**3GPP TSG-SA5 Meeting #141-e *S5-221265***

e-meeting, 17 -26 January 2022 (revision of xx-yyxxxx)

**Source: China Mobile**

**Title: New SID on Management Aspect of User Plane Enhancement**

**Document for: Approval**

**Agenda Item: 6.2**

3GPP™ Work Item Description

Information on Work Items can be found at <http://www.3gpp.org/Work-Items>   
See also the [3GPP Working Procedures](http://www.3gpp.org/specifications-groups/working-procedures), article 39 and the TSG Working Methods in [3GPP TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm)

Title: Study on Management Aspect of User Plane Enhancement

Acronym:FS\_MAUPE

Unique identifier:

Potential target Release: *{Rel-18}*

# 1 Impacts

{For Normative work, identify the anticipated impacts. For a Study, identify the scope of the study}

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Affects: | UICC apps | ME | AN | CN | Others (specify) |
| Yes |  |  |  | X |  |
| No |  |  |  |  |  |
| Don't know |  |  |  |  |  |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

{Tick one box. "**Feature** / **Building Block** / Work Task" form a hierarchical structure. E.g. no Building Block can be proposed without a corresponding parent Feature. The full structure of all existing Work Items is shown in the 3GPP Work Plan in <ftp://ftp.3gpp.org/Information/WORK_PLAN>}

|  |  |
| --- | --- |
|  | Feature |
|  | Building Block |
|  | Work Task |
|  | Study Item |

## 2.2 Parent Work Item

{"Parent" Work Item refers to the related, earlier-Stage, Work Item, e.g. the related Stage 1 Work Item shall be indicated here when a Stage 2 normative Work Item or Study Item is presented. "Parent" Work Item can also refer to the related preceding Study Item e.g. the related Study Item and the earlier-stage Work Item shall be indicated here when a normative-work Work Items is started. List here all parent Work Items of which requirements are either fully or partially covered by the proposed Item. }

{This section is mandatory to be filled out by the rapporteur. This section is to be filled with care: it indicates to the companies monitoring the parent Work Item that it will be addressed in this study/work item.}

For a brand-new topic, use “N/A” in the table below. Otherwise indicate the parent Work Item.

|  |  |  |  |
| --- | --- | --- | --- |
| Parent Work / Study Items | | | |
| Acronym | Working Group | Unique ID | Title (as in 3GPP Work Plan) |
|  |  |  |  |

### 2.3 Other related Work Items and dependencies

{List here other Work Items which relate to the proposed one, such as a Work Item in an earlier Release if further enhancing the feature from the previous Release)}

|  |  |  |
| --- | --- | --- |
| Other related Work /Study Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| 800028 | Feasibility Study on Vertical\_LAN | SA2 stage 2 study item |
| 820017 | 5GS Enhanced support of Vertical and LAN Services | SA2 stage 2 work item |

# 3 Justification

5G LAN-type service requirement has been specified in TS 22.261. 5G LAN-type services has also been specified in TS 23.501 and TS 23.502. A 5G Virtual Network (VN) group consists of a set of UEs using private communication for 5G LAN-type services. The following aspects of 5G LAN-type Services are defined:

* 5G VN group management

5G System supports management of 5G VN Group identification and membership and 5G VN Group data. The 5G VN Group management can be configured by a network administrator or can be managed dynamically by AF.

* PDU Session management

Session management is applicable to 5GLAN-type services with clarification and enhancement, e.g.

- A UE gets access to 5G LAN-type services via a PDU Session of IP PDU Session type or Ethernet PDU Session type.

- A PDU Session provides access to one and only one 5G VN group.

- A dedicated SMF is responsible for all the PDU Sessions for communication of a certain 5G VN group.

- A PDU Session provides unicast, broadcast and multicast communication for the DNN and S-NSSAI associated to a 5G VN group.

* User Plane handling

Three types of traffic forwarding methods are allowed for 5G VN communication, i.e. UPF local switching, N6-based forwarding and N19-based forwarding, to forward traffic within the 5G VN group.

According to the discussion of SA1 and SA2, the management aspect of 5G LAN has missing. For example, SMF may support PDU Sessions for a 5G VN group which offers a virtual data network capable of supporting 5G LAN-type service over the 5G system. The whole PDU sessions belong to the 5G LAN group need to select the same SMF based on network configuration. But how to configure to select the same SMF based on network configuration has not defined yet. And for 5G VN group, it is required that all members of a 5G VN group belong to the same UDM group ID. The 5G VN group configuration can be either provided by OA&M or provided by an AF to the NEF. But how to configure 5G VN group has not been discussed. Also, management of N19 tunnel establishment needs to be specified

# 4 Objective

The study item will consider the following aspects:

* Identify potential requirements for 5G management system which supports 5G LAN-type services;
* Investigate potential enhancement of network configuration to support 5G LAN-type services (e.g. configuration of service area where 5G VN group communication is applicable to the UEs);
* Identify performance measurement and related new KPIs of in VN group level (e.g. enhancement of performance management to evaluate the consistence of group UE experience);

- Recommendation for normative work.

# 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| New specifications {One line per specification. Create/delete lines as needed} | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Rapporteur |
| TR | 28.xxx | Study on Management Aspect of User Plane Enhancement | June 2022(SA#96) | Dec 2022(SA#98) | Weiyuan Li, CMCC, liweiyuan@chinamobile.com |
|  |  |  |  |  |  |

{Note 1: Only TSs may contain normative provisions. Study Items shall create or impact only TRs.  
"Internal TR" is intended for 3GPP internal use only whereas "External TR" may be transposed by OPs.}

{Note 2: The first listed Rapporteur is the specification primary Rapporteur. Secondary Rapporteur(s) are possible for particular aspect(s) of the TS/TR. In this case, their responsibility has to be provided as "Remarks".}

|  |  |  |  |
| --- | --- | --- | --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
| {e.g. "22.281"} | {Possible values:  - either free text (e.g. “CS aspects to be removed")  - or “Specification to be withdrawn”} | {e.g. "TSG#89"} | {Free text} |
|  |  |  |  |

# 6 Work item Rapporteur(s)

Weiyuan Li, CMCC, liweiyuan@chinamobile.com

## 7 Work item leadership

SA WG5

## 8 Aspects that involve other WGs

Co-ordination with SA2.

# 9 Supporting Individual Members

{At least 4 supporting Individual Members are needed. There is an expectation that these companies will provide resources to progress the work. Note that having 4 supporting companies is a necessary but not sufficient condition: the usual TSG approval process by consensus is needed for the WID approval}

|  |
| --- |
| Supporting IM name |
| CMCC |
| Huawei |
| Asia Info |
| ZTE |
|  |
|  |