**3GPP TSG-SA5 Meeting #142-e *S5-222501***

**e-meeting, 4 - 12 April 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **28.532** | **CR** | **draftCR** | **rev** | **-** | **Current version:** | **16.10.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | OpenAPI file name and dependence change- part1 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | | |
| ***Source to TSG:*** | S5 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI16 | | | | |  | ***Date:*** | | | 2022-03-25 |
|  |  | | | |  | |  | | |  |
| ***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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | According to the endorsed DP [SP-220341](https://www.3gpp.org/ftp/tsg_sa/TSG_SA/TSGS_95E_Electronic_2022_03/Docs/SP-220341.zip) in SA#95, one of the action is to update OpenAPI YAML file names to be prefixed with the TS number | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the file names in spec and update the depended reference across yaml files for proMnS.yaml and fault.yaml. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The TS number is missing in the file name. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.1.1, A.2.1 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | ForgeLink: [Files · Rel16\_OPENAPI\_Filename\_Change\_142e · SA5 – Management & Orchestration and Charging / Management and Orchestration APIs · GitLab (3gpp.org)](https://forge.3gpp.org/rep/sa5/MnS/-/tree/Rel16_OPENAPI_Filename_Change_142e) | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

|  |
| --- |
| **1st Change** |

# A.1 Provisioning management service

## A.1.0 Introduction

Clause A.1.1 contains the OpenAPI definition of the provisioning MnS which includes the provisioning MnS operations and the provisioning MnS notifications.

Clause A.1.2 provides indications regarding the content of the generic provisioning MnS notifications when the consumer of these notifications supports the ONAP VES API. This content is sent as payload of VES events (see Annex B).

## A.1.1 OpenAPI document "TS28532\_provMnS.yaml"

openapi: 3.0.1

info:

title: Provisioning MnS

version: 16.7.0

description: >-

OAS 3.0.1 definition of the Provisioning MnS

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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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_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: 'TS28623\_comDefs.yaml#/components/schemas/Uri'

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

components:

schemas:

CorrelatedNotification:

type: object

properties:

source:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Dn'

notificationIds:

type: array

items:

$ref: 'TS28623\_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: 'TS28623\_genericNrm.yaml#/components/schemas/resources-genericNrm'

- $ref: 'TS28541\_nrNrm.yaml#/components/schemas/resources-nrNrm'

- $ref: 'TS28541\_5gcNrm.yaml#/components/schemas/resources-5gcNrm'

- $ref: 'TS28541\_sliceNrm.yaml#/components/schemas/resources-sliceNrm'

MoiChange:

type: object

properties:

notificationId:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationId'

correlatedNotifications:

type: array

items:

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

additionalText:

type: string

sourceIndicator:

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

path:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Uri'

operation:

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

value:

oneOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeValueChangeSet'

NotifyMoiCreation:

allOf:

- $ref: 'TS28623\_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: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

NotifyMoiDeletion:

allOf:

- $ref: 'TS28623\_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: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

NotifyMoiAttributeValueChanges:

allOf:

- $ref: 'TS28623\_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: 'TS28623\_comDefs.yaml#/components/schemas/AttributeValueChangeSet'

required:

- attributeListValueChanges

NotifyMoiChanges:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

properties:

moiChanges:

type: array

items:

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

required:

- moiChanges

## A.1.2 Integration with ONAP VES

Detailed guidelines for integration of provisioning MnS notifications with ONAP VES are provided in Annex B.

|  |
| --- |
| **2nd** |

# A.2 Generic fault supervision management service

### A.2.0 Introduction

Clause A.2.1 contains the OpenAPI definition of the generic fault supervision MnS which includes the fault supervision MnS operations and the fault supervision MnS notifications.

Clause A.2.2 provides indications regarding the content of the generic fault supervision MnS notifications when the consumer of these notifications supports the ONAP VES API. This content is sent as payload of VES events (see Annex B).

## A.2.1 OpenAPI document "TS28532\_faultMnS.yaml"

openapi: 3.0.1

info:

title: Fault Supervision MnS

version: 16.10.0

description: >-

OAS 3.0.1 definition of the Fault Supervision MnS

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externalDocs:

description: 3GPP TS 28.532; Generic management services

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

servers:

- url: '{MnSRoot}/FaultSupervisionMnS/{MnSversion}'

variables:

MnSRoot:

description: See subclause 4.4.3 of TS 32.158

default: http://example.com/3GPPManagement

MnSversion:

description: Version number of the OpenAPI definition

default: XXX

paths:

/alarms:

get:

summary: Retrieve multiple alarms

description: >-

Retrieves the alarms identified by alarmAckState, baseObjectInstance

and filter.

parameters:

- name: alarmAckState

in: query

required: false

schema:

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

- name: baseObjectInstance

in: query

required: false

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Dn'

- name: filter

in: query

required: false

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Filter'

responses:

'200':

description: >-

Success case ("200 OK").

Returns the alarms identified in the request. The alarmId is the key

of the map.

content:

application/json:

schema:

type: object

additionalProperties:

type: object

allOf:

- type: object

properties:

lastNotificationHeader:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- $ref: '#/components/schemas/AlarmRecord'

- type: object

properties:

comments:

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

default:

description: Response in case of error.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

patch:

summary: 'Clear, acknowledge or unacknowledge multiple alarms'

description: >-

Clears, acknowledges or unacknowledges multiple alarms using patch. Depending

on which action is to be performed, different merge patch documents need

to be used.

requestBody:

description: >-

Patch documents for acknowledging and unacknowledging, or clearing multiple

alarms. The keys in the map are the alarmIds to be patched.

content:

application/merge-patch+json:

schema:

oneOf:

- type: object

additionalProperties:

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

- type: object

additionalProperties:

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

responses:

'204':

description: >-

Success case ("204 No content").

The response message body is empty.

default:

description: Response in case of error.

content:

application/json:

schema:

type: array

items:

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

/alarms/alarmCount:

get:

summary: Get the alarm count per perceived severity

parameters:

- name: alarmAckState

in: query

required: false

schema:

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

- name: filter

in: query

required: false

schema:

type: string

responses:

'200':

description: >-

Success case ("200 OK").

The alarm count per perceived severity is returned.

content:

application/json:

schema:

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

default:

description: Response in case of error. The error case needs rework.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

/alarms/{alarmId}:

patch:

summary: 'Clear, acknowledge or unacknowledge a single alarm'

description: >-

Clears, acknowledges or uncknowldeges a single alarm by patching the alarm

information. A conditional acknowledge request based on the perceived

severity is not supported.

parameters:

- name: alarmId

in: path

description: Identifies the alarm to be patched.

required: true

schema:

type: string

requestBody:

required: true

content:

application/merge-patch+json:

schema:

oneOf:

- $ref: '#/components/schemas/MergePatchAcknowledgeAlarm'

- $ref: '#/components/schemas/MergePatchClearAlarm'

responses:

'204':

description: >-

Success case (204 No content).

The response message body is absent.

default:

description: Response in case of error.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

/alarms/{alarmId}/comments:

post:

summary: Add a comment to a single alarm

description: >-

Adds a comment to an alarm identified by alarmId. The id of the new comment

is allocated by the producer.

parameters:

- name: alarmId

in: path

description: Identifies the alarm to which the comment shall be added.

required: true

schema:

type: string

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >-

Success case (201 Created).

The representation of the newly created comment resource shall be returned.

content:

application/json:

schema:

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

headers:

Location:

description: URI of the newly created comment resource.

required: true

schema:

type: string

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

/subscriptions:

post:

summary: Create a subscription

description: >-

To create a subscription the representation of the subscription is

POSTed on the /subscriptions collection resource.

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >-

Success case ("201 Created").

The representation of the newly created subscription resource shall

be returned.

content:

application/json:

schema:

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

headers:

Location:

description: URI of the newly created subscription resource

required: true

schema:

type: string

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

callbacks:

notifyNewAlarm:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

oneOf:

- $ref: '#/components/schemas/NotifyNewAlarm'

- $ref: '#/components/schemas/NotifyNewSecAlarm'

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyClearedAlarm:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyChangedAlarm:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyChangedAlarmGeneral:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

oneOf:

- $ref: '#/components/schemas/NotifyChangedAlarmGeneral'

- $ref: '#/components/schemas/NotifyChangedSecAlarmGeneral'

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyCorrelatedNotificationChanged:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyAckStateChanged:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyComments:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyPotentialFaultyAlarmList:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

notifyAlarmListRebuilt:

'{request.body#/consumerReference}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >-

Success case ("204 No Content").

The notification is successfully delivered. The response message

body is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

/subscriptions/{subscriptionId}:

delete:

summary: Delete a subscription

description: >-

The subscription is deleted by deleting the corresponding subscription

resource. The resource to be deleted is identified with the path

component of the URI.

parameters:

- name: subscriptionId

in: path

description: Identifies the subscription to be deleted.

required: true

schema:

type: string

responses:

'204':

description: >-

Success case ("204 No Content").

The subscription resource has been deleted. The response message body

is absent.

default:

description: Error case.

content:

application/json:

schema:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/ErrorResponse'

components:

schemas:

#---- Definition of AlarmRecord ----------------------------------------------------#

AlarmId:

type: string

AlarmType:

type: string

enum:

- COMMUNICATIONS\_ALARM

- QUALITY\_OF\_SERVICE\_ALARM

- PROCESSING\_ERROR\_ALARM

- EQUIPMENT\_ALARM

- ENVIRONMENTAL\_ALARM

- INTEGRITY\_VIOLATION

- OPERATIONAL\_VIOLATION

- PHYSICAL\_VIOLATION

- SECURITY\_SERVICE\_OR\_MECHANISM\_VIOLATION

- TIME\_DOMAIN\_VIOLATION

ProbableCause:

description: >-

The value of the probable cause may be a specific standardized string, or any

vendor provided string. Probable cause strings are not standardized in the

present document. They may be added in a future version. Up to then the

mapping of the generic probable cause strings "PROBABLE\_CAUSE\_001" to

"PROBABLE\_CAUSE\_005" is vendor specific.

The value of the probable cause may also be an integer. The mapping of integer

values to probable causes is vendor specific.

oneOf:

- anyOf:

- type: string

enum:

- PROBABLE\_CAUSE\_001

- PROBABLE\_CAUSE\_002

- PROBABLE\_CAUSE\_003

- PROBABLE\_CAUSE\_004

- PROBABLE\_CAUSE\_005

- type: string

- type: integer

SpecificProblem:

oneOf:

- type: string

- type: integer

PerceivedSeverity:

type: string

enum:

- INDETERMINATE

- CRITICAL

- MAJOR

- MINOR

- WARNING

- CLEARED

TrendIndication:

type: string

enum:

- MORE\_SEVERE

- NO\_CHANGE

- LESS\_SEVERE

ThresholdHysteresis:

type: object

required:

- high

properties:

high:

oneOf:

- type: integer

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/Float'

low:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Float'

ThresholdLevelInd:

oneOf:

- type: object

properties:

up:

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

- type: object

properties:

down:

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

ThresholdInfo:

type: object

properties:

observedMeasurement:

type: string

observedValue:

oneOf:

- type: integer

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/Float'

thresholdLevel:

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

armTime:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/DateTime'

required:

- observedMeasurement

- observedValue

CorrelatedNotification:

type: object

properties:

sourceObjectInstance:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Dn'

notificationIds:

type: array

items:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationId'

required:

- sourceObjectInstance

- notificationIds

CorrelatedNotifications:

type: array

items:

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

AckState:

type: string

enum:

- ACKNOWLEDGED

- UNACKNOWLEDGED

AlarmRecord:

description: >-

The alarmId is not a property of an alarm record. It is used as key

in the map of alarm records instead.

type: object

properties:

# alarmId:

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

objectInstance:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Dn'

notificationId:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationId'

alarmRaisedTime:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/DateTime'

alarmChangedTime:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/DateTime'

alarmClearedTime:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/DateTime'

alarmType:

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

probableCause:

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

specificProblem:

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

perceivedSeverity:

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

backedUpStatus:

type: boolean

backUpObject:

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

trendIndication:

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

thresholdinfo:

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

correlatedNotifications:

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

stateChangeDefinition:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeValueChangeSet'

monitoredAttributes:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

proposedRepairActions:

type: string

additionalText:

type: string

additionalInformation:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

rootCauseIndicator:

type: boolean

ackTime:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/DateTime'

ackUserId:

type: string

ackSystemId:

type: string

ackState:

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

clearUserId:

type: string

clearSystemId:

type: string

serviceUser:

type: string

serviceProvider:

type: string

securityAlarmDetector:

type: string

#---- Definition of alarm notifications --------------------------------------------#

AlarmNotificationTypes:

type: string

enum:

- notifyNewAlarm

- notifyChangedAlarm

- notifyChangedAlarmGeneral

- notifyAckStateChanged

- notifyCorrelatedNotificationChanged

- notifyComments

- notifyClearedAlarm

- notifyAlarmListRebuilt

- notifyPotentialFaultyAlarmList

AlarmListAlignmentRequirement:

type: string

enum:

- ALIGNMENT\_REQUIRED

- ALIGNMENT\_NOT\_REQUIRED

NotifyNewAlarm:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- alarmType

- probableCause

- perceivedSeverity

properties:

alarmId:

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

alarmType:

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

probableCause:

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

specificProblem:

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

perceivedSeverity:

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

backedUpStatus:

type: boolean

backUpObject:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Dn'

trendIndication:

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

thresholdInfo:

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

correlatedNotifications:

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

stateChangeDefinition:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeValueChangeSet'

monitoredAttributes:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

proposedRepairActions:

type: string

additionalText:

type: string

additionalInformation:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

rootCauseIndicator:

type: boolean

NotifyNewSecAlarm:

allOf:

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

- type: object

required:

- alarmId

- alarmType

- probableCause

- perceivedSeverity

- serviceUser

- serviceProvider

- securityAlarmDetector

properties:

alarmId:

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

alarmType:

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

probableCause:

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

perceivedSeverity:

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

correlatedNotifications:

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

additionalText:

type: string

additionalInformation:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

rootCauseIndicator:

type: boolean

serviceUser:

type: string

serviceProvider:

type: string

securityAlarmDetector:

type: string

NotifyClearedAlarm:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- alarmType

- probableCause

- perceivedSeverity

properties:

alarmId:

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

alarmType:

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

probableCause:

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

perceivedSeverity:

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

correlatedNotifications:

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

clearUserId:

type: string

clearSystemId:

type: string

NotifyChangedAlarm:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- alarmType

- probableCause

- perceivedSeverity

properties:

alarmId:

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

alarmType:

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

probableCause:

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

perceivedSeverity:

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

NotifyChangedAlarmGeneral:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- alarmType

properties:

alarmId:

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

alarmType:

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

probableCause:

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

specificProblem:

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

perceivedSeverity:

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

correlatedNotifications:

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

backedUpStatus:

type: boolean

backUpObject:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Dn'

trendIndication:

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

thresholdInfo:

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

stateChangeDefinition:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeValueChangeSet'

monitoredAttributes:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

proposedRepairActions:

type: string

additionalText:

type: string

additionalInformation:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

rootCauseIndicator:

type: boolean

changedAlarmAttributes:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

NotifyChangedSecAlarmGeneral:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- alarmType

- serviceUser

- serviceProvider

- securityAlarmDetector

properties:

alarmId:

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

alarmType:

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

probableCause:

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

perceivedSeverity:

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

correlatedNotifications:

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

additionalText:

type: string

additionalInformation:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

rootCauseIndicator:

type: boolean

serviceUser:

type: string

serviceProvider:

type: string

securityAlarmDetector:

type: string

changedAlarmAttributes:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/AttributeNameValuePairSet'

NotifyCorrelatedNotificationChanged:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- correlatedNotifications

properties:

alarmId:

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

correlatedNotifications:

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

rootCauseIndicator:

type: boolean

NotifyAckStateChanged:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- alarmType

- probableCause

- perceivedSeverity

- ackState

- ackUserId

properties:

alarmId:

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

alarmType:

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

probableCause:

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

perceivedSeverity:

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

ackState:

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

ackUserId:

type: string

ackSystemId:

type: string

NotifyComments:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- alarmId

- alarmType

- probableCause

- perceivedSeverity

- comments

properties:

alarmId:

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

alarmType:

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

probableCause:

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

perceivedSeverity:

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

comments:

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

NotifyPotentialFaultyAlarmList:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- reason

properties:

reason:

type: string

NotifyAlarmListRebuilt:

allOf:

- $ref: 'TS28623\_comDefs.yaml#/components/schemas/NotificationHeader'

- type: object

required:

- reason

properties:

reason:

type: string

alarmListAlignmentRequirement:

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

#---- Definition of query parameters -----------------------------------------------#

AlarmAckState:

type: string

enum:

- ALL\_ALARMS

- ALL\_ACTIVE\_ALARMS

- ALL\_ACTIVE\_AND\_ACKNOWLEDGED\_ALARMS

- ALL\_ACTIVE\_AND\_UNACKNOWLEDGED\_ALARMS

- ALL\_CLEARED\_AND\_UNACKNOWLEDGED\_ALARMS

- ALL\_UNACKNOWLEDGED\_ALARMS

#---- Definition of patch documents ------------------------------------------------#

MergePatchAcknowledgeAlarm:

description: >-

Patch document acknowledging or unacknowledging a single alarm. For

acknowleding an alarm the value of ackState is ACKNOWLEDGED, for unacknowleding

an alarm the value of ackState is UNACKNOWLEDGED.

type: object

required:

- ackUserId

- ackState

properties:

ackUserId:

type: string

ackSystemId:

type: string

ackState:

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

MergePatchClearAlarm:

description: Patch document for clearing a single alarm

type: object

required:

- clearUserId

- perceivedSeverity

properties:

clearUserId:

type: string

clearSystemId:

type: string

perceivedSeverity:

type: string

enum:

- CLEARED

#---- Definition of method responses -----------------------------------------------#

FailedAlarm:

type: object

required:

- alarmId

- failureReason

properties:

alarmId:

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

failureReason:

type: string

#---- Definition of resources ------------------------------------------------------#

AlarmCount:

type: object

required:

- criticalCount

- majorCount

- minorCount

- warningCount

- indeterminateCount

- clearedCount

properties:

criticalCount:

type: integer

majorCount:

type: integer

minorCount:

type: integer

warningCount:

type: integer

indeterminateCount:

type: integer

clearedCount:

type: integer

Comment:

type: object

properties:

commentTime:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/DateTime'

commentUserId:

type: string

commentSystemId:

type: string

commentText:

type: string

Comments:

description: >-

Collection of comments. The comment identifiers are allocated by the

MnS producer and used as key in the map.

type: object

additionalProperties:

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

Subscription:

type: object

properties:

consumerReference:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Uri'

timeTick:

type: integer

filter:

$ref: 'TS28623\_comDefs.yaml#/components/schemas/Filter'

## A.2.2 Integration with ONAP VES

Detailed guidelines for integration of fault supervision MnS notifications with ONAP VES are provided in Annex B.

# A.3 Void

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