**3GPP TSG-SA5 Meeting #158 *S5-247107***

Orlando, USA, 18 - 22 November 2024

**Source: NTT DOCOMO, China Mobile**

**Title: pCR TR28.869 Cloud-native VNF Configuration management evaluation**

**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 v1.1.0 Study on cloud aspects of management and orchestration.

# 3 Rationale

The contribution proposes to add evaluation for VNF Configuration management. It also resolves ENs in clause 5.1.1.3.1 where the VNF Configuration manager function is described.

# 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.

[11] ETSI GR NFV 003 (V1.8.6): "Network Functions Virtualisation (NFV); Terminology for Main Concepts in NFV".

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| **2nd Change** |

##### 5.1.1.3.1 VNF Configuration Manager function

This solution introduces a platform entity that interacts with the 3GPP management system via a new reference point for performing the configuration management of cloud-native VNFs.

This solution proposes the use of the VNF Configuration Manager function defined in ETSI GS NFV-IFA 049 [2]. Some key functionalities supported by the VNF Configuration Manager function are the capability to convey configuration information to one or more cloud-native VNF/VNFC instances, the capability to perform pre-configuration actions (e.g. create configuration backup) and post-configuration actions (e.g. rollback running configuration) and the capability to query configuration information of cloud-native VNF/VNFC instances.

From 3GPP management system perspective, MnS provisioning handles configuration of managed NFs defined by 3GPP, which include the necessary configuration related to the behavior and role of a NF (e.g., configuration of a gNB CU UP function). The 3GPP management system fully understands the semantics of this kind of configuration since it is needed to ensure that the 3GPP mobile network operates as intended by the network operator.

Nevertheless, the 3GPP management system does not support configuration of cloud-native VNF aspects other than the managed NF, upon request of an MnS consumer. For the NF part of the cloud-native VNF it is also not able to support performing pre-configuration and post-configuration actions.

The VNF Configuration Manager does not understand the semantics of the configuration information that is conveyed to the cloud-native VNF/VNFC instances.

Figure 5.1.1.3.1-1 depicts the interaction and reference point between 3GPP management system and the VNF Configuration Manager.



Figure 5.1.1.3.1-1: Interaction and reference point between 3GPP management system and VNF Configuration Manager

NOTE: As specified in ETSI GS NFV-IFA 049 [2], the VNF Configuration Manager is a VNF generic OAM function, while close mapping between VNF generic OAM functions and Platform as a Service (PaaS) Services exists. According to ETSI GS NFV-IFA 049 [2], any VNF generic OAM function can be understood as a PaaS Service of a specific type, i.e. a PaaS Service that provides and handles generic OAM functionality for VNFs. See ETSI GR NFV 003 [11] for a definition of the term PaaS Service.

The present solution addresses the potential requirements REQ-CVNF\_CM-1 and REQ-CVNF\_CM-2.

This potential solution related to option 2 in clause 5.1.5.

Editor’s Note: update the solution description to better reflect the impact to the 3GPP management system.

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| **3rd Change** |

5.1.1.4 Evaluation of solutions

Editor’s Note: update the evaluation section when they description of all the solutions has been finalized, highlighting the impact to the 3GPP management system.

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| **End of Changes** |