**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 can be 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. | | | | | | | | |
|  | |  | | | | | | | | |
| ***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. | | | | | | | | |
|  | |  | | | | | | | | |
| ***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

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

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