**3GPP TSG-SA5 Meeting #155 *S5-243350***

Korea, 27 - 31 May 2024

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **28.531** | **CR** | **0238** | **rev** | **3** | **Current version:** | **18.5.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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|  |
| ***Title:***  | Rel18 CR TS 28.531 Correct stage3 definition for NSProvMnS and NSSProvMnS |
|  |  |
| ***Source to WG:*** | Huawei,Ericsson, Deutsche Telekom, Samsung,China Mobile, CATT, NEC, ZTE, Intel, China Unicom, AsiaInfo |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** | eNETSLICE\_PRO |  | ***Date:*** | 2024-05-15 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-18 |
|  | *Use one of the following categories:****F*** *(correction)****A*** *(mirror corresponding to a change in an earlier release)****B*** *(addition of feature),* ***C*** *(functional modification of feature)****D*** *(editorial modification)*Detailed explanations of the above categories canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | 1. The RESTful HTTP-based solution set of provisioning is not aligned with the latest Procedure of Network Slice (Subnet) Instance Allocation;
2. The format of RESTful HTTP-based solution set of provisioning (Network Slice (Subnet) Instance Allocation and Deallocation) is not aligned with the format of RESTful HTTP-based solution set defined in TS 28.532
3. The YAML schema definition for NSProvMnS and NSSProvMnS is missing.
 |
|  |  |
| ***Summary of change:*** | 1. Correct the RESTful HTTP-based solution set of provisioning to align with the latest Procedure of Network Slice (Subnet) Instance Allocation
2. Correct the format of RESTful HTTP-based solution set of provisioning (Network Slice (Subnet) Instance Allocation and Deallocation) is not aligned with the format of RESTful HTTP-based solution set defined in TS 28.532
3. Add YAML schema definition for NSProvMnS and NSSProvMnS is missing
 |
|  |  |
| ***Consequences if not approved:*** | InCorrect and InComplete RESTful HTTP-based solution set of provisioning(Network Slice (Subnet) Instance Allocation and Deallocation). |
|  |  |
| ***Clauses affected:*** | 2,6.5.1.3, 6.5.2.3, 6.5.3.3, 6.5.4.3,9.1.1.1, 9.1.1.2, 9.1.1.3. 9.1.2.0, 9.1.2.1.1, 9.1.2.1.1.2, 9.1.2.1.1.3.1, 9.1.2.1.2, 9.1.2.1.2.3, 9.2.1.1, 9.2.1.2, 9.2.1.3, 9.2.2.0, 9.2.2.1.1, 9.2.2.1.1.2, 9.2.2.1.1.3.1, 9.2.2.1.2, 9.2.2.1.2.3, X(new) |
|  |  |
|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **X** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **X** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **X** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** | Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1162> at commit ff1ed6f6a03e7ad901168f9a00b8c92a419323a8  |
|  |  |
| ***This CR's revision history:*** |  |

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| **1st Change** |

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 28.525: "Telecommunication management; Life Cycle Management (LCM) for mobile networks that include virtualized network functions; Requirements".

[3] ETSI GS NFV-IFA 013 (V4.5.1) (2023-09): "Network Function Virtualisation (NFV); Release 4; Management and Orchestration; Os-Ma-nfvo reference point - Interface and Information Model Specification".

[4] 3GPP TS 28.530: "Management and orchestration; Concepts, use cases and requirements".

[5] 3GPP TS 22.261 "Service requirements for next generation new services and markets".

[6] 3GPP TS 28.541: "Management and orchestration; 5G Network Resource Model (NRM); Stage 2 and stage 3".

[7] Void.

[8] 3GPP TS 28.532: "Management and orchestration; Generic management services".

[9] GSMA NG.116 Generic Network Slice Template v9.0 (2023-04-27) - NG.116-v9.0.pdf (gsma.com).

[10] 3GPP TS 23.501: "Technical Specification Group Services and System Aspects;System Architecture for the 5G System;Stage 2".

[11] 3GPP TS 38.300: "Technical Specification Group Radio Access Network;NR; NR and NG-RAN Overall Description;Stage 2".

[12] ETSI GS NFV-IFA 014 (V4.2.1) (2021-05): "Network Function Virtualisation (NFV); Release 4; Management and Orchestration; Network Service Templates Specification".

[13] 3GPP TS 28.622: "Telecommunication management; Generic Network Resource Model (NRM) Integration Reference Point (IRP); Information Service (IS)".

[14] ETSI GS NFV-IFA 011 (V4.3.1) (2022-06): "Network Function Virtualisation (NFV); Release 4; Management and Orchestration; VNF Descriptor and Packaging Specification".

[15] ETSI GS NFV-IFA 008 (V4.3.1) (2022-05): "Network Function Virtualisation (NFV); Release 4; Management and Orchestration; Ve-Vnfm reference point - Interface and Information Model Specification".

[X] Management and Orchestration APIs Stage3 repository, "https://forge.3gpp.org/rep/sa5/MnS/-/tree/Tag\_Rel18\_SA104/".

[Y] 3GPP TS 32.158: "Management and orchestration; Design rules for REpresentational State Transfer (REST) Solution Sets (SS)".

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| **2nd Change** |

## 6.5. Operations of provisioning

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### 6.5.2 AllocateNssi operation

#### 6.5.2.1 Description

This operation is invoked by network slice subnet provisioning MnS consumer to request the provider to allocate a network slice subnet instance to satisfy the network slice subnet related requirements. The provider may create a new NSSI or using existing NSSI to satisfy the request. The requirements in the request are compared/matched against the actual capabilities of all candidate NSSIs by the provider. If an existing NSSI can be found that is eligible for allocation, then this can be used, or else a new NSSI is created, provided that resources are available.

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#### 6.5.2.3 Output parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter name | Support Qualifier | Matching Information / Legal Values | Comment |
| sliceProfileId | M | A parameter that uniquely identifies the SliceProfile | This parameter specifies the unique identifier of the sliceprofile.  |
| status | M | ENUM (Succeeded, Failed) | An operation may fail because of a specified or unspecified reason. |
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### 6.5.4 DeallocateNssi operation

#### 6.5.4.1 Description

This operation is invoked by network slice subnet provisioning MnS consumer to request the provider to deallocate a slice profile in an NSSI. The provider may terminate the requested NSSI or modify the requested NSSI without termination to satisfy the deallocateNssi request.

#### 6.5.4.2 Input parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter Name | Support Qualifier | Information Type / Legal Values | Comment |
| networkSliceSubnetDN | M | The DN of NetworkSliceSubnet MOI identifying the network slice subnet instance. |  |
| sliceProfileId | M | An attribute uniquely identifies the slice profile in an NSSI. | It specifies the unifique identifier of the slice profile in the NSSI which is to be deallocated.  |

#### 6.5.4.3 Output parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter name | Support Qualifier | Matching Information / Legal Values | Comment |
| status | M | ENUM (Succeeded, Failed) | An operation may fail because of a specified or unspecified reason. |

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| **2nd Change** |

# 9 RESTful HTTP-based solution set of provisioning

## 9.1 Network slice provisioning management service

###  9.1.1 Mapping of operations

#### 9.1.1.1 Introduction

Table 9.1.1.1-1: Mapping of IS operations to SS equivalents

|  |  |  |  |
| --- | --- | --- | --- |
| **IS operation** | **HTTP Method** | **Resource URI** | **S** |
| allocateNsi | POST | {MnSRoot}/NSProvMnS/{MnSVersion}/ServiceProfiles | M |
|  |  |  |  |
| deallocateNsi | DELETE | {MnSRoot}/NSProvMnS/{MnSVersion}/ServiceProfiles/{ServiceProfileId} | M |
|  |  |  |  |

#### 9.1.1.2 Operation allocateNsi

This operation is to allocate a network slice instance provided by the service provider, the network slice instance may be new or existing.

Table 9.1.1.2-1: Mapping of IS operation input parameters to SS equivalents (HTTP POST)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IS operation parameter name | SS parameter location | SS parameter name | SS parameter type | S |
| attributeListIn | request body | serviceProfile | ServiceProfile-Type | M |

Table 9.1.2-2: Mapping of IS operation output parameters to SS equivalents (HTTP POST)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IS operation parameter name | SS parameter location | SS parameter name | SS parameter type | S |
|  |  |  |  |  |
| serviceProfileId | location header | n/a | ServiceProfileId-Type (uri-Type) | M |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponseDefault | O |
|  |  |  |  |  |

The message flow for allocation is as follows:

1. The MnS consumer sends a HTTP POST request to the MnS producer.

- The target URI is equal to the concatenation of URI of the parent resource of resource to be created, and the resource (in this case ServiceProfile) to be created.

- The message body shall carry the complete representation of the resource to be created. The resource identifier shall be absent or carry null semantics.

2. The MnS producer sends a HTTP POST response to the MnS consumer.

- On success, "201 Created" shall be returned. The Location header shall carry the URI of the new resource (in this case ServiceProfile).

- On failure, an appropriate error code shall be returned. The response message body may provide additional error information.

#### 9.1.1.3 Operation deallocateNsi

This operation deallocates a service profile froman NSI (delete the ServiceProfile resource). The provider may terminate the requested NSI or modify the requested NSI without termination to satisfy the request.

Table 9.1.1.3-1: Mapping of IS operation input parameters to SS equivalents (HTTP DELETE)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IS operation parameter name | SS parameter location | SS parameter name | SS parameter type | S |
| networkSliceDN | pathquery | n/a | Resource | M |
| serviceProfileId | path | /ServiceProfiles/{ServiceProfileId} | ServiceProfileId-Type (uri-Type) | M |

Table 9.1.1.3-2: Mapping of IS operation output parameters to SS equivalents (HTTP DELETE)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IS operation parameter name | SS parameter location | SS parameter name | SS parameter type | S |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponseDefault | O |

The message flow for deallocation is as follows:

1. The MnS consumer sends a HTTP DELETE request to the MnS producer.

- The target URI is equal to the concatenation of URI of the resource (in this case ServiceProfile) to be deleted.

- The URI query part shall contain the networkSliceDN identifying the NetworkSlice MOI.

2. The MnS producer sends a HTTP DELETE response to the MnS consumer.

- On success, "204 No content" shall be returned.

- On failure, an appropriate error code shall be returned. The response message body may provide additional error information.

### 6.5.3 DeallocateNsi operation

#### 6.5.3.1 Description

This operation is invoked by network slice provisioning MnS consumer to request the provider to deallocate a service profile in an NSI. The provider may terminate the requested NSI or modify the requested NSI without termination to satisfy the deallocateNsi request.

#### 6.5.3.2 Input parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter Name | Support Qualifier | Information Type / Legal Values | Comment |
| networkSliceDN | M | The DN of NetworkSlice MOI uniquely identifying the network slice instance. |  |
| serviceProfileId | M | An attribute that globally uniquely identifies the service profile in an NSI. | It specifies the global unique identifier of the service profile in the NSI which is to be deallocated.  |

#### 6.5.3.3 Output parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter name | Support Qualifier | Matching Information / Legal Values | Comment |
| status | M | ENUM (Succeeded, Failed) | An operation may fail because of a specified or unspecified reason. |

### 6.5.1 AllocateNsi operation

#### 6.5.1.1 Description

This operation is invoked by network slice provisioning MnS consumer to request the provider to allocate a network slice instance to satisfy network slice related requirements. The provider may create a new NSI or using existing NSI to satisfy the request. The requirements in the request are compared/matched against the actual capabilities of all candidate NSIs by the provider. If an existing NSI can be found that is eligible for allocation, then this can be used, or else a new NSI is created, provided that required NSSIs can be created.

#### 6.5.1.2 Input parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter Name | Support Qualifier | Information Type / Legal Values | Comment |
| attributeListIn | M | LIST OF SEQUENCE< attribute name, attribute value> | This parameter specifies the network slice related requirements defined in ServiceProfile in Clause 6.3.3 in TS 28.541 [6]. |

#### 6.5.1.3 Output parameters

|  |  |  |  |
| --- | --- | --- | --- |
| Parameter name | Support Qualifier | Matching Information / Legal Values | Comment |
| serviceProfileId | M | A parameter that uniquely identifies the ServiceProfile | This parameter specifies the unique identifier of the service profile. |
| status | M | ENUM (Succeeded, Failed) | An operation may fail because of a specified or unspecified reason. |

### 9.1.2 Resources

#### 9.1.2.0 Resource structure

Figure 9.1.2.0-1 shows the resource structure of the network slice provisioning MnS.



Figure 9.1.2.0-1 resource structure of the network slice provisioning MnS

Table 9.1.2.0-1 provides an overview of the resources and applicable HTTP methods.

Table 9.1.2.0-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| ServiceProfiles | …/ServiceProfies | POST | Create a new ServiceProfile resource |
| ServiceProfile | …/ServiceProfies/{ServiceProfileId} | DELETE | Delete a ServiceProfile resource |

#### 9.1.2.1 Resource definitions

##### 9.1.2.1.1 Resource “…/ServiceProfiles

9.1.2.1.1.1 Description

This resource represents collects of network slice related requirement (i.e. ServiceProfiles).

9.1.2.1.1.2 URI

Resource URI: {MnSRoot}/NSProvMnS/{MnSVersion}/ServiceProfiles

The resource URI variables are defined in table 9.1.2.1.1.2-1.

Table 9.1.2.1.1.2-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| MnSRoot | See clause 4.4.2 of TS 32.158 [Y] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [Y] |

9.1.2.1.1.3 HTTP methods

9.1.2.1.1.3.1 POST

The POST method creates a serviceProfile, the provider may create a NSI or using existing NSI to satisfy the serviceProfile.

This method shall support the URI query parameters specified in the following table.

**Table 9.1.2.1.1.3.1-1: URI query parameters supported by the POST method on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Description** | **S** |
| n/a | n/a | n/a | n/a |

This method shall support the request data structures, the response data structures and response codes specified in the following table.

Table 9.1.2.1.1.3.1-2: Data structures supported by the POST Request Body on this resource

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

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| serviceProfile-Type | The resource representation of the set of information about ServiceProfile to be posted. | M |

Table 9.1.2.1.1.3.1-3: Data structures supported by the POST Response Body on this resource

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| serviceProfileId-Type | 201 Posted | Unique ServiceProfileId assigned by the MnS producer | M |
| ErrorResponseDefault | 4xx/5xx | Returned in case of an error | O |

##### 9.1.2.1.2 Resource “…/ServiceProfiles/{ServiceProfileId}

9.1.2.1.2.1 Description

This resource represents a network slice related requirement (i.e. ServiceProfile).

9.1.2.1.2.2 URI

Resource URI: {MnSRoot}/NSProvMnS/{MnSVersion}/ServiceProfiles/{ServiceProfileId}

The resource URI variables are defined in table 9.1.2.1.2.2-1.

Table 9.1.2.1.2.2-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| MnSRoot | See clause 4.4.2 of TS 32.158 [Y] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [Y] |

9.1.2.1.2.3 HTTP methods

9.1.2.1.2.3.1 DELETE

The DELETE method deletes a ServiceProfile.

This method shall support the URI query parameters specified in the following table.

**Table 9.1.2.1.2.3.1-1: URI query parameters supported by the DELETE method on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Description** | **S** |
| networkSliceDN | DN (string) | The DN of NetworkSlice MOI uniquely identifying the network slice instance | M |

This method shall support the request data structures, the response data structures and response codes specified in the following table.

Table 9.1.2.1.2.3.1-2: Data structures supported by the DELETE Request Body on this resource

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

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| n/a | n/a | n/a |

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

Table 9.1.2.1.2.3.1-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response****codes** | **Description** | **SQ** |
| n/a | 204 No Content | In case of success no message body is returned | M |
| ErrorResponseDefault | 4xx/5xx | Returned in case of an error | O |

## 9.2 Network slice subnet provisioning management service

### 9.2.1 Mapping of operations

#### 9.2.1.1 Introduction

Table 9.2.1.1-1: Mapping of IS operations to SS equivalents

|  |  |  |  |
| --- | --- | --- | --- |
| IS operation | HTTP Method | Resource URI | S |
|  |  |  |  |
| allocateNssi | POST | {MnSRoot}/NSSProvMnS/{MnSVersion}/ SliceProfiles | M |
|  |  |  |  |
| deallocateNssi | DELETE | {MnSRoot}/NSSProvMnS/{MnSVersion}/SliceProfiles/{SliceProfieId} | M |
|  |  |  |  |

#### 9.2.1.2 Operation allocateNssi

This operation is to allocate a network slice subnet instance provided by the service provider, the network slice subnet instance may be new or existing.

Table 9.2.1.2-1: Mapping of IS operation input parameters to SS equivalents (HTTP POST)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IS operation parameter name | SS parameter location | SS parameter name | SS parameter type | S |
| attributeListIn | request body | sliceProfile | SliceProfile-Typ | M |

Table 9.2.1.2-2: Mapping of IS operation output parameters to SS equivalents (HTTP POST)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IS operation parameter name | SS parameter location | SS parameter name | SS parameter type | S |
| sliceProfileId | Location header | n/a | ServiceProfileId-Type (uri-Type) | M |
| status | response status codes | n/a | n/a | M |
| Response body | error | ErrorResponseDefault | O |
|  |  |  |  |  |

The message flow for allocation is as follows:

1. The MnS consumer sends a HTTP POST request to the MnS producer.

- The target URI is equal to the concatenation of URI of the parent resource of resource to be created, and the resource (in this case SliceProfile) to be created.

- The message body shall carry the complete representation of the resource to be created. The resource identifier shall be absent or carry null semantics.

2. The MnS producer sends a HTTP POST response to the MnS consumer.

- On success, "201 Created" shall be returned. The Location header shall carry the URI of the new resource (in this case SliceProfile).

- On failure, an appropriate error code shall be returned. The response message body may provide additional error information.

#### 9.2.1.3 Operation deallocateNssi

This operation deallocates slice profile from an NSSI (delete SliceProfile resource). The provider may terminate the requested NSSI or modify the requested NSSI without termination to satisfy the request.

Table 9.2.1.3-1: Mapping of IS operation input parameters to SS equivalents (HTTP DELETE)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS operation parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **S** |
| networkSliceSubnetDN | pathquery | n/a | Resource | M |
| sliceProfileId | path | /SliceProfies/{SliceProfileId} | SliceProfileId-Type (uri-Type) | M |

Table 9.2.1.3-2: Mapping of IS operation output parameters to SS equivalents (HTTP DELETE)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS operation parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **S** |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponseDefault | O |

The message flow for deallocation is as follows:

1. The MnS consumer sends a HTTP DELETE request to the MnS producer.

- The target URI is equal to the concatenation of URI of the resource (in this case SliceProfile) to be deleted.

- The URI query part shall contain the networkSliceSubnetDN identifying the NetworkSliceSubnet MOI.

2. The MnS producer sends a HTTP DELETE response to the MnS consumer.

- On success, "204 No content" shall be returned.

- On failure, an appropriate error code shall be returned. The response message body may provide additional error information.

### 9.2.2 Resources

#### 9.2.2.0 Resource structure

Figure 9.2.2.0-1 shows the resource structure of the network slice subnet provisioning MnS.



Figure 9.2.2.0-1 resource structure of the network slice subnet provisioning MnS

Table 9.2.2.0-1 provides an overview of the resources and applicable HTTP methods.

Table 9.2.2.0-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| SliceProfiles | …/SliceProfies | POST | Create a new SliceProfile resource |
| SliceProfile | …/SliceProfiles/{SliceProfileId} | DELETE | Delete a SliceProfile resource |

#### 9.2.2.1 Resource definitions

##### 9.2.2.1.1 Resource “.../SliceProfiles

9.2.2.1.1.1 Description

This resource represents collects of network slice subnet related requirements (i.e. SliceProfile).

9.2.2.1.1.2 URI

Resource URI: {MnSRoot}/NSSProvMnS/{MnSVersion}/SliceProfile

The resource URI variables are defined in table 9.2.2.1.1.2-1.

Table 9.2.2.1.1.2-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| MnSRoot | See clause 4.4.2 of TS 32.158 [Y] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [Y] |

9.2.2.1.1.3 HTTP methods

9.2.2.1.1.3.1 POST

The POST method creates a SliceProfile, the provider may create a new NSSI or using existing NSSI that is eligible for it, to support the SliceProfile.

This method shall support the URI query parameters specified in the following table.

**Table 9.2.2.1.1.3.1-1: URI query parameters supported by the POST method on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Description** | **S** |
| n/a | n/a | n/a | n/a |

This method shall support the request data structures, and the response data structures and response codes specified in the following tables.

Table 9.2.2.1.1.3.1-2: Data structures supported by the POST Request Body on this resource

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

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| sliceProfile-Type | The resource representation of the set of information about SliceProfile to be posted. | M |

Table 9.2.2.1.1.3.1-2: Data structures supported by the POST Response Body on this resource

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| sliceProfileId-Type | 201 Posted | Unique SliceProfileId assigned by the MnS producer | M |
| ErrorResponseDefault | 4xx/5xx | Returned in case of an error | O |

##### 9.2.2.1.2 Resource “…/SliceProfiles/{SliceProfileId}

9.2.2.1.2.1 Description

This resource represents a network slice subnet related requirement (i.e. SliceProfile).

9.2.2.1.2.2 URI

Resource URI: {MnSRoot}/NSProvMnS/{MnSVersion}/SliceProfiles/{SliceProfileId}

The resource URI variables are defined in table 9.2.2.1.2.2-1.

Table 9.2.2.1.2.2-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| MnSRoot | See clause 4.4.2 of TS 32.158 [Y] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [Y] |

9.2.2.1.2.3 HTTP methods

9.2.2.1.2.3.1 DELETE

The DELETE method deletes a SliceProfile.

This method shall support the URI query parameters specified in the following table.

**Table 9.2.2.1.2.3.1-1: URI query parameters supported by the DELETE method on this resource**

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Description** | **S** |
| networkSliceSubnetDN | DN (string) | The DN of NetworkSliceSubnet MOI uniquely identifying the network slice subnet instance | M |

This method shall support the request data structures, and the response data structures and response codes specified in the following tables.

Table 9.2.2.1.2.3.1-2: Data structures supported by the DELETE Request Body on this resource

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

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| n/a | n/a | n/a |

Table 9.2.2.1.2.3.1-3: Data structures supported by the DELETE Response Body on this resource

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

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response****codes** | **Description** | **SQ** |
| n/a | 204 No Content | In case of success no message body is returned | M |
| ErrorResponseDefault | 4xx/5xx | Returned in case of an error | O |

|  |
| --- |
| **4th Change** |

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

# X OpenAPI specification

## X.1 OpenAPI document for network slice provisioning MnS

The OpenAPI/YAML definitions for provisioning MnS are specified in 3GPP Forge [X].

Directory: OpenAPI

File: TS28531\_NSProvMnS.yaml

## X.2 OpenAPI document for network slice provisioning MnS

The OpenAPI/YAML definitions for provisioning MnS are specified in 3GPP Forge [X].

Directory: OpenAPI

File: TS28531\_NSSProvMnS.yaml

|  |
| --- |
| **5th Change** |

Forge MR link: <https://forge.3gpp.org/rep/sa5/MnS/-/merge_requests/1162> at commit ff1ed6f6a03e7ad901168f9a00b8c92a419323a8

\*\*\* START OF CHANGE 1 \*\*\*

\*\*\* OpenAPI/TS28531\_NSProvMnS.yaml \*\*\*

<CODE BEGINS>

openapi: 3.0.1

info:

 title: Network Slice Provisioning MnS

 version: 18.5.0

 description: >-

 OAS 3.0.1 definition of the Network Slice Provisioning MnS

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externalDocs:

 description: 3GPP TS 28.531; Provisioning

 url: http://www.3gpp.org/ftp/Specs/archive/28\_series/28.531/

servers:

 - url: '{MnSRoot}/NSProvMnS/{MnSVersion}'

 variables:

 MnSRoot:

 description: See clause 4.4.2 of TS 32.158

 default: http://example.com/3GPPManagement

 MnSVersion:

 description: Version number of the OpenAPI definition

 default: XXX

paths:

 /ServiceProfiles:

 post:

 summary: Create a ServiceProfile

 description: To create a ServiceProfile resource to represent network slice related requirements.

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/ServiceProfile-Type'

 responses:

 '201':

 description: Success case ("201 Created"). The representation of the newly created ServiceProfile resource shall be returned.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/ServiceProfileId-Type'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'TS28623\_ComDefs.yaml#/components/schemas/ErrorResponseDefault'

 /ServiceProfiles/{ServiceProfileId}:

 delete:

 summary: Delete a ServiceProfile

 description: To delete a ServiceProfile resource to represent network slice related requirements.

 parameters:

 - name: ServiceProfileId

 in: path

 description: Identifies an individual ServiceProfille.

 required: true

 schema:

 $ref: '#/components/schemas/ServiceProfileId-Type'

 - name: networkSliceDN

 in: query

 description: Identifies the DN of NetworkSlice MOI uniquely identifying the network slice instance

 required: true

 schema:

 $ref: 'TS28623\_ComDefs.yaml#/components/schemas/Dn'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The ServiceProfile resource has been deleted. The response message body is absent.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'TS28623\_ComDefs.yaml#/components/schemas/ErrorResponseDefault'

components:

 schemas:

 uri-Type:

 description: Resource URI

 type: string

 ServiceProfileId-Type:

 $ref: '#/components/schemas/uri-Type'

 ServiceProfile-Type:

 $ref: 'TS28541\_SliceNrm.yaml#/components/schemas/ServiceProfile'

<CODE ENDS>

\*\*\* END OF CHANGE 1 \*\*\*

\*\*\* START OF CHANGE 2 \*\*\*

\*\*\* TS28531\_NSSProvMnS.yaml \*\*\*

<CODE BEGINS>

openapi: 3.0.1

info:

 title: Network Slice Subnet Provisioning MnS

 version: 18.5.0

 description: >-

 OAS 3.0.1 definition of the Network Slice Suubnet Provisioning MnS

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externalDocs:

 description: 3GPP TS 28.531; Provisioning

 url: http://www.3gpp.org/ftp/Specs/archive/28\_series/28.531/

servers:

 - url: '{MnSRoot}/NSSProvMnS/{MnSVersion}'

 variables:

 MnSRoot:

 description: See clause 4.4.2 of TS 32.158

 default: http://example.com/3GPPManagement

 MnSVersion:

 description: Version number of the OpenAPI definition

 default: XXX

paths:

 /SliceProfiles:

 post:

 summary: Create a SliceProfile

 description: To create a SliceeProfile resource to represent network slice subnet related requirements.

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/ServiceProfileId-Type'

 responses:

 '201':

 description: Success case ("201 Created"). The representation of the newly created SliceProfile resource shall be returned.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/SliceProfileId-Type'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'TS28623\_ComDefs.yaml#/components/schemas/ErrorResponseDefault'

 /SliceProfiles/{SliceProfileId}:

 delete:

 summary: Delete a SliceProfile

 description: To delete a SliceProfile resource to represent network slice suubnet related requirements.

 parameters:

 - name: SliceProfileId

 in: path

 description: Identifies an individual SliceProfille.

 required: true

 schema:

 $ref: '#/components/schemas/SliceProfileId-Type'

 - name: networkSliceSubnetDN

 in: query

 description: Identifies the DN of NetworkSliceSubnet MOI uniquely identifying the network slice subnet instance

 required: true

 schema:

 $ref: 'TS28623\_ComDefs.yaml#/components/schemas/Dn'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The ServiceProfile resource has been deleted. The response message body is absent.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'TS28623\_ComDefs.yaml#/components/schemas/ErrorResponseDefault'

components:

 schemas:

 uri-Type:

 description: Resource URI

 type: string

 SliceProfileId-Type:

 $ref: '#/components/schemas/uri-Type'

 ServiceProfileId-Type:

 $ref: 'TS28541\_SliceNrm.yaml#/components/schemas/SliceProfile'

<CODE ENDS>

\*\*\* END OF CHANGE 2 \*\*\*

|  |
| --- |
| **End of Changes** |