**3GPP TSG-CT WG1 Meeting #123-eC1-202752**

**Electronic meeting, 16-24 April 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **24.501** | **CR** | **2102** | **rev** | **1** | **Current version:** | **16.4.1** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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|  |
| ***Title:***  | PS Data Off status report for non-3GPP access |
|  |  |
| ***Source to WG:*** | LG Electronics, Ericsson, OPPO |
| ***Source to TSG:*** | C1 |
|  |  |
| ***Work item code:*** | 5GProtoc16, ATSSS |  | ***Date:*** | 2020-04-22 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)Rel-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
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| ***Reason for change:*** | TS 23.501 v16.4.0 specifies that 3GPP PS data off status report needs to be provided during the PDU session establishment procedure for non-3GPP access as well as for 3GPP access, although 3GPP PS data off does not affect user data transfer over non-3GPP access.TS 23.501 v16.4.0, clause 5.24The UE reports its 3GPP PS Data Off status in PCO (Protocol Configuration Option) to (H-)SMF during UE requested PDU Session Establishment procedure for establishment of a PDU Session associated with 3GPP access and/or non-3GPP access. The UE does not need to report PS Data Off status during the PDU Session Establishment procedure for handover of the PDU Session between 3GPP access and non 3GPP access if 3GPP PS Data Off status is not changed since the last report. The PS Data Off status for a PDU Session does not affect data transfer over non-3GPP access.The reason is that a PDU session established over non-3GPP access can be transferred to 3GPP access by a service request procedure, without any 5GSM signalling. In such case, if the UE did not provide 3GPP PS data off UE status before the transfer of the PDU session to 3GPP access, the network would not know the 3GPP PS data off UE status immediately after the transfer of the PDU session to 3GPP access and could send downlink PS data (other than those of 3GPP PS data off exempt services, over 3GPP acces to the UE).Most of clarifications made by SA2 are already in TS 24.501, so just a statement clarifying the status report via both accesses is added to subclause 6.2.10 on handling of 3GPP PS data off.Note that a separate CR in S2-2002344 also clarified that this principle is also applicable for the MA PDU session. So the relevant condition is added to the subclause 6.2.10 as well. |
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| ***Summary of change:*** | Clarified that the UE shall provide the 3GPP PS data off UE during UE-requested PDU session establishment procedure, and UE-requested PDU session modification procedure regardless of associated access type of the PDU session. |
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| ***Consequences if not approved:*** | It is unclear whether the UE has to provide 3GPP PS data off status report for a PDU session established over the non-3GPP access. |
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| ***Clauses affected:*** | 6.2.10, 6.4.1.2 |
|  |  |
|  | **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:*** | Rev 1* More co-sourcing companies;
* Reason for change is updated;
* PS data off status report during the establishment of MA PDU session is specified in normative text instead of using NOTE;
* The case when the UE establishes a PDU session for transferring from non-3GPP access to 3GPP access is further specified;
* Capitalized the first “e” in the name of the extended protocon configuration option IE.
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\*\*\*\*\* First change \*\*\*\*\*

### 6.2.10 Handling of 3GPP PS data off

A UE, which supports 3GPP PS data off (see 3GPP TS 23.501 [8]), can be configured with up to two lists of 3GPP PS data off exempt services as specified in 3GPP TS 24.368 [17] or in the EF3GPPPSDATAOFF USIM file as specified in 3GPP TS 31.102 [22]:

a) a list of 3GPP PS data off exempt services to be used in the HPLMN or EHPLMN; and

b) a list of 3GPP PS data off exempt services to be used in the VPLMN.

If only the list of 3GPP PS data off exempt services to be used in the HPLMN or EHPLMN is configured at the UE, this list shall be also used in the VPLMN.

If the UE supports 3GPP PS data off, the UE shall provide the 3GPP PS data off UE status in the Extended protocol configuration options IE during UE-requested PDU session establishment procedure except for the transfer of a PDU session from non-3GPP access to 3GPP access and except for the establishment of user plane resources on the other access for the MA PDU session (see subclause 6.4.1), and during UE-requested PDU session modification procedure (see subclause 6.4.2), regardless of associated access type of the PDU session. If the UE requests a PDU session establishment procedure in order to transfer a PDU session from non-3GPP access to 3GPP access, or in order to establish user plane resources on the other access for the MA PDU session over 3GPP access or non-3GPP access, and:

a) if the 3GPP PS data off UE status has changed since the last providing to the network, the UE shall provide the 3GPP PS data off UE status in the Extended protocol configuration options IE; or

b) if the 3GPP PS data off UE status has not changed since the last providing to the network, the UE need not provide the 3GPP PS data off UE status.

The network shall support of 3GPP PS data off.

The UE shall indicate change of the 3GPP PS data off UE status for the PDU session by using the UE-requested PDU session modification procedure as specified in subclause 6.4.2.

When the 3GPP PS data off UE status is "activated":

a) the UE does not send uplink IP packets via 3GPP access except:

1) for those services indicated in the list of 3GPP PS data off exempt services to be used in the HPLMN or EHPLMN as specified in 3GPP TS 24.368 [17] when the UE is in its HPLMN or EHPLMN;

2) for those services indicated in the list of 3GPP PS data off exempt services to be used in the HPLMN or EHPLMN when the UE is in the VPLMN, if only the list of 3GPP PS data off exempt services to be used in the HPLMN or EHPLMN is configured to the UE as specified in 3GPP TS 24.368 [17];

3) for those services indicated in the list of 3GPP PS data off exempt services to be used in the VPLMN when the UE is in the VPLMN, if the list of 3GPP PS data off exempt services to be used in the VPLMN is configured to the UE as specified in 3GPP TS 24.368 [17];

4) for those services indicated in the EF3GPPPSDATAOFF USIM file as specified in 3GPP TS 31.102 [22];

5) any uplink traffic due to procedures specified in 3GPP TS 24.229 [14]; and

6) any uplink traffic due to procedures specified in 3GPP TS 24.623 [20];

b) the UE does not send uplink Ethernet user data packets via 3GPP access; and

c) the UE does not send uplink Unstructured user data packets via 3GPP access.

Otherwise the UE sends uplink user data packets without restriction.

NOTE: If the UE supports 3GPP PS data off, uplink IP packets are filtered as specified in 3GPP TS 24.229 [14] in U.3.1.5.

3GPP PS data off does not restrict sending of uplink user data packets via non-3GPP access.

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

#### 6.4.1.2 UE-requested PDU session establishment procedure initiation

In order to initiate the UE-requested PDU session establishment procedure, the UE shall create a PDU SESSION ESTABLISHMENT REQUEST message.

NOTE 0: When IMS voice is available over either 3GPP access or non-3GPP access, the "voice centric" UE in 5GMM-REGISTERED state will receive a request from upper layers to establish the PDU session for IMS signalling, if the conditions for performing an initial registration with IMS indicated in 3GPP TS 24.229 [14] subclause U.3.1.2 are satisfied.

If the UE requests to establish a new PDU session, the UE shall allocate a PDU session ID which is not currently being used by another PDU session over either 3GPP access or non-3GPP access. If the N5CW device supports 3GPP access and requests to establish a new PDU session via 3GPP access, the N5CW device shall refrain from allocating "PDU session identity value 15". If the TWIF acting on behalf of the N5CW device requests to establish a new PDU session, the TWIF acting on behalf of the N5CW device shall allocate the "PDU session identity value 15".

The UE shall allocate a PTI value currently not used and shall set the PTI IE of the PDU SESSION ESTABLISHMENT REQUEST message to the allocated PTI value.

If the UE is registered for emergency services over the current access, the UE shall not request establishing a non-emergency PDU session over the current access. If the UE is registered for emergency services over the current access it shall not request establishing an emergency PDU session over the non-current access except if the request is for transferring the emergency PDU session to the non-current access. Before transferring an emergency PDU session from non-3GPP access to 3GPP access, or before transferring a PDN connection for emergency bearer services from untrusted non-3GPP access connected to EPC to 3GPP access, the UE shall check whether emergency services are supported in the NG-RAN cell (either an NR cell or an E-UTRA cell) on which the UE is camping. If:

a) emergency services are not supported in the NG-RAN cell (either an NR cell or an E-UTRA cell) on which the UE is camping;

b) emergency services fallback is supported in the NG-RAN cell (either an NR cell or an E-UTRA cell) on which the UE is camping; and

c) the UE supports emergency services fallback;

the UE may perform emergency services fallback and transfer the emergency PDU session or PDN connection for emergency bearer services after the emergency services fallback is completed.

NOTE 1: Transfer of an existing emergency PDU session or PDN connection for emergency bearer services between 3GPP access and non-3GPP access is needed e.g. if the UE determines that the current access is no longer available.

If the UE requests to establish a new emergency PDU session, the UE shall include the PDU session type IE in the PDU SESSION ESTABLISHMENT REQUEST message and shall set the IE to the IP version capability as specified in subclause 6.2.4.2.

If the UE requests to establish a new non-emergency PDU session with a DN, the UE shall include the PDU session type IE in the PDU SESSION ESTABLISHMENT REQUEST message and shall set the IE to one of the following values: the IP version capability as specified in subclause 6.2.4.2, "Ethernet" or "Unstructured" based on the URSP rules or based on UE local configuration (see 3GPP TS 24.526 [19]).

NOTE 2: When the UE initiates the UE-requested PDU session establishment procedure to transfer an existing non-IP PDN connection in the EPS to the 5GS, the UE can use locally available information associated with the PDN connection to select the PDU session type between "Ethernet" and "Unstructured".

If the UE requests to establish a new non-emergency PDU session with a DN and the UE requests an SSC mode, the UE shall set the SSC mode IE of the PDU SESSION ESTABLISHMENT REQUEST message to the SSC mode. If the UE requests to establish a PDU session of "IPv4", "IPv6" or "IPv4v6" PDU session type, the UE shall either omit the SSC mode IE or set the SSC mode IE to "SSC mode 1", "SSC mode 2", or "SSC mode 3". If the UE requests to establish a PDU session of "Ethernet" or "Unstructured" PDU session type, the UE shall either omit the SSC mode IE or set the SSC mode IE to "SSC mode 1" or "SSC mode 2". If the UE requests transfer of an existing PDN connection in the EPS to the 5GS or the UE requests transfer of an existing PDN connection in an untrusted non-3GPP access connected to the EPC to the 5GS, the UE shall set the SSC mode IE to "SSC mode 1".

If the UE requests to establish a new emergency PDU session, the UE shall set the SSC mode IE of the PDU SESSION ESTABLISHMENT REQUEST message to "SSC mode 1".

If the UE requests to establish a new PDU session with a DN, the UE may include the SM PDU DN request container IE with a DN-specific identity of the UE complying with network access identifier (NAI) format as specified in IETF RFC 7542 [37].

The UE should set the RQoS bit to "Reflective QoS supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message if the UE supports reflective QoS and:

a) the UE requests to establish a new PDU session of "IPv4", "IPv6", "IPv4v6" or "Ethernet" PDU session type;

b) the UE requests to transfer an existing PDN connection in the EPS of "IPv4", "IPv6", "IPv4v6" or "Ethernet" PDN type or of "Non-IP" PDN type mapping to "Ethernet" PDU session type, to the 5GS; or

c) the UE requests to transfer an existing PDN connection in an untrusted non-3GPP access connected to the EPC of "IPv4", "IPv6" or "IPv4v6" PDN type to the 5GS.

NOTE 3: The determination to not request the usage of reflective QoS by the UE for a PDU session is implementation dependent.

The UE shall indicate the maximum number of packet filters that can be supported for the PDU session in the Maximum number of supported packet filters IE of the PDU SESSION ESTABLISHMENT REQUEST message if:

a) the UE requests to establish a new PDU session of "IPv4", "IPv6", "IPv4v6", or "Ethernet" PDU session type, and the UE can support more than 16 packet filters for this PDU session;

b) the UE requests to transfer an existing PDN connection in the EPS of "IPv4", "IPv6", "IPv4v6", or "Ethernet" PDN type or of "Non-IP" PDN type mapping to "Ethernet" PDU session type, to the 5GS and the UE can support more than 16 packet filters for this PDU session; or

c) the UE requests to transfer an existing PDN connection in an untrusted non-3GPP access connected to the EPC of "IPv4", "IPv6" or "IPv4v6" PDN type to the 5GS and the UE can support more than 16 packet filters for this PDU session.

The UE shall include the Integrity protection maximum data rate IE in the PDU SESSION ESTABLISHMENT REQUEST message to indicate the maximum data rate per UE for user-plane integrity protection supported by the UE for uplink and the maximum data rate per UE for user-plane integrity protection supported by the UE for downlink.

The UE shall set the MH6-PDU bit to "Multi-homed IPv6 PDU session supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message if the UE supports multi-homed IPv6 PDU session and:

a) the UE requests to establish a new PDU session of "IPv6" or "IPv4v6" PDU session type; or.

b) the UE requests to transfer an existing PDN connection of "IPv6" or "IPv4v6" PDN type in the EPS or in an untrusted non-3GPP access connected to the EPC to the 5GS.

The UE shall set the EPT-S1 bit to "Ethernet PDN type in S1 mode supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message if the UE supports Ethernet PDN type in S1 mode and requests "Ethernet" PDU session type.

If the UE requests to establish a new PDU session as an always-on PDU session (e.g. because the PDU session is for TSC), the UE shall include the Always-on PDU session requested IE and set the value of the IE to "Always-on PDU session requested" in the PDU SESSION ESTABLISHMENT REQUEST message.

NOTE 4: Determining whether a PDU session is for TSC is UE implementation dependent.

If the UE has an emergency PDU session, the UE shall not perform the UE-requested PDU session establishment procedure to establish another emergency PDU session. The UE may perform the UE-requested PDU session establishment procedure to transfer an existing emergency PDU session or an existing PDN connection for emergency services.

If:

a) the UE requests to perform handover of an existing PDU session between 3GPP access and non-3GPP access;

b) the UE requests to perform transfer an existing PDN connection in the EPS to the 5GS; or

c) the UE requests to perform transfer an existing PDN connection in an untrusted non-3GPP access connected to the EPC to the 5GS;

the UE shall:

a) set the PDU session ID in the PDU SESSION ESTABLISHMENT REQUEST message and in the UL NAS TRANSPORT message to the stored PDU session ID corresponding to the PDN connection; and

b) set the S-NSSAI in the UL NAS TRANSPORT message to the stored S-NSSAI associated with the PDU session ID only if the S-NSSAI is included in the allowed NSSAI.

If the N5CW device supports 3GPP access and requests to perform handover of an existing PDU session from non-3GPP access to 3GPP access, the N5CW device shall set the PDU session ID in the PDU SESSION ESTABLISHMENT REQUEST message and in the UL NAS TRANSPORT message to "PDU session identity value 15".

If the UE is registered to a network which supports ATSSS and the UE requests to establish a new PDU session the UE may allow the network to upgrade the requested PDU session to an MA PDU session. In order to allow the network to upgrade the requested PDU session to an MA PDU session, the UE shall set "MA PDU session network upgrade allowed" in the MA PDU session information IE and shall set the request type to "initial request" in the UL NAS TRANSPORT message. If the UE is registered to a network which does not support ATSSS, the UE shall not perform the procedure to allow the network to upgrade the requested PDU session to an MA PDU session.

If the UE is registered to a network which supports ATSSS, the UE may request to establish an MA PDU session. If the UE requests to establish an MA PDU session, the UE shall set the request type to "MA PDU request" in the UL NAS TRANSPORT message. If the UE is registered to a network which does not support ATSSS, the UE shall not request to establish an MA PDU session.

When the UE is registered over both 3GPP access and non-3GPP access in the same PLMN and the UE requests to establish a new MA PDU session, the UE may provide an S-NSSAI in the UL NAS TRANSPORT message only if the S-NSSAI is included in the allowed NSSAIs of both accesses.

If the UE is registered to a network which supports ATSSS and the UE has already an MA PDU session established over one access, the UE may perform the UE-requested PDU session establishment procedure to establish user plane resources over the other access for the MA PDU session as specified in subclause 4.22 of 3GPP TS 23.502 [9] and the S-NSSAI associated with the MA PDU session is included in the allowed NSSAI of the other access. If the UE establishes user plane resources over the other access for the MA PDU session, the UE shall:

a) set the request type to "MA PDU request" in the UL NAS TRANSPORT message;

b) set the PDU session ID to the stored PDU session ID corresponding to the established MA PDU session in the PDU SESSION ESTABLISHMENT REQUEST message and in the UL NAS TRANSPORT message; and

c) set the S-NSSAI in the UL NAS TRANSPORT message to the stored S-NSSAI associated with the PDU session ID.

If the UE requests to establish a new MA PDU session or if the UE requests to establish a new PDU session and the UE allows the network to upgrade the requested PDU session to an MA PDU session:

a) if the UE supports ATSSS Low-Layer functionality with any steering mode as specified in subclause 5.32.6 of 3GPP TS 23.501 [8], the UE shall set the ATSSS-ST bits to "ATSSS Low-Layer functionality with any steering mode supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message;

b) if the UE supports MPTCP functionality with any steering mode and ATSSS-LL functionality with only active-standby steering mode as specified in subclause 5.32.6 of 3GPP TS 23.501 [8], the UE shall set the ATSSS-ST bits to "MPTCP functionality with any steering mode and ATSSS-LL functionality with only active-standby steering mode supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message; and

c) if the UE supports MPTCP functionality with any steering mode and ATSSS-LL functionality with any steering mode as specified in subclause 5.32.6 of 3GPP TS 23.501 [8], the UE shall set the ATSSS-ST bits to "MPTCP functionality with any steering mode and ATSSS-LL functionality with any steering mode supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message.

If the UE is registered to a network which does not support ATSSS and the UE has already an MA PDU session established over one access, the UE shall not attempt to establish user plane resources for the MA PDU session over the network which does not support ATSSS as specified in subclause 4.22 of 3GPP TS 23.502 [9].

If the UE supports 3GPP PS data off, except for the transfer of a PDU session from non-3GPP access to 3GPP access and except for the establishment of user plane resources on the other access for the MA PDU session, the UE shall include the Extended protocol configuration options IE in the PDU SESSION ESTABLISHMENT REQUEST message and include the 3GPP PS data off UE status. The UE behaves as described in subclause 6.2.10.

If the UE supports Reliable Data Service, the UE shall include the Extended protocol configuration options IE in the PDU SESSION ESTABLISHMENT REQUEST message and include the Reliable Data Service request indicator. The UE behaves as described in subclause 6.2.15.

If:

a) the PDU session type value of the PDU session type IE is set to "IPv4", "IPv6", "IPv4v6", or "Ethernet";

b) the UE indicates "Control plane CIoT 5GS optimization supported" and "Header compression for control plane CIoT 5GS optimization supported" in the 5GMM capability IE of the REGISTRATION REQUEST message; and

c) the network indicates "Control plane CIoT 5GS optimization supported" and "Header compression for control plane CIoT 5GS optimization supported" in the 5GS network support feature IE of the REGISTRATION ACCEPT message;

the UE shall include the Header compression configuration IE in the PDU SESSION ESTABLISHMENT REQUEST message.

Editor's note: The applicability of header compression configuration to the Ethernet PDU session is FFS.

If the UE requests to establish a PDU session of "Ethernet" PDU session type and the UE supports transfer of port management information containers, the UE shall:

a) set the TPMIC bit to "Transfer of port management information containers supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message;

b) include the DS-TT Ethernet port MAC address IE in the PDU SESSION ESTABLISHMENT REQUEST message and set its contents to the MAC address of the DS-TT Ethernet port used for the PDU session;

c) if the UE-DS-TT residence time is available at the UE, include the UE-DS-TT residence time IE and set its contents to the UE-DS-TT residence time; and

d) include the Port management information container IE in the PDU SESSION ESTABLISHMENT REQUEST message.

NOTE 5: Only SSC mode 1 is supported for a PDU session which is for TSC.

The UE shall transport:

a) the PDU SESSION ESTABLISHMENT REQUEST message;

b) the PDU session ID of the PDU session being established, being handed over, being transferred, or been established as an MA PDU session;

c) if the request type is set to:

1) "initial request" or "MA PDU request" and the UE determined to establish a new PDU session or an MA PDU session based on either a URSP rule including one or more S-NSSAIs in the URSP (see subclause 6.2.9) or UE local configuration, according to subclause 4.2.2 of 3GPP TS 24.526 [19]:

i) in case of a non-roaming scenario, an S-NSSAI in the allowed NSSAI which corresponds to one of the S-NSSAI(s) in the matching URSP rule, if any to the S-NSSAI(s) in the UE local configuration or in the default URSP rule, according to the conditions given in subclause 4.2.2 of 3GPP TS 24.526 [19]; or

ii) in case of a roaming scenario:

A) one of the mapped S-NSSAI(s) which corresponds to one of the S-NSSAI(s) in the matching URSP rule, if any, or else to the S-NSSAI(s) in the UE local configuration or in the default URSP rule, according to the conditions given in subclause 4.2.2 of 3GPP TS 24.526 [19]; and

B) the S-NSSAI in the allowed NSSAI associated with the S-NSSAI in A); or

2) "existing PDU session", an S-NSSAI, which is an S-NSSAI associated with the PDU session and (if available in roaming scenarios) a mapped S-NSSAI;

d) the requested DNN, if the request type is set to "initial request" or "existing PDU session", and the UE requests a connectivity to a DNN other than the default DNN;

e) the request type which is set to:

1) "initial request", if the UE is not registered for emergency services and the UE requests to establish a new non-emergency PDU session;

2) "existing PDU session", if the UE is not registered for emergency services and the UE requests:

i) handover of an existing non-emergency PDU session between 3GPP access and non-3GPP access;

ii) transfer of an existing PDN connection for non-emergency bearer services in the EPS to the 5GS; or

iii) transfer of an existing PDN connection for non-emergency bearer services in an untrusted non-3GPP access connected to the EPC to the 5GS;

3) "initial emergency request", if the UE requests to establish a new emergency PDU session;

4) "existing emergency PDU session", if the UE requests:

i) handover of an existing emergency PDU session between 3GPP access and non-3GPP access;

ii) transfer of an existing PDN connection for emergency bearer services in the EPS to the 5GS; or

iii) transfer of an existing PDN connection for emergency bearer services in an untrusted non-3GPP access connected to the EPC to the 5GS; or

5) "MA PDU request", if the UE requests to establish an MA PDU session; and

f) the old PDU session ID which is the PDU session ID of the existing PDU session, if the UE initiates the UE-requested PDU session establishment procedure upon receiving the PDU SESSION MODIFICATION COMMAND messages with the 5GSM cause IE set to #39 "reactivation requested";

using the NAS transport procedure as specified in subclause 5.4.5, and the UE shall start timer T3580 (see example in figure 6.4.1.2.1).

For bullet c), if the matching URSP rule does not have an associated S-NSSAI, or if the UE does not have any matching URSP rule and there is no S-NSSAI in the UE local configuration or in the default URSP rule, the UE shall not provide any S-NSSAI in a PDU session establishment procedure.

If the request type is set to "initial emergency request" or "existing emergency PDU session", neither DNN nor S-NSSAI is transported by the UE using the NAS transport procedure as specified in subclause 5.4.5.



Figure 6.4.1.2.1: UE-requested PDU session establishment procedure

Upon receipt of a PDU SESSION ESTABLISHMENT REQUEST message, a PDU session ID, optionally an S-NSSAI associated with (if available in roaming scenarios) a mapped S-NSSAI, optionally a DNN determined by the AMF, optionally a DNN selected by the network (if different from the DNN determined by the AMF), the request type, and optionally an old PDU session ID, the SMF checks whether connectivity with the requested DN can be established. If the requested DNN is not included, the SMF shall use the default DNN.

If the PDU session being established is a non-emergency PDU session, the request type is not set to "existing PDU session" and the PDU session authentication and authorization by the external DN is required due to local policy, the SMF shall check whether the PDU SESSION ESTABLISHMENT REQUEST message includes the SM PDU DN request container IE.

If the PDU session being established is a non-emergency PDU session, the request type is not set to "existing PDU session", the SM PDU DN request container IE is included in the PDU SESSION ESTABLISHMENT REQUEST message, the PDU session authentication and authorization by the external DN is required due to local policy and user's subscription data, and:

a) the information for the PDU session authentication and authorization by the external DN in the SM PDU DN request container IE is compliant with the local policy and user's subscription data, the SMF shall proceed with the EAP Authentication procedure specified in 3GPP TS 33.501 [24] and refrain from accepting or rejecting the PDU SESSION ESTABLISHMENT REQUEST message until the EAP Authentication procedure finalizes; or

b) the information for the PDU session authentication and authorization by the external DN in the SM PDU DN request container IE is not compliant with the local policy and user's subscription data, the SMF shall consider it as an abnormal case and proceed as specified in subclause 6.4.1.7.

If the PDU session being established is a non-emergency PDU session, the request type is not set to "existing PDU session", the SM PDU DN request container IE is not included in the PDU SESSION ESTABLISHMENT REQUEST message and the PDU session authentication and authorization by the external DN is required due to local policy and user's subscription data, the SMF shall proceed with the EAP Authentication procedure specified in 3GPP TS 33.501 [24] and refrain from accepting or rejecting the PDU SESSION ESTABLISHMENT REQUEST message until the EAP Authentication procedure finalizes.

If the SMF receives the old PDU session ID from the AMF and a PDU session exists for the old PDU session ID, the SMF shall consider that the request for the relocation of SSC mode 3 PDU session anchor with multiple PDU sessions as specified in 3GPP TS 23.502 [9] is accepted by the UE.

If the UE has set the TPMIC bit to "Transfer of port management information containers supported" in the 5GSM capability IE of the PDU SESSION ESTABLISHMENT REQUEST message and has included a DS-TT Ethernet port MAC address IE and Port management information container IE in the PDU SESSION ESTABLISHMENT REQUEST message, the SMF shall operate as specified in 3GPP TS 23.502 [9] subclause 4.3.2.2.1.

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