**3GPP TSG-SA5 Meeting #140-eS5-216181**

**e-meeting, 15 - 24 November 2021**

**Source: Huawei**

**Title: Concept definition for Exposed Management Service**

**Document for: Approval**

**Agenda Item: 6.5.4**

# 1 Decision/action requested

***For approval***

# 2 References

[1] 3GPP TR 28.824 V0.3.0 Management and orchestration; Study on network slice management capability exposure

# 3 Rationale

TR 28.824 [1] does not include a clear definition of the concept of Exposed Management Service, in particular how an Exposed Management Service differs from a traditional 3GPP Management Service.

# 4 Detailed proposal

This contribution proposes to make the following changes in [1].

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| **1st change** |

#### 4.1.1.1 Exposed Management Services

If a network operator wishes to expose management services to customers, the network operator may expose an API. To ease integration, the network operator may choose to expose an API which is compliant to 3GPP Technical Specifications. In the particular case that the operator exposes an API which complies with the specification for a 3GPP Management Service, this API is known as an exposed Management Service (eMnS).

Exposed MnS (eMnS) represents the MnS that can be exposed by MnS producer to the external MnS consumer. eMnS may rely on a dedicated MnF (e.g. EGMF defined in 3GPP or function defined in other standard like TMF) that manages the exposure aspects.

Editor’s notes: Whether eMnS is exposed transparently to external MnS consumer via BSS or being processed through a dedicated exposure platform is FFS.

#### 4.1.1.2 Exposure of Management Services

Exposure of management services supports the case that an external MnS consumer which is outside 3GPP management system can indrectly access management capability offered by MnS producer within 3GPP management system. Even though the eMnS complies with the same Technical Specification as a MnS, the actual operational behavior and managed data may differ.

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| **2nd change** |

## 5.1 Network slice management capability exposure

### 5.1.1 Description

A use case of network slice management capability exposure can be described as follows:

1. MNO selects the MnS that can be exposed externally.

2. MNO decides on any constraints that shall be applied to the MnS when it is exposed externally. For example, MNO may decide to disallow certain operations, limit the Managed Object Instances that may be managed, or aggregate/anonymize sensitive data.

3. MNO implements and deploys a Management Function which consumes the MnS, applies any constraints, and exposes the resulting functionality as an eMnS.

4. MNO may publish the eMnS in a service catalog or service directory.

### 5.1.2 Issue and gaps

Gap:

Whether and how to publish eMnS which can be exposed to BSS to a suitable eMnS producer for network management capability exposure is not specified in existing 3GPP management system.

## 5.x Network slice management capability consumption

### 5.x.1 Description

A use case of network slice management capability consumption can be described as follows:

1. In order to enable the consumption of network slice related eMnS, a vertical A firstly makes a contract with the MNO A, which contains the agreement on what eMnS optionally under what condition can be consumed. The condition can be certain constraint of eMnS consumption based on the contract, e.g. the access quota of certain eMnS, the access frequency of certain eMnS, etc. The vertical A negotiates its specific requirements for the network slice management capability consumption with the MNO A. The negotiation can be done via the following ways:

a) For vertical A which is small enterprise, it can directly have a view on the network slice related management capability through the BSS (e.g. by using Service Catalog). Based on that, the vertical A can select the network slice related eMnSs which will be covered by the contract.

b) For vertical A which is large enterprise (i.e. Internet giants that have their own service customer), it can select the network slice related eMnSs that are available to be exposed offline (e.g. through a F2F meeting). The MNO A can proceed with the service ordering through BSS based on the contract.

2. The BSS may interact with the OSS in order to complete certain configuration (i.e. permission regarding what eMnS, optionally under what condition, can be consumed) regarding the consumption of eMnS based on the customized requirement from the eMnS consumer (e.g. vertical A).

3. MNO A authorizes Vertical A to consume the eMnS as defined in the contract, and provides the relevant authentication keys to Vertical A.

4. The vertical A can get access to the network slice related management capability offered by eMnS producer within 3GPP management system. The access may need the interaction with BSS (e.g. through Service Catalog).

### 5.x.2 Issue and gaps

Gap:

An External needs to apply for the access of network slice management capability through BSS. However, there is no discussion and agreement on whether an eMnS is exposed transparently through the BSS or being processed through a dedicated exposure platform before exposing to the external.

The definition and the format of permission for the consumption of network slice related eMnS and its potential impact on internal interface with BSS is not discussed in current SA5 work.

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| **End of changes** |