**3GPP TSG-SA5 Meeting #129-e *S5-201392rev1***

**Online, 24th Feb 2020 - 4th Mar 2020**

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| *CR-Form-v12.0* |
| **CHANGE REQUEST** |
|  |
|  | **28.532** | **CR** | **0103** | **rev** | **--** | **Current version:** | **16.2.0** |  |
|  |
| *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:***  | Correct OpenAPI definition of the ProvMnS |
|  |  |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell |
| ***Source to TSG:*** | S5 |
|  |  |
| ***Work item code:*** | REST\_SS |  | ***Date:*** | 14-02-2020 |
|  |  |  |  |  |
| ***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:*** | The OpenAPI definition of the ProvMnS has nemerous errors. |
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| ***Summary of change:*** | The errors in the OpenAPI definition of the ProvMnS are corrected. The OpenAPI definitions are now provided in YAML format instead of JSON format. |
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| ***Consequences if not approved:*** | The ProvMnS cannot be implemented. OpenAPI definition does not compile. |
|  |  |
| ***Clauses affected:*** | A.0, 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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| **First modification** |

Annex A (normative):
OpenAPI specification

# A.0 Introduction

This clause describes the capabilities of the service in the structure of the OpenAPI Specification Version 3.0.1 [A9]. The OpenAPI descriptions are provided in YAML or JSON format.

# A.1 Provisioning management service

## A.1.1 Generic provisioning management service

openapi: 3.0.1

info:

 title: Provisioning Management Service

 version: 16.3.0

 description: OAS 3.0.1 specification of the Provisioning Management Service

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}/ProvMnS/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: Updates a complete single resource or creates it if it does not exist

 description: >-

 With HTTP PUT a complete resource is updated 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") for resource update. The representation of

 the updated resource is returned in the message body. This response

 shall be returned when the updated resource representation is not

 identical to the representation in the request.

 content:

 application/json:

 schema:

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

 '201':

 description: >-

 Success case ("201 Created") for resource creation. The

 representation of the created resource is returned in the message

 body.

 content:

 application/json:

 schema:

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

 '204':

 description: >-

 Success case ("204 No Content") for resource update. The response

 has no message body. This response may be returned only when the

 updated resource representation is identical to the representation

 in the request.

 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 read are

 identified with the path component (base resource) and the query

 component (scope, filer) of the URI. The fields query component allows

 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

 fields query parameter is used, the selected attributes are

 returned.

 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 path component of the URI (base

 resource) and with the patch document.

 requestBody:

 description: >-

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

 as defined in RFC 7396 (JSON Merge Patch).

 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").

 '204':

 description: Success case ("204 No Content").

 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 path component (base resource) and the query

 component (scope, filer) of the 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: >-

 On success, when query parameters are present in the request, "200

 OK" is returned. The message body carries the URIs of the deleted

 resources.

 '204':

 description: >-

 On success, when no query parameters are present in the request and

 only one resource is deleted, "204 No Content" is returned. 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:

 - uri

 - 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

 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: object

 properties:

 data:

 type: array

 items:

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

 resourceRetrieval-ResponseType:

 type: object

 properties:

 data:

 type: array

 items:

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

 resourceRepresentation-Generic-NRM-Type:

 type: object

 resourceRepresentation-NR-NRM-Type:

 type: object

 resourceRepresentation-5GC-NRM-Type:

 type: object

 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/resourceRepresentation-Generic-NRM-Type'

 - $ref: 'nRNrm.yaml#/components/schemas/resourceRepresentation-NR-NRM-Type'

 - $ref: '5GCNrm.yaml#/components/schemas/resourceRepresentation-5GC-NRM-Type'

 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

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| --- |
| **Next modification** |

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| **End of modifications** |