**3GPP TSG-CT WG1 Meeting #125-eC1-20XXXX**

**Electronic meeting, 20-28 August 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
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|  | **24.193** | **CR** | **0001** | **rev** | **1** | **Current version:** | **16.0.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network |  |

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| ***Title:***  | Correction on the necessity of ATSSS Container IE |
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| ***Source to WG:*** | MediaTek Inc. |
| ***Source to TSG:*** | C1 |
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| ***Work item code:*** | ATSSS |  | ***Date:*** | 2020-08-07 |
|  |  |  |  |  |
| ***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)Rel-17 (Release 17)* |
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| ***Reason for change:*** | In 23.502 4.22.2.2*When the UE is registered to different PLMNs over 3GPP access and non-3GPP access, the MA PDU Session is established first over one access as specified in Figure 4.3.2.2.2-1 ("UE-requested PDU Session Establishment for home-routed roaming scenarios") and then over the other access with the following differences and clarifications:**…**In step 16, the UE receives a PDU Session Establishment Accept message, which indicates to UE that the requested MA PDU session was successfully established. This message includes the ATSSS rules for the MA PDU session, which were derived by H-SMF, and may include Measurement Assistance Information.**After the MA PDU Session is successfully established on the first access, the UE shall initiate again the MA PDU Session establishment procedure in Figure 4.3.2.2.2-1 over the other access with the following differences and clarifications:**…**In step 16, the UE receives another PDU Session Establishment Accept message, which may contain updated ATSSS rules for the MA PDU session.**…*In 23.502 4.22.7 *If the UE has established a MA PDU Session but the user-plane resources over one access of the MA PDU Session have not been established, then:**If the UE wants to add user-plane resources over this access, the UE shall initiate the UE Requested PDU Session Establishment procedure over this access, as specified in clause 4.3.2.2. In the UL NAS Transport message, the UE sets Request Type as "MA PDU Request" and the same PDU Session ID of the established MA PDU Session. If only one N9 tunnel is established for the Home Routed roaming case as described in clause 4.22.2.2, additional N9 tunnel is established during this UE Requested PDU Session Establishment procedure. For the roaming with home-routed architecture as defined in TS 23.501 [2] figure 4.2.10-3, an N9 tunnel or an N3 tunnel is established during this PDU Session Establishment procedure, depending on the access for which the UE is requesting user-plane resources.**The PDU Session Establishment Accept message received by the UE may contain updated ATSSS rules for the MA PDU session.*In stage2 SPEC, the ATSSS container IE is not mandatory during the establishment of second leg user plane resrources. If the ATSSS rules provided in the first PDU Session Establishment Accept is not changed, the network may not send the unchanged ATSSS ruls to the UE again, because it is (1) unnecessary to send the unchanged ATSSS rules again and (2) wasting radio resources to send the unchanged ATSSS rules again. |
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| ***Summary of change:*** | When adding the user-plane resources of the second access of an MA PDU session, if the UE does not received the *updated ATSSS rules*, the UE use the original *stored* *ATSSS rules*. |
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| ***Consequences if not approved:*** | The MA PDU session state is not synchronized between UE and network. That happens when the network does not contain updated ATSSS parameters during second leg establishment procedure. In this scenario, the UE will not consider the second leg successfully established, but the network indeed already added the second leg for the UE. |
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| ***Clauses affected:*** | 5.2.1, 5.2.6 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

\*\*\* change \*\*\*

### 5.2.1 Activation of multi-access PDU connectivity service

Activating multi-access PDU connectivity service refers to the establishment of user-plane resources on both 3GPP access and non-3GPP access:

a) if the UE is registered over both 3GPP access and non-3GPP access in the same PLMN, the UE shall initiate the UE-requested PDU session establishment procedure as specified in clause 6.4.1.2 of 3GPP TS 24.501 [6] over 3GPP access or non-3GPP access. Over which access to initiate this UE-requested PDU session establishment procedure is UE implementation specific. When the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message including the ATSSS container IE as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] and user plane resources are established in both accesses (e.g. received lower layer indication in 3GPP access and established IKEv2 tunnel in untrusted non-3GPP access), the UE shall consider that the MA PDU session has been established over both 3GPP access and non-3GPP access;

b) if the UE is registered over both 3GPP access and non-3GPP access in different PLMNs, the UE shall initiate the UE-requested PDU session establishment procedure as specified in clause 6.4.1.2 of 3GPP TS 24.501 [6] over 3GPP access and non-3GPP access sequentially. Over which access to first initiate the UE-requested PDU session establishment procedure is UE implementation specific. When the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message including the ATSSS container IE as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the selected access, the UE shall consider that the MA PDU session has been established and the user plane resources of the MA PDU session on this access are successfully established. The UE shall then initiate the UE-requested PDU session establishment procedure with the same PDU session ID, as specified in clause 6.4.1.2 of 3GPP TS 24.501 [6] over the other access, in order to establish user plane resources on the other access for the MA PDU session. If the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the other access, the UE shall consider that the user plane resources of the MA PDU session have been established over both 3GPP access and non-3GPP access; or

c) if the UE is registered to a PLMN over only one access, either 3GPP access or non-3GPP access, the UE shall initiate the UE-requested PDU session establishment procedure as specified in clause 6.4.1.2 of 3GPP TS 24.501 [6] over this access. When the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message including the ATSSS container IE as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the access, the UE shall consider that the MA PDU session has been established and the user plane resources of the MA PDU session on this access are successfully established. When the UE at a later point in time registers over the other access, either in the same PLMN or in a different PLMN, the UE shall initiate the UE-requested PDU session establishment procedure with the same PDU session ID as specified in clause 6.4.1.2 of 3GPP TS 24.501 [6] over the other access in order to establish user plane resources on the other access for the MA PDU session. If the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the other access, the UE shall consider that the user plane resources of the MA PDU session have been established over both 3GPP access and non-3GPP access.

If the UE is in the non-allowed area, the UE shall not initiate a PDU session establishment procedure for an MA PDU session over the 3GPP access. It may still initiate a PDU session establishment procedure for an MA PDU session over the non-3GPP access, however the network shall not establish user plane resources for the 3GPP access if the UE is in the non-allowed area.

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### 5.2.6 PDU session establishment with network modification to MA PDU session

When an ATSSS capable UE establishes a new PDU session and the related URSP or UE local configuration does not mandate the PDU session shall be established over a single access:

a) if the UE is registered over both 3GPP access and non-3GPP access in the same PLMN and the UE initiates the UE-requested PDU session establishment procedure over 3GPP access or non-3GPP access, the UE may include the MA PDU session information IE in the UL NAS TRANSPORT message and set the IE to "MA PDU session network upgrade is allowed" as specified in clause 9.11.3.63 of 3GPP TS 24.501 [6]. When the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message including the ATSSS container IE as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6], the UE shall consider that the requested PDU session is established as an MA PDU session;

b) if the UE is registered over both 3GPP access and non-3GPP access in different PLMNs and the UE initiates the UE-requested PDU session establishment procedure over 3GPP access or non-3GPP access, the UE may include the MA PDU session information IE in the UL NAS TRANSPORT message and shall set the IE to "MA PDU session network upgrade is allowed" as specified in clause 9.11.3.63 of 3GPP TS 24.501 [6]. When the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message including the ATSSS container IE as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the access, the UE shall consider that the requested PDU session is established as an MA PDU session on this access. The UE shall then initiate the UE-requested PDU session establishment procedure with the same PDU session ID, as specified in clause 6.4.1.2 of 3GPP TS 24.501 [6] over the other access, in order to establish user plane resources on the other access for the MA PDU session. If the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the other access, the UE shall consider that the user plane resources of the MA PDU session have been established over both 3GPP access and non-3GPP access; or

c) if the UE is registered to a PLMN over only one access, either 3GPP access or non-3GPP access, and the UE requests to establish a PDU session over this access, the UE may include the MA PDU session information IE in the UL NAS TRANSPORT message and shall set the IE to "MA PDU session network upgrade is allowed" as specified in clause 9.11.3.63 of 3GPP TS 24.501 [6]. When the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message including the ATSSS container IE as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the access, the UE shall consider that the requested PDU session is established as an MA PDU session on this access. When the UE at a later point in time registers over the other access, either in the same PLMN or in a different PLMN, the UE shall initiate the UE-requested PDU session establishment procedure with the same PDU session ID as specified in clause 6.4.1.2 of 3GPP TS 24.501 [6] over the other access in order to establish user plane resources on the other access for the MA PDU session. If the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message as specified in clause 6.4.1.3 of 3GPP TS 24.501 [6] over the other access, the UE shall consider that the user plane resources of the MA PDU session have been established over both 3GPP access and non-3GPP access.

\*\*\* end of change \*\*\*