**3GPP TSG-CT WG1 Meeting #127-eC1-20XXXX**

**Electronic meeting,**

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| *CR-Form-v12.0* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **24.501** | **CR** | **XXXX** | **rev** | **-** | **Current version:** | **17.0.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Clarifications of ATSSS Container IE | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | MediaTek Inc. | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ATSSS | | | | |  | ***Date:*** | | | 2020-10-28 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-17 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be 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)* | |
|  |  | | | | | | | | | |
| ***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.  In stage3 SPEC TS 24.501, the ATSSS container IE is mandatory during the establishment of second leg user plane resrources.  A feasible implementation of the TS 24.501 can be: If the NW does not need to modify the ATSSS rules (e.g., when ATSSS rules not changed) during second leg establishment, the NW can include an empty (i.e., Length of ATSSS container contents = 0) ATSSS container IE. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Specify that the NW can use empty (i.e., Length of ATSSS container contents = 0) ATSSS container IE when ATSSS rules not changed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not clear how the NW fill the content of ATSSS container IE when ATSSS rules are not changed. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.3.2.15 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

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

### 8.3.2 PDU session establishment accept

#### 8.3.2.1 Message definition

The PDU SESSION ESTABLISHMENT ACCEPT message is sent by the SMF to the UE in response to PDU SESSION ESTABLISHMENT REQUEST message and indicates successful establishment of a PDU session. See table 8.3.2.1.1.

Message type: PDU SESSION ESTABLISHMENT ACCEPT

Significance: dual

Direction: network to UE

Table 8.3.2.1.1: PDU SESSION ESTABLISHMENT ACCEPT message content

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| IEI | | Information Element | | Type/Reference | | Presence | | Format | | Length | |
|  | | Extended protocol discriminator | | Extended protocol discriminator  9.2 | | M | | V | | 1 | |
|  | | PDU session ID | | PDU session identity  9.4 | | M | | V | | 1 | |
|  | | PTI | | Procedure transaction identity  9.6 | | M | | V | | 1 | |
|  | | PDU SESSION ESTABLISHMENT ACCEPT message identity | | Message type  9.7 | | M | | V | | 1 | |
|  | | Selected PDU session type | | PDU session type  9.11.4.11 | | M | | V | | 1/2 | |
|  | | Selected SSC mode | | SSC mode  9.11.4.16 | | M | | V | | 1/2 | |
|  | | Authorized QoS rules | | QoS rules  9.11.4.13 | | M | | LV-E | | 6-65538 | |
|  | | Session AMBR | | Session-AMBR  9.11.4.14 | | M | | LV | | 7 | |
| 59 | | 5GSM cause | | 5GSM cause  9.11.4.2 | | O | | TV | | 2 | |
| 29 | | PDU address | | PDU address  9.11.4.10 | | O | | TLV | | 7, 11, 15, 27 or 31 | |
| 56 | | RQ timer value | | GPRS timer  9.11.2.3 | | O | | TV | | 2 | |
| 22 | | S-NSSAI | | S-NSSAI  9.11.2.8 | | O | | TLV | | 3-10 | |
| 8- | | Always-on PDU session indication | | Always-on PDU session indication  9.11.4.3 | | O | | TV | | 1 | |
| 75 | | Mapped EPS bearer contexts | | Mapped EPS bearer contexts  9.11.4.8 | | O | | TLV-E | | 7-65538 | |
| 78 | | EAP message | | EAP message  9.11.2.2 | | O | | TLV-E | | 7-1503 | |
| 79 | | Authorized QoS flow descriptions | | QoS flow descriptions  9.11.4.12 | | O | | TLV-E | | 6-65538 | |
| 7B | | Extended protocol configuration options | | Extended protocol configuration options  9.11.4.6 | | O | | TLV-E | | 4-65538 | |
| 25 | | DNN | | DNN  9.11.2.1B | | O | | TLV | | 3-102 | |
| 17 | | 5GSM network feature support | | 5GSM network feature support  9.11.4.18 | | O | | TLV | | 3-15 | |
| 18 | | Serving PLMN rate control | | Serving PLMN rate control  9.11.4.20 | | O | | TLV | | 4 | |
| 77 | | ATSSS container | | ATSSS container  9.11.4.22 | | O | | TLV-E | | 3-65538 | |
| C- | | Control plane only indication | | Control plane only indication  9.11.4.23 | | O | | TV | | 1 | |
| 66 | | IP header compression configuration | | IP header compression configuration  9.11.4.24 | | O | | TLV | | 5-257 | |
| 1F | | Ethernet header compression configuration | | Ethernet header compression configuration  9.11.4.28 | | O | | TLV | | 3 | |

#### 8.3.2.2 5GSM cause

This IE is included when the selected PDU session type is different from the PDU session type requested by the UE.

#### 8.3.2.3 PDU address

This IE is included when the selected PDU session type is "IPv4", "IPv6" or "IPv4v6".

#### 8.3.2.4 RQ timer value

This IE is included when the network needs to provide the RQ timer value.

#### 8.3.2.5 S-NSSAI

This IE shall be included in the message when the SMF received from the AMF an S-NSSAI together with the PDU SESSION ESTABLISHMENT REQUEST message, and the PDU session is a non-emergency PDU session.

#### 8.3.2.6 Always-on PDU session indication

The network shall include this IE if the network decides to inform the UE whether the PDU session is established as an always-on PDU session.

#### 8.3.2.7 Mapped EPS bearer contexts

This IE is included when interworking with EPS is supported for the PDU session.

#### 8.3.2.8 EAP message

This IE is included when the external DN successfully performed authentication and authorization of the UE using EAP.

#### 8.3.2.9 Authorized QoS flow descriptions

This IE is included when the network needs to provide authorized QoS flow descriptions.

#### 8.3.2.10 Extended protocol configuration options

This IE is included in the message when the network needs to transmit (protocol) data (e.g. configuration parameters, error codes or messages/events) to the UE.

#### 8.3.2.11 DNN

The IE shall be included in the message when the PDU session is a non-emergency PDU session.

#### 8.3.2.12 5GSM network feature support

This IE is included when the network needs to indicate support of 5GSM network features.

#### 8.3.2.13 Void

#### 8.3.2.14 Serving PLMN rate control

This IE shall be included when the network needs to indicate the maximum uplink control plane user data the UE is allowed to send per 6 minute interval.

#### 8.3.2.15 ATSSS container

The IE shall be included in the message when the PDU session is an MA PDU session.

NOTE: If the network does not update the content of the ATSSS container IE when establishing user plane resources over other access of an MA PDU session established over one access only, the network can set the Length of ATSSS container contents to zero.

#### 8.3.2.16 Control plane only indication

The network shall include the control plane only indication IE if the network determines that the associated PDU session is only for control plane CIoT 5GS optimization.

#### 8.3.2.17 IP header compression configuration

The SMF may include the IP header compression configuration IE if:

- the network accepts an IP PDU session type; and

- control plane CIoT 5GS optimization is selected.

#### 8.3.2.18 Ethernet header compression configuration

The SMF may include the Ethernet header compression configuration IE if:

- the network accepts an Ethernet PDU session type; and

- control plane CIoT 5GS optimization is selected.

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

\*\*\* for information only \*\*\*

#### 9.11.4.22 ATSSS container

The purpose of the ATSSS containerinformation element is to transfer parameters associated with ATSSS.

The ATSSS container information element is coded as shown in figure 9.11.4.22.1 and table 9.11.4.22.1.

The ATSSS containeris a type 6 information element with a minimum length of 3 octets and a maximum length of 65538 octets.

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 |  |
| ATSSS container IEI | | | | | | | | octet 1 |
| Length of ATSSS container contents | | | | | | | | octet 2  octet 3 |
| ATSSS container contents | | | | | | | | octet 4  octet x |

Figure 9.11.4.22.1: ATSSS container information element

Table 9.11.4.22.1: ATSSS container information element

|  |
| --- |
| ATSSS container contents are defined in 3GPP TS 24.193 [13B]. |

\*\*\* for information only \*\*\*