**3GPP TSG-SA5 Meeting #146-bis-e ad-hoc *S5-231045rev1***

**e-meeting, 16 – 20 January 2023** (revision of S5-XXXXXX)

**Source: Alibaba Group, AsiaInfo, China mobile**

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

## Acronym: NSCE

## Unique identifier:

Potential target Release: {Rel-18}.

## 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

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| --- |
| 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 |
| 930010 | Study on access control for management service | SA5 study item |

## 3 Justification

Network Slice Customer (e.g. Verticals) can have contract with Network 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 externals, e.g. verticals and service providers, to manage (e.g. monitor, optionally provision) the service needs to be studied. So far, there is no study in SA5 for this purpose.

SA5 has conducted a study on network slice management capability exposure in TR 28.824, which raised potential requirements on 3GPP management system according to use cases and key issues, and proposed solutions to address the related key issues. TR 28.824 studies the solution where the network slice management capability can be exposed via the Common API Framework for 3GPP Northbound API (CAPIF). The related interface within the CAPIF architecture needs to be extended to support exposure of network slice management capability. The extension may include MnS discovery for exposure and access control.

As recommended by the study, normative work is needed to specify how to use CAPIF for the enablement of MnS discovery and access control in order to support network slice management capability exposure. The normative work needs to be aligned with other groups (e.g. 3GPP SA6, CAMARA and GSMA).

## 4 Objective

The work item will specify details on how to use CAPIF to expose network slice management capabilities to an external consumer. This will include:

- Mapping MnS Producers and MnS Consumers with CAPIF entities.

- Defining procedures enabling external consumer to access management services.

- Defining exposure governance functionality enabling granular access control to be applied while exposing MnS.

- Defining authorization mechanism considering the granular access control.

- Mapping MnS with ServiceAPIDefinition in CAPIF.

## 5 Expected Output and Time scale

|  |
| --- |
| **New specifications** |
| Type  | TS/TR number | Title | For info at TSG#  | For approval at TSG# | Remarks |
|  |  |  |  |  |  |

|  |
| --- |
| **Impacted existing TS/TR** *{One line per specification. Create/delete lines as needed}* |
| TS/TR No. | Description of change  | Target completion plenary# | Remarks |
| 28.533 | Extend CAPIF to support network slice management capability exposure  | Sept. 2023(SA#101) |  |
| 28.537 | Add related use case and requirement regarding MnS discovery service for NSC | Sept. 2023(SA#101) |  |
|  |  |  |  |
|  |  |  |  |

## 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

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| Supporting IM name |
| Alibaba |
| AsiaInfo |
| China Mobile |
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