**3GPP TSG-SA5 Meeting #148e *S5-233524***

**Electronic meeting, Online, 17 -25 April 2023** **(revision of S5-232810)**

**Source: China Mobile，Huawei，AsiaInfo**

**Title: New WID on Management of cloud-native Virtualized Network Functions**

**Document for: Approval**

**Agenda Item: 6.2.2**

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:New WID on Management of cloud-native Virtualized Network Functions

{Free text. It has to be the same as in the "Title:" section above. Studies have to start by "Study on"}

Acronym:MCVNF

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 | X | X | X |  |  |
| Don't know |  |  |  |  | X |

# 2 Classification of the Work Item and linked work items

## 2.1 Primary classification

### This work item is a …

|  |  |
| --- | --- |
|  | Study  |
| X | Normative – Stage 1 |
| X | Normative – Stage 2 |
| X | Normative – Stage 3 |
|  | Normative – Other\* |

**\* Other = e.g. testing**

## 2.2 Parent 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) |
| FS\_MCVNF | SA5 | 950032 | Study on Management of cloud-native Virtualized Network Function |

### 2.3 Other related Work Items and dependencies

|  |
| --- |
| Other related Work /Study Items (if any) |
| Unique ID | Title | Nature of relationship |
|  |  |   |

**Dependency on non-3GPP (draft) specification:**

# 3 Justification

TR 28.834 presents use cases and relevant solutions related to the management of cloud-native virtualized network function, in terms of life cycle management, PM, FM and CM, and some of these use cases are related to VNF generic OAM functions. Except for the use cases related to generic functions for which there is no definite solution, all other use cases are given clear and specific solutions, and the plan for the follow-up during the standardization work is also very clear.

As the analysis in TR28.834, TS 28.526 specifies the Life Cycle Management (LCM) procedures for mobile networks that include virtualized network functions, but it do not support containerized VNF LCM.In addition, TS28.516 and TS28.531 have similar problems.

Give a specific example, in the use case scenario where NF creation as a cloud native VNF, the 3GPP management system shall have a capability to interact with ETSI NFV MANO for creation of NF as a containerised VNF. The solution to this requirement is re-using the existing procedure in clause 7.10 in TS 28.531, and the latest Release 4 specifications from ETSI NFV should be introduced.

Meanwhile, TS28.533 contains direct references to TS 28.526, TS 28.516 and so on. But this is not appropriate because the scope of TS28.533 is defining the network management and orchestration architecture SBMA for 3GPP networks including network slicing.

We can see that the problem is that the referenced objects TS 28.526 and TS 28.516 are no longer appropriate, but considering that updating them directly may have other potential effects in other domains. So it is recommended to work directly in TS 28.531 and TS28.533.

In addition to the above issues, we also found that published versions of TS 28.526 (from Release-14 to Release-17) should be corrected to remove references to VNF package management operations that have been voided in ETSI GS NFV-IFA013.

Therefore, it is necessary to complete the relevant standardization work in the new WID.

# 4 Objective

The objectives of this WID includes:

Specifying management enhancements for the cloud native VNFs based on the latest Release 4 specifications from ETSI NFV to support the capability of cloud native VNF management by interacting with ETSI NFV MANO, as concluded in TR 28.834. The WID will take into account of the use cases in TR 28.834 that have new requirements and corresponding solutions for the 3GPP management system. It includes the following aspects:

- Specifying enhancement to 3GPP management system to support the capability of creating cloud-native VNFs by interacting with ETSI NFV MANO.

- Specifying enhancement to 3GPP management system to support the capability of scaling cloud-native VNFs by interacting with ETSI NFV MANO.

- Specifying enhancement to 3GPP management system to support the capability of VNF package management of the cloud-native VNFs by interacting with ETSI NFV MANO. And removing the references of TS 28.526 to VNF package management operations that have been voided in ETSI GS NFV.

# 5 Expected Output and Time scale

***{If this WID covers both stage 2 and stage 3, clearly indicate the different completion dates.}***

|  |
| --- |
| 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 |
|  |  |  |  |  |  |
|  |  |  |  |  |  |

|  |
| --- |
| Impacted existing TS/TR {One line per specification. Create/delete lines as needed} |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| TS 28.531 | Add management enhancements for the cloud native VNFs | Mar 2024 (SA#103) |  |
| TS 28.533 | Add management enhancements for the cloud native VNFs | Mar 2024 (SA#103) |  |
|  |  |  |  |
| TS 28.526 | Removing voided references | Mar 2024 (SA#103) |  |

# 6 Work item Rapporteur(s)

China Mobile Guangjing Cao (caoguangjing@chinamobile.com)

# 7 Work item leadership

SA5

# 8 Aspects that involve other WGs

None

# 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| China Mobile |
| Huawei |
| AsiaInfo |
| CATT |
| China Unicom |
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