**3GPP TSG-SA WG6 Meeting #52-bis-e S6-230469**

**e-meeting, 11th – 20th January 2023 (revision of S6-230366** **revision of S6-230168)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.222** | **CR** | **0102** | **rev** | **2** | **Current version:** | **18.0.0** |  |
|  | | | | | | | | |
| *For* ***[HELP](http://www.3gpp.org/3G_Specs/CRs.htm" \l "_blank)*** *on using this form: comprehensive instructions can be found at  <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:*** | New IE(Service KPI) in Service API publish request | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | China Mobile, ETRI | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EDGEAPP\_Ph2 | | | | |  | ***Date:*** | | | 2023-01-09 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***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:*** | | A new IE is needed to support the CAPIF operation for EAS service API .  In TS 23.558, "Service KPI" IEs are specified to provide information about service characteristics provided by EASs; or required by ACs. This is used for discovery or provisioning of EASs which meet the Service KPIs required by ACs.  In the similar manner, Service KPIs of EASs (as API Providers) need to be specified in CAPIF to be used for discovery or provisioning of EAS Service APIs which meet the Service KPIs required by EASs (as API Invokers). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Updating the API publish request, discover request etc in clause 8.1.2.2, 8.3.2.1, 8.7.2.1, 8.7.2.2, 8.25.2.1, 8.25.2.3  And adding the definition of service KPIs | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Service KPI for EAS service API is not supported. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.1.2.2, 8.3.2.1, 8.7.2.1, 8.7.2.2, 8.25.2.1, 8.25.2.3 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | S6-230166 is mergerd to this CR | | | | | | | | |

# \* \* \* Change 1 \* \* \* \*

#### 8.3.2.1 Service API publish request

Table 8.3.2.1-1 describes the information flow service API publish request from the API publishing function to the CAPIF core function.

Table 8.3.2.1-1: Service API publish request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| API publisher information | M | The information of the API publisher may include identity, authentication and authorization information |
| Service API information | M | The service API information includes the service API name, API provider name (optional), service API type, communication type, description, Serving Area Information (optional), AEF location (optional), interface details (e.g. IP address, port number, URI), protocols, version numbers, and data format, Service KPIs (optional). |
| Shareable information | O (see NOTE) | Indicates whether the service API or the service API category can be published to other CCFs. And if sharing, a list of CAPIF provider domain information where the service API or the service API category can be published is contained. |
| NOTE: If the shareable information is not present, the service API is not allowed to be shared. | | |

The Service KPIs is defined as below:

Table 8.3.2.1-2: Service KPIs

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Maximum Request rate | O | Maximum request rate from the API Invoker supported by the server. |
| Maximum Response time | O | The maximum response time advertised for the API Invoker's service requests. |
| Availability | O | Advertised percentage of time the server is available for the API Invoker's use. |
| Available Compute | O | The maximum compute resource available for the API Invoker. |
| Available Graphical Compute | O | The maximum graphical compute resource available for the API Invoker. |
| Available Memory | O | The maximum memory resource available for the API Invoker. |
| Available Storage | O | The maximum storage resource available for the API Invoker. |
| Connection Bandwidth | O | The connection bandwidth in Kbit/s advertised for the API Invoker's use. |

# \* \* \* Change 2 \* \* \* \*

#### 8.1.2.2 Onboard API invoker response

Table 8.1.2.2-1 describes the information flow onboard API invoker response from the CAPIF core function to the API invoker.

Table 8.1.2.2-1: Onboard API invoker response

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Onboarding status | M | The result of onboarding request i.e., success indication is included if the API invoker is granted permission otherwise failure. |
| Enrolled information | O  (see NOTE 1) | Information from the provisioned API invoker profile which may include information to allow the API invoker to be authenticated and to obtain authorization for service APIs |
| Service API information | O  (see NOTE 2) | The service API information includes the service API name, service API type, communication type, description, Serving Area Information (optional), AEF location (optional), interface details (e.g. IP address, port number, URI), protocols, version numbers, and data format, Service KPIs (optional). |
| Reason | O  (see NOTE 3) | This element indicates the reason when onboarding status is failure. |
| NOTE 1: Information element shall be present when onboarding status is successful.  NOTE 2: Information element may be present when onboarding status is successful.  NOTE 3: Information element shall be present when onboarding status is failure. | | |

# \* \* \* Change 3 \* \* \* \*

#### 8.7.2.1 Service API discover request

Table 8.7.2.1-1 describes the information flow service API discover request from the API invoker to the CAPIF core function.

Table 8.7.2.1-1: Service API discover request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| API invoker identity information | M | Identity information of the API invoker discovering service APIs |
| Query information | M | Criteria for discovering matching service APIs (e.g. service API type, Serving Area Information (optional), preferred AEF location (optional), required API provider name (optional), interfaces, protocols) , Service KPIs (optional)  (see NOTE) |
| NOTE: It should be possible to discover all the service APIs. | | |

#### 8.7.2.2 Service API discover response

Table 8.7.2.2-1 describes the information flow service API discover response from the CAPIF core function to the API invoker.

Table 8.7.2.2-1: Service API discover response

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Result | M | Indicates the success or failure of the discovery of the service API information |
| Service API information  (see NOTE 2) | O  (see NOTE 1) | List of service APIs corresponding to the request, including API description such as service API name, service API type, Serving Area Information (optional), interface details (e.g. IP address, port number, URI), protocols, version, data format, Service KPIs (optional). |
| CAPIF core function identity information | O  (see NOTE 1) | Indicates the CAPIF core function serving the service API category provided in the query criteria |
| NOTE 1: The service API information or the CAPIF core function identity information or both shall be present if the Result information element indicates that the service API discover operation is successful. Otherwise both shall not be present.  NOTE 2: If topology hiding is enabled for the service API, the interface details shall be the interface details of AEF acting as service communication entry point for the service API. | | |

# \* \* \* Change 4 \* \* \* \*

#### 8.25.2.1 Interconnection API publish request

Table 8.25.2.1-1 describes the information flow interconnection API publish request from CAPIF core function to CAPIF core function.

Table 8.25.2.1-1: Interconnection API publish request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| CCF information | M | The information of the CAPIF core function which publishes APIs, may include identity, authentication and authorization information |
| Service API information | O  (see NOTE 1) | The service API information includes the service API name, API provider name (optional), service API type, communication type, description, Serving Area Information (optional), AEF location (optional), interface details (e.g. IP address, port number, URI), protocols, version numbers, and data format, Service KPIs (optional). |
| Service API category | O  (see NOTE 1) | The category of the service APIs to be published, (e.g. V2X, IoT) |
| Shareable information | O  (see NOTE 2) | Indicates whether the service API or the service API category can be published to other CCFs. And if sharing, a list of CAPIF provider domain information where the service API or the service API category can be published is contained. |
| NOTE 1: At least one of the Service API information or Service API category shall be present.  NOTE 2: If the shareable information is not present, the service API is not allowed to be shared. There is one and only one CAPIF provider domain information sharable via the CAPIF-6e interface. | | |

#### 8.25.2.3 Interconnection service API discover request

Table 8.25.2.3-1 describes the information flow interconnection service API discover request from one CAPIF core function to another CAPIF core function.

Table 8.25.2.3-1: Interconnection service API discover request

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| CAPIF core function identity information | M | Identity information of the CAPIF core function discovering service APIs |
| Query information | M | Criteria for discovering matching service APIs or CAPIF core function (e.g. service API type, Serving Area Information (optional), preferred AEF location (optional), interfaces, protocols, service API category, Service KPIs (optional))  (see NOTE) |
| NOTE: It should be possible to discover all the service APIs. | | |

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