**3GPP TSG-SA5 Meeting #145-e *S5-225528rev1***

**e-meeting, 15 August – 24 August 2022**

**Source: China Mobile**

**Title: pCR TR 28.833 Add general description of solution 1 of FS\_5GLAN\_Mgt**

**Document for: Approval**

**Agenda Item: 6.8.4.3**

# Decision/action requested

***The group is asked to discuss and endorse the proposal in section 4***

# 2 References

[1] SP-220324 " New Study on Management Aspects of 5GLAN "

[2] 3GPP TS 23.501: "System Architecture for the 5G System; Stage 2".

[3] 3GPP TS 22.261: "Service requirements for next generation new services and markets; Stage 1".

# 3 Rationale

This contribution proposes to add potential solutions for TR 28.833.

# 4 Detailed proposal

It proposes to make the following changes.

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| **1st Change** |

# 5 Topics

## 5. 1 Topic 1: 5G VN group data management

### 5.1.1 Use case

5G LAN-type services are provided for the customers who request services with similar functionalities to Local Area Networks (LANs) and VPN’s but improved with 5G capabilities (e.g. high performance, long distance access, mobility and security). To support 5G LAN-type services, 3GPP management system may need to support the management of 5G VN group (e.g. configuration of service area where 5G VN group communication is applicable to the UEs).

As defined in TS 23.501 [8], the 5G VN group configuration is either provided by OAM or provided by an AF to the NEF. It means the 5G VN group parameters about a UE may be configured in subscription data of the UE and delivered together with other subscription data by the UDM for supporting 5G LAN service. For the configuration for 5G VN group data management, the 3GPP management system can support the 5G VN group data management, including:

* The configuration for 5G VN group data creation based on External Group ID.
* The configuration for 5G VN group data modification based on External Group ID.
* The configuration for 5G VN group data deletion based on External Group ID.

### 5.1.2 Potential requirements

**REQ-LAN-GDM-01** The 3GPP management system should have the capability to manage the 5G VN group data creation.

**REQ-LAN-GDM-02** The 3GPP management system should have the capability to manage the 5G VN group data modification.

**REQ-LAN-GDM-03** The 3GPP management system should have the capability to manage the 5G VN group data deletion.

**REQ-LAN-GDM-04** The 3GPP management system should have the capability to manage the 5G VN group membership update, UE addition and removal based on External Group ID.

### 5.1.3 Key Issues

This key issue is for investigating how to support the 5G LAN-type service considering REQ-LAN-GDM-01, REQ-LAN-GDM-02, REQ-LAN-GDM-03 and REQ-LAN-GDM-04. This investigation covers the following:

- determination of which NF in the 5G system are suitable to maintain the related information to support the 5G VN group management;

- Member management of 5G LAN-type services customer, e.g. membership update, UE addition and removal based on External Group ID.

### 5.1.4 Solutions

#### 5.1.4.2 General description

This clause describes briefly the potential solution for supporting the 5G VN group data management.

As per the TS 23.501[6], in order to support the 5G VN Group management configurated by OAM, the following configuration are allocated to UDM:

- 5G VN Group identification and membership:

- the UDM allocates the Internal Group ID for a newly created 5G VN Group and maps the External Group ID from OAM to Internal Group ID.

- the UDM updates the Internal Group ID-list of the corresponding UE's subscription data in UDR, if needed.

- The UDM updates the Group Identifier translation in the Group Subscription data with the Internal Group ID, External Group ID and list of group members, if needed.

- 5G VN Group data: The UDM stores/updates the 5G VN group data (PDU session type, DNN and S-NSSAI, Application descriptor, Information related with secondary authentication / authorization) in UDR.

In this solution, the 5G LAN-type services can be provided by operator for a set of UEs using private communication as a 5G VN group. These configuration information interactions between OAM and UDM is present as the following:

- Addition of 5G VN group;

- Modification of 5G VN group;

- Deletion of 5G VN group;

#### 5.1.4.3 Procedure description

In order to support the 5G VN Group management configurated by OAM, the procedure of management of the 5G VN Group related configuration is following. After received the 5G LAN-type services from network provider or network customer, the management service provider can allocate the 5G LAN-type service request to the management service customer, which may be the management function of UDM. For example, the congfiguration can be allocated from NSMF to NSSMF of core network.



Figure 5.1.4.3 Procedure of management of the 5G VN Group related configuration

1. The management service provider after received the 5G LAN-type service requirements from customers can allocate the 5G LAN-type service request to the management service customer, which may be the management function of UDM, including External Group Id and 5G VN group data management parameters (e.g. 5G VN group addition/modification/deletion) or 5G VN group membership management parameters (e.g. membership update, UE addition and removal based on External Group ID).
2. The management service customer allocates the 5G LAN-type service configuration to UDM. The attributes of managedNFProfile in UDM IOC can include udminfo of the 5G VN group related information and the correspondence between the 5G VN group ID and the supported SMFs.
3. The management service customer sends respond to the management service provider.

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| **End of Change** |