**3GPP TSG-SA5 Meeting #136e *S5-212368d2***

**e-meeting, 01 – 09 March 2021** (revision of S5-212033rev5)

**Source: Alibaba Group**

**Title: New SID on network slice management capability exposure**

**Document for: Approval**

**Agenda Item: 6.2**

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: Study on network slice management capability exposure

## Acronym: FS\_NSCE

## 1 Impacts

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Affects:** | UICC apps | ME | AN | CN | Others (specify) |
| **Yes** |  |  | X | X |  |
| **No** | X | X |  |  |  |
| **Don't know** |  |  |  |  | X |

## 2 Classification of the Work Item and linked work items

### 2.1 Primary classification

|  |  |
| --- | --- |
|  | Feature |
|  | Building Block |
|  | *Work Task* |
| X | Study Item |

### 2.2 Parent Work Item

|  |  |
| --- | --- |
| Parent Work Items | |
| Unique ID | Title |
|  |  |

### 2.3 Other related Work Items and dependencies

|  |  |  |
| --- | --- | --- |
| Other related Work Items (if any) | | |
| Unique ID | Title | Nature of relationship |
| 760065 | Management and Orchestration; Provisioning | SA5 work item |
| 720048 | Study on Management and Orchestration of Network Slicing for next generation network | SA5 study item |
| 860022 | Management and Orchestration; Network Slice Management Enhancement | SA5 study item |
| 890016 | Study on access control for management service | SA5 study item |

## 3 Justification

Network slice management has been studied and standardized in SA5, see TS 28.531. The network slice related management functions (e.g. CSMF, NSMF and NSSMF) can coordinate with NFV MANO and instantiate network slice when needed.

Network Slice Provider (e.g. Verticals) can have contract with Operator for the usage of network slice for communication service. Besides simply having contract for communication service, the users within different verticals (e.g. online conferencing, high resolution video) may further have their own requirements on certain management capabilities (e.g. information retrieval for network performance statistics and characteristics, and control functionalities) of the network slices that are needed for certain application services. How does the 3GPP management system conditionally expose MnSs to enable certain types of vertical users to manage (e.g. monitor, optionally provision) the service need to be studied.

This may include two aspects:

1) What: What MnS, under what condition is suitable to expose to what types of MnS consumers (vertical users/internal users). For example, certain MnS may not be suitable to be exposed to certain types of users while certain MnS may be suitable to be exposed and others may be suitable to be exposed with certain conditions and limitations. These can form a guideline, e.g. gather of rules, principles, for the operator to open the network slice management capability exposure properly based on different types of MnS consumers.

2) How: How to expose those MnSs in a flexible way that can fulfil the requirement. This includes the mechanisms that are used to gather the set of rules from the study result of 1) based on certain types of MnS consumer.

MnS consumers may have different types, for example, application provider, enterprise, vertical, etc, different types of MnS consumers may have different agreements with their MnS producer based on their use cases. MnS consumer A which is an application provider may have an agreement with NOP-B to read partial attributes of the managed object NetworkSlice, e.g. via the getMOIAttributes operation, defined in 28.532. This will allow MnS consumer A from vertical to read the operationalState and administrativeState of the NetworkSlice instance. MnS consumer B which is a large enterprise may have an agreement with NOP-B for controlling the adminstrativeState of the NetworkSlice instance. NOP-B may allow MnS consumer B to have write access to the managed object NetworkSlice via the modifyMOIAttributes operation. Therefore, the gather of rules (what MnSs, under what condition are suitable to expose to what types of MnS consumers) need to be studied.

So far, there is no study in SA5 for this purpose.

Current study of FS\_MNSAC focuses on the enforcement of the access policy of MnS. While this study focuses on the study of the gather of set of rules used for network management capability exposure. The enforcement of the rule will not be studied in this SID.

## 4 Objective

The study item will be conducted with the following objectives:

- Investigate the Use cases (Including NSaaS mode where the CSP might be a different entity from the network Operator) and requirements for enablement of network slice management capability exposure to vertical users while considering the condition that is suitable to expose certain MnSs to certain types of MnS consumer.

- Study the mechanism that is used to select corresponding set of rules (what MnSs, under what condition are suitable to expose to what types of MnS consumers) based on different types of consumers, and gather these rules, so that a clear mapping relationship between different types of consumers and corresponding sets of rules can be formed.

NOTE1: The charging aspects of the management of network slice management capability is out of the scope of this SID.

NOTE2: The enforcement of the mechanism that used to express the set of rules for network slice management capability exposure can be studied in FS\_MNSAC.

## 5 Expected Output and Time scale

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **New specifications** | | | | | |
| Type | TS/TR number | Title | For info  at TSG# | For approval at TSG# | Remarks |
| TR | 28.YYY | Network slice management capability exposure | SA#91  Mar 2021 | SA#94  Dec 2021 |  |

|  |  |  |  |
| --- | --- | --- | --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* | | | |
| TS/TR No. | Description of change | Target completion plenary# | Remarks |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |
|  |  |  |  |

## 6 Work item Rapporteur(s)

Xiaobo Yu, Alibaba Group (shibo.yxb@alibaba-inc.com)

## 7 Work item leadership

SA5

## 8 Aspects that involve other WGs

SA3 for security aspects. Coordination with SA and RAN WGs may be needed.

## 9 Supporting Individual Members

|  |
| --- |
| Supporting IM name |
| Alibaba |
| China Mobile |
| Intel |
| Huawei |
| Xiaomi |
| Lenovo |
| Matrixx |
| Motorola Mobility |
|  |
|  |
|  |
|  |