempted from release due to SOR" to infinity.

Editor's Note: It is FFS how to ensure that the HPLMN can control if the UE can have a configured "user controlled list of services exempted from release due to SOR" and/or is aware that the UE has a configured "user controlled list of services exempted from release due to SOR", and/or the user is having a service that matches one of the services included in the "user controlled list of services exempted from release due to SOR" during SOR.

While one or more Tsor-cm timers are running, upon updating the "user controlled list of services exempted from release due to SOR", the UE shall check if there is a matching criterion found for any ongoing service in the "user controlled list of services exempted from release due to SOR":

a) if a matching criterion is found, and the current value of the running Tsor-cm timer for the associated service is not infinity, then the Tsor-cm timer value for the associated service shall be set to infinity;

b) if a matching criterion is not found, and the current value of the running Tsor-cm timer for the associated service was previously set to infinity, then the UE shall check if there is a matching criterion found for the SOR-CMCI:

1) if a matching criterion is found for the service in the SOR-CMCI, and the value of Tsor-cm timer in the SOR-CMCI is other than infinity and does not exceed the highest value of the current values of all running Tsor-cm timers, then the Tsor-cm timer value for the associated service shall be replaced with the value in the SOR-CMCI, without stopping and restarting the timer; or

2) if a matching criterion is not found for the service in the SOR-CMCI, then the Tsor-cm timer value for the associated service shall be set to zero; or

c) for all other cases, the running Tsor-cm timers for the associated services are kept unchanged.