**3GPP TSG-SA5 Meeting #138-e *S5-214401rev1***

**Online, , 23rd Aug 2021 - 31st Aug 2021**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **28.532** | **CR** | **0183** | **rev** | **-** | **Current version:** | **16.8.1** |  |
|  |
| *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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network | **X** | Core Network | **X** |

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|  |
| ***Title:***  | Rel-17 CR 28.532 Extend object creation method with id selection by the MnS producer (REST SS, OpenAPI definition) |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell, Huawei, Samsung |
| ***Source to TSG:*** | SA5 |
|  |  |
| ***Work item code:*** | TEI17 |  | ***Date:*** | 2021-08-13 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-17 |
|  | *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)* |
|  |  |
| ***Reason for change:*** | Object creaton with DN selection by the MnS producer is added to stage 2. This change needs to be reflected in the REST SS and OpenAPI definition. |
|  |  |
| ***Summary of change:*** | Add object creaton with DN selection by the MnS producer to the REST SS and OpenAPI definition. |
|  |  |
| ***Consequences if not approved:*** | Stage 2 and stage 3 are not aligned. |
|  |  |
| ***Clauses affected:*** | 12.1.1.1.1, 12.1.1.1.2, 12.1.1.1.2a (new), 12.1.1.3.1.1, 12.1.1.3.2.5 (new), A.1.1 |
|  |  |
|  | **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 28.532 CR 0184 |
|  |  |
| ***Other comments:*** | Related stage 2 CR in S5-214412Forge link: <https://forge.3gpp.org/rep/sa5/MnS/blob/28.532_Rel17_CR0183_Extend_object_creation_method_with_id_selection_by_the_MnS_producer/OpenAPI/provMnS.yaml> |
|  |  |
| ***This CR's revision history:*** |  |

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| **First modification** |

## 12.1 Generic provisioning management service

### 12.1.1 RESTful HTTP-based solution set

#### 12.1.1.1 Mapping of operations

##### 12.1.1.1.1 Introduction

The IS operations are mapped to SS equivalents according to table 12.1.1.1.1-1.

Table 12.1.1.1.1-1: Mapping of IS operations to SS equivalents

|  |  |  |  |
| --- | --- | --- | --- |
| **IS operation** | **HTTP Method** | **Resource URI** | **S** |
| createMOI | PUT | {MnSRoot}/ProvMnS/{MnSVersion}/{URI-LDN-first-part}/{className}={id} | M |
| POST | {MnSRoot}/ProvMnS/{MnSVersion}/{URI-LDN-first-part}/{className}={id} | M |
| getMOIAttributes | GET | {MnSRoot}/ProvMnS/{MnSVersion}/{URI-LDN-first-part}/{className}={id} | M |
| modifyMOIAttributes | PUTPATCH | {MnSRoot}/ProvMnS/{MnSVersion}/{URI-LDN-first-part}/{className}={id} | M |
| deleteMOI | DELETE | {MnSRoot}/ProvMnS/{MnSVersion}/{URI-LDN-first-part}/{className}={id} | M |

##### 12.1.1.1.2 Operation createMOI (DN generation by MnS consumer)

HTTP PUT is used to create a single resource representing a managed object instance, if the identifier of the new resource is generated by the MnS consumer.

Table 12.1.1.1.2-1: Mapping of IS operation input parameters to SS equivalents (HTTP PUT)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **IS parameter name** | **SS parameter location** | **SS parameter name** | **SS parameter type** | **S** |
| managedObjectClassmanagedObjectInstance | path | …/{className}={id} | className: stringid: string | M |
| attributeListIn | request body | n/a | Resource | M |

Note 1: Void.

Table 12.1.1.1.2-2: Mapping of IS operation output parameters to SS equivalents (HTTP PUT)

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| IS parameter name | SS parameter location | SS parameter name | SS parameter type | S |
| attributeListOut | response body | n/a | Resource | M |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponse | O |

The message flow for creating a resource is as follows:

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

- The target URI identifies the location of the new resource to be created.

- The message body shall carry the complete representation of the resource to be created.

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

- On success, "201 Created" shall be returned. The Location header shall carry the URI of the new resource and the message body the complete representation of the new resource.

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

##### 12.1.1.1.2a Operation createMOI (DN generation by MnS producer)

HTTP POST is used to create a single resource representing a managed object instance, if the identifier of the new resource is generated by the MnS producer.

Table 12.1.1.1.2a -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** |
| managedObjectClassparentManagedObjectInstance | path | …/{className}={id} | className: stringid: string | M |
| attributeListIn | request body | n/a | Resource | M |

Table 12.1.1.1.2a -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 |
| attributeListOut | response body | n/a | Resource | M |
| status | response status codes | n/a | n/a | M |
| response body | error | ErrorResponse | O |

The message flow for creating a resource is as follows:

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

- The target URI is equal to the parent resource of 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. The name of the class to be created shall be included in the request as well.

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 and the message body the complete representation of the new resource.

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

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| **Next modification** |

#### 12.1.1.3 Resources

##### 12.1.1.3.1 Resource structure

12.1.1.3.1.1 Resource structure on the MnS producer

Figure 12.1.1.3.1.1-1 shows the resource structure of the Provisioning MnS on the MnS producer.



Figure 12.1.1.3.1.1-1: Resource URI structure of the Provisioning MnS on the MnS producer

Table 12.1.1.3.1.1-1 provides an overview of the resources and applicable HTTP methods.

Table 12.1.1.3.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| MOI | …/{className}={id} | PUT | Create a resource representing a managed object instance with DN creation by the MnS consumer |
| MOI | …/{className}={id} | POST | Create a resource representing a managed object instance with DN creation by the MnS producer |
| MOI | …/{className}={id} | GET | Retrieve one or multiple resources representing managed object instances |
| MOI | …/{className}={id} | PATCH | Modifiy one or multiple resources representing managed object instances |
| MOI | …/{className}={id} | DELETE | Delete one or multiple resources representing managed object instances |

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| **Next modification** |

##### 12.1.1.3.2 Resource definitions

###### 12.1.1.3.2.1 Resource "…/{className}={id}"

12.1.1.3.2.1.1 Description

This resource represents a managed object instance.

12.1.1.3.2.1.2 URI

Resource URI: {MnSRoot}/ProvMnS/{MnSVersion}/{URI-LDN-first-part}/{className}={id}

The resource URI variables are defined in table 12.1.1.3.2.1.2-1.

Table 12.1.1.3.2.1.2-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| MnSRoot | See clause 4.4.2 of TS 32.158 [15] |
| MnSVersion | See clause 4.4.2 of TS 32.158 [15] |
| URI-LDN-first-part | See clause 4.4.2 of TS 32.158 [15] |
| className | Class name of the targeted resource  |
| id | Identifier of the targeted resource |

12.1.1.3.2.1.3 HTTP methods

12.1.1.3.2.1.3.1 HTTP PUT

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

Table 12.1.1.3.2.1.3.1-1: URI query parameters supported by the PUT 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 12.1.1.3.2.1.3.1-2: Data structures supported by the PUT request body on this resource

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| Resource | Resource representation of the resource to be created or replaced | M |

Table 12.1.1.3.2.1.3.1-3: Data structures supported by the PUT Response Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| Resource | 200 OK | Status code returned when the resource is replaced, and when the replaced resource representation is not identical to the resource representation in the request.This status code may be retourned when the resource is updated and when the updated resource representation is identical to the resource representation in the request.The representation of the updated resource is returned in the response message body. | M |
| Resource | 201 Created | Status code returned when the resource is created. The representation of the created resource is returned in the response message body. | M |
| n/a | 204 No Content | Status code that may be returned only when the replaced resource representation is identical to the representation in the request. The response has no message body. | M |
| ErrorResponse | 4xx/5xx | Returned in case of an error | O |

12.1.1.3.2.1.3.1a HTTP POST

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

Table 12.1.1.3.2.1.3.1a -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 12.1.1.3.2.1.3.1a -2: Data structures supported by the POST request body on this resource

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| Resource | Resource representation of the resource to be created | M |

Table 12.1.1.3.2.1.3.1a -3: Data structures supported by the POST response body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| Resource | 201 Created | Status code returned when the resource is created.The representation of the created resource is returned in the response message body. | M |
| ErrorResponse | 4xx/5xx | Returned in case of an error | O |

12.1.1.3.2.1.3.2 HTTP GET

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

Table 12.1.1.3.2.1.3.2-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Description** | **S** |
| scope | Scopestyle: formexplode: true | Extends the set of targeted resources beyond the base resource identified with the authority and path component of the URI.  | O |
| filter | Filter | Reduces the targeted set of resources by applying a filter to the scoped set of resource representations. Only resources representations for which the filter construct evaluates to "true" are targeted.  | O |
| attributes | array(string)style: formexplode: false | Attributes of the scoped resources to be returned. The value is a comma-separated list of attribute names. | O |
| fields | array(string)style: formexplode: false | Attribute fields of the scoped resources to be returned. The value is a comma-separated list of JSON pointers to the attribute fields. | O |

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

Table 12.1.1.3.2.1.3.2-2: Data structures supported by the GET request body on this resource

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

Table 12.1.1.3.2.1.3.2-3: Data structures supported by the GET response body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| Resource | 200 OK | Resources identified in the request for retrieval. In case the attributes or fields query parameters are used, only the selected attributes or sub-attributes are returned. The response message body is constructed according to the hierarchical response construction method (TS 32.158 [15]) | M |
| ErrorResponse | 4xx/5xx | Returned in case of an error | M |

12.1.1.3.2.1.3.3 HTTP PATCH

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

Table 12.1.1.3.2.1.3.3-1: URI query parameters supported by the PATCH 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 tables.

Table 12.1.1.3.2.1.3.3-2: Data structures supported by the PATCH request body on this resource

|  |  |  |
| --- | --- | --- |
| **Data type** | **Description** | **S** |
| Resource, orarray(object) | Patch document describing the set of modifications to be applied to the targeted resources.The following patch media types are available:- "application/merge-patch+json" (RFC 7396 [37])- "application/3gpp-merge-patch+json" (TS 32.158 [15])- "application/json-patch+json" (RFC 6902 [36])- "application/3gpp-json-patch+json" (TS 32.158 [15]) | M |

Table 12.1.1.2.1.1.3.3-3: Data structures supported by the PATCH response body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| ErrorResponse | 4xx/5xx | Returned in case of an error | M |

12.1.1.3.2.1.3.4 HTTP DELETE

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

Table 12.1.1.3.2.1.3.4-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Name** | **Data type** | **Description** | **S** |
| scope | Scopestyle: formexplode: true | Extends the set of targeted resources beyond the base resource identified with the authority and path component of the URI.  | O |
| filter | Filter | Reduces the targeted set of resources by applying a filter to the scoped set of resource representations. Only resources representations for which the filter construct evaluates to "true" are targeted.  | O |

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

Table 12.1.1.3.2.1.3.4-2: Data structures supported by the DELETE request body on this resource

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

Table 12.1.1.3.2.1.3.4-3: Data structures supported by the DELETE response body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Response codes** | **Description** | **S** |
| array(Uri) | 200 OK | Status code returned, when query parameters are present in the request and one or multiple resources are deleted. The URIs of the deleted resources are returned in the response message body. | M |
| n/a | 204 No Content | Status code returned, when no query parameters are present in the request and only one resource is deleted. The message body is empty. | M |
| ErrorResponse | 4xx/5xx | Returned in case of an error | M |

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| **Next modification** |

## A.1.1 OpenAPI document "provMnS.yaml"

openapi: 3.0.1

info:

 title: Provisioning MnS

 version: 16.7.0

 description: >-

 OAS 3.0.1 definition of the Provisioning MnS

 © 2020, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

 All rights reserved.

externalDocs:

 description: 3GPP TS 28.532; Generic management services

 url: http://www.3gpp.org/ftp/Specs/archive/28\_series/28.532/

servers:

 - url: '{MnSRoot}/ProvMnS/{MnSVersion}/{URI-LDN-first-part}'

 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

 URI-LDN-first-part:

 description: See clause 4.4.2 of TS 32.158

 default: ''

paths:

 '/{className}={id}':

 parameters:

 - name: className

 in: path

 required: true

 schema:

 type: string

 - name: id

 in: path

 required: true

 schema:

 type: string

 put:

 summary: Replaces a complete single resource or creates it if it does not exist

 description: >-

 With HTTP PUT a complete resource is replaced or created if it does not

 exist. The target resource is identified by the target URI.

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Resource'

 responses:

 '200':

 description: >-

 Success case ("200 OK").

 This status code shall be returned when the resource is replaced, and

 when the replaced resource representation is not identical to the resource

 representation in the request.

 This status code may be retourned when the resource is updated and when the

 updated resource representation is identical to the resource representation

 in the request.

 The representation of the updated resource is returned in the response

 message body.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Resource'

 '201':

 description: >-

 Success case ("201 Created").

 This status code shall be returned when the resource is created.

 The representation of the created resource is returned in the response

 message body.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Resource'

 '204':

 description: >-

 Success case ("204 No Content").

 This status code may be returned only when the replaced resource

 representation is identical to the representation in the request.

 The response has no message body.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 callbacks:

 notifyMOICreation:

 '{request.body#/notificationRecipientAddress}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/NotifyMoiCreation'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The notification is successfully delivered. The response

 has no message body.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 notifyMOIDeletion:

 '{request.body#/notificationRecipientAddress}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/NotifyMoiDeletion'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The notification is successfully delivered. The response

 has no message body.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 notifyMOIAttributeValueChanges:

 '{request.body#/notificationRecipientAddress}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/NotifyMoiAttributeValueChanges'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The notification is successfully delivered. The response

 has no message body.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 notifyMOIChanges:

 '{request.body#/notificationRecipientAddress}':

 post:

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/NotifyMoiChanges'

 responses:

 '204':

 description: >-

 Success case ("204 No Content").

 The notification is successfully delivered. The response

 has no message body.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 post:

 summary: Creates a complete single resource

 description: >-

 With HTTP POST a complete single resource is created. The identifier of the new

 resource is generated by the MnS producer. The request shall contain the name of

 the class to be created, i.e. the "className" attribute needs to be populated.

 requestBody:

 required: true

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Resource'

 responses:

 '201':

 description: >-

 Success case ("201 Created").

 This status code shall be returned when the resource is created.

 The representation of the created resource is returned in the response

 message body.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Resource'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 get:

 summary: Reads one or multiple resources

 description: >-

 With HTTP GET resources are read. The resources to be retrieved are

 identified with the target URI. The attributes and fields parameter

 of the query components allow to select the resource properties to be returned.

 parameters:

 - name: scope

 in: query

 description: >-

 This parameter extends the set of targeted resources beyond the base

 resource identified with the path component of the URI. No scoping

 mechanism is specified in the present document.

 required: false

 schema:

 $ref: '#/components/schemas/Scope'

 style: form

 explode: true

 - name: filter

 in: query

 description: >-

 This parameter reduces the targeted set of resources by applying a

 filter to the scoped set of resource representations. Only resource

 representations for which the filter construct evaluates to "true"

 are targeted. No filter language is specified in the present

 document.

 required: false

 schema:

 $ref: 'comDefs.yaml#/components/schemas/Filter'

 - name: attributes

 in: query

 description: >-

 This parameter specifies the attributes of the scoped resources that

 are returned.

 required: true

 schema:

 type: array

 items:

 type: string

 style: form

 explode: false

 - name: fields

 in: query

 description: >-

 This parameter specifies the attribute field of the scoped resources

 that are returned.

 required: false

 schema:

 type: array

 items:

 type: string

 style: form

 explode: false

 responses:

 '200':

 description: >-

 Success case ("200 OK").

 The resources identified in the request for retrieval are returned

 in the response message body. In case the attributes or fields query

 parameters are used, only the selected attributes or sub-attributes are

 returned. The response message body is constructed according to the

 hierarchical response construction method (TS 32.158 [15]).

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Resource'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 patch:

 summary: Patches one or multiple resources

 description: >-

 With HTTP PATCH resources are created, updated or deleted. The resources

 to be modified are identified with the target URI (base resource) and

 the patch document included in the request message body.

 requestBody:

 description: >-

 The request body describes changes to be made to the target resources.

 The following patch media types are available

 - "application/merge-patch+json" (RFC 7396)

 - "application/3gpp-merge-patch+json" (TS 32.158)

 - "application/json-patch+json" (RFC 6902)

 - "application/3gpp-json-patch+json" (TS 32.158)

 required: true

 content:

 application/merge-patch+json:

 schema:

 $ref: '#/components/schemas/Resource'

 application/3gpp-merge-patch+json:

 schema:

 $ref: '#/components/schemas/Resource'

 application/json-patch+json:

 schema:

 type: array

 items:

 type: object

 application/3gpp-json-patch+json:

 schema:

 type: array

 items:

 type: object

 responses:

 '200':

 description: >-

 Success case ("200 OK").

 This status code is returned when the updated the resource representations

 shall be returned for some reason.

 The resource representations are returned in the response message body. The

 response message body is constructed according to the hierarchical response

 construction method (TS 32.158 [15])

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/Resource'

 '204':

 description: >-

 Success case ("204 No Content").

 This status code is returned when there is no need to return the updated

 resource representations.

 The response message body is empty.

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

 delete:

 summary: Deletes one or multiple resources

 description: >-

 With HTTP DELETE resources are deleted. The resources to be deleted are

 identified with the target URI.

 parameters:

 - name: scope

 in: query

 description: >-

 This parameter extends the set of targeted resources beyond the base

 resource identified with the path component of the URI. No scoping

 mechanism is specified in the present document.

 required: false

 schema:

 $ref: '#/components/schemas/Scope'

 style: form

 explode: true

 - name: filter

 in: query

 description: >-

 This parameter reduces the targeted set of resources by applying a

 filter to the scoped set of resource representations. Only resources

 representations for which the filter construct evaluates to "true"

 are returned. No filter language is specified in the present

 document.

 required: false

 schema:

 $ref: 'comDefs.yaml#/components/schemas/Filter'

 responses:

 '200':

 description: >-

 Success case ("200 OK").

 This status code shall be returned, when query parameters are present in

 the request and one or multiple resources are deleted.

 The URIs of the deleted resources are returned in the response message body.

 '204':

 description: >-

 Success case ("204 No Content").

 This status code shall be returned, when no query parameters are present in

 the request and only one resource is deleted.

 The message body is empty.

 content:

 application/json:

 schema:

 type: array

 items:

 $ref: 'comDefs.yaml#/components/schemas/Uri'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: 'comDefs.yaml#/components/schemas/ErrorResponse'

components:

 schemas:

 CorrelatedNotification:

 type: object

 properties:

 source:

 $ref: 'comDefs.yaml#/components/schemas/Dn'

 notificationIds:

 type: array

 items:

 $ref: 'comDefs.yaml#/components/schemas/NotificationId'

 required:

 - source

 - notificationIds

 CmNotificationTypes:

 type: string

 enum:

 - notifyMOICreation

 - notifyMOIDeletion

 - notifyMOIAttributeValueChanges

 - notifyMOIChanges

 SourceIndicator:

 type: string

 enum:

 - RESOURCE\_OPERATION

 - MANAGEMENT\_OPERATION

 - SON\_OPERATION

 - UNKNOWN

 Operation:

 type: string

 enum:

 - CREATE

 - DELETE

 - REPLACE

 ScopeType:

 type: string

 enum:

 - BASE\_ONLY

 - BASE\_NTH\_LEVEL

 - BASE\_SUBTREE

 - BASE\_ALL

 Scope:

 type: object

 properties:

 scopeType:

 $ref: '#/components/schemas/ScopeType'

 scopeLevel:

 type: integer

 Resource:

 oneOf:

 - type: object

 properties:

 id:

 type: string

 attributes:

 type: object

 additionalProperties:

 type: array

 items:

 type: object

 - anyOf:

 - $ref: 'genericNrm.yaml#/components/schemas/resources-genericNrm'

 - $ref: 'nrNrm.yaml#/components/schemas/resources-nrNrm'

 - $ref: '5gcNrm.yaml#/components/schemas/resources-5gcNrm'

 - $ref: 'sliceNrm.yaml#/components/schemas/resources-sliceNrm'

 MoiChange:

 type: object

 properties:

 notificationId:

 $ref: 'comDefs.yaml#/components/schemas/NotificationId'

 correlatedNotifications:

 type: array

 items:

 $ref: '#/components/schemas/CorrelatedNotification'

 additionalText:

 type: string

 sourceIndicator:

 $ref: '#/components/schemas/SourceIndicator'

 path:

 $ref: 'comDefs.yaml#/components/schemas/Uri'

 operation:

 $ref: '#/components/schemas/Operation'

 value:

 oneOf:

 - $ref: 'comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

 - $ref: 'comDefs.yaml#/components/schemas/AttributeValueChangeSet'

 NotifyMoiCreation:

 allOf:

 - $ref: 'comDefs.yaml#/components/schemas/NotificationHeader'

 - type: object

 properties:

 correlatedNotifications:

 type: array

 items:

 $ref: '#/components/schemas/CorrelatedNotification'

 additionalText:

 type: string

 sourceIndicator:

 $ref: '#/components/schemas/SourceIndicator'

 attributeList:

 $ref: 'comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

 NotifyMoiDeletion:

 allOf:

 - $ref: 'comDefs.yaml#/components/schemas/NotificationHeader'

 - type: object

 properties:

 correlatedNotifications:

 type: array

 items:

 $ref: '#/components/schemas/CorrelatedNotification'

 additionalText:

 type: string

 sourceIndicator:

 $ref: '#/components/schemas/SourceIndicator'

 attributeList:

 $ref: 'comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

 NotifyMoiAttributeValueChanges:

 allOf:

 - $ref: 'comDefs.yaml#/components/schemas/NotificationHeader'

 - type: object

 properties:

 correlatedNotifications:

 type: array

 items:

 $ref: '#/components/schemas/CorrelatedNotification'

 additionalText:

 type: string

 sourceIndicator:

 $ref: '#/components/schemas/SourceIndicator'

 attributeListValueChanges:

 $ref: 'comDefs.yaml#/components/schemas/AttributeValueChangeSet'

 required:

 - attributeListValueChanges

 NotifyMoiChanges:

 allOf:

 - $ref: 'comDefs.yaml#/components/schemas/NotificationHeader'

 - type: object

 properties:

 moiChanges:

 type: array

 items:

 $ref: '#/components/schemas/MoiChange'

 required:

 - moiChanges

|  |
| --- |
| **End of modifications** |