**3GPP TSG- Meeting #**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  |  | **CR** |  | **rev** |  | **Current version:** |  |  |
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| *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 | **x** | Radio Access Network |  | Core Network | **x** |

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| ***Title:*** |  | | | | | | | | | |
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| ***Source to WG:*** | , Huawei, Hisilicon | | | | | | | | | |
| ***Source to TSG:*** |  | | | | | | | | | |
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| ***Work item code:*** |  | | | | |  | ***Date:*** | | |  |
|  |  | | | |  | |  | | |  |
| ***Category:*** |  |  | | | | | ***Release:*** | | |  |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | This CR provides the missing API definitions for the added procedures in 9.15.3.2 (PC5 provisioning in multi-operator V2X services) and 9.17.3 (UE-to-UE groupast/broadcast configuration). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | In clause 10, Table 10.2.1-1 included the new VAE server APIs, and in 10.2.x and 10.2.y the detailed new VAE server APIs description was provided for the procedures in 9.15.3.2 and 9.17.3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | The API definitons will be missing from the spec. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | Clauses 10.2.1, 10.2.x, 10.2.y | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **N** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **N** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **N** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* \* \* \* FIRST CHANGE \* \* \* \* \* \* \*

## 10.2 VAE server APIs

### 10.2.1 General

Table 10.2.1-1 illustrates the VAE server APIs.

Table 10.2.1-1: List of VAE server APIs

|  |  |  |  |
| --- | --- | --- | --- |
| API Name | API Operations | Known Consumer(s) | Communication Type |
| VAE\_MessageDelivery API | Deliver\_DL\_Message | V2X application specific server | Request/ Response |
| Deliver\_UL\_Message | V2X application specific server | Subscribe/notify |
| VAE\_FileDistribution API | Distribute\_File | V2X application specific server | Request/ Response |
| VAE\_ApplicationRequirement API | Reserve\_NetworkResource | V2X application specific server | Subscribe/notify |
| Notify\_NetworkResource |
| VAE\_DynamicGroup API | Configure\_DynamicGroup | V2X application specific server | Request/Response |
| Notify\_DynamicGroup |
| VAE\_ServiceContinuity API | Query\_ServiceContinuity | VAE server | Request/Response |
| VAE\_HDMapDynamicInfo API | Subscribe\_HDMapDynamicInfo | V2X application specific server | Subscribe/notify |
| Notify\_HDMapDynamicInfo |
| VAE\_PC5ProvisioningRequirement API | Config\_PC5ProvisioningRequirement | V2X application specific server | Subscribe/notify |
| Notify\_PC5ProvisioningRequirement |
| VAE\_V2VConfigRequirement API | Request\_V2VConfigRequirement | V2X application specific server | Request/Response |

The SEAL server(s) APIs available via SEAL-S reference point as specified in 3GPP TS 23.434 [6] are consumed by the V2X application specific server via the VAE server (acting as a VAL server) over the Vs reference point. When V2X application specific server invokes a SEAL server API via the VAE server over the Vs reference point, the VAE server shall interact with the corresponding SEAL server over the SEAL-S reference point for the API invocation request and response.

NOTE: When V2X application specific server invokes a SEAL server API directly, the V2X application specific server acting as VAL server shall interact with the corresponding SEAL server over the SEAL-S reference point for the API invocation request and response as specified in 3GPP TS 23.434 [6].

Editor's note: Whether the VAE\_DynamicGroup API is to be moved to SEAL is FFS.

\* \* \* \* \* \* \* SECOND CHANGE \* \* \* \* \* \* \*

### 10.2.x VAE\_PC5ProvisioningRequirement API

#### 10.2.x.1 General

**API description:** This API enables the V2X application specific server to communicate with the VAE server to request from VAE server the PC5 provisionng service in multi-operator V2X scenarios.

#### 10.2.x.2 Config\_PC5ProvisioningRequirement operation

**API operation name:** Config\_PC5ProvisioningRequirement

**Description:** The V2X application specific server provides a V2X PC5 provisioning requirement to the VAE server.

**Known Consumers:** V2X application specific server.

**Inputs:** Refer subclause 9.15.2.1

**Outputs:** Acknowledgement message.

See subclause 9.15.3 for the details of usage of this API operation.

#### 10.2.x.3 Notify\_PC5ProvisioningRequirement operation

**API operation name:** Notify\_ PC5ProvisioningRequirement

**Description:** Notify the result of multi operation PC5 provisioning requirement to the V2X UEs.

**Known Consumers:** V2X application specific server.

**Inputs:** Refer subclause 9.15.2.6

**Outputs:** None

See subclause 9.15.3 for the details of usage of this API operation.

### 10.2.y VAE\_V2VConfigRequirement API

#### 10.2.y.1 General

**API description:** This API enables the V2X application specific server to provide a V2V configuration requirement to the VAE server to manage the UE-to-UE broadcast/groupcast communication.

#### 10.2.y.2 Request\_V2VConfigRequirement operation

**API operation name:** Request\_V2VConfigRequirement

**Description:** The V2X application specific server provides a V2V configuration requirement request to the VAE server to manage the UE-to-UE broadcast/groupcast communication.

**Known Consumers:** V2X application specific server.

**Inputs:** Refer subclause 9.17.2.1

**Outputs:** Refer subclause 9.17.2.2

See subclause 9.17.3 for the details of usage of this API operation.