**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 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:*** | 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** |