**3GPP TSG-CT3 Meeting #127e *C3-231127***

**e-meeting, 17th April 2023 – 21st April 2023**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.486** | **CR** | **0092** | **rev** | **-** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *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 |  | Core Network | **X** |

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Adding missing presence conditions | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | SBIProtoc18 | | | | |  | ***Date:*** | | | 2023-04-07 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 29.501 clause 5.3.14 requires modelling attribute presence conditions in the OpenAPI, including mutual exclusivity of attributes, for example:  - JSON object defining attributes "a" and "b", of type integer, where "a" and "b" can be both absent but, if one of them is present, the other shall be absent:  components:  schemas:  ExampleType4:  type: object  not:  required: [ a, b ]  properties:  a:  type: integer  b:  type: integer   1. 6.1.6.2.2 Type: DownlinkMessageDeliveryData; Either "ueId" attribute or "groupId" attribute shall be included. 2. 6.3.6.2.2 Type: ApplicationRequirementData; Either the "ueId" attribute or "groupId" attribute shall be included. 3. 6.8.6.2.2 Type: V2vConfigurationData; Either "groupId" attribute or "serviceId" attribute shall be present. 4. 6.9.6.2.2 Type: ProvisioningRequirement; Either "ueId" attribute or "groupId" attribute shall be present. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Modelled the mutual exclusivity of attributes listed above in the OpenAPI and other minor corrections. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incomplete OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.9.6.2.2, A.2, A.4, A.9, A.10 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 introduces a backwards compatible correction in the OpenAPI file –   1. VAE\_MessageDelivery API 2. VAE\_ApplicationRequirement API 3. VAE\_V2VConfigRequirement API 4. VAE\_PC5ProvisioningRequirement API | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* First change \* \* \* \*

##### 6.9.6.2.2 Type: ProvisioningRequirement

Table 6.9.6.2.2-1: Definition of type ProvisioningRequirement

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ueId | V2xUeId | C | 0..1 | Identity of the V2X UE for which V2X application requirement is initiated. |  |
| groupId | V2xGroupId | C | 0..1 | Identity of the V2X group for which the V2X application requirement is initiated. |  |
| notifUri | Uri | M | 1 | Identifies the recipient of notification sent by the VAE server. |  |
| serviceId | V2xServiceId | M | 1 | The V2X service ID for which application requirement corresponds to. |  |
| appQosReq | AppplicationQosRequirement | O | 0..1 | The application QoS requirements for the session-oriented service. |  |
| plmnList | array(PlmnId) | O | 1..N | The list of the PLMN identities for the PLMNs which offer the V2X service |  |
| requestTestNotification | boolean | O | 0..1 | Set to true by the NF service consumer to request the VAE server to send a test notification as defined in clause 6.3.5.3. Set to false or omitted otherwise. | Notification\_test\_event |
| websockNotifConfig | WebsockNotifConfig | O | 0..1 | Configuration parameters to set up notification delivery over Websocket protocol as defined in clause 6.3.5.4. | Notification\_websocket |
| suppFeat | SupportedFeatures | C | 0..1 | Indicates the features supported by the service consumer. It shall be included in the first interaction. |  |
| NOTE: Either "ueId" attribute or "groupId" attribute shall be present. | | | | | |

\* \* \* \* Next change \* \* \* \*

# A.2 VAE\_MessageDelivery API

openapi: 3.0.0

info:

version: 1.2.0-alpha.1

title: VAE\_MessageDelivery

description: |

API for VAE Message Delivery Service

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externalDocs:

description: 3GPP TS 29.486 V18.0.0 V2X Application Enabler (VAE) Services

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.486/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/vae-message-delivery/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

paths:

/subscriptions:

post:

summary: Create a new Individual Message Delivery Data Subscription resource

operationId: CreateIndividualMessageDeliveryDataSubscription

tags:

- Message Delivery Data Subscriptions (Collection)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: The subscription was created successfully.

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

callbacks:

uplinkMessageDelivery:

'{$request.body#/notifUri}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content, Notification was successful

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

receptReportOfDownlinkMesageDelivery:

'{$request.body#/notifUri}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content, Notification was successful

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/subscriptions/{subscriptionId}:

get:

summary: Get an existing individual Message Delivery Subscription resource

operationId: ReadIndividualMessageDeliverySubscription

tags:

- Individual Message Delivery Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: >

String identifying a subscription to the Individual Message Delivery Subscription

required: true

schema:

type: string

responses:

'200':

description: The subscription information is returned.

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

delete:

summary: Delete an individual Message Delivery Subscription resource

operationId: DeleteMessageDeliverySubscription

tags:

- Individual Message Delivery Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: >

String identifying a subscription to the Individual Message Delivery Subscription

required: true

schema:

type: string

responses:

'204':

description: The subscription was terminated successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/subscriptions/{subscriptionId}/message-deliveries:

post:

summary: VAE Message delivery resource create service Operation

tags:

- message deliveries collection (Collection)

operationId: CreateDownlinkMessageDelivery

parameters:

- name: subscriptionId

in: path

description: >

String identifying a subscription to the Individual Message Delivery Subscription

required: true

schema:

type: string

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'201':

description: Downlink Message Delivery Resource Created

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

content:

application/json:

schema:

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

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/subscriptions/{subscriptionId}/message-deliveries/{dlDeliveryId}:

get:

summary: VAE Message delivery resource Read service Operation

tags:

- Individual downlink message delivery (Document)

operationId: ReadIndividualDownlinkMessageDelivery

parameters:

- name: subscriptionId

in: path

description: >

String identifying a subscription to the Individual Message Delivery Subscription

required: true

schema:

type: string

- name: dlDeliveryId

in: path

description: Identifier of a downlink messge delivery resource

required: true

schema:

type: string

responses:

'200':

description: OK. Resource representation is returned

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

delete:

summary: VAE Message delivery resource delete service Operation

tags:

- Individual message delivery (Document)

operationId: DeleteMessageDelivery

parameters:

- name: subscriptionId

in: path

description: >

String identifying a subscription to the Individual Message Delivery Subscription

required: true

schema:

type: string

- name: dlDeliveryId

in: path

required: true

description: Unique ID of the message delivery to be deleted

schema:

type: string

responses:

'204':

description: No Content (Successful deletion of the existing subscription)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

DownlinkMessageDeliveryData:

description: Contains the downlink V2X message delivery data.

type: object

properties:

ueId:

$ref: '#/components/schemas/V2xUeId'

groupId:

$ref: '#/components/schemas/V2xGroupId'

duration:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

geoId:

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

payload:

$ref: '#/components/schemas/V2xMessagePayload'

required:

- payload

not:

required: [ueId, groupId]

MessageDeliverySubscriptionData:

description: Represents the V2X message delivery subscription data.

type: object

properties:

appSerId:

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

serviceId:

$ref: '#/components/schemas/V2xServiceId'

geoId:

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

notifUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

requestTestNotification:

type: boolean

description: >

Set to true by the NF service consumer to request the VAE server to send a test

notification as defined in clause 6.1.5.3. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

suppFeat:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- appSerId

- serviceId

- notifUri

UplinkMessageDeliveryData:

description: Represents the uplink V2X message delivery data.

type: object

properties:

resourceUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

ueId:

$ref: '#/components/schemas/V2xUeId'

geoId:

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

payload:

$ref: '#/components/schemas/V2xMessagePayload'

required:

- resourceUri

- ueId

- payload

Result:

description: Contains the result of downlink message delivery.

anyOf:

- type: string

enum:

- SUCCESS

- FAIL

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration and is not used to encode

content defined in the present version of this API.

AppServerId:

description: Represents the V2X application specific server identifier.

type: string

V2xUeId:

description: Represents the identifier of the V2X UE.

type: string

V2xGroupId:

description: Represents the group ID for which a V2X message is addressed.

type: string

V2xServiceId:

description: Represents the V2X service ID to which a V2X message belongs.

type: string

GeoId:

description: Represents a geographical area identifier.

type: string

V2xMessagePayload:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Bytes'

\* \* \* \* Next change \* \* \* \*

# A.4 VAE\_ApplicationRequirement API

openapi: 3.0.0

info:

version: 1.2.0-alpha.1

title: VAE\_ApplicationRequirement

description: |

API for VAE Application Requirement Service

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externalDocs:

description: 3GPP TS 29.486 V18.0.0 V2X Application Enabler (VAE) Services

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.486/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/vae-app-req/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

paths:

/application-requirements:

post:

summary: VAE\_Application\_Requirements resource create service Operation

tags:

- application requirements collection (Document)

operationId: CreateApplicationRequirement

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'201':

description: Application Requirement Resource Created

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

content:

application/json:

schema:

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

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

callbacks:

NotifyNetworkResource:

'{$request.body#/notifUri}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content, Notification was succesfull

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29571\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29571\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29571\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

/application-requirements/{requirementId}:

get:

summary: VAE Application Requirement resource read service Operation

tags:

- Individual application requirement (Document)

operationId: ReadApplicationRequirement

parameters:

- name: requirementId

in: path

description: Identifier of an application requirement resource

required: true

schema:

type: string

responses:

'200':

description: OK. Resource representation is returned

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29571\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

delete:

summary: VAE Application Requirement resource delete service Operation

tags:

- Individual application requirement (Document)

operationId: DeleteApplicationRequirement

parameters:

- name: requirementId

in: path

required: true

description: Unique ID of the application requirement to be deleted

schema:

type: string

responses:

'204':

description: The subscription was terminated successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29571\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29571\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29571\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29571\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29571\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29571\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29571\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29571\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

ApplicationRequirementData:

description: >

Represents an individual Application Requirement resource for a V2X UE ID or a V2X group ID.

type: object

properties:

ueId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xUeId'

groupId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xGroupId'

duration:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/DateTime'

serviceId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xServiceId'

appRequirement:

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

notifUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

requestTestNotification:

type: boolean

description: >

Set to true by the NF service consumer to request the VAE server to send a test

notification as defined in clause 6.3.5.3. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

suppFeat:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- serviceId

- appRequirement

- notifUri

not:

required: [ueId, groupId]

ApplicationRequirement:

description: Represents the requirements for application change.

type: object

properties:

serviceLevel:

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

AppReqNotification:

description: >

Represents a notificaton of the result of the network resource adaptation corresponding to

the V2X application requirement.

type: object

properties:

resourceUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

result:

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

required:

- resourceUri

- result

# Simple data types and Enumerations

ServiceLevel:

description: Indicates a service level for application service.

anyOf:

- type: string

enum:

- HIGH

- MEDIUM

- LOW

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration and is not used to encode

content defined in the present version of this API.

ReservationResult:

description: >

Represents the result of the network resource adaptation corresponding to the V2X

application requirement.

anyOf:

- type: string

enum:

- SUCCESSFUL

- FAILURE

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration and is not used to encode

content defined in the present version of this API.

\* \* \* \* Next change \* \* \* \*

# A.9 VAE\_V2VConfigRequirement API

openapi: 3.0.0

info:

version: 1.1.0-alpha.1

title: VAE\_V2VConfigRequirement

description: |

API for VAE\_V2VConfigRequirement

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externalDocs:

description: 3GPP TS 29.486 V18.0.0 V2X Application Enabler (VAE) Services

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.486/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/vae-v2v-config-req/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

paths:

/configurations:

post:

summary: VAE V2V Configuration resource create service Operation

tags:

- V2V Configurations collection (Document)

operationId: Create

requestBody:

content:

application/json:

schema:

$ref: '#/components/schemas/V2vConfigurationData'

required: true

responses:

'201':

description: V2V Configuration Resource Created

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

content:

application/json:

schema:

$ref: '#/components/schemas/V2vConfigurationData'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/configurations/{configurationId}:

get:

summary: VAE V2V Configuration resource read service Operation

tags:

- Individual V2V Configuration (Document)

operationId: ReadV2VConfiguration

parameters:

- name: configurationId

in: path

description: Identifier of a V2V Configuration resource

required: true

schema:

type: string

responses:

'200':

description: OK. Resource representation is returned

content:

application/json:

schema:

$ref: '#/components/schemas/V2vConfigurationData'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

summary: Updates/replaces an existing configuration resource

tags:

- VAE V2V Configuration resource put service Operation

operationId: UpdateV2VConfiguration

parameters:

- name: configurationId

in: path

description: Identifier of a V2V Configuration resource

required: true

schema:

type: string

requestBody:

description: Parameters to update/replace the existing configuration

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/V2vConfigurationData'

responses:

'200':

description: OK (Successful update of the configuration)

content:

application/json:

schema:

$ref: '#/components/schemas/V2vConfigurationData'

'204':

description: No Content (Successful update of the configuration)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: VAE V2V Configuration resource delete service Operation

tags:

- Individual V2V Configuration (Document)

operationId: DeleteV2VConfiguration

parameters:

- name: configurationId

in: path

required: true

description: Unique ID of the V2V Configuration to be deleted

schema:

type: string

responses:

'204':

description: The configuration was deleted successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

V2vConfigurationData:

description: Contains the V2V configuration data.

type: object

properties:

groupId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xGroupId'

serviceId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xServiceId'

canUeIds:

type: array

items:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xUeId'

minItems: 1

appQosReq:

$ref: 'TS29486\_VAE\_SessionOrientedService.yaml#/components/schemas/AppplicationQosRequirement'

suppFeat:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

not:

required: [groupId, serviceId]

\* \* \* \* Next change \* \* \* \*

# A.10 VAE\_PC5ProvisioningRequirement API

openapi: 3.0.0

info:

version: 1.1.0-alpha.1

title: VAE\_PC5ProvisioningRequirement

description: |

API for VAE\_PC5ProvisioningRequirement

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externalDocs:

description: 3GPP TS 29.486 V18.0.0 V2X Application Enabler (VAE) Services

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.486/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/vae-pc5-prov-req/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 4.4 of 3GPP TS 29.501

paths:

/subscriptions:

post:

summary: VAE\_PC5 Provisioning Requirement resource create service Operation

tags:

- PC5 provisioning requirement subscriptions collection (Document)

operationId: Create

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'201':

description: PC5 Provisioning Requirement Subscription Resource Created

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

content:

application/json:

schema:

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

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

callbacks:

NotifyResutOfMultiOperationPC5Provisioning:

'{$request.body#/notifUri}':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content, Notification was succesfull

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/subscriptions/{subscriptionId}:

get:

summary: VAE PC5 Provisioning Requirement Subscription resource read service Operation

tags:

- Individual PC5 Provisioning Requirement Subscription (Document)

operationId: ReadPC5ProvisioningRequirementSubscription

parameters:

- name: subscriptionId

in: path

description: Identifier of an PC5 Provisioning Requirement Subscription resource

required: true

schema:

type: string

responses:

'200':

description: OK. Resource representation is returned

content:

application/json:

schema:

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

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

summary: Updates/replaces an existing subscription resource

tags:

- VAE PC5 Provisioning Requirement Subscription resource put service Operation

operationId: UpdatePC5ProvisioningRequirementSubscription

parameters:

- name: subscriptionId

in: path

description: Identifier of an PC5 Provisioning Requirement Subscription resource

required: true

schema:

type: string

requestBody:

description: Parameters to update/replace the existing subscription

required: true

content:

application/json:

schema:

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

responses:

'200':

description: OK (Successful update of the subscription)

content:

application/json:

schema:

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

'204':

description: No Content (Successful update of the subscription)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

summary: VAE PC5 Provisioning Requirement Subscription resource delete service Operation

tags:

- Individual PC5 Provisioning Requirement Subscription (Document)

operationId: DeletePC5ProvisioningRequirementSubscription

parameters:

- name: subscriptionId

in: path

required: true

description: Unique ID of the PC5 Provisioning Requirement Subscription to be deleted

schema:

type: string

responses:

'204':

description: The subscription was terminated successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

ProvisioningRequirement:

description: Represents an Individual PC5 Provisioning Requirement Subscription resource.

type: object

properties:

ueId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xUeId'

groupId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xGroupId'

notifUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

serviceId:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/V2xServiceId'

appQosReq:

$ref: 'TS29486\_VAE\_SessionOrientedService.yaml#/components/schemas/AppplicationQosRequirement'

plmnList:

type: array

items:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/PlmnId'

minItems: 1

requestTestNotification:

type: boolean

description: >

Set to true by the NF service consumer to request the VAE server to send a test

notification as defined in clause 6.3.5.3. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

suppFeat:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- serviceId

- notifUri

not:

required: [ueId, groupId]

Notification:

description: Represents a notificaton of result of PC5 Provisioning Requirement.

type: object

properties:

resourceUri:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Uri'

result:

$ref: 'TS29486\_VAE\_MessageDelivery.yaml#/components/schemas/Result'

required:

- resourceUri

- result

\* \* \* \* End of changes \* \* \* \*