**3GPP TSG CT WG3 Meeting #142 *C3-253615***

**Goteborg, SE, 25th – 29th August, 2025 was C3-253325**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **0428** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | Updates and corrections to the new CAPIF\_Open\_Discover\_Service\_API | | | | | | | | |
|  |  | | | | | | | | |
| ***Source to WG:*** | Huawei, Samsung? | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | |
|  |  | | | | | | | | |
| ***Work item code:*** | CAPIF\_Ph3 | | | | |  | ***Date:*** | | 2025-08-27 |
|  |  | | | |  | |  | |  |
| ***Category:*** | **B** |  | | | | | ***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-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | |
| ***Reason for change:*** | | | The API definition clauses of the new CAPIF\_Open\_Discover\_Service\_API need to be completed and aligned with the NBI TS Skeleton/template. In particular:   * The list of query parameters is not complete. The related stage 2 requirements in Table 8.38.2.1-1 (of TS 23.222) incidate: "*Criteria for discovering matching service APIs. It may contain Service API information described in table 8.3.2.1-1, except service API interface details*", which means that only interface related details should be excluded. * The same applies for the discovery response: "*Filtered service APIs information that can be shared to the requestor not a recognized user of the CAPIF. It may contain Service API information described in table 8.3.2.1-1, except service API interface details*" (Table 8.38.2.2-1 of TS 23.222). | | | | | | |
|  | | |  | | | | | | |
| ***Summary of change:*** | | | This CR proposes to:   * Complete the definition of the CAPIF\_Open\_Discover\_Service\_API. | | | | | | |
|  | | |  | | | | | | |
| ***Consequences if not approved:*** | | | * The API definition clauses of the new CAPIF\_Open\_Discover\_Service\_API are not completed. | | | | | | |
|  | |  | | | | | | | |
| ***Clauses affected:*** | | 8.11, 8.11.1, 8.11.1A (new clause), 8.11.2.1, 8.11.2.2.2, 8.11.2.2.3.1, 8.11.5, 8.11.5.1, 8.11.5.2.1, 8.11.5.2.2, 8.11.5.2.3, 8.11.5.2.4 (new clause), 8.11.5.3.2, 8.11.6.1, 8.11.6.2, 8.11.7, 8.11.8 | | | | | | | |
|  | |  | | | | | | | |
|  | | **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. | | | | | | | |
|  | |  | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | |

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

## 8.11 CAPIF\_Open\_Discover\_Service\_API

\* \* \* \* Next changes \* \* \* \*

### 8.11.1 Introduction

The CAPIF\_Open\_Discover\_Service\_API service shall use the CAPIF\_Open\_Discover\_Service\_API.

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 7.5, i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

- The {apiRoot} shall be set as described in clause 7.5.

- The <apiName>shall be "open-api-disc".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 8.11.2 and 8.11.3.

All the resource URIs and the custom operation URIs specified in the clauses below are defined relative to the above API URI.

\* \* \* \* Next changes \* \* \* \*

### 8.11.1A Usage of HTTP

The provisions of clause 7.3 of 3GPP TS 29.549 [15] shall apply for the CAPIF\_Open\_Discover\_Service\_API.

\* \* \* \* Next changes \* \* \* \*

#### 8.11.2.1 Overview

This clause describes the structure for the Resource URIs and the resources and methods used for the service.

Figure 8.11.2.1-1 depicts the resource URIs structure for the CAPIF\_Open\_Discover\_Service\_API.



Figure 8.11.2.1-1: Resource URI structure of the CAPIF\_Open\_Discover\_Service\_API

Table 8.11.2.1-1 provides an overview of the resources and applicable HTTP methods for the CAPIF\_Open\_Discover\_Service\_API.

Table 8.11.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method or custom operation | Description |
| Service APIs | /service-apis | GET | Discover the service API(s) according to filtering criteria. |

\* \* \* \* Next changes \* \* \* \*

##### 8.11.2.2.2 Resource Definition

Resource URI: **{apiRoot}/open-api-disc/<apiVersion>/service-apis**

This resource shall support the resource URI variables defined in table 8.11.2.2.2-1.

Table 8.11.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| Name | Data Type | Definition |
| apiRoot | string | See clause 8.11.1. |

\* \* \* \* Next changes \* \* \* \*

###### 8.11.2.2.3.1 GET

The HTTP GET method enables to discover the Service APIs currently registered at the CCF.

Table 8.11.2.2.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| api-names | array(string) | O | 1..N | Contains the name(s) of the target Service API(s).  Each Service API name shall be set to the value of the <apiName> placeholder of the Service API URI structure as defined in clause 5.2.4 of 3GPP TS 29.122 [14]. |  |
| api-versions | map(array(string)) | O | 1..N(1..M) | Contains the major version(s) (e.g., v1) of the target Service API(s).  Each Service API version shall be set to the value of the <apiVersion> placeholder of the Service API URI structure as defined in clause 5.2.4 of 3GPP TS 29.122 [14].  The key of the map shall be set to the value of the Service API name (i.e., the value of the <apiName> placeholder of the Service API URI structure as defined in clause 5.2.4 of 3GPP TS 29.122 [14]) of the Service API to which the provided list of Service API version(s) provided within the map value applies. |  |
| comm-type | CommunicationType | O | 0..1 | Contains the communication type supported by the target Service API(s). |  |
| protocols | array(Protocol) | O | 1..N | Contains the protocol(s) supported by the target Service API(s). |  |
| data-format | DataFormat | O | 0..1 | Contains data format(s) supported by the target Service API(s). |  |
| api-cats | array(string) | O | 1..N | Contains the category(ies) of the target Service API(s). |  |
| preferred-aef-loc | AefLocation | O | 0..1 | Contains the preferred location information for AEF(s) exposing the target Service API(s).  This query parameter is ignored by the CCF if there are no matching records at the CCF. |  |
| api-prov-names | array(string) | O | 1..N | Contains the name(s) of the provider(s) of the target Service API(s). |  |
| api-supported-features | map(SupportedFeatures) | O | 1..N | Contains the list of the feature(s) supported by the target Service API(s) indicated by the "api-names" query parameter.  This query parameter may be present only if the "api-name" query parameter is also present.  The key of the map shall be set to the value of the Service API name, among the ones provided within the "api-names" query parameter) of the Service API to which the provided list of supported feature(s) provided within the map value applies. |  |
| service-kpis | ServiceKpis | O | 0..1 | Contains information about the service characteristics provided by the target Service API(s). |  |
| api-ids | array(string) | O | 1..N | Contains the identifier(s) of the target Service APIs. |  |
| res-ops | array(ResOperInfo) | O | 1..N | Contains the list of supported API resource(s) and service operation(s).  This query parameter may only be present if the "api-names" query parameter is present. |  |
| supported-features | SupportedFeatures | O | 0..1 | Contains the list of supported features among the ones defined in clause 8.11.6.  This attribute shall be present only when feature negotiation is required. |  |
| NOTE: In addition to the above standardized query parameters, the service consumer may also provide vendor-specific query parameter(s) as specified in clause 5.2.13.3 of 3GPP TS 29.122 [14]. The CCF shall use any received vendor-specific query parameters in the filtering process of the results to be returned in the response in a similar way and in addition to the standardized query parameters defined in this table. | | | | | |

Editor's note: The access credentials and requirements for this service operation are FFS and pending progress in SA3.

This method shall support the request data structures specified in table 8.11.2.2.3.1-2 and the response data structures and response codes specified in table 8.11.2.2.3.1-3.

Table 8.11.2.2.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 8.11.2.2.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| DiscoveryResp | M | 1 | 200 OK | Successful case. The result of the Service APIs discovery is returned. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative target URI of the resource located in an alternative CCF.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [14]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection.  The response shall include a Location header field containing an alternative target URI of the resource located in an alternative CCF.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [14]. |
| ProblemDetails | O | 0..1 | 414 URI Too Long | Indicates that the server refuses to process the request because the request target is too long. |
| NOTE: The mandatory HTTP error status codes for the HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [14] shall also apply. | | | | |

Table 8.11.2.2.3.1-4: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative CCF. |

Table 8.11.2.2.3.1-5: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | Contains an alternative target URI of the resource located in an alternative CCF. |

\* \* \* \* Next changes \* \* \* \*

### 8.11.5 Data Model

\* \* \* \* Next changes \* \* \* \*

#### 8.14.5.1 General

This clause specifies the application data model supported by the API. Data types listed in clause 7.2 also apply to this API.

Table 8.11.5.1-1 specifies the data types defined specifically for the CAPIF\_Open\_Discover\_Service\_API.

Table 8.11.5.1-1: CAPIF\_Open\_Discover\_Service\_API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| OpenAefProfile | 8.11.5.2.4 | Represents the AEF Profile details provided within an Open Service API Discovery response. |  |
| OpenAPIDetails | 8.11.5.2.3 | Represents the Service API details provided within an Open Service API Discovery response. |  |
| DiscoveryResp | 8.11.5.2.2 | Represents the Open Service API Discovery response. |  |

Table 8.11.5.1-2 specifies data types re-used by the CAPIF\_Open\_Discover\_Service\_API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the CAPIF\_Open\_Discover\_Service\_API.

Table 8.11.5.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| AefLocation | Clause 8.2.4.2.10 | Represents the AEF location. |  |
| ApiStatus | Clause 8.2.4.2.12 | Represents the Service API status. |  |
| CommunicationType | Clause 8.2.4.3.5 | Represents the communication type used by the Service API. |  |
| DataFormat | Clause 8.2.4.3.4 | Represents a data format or data serialization protocol. |  |
| NetSliceId | 3GPP TS 29.435 [31] | Represents the identification information of a network slice. |  |
| ProblemDetails | 3GPP TS 29.122 [14] | Used to represent additional information and details on an error response. |  |
| Protocol | Clause 8.2.4.3.3 | Represents a protocol. |  |
| ResOperInfo | Clause 8.1.4.2.5 | Represents the resourse(s) and/or service operation(s). |  |
| ServiceKpis | Clause 8.2.4.2.13 | Represents information about the service characteristics provided by a service API. |  |
| SupportedFeatures | 3GPP TS 29.571 [19] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| Version | Clause 8.2.4.2.5 | Represents an API version. |  |

\* \* \* \* Next changes \* \* \* \*

##### 8.11.5.2.1 Introduction

This clause defines the structured data types to be used in resource representations.

\* \* \* \* Next changes \* \* \* \*

##### 8.11.5.2.2 Type: OpenDiscoveryResp

Table 8.11.5.2.2-1: Definition of type OpenDiscoveryResp

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| Attribute name | | | Data type | P | Cardinality | Description | Applicability |
| discApis | | | array(OpenAPIDetails) | M | 0..N | Contains the details of the discovered Service API(s).  If there is no Service API matching the provided query parameters, an empty array shall be provided within this attribute. |  |
| suppFeat | | SupportedFeatures | | C | 0..1 | Contains the list of supported features among the ones defined in clause 8.11.6.  This attribute shall be present only when feature negotiation is required. |  |

\* \* \* \* Next changes \* \* \* \*

##### 8.11.5.2.3 Type: OpenAPIDetails

Table 8.11.5.2.3-1: Definition of type OpenAPIDetails

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| apiName | string | M | 1 | Contains the Service API name set to the value of the <apiName> placeholder of the Service API URI structure as defined in clause 5.2.4 of 3GPP TS 29.122 [14]. |  |
| apiId | string | O | 0..1 | Contains the Service API identifier. |  |
| apiStatus | ApiStatus | O | 0..1 | Indicates the Service API status. |  |
| description | string | O | 0..1 | Contains the text description of the Service API. |  |
| serviceAPICategory | string | O | 0..1 | Contains the Service API category. |  |
| apiSuppFeats | SupportedFeatures | O | 0..1 | Contains the list of the Features supported by the Service API. |  |
| apiProvName | string | O | 0..1 | Contains the Service API provider name. |  |
| aefProfiles | array(OpenAefProfile) | O | 1..N | Contains the AEF profile information. |  |

\* \* \* \* Next changes \* \* \* \*

##### 8.11.5.2.4 Type: OpenAefProfile

Table 8.11.5.2.4-1: Definition of type OpenAefProfile

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| aefId | string | O | 1 | Contains the AEF identifier. |  |
| versions | array(Version) | O | 1..N | Contains the supported Service API version(s). |  |
| protocol | Protocol | O | 0..1 | Contains the protocol used by the Service API.  (NOTE) |  |
| dataFormat | DataFormat | O | 0..1 | Contains the data format used by the API  (NOTE) |  |
| aefLocation | AefLocation | O | 0..1 | Contains the location information of the AEF exposing the Service API. |  |
| serviceKpis | ServiceKpis | O | 0..1 | Contains information about the service characteristics provided by the Service API. |  |
| NOTE: If the VendorExt feature is supported, vendor-specific extensions to the AefProfile data structure, using the mechanism defined in clause 7.11, may be used to convey vendor-specific information. | | | | | |

\* \* \* \* Next changes \* \* \* \*

##### 8.11.5.3.2 Simple data types

The simple data types defined in table 8.11.5.3.2-1 shall be supported.

Table 8.11.5.3.2-1: Simple data types

|  |  |  |  |
| --- | --- | --- | --- |
| Type Name | Type Definition | Description | Applicability |
|  |  |  |  |

\* \* \* \* Next changes \* \* \* \*

#### 8.11.6.1 General

For the CAPIF\_Open\_Discover\_Service\_API, error handling shall be supported as specified in clause 7.7.

In addition, the requirements in the following clauses are applicable for the CAPIF\_Open\_Discover\_Service\_API.

\* \* \* \* Next changes \* \* \* \*

#### 8.11.6.2 Protocol Errors

No specific protocol errors for the CAPIF\_Open\_Discover\_Service\_API are specified.

\* \* \* \* Next changes \* \* \* \*

### 8.11.7 Feature negotiation

The optional features in table 8.11.7-1 are defined for the the CAPIF\_Open\_Discover\_Service\_API. They shall be negotiated using the extensibility mechanism defined in clause 7.8.

Table 8.11.7-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
|  |  |  |

\* \* \* \* Next changes \* \* \* \*

### 8.11.8 Security

The provisions of clause 10 shall apply for the CAPIF\_Open\_Discover\_Service\_API.

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