**3GPP TSG-CT WG1 Meeting #130-eC1-21cccc**

**Electronic meeting, 20-28 May 2021C1-212985**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **24.193** | **CR** | **0036** | **rev** | **1** | **Current version:** | **17.0.1** |  |
|  | | | | | | | | |
| *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 UE assistance data in PMFP | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | ZTE | | | | | | | | | |
| ***Source to TSG:*** | C1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | ATSSS\_Ph2 | | | | |  | ***Date:*** | | | 2021-05-22 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | As per S2-2103309 agreed in SA2#144e, the PMF protocol is extended so that it can enable the UE to send UE-assistance data to UPF, which specify the UL traffic distribution applied by the UE. The UPF may apply the information in a received PMF UAD message to align the DL traffic distribution for an SDF with the UL traffic distribution applied by the UE for the same SDF. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Specify UE assistance data provisioning procedure and define the encoding of PMFP UAD message. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | UE assistance data in PMFP is not supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.4.z (new), 6.2.1.x (new), | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS 23.501 CR 2647 | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* 1st Change \* \* \* \*

### 5.4.z UE assistance data provisioning procedure

#### 5.4.z.1 General

The purpose of the UE assistance data provisioning procedure is to enable the UE to provide to the UPF with the information specifying the UL traffic distribution applied by the UE for a particular SDF.

If the UE receives the UE assistance indicator in an ATSSS rule and decides to apply a different UL traffic distribution for an SDF from the default UL traffic distribution indicated in the load balancing steering mode of the ATSSS rule, the UE sends a PMFP UAD message to the UPF.

NOTE: It is based on UE implementation that how the UE decides to apply a different UL traffic distribution for an SDF.

The UE in the PMFP UAD message includes:

a) correlation information; and

b) UL distribution information.

Editor's note: The details of the correlation information and UL distribution information are FFS waiting the conclusions from SA2.

UE

network

PMFP UAD

Figure 5.4.z.1-1: UE assistance data provisioning procedure

#### 5.4.z.2 UE assistance data received by the network

On receipt of a PMFP UAD message in the UPF, the UPF may apply the information in a received PMF UAD message to align the DL traffic distribution for an SDF with the UL traffic distribution applied by the UE for the same SDF.

\* \* \* 2nd Change \* \* \* \*

#### 6.2.1.1 General

The following PMFP messages are specified:

- PMFP echo request;

- PMFP echo response;

- PMFP access report;

- PMFP acknowledgement; and

- PMFP UAD.

\* \* \* 3rd Change \* \* \* \*

#### 6.2.2.1 Message type

Message type is a type 3 information element with length of 1 octet.

Table 6.2.2.1-1 defines the value part of the message type IE used in the PMFP.

Table 6.2.2.1-1: Message type

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Bits | | | | | | | | | | |
| 8 | 7 | 6 | 5 | 4 | 3 | 2 | 1 | |  |  |
| 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 |  | | PMFP ECHO REQUEST message |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 |  | | PMFP ECHO RESPONSE message |
| 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1 |  | | PMFP ACCESS REPORT message |
| 0 | 0 | 0 | 0 | 0 | 1 | 0 | 0 |  | | PMFP ACKNOWLEDGEMENT message |
| 0 | 0 | 0 | 0 | 1 | 0 | 0 | 1 |  | | PMFP UAD message |
|  | | | | | | | | | | |
| All other values are reserved | | | | | | | | | | |

\* \* \* 4th Change \* \* \* \*

#### 6.2.1.x PMFP UAD

##### 6.2.1.x.1 Message definition

The PMFP UAD message is sent by the UE to provide UE assistance data to the UPF.

See table 6.2.1.x.1-1.

Message type: PMFP UAD

Significance: dual

Direction: UE to network

Table 6.2.1.x.1-1: PMFP UAD message content

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| IEI | Information Element | Type/Reference | Presence | Format | Length |
|  | PMFP UAD message identity | Message type  6.2.2.1 | M | V | 1 |
|  | Correlation information | Correlation information  6.2.2.x | M | LV | TBD |
|  | UL distribution information | UL distribution information  6.2.2.y | M | LV | TBD |

\* \* \* 5th Change \* \* \* \*

#### 6.2.2.x Correlation information

Editor's note: The correlation information is information that identifies an existing SDF in both UE and UPF, and could be new information included in the ATSSS rule and in the N4 rules, or it could be existing information such as an ATSSS rule ID that would then need to be sent also from SMF to UPF. The details of the correlation information are FFS waiting the conclusions from SA2.

#### 6.2.2.y UL distribution information

Editor's note: The UL distribution information is information that identifies how the UL traffic of the SDF is distributed by the UE. The details of the UL distribution information are FFS waiting the conclusions from SA2.

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