**3GPP TSG-CT WG1 Meeting #131-e C1-214298**

**Electronic meeting, 19-27 August 2021**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **24.301** | **CR** |  **3561** | **rev** | **-** | **Current version:** | **17.3.0** |  |
|  |
| *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 |  |

|  |
| --- |
|  |
| ***Title:***  | Timer handling for MUSIM UEs (for 24.301) |
|  |  |
| ***Source to WG:*** | Samsung, Charter Communications, InterDigital |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | MUSIM |  | ***Date:*** | 2021-08-02 |
|  |  |  |  |  |
| ***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 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)* |
|  |  |
| ***Reason for change:*** | If the UE supporting MUSIM has indicated "NAS signalling connection release" or "Rejection of paging" in the UE request type IE of the e.g. EXTENDED SERVICE REQUEST message then the UE is expecting network to release the signaling connection immediately. If the UE faces some abnormal cases and UE does not get the release quickly then the MUSIM UE’s service on the other SIM will get delayed. How much time the UE can wait to receive the NAS signaling connection release depends on the service pending on the other SIM which can only be determined by UE implementations.Thus its clarified with a note that MUSIM UE as an implementation option may abort a service request procedure before 5s, by allowing the timer value in the implementation range of 250ms to 5s.The same handling is proposed for T3430 timer but the range is between 250ms and 15s. Changes in clause 10.2 is to make the timer values implementation dependent when SR is sent thus both NAS signaling connection release and paging reject is applicable.  Changes in 5.6.1.6 is for a case when SR is sent in connected mode with NAS signalling release request but SR failed as a result the section requires UE to remain in connected mode. For this a NOTE is proposed that based on UE implementation UE's can go to IDLE state. Given the handling is in connected mode only NAS signalling connection release is applicable. |
|  |  |
| ***Summary of change:*** | MUSIM UE as an implementation option may abort the service request procedure before 5s or TAU procedure before 15s i.e. timer value of T3417 and T3430 is between 250ms and 5s (for service request), or between 250ms and 15s (for TAU) but the exact value that is chosen is left for UE implementation.In 5.6.1.6 its clarified that as a implementation option UE can go to IDLE state even though SR was triggerred in connected state. |
|  |  |
| ***Consequences if not approved:*** | Waiting for 5s or 15s (for service request procedure or TAU procedure respectively) will negativly impact the service on an alternate SIM. |
|  |  |
| ***Clauses affected:*** | 5.6.1.6, 10.2 |
|  |  |
|  | **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 \*\*\*\*\*

#### 5.6.1.6 Abnormal cases in the UE

The following abnormal cases can be identified:

a) Access barred because of access class barring, EAB, ACDC or NAS signalling connection establishment rejected by the network without "Extended wait time" received from lower layers

 In WB-S1 mode, if the service request procedure is started in response to a paging request from the network, access class barring, EAB or ACDC is not applicable.

 In NB-S1 mode, if the service request procedure is started in response to a paging request from the network, access barring is not applicable.

 If the trigger for the service request procedure is the response to a paging request from the network and the NAS signalling connection establishment is rejected by the network, the service request procedure shall not be started. The UE stays in the current serving cell and applies normal cell reselection process. During an implementation dependent time period, the service request procedure may be started when access for "terminating calls" is granted or upon a cell change.

 If the service request was initiated for CS fallback and the access is barred for "mobile originating CS fallback" (see 3GPP TS 36.331 [22]) and the lower layer indicates "the barring is due to CSFB specific access barring information", the service request procedure shall not be started. The UE stays in the current serving cell and applies normal cell reselection process. The service request procedure may be started if it is still necessary, i.e. when access for "mobile originating CS fallback" is granted or because of a cell change.

 If the service request was initiated for CS fallback and a CS fallback cancellation request was not received and the access is barred for "mobile originating CS fallback" (see 3GPP TS 36.331 [22]) and the lower layer does not indicate "the barring is due to CSFB specific access barring information", the UE shall attempt to select GERAN or UTRAN radio access technology. If the UE finds a suitable GERAN or UTRAN cell, it then proceeds with the appropriate MM and CC specific procedures and the EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer. Otherwise the EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer.

 If the service request was initiated for 1xCS fallback and the access is barred for "originating calls" (see 3GPP TS 36.331 [22]), the UE shall select cdma2000® 1x radio access technology. The UE then proceeds with appropriate cdma2000® 1x CS procedures.

 If the lower layer indicated the access was barred because of access class barring for "originating calls" (see 3GPP TS 36.331 [22]) and if:

- the service request is initiated due to a request from upper layers for user plane radio resources, and the MO MMTEL voice call is started, the MO MMTEL video call is started or the MO SMSoIP is started;

- the service request is initiated due to a mobile originated SMS over NAS or SMS over S102; or

- the service request is initiated due to a request from upper layers for user plane radio resources, ACDC is applicable to the request and the UE supports ACDC.

 then the service request procedure shall be started. The call type used shall be per annex D of this document.

NOTE 1: If more than one of MO MMTEL voice call is started, MO MMTEL video call is started or MO SMSoIP is started conditions are satisfied, it is left to UE implementation to determine the call type based on annex D of this document.

 If access is barred for a certain ACDC category (see 3GPP TS 36.331 [22]), and if the upper layers request user plane radio resources for a higher ACDC category and the UE supports ACDC, then the service request procedure shall be started.

 If an access request for an uncategorized application is barred due to ACDC (see 3GPP TS 36.331 [22]), and if the upper layers request user plane radio resources for a certain ACDC category and the UE supports ACDC, then the service request procedure shall be started.

 Otherwise:

- In WB-S1 mode, if access is barred for "originating calls" (see 3GPP TS 36.331 [22]), the service request procedure shall not be started. The UE stays in the current serving cell and applies normal cell reselection process. The service request procedure may be started if it is still necessary when access for "originating calls" is granted or because of a cell change.

- In NB-S1 mode, if access is barred for "originating calls" (see 3GPP TS 36.331 [22]), the service request procedure shall not be started. The UE stays in the current serving cell and applies normal cell reselection process. Further UE behaviour is implementation specific, e.g. the service request procedure is started again after an implementation dependent time; or

 In NB-S1 mode, if access is barred for "originating calls" (see 3GPP TS 36.331 [22]), and a request for an exceptional event is received from the upper layers, then the service request procedure shall be started.

NOTE 2: In NB-S1 mode, the EMM layer cannot receive the access barring alleviation indication from the lower layers (see 3GPP TS 36.331 [22]).

b) Lower layer failure or release of the NAS signalling connection without "Extended wait time", without "Extended wait time CP data", and without redirection indication received from lower layers before the service request procedure is completed (see clause 5.6.1.4) or before SERVICE REJECT message is received

 If the service request was initiated for CS fallback and a CS fallback cancellation request was not received, the UE shall attempt to select GERAN or UTRAN radio access technology. If the UE finds a suitable GERAN or UTRAN cell, it then proceeds with the appropriate MM and CC specific procedures and the EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer. Otherwise the EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer, and the UE shall also set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE.

 If the service request was initiated for CS fallback and a CS fallback cancellation request was received, the UE shall set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE.

 If the service request was initiated for 1xCS fallback, the UE shall either:

- attempt to select cdma2000® 1x radio access technology and proceed with appropriate cdma2000® 1x CS procedures. If the UE fails to select cdma2000® 1x radio access technology, the UE shall set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE; or

- set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE, and perform cell selection according to 3GPP TS 36.304 [21].

 If the service request was not initiated for CS fallback or 1xCS fallback, the UE shall enter state EMM-REGISTERED.

 The UE shall abort the service request procedure, stop timer T3417, T3417ext or T3417ext-mt and locally release any resources allocated for the service request procedure.

c) T3417 expired

 The UE shall enter the state EMM-REGISTERED.

 If the UE triggered the service request procedure in EMM-IDLE mode in order to obtain packet services, then the EMM sublayer shall increment the service request attempt counter, abort the procedure and release locally any resources allocated for the service request procedure. The service request counter shall not be incremented, if:

- the service request procedure is initiated to establish a PDN connection for emergency bearer services;

- the UE has a PDN connection for emergency bearer services established;

- the UE is a UE configured to use AC11 – 15 in selected PLMN;

- the service request is initiated in response to paging from the network; or

- the UE in NB-S1 mode is requested by the upper layer to transmit user data related to an exceptional event and the UE is allowed to use exception data reporting (see the ExceptionDataReportingAllowed leaf of the NAS configuration MO in 3GPP TS 24.368 [15A] or the USIM file EFNASCONFIG in 3GPP TS 31.102 [17]).

 If the service request attempt counter is greater than or equal to 5, the UE shall start timer T3325 (see 3GPP TS 24.008 [13]). Additionally if the service request was initiated for an "originating MMTEL voice" call type or an "originating MMTEL video" call type, a notification that the service request was not accepted and that timer T3325 is running shall be provided to the upper layers.

NOTE 3: This can result in the upper layers requesting establishment of a CS voice call (if not already attempted in the CS domain), or other implementation specific mechanisms (see 3GPP TS 24.173 [13E]).

 The UE shall not attempt service request until expiry of timer T3325 unless:

- the service request is initiated in response to paging from the network;

- the UE is a UE configured to use AC11 – 15 in selected PLMN;

- the service request is initiated to establish a PDN connection for emergency bearer services;

- the UE has a PDN connection for emergency bearer services established;

- the UE is registered in a new PLMN; or

- the UE in NB-S1 mode is requested by the upper layer to transmit user data related to an exceptional event and the UE is allowed to use exception data reporting (see the ExceptionDataReportingAllowed leaf of the NAS configuration MO in 3GPP TS 24.368 [15A] or the USIM file EFNASCONFIG in 3GPP TS 31.102 [17]).

 If the service request for "originating MMTEL voice" call type was triggered while T3325 is running, a notification that the service request was not accepted and that timer T3325 is running shall be provided to the upper layers.

NOTE 4: This can result in the upper layers requesting establishment of a CS voice call (if not already attempted in the CS domain), or other implementation specific mechanisms (see 3GPP TS 24.173 [13E]).

NOTE 5: The NAS signalling connection can also be released if the UE deems that the network has failed the authentication check as specified in clause 5.4.2.7.

 If the UE triggered the service request procedure in order to obtain services other than packet services from EMM-IDLE mode, then the EMM sublayer shall abort the procedure and release locally any resources allocated for the service request procedure.

 If the UE triggered the service request procedure in EMM-CONNECTED mode, the EMM sublayer shall abort the procedure and consider the service request procedure with "active" flag set or the 1xCS fallback procedure as failed. The UE shall stay in EMM-CONNECTED mode.

NOTE 6: As an implementation option, the MUSIM capable UE is allowed to release the NAS signalling connection when it has indicated "NAS signalling connection release" in the UE request type IE of the EXTENDED SERVICE REQUEST message or CONTROL PLANE SERVICE REQUEST message.

d) T3417ext or T3417ext-mt expired

 If a CS fallback cancellation request was not received, the UE shall attempt to select GERAN or UTRAN radio access technology. If the UE finds a suitable GERAN or UTRAN cell, it then proceeds with the appropriate MM and CC specific procedures and the EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer. Otherwise the EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer, and the UE shall also set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE.

 If a CS fallback cancellation request was received the UE shall set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE.

e) SERVICE REJECT received, other EMM cause values than those treated in clause 5.6.1.5, and cases of EMM cause values #22, #25 and #31 if considered as abnormal cases according to clause 5.6.1.5.

 If the service request was initiated for CS fallback and a CS fallback cancellation request was not received, the UE shall attempt to select GERAN or UTRAN radio access technology. If the UE finds a suitable GERAN or UTRAN cell, it then proceeds with the appropriate MM and CC specific procedures and the EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer. Otherwise the EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer, and the UE shall also set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE.

 If the service request was initiated for CS fallback and a CS fallback cancellation request was received, the UE shall set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE.

 If the service request was initiated for 1xCS fallback, the UE shall select cdma2000® 1x radio access technology. The UE then proceeds with appropriate cdma2000® 1x CS procedures.

 If the service request was initiated for 1xCS fallback and the UE has dual Rx/Tx configuration and supports enhanced 1xCS fallback, then upon entering EMM-IDLE mode the UE shall perform tracking area updating procedure.

 If the service request was not initiated for CS fallback or 1xCS fallback, the UE shall enter state EMM-REGISTERED.

 The UE shall abort the service request procedure, stop timer T3417, T3417ext or T3417ext-mt and locally release any resources allocated for the service request procedure.

f) Tracking area updating procedure is triggered

 The UE shall abort the service request procedure, stop timer T3417, T3417ext or T3417ext-mt if running and perform the tracking area updating procedure. The "active" flag shall be set in the TRACKING AREA UPDATE REQUEST message. If the service request was initiated for CS fallback or 1xCS fallback, and the CS fallback cancellation request was not received, the UE shall send the EXTENDED SERVICE REQUEST message to the MME by using the existing NAS signalling connection after the completion of the tracking area updating procedure. If the TRACKING AREA UPDATE ACCEPT message includes a UE radio capability ID deletion indication IE set to "Network-assigned UE radio capability IDs deletion requested", the UE shall not initiate a new tracking area update procedure, but shall proceed with sending the EXTENDED SERVICE REQUEST message by using the existing NAS signalling connection after the completion of the tracking area updating procedure.

g) Switch off

 If the UE is in state EMM-SERVICE-REQUEST-INITIATED at switch off, the detach procedure shall be performed.

h) Detach procedure collision

 EPS detach containing detach type "re-attach required":

 If the UE receives a DETACH REQUEST message from the network in state EMM-SERVICE-REQUEST-INITIATED, the UE shall take the following actions:

- If the service request was initiated for CS fallback, the UE shall attempt to select GERAN or UTRAN radio access technology. If the UE finds a suitable GERAN or UTRAN cell, it then proceeds with the appropriate MM, CC and GMM specific procedures and the EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer. Otherwise the EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer;

- If the service request was initiated for 1xCS fallback, the UE shall attempt to select cdma2000® 1x radio access technology. The UE then proceeds with appropriate cdma2000® 1x CS procedures; or

- If the service request was not initiated for CS fallback or 1xCS fallback, the detach procedure shall be progressed and the service request procedure shall be aborted.

 EPS detach containing detach type "re-attach not required":

 If the UE receives a DETACH REQUEST message from the network in state EMM-SERVICE-REQUEST-INITIATED, the UE shall take the following actions:

- If the DETACH REQUEST message contains an EMM cause other than #2 "IMSI unknown in HSS" or no EMM cause IE, the detach procedure shall be progressed and the service request procedure shall be aborted. Additionally, if the service request was initiated for CS fallback or 1xCS fallback, but not for CS fallback for emergency call or 1xCS fallback for emergency call, the EMM sublayer shall indicate to the MM sublayer or the cdma2000® upper layers that the CS fallback or 1xCS fallback procedure has failed; or

 If the DETACH REQUEST message contains EMM cause #2 "IMSI unknown in HSS", the UE will follow the procedure as described below for the detach type "IMSI detach".

 EPS detach containing detach type "IMSI detach":

 If the UE receives a DETACH REQUEST message from the network in state EMM-SERVICE-REQUEST-INITIATED, the UE shall take the following actions:

- if the service request was initiated for SMS over NAS or CS fallback, but not for CS fallback for emergency call, the UE shall abort the service request procedure and progress the detach procedure; or

- otherwise the UE shall progress both procedures.

i) Transmission failure of SERVICE REQUEST, CONTROL PLANE SERVICE REQUEST or EXTENDED SERVICE REQUEST message indication with TAI change from lower layers

 If the current TAI is not in the TAI list, the service request procedure shall be aborted to perform the tracking area updating procedure. The "active" flag shall be set in the TRACKING AREA UPDATE REQUEST message. If the service request was initiated for CS fallback or 1xCS fallback, and the CS fallback cancellation request was not received, the UE shall send the EXTENDED SERVICE REQUEST message to the MME by using the existing NAS signalling connection after the completion of the tracking area updating procedure.

 If the current TAI is still part of the TAI list, the UE shall restart the service request procedure.

j) Transmission failure of SERVICE REQUEST, CONTROL PLANE SERVICE REQUEST or EXTENDED SERVICE REQUEST message indication without TAI change from lower layers

 The UE shall restart the service request procedure.

k) Default or dedicated bearer set up failure

 If the lower layers indicate a failure to set up a radio bearer, the UE shall locally deactivate the EPS bearer as described in clause 6.4.4.6.

l) "Extended wait time" from the lower layers

 The UE shall abort the service request procedure, enter state EMM-REGISTERED, and stop timer T3417, T3417ext or T3417ext-mt if still running.

 If the EXTENDED SERVICE REQUEST or CONTROL PLANE SERVICE REQUEST message contained the low priority indicator set to "MS is configured for NAS signalling low priority", the UE shall start timer T3346 with the "Extended wait time" value.

 If the SERVICE REQUEST message was sent by a UE configured for NAS signalling low priority, the UE shall start timer T3346 with the "Extended wait time" value.

 If the EXTENDED SERVICE REQUEST or CONTROL PLANE SERVICE REQUEST message did not contain the low priority indicator set to "MS is configured for NAS signalling low priority" or if the SERVICE REQUEST message was sent by a UE not configured for NAS signalling low priority, the UE is operating in NB-S1 mode and the UE is not a UE configured to use AC11 – 15 in selected PLMN, then the UE shall start timer T3346 with the "Extended wait time" value.

 In other cases the UE shall ignore the "Extended wait time".

 The UE stays in the current serving cell and applies normal cell reselection process. The service request procedure is started, if still necessary, when timer T3346 expires or is stopped.

 If the service request was initiated for CS fallback and a CS fallback cancellation request was not received, the UE in CS/PS mode 1 of operation shall attempt to select GERAN or UTRAN radio access technology. If the UE finds a suitable GERAN or UTRAN cell, it then proceeds with the appropriate MM and CC specific procedures and the EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer. Otherwise the EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer.

NOTE 7: If the UE disables the E-UTRA capability, then subsequent mobile terminating calls could fail.

 If the service request was initiated for CS fallback for emergency call and a CS fallback cancellation request was not received, the UE may attempt to select GERAN or UTRAN radio access technology. It then proceeds with appropriate MM and CC specific procedures. The EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer.

 If the service request was initiated for 1xCS fallback, the UE shall select cdma2000® 1x radio access technology. The UE then proceeds with appropriate cdma2000® 1x CS procedures.

 If the service request was initiated for 1xCS fallback for emergency call, the UE may select cdma2000® 1x radio access technology. The UE then proceeds with appropriate cdma2000® 1x CS procedures.

 If the service request was initiated due to a request from the SMS entity to send an SMS and timer T3246 is not running, the UE, if operating in CS/PS mode 1 of operation, may select GERAN or UTRAN radio access technology. It then proceeds with the appropriate MM procedure.

NOTE 8: If the UE disables the E-UTRA capability, then subsequent mobile terminating calls could fail.

la) "Extended wait time CP data" from the lower layers

 The UE shall abort the service request procedure for transfer of user data via the control plane, enter state EMM-REGISTERED, and stop timer T3417 if still running.

 If the UE is operating in NB-S1 mode and supports the timer T3448, the UE shall start the timer T3448 with the "Extended wait time CP data" value. If the UE is operating in NB-S1 mode and does not support the timer T3448, the UE shall start the timer T3346 with the "Extended wait time CP data" value.

 In other cases the UE shall ignore the "Extended wait time CP data".

 The UE stays in the current serving cell and applies normal cell reselection process. The service request procedure for transfer of user data via the control plane is started, if still necessary, when the timer T3448 expires or is stopped.

m) Timer T3346 is running

 The UE shall not start the service request procedure unless:

- the UE receives a paging;

- the UE is a UE configured to use AC11 – 15 in selected PLMN;

- the UE has a PDN connection for emergency bearer services established or is establishing a PDN connection for emergency bearer services;

- the UE is requested by the upper layer for a CS fallback for emergency call or a 1xCS fallback for emergency call;

- the UE has a PDN connection established without the NAS signalling low priority indication or is establishing a PDN connection without the NAS signalling low priority indication and if the timer T3346 was started due to rejection of a NAS request message (e.g. ATTACH REQUEST, TRACKING AREA UPDATE REQUEST, EXTENDED SERVICE REQUEST or CONTROL PLANE SERVICE REQUEST) which contained the low priority indicator set to "MS is configured for NAS signalling low priority"; or

- the UE in NB-S1 mode is requested by the upper layer to transmit user data related to an exceptional event and:

- the UE is allowed to use exception data reporting (see the ExceptionDataReportingAllowed leaf of the NAS configuration MO in 3GPP TS 24.368 [15A] or the USIM file EFNASCONFIG in 3GPP TS 31.102 [17]); and

- timer T3346 was not started when NAS signalling connection was established with RRC establishment cause set to "MO exception data".

 If the UE is in EMM-IDLE mode, the UE stays in the current serving cell and applies normal cell reselection process. The service request procedure is started, if still necessary, when timer T3346 expires or is stopped.

 Upon upper layer's request for a mobile originated CS fallback which is not for emergency call, the UE in CS/PS mode 1 of operation shall attempt to select GERAN or UTRAN radio access technology. If the UE finds a suitable GERAN or UTRAN cell, it then proceeds with the appropriate MM and CC specific procedures and the EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer. Otherwise the EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer.

NOTE 9: If the UE disables the E-UTRA capability, then subsequent mobile terminating calls could fail.

 Upon upper layer's request for a CS fallback for emergency call, the UE may select GERAN or UTRAN radio access technology. It then proceeds with appropriate MM and CC specific procedures. The EMM sublayer shall not indicate the abort of the service request procedure to the MM sublayer.

 Upon a request from the SMS entity to send an SMS and timer T3246 is not running, the UE, if operating in CS/PS mode 1 of operation, may select GERAN or UTRAN radio access technology. It then proceeds with the appropriate MM procedure.

NOTE 10: If the UE disables the E-UTRA capability, then subsequent mobile terminating calls could fail.

 Upon upper layer's request for a mobile originated 1x CS fallback which is not for emergency call, the UE shall select cdma2000® 1x radio access technology. The UE then proceeds with appropriate cdma2000® 1x CS call procedures.

 Upon upper layer's request for a 1xCS fallback for emergency call, the UE may select cdma2000® 1x radio access technology. The UE then proceeds with appropriate cdma2000® 1x CS call procedures.

 If the service request procedure was triggered for an MO MMTEL voice call is started, a notification that the service request procedure was not initiated due to congestion shall be provided to the upper layers.

NOTE 11: This can result in the upper layers requesting establishment of the originating voice call on an alternative manner e.g. requesting establishment of a CS voice call (see 3GPP TS 24.173 [13E]).

n) Failure to find a suitable GERAN or UTRAN cell, after release of the NAS signalling connection without "Extended wait time" and with redirection indication received from lower layers when the service request was initiated for CS fallback

 The EMM sublayer shall indicate the abort of the service request procedure to the MM sublayer, and the UE shall also set the EPS update status to EU2 NOT UPDATED and enter the state EMM-REGISTERED.ATTEMPTING-TO-UPDATE.

 The UE shall abort the service request procedure, stop timer T3417ext or T3417ext-mt and locally release any resources allocated for the service request procedure.

o) Timer T3448 is running

 The UE in EMM-IDLE mode shall not initiate the service request procedure for transport of user data via the control plane unless:

- the UE is a UE configured to use AC11 – 15 in selected PLMN;

- the UE which is only using EPS services with control plane CIoT EPS optimization received a paging; or

- the UE in NB-S1 mode is requested by the upper layer to transmit user data related to an exceptional event and the UE is allowed to use exception data reporting (see the ExceptionDataReportingAllowed leaf of the NAS configuration MO in 3GPP TS 24.368 [15A] or the USIM file EFNASCONFIG in 3GPP TS 31.102 [17]).

 The UE stays in the current serving cell and applies the normal cell reselection process.

p) Timer T3447 is running

 The UE shall not start any service request procedure unless:

- the UE receives a paging;

- the UE is a UE configured to use AC11 – 15 in selected PLMN;

- the UE has a PDN connection for emergency bearer services established or is establishing a PDN connection for emergency bearer services.

 The UE stays in the current serving cell and applies the normal cell reselection process. The service request procedure is started, if still necessary, when timer T3447 expires.

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

## 10.2 Timers of EPS mobility management

Table 10.2.1: EPS mobility management timers – UE side

| TIMER NUM. | TIMER VALUE | STATE | CAUSE OF START | NORMAL STOP | ON EXPIRY |
| --- | --- | --- | --- | --- | --- |
| T3402 | Default 12 min.NOTE 1 | EMM-DEREGISTEREDEMM-REGISTERED | At attach failure and the attempt counter is equal to 5.At tracking area updating failure and the attempt counter is equal to 5.ATTACH ACCEPT with EMM cause #16 or #17 and the attempt counter is equal to 5 for CS/PS mode 2 UE, or ATTACH ACCEPT with EMM cause #22, as described in clause 5.5.1.3.4.3.TRACKING AREA UPDATE ACCEPT with EMM cause #16 or #17 and the attempt counter is equal to 5 for CS/PS mode 2 UE, TRACKING AREA UPDATE ACCEPT with EMM cause #16 or #17 and the attempt counter is equal to 5 for CS/PS mode 1 UE with "IMS voice not available" and with a persistent EPS bearer context, or TRACKING AREA UPDATE ACCEPT with EMM cause #22, as described in clause 5.5.3.3.4.3.ATTACH ACCEPT and the attempt counter is equal to 5 as described in clause 5.5.1.2.4A and 5.5.1.2.6A.TRACKING AREA UPDATE ACCEPT and the attempt counter is equal to 5 as described in clause 5.5.3.2.4A and 5.5.3.2.6A.DETACH REQUEST with other EMM cause values than those treated in clause 5.5.2.3.2 or no EMM cause IE and Detach type IE indicates "re-attach not required" as described in clause 5.5.2.3.4.  | ATTACH REQUEST sentTRACKING AREA UPDATE REQUEST sentNAS signalling connection released | Initiation of the attach procedure, if still required or TAU procedure |
| T3410 | 15sNOTE 7NOTE 8In WB-S1/CE mode, 85s | EMM-REGISTERED-INITIATED | ATTACH REQUEST sent | ATTACH ACCEPT receivedATTACH REJECT received | Start T3411 or T3402 as described in clause 5.5.1.2.6 |
| T3411 | 10s | EMM-DEREGISTERED. ATTEMPTING-TO-ATTACHEMM-REGISTERED. ATTEMPTING-TO-UPDATEEMM-REGISTERED. NORMAL-SERVICE | At attach failure due to lower layer failure, T3410 timeout or attach rejected with other EMM cause values than those treated in clause 5.5.1.2.5.At tracking area updating failure due to lower layer failure, T3430 timeout or TAU rejected with other EMM cause values than those treated in clause 5.5.3.2.5.ATTACH ACCEPT and the attempt counter is less than 5 as described in clause 5.5.1.2.4A and 5.5.1.2.6A.TRACKING AREA UPDATE ACCEPT and the attempt counter is less than 5 as described in clause 5.5.3.2.4A and 5.5.3.2.6A. | ATTACH REQUEST sentTRACKING AREA UPDATE REQUEST sentEMM-CONNECTED mode entered (NOTE 6) | Retransmission of the ATTACH REQUEST, if still required as described in clause 5.5.1.2.6 or retransmission of TRACKING AREA UPDATE REQUEST |
| T3412 | Default 54 min.NOTE 2NOTE 5 | EMM-REGISTERED | In EMM-REGISTERED, when EMM-CONNECTED mode is left. | When entering state EMM-DEREGISTERED or when entering EMM-CONNECTED mode.  | Initiation of the periodic TAU procedure if the UE is not attached for emergency bearer services or T3423 started under the conditions as specified in clause 5.3.5.Implicit detach from network if the UE is attached for emergency bearer services. |
| T3416 | 30sNOTE 7NOTE 8In WB-S1/CE mode, 48s | EMM-REGISTERED-INITIATEDEMM-REGISTEREDEMM-DEREGISTERED-INITIATEDEMM-TRACKING-AREA-UPDATING-INITIATEDEMM-SERVICE-REQUEST-INITIATED | RAND and RES stored as a result of an EPS authentication challenge | SECURITY MODE COMMAND receivedSERVICE REJECT receivedSERVICE ACCEPT receivedTRACKING AREA UPDATE ACCEPT receivedAUTHENTICATION REJECT receivedAUTHENTICATION FAILURE sentEMM-DEREGISTERED, EMM-NULL orEMM-IDLE mode entered | Delete the stored RAND and RES |
| T3417 | 5s NOTE 7NOTE 8NOTE 13In WB-S1/CE mode, 51s | EMM-SERVICE-REQUEST-INITIATED | SERVICE REQUEST sentEXTENDED SERVICE REQUEST sent in case f, g, i and j in clause 5.6.1.1EXTENDED SERVICE REQUEST sent with service type set to "packet services via S1" in case a, b, c, h and k in clause 5.6.1.1CONTROL PLANE SERVICE REQUEST sent as specified in clause 5.6.1.2.2 | Bearers have been set upSERVICE REJECT receivedSERVICE ACCEPT receivedIndication of system change from lower layer receivedcdma2000® 1xCS fallback rejection receivedsee clause 5.6.1.4.2 | Abort the procedure |
| T3417ext | 10s | EMM-SERVICE-REQUEST-INITIATED | EXTENDED SERVICE REQUEST sent in case d in clause 5.6.1.1 | Inter-system change from S1 mode to A/Gb mode or Iu mode is completedInter-system change from S1 mode to A/Gb mode or Iu mode is failedSERVICE REJECT received | Select GERAN or UTRAN |
| T3417ext-mt | 4s | EMM-SERVICE-REQUEST-INITIATED | EXTENDED SERVICE REQUEST sent in case e in clause 5.6.1.1 and the CSFB response was set to "CS fallback accepted by the UE" | Inter-system change from S1 mode to A/Gb mode or Iu mode is completedInter-system change from S1 mode to A/Gb mode or Iu mode is failedSERVICE REJECT received | Select GERAN or UTRAN |
| T3418 | 20sNOTE 7NOTE 8In WB-S1/CE mode, 38s | EMM-REGISTERED-INITIATEDEMM-REGISTEREDEMM-TRACKING-AREA-UPDATING-INITIATEDEMM-DEREGISTERED-INITIATEDEMM-SERVICE-REQUEST-INITIATED | AUTHENTICATION FAILURE (EMM cause = #20 "MAC failure" or #26 "non-EPS authentication unacceptable") sent | AUTHENTICATION REQUEST received or AUTHENTICATION REJECT receivedorSECURITY MODE COMMAND receivedwhen entering EMM-IDLE modeindication of transmission failure of AUTHENTICATION FAILURE message from lower layers | On first expiry, the UE should consider the network as false and follow item f of clause 5.4.2.7, if the UE is not attached for emergency bearer services or access to RLOS.On first expiry, the UE will follow clause 5.4.2.7 under "For items c, d, and e:", if the UE is attached for emergency bearer services or if the UE is attached for access to RLOS. |
| T3420 | 15sNOTE 7NOTE 8In WB-S1/CE mode, 33s | EMM-REGISTERED-INITIATEDEMM-REGISTEREDEMM-DEREGISTERED-INITIATEDEMM-TRACKING-AREA-UPDATING-INITIATEDEMM-SERVICE-REQUEST-INITIATED | AUTHENTICATION FAILURE (cause = #21 "synch failure") sent | AUTHENTICATION REQUEST received or AUTHENTICATION REJECT receivedorSECURITY MODE COMMAND receivedwhen entering EMM-IDLE modeindication of transmission failure of AUTHENTICATION FAILURE message from lower layers | On first expiry, the UE should consider the network as false and follow item f of clause 5.4.2.7, if the UE is not attached for emergency bearer services or access to RLOS.On first expiry, the UE will follow clause 5.4.2.7 under "For items c, d, and e:", if the UE is attached for emergency bearer services or if the UE is attached for access to RLOS. |
| T3421 | 15sNOTE 7NOTE 8In WB-S1/CE mode, 45s | EMM-DEREGISTERED-INITIATEDEMM-REGISTERED.IMSI-DETACH-INITIATED | DETACH REQUEST sent withthe Detach type IE not indicating "switch off" | DETACH ACCEPT received | Retransmission of DETACH REQUEST |
| T3423 | NOTE 3 | EMM-REGISTERED | T3412 expires while ISR is activated and either T3346 is running or the UE is in one of the following states:- EMM-REGISTERED.NO-CELL-AVAILABLE;- EMM-REGISTERED.PLMN-SEARCH;-EMM-REGISTERED.UPDATE-NEEDED; or-EMM-REGISTERED.LIMITED-SERVICE. | When entering state EMM-DEREGISTERED or when entering EMM-CONNECTED mode. | Set TIN to "P‑TMSI".For A/Gb mode or Iu mode, see 3GPP TS 24.008 [13] |
| T3430 | 15sNOTE 7NOTE 8In WB-S1/CE mode, 77sNOTE 14 | EMM-TRACKING-AREA-UPDATING-INITIATED | TRACKING AREA UPDATE REQUEST sent | TRACKING AREA UPDATE ACCEPT receivedTRACKING AREA UPDATE REJECT received | Start T3411 or T3402 as described in clause 5.5.3.2.6 |
| T3440 | 10s | EMM-DEREGISTERED EMM-REGISTERED | ATTACH REJECT, DETACH REQUEST, TRACKING AREA UPDATE REJECT with any of the EMM cause #3, #6, #7, #8, #11, #12, #13, #14, #15, #25, #31 or #35SERVICE REJECT received with any of the EMM cause #3, #6, #7, #8, #11, #12, #13, #15, #25, #31, #35 or #39TRACKING AREA UPDATE ACCEPT received after the UE sent TRACKING AREA UPDATE REQUEST in EMM-IDLE mode without the "active" flag set and without the "signalling active" flag set, and the user-plane radio bearers have not been setupDETACH ACCEPT received after the UE sent DETACH REQUEST with detach type to "IMSI detach"Upon receipt of ESM DATA TRANSPORT message as described in clause 5.3.1.2.1 (NOTE 9)AUTHENTICATION REJECT received | NAS signalling connection releasedBearers have been set up or a request for PDN connection for emergency bearer services or a CS emergency call is startedUpon receipt of ESM DATA TRANSPORT message as described in clause 5.3.1.2.1 (NOTE 9) | Release the NAS signalling connection for the cases a), b) and c) as described in clause 5.3.1.2 |
| EMM-DEREGISTEREDEMM-DEREGISTERED.NORMAL-SERVICE | TRACKING AREA UPDATE REJECT, SERVICE REJECT with any of the EMM cause #9, #10 or #40 | NAS signalling connection released | Release the NAS signalling connection for the cases d) and e) as described in clause 5.3.1.2 and initiation of the attach procedure as specified in clause 5.5.3.2.5, 5.5.3.3.5 or 5.6.1.5  |
| T3442 | NOTE 4 | EMM-REGISTERED | SERVICE REJECT received with EMM cause #39 "CS service temporarily not available" with a non-zero T3442 value | TRACKING AREA UPDATE REQUEST sent | None |
| T3444 | NOTE 11 | All except EMM-NULL and 5GMM-NULL (defined in 3GPP TS 24.501 [54]) | - UE configured for eCall only mode enters EMM-IDLE mode after an eCall over IMS- UE configured for eCall only mode moves from GERAN/UTRAN to E-UTRAN with timer T3242 (see 3GPP TS 24.008 [13]) running- UE configured for eCall only mode enters 5GMM-IDLE mode (defined in 3GPP TS 24.501 [54]) after an eCall over IMS | - Removal of eCall only restriction- Intersystem change from S1 mode to A/Gb or Iu mode | Perform eCall inactivity procedure in EPS as described in clause 5.5.4.Perform eCall inactivity procedure in 5GS as described in 3GPP TS 24.501 [54]. |
| T3445 | NOTE 12 | All except EMM-NULL and 5GMM-NULL (defined in 3GPP TS 24.501 [54]) | - UE configured for eCall only mode enters EMM-IDLE mode after a call to a non-emergency MSISDN or URI for test or terminal reconfiguration service- UE configured for eCall only mode moves from GERAN/UTRAN to E-UTRAN with timer T3243 (see 3GPP TS 24.008 [13]) running- UE configured for eCall only mode enters 5GMM-IDLE mode (defined in 3GPP TS 24.501 [54]) after a call to a non-emergency MSISDN or URI for test or terminal reconfiguration service | Removal of eCall only restriction- Intersystem change from S1 mode to A/Gb or Iu mode | Perform eCall inactivity procedure in EPS as described in clause 5.5.4.Perform eCall inactivity procedure in 5GS as described in 3GPP TS 24.501 [54]. |
| T3447 | NOTE 2 | All except EMM-NULL | NAS signalling connection release that was not established for paging, attach without PDN connection or tracking area update request without "active" or "signalling active" flag set.N1 NAS signalling connection release that was not established due to paging, or REGISTRATION REQUEST for initial registration with Follow-on request indicator set to "No follow-on request pending", or REGISTRATION REQUEST for mobility and periodic registration update with Follow-on request indicator set to "No follow-on request pending" and without Uplink data status IE included (defined in 3GPP TS 24.501 [54]). | ATTACH ACCEPT or TRACKING AREA UPDATE ACCEPT without the T3447 value IE.Inter-system change from S1 mode to A/Gb mode or Iu mode is completedREGISTRATION ACCEPT without the T3447 value IE (defined in 3GPP TS 24.501 [54]). CONFIGURATION UPDATE COMMAND with the T3447 value IE set to zero or deactivated (defined in 3GPP TS 24.501 [54]). | Allowed to initiate transfer of uplink user data |
| T3448 | NOTE 10 | All except EMM-NULL and 5GMM-NULL (defined in 3GPP TS 24.501 [54]) | ATTACH ACCEPT message or TRACKING AREA UPDATE ACCEPT message or SERVICE ACCEPT message received with a non-zero T3448 value.SERVICE REJECT message received with EMM cause #22 "Congestion" and a non-zero T3448 value.REGISTRATION ACCEPT message or SERVICE ACCEPT message received with a non-zero T3448 value (defined in 3GPP TS 24.501 [54])SERVICE REJECT message received with 5GMM cause #22 "Congestion" and a non-zero T3448 value(defined in 3GPP TS 24.501 [54]) | SERVICE ACCEPT message or TRACKING AREA UPDATE ACCEPT message received without T3448 valueSERVICE ACCEPT message or REGISTRATION ACCEPT message received without T3448 value(defined in 3GPP TS 24.501 [54]) | Allowed to initiate transfer of user data via the control plane |
| T3449 | 5sNOTE 7NOTE 8In WB-S1/CE mode, 51s | EMM-REGISTERED | Bearers have been set upSECURITY MODE COMMAND message received | SERVICE ACCEPT message receivedSecurity protected ESM message or a security protected EMM message not related to an EMM common procedure received | SERVICE ACCEPT message considered as a protocol error and EMM STATUS returned |
| NOTE 1: The cases in which the default value of this timer is used are described in clause 5.3.6.NOTE 2: The value of this timer is provided by the network operator during the attach and tracking area updating procedures.NOTE 3: The value of this timer may be provided by the network in the ATTACH ACCEPT message and TRACKING AREA UPDATE ACCEPT message. The default value of this timer is identical to the value of T3412.NOTE 4: The value of this timer is provided by the network operator when a service request for CS fallback is rejected by the network with EMM cause #39 "CS service temporarily not available".NOTE 5: The default value of this timer is used if the network does not indicate a value in the TRACKING AREA UPDATE ACCEPT message and the UE does not have a stored value for this timer.NOTE 6: The conditions for which this applies are described in clause 5.5.3.2.6.NOTE 7: In NB-S1 mode, the timer value shall be calculated as described in clause 4.7.NOTE 8: In WB-S1 mode, if the UE supports CE mode B and operates in either CE mode A or CE mode B, then the timer value is as described in this table for the case of WB-S1/CE mode (see clause 4.8).NOTE 9: It is possible that the UE does not stop or start timer T3440 upon receipt of ESM DATA TRANSPORT message as described in clause 5.3.1.2.1.NOTE 10: The timer value is provided by the network in the ATTACH ACCEPT, TRACKING AREA UPDATE ACCEPT, SERVICE ACCEPT, SERVICE REJECT or REGISTRATION ACCEPT message, or chosen randomly from a default value range of 15 – 30 minutes.NOTE 11: If the timer is started due to a UE configured for eCall only mode moving from GERAN/UTRAN to E-UTRAN with timer T3242 (see 3GPP TS 24.008 [13]) running, the UE starts the timer with a value set to the time left on timer T3242. Otherwise the UE starts the timer with a value set to 12 hours.NOTE 12: If the timer is started due to a UE configured for eCall only mode moving from GERAN/UTRAN to E-UTRAN with timer T3243 (see 3GPP TS 24.008 [13]) running, the UE starts the timer with a value set to the time left on timer T3243. Otherwise the UE starts the timer with a value set to 12 hours.NOTE 13: Based on implementation, the timer may be set to a value between 250ms and 5s when the UE which supports MUSIM indicates "NAS signalling connection release" or "Rejection of paging" in the UE request type IE of the EXTENDED SERVICE REQUEST message or CONTROL PLANE SERVICE REQUEST message.NOTE 14: Based on implementation, the timer may be set to a value between 250ms and 15s when the UE which supports MUSIM indicates "NAS signalling connection release" or "Rejection of paging" in the UE request type IE of the TRACKING AREA UPDATE REQUEST message. |

Table 10.2.2: EPS mobility management timers – network side

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| TIMER NUM. | TIMER VALUE | STATE  | CAUSE OF START | NORMAL STOP | ON THE1st, 2nd, 3rd, 4th EXPIRY (NOTE 1) |
| T3413NOTE 8 NOTE 10 | NOTE 2 | EMM-REGISTERED | Paging procedure for EPS services initiated | Paging procedure for EPS services completedPaging procedure is aborted | Network dependent |
| T3415 NOTE 8NOTE 10 | NOTE 6 | EMM-REGISTERED | Paging procedure for EPS services initiated for a UE which the network accepted the request to use eDRX and the UE does not have a PDN connection for emergency bearer services | Paging procedure for EPS services completedPaging procedure is aborted | Paging procedure is aborted and the network proceeds as specified in 3GPP TS 23.401 [10] |
| T3422NOTE 7NOTE 9 | 6sIn WB-S1/CE mode, 24s | EMM-DEREGISTERED-INITIATED | DETACH REQUEST sent | DETACH ACCEPT received | Retransmission of DETACH REQUEST |
| T3447 | NOTE 2 | All | UE transitions from EMM-CONNECTED mode to EMM-IDLE mode except when UE was in EMM-CONNECTED mode due to paging, attach without PDN connection or tracking area update request without "active" or "signalling active" flag setUE transitions from 5GMM-CONNECTED mode to 5GMM-IDLE mode except when UE was in 5GMM-CONNECTED mode due to paging, REGISTRATION REQUEST for initial registration with Follow-on request indicator set to "No follow-on request pending", or REGISTRATION REQUEST for mobility and periodic registration update with Follow-on request indicator set to "No follow-on request pending" and without Uplink data status IE included. | ATTACH ACCEPT or TRACKING AREA UPDATE ACCEPT without the T3447 value IE. At MME during inter-system change from S1 mode to N1 mode.REGISTRATION ACCEPT without the T3447 value IE (defined in 3GPP TS 24.501 [54]). CONFIGURATION UPDATE COMMAND with the T3447 value IE set to zero or deactivated (defined in 3GPP TS 24.501 [54]). At AMF during inter-system change from N1 mode to S1 mode defined in 3GPP TS 24.501 [54]). | Allow the UE to initiate a connection for transfer of uplink user data. |
| T3450NOTE 7NOTE 9 | 6sIn WB-S1/CE mode, 18s | EMM-COMMON-PROC-INIT | ATTACH ACCEPT sentTRACKING AREA UPDATE ACCEPT sent with GUTITRACKING AREA UPDATE ACCEPT sent with TMSIGUTI REALLOCATION COMMAND sent | ATTACH COMPLETE receivedTRACKING AREA UPDATE COMPLETE receivedGUTI REALLOCATION COMPLETE received | Retransmission of the same message type, i.e. ATTACH ACCEPT, TRACKING AREA UPDATE ACCEPT or GUTI REALLOCATION COMMAND |
| T3460NOTE 7NOTE 9 | 6sIn WB-S1/CE mode, 24s | EMM-COMMON-PROC-INIT | AUTHENTICATION REQUEST sentSECURITY MODE COMMAND sent | AUTHENTICATION RESPONSE receivedAUTHENTICATION FAILURE receivedSECURITY MODE COMPLETE receivedSECURITY MODE REJECT received | Retransmission of the same message type, i.e. AUTHENTICATION REQUESTor SECURITY MODE COMMAND |
| T3470NOTE 7NOTE 9 | 6sIn WB-S1 mode, 24s | EMM-COMMON-PROC-INIT | IDENTITY REQUEST sent | IDENTITY RESPONSE received | Retransmission of IDENTITY REQUEST |
| Mobile reachable | NOTE 4 | All except EMM-DEREGISTERED | Entering EMM-IDLE mode | NAS signalling connection established | Network dependent, but typically paging is halted on 1st expiry if the UE is not attached for emergency bearer services.Implicitly detach the UE which is attached for emergency bearer services. |
| Implicit detach timer | NOTE 3 | All except EMM-DEREGISTERED | The mobile reachable timer expires while the network is in EMM-IDLE mode  | NAS signalling connection established | Implicitly detach the UE on 1st expiry |
| active timer | NOTE 5 | All except EMM-DEREGISTERED | Entering EMM-IDLE mode | NAS signalling connection established | Network dependent, but typically paging is halted on 1st expiry  |
| NOTE 1: Typically, the procedures are aborted on the fifth expiry of the relevant timer. Exceptions are described in the corresponding procedure description.NOTE 2: The value of this timer is network dependent.NOTE 3: The value of this timer is network dependent. If ISR is activated, the default value of this timer is 4 minutes greater than T3423.NOTE 4: The default value of this timer is 4 minutes greater than T3412. If T3346 is larger than T3412 and the MME includes timer T3346 in the TRACKING AREA UPDATE REJECT message or SERVICE REJECT message, the value of the mobile reachable timer and implicit detach timer is set such that the sum of the timer values is greater than T3346. If the UE is attached for emergency bearer services, the value of this timer is set equal to T3412.NOTE 5: If the MME includes timer T3324 in the ATTACH ACCEPT message or TRACKING AREA UPDATE ACCEPT message and if the UE is not attached for emergency bearer services and has no PDN connection for emergency bearer services, the value of this timer is equal to the value of timer T3324.NOTE 6: The value of this timer is smaller than the value of timer T3-RESPONSE (see 3GPP TS 29.274 [16D]).NOTE 7: In NB-S1 mode, then the timer value shall be calculated as described in clause 4.7.NOTE 8: In NB-S1 mode, then the timer value shall be calculated by using an NAS timer value which is network dependent.NOTE 9: In WB-S1 mode, if the UE supports CE mode B and operates in either CE mode A or CE mode B, then the timer value is as described in this table for the case of WB-S1/CE mode (see clause 4.8).NOTE 10: In WB-S1 mode, if the UE supports CE mode B, then the timer value shall be calculated by using an NAS timer value which value is network dependent. |

\*\*\*\*\* End change \*\*\*\*\*