**3GPP TSG-CT3 Meeting #116e C3-21xxxx**

**E-Meeting, 19th – 28th May 2021  *(revision of C3-213152)***

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.486** | **CR** | **0052** | **rev** | **1** | **Current version:** | **17.0.0** |  |
|  |
| *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)*.* |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Behaviour of the VAE server for VAE\_ApplicationRequirement Service |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | NBI17 |  | ***Date:*** | 2021-05-19 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** | Rel-17 |
|  | *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:*** | The behaviour of the VAE server interacting with the NRM for VAE\_ApplicationRequirement Service is not referred. |
|  |  |
| ***Summary of change:*** | Refer the procedure defined in 29.549. |
|  |  |
| ***Consequences if not approved:*** | End to end procedure is not completed. |
|  |  |
| ***Clauses affected:*** | 2, 3.3, 5.4.2.2.2, 5.4.2.3.2 |
|  |  |
|  | **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's revision history:*** |  |

\*\*\* 1st Change \*\*\*

# 2 References

The following documents contain provisions which, through reference in this text, constitute provisions of the present document.

- References are either specific (identified by date of publication, edition number, version number, etc.) or non‑specific.

- For a specific reference, subsequent revisions do not apply.

- For a non-specific reference, the latest version applies. In the case of a reference to a 3GPP document (including a GSM document), a non-specific reference implicitly refers to the latest version of that document *in the same Release as the present document*.

[1] 3GPP TR 21.905: "Vocabulary for 3GPP Specifications".

[2] 3GPP TS 29.500: "5G System; Technical Realization of Service Based Architecture; Stage 3".

[3] 3GPP TS 29.501: "5G System; Principles and Guidelines for Services Definition; Stage 3".

[4] 3GPP TS 23.286: "Application layer support for Vehicle-to-Everything (V2X) services; Functional architecture and information flows".

[5] IETF RFC 7540: "Hypertext Transfer Protocol Version 2 (HTTP/2)".

[6] OpenAPI: "OpenAPI Specification Version 3.0.0", <https://spec.openapis.org/oas/v3.0.0>.

[7] IETF RFC 8259: "The JavaScript Object Notation (JSON) Data Interchange Format".

[8] 3GPP TR 21.900: "Technical Specification Group working methods".

[11] 3GPP TS 29.571: "5G System; Common Data Types for Service Based Interfaces; Stage 3".

[12] IETF RFC 7230: "Hypertext Transfer Protocol (HTTP/1.1): Message Syntax and Routing".

[13] IETF RFC 7231: "Hypertext Transfer Protocol (HTTP/1.1): Semantics and Content".

[14] IETF RFC 7232: "Hypertext Transfer Protocol (HTTP/1.1): Conditional Requests".

[15] IETF RFC 7233: "Hypertext Transfer Protocol (HTTP/1.1): Range Requests".

[16] IETF RFC 7234: "Hypertext Transfer Protocol (HTTP/1.1): Caching".

[17] IETF RFC 7235: "Hypertext Transfer Protocol (HTTP/1.1): Authentication".

[18] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

[19] 3GPP TS 29.116: "Representational state transfer over xMB reference point between Content Provider and BM-SC".

[20] 3GPP TS 29.572: "5G System; Location Management Services; Stage 3".

[21] IETF RFC 6455: "The Websocket Protocol".

[22] 3GPP TS 29.122: "T8 reference point for Northbound APIs".

[23] IETF RFC 6749: "The OAuth 2.0 Authorization Framework".

[24] IETF RFC 5246: "The Transport Layer Security (TLS) Protocol Version 1.2".

[x] 3GPP TS 29.549: "Service Enabler Architecture Layer for Verticals (SEAL); Application Programming Interface (API) specification; Stage 3".

\*\*\* Next Change \*\*\*

## 3.3 Abbreviations

For the purposes of the present document, the abbreviations given in 3GPP TR 21.905 [1] and the following apply. An abbreviation defined in the present document takes precedence over the definition of the same abbreviation, if any, in 3GPP TR 21.905 [1].

V2X Vehicle-to-Everything

VAE V2X Application Enabler

NRM Network Resource Management

\*\*\* Next Change \*\*\*

##### 5.4.2.2.2 Reserve Network Resource



Figure 5.4.2.2.2-1: Reserve Network Resource

When the NF service consumer (e.g. V2X application specific server) needs to provide V2X application requirement to the underlying 3GPP network, the NF service consumer shall send the POST method as step 1 of the figure 5.4.2.2.2-1 to request to create an "Individual Application Requirement".

The NF service consumer shall include ApplicationRequirementData data structure in the payload body of the HTTP POST to request a creation of representation of the "Individual Application Requirement" resource. The "Individual Application Requirement" resource is created as described below.

The NF service consumer within the ApplicationRequirementData data structure shall include:

- Either the V2X Group ID within the "groupId" attribute or the V2X UE ID within the "ueId" attribute;

- notification URI within the "notifUri" attribute;

- The service Id within the "serviceId" attribute; and

- V2X application requirement within the "appRequirement" attribute;

and may include:

- The duration within the "duration" attribute.

When the VAE Server receives the HTTP POST request from the NF service consumer, the VAE server shall make an authorization based on the information received from the NF service consumer. If the authorization is successful, the VAE Server shall create a new resource, which represents "Individual Application Requirement", addressed by a URI as defined in clause 6.3.3.3.2 and contains a VAE Server created resource identifier. The VAE Server shall respond to the NF service consumer with a 201 Created message, including Location header field containing the URI for the created resource. The VAE Server shall interact with the SEAL NRM server as specified in the 3GPP TS 29.549 [x] for the V2X application requirement received in step 1.

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

Upon receipt of the HTTP DELETE message from the NF service consumer, the VAE Server shall check if the Individual Application Requirement resource identified by the URI already exists. If the resource exists, the VAE Server shall delete the resource and respond to the NF service consumer with a 204 No Content success message.

If errors occur when processing the HTTP POST or DELETE request, the VAE Server shall apply error handling procedures as specified in subclause 6.3.7.

When the message delivery duration expires, the VAE server may remove the associated Individual Application Requirement resource locally.

\*\*\* Next Change \*\*\*

##### 5.4.2.3.2 Notify Network Resource



Figure 5.4.2.3.2-1: Notify Network Resource

If the VAE Server receives the result of network resource adaptation corresponding to the V2X application requirement from the SEAL NRM server as specified in the 3GPP TS 29.549 [x], the VAE Server shall send an HTTP POST request with "{notifUri}" as previously provided by the NF service consumer within the corresponding subscription as URI and AppReqNotification data structure as request body that shall include:

- resource URI of the individual Application Requirement related to the notification within the "resourceUri" attribute;

- the result of the network resource adaptation corresponding to the V2X application requirement within the "result" attribute.

Upon the reception of the HTTP POST message, if the NF service consumer successfully processed and accepted the received HTTP POST request, the NF service consumer shall send an "204 No Content" HTTP response for a succesfull processing.

If errors occur when processing the HTTP POST request, the VAE Server shall send an HTTP error response as specified in subclause 6.3.7.

\*\*\* End of Change \*\*\*