**3GPP TSG-SA5 Meeting #158 *S5-246768rev2***

Orlando, USA, 18 - 22 November 2024

**Source: NTT DOCOMO, China Mobile**

**Title:** **pCR TR28.869 Placement of cloud native NFs 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 evaluations of solutions for Placement of NF Deployment instance.

# 4 Detailed proposal

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

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| **1st Change** |

5.3.1 Use case #1: Placement of cloud native NFs

5.3.3.1 Description

The distributed cloud deployment types enable the network to be deployed across different geographical locations. In this use case CSPs use the information about the available placement locations and resources in each, if available, to select the optimal location(s) for an NF. This provides the NOPs/CSPs with the choice of where a particular NF can be placed at the time of deployment. The parameters that can impact the choice of placement include geographical service area, performance in terms of latency and available bandwidth, as well as level of deployment complexity. In order to support distributed cloud deployments, the 3GPP management system needs to provide the capability for NOPs/CSPs to learn the available deployment locations.

Note: The mechanism to indicate the preferred placement of a particular NF is already supported by use of attribute ‘locality’ in the ManagedNfProfile datatype.

5.3.3.2 Potential requirements

**REQ-1** The 3GPP management system should be able to collect information about the available deployment locations.

NOTE: The granularity of the location information is FFS.

5.3.3.x Potential solutions

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5.3.3.4 Evaluations of solutions

The solution described in clause 5.3.3.x.1 would need the NFV-MANO to enable adding information about the available deployment locations in their capacity and/or inventory services, through association between logical identifiers, already currently supported, and location information.

Then NF deployment instance location information can be exposed by an MnS producer. For example, this information can be exposed to MDAF to perform management data analytics based on NF deployment location information. NF deployment location information can be related to “locality” attribute of managed NF profiles as specified in TS 28.541. However, additional investigation needs to be performed during the normative phase, since multiple NF deployment components can be used to support a single NF deployment.

This solution is compatible with the 3GPP management system and can enable the 3GPP management system to collect information about the available deployment locations.

NOTE: To fully enable the solution without duplicating standardization efforts, it is expected that 3GPP SA5 would liaise with ETSI NFV to address the new requirements and enhance their respective specifications.

The solution described in clause 5.3.3.x.2 would need an orchestration and management entity to interact with 3GPP management system to support placement of NF Deployment instance, it is a feasible high-level solution and further details maybe developed in the normative specifications.

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| **End of Changes** |