**3GPP TSG-CT WG1 Meeting #141eC1-232334**

**Online 17– 21 April 2023**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
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|  |  | **CR** |  | **rev** |  | **Current version:** | **18.2.1** |  |
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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 | **x** |

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|  |
| ***Title:***  | Support of network slice replacement during PDU session release procedure |
|  |  |
| ***Source to WG:*** | , Nokia, Nokia Shanghai Bell, ZTE, SHARP |
| ***Source to TSG:*** |  |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | TS 23.501 CR#4083 introduces the following requirement on the PDU session release procedure to support network slice replacement.*For existing PDU Session associated with an S-NSSAI that is replaced with the Alternative S-NSSAI, after the AMF sends mapping of the S-NSSAI to the Alternative S-NSSAI to the supporting UE in UE Configuration Update message, the AMF sends updates to the SMF of the PDU Session, e.g. triggering Nsmf\_PDUSession\_UpdateSMContext service operation, that the PDU Session is to be transferred to Alternative S-NSSAI and includes the Alternative S-NSSAI as follows (see details in clause 4.3.5.x of TS 23.502 [3]):**- If the SMF determines that the PDU Session needs to be retained (e.g. if the anchor UPF can be reused with the alternative S-NSSAI and SSC mode 1), the SMF sends the Alternative S-NSSAI to the UPF in the N4 message, to the NG-RAN in N2 message and to the supporting UE in PDU Session Modification Command message.**- If the SMF determines that the PDU Session needs to be re-established, the SMF sends the Alternative S-NSSAI to the supporting UE either in PDU Session Modification Command if the PDU Session is of SSC mode 3, or in PDU Session Release if the PDU Session is of SSC mode 2 or SSC mode 1, to trigger the re-establishment of the PDU Session. The UE includes both, the S-NSSAI and the Alternative S-NSSAI in the PDU Session Establishment message.*  |
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| ***Summary of change:*** | It is proposed to introduce the PDU session release procedure to support network slice replacement |
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| ***Consequences if not approved:*** | The functionality of network slice replacement can not be supported in PDU session release procedure. |
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| ***Clauses affected:*** | 6.3.3.2, 6.3.3.3, 8.3.14.1, 8.3.14.x(new) |
|  |  |
|  | **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 \*\*\*\*\*

6.3.3.2 Network-requested PDU session release procedure initiation

In order to initiate the network-requested PDU session release procedure, the SMF shall create a PDU SESSION RELEASE COMMAND message.

The SMF shall set the 5GSM cause IE of the PDU SESSION RELEASE COMMAND message to indicate the reason for releasing the PDU session.

The 5GSM cause IE typically indicates one of the following 5GSM cause values:

#8 operator determined barring;

#26 insufficient resources;

#29 user authentication or authorization failed;

#36 regular deactivation;

#38 network failure;

#39 reactivation requested;

#46 out of LADN service area;

#67 insufficient resources for specific slice and DNN;

#69 insufficient resources for specific slice.

If the selected SSC mode of the PDU session is "SSC mode 2" and the SMF requests the relocation of SSC mode 2 PDU session anchor with different PDU sessions as specified in 3GPP TS 23.502 [9], the SMF shall include 5GSM cause #39 "reactivation requested". If the selected SSC mode of the PDU session is "SSC mode 2" or "SSC mode 1", the S-NSSAI or the mapped S-NSSAI of the PDU session needs to be replaced, the SMF shall include the Alternative S-NSSAI IE and 5GSM cause #39 "reactivation requested" in the PDU SESSION RELEASE COMMAND message.

If the network-requested PDU session release procedure is triggered by a UE-requested PDU session release procedure, the SMF shall set the PTI IE of the PDU SESSION RELEASE COMMAND message to the PTI of the PDU SESSION RELEASE REQUEST message received as part of the UE-requested PDU session release procedure and shall not include the Access type IE in the PDU SESSION RELEASE COMMAND.

If the network-requested PDU session release procedure is not triggered by a UE-requested PDU session release procedure, the SMF shall set the PTI IE of the PDU SESSION RELEASE COMMAND message to "No procedure transaction identity assigned".

If the PDU session ID included in PDU SESSION RELEASE COMMAND message is associated with one or more multicast MBS sessions and either the Access type IE is not included or the Access type IE indicates "3GPP access", the SMF shall consider the UE as removed from the associated multicast MBS sessions.

Based on the local policy and user's subscription data, if the SMF decides to release the PDU session after determining:

a) the UE has moved between a tracking area in NB-N1 mode and a tracking area in WB-N1 mode;

b) the UE has moved between a tracking area in NB-S1 mode and a tracking area in WB-N1 mode;

c) the UE has moved between a tracking area in WB-S1 mode and a tracking area in NB-N1 mode; or

d) a PDU session is not only for control plane CIoT 5GS optimization any more,

the SMF shall:

a) include the 5GSM cause value #39 "reactivation requested" in the 5GSM cause IE of the PDU SESSION RELEASE COMMAND message; or

b) include a 5GSM cause value other than #39 "reactivation requested" in the 5GSM cause IE of the PDU SESSION RELEASE COMMAND message.

NOTE: The included 5GSM cause value is up to the network implementation.

If the SMF receives UE presence in LADN service area from the AMF indicating that the UE is out of the LADN service area and the SMF decides to release the PDU session, the SMF shall include the 5GSM cause value #46 "out of LADN service area" in the 5GSM cause IE of the PDU SESSION RELEASE COMMAND message. Upon receipt of the 5GSM cause value #46 "out of LADN service area" in the 5GSM cause IE of the PDU SESSION RELEASE COMMAND message, the UE shall release the PDU session.

The SMF may include a Back-off timer value IE in the PDU SESSION RELEASE COMMAND message when the 5GSM cause value #26 "insufficient resources" is included in the PDU SESSION RELEASE COMMAND message. If the 5GSM cause value is #26 "insufficient resources" and the PDU SESSION RELEASE COMMAND message is sent to a UE configured for high priority access in selected PLMN or SNPN or the request type was set to "initial emergency request" or "existing emergency PDU session" for the establishment of the PDU session, the network shall not include a Back-off timer value IE.

The SMF may include a Back-off timer value IE in the PDU SESSION RELEASE COMMAND message when the 5GSM cause value #67 "insufficient resources for specific slice and DNN" is included in the PDU SESSION RELEASE COMMAND message. If the 5GSM cause value is #67 "insufficient resources for specific slice and DNN" and the PDU SESSION RELEASE COMMAND message is sent to a UE configured for high priority access in selected PLMN or SNPN or the request type was set to "initial emergency request" or "existing emergency PDU session" for the establishment of the PDU session, the network shall not include a Back-off timer value IE.

The SMF may include a Back-off timer value IE in the PDU SESSION RELEASE COMMAND message when the 5GSM cause #69 "insufficient resources for specific slice" is included in the PDU SESSION RELEASE COMMAND message. If the 5GSM cause value is #69 "insufficient resources for specific slice" and the PDU SESSION RELEASE COMMAND message is sent to a UE configured for high priority access in selected PLMN or SNPN or the request type was set to "initial emergency request" or "existing emergency PDU session" for the establishment of the PDU session, the network shall not include a Back-off timer value IE.

The SMF should include a Back-off timer value IE in the PDU SESSION RELEASE COMMAND message when the 5GSM cause value #29 "user authentication or authorization failed" is included in the PDU SESSION RELEASE COMMAND message.

If the service-level-AA procedure is triggered for the established PDU session for UAS services with re-authentication purpose, and the SMF is informed by the UAS-NF that UUAA-SM is unsuccessful or if the SMF receives UUAA revocation notification message from the UAS-NF as described in 3GPP TS 23.256 [6AB], the SMF shall transmit the PDU SESSION RELEASE COMMAND message to the UE, including:

a) the service-level-AA response in the Service-level-AA container IE, with the SLAR field set to the value of "Service level authentication and authorization was not successful or service level authorization is revoked"; and

b) the 5GSM cause value #29 "user authentication or authorization failed" in the 5GSM cause IE of the PDU SESSION RELEASE COMMAND message.

If the PDU session was established for C2 communication and the SMF is informed by UAS-NF that C2 authorization is revoked, the SMF shall include:

a) the service-level-AA response with the value of the C2AR field set to the "C2 authorization was not successful or C2 authorization is revoked" in the service-level-AA container IE of the PDU SESSION RELEASE COMMAND message, and

b) the 5GSM cause value #29 "user authentication or authorization failed" in the 5GSM cause IE of the PDU SESSION RELEASE COMMAND message.

The SMF shall send:

a) the PDU SESSION RELEASE COMMAND message; and

b) the N1 SM delivery skip allowed indication:

1) if the SMF allows the AMF to skip sending the N1 SM container to the UE and the 5GSM cause IE is not set to #39 "reactivation requested"; or

2) if the SMF allows the AMF to skip sending the N1 SM container to the UE and the Access type IE is not included

towards the AMF, and the SMF shall start timer T3592 (see example in figure 6.3.3.2.1).

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**Figure 6.3.3.2.1: Network-requested PDU session release procedure**

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

6.3.3.3 Network-requested PDU session release procedure accepted by the UE

For a single access PDU session, upon receipt of a PDU SESSION RELEASE COMMAND message and a PDU session ID, using the NAS transport procedure as specified in subclause 5.4.5, the UE considers the PDU session as released and the UE shall create a PDU SESSION RELEASE COMPLETE message.

For an MA PDU session, upon receipt of the PDU SESSION RELEASE COMMAND message, the UE shall behave as follows:

a) if the PDU SESSION RELEASE COMMAND message includes the Access type IE and the MA PDU session has user-plane resources established on both 3GPP access and non-3GPP access, the UE shall consider the user-plane resources on the access indicated in the Access type IE as released and shall create a PDU SESSION RELEASE COMPLETE message. If the Access type IE indicates "3GPP access" and there is one or more multicast MBS sessions associated with the MA PDU session, the UE shall locally leave these associated multicast MBS sessions;

b) if the PDU SESSION RELEASE COMMAND message includes the Access type IE and the MA PDU session has user-plane resources established on only the access indicated in the Access type IE, the UE shall consider the MA PDU session as released and shall create a PDU SESSION RELEASE COMPLETE message; and

c) if the PDU SESSION RELEASE COMMAND message does not include the Access type IE, the UE shall consider the MA PDU session as released and shall create a PDU SESSION RELEASE COMPLETE message.

If there is one or more multicast MBS sessions associated with the PDU session the UE considers as released, the UE shall locally leave these associated multicast MBS sessions.

If the PDU SESSION RELEASE COMMAND message contains the PTI value allocated in the UE-requested PDU session release procedure, the UE shall stop the timer T3582. The UE should ensure that the PTI value assigned to this procedure is not released immediately.

NOTE 1: The way to achieve this is implementation dependent. For example, the UE can ensure that the PTI value assigned to this procedure is not released during the time equal to or greater than the default value of timer T3592.

While the PTI value is not released, the UE regards any received PDU SESSION RELEASE COMMAND message with the same PTI value as a network retransmission (see subclause 7.3.1).

If the PDU SESSION RELEASE COMMAND message includes 5GSM cause #39 "reactivation requested", then after completion of the network-requested PDU session release procedure, the UE should re-initiate the UE-requested PDU session establishment procedure as specified in subclause 6.4.1 for:

a) the PDU session type associated with the released PDU session;

b) the SSC mode associated with the released PDU session;

c) the DNN associated with the released PDU session; and

d) the S-NSSAI associated with (if available in roaming scenarios) a mapped S-NSSAI if provided in the UE-requested PDU session establishment procedure of the released PDU session. If the PDU SESSION RELEASE COMMAND message contains the Alternative S-NSSAI IE, the UE shall include both the S-NSSAI to be replaced and the alternative S-NSSAI during the UE-requested PDU session establishment procedure.

NOTE 2: User interaction is necessary in some cases when the UE cannot re-initiate the UE-requested PDU session establishment procedure automatically.

If the PDU SESSION RELEASE COMMAND message is received without the Back-off timer value IE or includes 5GSM cause #39 "reactivation requested", and the UE provided an S-NSSAI during the PDU session establishment, the UE shall stop timer T3585 if it is running for the S-NSSAI of the PDU session. If the UE did not provide an S-NSSAI during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop the timer T3585 associated with no S-NSSAI if it is running. If the PDU SESSION RELEASE COMMAND message was received for an emergency PDU session, the UE shall not stop the timer T3585 associated with no S-NSSAI if it is running. The timer T3585 to be stopped includes:

- the timer T3585 applied for all the PLMNs and for the access over which the PDU SESSION RELEASE COMMAND is received, if running;

- the timer T3585 applied for all the PLMNs and for both 3GPP access type and non-3GPP access type, if running;

- the timer T3585 applied for the registered PLMN and for the access over which the PDU SESSION RELEASE COMMAND is received, if running; and

- the timer T3585 applied for the registered PLMN and for both 3GPP access type and non-3GPP access type, if running.

If the PDU SESSION RELEASE COMMAND message is received without the Back-off timer value IE or includes 5GSM cause #39 "reactivation requested", and the UE provided a DNN during the PDU session establishment, the UE shall stop timer T3396 if it is running for the DNN provided by the UE. If the UE did not provide a DNN during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop the timer T3396 associated with no DNN if it is running. If the PDU SESSION RELEASE COMMAND message was received for an emergency PDU session, the UE shall not stop the timer T3396 associated with no DNN if it is running.

If the PDU SESSION RELEASE COMMAND message is received without the Back-off timer value IE or includes 5GSM cause #39 "reactivation requested", and the UE provided an S-NSSAI and a DNN during the PDU session establishment, the UE shall stop timer T3584 if it is running for the [S-NSSAI of the PDU session, DNN] combination provided by the UE. If the UE did not provide an S-NSSAI during the PDU session establishment, the UE shall stop the timer T3584 associated with [no S-NSSAI, DNN] if it is running. If the UE did not provide a DNN during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop the timer T3584 associated with [S-NSSAI of the PDU session, no DNN] combination, if it is running. If the PDU SESSION RELEASE COMMAND message was received for an emergency PDU session, the UE shall not stop the timer T3584 associated with [S-NSSAI of the PDU session, no DNN] if it is running. If the UE provided neither a DNN nor an S-NSSAI during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop the timer T3584 associated with [no S-NSSAI, no DNN] if it is running. If the PDU SESSION RELEASE COMMAND message was received for an emergency PDU session, the UE shall not stop the timer T3584 associated with [no S-NSSAI, no DNN] if it is running. The timer T3584 to be stopped includes the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running.

NOTE 3: If the PDU SESSION RELEASE COMMAND message is received without the Back-off timer value IE or includes 5GSM cause #39 "reactivation requested" for a PDU session, the UE provided a DNN (or no DNN) and an S-NSSAI (or no S-NSSAI) when the PDU session is established, timer T3396 associated with the DNN (or no DNN, if no DNN was provided by the UE) is running, and timer T3584 associated with the DNN (or no DNN, if no DNN was provided by the UE) and the S-NSSAI of the PDU session (or no S-NSSAI, if no S-NSSAI was provided by the UE) is running, then the UE stops both the timer T3396 and the timer T3584.

NOTE 4: If the PDU SESSION RELEASE COMMAND message is received without the Back-off timer value IE or includes 5GSM cause #39 "reactivation requested" for a PDU session, the UE provided a DNN (or no DNN) and an S-NSSAI of the PDU session (or no S-NSSAI) when the PDU session is established, timer T3585 associated with the S-NSSAI of the PDU session (or no S-NSSAI, if no S-NSSAI was provided by the UE) is running, and timer T3584 associated with the DNN (or no DNN, if no DNN was provided by the UE) and the S-NSSAI of the PDU session (or no S-NSSAI, if no S-NSSAI was provided by the UE) is running, then the UE stops both the timer T3585 and the timer T3584.

If the PDU SESSION RELEASE COMMAND message includes 5GSM cause #26 "insufficient resources" and the Back-off timer value IE, the UE shall ignore the 5GSM congestion re-attempt indicator IE provided by the network, if any, and the UE shall take different actions depending on the timer value received for timer T3396 in the Back-off timer value:

a) If the timer value indicates neither zero nor deactivated and a DNN was provided during the PDU session establishment, the UE shall stop timer T3396 associated with the corresponding DNN, if it is running. If the timer value indicates neither zero nor deactivated and no DNN was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3396 associated with no DNN if it is running. The UE shall then start timer T3396 with the value provided in the Back-off timer value IE and:

1) shall not send a PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for the same DNN that was sent by the UE, until timer T3396 expires or timer T3396 is stopped; and

2) shall not send a PDU SESSION ESTABLISHMENT REQUEST message without an DNN and with request type different from "initial emergency request" and different from "existing emergency PDU session", or a PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for a non-emergency PDU session established without an DNN provided by the UE, if no DNN was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", until timer T3396 expires or timer T3396 is stopped.

The UE shall not stop timer T3396 upon a PLMN change or inter-system change;

b) if the timer value indicates that this timer is deactivated and a DNN was provided during the PDU session establishment, the UE shall stop timer T3396 associated with the corresponding DNN, if it is running. If the timer value indicates that this timer is deactivated and no DNN was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3396 associated with no DNN if it is running. The UE:

1) shall not send a PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for the same DNN until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or the UE receives a PDU SESSION MODIFICATION COMMAND message for the same DNN from the network, or a PDU SESSION AUTHENTICATION COMMAND message for the same DNN, or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for the same DNN from the network; and

2) shall not send a PDU SESSION ESTABLISHMENT REQUEST message without a DNN and with request type different from "initial emergency request" and different from "existing emergency PDU session", or a PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for a non-emergency PDU session established without a DNN provided by the UE, if no DNN was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or the UE receives a PDU SESSION MODIFICATION COMMAND message for a non-emergency PDU session established without an DNN provided by the UE, or a PDU SESSION AUTHENTICATION COMMAND message for a non-emergency PDU session established without a DNN provided by the UE, or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for a non-emergency PDU session established without a DNN provided by the UE.

The timer T3396 remains deactivated upon a PLMN change or inter-system change; and

c) if the timer value indicates zero, the UE:

1) shall stop timer T3396 associated with the corresponding DNN, if running, and may send a PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message for the same DNN; and

2) if no DNN was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3396 associated with no DNN, if running, and may send a PDU SESSION ESTABLISHMENT REQUEST message without a DNN, or a PDU SESSION MODIFICATION REQUEST message without an DNN provided by the UE.

If the PDU SESSION RELEASE COMMAND message includes 5GSM cause #26 "insufficient resources" and the Back-off timer value IE is not included, then the UE may send a PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message for the same DNN or without a DNN.

When the timer T3396 is running or the timer is deactivated, the UE is allowed to initiate a PDU session establishment procedure for emergency services.

If the timer T3396 is running when the UE enters state 5GMM-DEREGISTERED, the UE remains switched on, and the USIM in the UE (if any) remains the same and the entry in the "list of subscriber data" for the SNPN to which timer T3396 is associated (if any) is not updated, then timer T3396 is kept running until it expires or it is stopped.

If the UE is switched off when the timer T3396 is running, and if the USIM in the UE (if any) remains the same and the entry in the "list of subscriber data" for the SNPN to which timer T3396 is associated (if any) is not updated when the UE is switched on, the UE shall behave as follows:

- let t1 be the time remaining for T3396 timeout at switch off and let t be the time elapsed between switch off and switch on. If t1 is greater than t, then the timer shall be restarted with the value t1 – t. If t1 is equal to or less than t, then the timer need not be restarted. If the UE is not capable of determining t, then the UE shall restart the timer with the value t1.

If the 5GSM cause value is #39 "reactivation requested", the UE shall ignore the Back-off timer value IE and 5GSM congestion re-attempt indicator IE provided by the network, if any.

If the 5GSM cause value is #67 "insufficient resources for specific slice and DNN" and the Back-off timer value IE is included, the UE shall take different actions depending on the timer value received for timer T3584 in the Back-off timer value:

a) If the timer value indicates neither zero nor deactivated, and both an S-NSSAI and a DNN were provided by the UE during the PDU session establishment the UE shall stop timer T3584 associated with the [S-NSSAI of the PDU session, DNN] combination, if it is running. If the timer value indicates neither zero nor deactivated, an S-NSSAI and no DNN was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3584 associated with [S-NSSAI of the PDU session, no DNN] combination, if it is running. If the timer value indicates neither zero nor deactivated, no S-NSSAI and a DNN was provided during the PDU session establishment, the UE shall stop timer T3584 associated with the [no S-NSSAI, DNN] combination, if it is running. If the timer value indicates neither zero nor deactivated and neither S-NSSAI nor DNN was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3584 associated with the [no S-NSSAI, no DNN] combination, if it is running. The timer T3584 to be stopped includes the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running. The UE shall then start timer T3584 with the value provided in the Back-off timer value IE.

1) The UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message with request type different from "initial emergency request" and different from "existing emergency PDU session", or PDU SESSION MODIFICATION REQUEST message with the exception of those identified in subclause 6.4.2.1, for the [S-NSSAI of the PDU session, DNN] combination, until timer T3584 expires or timer T3584 is stopped;

2) shall not send another PDU SESSION ESTABLISHMENT REQUEST message with request type different from "initial emergency request" and different from "existing emergency PDU session", or another PDU SESSION MODIFICATION REQUEST message with the exception of those identified in subclause 6.4.2.1, for the [S-NSSAI of the PDU session, no DNN] combination, if no DNN was provided during the PDU session establishment, until timer T3584 expires or timer T3584 is stopped;

3) shall not send another PDU SESSION ESTABLISHMENT REQUEST message, or another PDU SESSION MODIFICATION REQUEST message with the exception of those identified in subclause 6.4.2.1, for the same [no S-NSSAI, DNN] combination, if no S-NSSAI was provided during the PDU session establishment, until timer T3584 expires or timer T3584 is stopped; and

4) shall not send another PDU SESSION ESTABLISHMENT REQUEST message with request type different from "initial emergency request" and different from "existing emergency PDU session", or another PDU SESSION MODIFICATION REQUEST message with the exception of those identified in subclause 6.4.2.1, for the same [no S-NSSAI, no DNN] combination, if neither S-NSSAI nor DNN was provided during the PDU session establishment, until timer T3584 expires or timer T3584 is stopped.

The UE shall not stop timer T3584 upon a PLMN change or inter-system change;

b) if the timer value indicates that this timer is deactivated:

1) if both S-NSSAI and DNN were provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [S-NSSAI of the PDU session, DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if it is running. The UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message with request type different from "initial emergency request" and different from "existing emergency PDU session", or PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for the [S-NSSAI of the PDU session, DNN] combination that was sent by the UE, until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or the UE receives a PDU SESSION MODIFICATION COMMAND message for the [S-NSSAI of the PDU session, DNN] combination from the network, or a PDU SESSION AUTHENTICATION COMMAND message for the [S-NSSAI of the PDU session, DNN] combination from the network, or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for the [S-NSSAI of the PDU session, DNN] combination from the network;

2) if an S-NSSAI was provided but a DNN was not provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [S-NSSAI of the PDU session, no DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if it is running. The UE shall not send a PDU SESSION ESTABLISHMENT REQUEST message with request type different from "initial emergency request" and different from "existing emergency PDU session", or a PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for the [S-NSSAI of the PDU session, no DNN] combination, if no DNN was provided during the PDU session establishment, until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or the UE receives an PDU SESSION MODIFICATION COMMAND message for a non-emergency PDU session established for the [S-NSSAI of the PDU session, no DNN] combination from the network, or a PDU SESSION AUTHENTICATION COMMAND message for a non-emergency PDU session established the [S-NSSAI of the PDU session, DNN] combination from the network, or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for a non-emergency PDU session established for the [S-NSSAI of the PDU session, no DNN] combination from the network;

3) if an S-NSSAI was not provided but a DNN was provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [no S-NSSAI, DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if it is running. The UE shall not send a PDU SESSION ESTABLISHMENT REQUEST message, or a PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for the [no S-NSSAI, DNN], if no S-NSSAI was provided during the PDU session establishment, until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or the UE receives an PDU SESSION MODIFICATION COMMAND message for the [no S-NSSAI, DNN] combination from the network, or a PDU SESSION AUTHENTICATION COMMAND message for the [no S-NSSAI, DNN] combination from the network, or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for the same [no S-NSSAI, DNN] combination from the network; and

4) if neither S-NSSAI nor DNN were provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [no S-NSSAI, no DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if it is running. The UE shall not send a PDU SESSION ESTABLISHMENT REQUEST message with request type different from "initial emergency request" and different from "existing emergency PDU session", or a PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for the [no S-NSSAI, no DNN] combination, if neither S-NSSAI nor DNN was provided during the PDU session establishment, until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or the UE receives an PDU SESSION MODIFICATION COMMAND message for a non-emergency PDU session established for the [no S-NSSAI, no DNN] combination from the network, or a PDU SESSION AUTHENTICATION COMMAND message for a non-emergency PDU session established for the [no S-NSSAI, no DNN] combination from the network or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for a non-emergency PDU session established for the [no S-NSSAI, no DNN] combination from the network.

The timer T3584 remains deactivated upon a PLMN change or inter-system change; and

c) if the timer value indicates zero:

1) if both S-NSSAI and DNN were provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [S-NSSAI of the PDU session, DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if running, and may send another PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message for the [S-NSSAI of the PDU session, DNN] combination;

2) if an S-NSSAI was provided but a DNN was not provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [S-NSSAI of the PDU session, no DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if it is running. The UE may send another PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message for the [S-NSSAI of the PDU session, no DNN] combination if the request type was different from "initial emergency request" and different from "existing emergency PDU session";

3) if an S-NSSAI was not provided but a DNN was provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [no S-NSSAI, DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if it is running. The UE may send another PDU SESSION ESTABLISHMENT REQUEST message, or PDU SESSION MODIFICATION REQUEST message for the [no S-NSSAI, DNN] combination; and

4) if neither S-NSSAI nor DNN were provided by the UE during the PDU session establishment, the UE shall stop timer T3584 associated with the [no S-NSSAI, no DNN] combination (including the timer T3584 applied for all the PLMNs, if running, and the timer T3584 applied for the registered PLMN, if running), if it is running. The UE may send another PDU SESSION ESTABLISHMENT REQUEST message, or PDU SESSION MODIFICATION REQUEST message for the [no S-NSSAI, no DNN] combination if the request type was different from "initial emergency request" and different from "existing emergency PDU session".

If the 5GSM congestion re-attempt indicator IE with the ABO bit set to "The back-off timer is applied in all PLMNs or all equivalent SNPNs " is included in the PDU SESSION RELEASE COMMAND message with the 5GSM cause value #67 "insufficient resources for specific slice and DNN", then the UE shall apply the timer T3584 for all the PLMNs or all the equivalent SNPNs. Otherwise, the UE shall apply the timer T3584 for the registered PLMN or the registered SNPN.

If the 5GSM cause value is #67 "insufficient resources for specific slice and DNN" and the Back-off timer value IE is not included, then the UE may send another PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message for the same [S-NSSAI, DNN] combination.

When the timer T3584 is running or the timer is deactivated, the UE is allowed to initiate a PDU session establishment procedure for emergency services.

If the timer T3584 is running when the UE enters state 5GMM-DEREGISTERED, the UE remains switched on, and the USIM in the UE (if any) remains the same and the entry in the "list of subscriber data" for the SNPN to which timer T3584 is associated (if any) is not updated, then timer T3584 is kept running until it expires or it is stopped.

If the UE is switched off when the timer T3584 is running, and if the USIM in the UE (if any) remains the same and the entry in the "list of subscriber data" for the SNPN to which timer T3584 is associated (if any) is not updated when the UE is switched on, the UE shall behave as follows:

- let t1 be the time remaining for T3584 timeout at switch off and let t be the time elapsed between switch off and switch on. If t1 is greater than t, then the timer shall be restarted with the value t1 – t. If t1 is equal to or less than t, then the timer need not be restarted. If the UE is not capable of determining t, then the UE shall restart the timer with the value t1.

If the 5GSM cause value is #69 "insufficient resources for specific slice" and the Back-off timer value IE is included, the UE shall take different actions depending on the timer value received for timer T3585 in the Back-off timer value:

a) If the timer value indicates neither zero nor deactivated and an S-NSSAI was provided during the PDU session establishment, the UE shall stop timer T3585 associated with the S-NSSAI of the PDU session, if it is running. If the timer value indicates neither zero nor deactivated and no S-NSSAI was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3585 associated with no S-NSSAI if it is running. The timer T3585 to be stopped includes:

- the timer T3585 applied for all the PLMNs and for the access over which the PDU SESSION RELEASE COMMAND is received, if running;

- the timer T3585 applied for all the PLMNs and for both 3GPP access type and non-3GPP access type, if running;

- the timer T3585 applied for the registered PLMN and for the access over which the PDU SESSION RELEASE COMMAND is received, if running; and

- the timer T3585 applied for the registered PLMN and for both 3GPP access type and non-3GPP access type, if running;

 The UE shall then start timer T3585 with the value provided in the Back-off timer value IE and:

1) if an S-NSSAI was provided by the UE during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message, or PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for the S-NSSAI of the PDU session, until timer T3585 expires or timer T3585 is stopped; and

2) if the request type was different from "initial emergency request" and from "existing emergency PDU session", and an S-NSSAI was not provided by the UE during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message without an S-NSSAI and with request type different from "initial emergency request" and different from "existing emergency PDU session", or another PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for a non-emergency PDU session established without an S-NSSAI provided by the UE, until timer T3585 expires or timer T3585 is stopped.

The UE shall not stop timer T3585 upon a PLMN change or inter-system change;

b) if the timer value indicates that this timer is deactivated and an S-NSSAI was provided during the PDU session establishment, the UE shall stop timer T3585 associated with the S-NSSAI of the PDU session, if it is running. If the timer value indicates that this timer is deactivated and no S-NSSAI was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3585 associated with no S-NSSAI if it is running. The timer T3585 to be stopped includes:

- the timer T3585 applied for all the PLMNs and for the access over which the PDU SESSION RELEASE COMMAND is received, if running;

- the timer T3585 applied for all the PLMNs and for both 3GPP access type and non-3GPP access type, if running;

- the timer T3585 applied for the registered PLMN and for current access type or both 3GPP access type and non-3GPP access type, if running; and

- the timer T3585 applied for the registered PLMN and for both 3GPP access type and non-3GPP access type, if running;

 In addition:

1) if an S-NSSAI was provided by the UE during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST, or PDU SESSION MODIFICATION REQUEST with exception of those identified in subclause 6.4.2.1, for the S-NSSAI of the PDU session until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or a PDU SESSION MODIFICATION COMMAND message for the S-NSSAI of the PDU session from the network, or a PDU SESSION AUTHENTICATION COMMAND message for the S-NSSAI of the PDU session from the network, or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for the S-NSSAI of the PDU session from the network; and

2) if the request type was different from "initial emergency request" and from "existing emergency PDU session", and an S-NSSAI was not provided by the UE during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message without an S-NSSAI and with request type different from "initial emergency request" and different from "existing emergency PDU session", or another PDU SESSION MODIFICATION REQUEST message with exception of those identified in subclause 6.4.2.1, for a non-emergency PDU session established without an S-NSSAI provided by the UE, , until the UE is switched off, the USIM is removed, the entry in the "list of subscriber data" for the current SNPN is updated, or a PDU SESSION MODIFICATION COMMAND message for a non-emergency PDU session established without an S-NSSAI provided by the UE, or a PDU SESSION AUTHENTICATION COMMAND message for a non-emergency PDU session established without an S-NSSAI provided by the UE, or a PDU SESSION RELEASE COMMAND message without the Back-off timer value IE or including 5GSM cause #39 "reactivation requested" for a non-emergency PDU session established without an S-NSSAI provided by the UE.

The timer T3585 remains deactivated upon a PLMN change or inter-system change; and

c) if the timer value indicates zero:

1) if an S-NSSAI was provided by the UE during the PDU session establishment, the UE shall stop timer T3585 associated with the S-NSSAI of the PDU session (including the timer T3585 applied for all the PLMNs, if running, and the timer T3585 applied for the registered PLMN, if running), if running, and may send another PDU SESSION ESTABLISHMENT REQUEST, or PDU SESSION MODIFICATION REQUEST message for the S-NSSAI of the PDU session; and

2) if no S-NSSAI was provided during the PDU session establishment and the request type was different from "initial emergency request" and different from "existing emergency PDU session", the UE shall stop timer T3585 associated with no S-NSSAI (including the timer T3585 applied for all the PLMNs, if running, and the timer T3585 applied for the registered PLMN, if running), if running, and may send another PDU SESSION ESTABLISHMENT REQUEST message without an S-NSSAI, or another PDU SESSION MODIFICATION REQUEST message without an S-NSSAI provided by the UE.

If the 5GSM congestion re-attempt indicator IE with the ABO bit set to "The back-off timer is applied in all PLMNs or all equivalent SNPNs " is included in the PDU SESSION RELEASE COMMAND message with the 5GSM cause value #69 "insufficient resources for specific slice", then the UE shall apply the timer T3585 for all the PLMNs or all the equivalent SNPNs. Otherwise, the UE shall apply the timer T3585 for the registered PLMN or the registered SNPN.

If the 5GSM cause value is #69 "insufficient resources for specific slice" and the Back-off timer value IE is not included, then the UE may send another PDU SESSION ESTABLISHMENT REQUEST message or PDU SESSION MODIFICATION REQUEST message for the same S-NSSAI or without an S-NSSAI.

When the timer T3585 is running or the timer is deactivated, the UE is allowed to initiate a PDU session establishment procedure for emergency services.

If the timer T3585 is running when the UE enters state 5GMM-DEREGISTERED, the UE remains switched on, and the USIM in the UE (if any) remains the same and the entry in the "list of subscriber data" for the SNPN to which timer T3585 is associated (if any) is not updated, then timer T3585 is kept running until it expires or it is stopped.

If the UE is switched off when the timer T3585 is running, and if the USIM in the UE (if any) remains the same and the entry in the "list of subscriber data" for the SNPN to which timer T3585 is associated (if any) is not updated when the UE is switched on, the UE shall behave as follows:

- let t1 be the time remaining for T3585 timeout at switch off and let t be the time elapsed between switch off and switch on. If t1 is greater than t, then the timer shall be restarted with the value t1 – t. If t1 is equal to or less than t, then the timer need not be restarted. If the UE is not capable of determining t, then the UE shall restart the timer with the value t1.

NOTE 5: As described in this subclause, upon PLMN change or inter-system change, the UE does not stop the timer T3584 or T3585. This means the timer T3584 or T3585 can still be running or be deactivated for the given 5GSM procedure, the PLMN, the S-NSSAI and optionally the DNN combination when the UE returns to the PLMN or when it performs inter-system change back from S1 mode to N1 mode. Thus the UE can still be prevented from sending another PDU SESSION ESTABLISHMENT REQUEST or PDU SESSION MODIFICATION REQUEST message in the PLMN for the same S-NSSAI and optionally the same DNN.

Upon PLMN change, if T3584 is running or is deactivated for an S-NSSAI, a DNN, and old PLMN, but T3584 is not running and is not deactivated for the S-NSSAI, the DNN, and new PLMN, then the UE is allowed to send a PDU SESSION ESTABLISHMENT REQUEST message for the same S-NSSAI and the same DNN in the new PLMN.

Upon PLMN change, if T3585 is running or is deactivated for an S-NSSAI and old PLMN, but T3585 is not running and is not deactivated for the S-NSSAI and new PLMN, then the UE is allowed to send a PDU SESSION ESTABLISHMENT REQUEST message for the same S-NSSAI in the new PLMN.

If the PDU SESSION RELEASE COMMAND message includes 5GSM cause #29 "user authentication or authorization failed "and the Back-off timer value IE, the UE shall behave as follows:

a) if the timer value indicates neither zero nor deactivated and:

1) if the UE provided a DNN and S-NSSAI to the network during the PDU session establishment, the UE shall start the back-off timer with the value provided in the Back-off timer value IE for the PDU session establishment procedure and [PLMN, DNN, (mapped) HPLMN S-NSSAI] combination. The UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same DNN and (mapped) HPLMN S-NSSAI in the current PLMN, until the back-off timer expires, the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder;

2) if the UE provided a DNN to the network during the PDU session establishment, the UE shall start the back-off timer with the value provided in the Back-off timer value IE for the PDU session establishment procedure and [PLMN, DNN] combination. The UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same DNN in the current PLMN, until the back-off timer expires, the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder;

3) if the UE did not provide a DNN or S-NSSAI or any of the two parameters to the network during the PDU session establishment, it shall start the back-off timer accordingly for the PDU session establishment procedure and the [PLMN, DNN, no S-NSSAI], [PLMN, no DNN, (mapped) HPLMN S-NSSAI] or [PLMN, no DNN, no S-NSSAI] combination. Dependent on the combination, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same [PLMN, DNN, no S-NSSAI], [PLMN, no DNN, (mapped) HPLMN S-NSSAI] or [PLMN, no DNN, no S-NSSAI] combination in the current PLMN, until the back-off timer expires, the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder; or

4) if the UE did not provide a DNN to the network during the PDU session establishment, it shall start the back-off timer accordingly for the PDU session establishment procedure and the [PLMN, no DNN] combination. The UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same [PLMN, no DNN] in the current PLMN, until the back-off timer expires, the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder;

b) if the timer value indicates that this timer is deactivated and:

1) if the UE provided a DNN and S-NSSAI to the network during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same DNN and (mapped) HPLMN S-NSSAI in the current PLMN, until the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder;

2) if the UE provided a DNN to the network during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same DNN in the current PLMN, until the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder;

3) if the UE did not provide a DNN or S-NSSAI or any of the two parameters to the network during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same [PLMN, DNN, no S-NSSAI], [PLMN, no DNN, (mapped) HPLMN S-NSSAI] or [PLMN, no DNN, no S-NSSAI] combination in the current PLMN, until the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder; or

4) if the UE did not provide a DNN to the network during the PDU session establishment, the UE shall not send another PDU SESSION ESTABLISHMENT REQUEST message for the same [PLMN, no DNN] in the current PLMN, until the UE is switched off, the USIM is removed, or the entry in the "list of subscriber data" for the current SNPN is updated if the UE does not support access to an SNPN using credentials from a credentials holder, or the selected entry of the "list of subscriber data" is updated if the UE supports access to an SNPN using credentials from a credentials holder; and

c) if the timer value indicates zero, the UE may send another PDU SESSION ESTABLISHMENT REQUEST message for the same combination of [PLMN, DNN, (mapped) HPLMN S-NSSAI], [PLMN, DNN, no S-NSSAI], [PLMN, no DNN, (mapped) HPLMN S-NSSAI], or [PLMN, no DNN, no S-NSSAI] in the current PLMN.

The UE shall not stop any back-off timer:

a) upon a PLMN change;

b) upon an inter-system change; or

c) upon registration over another access type.

If the PDU SESSION RELEASE COMMAND message includes:

a) 5GSM cause #29 "user authentication or authorization failed"; and

b) the service-level-AA response in the Service-level-AA container IE with the SLAR field set to the value of "Service level authentication and authorization was not successful or service level authorization is revoked",

the UE shall forward the service-level-AA response to the upper layers, so the UUAA authorization data is deleted as specified in 3GPP TS 33.256 [24B].

The UE shall transport the PDU SESSION RELEASE COMPLETE message and the PDU session ID, using the NAS transport procedure as specified in subclause 5.4.5.

Upon receipt of a PDU SESSION RELEASE COMPLETE message, the SMF shall stop timer T3592 and shall consider the PDU session as released.

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

8.3.14 PDU session release command

8.3.14.1 Message definition

The PDU SESSION RELEASE COMMAND message is sent by the SMF to the UE to indicate a release of a PDU session. See table 8.3.14.1.1.

Message type: PDU SESSION RELEASE COMMAND

Significance: dual

Direction: network to UE

**Table 8.3.14.1.1: PDU SESSION RELEASE COMMAND message content**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **IEI** | **Information Element** | **Type/Reference** | **Presence** | **Format** | **Length** |
|  | Extended protocol discriminator | Extended protocol discriminator9.2 | M | V | 1 |
|  | PDU session ID | PDU session identity9.4 | M | V | 1 |
|  | PTI | Procedure transaction identity9.6 | M | V | 1 |
|  | PDU SESSION RELEASE COMMAND message identity | Message type9.7 | M | V | 1 |
|  | 5GSM cause | 5GSM cause9.11.4.2 | M | V | 1 |
| 37 | Back-off timer value | GPRS timer 39.11.2.5 | O | TLV | 3 |
| 78 | EAP message | EAP message9.11.2.2 | O | TLV-E | 7-1503 |
| 61 | 5GSM congestion re-attempt indicator | 5GSM congestion re-attempt indicator9.11.4.21 | O | TLV | 3 |
| 7B | Extended protocol configuration options | Extended protocol configuration options9.11.4.6 | O | TLV-E | 4-65538 |
| D- | Access type | Access type9.11.2.1A | O | TV | 1 |
| 72 | Service-level-AA container | Service-level-AA container9.11.2.10 | O | TLV-E | 6-n |
| TBD | Alternative S-NSSAI | S-NSSAI9.11.2.8 | O | TLV | 3-10 |

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

#### 8.3.14.x Alternative S-NSSAI

This IE shall be included when the network needs to trigger the re-establishment of the PDU Session with the alternative S-NSSAI in SSC mode 2 or SSC mode 1.

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