**3GPP TSG-CT3 Meeting #135 *C3-243073***

**Hyderabad, India, 27th May 2024 - 31st May 2024**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **29.486** | **CR** | **0127** | **rev** | **-** | **Current version:** | **18.2.0** |  |
|  |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* |
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|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| --- |
|  |
| ***Title:***  | Various corrections |
|  |  |
| ***Source to WG:*** | Nokia |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | NBI18 |  | ***Date:*** | 2024-05-28 |
|  |  |  |  |  |
| ***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 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | 1. There is missing description for response code "204 No Content" in this specification.
2. The feature Redirect3XX dependency for HTTP redirect response functionality is not needed anymore in this specification.
 |
|  |  |
| ***Summary of change:*** | Rectified the above issues along with few typo in this specification. |
|  |  |
| ***Consequences if not approved:*** | wrong feature dependency exists in this specification. |
|  |  |
| ***Clauses affected:*** | 5.9.2.2.2, 5.10.2.2.2, 6.3.5.6.2, 6.4.3.3.3.2, 6.4.5.6.2, 6.4.7.1, 6.6.5.6.2, 6.7.5.6.2, 6.9.5.6.2 |
|  |  |
|  | **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 does not impact the OpenAPI descriptions of the APIs defined in this specification. |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* \* Start of changes \* \* \* \*

##### 5.9.2.2.2 Request V2V Configuration Requirement

Figure 5.9.2.2.2-1 depicts a scenario where a service consumer sends a request to the VAE Server to request the creation of a V2V Configuration.

Figure 5.9.2.2.2-1: Request\_V2VConfigRequirement

When the service consumer needs to provide a V2V configuration requirement, the service consumer shall send the POST method as step 1 of the figure 5.9.2.2.2-1 to request to create an "Individual V2V Configuration".

The service consumer shall include V2vConfigurationData data structure in the content of the HTTP POST to request a creation of representation of the "Individual V2V Configuration" resource. The "Individual V2V Configuration" resource is created as described below.

The service consumer within the V2vConfigurationData data structure shall include:

- either the V2X group ID within the "groupId" attribute or the V2X service ID within the "serviceId" attribute;

and may include:

- candidate Relay V2X-UE ID list within the "canUeIds" attribute; and

- application QoS requirements for the session within the "appQosReq" attribute.

When the VAE Server receives the HTTP POST request from the service consumer, the VAE server shall make an authorization based on the information received from the service consumer. If the authorization is successful, the VAE Server shall create a new resource, which represents "Individual V2V Configuration" resource, addressed by a URI as defined in clause 6.8.3.3.2 and contains a VAE Server created resource identifier. The VAE Server shall respond to the service consumer with a 201 Created message, including Location header field containing the URI for the created resource.

The service consumer shall use the URI received in the Location header in subsequent requests to the VAE Server to refer to the "Individual Session Oriented Service Subscription".

After the VAE Server responded to the service consumer, the VAE Server shall invoke the procedure defined in 3GPP TS 24.486 [28] to provide the V2V configuration infomation to the VAE client. The VAE server may also provide the list of V2X-UEs to serve as application layer relays based on the candidate list of relay V2X-UEs received form the service consumer.

The service consumer may include the V2vConfigurationData data structure in the content of the HTTP PUT to update the "Individual V2V Configuration" resource. The V2X group ID and the V2X service ID shall remain unchanged from previous values. When the VAE Server receives the HTTP PUT request from the service consumer, the VAE server shall make an authorization based on the information received from the service consumer. If the authorization is successful, the VAE Server shall update the "Individual V2V Configuration" and respond to the service consumer with a 200 OK or 204 No Content status code. After the VAE Server responded to the service consumer, the VAE Server shall invoke the procedure defined in 3GPP TS 24.486 [28] to provide the updated information to the VAE client.

Upon receipt of the HTTP DELETE message from the service consumer, the VAE Server shall check if the "Individual V2V Configuration" resource identified by the URI already exists. If the resource exists, the VAE Server shall delete the resource and respond to the service consumer with a 204 No Content success message. After the VAE Server responded to the service consumer, the VAE Server shall invoke the procedure defined in 3GPP TS 24.486 [28] to delete the V2V configuration information from the VAE client.

If errors occur when processing the HTTP POST, HTTP PUT or HTTP DELETE request, the VAE Server shall apply error handling procedures as specified in clause 6.8.7.

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

##### 5.10.2.2.2 Config\_PC5ProvisioningRequirement

Figure 5.10.2.2.2-1 depicts a scenario where a service consumer sends a request to the VAE Server to request the creation of a PC5 Provisioning Requirement Subscription.



Figure 5.10.2.2.2-1: Config\_PC5ProvisioningRequirement

When the service consumer needs to provide a V2X PC5 provisioning requirement to the VAE server, the service consumer shall send the POST method as step 1 of the figure 5.10.2.2.2-1 to request to create an "Individual PC5 Provisioning Requirement Subscription".

The service consumer shall include ProvisioningRequirement data structure in the content of the HTTP POST to request a creation of representation of the "Individual PC5 Provisioning Requirement Subscription" resource. The "Individual PC5 Provisioning Requirement Subscription" resource is created as described below.

The service consumer within the ProvisioningRequirement data structure shall include:

- notification URI within the "notifUri" attribute;

- either the remote V2X UE ID within the "ueId" attribute or the V2X group ID within the "groupId" attribute;

- the V2X service ID within the "serviceId" attribute;

- application QoS requirements for the session within the "appQosReq" attribute;

and may include:

- the PLMN ID list within the "plmnList" attribute.

When the VAE Server receives the HTTP POST request from the service consumer, the VAE server shall make an authorization based on the information received from the service consumer. If the authorization is successful, the VAE Server shall create a new resource, which represents "Individual PC5 Provisioning Requirement Subscription", addressed by a URI as defined in clause 6.9.3.3.2 and contains a VAE Server created resource identifier. The VAE Server shall respond to the service consumer with a 201 Created message, including Location header field containing the URI for the created resource.

The service consumer shall use the URI received in the Location header in subsequent requests to the VAE Server to refer to the "Individual PC5 Provisioning Requirement Subscription".

After the VAE Server responded to the service consumer, the VAE Server may invoke the procedure defined in 3GPP TS 24.486 [28] to send a PC5 provisioning status request to VAE client(within the multi-operator V2X service) to receive up-to-date information on the per PLMN provisioning policies/ parameters.

The service consumer may include the ProvisioningRequirement data structure in the content of the HTTP PUT to update the "Individual PC5 Provisioning Requirement Subscription" resource. The remote V2X UE ID, the V2X service ID and the V2X service ID shall remain unchanged from previous values When the VAE Server receives the HTTP PUT request from the service consumer, the VAE server shall make an authorization based on the information received from the service consumer. If the authorization is successful, the VAE Server shall update the "Individual PC5 Provisioning Requirement Subscription" and respond to the service consumer with a 200 OK or 204 No Content status code. After the VAE Server responded to the service consumer, the VAE Server shall invoke the procedure defined in 3GPP TS 24.486 [28] to provide the updated information to the VAE client.

Upon receipt of the HTTP DELETE message from the service consumer, the VAE Server shall check if the "Individual PC5 Provisioning Requirement Subscription" resource identified by the URI already exists. If the resource exists, the VAE Server shall delete the resource and respond to the service consumer with a 204 No Content success message. After the VAE Server responded to the service consumer, the VAE Server shall invoke the procedure defined in 3GPP TS 24.486 [28] to delete the PC5 provisioning status request from the VAE client.

If errors occur when processing the HTTP POST, HTTP PUT or HTTP DELETE request, the VAE Server shall apply error handling procedures as specified in clause 6.9.7.

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

##### 6.3.5.6.2 Operation Definition

This operation shall support the request data structures specified in table 6.3.5.6.2-1 and the response data structure and response codes specified in table 6.3.5.6.2-2.

Table 6.3.5.6.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| AppReqNotification | M | 1 | Notify the result of the network resource adaptation corresponding to the V2X application requirement. |

Table 6.3.5.6.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The notification is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| NOTE 1: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply. |

Table 6.3.5.6.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

Table 6.3.5.6.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

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

###### 6.4.3.3.3.2 DELETE

This method shall support the URI query parameters specified in table 6.4.3.3.3.2-1.

Table 6.4.3.3.3.2-1: URI query parameters supported by the DELETE method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 6.4.3.3.3.2-2 and the response data structures and response codes specified in table 6.4.3.3.3.2-3.

Table 6.4.3.3.3.2-2: Data structures supported by the DELETE Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| n/a |  |  |  |

Table 6.4.3.3.3.2-3: Data structures supported by the DELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| n/a |  |  | 204 No Content | Successful case. The "Individual Group Configuration" resource is successfully deleted. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during Individual Group Configuration deletion. The response shall include a Location header field containing an alternative URI of the resource located in an alternative VAE Server. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during Individual Group Configuration deletion. The response shall include a Location header field containing an alternative URI of the resource located in an alternative VAE Server. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| NOTE: The mandatory HTTP error status codes for the DELETE method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [2] shall also apply. |

Table 6.4.3.3.3.2-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative VAE Server. |

Table 6.4.3.3.3.2-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI of the resource located in an alternative VAE Server. |

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

##### 6.4.5.6.2 Operation Definition

This operation shall support the request data structures specified in table 6.4.5.6.2-1 and the response data structure and response codes specified in table 6.4.5.6.2-2.

Table 6.4.5.6.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| DynamicGroupNotification | M | 1 | Notify the dynamic group information (i.e. group member joins or leaves). |

Table 6.4.5.6.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The notification is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during dynamic group notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during dynamic group notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| NOTE 1: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply. |

Table 6.4.5.6.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

Table 6.4.5.6.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

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

#### 6.4.7.1 General

HTTP error handling shall be supported as specified in clause 5.2.4 of 3GPP TS 29.500 [2].

For the VAE\_DynamicGroup Service API, HTTP error responses shall be supported as specified in clause 4.8 of 3GPP TS 29.501 [3].

Protocol errors and application errors specified in table 5.2.7.2-1 of 3GPP TS 29.500 [2] shall be supported for an HTTP method if the corresponding HTTP status codes are specified as mandatory for that HTTP method in table 5.2.7.1-1 of 3GPP TS 29.500 [2].In addition, the requirements in the following clauses are applicable for the VAE\_DynamicGroup Service API.

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

##### 6.6.5.6.2 Operation Definition

This operation shall support the request data structures specified in table 6.6.5.6.2-1 and the response data structure and response codes specified in table 6.6.5.6.2-2.

Table 6.6.5.6.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| HdMapDynamicInfoNotification | M | 1 | Notify the HD Map dynamic information corresponding to the subscription. |

Table 6.6.5.6.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The notification is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply. |

Table 6.6.5.6.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

Table 6.6.5.6.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

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

##### 6.7.5.6.2 Operation Definition

This operation shall support the request data structures specified in table 6.7.5.6.2-1 and the response data structure and response codes specified in table 6.7.5.6.2-2.

Table 6.7.5.6.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| Notification | M | 1 | Notify the result of establishment or update of the session-oriented service to the subscription. |

Table 6.7.5.6.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The notification is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply. |

Table 6.7.5.6.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

Table 6.7.5.6.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

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

##### 6.9.5.6.2 Operation Definition

This operation shall support the request data structures specified in table 6.9.5.6.2-1 and the response data structure and response codes specified in table 6.9.5.6.2-2.

Table 6.9.5.6.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| Notification | M | 1 | Notify the result of multi operation PC5 provisioning requirement. |

Table 6.9.5.6.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response codes | Description |
| n/a |  |  | 204 No Content | Successful case. The notification is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection, during the notification. The response shall include a Location header field containing an alternative URI representing the end point of an alternative V2X application specific server where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [22] with the difference: SCEF is replaced by the VAE Server and the SCS/AS is replaced by the V2X application specific server. |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.7.1-1 of 3GPP TS 29.500 [4] shall also apply. |

Table 6.9.5.6.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

Table 6.9.5.6.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative URI representing the end point of an alternative V2X application specific server towards which the notification should be redirected. |

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