**3GPP TSG-CT WG1 Meeting #133e-bisC1-220618**

**E-meeting, 17-21 January 2022**

**Source: Lenovo, Motorola Mobility**

**Title: Replace management with enablement**

**Spec: 3GPP TS 24.549v1.0.0**

**Agenda item: 17.2.23**

**Document for: Agreement**

**1. Introduction**

<Introduction part >

**2. Reason for Change**

Agreed CR S6-212766 replaces management with enablement.

**3. Conclusions**

Management is replaced by enablement in entire Spec.

**4. Proposal**

It is proposed to agree the following changes to 3GPP TS <TS number and version>.

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| 3GPP TS 24.549 V1.0.0 (2021-12) | |
| Technical Specification | |
| 3rd Generation Partnership Project;  Technical Specification Group Core Network and Terminals;  Network slice capability enablement- Service Enabler Architecture Layer for Verticals (SEAL);  Protocol specification;  Stage 3  (Release 17) | |
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| The present document has been developed within the 3rd Generation Partnership Project (3GPP TM) and may be further elaborated for the purposes of 3GPP. The present document has not been subject to any approval process by the 3GPPOrganizational Partners and shall not be implemented. This Specification is provided for future development work within 3GPPonly. The Organizational Partners accept no liability for any use of this Specification. Specifications and Reports for implementation of the 3GPP TM system should be obtained via the 3GPP Organizational Partners' Publications Offices. | |

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## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

5GCN 5G Core Network

DNN Data Network Name

HTTP Hypertext Transfer Protocol

PCF Policy Control Function

SEAL Service Enabler Architecture Layer

SNSCE-C SEAL Network Slice Capability Enablement Client

SNSCE-S SEAL Network Slice Capability EnablementServer

S-NSSAI Single Network Slice Selection Assistance Information

URSP UE Route Selection Policy

VAL Vertical Application Layer

XCAP XML Configuration Access Protocol

XDMC XML Document Management Client

XDMC XML Document Management Server

XML Extensible Markup Language

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## 5.1 SEAL network slice capability enablementclient (SNSCE-C)

The SNSCE-C functional entity acts as the application client for managing network slice capabilities. To be compliant with the procedures in the present document the SNSCE-C:

a) shall support the role of XCAP client as specified in IETF RFC 4825 [6];

b) shall support the role of XDMC as specified in OMA OMA-TS-XDM\_Group-V1\_1\_1-20170124-A [5]; and

c) shall support S-NSSAI and DNN adaptation due to new requirements or change of requirements for one or more application.

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## 5.2 SEAL network slice capability enablement server (SNSCE-S)

The SNSCE-S is a functional entity which provides slice capability enablement to administer the network slice for one or more vertical applications. To be compliant with the procedures in the present document the SNSCE-S shall:

a) shall support the role of XCAP server as specified in IETF RFC 4825 [6];

b) shall support the role of XDMS as specified in OMA OMA-TS-XDM\_Group-V1\_1\_1-20170124-A [5]; and

c) shall provide the 5GC network a guidance for route selection descriptors to assign new S-NSSAI and DNN.

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# 6 Network slice capability enablement procedures

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## 6.1 General

The network slice capability enablement procedures is a SEAL service providing capabilities for network slice re-mapping from one VAL application to one or more other VAL applications, 3GPP TS 23.434 [2]. The network server entity, providing the functionality for the network slice re-mapping, acts as an AF communicating with 5GCN to provide guidance to update and modify the S-NSSAIs and the DNNs of the route selection descriptors of the URSP rules, 3GPP TS 24.526 [3], for one or more application traffics per UE.

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#### 6.2.1.1 Authenticated identity in HTTP request

Upon receiving an HTTP POST request from SNSCE-C, the SNSCE-S shall authenticate the identity of the sender of the HTTP POST request is authorized as specified in 3GPP TS 24.547 [4], and if authentication is successful, the SNSCE-S shall use the identity of one or more VAL UEs of the HTTP POST request as authenticated identities.

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#### 6.2.2.1 General

These subclauses describes the procedures on the client and server side when a request for network slice adaptation is sent by the client to the server. The network slice adaptation request may be sent by a VAL server for the adaptation of the network slice to the VAL application. The network slice adaptation request may be sent by the SNSCE-C acting as application client requesting for a new slice enablement.

NOTE: The interaction between VAL server and SNSCE-S is out of scope of this specification.

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#### 6.2.2.2 Client procedure

In order to request for network slice adaptation, the SNSCE-C shall send an HTTP POST request message according to procedures specified in IETF RFC 7231 [7]. In the HTTP POST request message, the SNSCE-C:

a) shall set the Request-URI to the URI identifying the SNSCE-C appended with VAL service identity and the value "/UE-triggered-slice-adaptation";

b) shall set the "Host" header field to the URI identifying of SNSCE-S and the port information;

c) shall include an Authorization header field with the "Bearer" authentication scheme set to an access token of the "bearer" token type as specified in IETF RFC 6750 [8];

d) shall include the parameters for VAL UE list and requested S-NSSAI as specified in table A.1.2-1 of annex A serialized into a JavaScript Object Notation (JSON) structure as specified in IETF RFC 8259 [9]; and

e) may include the parameters for requested DNN and slice adaptation cause as specified in table A.1.2-1 of annex A serialized into a JavaScript Object Notation (JSON) structure as specified in IETF RFC 8259 [9].

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#### 6.2.2.3 Server procedure

Upon receipt an HTTP POST request from the SNSCE-C for network slice adaptation, the SNSCE-S shall determine the identity of the sender as specified in clause 6.2.1.1 to confirm whether the sender is authorized or not. If:

a) the sender is not an authorized user, the SNSCE-S shall respond with an HTTP 403 (Forbidden) response message and avoid the rest of steps; or

b) the sender is an authorized user, the SNSCE-S:

1) shall attempt to update the network slice for one or more VAL UEs with the identities listed in the VAL UE list for for the VAL service, identified by VAL service ID by using the parameters for requested S-NSSAI, requested DNN and slice adaptation cause from the HTTP POST request message;

Editor's note: How the SNSCE-S updates the network slice for one or more VAL UEs for a VAL service, needs to be specified.

2) shall send the updated network slice and any new DNN to the PCF, if the update is successful, 3GPP TS 23.434 [2]; and

3) shall send an HTTP 200 response message containing the successful or failure status of the requested network slice adaptation to the SNSCE-C.

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## A.1.1 General

The information in this annex provides a normative description for the parameters which are used by the SNSCE-C to trigger a network slice adaptation for a VAL application by sending to the SNSCE-S.

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## A.1.2 Client side parameters

The SNSCE-C uses the parameters shown in table A.1.2-1 to trigger network slice adaptation for a VAL application.

Table A.1.2-1: Client side parameters for network slice adaptation trigger

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| Parameter | Description |
| VAL UE List | REQUIRED. Represents a space-separated list of VAL UE Ids within the VAL service, for which the network slice adaptation trigger applies. |
| VAL service ID | REQUIRED. The VAL service ID of the VAL application |
| Requested S-NSSAI | REQUIRED. The new S-NSSAI which is requested |
| Requested DNN | OPTIONAL. The new DNN which is requested |
| Slice adaptation cause | OPTIONAL. Indicates the cause for the slice adaptation. |

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