**3GPP TSG-CT WG1 Meeting #133-eC1-21abcd**

**E-meeting, 11-19 November 2021 (was C1-216669)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.193** | **CR** | **0066** | **rev** | **1** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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:*** | Reference corrections | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | 5GProtoc17 | | | | |  | ***Date:*** | | | 2021-11-04 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
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| ***Reason for change:*** | | Some errors in references and additional minor wording issue are proposed to be corrected. | | | | | | | | |
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| ***Summary of change:*** | | 1. Clause 9.11.3.63 in 24.501 is voided and remaining references in 24.193 need to be corrected to refer to UE requested PDU session establishment and modification clauses.   2) In clause 5.4.1 an “are” is proposed to be added to improve wording. | | | | | | | | |
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| ***Consequences if not approved:*** | | Incorrect references and unclear wording remain in the specification | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.2.5, 5.2.6, 5.4.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

### 5.2.5 Converting PDU session transferred from EPS to MA PDU session

When an ATSSS capable UE has transferred a PDN connection from S1 mode to N1 mode in the network supporting N26 interface 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 S-NSSAI associated with the PDU session over 3GPP access is included in the allowed NSSAI of non-3GPP access, the UE may initiate the UE-requested PDU session modification procedure by sending the PDU SESSION MODIFICATION REQUEST message including 5GSM capability IE over 3GPP access as specified in clause 6.4.2.2 of 3GPP TS 24.501 [6]. The UE may set the Request type IE to either:

1) "modification request" and include the MA PDU session information IE set to "MA PDU session network upgrade is allowed" as defined in clause 9.11.3.31A of 3GPP TS 24.501 [6]; or

2) "MA PDU request"

in the UL NAS TRANSPORT message as specified in clause 8.2.10 of 3GPP TS 24.501 [6]. When the UE receives the PDU SESSION MODIFICATION COMMAND message including the ATSSS container IE as specified in clause 6.4.2.3 of 3GPP TS 24.501 [6], the UE shall consider that the requested PDU session was converted by the network to an MA PDU session and the user plane resources are successfully established on 3GPP access. When the user plane resources are established on the non-3GPP access (e.g., received established user plane IPsec SA in untrusted non-3GPP access), the UE shall consider the user plane resources are established on both accesses;

NOTE: If the UE receives the PDU SESSION MODIFICATION COMMAND message including the ATSSS container IE and fails to receive user plane resources established on the non-3GPP access, upon an implementation specific timer expiry the UE initiates the UE-requested PDU session establishment procedure over the non-3GPP access, in order to establish user plane resources on the non-3GPP access.

b) if the UE is registered over both 3GPP access and non-3GPP access in different PLMNs, the UE may initiate the UE-requested PDU session modification procedure by sending the PDU SESSION MODIFICATION REQUEST message including 5GSM capability IE over 3GPP access as specified in clause 6.4.2.2 of 3GPP TS 24.501 [6]. The UE may set the Request type IE to either:

1) "modification request" and include the MA PDU session information IE set to "MA PDU session network upgrade is allowed" as defined in clause 9.11.3.31A of 3GPP TS 24.501 [6]; or

2) "MA PDU request"

in the UL NAS TRANSPORT message as specified in clause 8.2.10 of 3GPP TS 24.501 [6]. When the UE receives the PDU SESSION MODIFICATION COMMAND message including the ATSSS container IE as specified in clause 6.4.2.3 of 3GPP TS 24.501 [6], the UE shall consider that the requested PDU session was converted by the network to an MA PDU session and the user plane resources are successfully established on 3GPP 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 non-3GPP access, in order to establish user plane resources on the other access for the MA PDU session; or

c) if the UE is registered over 3GPP access only, the UE may initiate the UE-requested PDU session modification procedure by sending the PDU SESSION MODIFICATION REQUEST message including 5GSM capability IE over 3GPP access as specified in clause 6.4.2.2 of 3GPP TS 24.501 [6], The UE may set the Request type IE to either:

1) "modification request" and include the MA PDU session information IE set to "MA PDU session network upgrade is allowed" as defined in clause 9.11.3.31A of 3GPP TS 24.501 [6]; or

2) "MA PDU request"

in the UL NAS TRANSPORT message as specified in clause 8.2.10 of 3GPP TS 24.501 [6]. When the UE receives the PDU SESSION MODIFICATION COMMAND message including the ATSSS container IE as specified in clause 6.4.2.3 of 3GPP TS 24.501 [6], the UE shall consider that the requested PDU session was converted by the network to an MA PDU session and the user plane resources are successfully established on 3GPP access. When the UE at a later point in time registers over the non-3GPP 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 non-3GPP access in order to establish user plane resources on non-3GPP access for the MA PDU session.

\* \* \* Next Change \* \* \* \*

### 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 a selected access, either 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 defined in clause 9.11.3.31A 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 and the user plane resources are successfully established on the selected access. When the user plane resources are established on the access other than the selected access (e.g. received lower layer indication in 3GPP access or established user plane IPsec SA in untrusted non-3GPP access), the UE shall consider the user plane resources are successfully established on both accesses;

NOTE: If the UE receives the PDU SESSION ESTABLISHMENT ACCEPT message including the ATSSS container IE and fails to receive user plane resources established on the access other than the selected access, upon an implementation specific timer expiry the UE re-initiates the UE-requested PDU session establishment procedure over the access other than the selected access, in order to establish user plane resources on the access other than the selected access.

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 defined in clause 9.11.3.31A 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 and the user plane resources are established 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 including the ATSSS container IE 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 on 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 defined in clause 9.11.3.31A 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 and the user plane resources are established 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 including the ATSSS container IE 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 on both 3GPP access and non-3GPP access.

\* \* \* Next Change \* \* \* \*

### 5.4.1 General

Performance measurement function protocol (PMFP) procedures are performed between a performance measurement function (PMF) in a UE and a PMF in the UPF.

The following UE-initiated PMFP procedures are specified:

a) UE-initiated RTT measurement procedure; and

b) access availability or unavailability report procedure;

c) UE-initiated PLR measurement procedure; and

d) UE assistance data provisioning procedure.

The following UPF-initiated PMFP procedures are specified:

a) UPF-initiated RTT measurement procedure; and

b) UPF-initiated PLR measurement procedure.

The UE-initiated PMFP procedures and the UPF-initiated PMFP procedures can be performed in an MA PDU session only when the MAI is provided to the UE during establishment of the MA PDU session.

PMFP messages are transported in an IP packet or an Ethernet frame according to clause 5.3.2.

If the UE supports performance measurement function protocol procedures for the QoS flow of a non-default QoS rule, the UE indicates its "access performance measurements per QoS flow" capability as defined in clause 9.11.4.1 of 3GPP TS 24.501 [6] to the SMF. If the SMF determines that PMFP using the QoS flow of the non-default QoS rule is applied to the MA PDU session for the UE, the SMF provides the UE with the MAI including a list of QoS flows over which access performance measurements may be performed. The UE performs the RTT measurement procedure or the PLR measurement procedure over the QoS flow(s) as indicated in the received MAI.

If the UPF receives the indication from the SMF that the performance measurement is for QoS flow(s) of the non-default QoS rule, the UPF performs the RTT measurement procedure or the PLR measurement procedure over the QoS flow(s) of non-default QoS rule as indicated by the SMF. Otherwise, the UPF performs the RTT measurement procedure or the PLR measurement procedure over the QoS flow of the default QoS rule

PMFP messages, transported between the UE and the UPF over one (or more) QoS flows of a non-default QoS rule, are specified in clause 5.4.2.1.3.

PMFP messages transported between the UE and the UPF (and vice versa) are protected using the security mechanisms protecting the user data packets transported over NG-RAN or non-3GPP access connected to the 5GCN and over the N3 and N9 reference points, are specified in 3GPP TS 33.501 [14]. A PMFP-specific security mechanism is not specified.

NOTE: Even though transport of PMFP messages between the UE and the UPF is protected, a compromised UE can send false or incorrect PMFP messages.

PMFP is a standard L3 protocol according to 3GPP TS 24.007 [13], PMFP messages are standard L3 messages according to 3GPP TS 24.007 [13] and error behaviour specified for L3 protocol in according to 3GPP TS 24.007 [13] applies for PMFP.

The access availability or unavailability report procedure is only performed over the QoS flow of the default QoS rule.

\* \* \* End of Changes \* \* \* \*