**3GPP TSG-SA5 Meeting #155 *S5-243187d1***

Jeju, South Korea, 27 - 31 May 2024

**Source: China Mobile**

**Title: pCR 28.869 Add use cases of Cloud-native VNF policy management**

**Document for: Approval**

**Agenda Item: 6.19.6**

# 1 Decision/action requested

***In this box give a very clear / short /concise statement of what is wanted.***

# 2 References

1. 3GPP TR 28.869 v0.2.0 Study on cloud aspects of management and orchestration.

# 3 Rationale

The contribution proposes to add use cases of cloud-native VNF policy management.

# 4 Detailed proposal

It proposes to make the following changes to TR 28.869 [1].

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| **1st Change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] ETSI GS NFV-IFA 049: “Network Functions Virtualisation (NFV) Release 5; Architectural Framework; VNF generic OAM functions specification.

[3] ETSI GR NFV-EVE 019: "Network Functions Virtualisation (NFV) ;Architectural Framework;Report on VNF generic OAM functions".

[4]  3GPP TR 28.834: "Study on management of cloud-native Virtualized Network Functions (VNF)".

[x] 3GPP TS 28.555: "Management and orchestration; Network policy management for 5G mobile networks; Stage 1".

[y] ETSI GR NFV-IFA 023 (V3.1.1): "Network Functions Virtualisation (NFV); Management and Orchestration; Report on Policy Management in MANO; Release 3".

# 5 Use cases, potential requirements, and potential solutions

## 5.1 Use of VNF generic OAM functions

Editor's Note: This clause describes the use cases, issues, requirements, and solutions related to WT-1.

### 5.1.x Use case #X：Cloud-native VNF policy management

#### 5.1.x.1 Description

3GPP TS 28.555[x] specifies the concepts, requirements and use cases for network policy management in 5G networks. It is suitable for use cases where 3GPP and MANO interact for policy management (see the policy categories in ETSI GR NFV-IFA 023[y] Table 6.2.2-1 for details) and lacks support for the cloud native VNFs.

The 3GPP management system needs to implement policy management for cloud-native VNF which adheres to cloud-native principles, such as using a microservice-based design architecture.

Microservice-based architecture can split a single application into multiple small services, each of them can run independently. However, it will also bring many challenges, such as a large number of services will have complex dependencies, resulting in complex deployment. In this case, automated deployment policy management is needed to help improve efficiency.

In addition, 3GPP management system can also consider the combination of automation and intelligence to build a complete microservice closed-loop control. Then the use of automation will reduce manual intervention to improve governance efficiency, and the use of intelligence will bring a higher level of intelligence and automation. For example, as described in clause 4.2.1.7 of ETSI GS NFV-IFA 049 [2] , which may involve OSS/BSS, some VNF generic OAM functions, MDAF and Intent Management function.

#### 5.1.x.2 Potential requirements

**REQ-policy-1:**The 3GPP management system should have the capability to support automated policy managements for the cloud-native VNFs, such as in a more automated way.

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| **End of Changes** |