**3GPP TSG-SA5 Meeting #130e *S5-202227***

**e-meeting 20-28 April 2020**

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| *CR-Form-v11.4* |
| **CHANGE REQUEST** |
|  |
|  | **28.532** | **CR** | **0112** | **rev** | **-** | **Current version:** | **16.3.0** |  |
|  |
| *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:***  | Update the generic provisioning MnS to support different management purposes |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | TEI16 |  | ***Date:*** | 2020-04-02 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***Release:*** | Rel-16 |
|  | *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-12 (Release 12)**Rel-13 (Release 13)Rel-14 (Release 14)Rel-15 (Release 15)Rel-16 (Release 16)* |
|  |  |
| ***Reason for change:*** | Clause 11 defines the generic provisioning MnS which includes CRUD operations and notifications and the title of Clause 12.1 also is generic provsionins MnS. However, in the URI segment {MnS name} for generic provisioning MnS is ProvMnS which is used to used to described lifecycle management and configuration management for NR/5GC/Network slicing in TS 28.531 |
|  |  |
| ***Summary of change:*** | Change URI segment {MnS name} from ProvMnS to GenericProvMnS to align with generic provisioning MnS |
|  |  |
| ***Consequences if not approved:*** | The specification will be published with incorrect URI for generic provisioning MnS. |
|  |  |
| ***Clauses affected:*** | 12.1.1.1.1, 12.1.1.3.2.1.2,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/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |

|  |  |
| --- | --- |
| ***This CR's revision history:*** |  |

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| **1st Change** |

## 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** | **SQ** |
| createMOI | PUT | http://{URI-DN-prefix}/{root}/GenericProvMnS/{MnSVersion}/ {LDN-first-part}/{className}={id}  | M |
| getMOIAttributes | GET | http://{URI-DN-PREFIX}/{root}/GenericProvMnS/{MnSVersion}/{LDN-first-part}/{className}={id}  | M |
| modifyMOIAttributes | PUTPATCH | http://{URI-DN-prefix}/{root}/GenericProvMnS/{MnSVersion}/{LDN-first-part}/{className}={id}  | M |
| deleteMOI | DELETE | http://{URI-DN-prefix}/{root}/GenericProvMnS/{MnSVersion}/{LDN-first-part}/{className}={id}  | M |
| subscribe | POST | http://{URI-DN-prefix}/{root}/GenericProvMnS/{MnSVersion}/subscriptions | M |
| unSubscribe | DELETE  | http://{URI-DN-prefix}/{root}/GenericProvMnS/{MnSVersion}/subscriptions | M |
| DELETE | http://{URI-DN-prefix}/{root}/GenericProvMnS/{MnSVersion}/subscriptions/{subscriptionId} | M |

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| **2nd Change** |

##### 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: http://{URI-DN-PREFIX}/{root}/GenericProvMnS/v1630/{LDN-first-part}

The resource URI variables a defined in the following table.

Table 12.1.1.3.2.1.2-1: URI variables

|  |  |
| --- | --- |
| **Name** | **Definition** |
| URI-DN-prefix | See clause 4.4 of TS 32.158 [15] |
| root | See clause 4.4 of TS 32.158 [15] |
| LDN-first-part | See subclause 4.4 of TS 32.158 [15] |
| className | The class name of the resource to be targeted |
| id | The id of the resource to be targeted |

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| **4th Change** |

## A.1.1 Generic provisioning management service

openapi: 3.0.1

info:

 title: Generic Provisioning Management Service

 version: 16.3.0

 description: >-

 OAS 3.0.1 specification of the Provisioning Management Service

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 All rights reserved.

externalDocs:

 description: 3GPP TS 28.532 V16.3.0; Generic management services

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

servers:

 - url: 'http://{URI-DN-prefix}/{root}/GenericProvMnS/v1630/{LDN-first-part}'

 variables:

 URI-DN-prefix:

 description: See subclause 4.4 of TS 32.158

 default: example.com

 root:

 description: See subclause 4.4 of TS 32.158

 default: 3GPPManagement

 LDN-first-part:

 description: See subclause 4.4 of TS 32.158

 default: ''

paths:

 '/{className}={id}':

 parameters:

 - name: className

 in: path

 required: true

 schema:

 $ref: '#/components/schemas/className-PathType'

 - name: id

 in: path

 required: true

 schema:

 $ref: '#/components/schemas/id-PathType'

 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/resourcePut-RequestType'

 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/resourceUpdate-ResponseType'

 '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/resourceCreation-ResponseType'

 '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: '#/components/schemas/error-ResponseType'

 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-QueryType'

 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: '#/components/schemas/filter-QueryType'

 - name: attributes

 in: query

 description: >-

 This parameter specifies the attributes of the scoped resources that

 are returned.

 required: true

 schema:

 $ref: '#/components/schemas/attributes-QueryType'

 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:

 $ref: '#/components/schemas/fields-QueryType'

 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/resourceRetrieval-ResponseType'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/error-ResponseType'

 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/jsonMergePatch-RequestType'

 application/3gpp-merge-patch+json:

 schema:

 $ref: '#/components/schemas/3gppJsonMergePatch-RequestType'

 application/json-patch+json:

 schema:

 $ref: '#/components/schemas/jsonPatch-RequestType'

 application/3gpp-json-patch+json:

 schema:

 $ref: '#/components/schemas/3gppJsonPatch-RequestType'

 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/resourceUpdate-ResponseType'

 '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: '#/components/schemas/error-ResponseType'

 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-QueryType'

 - 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: '#/components/schemas/filter-QueryType'

 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:

 $ref: '#/components/schemas/resourceDeletion-ResponseType'

 default:

 description: Error case.

 content:

 application/json:

 schema:

 $ref: '#/components/schemas/error-ResponseType'

components:

 schemas:

 dateTime-Type:

 type: string

 format: date-time

 long-Type:

 type: integer

 format: int64

 uri-Type:

 type: string

 correlatedNotification-Type:

 type: object

 properties:

 source:

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

 notificationIds:

 type: array

 items:

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

 notificationId-Type:

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

 notificationType-Type:

 type: string

 enum:

 - notifyMOICreation

 - notifyMOIDeletion

 - notifyMOIAttributeValueChange

 systemDN-Type:

 type: string

 additionalText-Type:

 type: string

 sourceIndicator-Type:

 type: string

 enum:

 - resourceOperation

 - mangementOperation

 - sONOperation

 - unknown

 header-Type:

 type: object

 properties:

 href:

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

 notificationId:

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

 notificationType:

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

 eventTime:

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

 systemDN:

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

 required:

 - href

 - notificationId

 - notificationType

 - eventTime

 - systemDN

 scopeType-Type:

 type: string

 enum:

 - BASE\_ONLY

 - BASE\_NTH\_LEVEL

 - BASE\_SUBTREE

 - BASE\_ALL

 scopeLevel-Type:

 type: integer

 className-PathType:

 type: string

 id-PathType:

 type: string

 attributes-QueryType:

 type: array

 items:

 type: string

 fields-QueryType:

 type: array

 items:

 type: string

 filter-QueryType:

 type: string

 scope-QueryType:

 type: object

 properties:

 scopeType:

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

 scopeLevel:

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

 resourcePut-RequestType:

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

 jsonMergePatch-RequestType:

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

 3gppJsonMergePatch-RequestType:

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

 jsonPatch-RequestType:

 type: array

 items:

 type: object

 3gppJsonPatch-RequestType:

 type: array

 items:

 type: object

 error-ResponseType:

 type: object

 properties:

 error:

 type: object

 properties:

 errorInfo:

 type: string

 resourceRetrieval-ResponseType:

 type: object

 properties:

 data:

 type: array

 items:

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

 resourceCreation-ResponseType:

 type: object

 properties:

 data:

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

 resourceUpdate-ResponseType:

 type: object

 properties:

 data:

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

 resourceDeletion-ResponseType:

 type: array

 items:

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

 resourceRepresentation-Type:

 oneOf:

 - type: object

 properties:

 id:

 type: string

 attributes:

 type: object

 nameContainedObjects:

 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'

 notifyMOICreation-NotifType:

 allOf:

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

 - type: object

 properties:

 correlatedNotifications:

 type: array

 items:

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

 additionalText:

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

 sourceIndicator:

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

 attributeList:

 type: object

 additionalProperties:

 nullable: true

 notifyMOIDeletion-NotifType:

 allOf:

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

 - type: object

 properties:

 correlatedNotifications:

 type: array

 items:

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

 additionalText:

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

 sourceIndicator:

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

 attributeList:

 type: object

 additionalProperties: true

 notifyMOIAttributeValueChange-NotifType:

 allOf:

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

 - type: object

 properties:

 correlatedNotifications:

 type: array

 items:

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

 additionalText:

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

 sourceIndicator:

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

 attributeValueChange:

 type: object

 additionalProperties:

 type: array

 minItems: 1

 maxItems: 2

 items:

 nullable: true

 required:

 - attributeValueChange

|  |
| --- |
| **End of Change** |