**3GPP TSG-CT WG1 Meeting #128-eC1-210590**

**Electronic meeting, 25 February – 5 March 2021**

 ***revision of C1-210061, C1-210341***

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **23.122** | **CR** | **0645** | **rev** | **3** | **Current version:** | **17.1.1** |  |
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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:***  | Setting Tsor-cm timer for new or modified PDU sessions |
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| ***Source to WG:*** | NTT DOCOMO, ZTE |
| ***Source to TSG:*** | C1 |
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| ***Work item code:*** | eCPSOR\_CON |  | ***Date:*** | 2021-03-02 |
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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 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-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:*** | The UE may request the establishment of new PDU session(s)/service(s), or one or more PDU session modification procedures can be triggered while the Tsor-cm timer(s) is running. Such cases need to be considered while continuing to respect the ongoing SOR operation.  |
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| ***Summary of change:*** | While SOR-CMCI apply to an ongoing SOR procedure in the UE, and the UE requests the establishment of new PDU session(s)/service(s), then:1) The new PDU session/service shall be checked for matching criteria in the SOR-CMCI used by the UE for the ongoing SOR operation. 2) If there is a matching criteria, then the applicable timer Tsor-cm will be set irrespective of having other ongoing PDU sessions/services that matches the same criteria and have the corresponding timer Tsor-cm running. The timer value for Tsor-cm that corresponds to the associated criteria for the newly requested PDU session/ service shall be set to the timer value of Tsor-cm that corresponds to the associated criteria, within the SOR-CMCI, with the limitation that the value of the timer shall not to exceed the highest in value running Tsor-cm timer.3) an exception to 2) is when the UE configures the "user controlled list of services exempted from release due to SOR" and a matching criterion is found, or the newly requested PDU session or service, has matching criteria in the SOR-CMI and the associated Tsor-cm timer is set to infinity, then the UE shall set the applicable Tsor-cm timer accordingly (to infinity).Example for 2) above:IMS voice service with Tsor-cm timer is of the highest value, among other Tsor-cm timers that are running, with the actual value of 5 sec (original value in SOR-CMCI is 10 sec), then:A)- new PDU session, with a criterion match to "DNN of the PDU session" with Tsor-cm timer value in SOR-CMCI equal to 2 seconds, then 2 seconds will be set for this timer as it is lower than the actual value of the highest value Tsor-cm timer (5 seconds).B)- new PDU session, with a criterion match to "match all" with Tsor-cm timer value in SOR-CMCI equal to 8 seconds, then only 5 seconds will be set for this timer as it is shall not exceed the actual value of the highest value Tsor-cm timer (5 seconds).  |
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| ***Consequences if not approved:*** | Lack of common understanding on how to set Tsor-cm timer for newly requested PDU sessions/serivces or modified PDU sessions while SOR procedure with SOR-CMCI is ongoing. |
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| ***Clauses affected:*** | C.4.2 |
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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:*** |  |
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| ***This CR's revision history:*** | Revision-2:1-Removed the EN added in C1-210341, to further study how to set Tsor-cm if the matching criteria in the SOR-CMCI for the newly requested or modified PDU session or service indicates Tsor-cm=infinity, and solved it with the text:*if a matching criterion is found in the SOR-CMCI and the applicable Tsor-cm timer indicated the value of "infinity" then the UE shall set the Tsor-cm timer to the value equal to infinity;*2- Editorial corrections.3- Clarifying in Note-1, that changing the value of a running Tsor-cm timer means changing the value of the timer without the need to stop/restart the timer.Revision-3:1- Adding a new Note: The UE can trigger 5GSM procedures while Tsor-cm is running.2- Adding a condition how to determin the SOR-CMCI criteria when the UE has a configured "user controlled list of services exempted from release due to SOR". |

## C.4.2 Applying SOR-CMCI in the UE

During SOR procedure and while applying SOR-CMCI, the UE shall determine the time to release the PDU session(s) as follows:

- If the UE has a configured "user controlled list of services exempted from release due to SOR" and a matching criterion is found for a service included in the "user controlled list of services exempted from release due to SOR", the UE shall set the Tsor-cm timer associated to the service to infinity;

- If one or more SOR-CMCI rules are included in SOR-CMCI, where for each criterion:

a) DNN of the PDU session:

 the UE shall check whether it has a PDU session with a DNN matching to the DNN included in SOR-CMCI, and if any, the UE shall set the associated timer Tsor-cm to the value included in the SOR-CMCI;

b) S-NSSAI of the PDU session:

 the UE shall check whether it has a PDU session with a S-NSSAI matching the S-NSSAI included in SOR-CMCI, and if any, the UE shall set the associated timer Tsor-cm to the value included in the SOR-CMCI;

c) IMS registration related signalling:

 the UE shall check whether IMS registration related signalling is ongoing as specified in 3GPP TS 24.501 [64], and if it is ongoing, the UE shall set the associated timer Tsor-cm to the value included in the SOR-CMCI;

d) MMTEL voice call:

 the UE shall check whether MMTEL voice call is ongoing as specified in 3GPP TS 24.501 [64], and if it is ongoing, the UE shall set the associated timer Tsor-cm to the value included in the SOR-CMCI;

e) MMTEL video call:

 the UE shall check whether MMTEL video call is ongoing as specified in 3GPP TS 24.501 [64], and if it is ongoing, the UE shall set the associated timer Tsor-cm to the value included in the SOR-CMCI;

f) MO SMS over NAS or MO SMSoIP:

 the UE shall check whether MO SMS over NAS or MO SMSoIP services is ongoing as specified in TS 24.501 [64], and if it is ongoing, the UE shall set the associated timer Tsor-cm to the value included in the SOR-CMCI; or

g) match all:

 the UE shall set the associated timer Tsor-cm to the value included in the SOR-CMCI;

- otherwise, the UE shall consider the timer value for Tsor-cm equal to zero.

The UE shall start the timer Tsor-cm.

The timer Tsor-cm stops when the associated PDU session(s) is released or the associated service is stopped. If the value for timer Tsor-cm was selected as the highest among other values included in SOR-CMCI (see subclause C.4.1), then the timer Tsor-cm stops when the associated PDU session(s) for that timer value is release or the associated service is stopped. If the UE enters idle mode or 5GMM-CONNECTED mode with RRC inactive indication (see 3GPP TS 24.501 [64]), while timer Tsor-cm is running, then the UE stops the timer.

While one or more Tsor-cm timers are running, the UE shall check the newly established PDU session or service for a matching criterion in the SOR-CMCI:

- If the UE has a configured "user controlled list of services exempted from release due to SOR" and a matching criterion is found for a service included in the "user controlled list of services exempted from release due to SOR", the UE shall set the Tsor-cm timer associated to the service to infinity;

- if a matching criterion is found and the applicable Tsor-cm timer indicated the value "infinity" then the UE shall set the Tsor-cm timer associated to the PDU session to infinity; or

- for all other cases, if a matching criterion is found then the UE shall set the Tsor-cm timer associated to the newly established PDU session, or service, with the exception that if the value of the Tsor-cm timer exceeds the highest value among the current values of all running Tsor-cm timers, then the value of the Tsor-cm timer for the new PDU session or service shall be set to the highest value among the current values of all running Tsor-cm timers.

Note 1: The UE shall set the Tsor-cm timer for newly established PDU session or service as described above, irrespective whether other ongoing PDU sessions or services that match the same criteria are already existing and for which corresponding Tsor-cm timers are already running.

Note 2 : While one or more Tsor-cm timers are running, the UE can trigger any 5GSM procedure (e.g. request the establishment of new PDU sessions) or start new services.

When the timer Tsor-cm stops or expires, if the UE has a list of available and allowable PLMNs in the area and based on this list or any other implementation specific means, the UE determines that there is a higher priority PLMN than the selected VPLMN, then the UE shall perform the deregistration procedure (see clause 4.2.2.3 of 3GPP TS 23.502 [63]) that releases all the established PDU sessions and the UE enters idle mode and attempts to obtain service on a higher priority PLMN as specified in subclause 4.4.3.3 by acting as if timer T that controls periodic attempts has expired.

NOTE: The list of available and allowable PLMNs in the area is implementation specific.

Editor's Note: aligning the text related to the "list of available and allowable PLMNs in the area" mentioned in the paragraph above is to be aligned to what will be agreed in C.2.

The UE which has an emergency PDU session, receives a request from the upper layers to establish an emergency PDU session or perform emergency services fallback, registers for emergency services, or is configured for high priority access in the selected PLMN is not required to enter idle mode even if the timer Tsor-cm stops or expires. The UE shall attempt to perform the PLMN selection after the emergency PDU session or the high priority service is released.