**3GPP TSG-SA5 Meeting #144-e *S5-224248***

**, ,27th Jun 2022 - 1st Jul 2022**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **28.531** | **CR** | **DraftCR** | **rev** | **-** | **Current version:** | **17.4.0** |  |
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| *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:***  | Rel-18 TS 28.531 Update operations of allocateNsi, allocateNssi, deallocateNsi, deallocateNssi  |
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| ***Source to WG:*** |  Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** |  S5 |
|  |  |
| ***Work item code:*** | eNETSLICE\_PRO |  | ***Date:*** | 2022-06-17 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | The SliceProfile / ServiceProfile are the intended state of target resource (NetworkSliceSubnet MOI/NetworkSlice MOI, which are the real target resource to be created). In the interface there is no need (shall not) to create the resource of SliceProfile / ServiceProfile, for which is there is no DN/no proper CRUD operation for it.The vendor may choose to create the resource of SliceProfile/ServiceProfile, but that’s behavior inside the box.By following the allocation logic, there will be two results for the successful path. One is a new resource created; another is no new resource created (only modified). In stage 3, there shall be different return code to reflect the results, as "201 created" has specific meaning, means new resource created. ([RFC 7231 - Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content (httpwg.org)](https://httpwg.org/specs/rfc7231.html#status.201))In addition, the stage2 6.5.3.1/6.5.4.1 is not aligned with 5.1.3/5.1.4 |
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| ***Summary of change:*** |  Update the procedure of the allocateNsi,deallocateNsi, allocateNssi and deallocateNssi stage3 and message flow.Update stage2 to be consistent with use case description.Fix incorrect return in deallocateNsi and deallocateNssi. |
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| ***Consequences if not approved:*** | Incorrect/incomplete standards is not implementable |
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| ***Clauses affected:*** | 6.5.3.1, 6.5.4.1, 9.1.1.2, 9.1.1.3, 9.2.1.2,9.2.1.3 |
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|  | **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 ...  |
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| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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| **1st Change** |

#### 6.5.3.1 Description

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

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| **Next Change** |

#### 6.5.4.1 Description

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

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| **Next Change** |

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 9.1.2-1: Mapping of IS operation input parameters to SS equivalents (HTTP POST)**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS operation parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **Qualifier** |
| attributeListIn | request body | n/a | n/a | 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** | **Qualifier** |
| attributeListOut | response body | n/a | n/a | M |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponse | O |
| networkSliceDN | response body | n/a | Resource | M |

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 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 when a new NetworkSlice instance resource is created. The message body shall contain the complete representation of the ServiceProfile and networkSliceDN identifying the NetworkSlice MOI created.

- On success of modification of the NetworkSlice Instance, a different HTTP code (e.g, 200 OK) may be returned.

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

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| **Next Change** |

#### 9.1.1.3 Operation deallocateNsi

This operation deallocate a service profile in an NSI. 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 | Qualifier |
| networkSliceDN | request body | n/a | Resource | M |
| serviceProfileId | Request body | n/a | Resource | 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 | Qualifier |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponse | 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 parent resource and the resource to be deleted.

- The message body shall contain the networkSliceDN identifying the NetworkSlice MOI.

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

- On success of deletion of the NetworkSlice instance, "204 No content" shall be returned.

- On success of modification of the NetworkSlice instance, a different HTTP code (e.g., 200 OK) may be returned.

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

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| **Next Change** |

9.2.1.2 Operation allocateNssi

This operation is to allocate a network slice 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** | **Qualifier** |
| attributeListIn | request body | n/a | Resource | 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** | **Qualifier** |
| attributeListOut | response body | n/a | Resource | M |
| status | response status codes | n/a | n/a | M |
| Response body | error | ErrorResponse | O |
| networkSliceSubnetDN | response body | n/a | Resource | M |

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 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 when a new NetworkSliceSubnet instance resource is created. The message body shall contain the complete representation of the SliceProfile and networkSliceSubnetDN identifying the NetworkSliceSubnet MOI created.

- On success of modification of the NetworkSliceSubtnet instance, a different HTTP code (e.g., 200 OK) may be returned.

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

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| **Next Change** |

#### 9.2.1.3 Operation deallocateNssi

This operation deallocate a slice profile in an NSSI. 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** | **Qualifier** |
| networkSliceSubnetDN | request body | n/a | Resource | M |
| sliceProfileId | request body | n/a | Resource | 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** | **Qualifier** |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponse | O |

The message flow for deallocation is as follows:

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

- The message body shall contain the networkSliceSubnetDN identifying the NetworkSliceSubnet MOI.

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

- On success of terminating the NetworkSliceSubnet Instance, "204 No content" shall be returned.

- On success of modification of the NetworkSliceSubnet Instance, a different HTTP code (e.g., 200 OK) may be returned

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

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| **End of Changes** |