**3GPP TSG-CT3 Meeting #122e C3-223702**

**E-Meeting, 12th – 20th May 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.222** | **CR** | **0248** | **rev** | **-** | **Current version:** | **17.4.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
|  | | | | | | | | |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **x** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update of info and externalDocs fields | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17 | | | | |  | ***Date:*** | | | 2022-05-24 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **F** |  | | | | | ***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 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:*** | | CRs modifying the CAPIF APIs have been agreed and the version number of the corresponding OpenAPI file thus needs to be incremented following the rules in TS 29.501, subclause 4.3.1.  The following are the agreed CRs the update the various CAPIF OpenAPI files for the present release  CAPIF\_Discover\_Service\_API   * TS 29.222, CR#0232: Backward compatible correction * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_Publish\_Service\_API   * TS 29.222, CR#0237: Backward compatible correction * TS 29.222, CR#0240: Backward compatible correction * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_Events\_API   * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_API\_Invoker\_Management\_API   * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_Security\_API   * TS 29.222, CR#0231: Backward compatible correction * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_Access\_Control\_Policy\_API   * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_Logging\_API\_Invocation\_API   * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_Auditing\_API   * TS 29.222, CR#0234: Backward compatible correction   AEF\_Security\_API   * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_API\_Provider\_Management\_API   * TS 29.222, CR#0234: Backward compatible correction   CAPIF\_Routing\_Info\_API   * TS 29.222, CR#0234: Backward compatible correction   As the present release will be frozen for OpenAPI, and a draft version number was already assigned, only the additional Pre-Release version field field needs to be removed.  Since a new TS version will be provided with changes to the OpenAPI specification file, the TS version number included in the "description" field of the "externalDocs" object also needs to be updated.  The copyright year of the impacted Open API files, needs to be updated to 2022 in “Info” object.  In addition, based on agreements made in CT4, for all the Open APIs,   * Add trailing spaces to first two lines of Description field of Info object. * In externalDoc object, change http to https in the url field | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | The CAPIF APIs version is updated as  CAPIF\_Discover\_Service\_API, set to value "1.2.0".  CAPIF\_Publish\_Service\_API, set to value "1.2.0".  CAPIF\_Events\_API, set to value "1.1.0", set to value "1.2.0"..  CAPIF\_API\_Invoker\_Management\_API, set to value "1.2.0".  CAPIF\_Security\_API, set to value "1.1.0", set to value "1.2.0".  CAPIF\_Access\_Control\_Policy\_API, set to value "1.2.0".  CAPIF\_Logging\_API\_Invocation\_API, set to value "1.2.0".  CAPIF\_Auditing\_API, set to value "1.2.0".  AEF\_Security\_API, set to value "1.2.0".  CAPIF\_API\_Provider\_Management\_API, set to value "1.1.0".  CAPIF\_Routing\_Info\_API, set to value "1.1.0".  For all the Open APIs (where needed),   * The TS version number in the "description" field of the "externalDocs" object is changed to "17.5.0". * The Copyright year in “Info” object is changed to 2022. * Support for https * Trailing spaces for 1st lines of description in Info object | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Incorrect API version number and incorrect TS version number in the "description" field of the "externalDocs" object. Incorrect copyright year in the ‘Info” object. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.2, A.3, A.4, A.5, A.6, A.7, A.8, A.9, A.10, A.11, A.12 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | |  | | | | | | | | |

\*\*\* First Change \*\*\*

## A.2 CAPIF\_Discover\_Service\_API

openapi: 3.0.0

info:

title: CAPIF\_Discover\_Service\_API

description: |

API for discovering service APIs.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/service-apis/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

paths:

/allServiceAPIs:

get:

description: Discover published service APIs and retrieve a collection of APIs according to certain filter criteria.

parameters:

- name: api-invoker-id

in: query

description: String identifying the API invoker assigned by the CAPIF core function. It also represents the CCF identifier in the CAPIF-6/6e interface.

required: true

schema:

type: string

- name: api-name

in: query

description: API name, it is set as {apiName} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501.

schema:

type: string

- name: api-version

in: query

description: API major version the URI (e.g. v1).

schema:

type: string

- name: comm-type

in: query

description: Communication type used by the API (e.g. REQUEST\_RESPONSE).

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/CommunicationType'

- name: protocol

in: query

description: Protocol used by the API.

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Protocol'

- name: aef-id

in: query

description: AEF identifer.

schema:

type: string

- name: data-format

in: query

description: Data formats used by the API (e.g. serialization protocol JSON used).

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/DataFormat'

- name: api-cat

in: query

description: The service API category to which the service API belongs to.

schema:

type: string

- name: preferred-aef-loc

in: query

description: The preferred AEF location.

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/AefLocation'

- name: supported-features

in: query

description: Features supported by the NF consumer for the CAPIF Discover Service API.

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

- name: api-supported-features

in: query

description: Features supported by the discovered service API indicated by api-name parameter. This may only be present if api-name query parameter is present.

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

responses:

'200':

description: The response body contains the result of the search over the list of registered APIs.

content:

application/json:

schema:

$ref: '#/components/schemas/DiscoveredAPIs'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'414':

$ref: 'TS29122\_CommonData.yaml#/components/responses/414'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

schemas:

DiscoveredAPIs:

type: object

description: Represents a list of APIs currently registered in the CAPIF core function and satisfying a number of filter criteria provided by the API consumer.

properties:

serviceAPIDescriptions:

type: array

items:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/ServiceAPIDescription'

minItems: 1

description: Description of the service API as published by the service. Each service API description shall include AEF profiles matching the filter criteria.

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

## A.3 CAPIF\_Publish\_Service\_API

openapi: 3.0.0

info:

title: CAPIF\_Publish\_Service\_API

description: |

API for publishing service APIs.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/published-apis/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

paths:

# APF published API

/{apfId}/service-apis:

post:

description: Publish a new API.

parameters:

- name: apfId

in: path

required: true

schema:

$ref: '#/components/schemas/apfId'

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceAPIDescription'

responses:

'201':

description: Service API published successfully The URI of the created resource shall be returned in the "Location" HTTP header.

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceAPIDescription'

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/published-apis/v1/{apfId}/service-apis/{serviceApiId}'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

get:

description: Retrieve all published APIs.

parameters:

- name: apfId

in: path

required: true

schema:

$ref: '#/components/schemas/apfId'

responses:

'200':

description: Definition of all service API(s) published by the API publishing function.

content:

application/json:

schema:

type: array

items:

$ref: '#/components/schemas/ServiceAPIDescription'

minItems: 0

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

# Individual APF published API

/{apfId}/service-apis/{serviceApiId}:

get:

description: Retrieve a published service API.

parameters:

- name: serviceApiId

in: path

required: true

schema:

$ref: '#/components/schemas/serviceApiId'

- name: apfId

in: path

required: true

schema:

$ref: '#/components/schemas/apfId'

responses:

'200':

description: Definition of individual service API published by the API publishing function.

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceAPIDescription'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

description: Update a published service API.

parameters:

- name: serviceApiId

in: path

required: true

schema:

$ref: '#/components/schemas/serviceApiId'

- name: apfId

in: path

required: true

schema:

$ref: '#/components/schemas/apfId'

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceAPIDescription'

responses:

'200':

description: Definition of service API updated successfully.

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceAPIDescription'

'204':

description: No Content

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

description: Modify an existing published service API.

operationId: ModifyIndAPFPubAPI

tags:

- Individual APF published API

parameters:

- name: serviceApiId

in: path

required: true

schema:

$ref: '#/components/schemas/serviceApiId'

- name: apfId

in: path

required: true

schema:

$ref: '#/components/schemas/apfId'

requestBody:

required: true

content:

application/merge-patch+json:

schema:

$ref: '#/components/schemas/ServiceAPIDescriptionPatch'

responses:

'200':

description: The definition of the service API is modified successfully and a representation of the updated service API is returned in the request body.

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceAPIDescription'

'204':

description: No Content. The definition of the service API is modified successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

description: Unpublish a published service API.

parameters:

- name: serviceApiId

in: path

required: true

schema:

$ref: '#/components/schemas/serviceApiId'

- name: apfId

in: path

required: true

schema:

$ref: '#/components/schemas/apfId'

responses:

'204':

description: The individual published service API matching the serviceAPiId is deleted.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

# Components

components:

schemas:

# Data types uses as path variables

apfId:

type: string

description: Identification of the API publishing function.

serviceApiId:

type: string

description: String identifying an individual published service API.

# Data Type for representations

ServiceAPIDescription:

type: object

description: Represents the description of a service API as published by the APF.

properties:

apiName:

type: string

description: API name, it is set as {apiName} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501.

apiId:

type: string

description: API identifier assigned by the CAPIF core function to the published service API. Shall not be present in the HTTP POST request from the API publishing function to the CAPIF core function. Shall be present in the HTTP POST response from the CAPIF core function to the API publishing function and in the HTTP GET response from the CAPIF core function to the API invoker (discovery API).

aefProfiles:

type: array

items:

$ref: '#/components/schemas/AefProfile'

minItems: 1

description: AEF profile information, which includes the exposed API details (e.g. protocol).

description:

type: string

description: Text description of the API

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

shareableInfo:

$ref: '#/components/schemas/ShareableInformation'

serviceAPICategory:

type: string

apiSuppFeats:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

pubApiPath:

$ref: '#/components/schemas/PublishedApiPath'

ccfId:

type: string

description: CAPIF core function identifier.

required:

- apiName

InterfaceDescription:

type: object

description: Represents the description of an API's interface.

properties:

ipv4Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

ipv6Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'

port:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Port'

securityMethods:

type: array

items:

$ref: '#/components/schemas/SecurityMethod'

minItems: 1

description: Security methods supported by the interface, it take precedence over the security methods provided in AefProfile, for this specific interface.

oneOf:

- required: [ipv4Addr]

- required: [ipv6Addr]

AefProfile:

type: object

description: Represents the AEF profile data.

properties:

aefId:

type: string

description: Identifier of the API exposing function

versions:

type: array

items:

$ref: '#/components/schemas/Version'

minItems: 1

description: API version

protocol:

$ref: '#/components/schemas/Protocol'

dataFormat:

$ref: '#/components/schemas/DataFormat'

securityMethods:

type: array

items:

$ref: '#/components/schemas/SecurityMethod'

minItems: 1

description: Security methods supported by the AEF

domainName:

type: string

description: Domain to which API belongs to

interfaceDescriptions:

type: array

items:

$ref: '#/components/schemas/InterfaceDescription'

minItems: 1

description: Interface details

aefLocation:

$ref: '#/components/schemas/AefLocation'

required:

- aefId

- versions

oneOf:

- required: [domainName]

- required: [interfaceDescriptions]

Resource:

type: object

description: Represents the API resource data.

properties:

resourceName:

type: string

description: Resource name

commType:

$ref: '#/components/schemas/CommunicationType'

uri:

type: string

description: Relative URI of the API resource, it is set as {apiSpecificResourceUriPart} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501.

custOpName:

type: string

description: it is set as {custOpName} part of the URI structure for a custom operation associated with a resource as defined in subclause 4.4 of 3GPP TS 29.501.

operations:

type: array

items:

$ref: '#/components/schemas/Operation'

minItems: 1

description: Supported HTTP methods for the API resource. Only applicable when the protocol in AefProfile indicates HTTP.

description:

type: string

description: Text description of the API resource

required:

- resourceName

- commType

- uri

CustomOperation:

type: object

description: Represents the description of a custom operation.

properties:

commType:

$ref: '#/components/schemas/CommunicationType'

custOpName:

type: string

description: it is set as {custOpName} part of the URI structure for a custom operation without resource association as defined in subclause 4.4 of 3GPP TS 29.501.

operations:

type: array

items:

$ref: '#/components/schemas/Operation'

minItems: 1

description: Supported HTTP methods for the API resource. Only applicable when the protocol in AefProfile indicates HTTP.

description:

type: string

description: Text description of the custom operation

required:

- commType

- custOpName

Version:

type: object

description: Represents the API version information.

properties:

apiVersion:

type: string

description: API major version in URI (e.g. v1)

expiry:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

resources:

type: array

items:

$ref: '#/components/schemas/Resource'

minItems: 1

description: Resources supported by the API.

custOperations:

type: array

items:

$ref: '#/components/schemas/CustomOperation'

minItems: 1

description: Custom operations without resource association.

required:

- apiVersion

ShareableInformation:

type: object

description: Indicates whether the service API and/or the service API category can be shared to the list of CAPIF provider domains.

properties:

isShareable:

type: boolean

description: Set to "true" indicates that the service API and/or the service API category can be shared to the list of CAPIF provider domain information. Otherwise set to "false".

capifProvDoms:

type: array

items:

type: string

minItems: 1

description: List of CAPIF provider domains to which the service API information to be shared.

required:

- isShareable

PublishedApiPath:

type: object

description: Represents the published API path within the same CAPIF provider domain.

properties:

ccfIds:

type: array

items:

type: string

minItems: 1

description: A list of CCF identifiers where the service API is already published.

AefLocation:

description: The location information (e.g. civic address, GPS coordinates, data center ID) where the AEF providing the service API is located.

type: object

properties:

civicAddr:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CivicAddress'

geoArea:

$ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'

dcId:

type: string

description: Identifies the data center where the AEF providing the service API is located.

ServiceAPIDescriptionPatch:

type: object

description: Represents the parameters to request the modification of an APF published API resource.

properties:

aefProfiles:

type: array

items:

$ref: '#/components/schemas/AefProfile'

minItems: 1

description:

type: string

description: Text description of the API

shareableInfo:

$ref: '#/components/schemas/ShareableInformation'

serviceAPICategory:

type: string

apiSuppFeats:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

pubApiPath:

$ref: '#/components/schemas/PublishedApiPath'

ccfId:

type: string

description: CAPIF core function identifier.

Protocol:

anyOf:

- type: string

enum:

- HTTP\_1\_1

- HTTP\_2

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- HTTP\_1\_1: HTTP version 1.1

- HTTP\_2: HTTP version 2

CommunicationType:

anyOf:

- type: string

enum:

- REQUEST\_RESPONSE

- SUBSCRIBE\_NOTIFY

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- REQUEST\_RESPONSE: The communication is of the type request-response

- SUBSCRIBE\_NOTIFY: The communication is of the type subscribe-notify

DataFormat:

anyOf:

- type: string

enum:

- JSON

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- JSON: JavaScript Object Notation

SecurityMethod:

anyOf:

- type: string

enum:

- PSK

- PKI

- OAUTH

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- PSK: Security method 1 (Using TLS-PSK) as described in 3GPP TS 33.122

- PKI: Security method 2 (Using PKI) as described in 3GPP TS 33.122

- OAUTH: Security method 3 (TLS with OAuth token) as described in 3GPP TS 33.122

Operation:

anyOf:

- type: string

enum:

- GET

- POST

- PUT

- PATCH

- DELETE

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- GET: HTTP GET method

- POST: HTTP POST method

- PUT: HTTP PUT method

- PATCH: HTTP PATCH method

- DELETE: HTTP DELETE method

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

## A.4 CAPIF\_Events\_API

openapi: 3.0.0

info:

title: CAPIF\_Events\_API

description: |

API for event subscription management.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/capif-events/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

paths:

/{subscriberId}/subscriptions:

post:

description: Creates a new individual CAPIF Event Subscription.

parameters:

- name: subscriberId

in: path

description: Identifier of the Subscriber

required: true

schema:

type: string

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/EventSubscription'

callbacks:

notificationDestination:

'{request.body#/notificationDestination}':

post:

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/EventNotification'

responses:

'204':

description: No Content (successful notification)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

responses:

'201':

description: Created (Successful creation of subscription)

content:

application/json:

schema:

$ref: '#/components/schemas/EventSubscription'

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/capif-events/v1/{subscriberId}/subscriptions/{subscriptionId}'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{subscriberId}/subscriptions/{subscriptionId}:

delete:

description: Deletes an individual CAPIF Event Subscription.

parameters:

- name: subscriberId

in: path

description: Identifier of the Subscriber

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of an individual Events Subscription

required: true

schema:

type: string

responses:

'204':

description: The individual CAPIF Events Subscription matching the subscriptionId is deleted.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

schemas:

EventSubscription:

type: object

description: Represents an individual CAPIF Event Subscription resource.

properties:

events:

type: array

items:

$ref: '#/components/schemas/CAPIFEvent'

minItems: 1

description: Subscribed events

eventFilters:

type: array

items:

$ref: '#/components/schemas/CAPIFEventFilter'

minItems: 1

description: Subscribed event filters

eventReq:

$ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

requestTestNotification:

type: boolean

description: Set to true by Subscriber to request the CAPIF core function to send a test notification as defined in in subclause 7.6. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- events

- notificationDestination

EventNotification:

type: object

description: Represents an individual CAPIF Event notification.

properties:

subscriptionId:

type: string

description: Identifier of the subscription resource to which the notification is related – CAPIF resource identifier

events:

$ref: '#/components/schemas/CAPIFEvent'

eventDetail:

$ref: '#/components/schemas/CAPIFEventDetail'

required:

- subscriptionId

- events

CAPIFEventFilter:

type: object

description: Represents a CAPIF event filter.

properties:

apiIds:

type: array

items:

type: string

minItems: 1

description: Identifier of the service API

apiInvokerIds:

type: array

items:

type: string

minItems: 1

description: Identity of the API invoker

aefIds:

type: array

items:

type: string

minItems: 1

description: Identifier of the API exposing function

CAPIFEventDetail:

type: object

description: Represents a CAPIF event details.

properties:

serviceAPIDescriptions:

type: array

items:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/ServiceAPIDescription'

minItems: 1

description: Description of the service API as published by the APF.

apiIds:

type: array

items:

type: string

minItems: 1

description: Identifier of the service API

apiInvokerIds:

type: array

items:

type: string

minItems: 1

description: Identity of the API invoker

accCtrlPolList:

$ref: '#/components/schemas/AccessControlPolicyListExt'

invocationLogs:

type: array

items:

$ref: 'TS29222\_CAPIF\_Logging\_API\_Invocation\_API.yaml#/components/schemas/InvocationLog'

minItems: 1

description: Invocation logs.

apiTopoHide:

$ref: '#/components/schemas/TopologyHiding'

AccessControlPolicyListExt:

description: Represents the extension for access control policies.

allOf:

- $ref: 'TS29222\_CAPIF\_Access\_Control\_Policy\_API.yaml#/components/schemas/AccessControlPolicyList'

- type: object

properties:

apiId:

type: string

required:

- apiId

TopologyHiding:

type: object

description: Represents the routing rules information of a service API.

properties:

apiId:

type: string

routingRules:

type: array

items:

$ref: 'TS29222\_CAPIF\_Routing\_Info\_API.yaml#/components/schemas/RoutingRule'

minItems: 1

required:

- apiId

- routingRules

CAPIFEvent:

anyOf:

- type: string

enum:

- SERVICE\_API\_AVAILABLE

- SERVICE\_API\_UNAVAILABLE

- SERVICE\_API\_UPDATE

- API\_INVOKER\_ONBOARDED

- API\_INVOKER\_OFFBOARDED

- SERVICE\_API\_INVOCATION\_SUCCESS

- SERVICE\_API\_INVOCATION\_FAILURE

- ACCESS\_CONTROL\_POLICY\_UPDATE

- ACCESS\_CONTROL\_POLICY\_UNAVAILABLE

- API\_INVOKER\_AUTHORIZATION\_REVOKED

- API\_INVOKER\_UPDATED

- API\_TOPOLOGY\_HIDING\_CREATED

- API\_TOPOLOGY\_HIDING\_REVOKED

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- SERVICE\_API\_AVAILABLE: Events related to the availability of service APIs after the service APIs are published.

- SERVICE\_API\_UNAVAILABLE: Events related to the unavailability of service APIs after the service APIs are unpublished.

- SERVICE\_API\_UPDATE: Events related to change in service API information.

- API\_INVOKER\_ONBOARDED: Events related to API invoker onboarded to CAPIF.

- API\_INVOKER\_OFFBOARDED: Events related to API invoker offboarded from CAPIF.

- SERVICE\_API\_INVOCATION\_SUCCESS: Events related to the successful invocation of service APIs.

- SERVICE\_API\_INVOCATION\_FAILURE: Events related to the failed invocation of service APIs.

- ACCESS\_CONTROL\_POLICY\_UPDATE: Events related to the update for the access control policy related to the service APIs.

- ACCESS\_CONTROL\_POLICY\_UNAVAILABLE: Events related to the unavailability of the access control policy related to the service APIs.

- API\_INVOKER\_AUTHORIZATION\_REVOKED: Events related to the revocation of the authorization of API invokers to access the service APIs.

- API\_INVOKER\_UPDATED: Events related to API invoker profile updated to CAPIF.

- API\_TOPOLOGY\_HIDING\_CREATED: Events related to the creation or update of the API topology hiding information of the service APIs after the service APIs are published.

- API\_TOPOLOGY\_HIDING\_REVOKED: Events related to the revocation of the API topology hiding information of the service APIs after the service APIs are unpublished.

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

## A.5 CAPIF\_API\_Invoker\_Management\_API

openapi: 3.0.0

info:

title: CAPIF\_API\_Invoker\_Management\_API

description: |

API for API invoker management.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/api-invoker-management/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

paths:

/onboardedInvokers:

post:

description: Creates a new individual API Invoker profile.

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/APIInvokerEnrolmentDetails'

callbacks:

notificationDestination:

'{request.body#/notificationDestination}':

post:

description: Notify the API Invoker about the onboarding completion

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/OnboardingNotification'

responses:

'204':

description: No Content (successful onboarding notification)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

responses:

'201':

description: API invoker on-boarded successfully.

content:

application/json:

schema:

$ref: '#/components/schemas/APIInvokerEnrolmentDetails'

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/api-invoker-management/v1/onboardedInvokers/{onboardingId}'

required: true

schema:

type: string

'202':

description: The CAPIF core has accepted the Onboarding request and is processing it.

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/onboardedInvokers/{onboardingId}:

delete:

description: Deletes an individual API Invoker.

parameters:

- name: onboardingId

in: path

description: String identifying an individual on-boarded API invoker resource

required: true

schema:

type: string

responses:

'204':

description: The individual API Invoker matching onboardingId was offboarded.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

description: Updates an individual API invoker details.

parameters:

- name: onboardingId

in: path

description: String identifying an individual on-boarded API invoker resource

required: true

schema:

type: string

requestBody:

description: representation of the API invoker details to be updated in CAPIF core function

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/APIInvokerEnrolmentDetails'

callbacks:

notificationDestination:

'{request.body#/notificationDestination}':

post:

description: Notify the API Invoker about the API invoker update completion

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/OnboardingNotification'

responses:

'204':

description: No Content (successful API invoker update notification)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

responses:

'200':

description: API invoker details updated successfully.

content:

application/json:

schema:

$ref: '#/components/schemas/APIInvokerEnrolmentDetails'

'202':

description: The CAPIF core has accepted the API invoker update details request and is processing it.

'204':

description: API invoker’s information updated successfully, with no content to be sent in the response body.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

description: Modify an individual API invoker details.

operationId: ModifyIndApiInvokeEnrolment

tags:

- Individual API Invoker enrolment details

parameters:

- name: onboardingId

in: path

required: true

schema:

type: string

requestBody:

required: true

content:

application/merge-patch+json:

schema:

$ref: '#/components/schemas/APIInvokerEnrolmentDetailsPatch'

responses:

'200':

description: The definition of the service API is modified successfully and a representation of the updated service API is returned in the request body.

content:

application/json:

schema:

$ref: '#/components/schemas/APIInvokerEnrolmentDetails'

'204':

description: No Content. The definition of the service API is modified successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

schemas:

OnboardingInformation:

type: object

description: Represents on-boarding information of the API invoker.

properties:

apiInvokerPublicKey:

type: string

description: The API Invoker’s public key

apiInvokerCertificate:

type: string

description: The API Invoker’s generic client certificate, provided by the CAPIF core function.

onboardingSecret:

type: string

description: The API Invoker’s onboarding secret, provided by the CAPIF core function.

required:

- apiInvokerPublicKey

APIList:

type: array

items:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/ServiceAPIDescription'

minItems: 1

description: The list of service APIs that the API Invoker is allowed to invoke

APIInvokerEnrolmentDetails:

type: object

properties:

apiInvokerId:

type: string

description: API invoker ID assigned by the CAPIF core function to the API invoker while on-boarding the API invoker. Shall not be present in the HTTP POST request from the API invoker to the CAPIF core function, to on-board itself. Shall be present in all other HTTP requests and responses.

readOnly: true

onboardingInformation:

$ref: '#/components/schemas/OnboardingInformation'

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

requestTestNotification:

type: boolean

description: Set to true by Subscriber to request the CAPIF core function to send a test notification as defined in in subclause 7.6. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

apiList:

$ref: '#/components/schemas/APIList'

apiInvokerInformation:

type: string

description: Generic information related to the API invoker such as details of the device or the application.

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- onboardingInformation

- notificationDestination

description: Information about the API Invoker that requested to onboard

OnboardingNotification:

type: object

description: Represents a notification of on-boarding or update result.

properties:

result:

type: boolean

description: Set to "true" indicate successful on-boarding. Otherwise set to "false"

resourceLocation:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

apiInvokerEnrolmentDetails:

$ref: '#/components/schemas/APIInvokerEnrolmentDetails'

apiList:

$ref: '#/components/schemas/APIList'

required:

- result

APIInvokerEnrolmentDetailsPatch:

type: object

description: Represents an API Invoker’s enrolment details to be updated.

properties:

onboardingInformation:

$ref: '#/components/schemas/OnboardingInformation'

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

apiList:

$ref: '#/components/schemas/APIList'

apiInvokerInformation:

type: string

description: Generic information related to the API invoker such as details of the device or the application.

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

## A.6 CAPIF\_Security\_API

openapi: 3.0.0

info:

title: CAPIF\_Security\_API

description: |

API for CAPIF security management.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/capif-security/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

paths:

/trustedInvokers/{apiInvokerId}:

get:

parameters:

- name: apiInvokerId

in: path

description: Identifier of an individual API invoker

required: true

schema:

type: string

- name: authenticationInfo

in: query

description: When set to 'true', it indicates the CAPIF core function to send the authentication information of the API invoker. Set to false or omitted otherwise.

schema:

type: boolean

- name: authorizationInfo

in: query

description: When set to 'true', it indicates the CAPIF core function to send the authorization information of the API invoker. Set to false or omitted otherwise.

schema:

type: boolean

responses:

'200':

description: The security related information of the API Invoker based on the request from the API exposing function.

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceSecurity'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'414':

$ref: 'TS29122\_CommonData.yaml#/components/responses/414'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

parameters:

- name: apiInvokerId

in: path

description: Identifier of an individual API invoker

required: true

schema:

type: string

requestBody:

description: create a security context for an API invoker

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceSecurity'

callbacks:

notificationDestination:

'{request.body#/notificationDestination}':

post:

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/SecurityNotification'

responses:

'204':

description: No Content (successful notification)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

responses:

'201':

description: Successful created.

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceSecurity'

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/capif-security/v1/trustedInvokers/{apiInvokerId}'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'414':

$ref: 'TS29122\_CommonData.yaml#/components/responses/414'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

delete:

parameters:

- name: apiInvokerId

in: path

description: Identifier of an individual API invoker

required: true

schema:

type: string

responses:

'204':

description: No Content (Successful deletion of the existing subscription)

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/trustedInvokers/{apiInvokerId}/update:

post:

parameters:

- name: apiInvokerId

in: path

description: Identifier of an individual API invoker

required: true

schema:

type: string

requestBody:

description: Update the security context (e.g. re-negotiate the security methods).

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceSecurity'

responses:

'200':

description: Successful updated.

content:

application/json:

schema:

$ref: '#/components/schemas/ServiceSecurity'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/trustedInvokers/{apiInvokerId}/delete:

post:

parameters:

- name: apiInvokerId

in: path

description: Identifier of an individual API invoker

required: true

schema:

type: string

requestBody:

description: Revoke the authorization of the API invoker for APIs.

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/SecurityNotification'

responses:

'204':

description: Successful revoked.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/securities/{securityId}/token:

post:

parameters:

- name: securityId

in: path

description: Identifier of an individual API invoker

required: true

schema:

type: string

requestBody:

required: true

content:

application/x-www-form-urlencoded:

schema:

$ref: '#/components/schemas/AccessTokenReq'

responses:

'200':

description: Successful Access Token Request

content:

application/json:

schema:

$ref: '#/components/schemas/AccessTokenRsp'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

description: Error in the Access Token Request

content:

application/json:

schema:

$ref: '#/components/schemas/AccessTokenErr'

components:

schemas:

ServiceSecurity:

type: object

description: Represents the details of the security method for each service API interface. When included by the API invoker, it indicates the preferred method of security. When included by the CAPIF core function, it indicates the security method to be used for the service API interface.

properties:

securityInfo:

type: array

items:

$ref: '#/components/schemas/SecurityInformation'

minimum: 1

notificationDestination:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

requestTestNotification:

type: boolean

description: Set to true by API invoker to request the CAPIF core function to send a test notification as defined in in subclause 7.6. Set to false or omitted otherwise.

websockNotifConfig:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/WebsockNotifConfig'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- securityInfo

- notificationDestination

SecurityInformation:

type: object

description: Represents the interface details and the security method.

properties:

interfaceDetails:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'

aefId:

type: string

description: Identifier of the API exposing function

apiId:

type: string

description: API identifier

prefSecurityMethods:

type: array

items:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/SecurityMethod'

minItems: 1

description: Security methods preferred by the API invoker for the API interface.

selSecurityMethod:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/SecurityMethod'

authenticationInfo:

type: string

description: Authentication related information

authorizationInfo:

type: string

description: Authorization related information

required:

- prefSecurityMethods

oneOf:

- required: [interfaceDetails]

- required: [aefId]

SecurityNotification:

type: object

description: Represents revoked authorization notification details.

properties:

apiInvokerId:

type: string

description: String identifying the API invoker assigned by the CAPIF core function.

aefId:

type: string

description: String identifying the AEF.

apiIds:

type: array

items:

type: string

minItems: 1

description: Identifier of the service API

cause:

$ref: '#/components/schemas/Cause'

required:

- apiInvokerId

- apiIds

- cause

AccessTokenReq:

format: x-www-form-urlencoded

description: Represents the access token request information.

properties:

grant\_type:

type: string

enum:

- client\_credentials

client\_id:

type: string

client\_secret:

type: string

scope:

type: string

required:

- grant\_type

- client\_id

AccessTokenRsp:

type: object

description: Represents the access token response information.

properties:

access\_token:

type: string

description: JWS Compact Serialized representation of JWS signed JSON object (AccessTokenClaims)

token\_type:

type: string

enum:

- Bearer

expires\_in:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

scope:

type: string

required:

- access\_token

- token\_type

- expires\_in

AccessTokenClaims:

type: object

description: Represents the claims data structure for the access token.

properties:

iss:

type: string

scope:

type: string

exp:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DurationSec'

required:

- iss

- scope

- exp

AccessTokenErr:

type: object

description: Represents an error in the access token request.

properties:

error:

type: string

enum:

- invalid\_request

- invalid\_client

- invalid\_grant

- unauthorized\_client

- unsupported\_grant\_type

- invalid\_scope

error\_description:

type: string

error\_uri:

type: string

required:

- error

Cause:

anyOf:

- type: string

enum:

- OVERLIMIT\_USAGE

- UNEXPECTED\_REASON

- type: string

description: >

This string provides forward-compatibility with future

extensions to the enumeration but is not used to encode

content defined in the present version of this API.

description: >

Possible values are

- OVERLIMIT\_USAGE: The revocation of the authorization of the API invoker is due to the overlimit usage of the service API

- UNEXPECTED\_REASON: The revocation of the authorization of the API invoker is due to unexpected reason.

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

## A.7 CAPIF\_Access\_Control\_Policy\_API

openapi: 3.0.0

info:

title: CAPIF\_Access\_Control\_Policy\_API

description: |

API for access control policy.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/access-control-policy/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

paths:

/accessControlPolicyList/{serviceApiId}:

get:

description: Retrieves the access control policy list.

parameters:

- name: serviceApiId

in: path

description: Identifier of a published service API

required: true

schema:

type: string

- name: aef-id

in: query

required: true

description: Identifier of the AEF

schema:

type: string

- name: api-invoker-id

in: query

description: Identifier of the API invoker

schema:

type: string

- name: supported-features

in: query

description: To filter irrelevant responses related to unsupported features

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

responses:

'200':

description: OK.

content:

application/json:

schema:

$ref: '#/components/schemas/AccessControlPolicyList'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'414':

$ref: 'TS29122\_CommonData.yaml#/components/responses/414'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

schemas:

AccessControlPolicyList:

type: object

description: Represents the access control policy list for a published service API.

properties:

apiInvokerPolicies:

type: array

items:

$ref: '#/components/schemas/ApiInvokerPolicy'

minItems: 0

description: Policy of each API invoker.

ApiInvokerPolicy:

type: object

description: Represents the policy of an API Invoker.

properties:

apiInvokerId:

type: string

description: API invoker ID assigned by the CAPIF core function

allowedTotalInvocations:

type: integer

description: Total number of invocations allowed on the service API by the API invoker.

allowedInvocationsPerSecond:

type: integer

description: Invocations per second allowed on the service API by the API invoker.

allowedInvocationTimeRangeList:

type: array

items:

$ref: '#/components/schemas/TimeRangeList'

minItems: 0

description: The time ranges during which the invocations are allowed on the service API by the API invoker.

required:

- apiInvokerId

TimeRangeList:

type: object

description: Represents the time range during which the invocation of a service API is allowed by the API invoker.

properties:

startTime:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

stopTime:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

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

## A.8 CAPIF\_Logging\_API\_Invocation\_API

openapi: 3.0.0

info:

title: CAPIF\_Logging\_API\_Invocation\_API

description: |

API for invocation logs.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/api-invocation-logs/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

paths:

/{aefId}/logs:

post:

description: Creates a new log entry for service API invocations.

parameters:

- name: aefId

in: path

description: Identifier of the API exposing function

required: true

schema:

type: string

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/InvocationLog'

responses:

'201':

description: Log of service API invocations provided by API exposing function successfully stored on the CAPIF core function.

content:

application/json:

schema:

$ref: '#/components/schemas/InvocationLog'

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/api-invocation-logs/v1/{aefId}/logs/{logId}'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/{aefId}/logs/{logId}:

description: Creates a new log entry for service API invocations.

parameters:

- name: aefId

in: path

description: Identifier of the API exposing function

required: true

schema:

type: string

- name: logId

in: path

description: Identifier of individual log entry

required: true

schema:

type: string

components:

schemas:

InvocationLog:

type: object

description: Represents a set of Service API invocation logs to be stored in a CAPIF core function.

properties:

aefId:

type: string

description: Identity information of the API exposing function requesting logging of service API invocations

apiInvokerId:

type: string

description: Identity of the API invoker which invoked the service API

logs:

type: array

items:

$ref: '#/components/schemas/Log'

minItems: 1

description: Service API invocation log

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- aefId

- apiInvokerId

- logs

Log:

type: object

description: Represents an individual service API invocation log entry.

properties:

apiId:

type: string

description: String identifying the API invoked.

apiName:

type: string

description: Name of the API which was invoked, it is set as {apiName} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501.

apiVersion:

type: string

description: Version of the API which was invoked

resourceName:

type: string

description: Name of the specific resource invoked

uri:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Uri'

protocol:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Protocol'

operation:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Operation'

result:

type: string

description: For HTTP protocol, it contains HTTP status code of the invocation

invocationTime:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

invocationLatency:

$ref: '#/components/schemas/DurationMs'

inputParameters:

description: List of input parameters. Can be any value - string, number, boolean, array or object.

outputParameters:

description: List of output parameters. Can be any value - string, number, boolean, array or object.

srcInterface:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'

destInterface:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'

fwdInterface:

type: string

description: It includes the node identifier (as defined in IETF RFC 7239 of all forwarding entities between the API invoker and the AEF, concatenated with comma and space, e.g. 192.0.2.43:80, unknown:\_OBFport, 203.0.113.60

required:

- apiId

- apiName

- apiVersion

- resourceName

- protocol

- result

DurationMs:

type: integer

description: Unsigned integer identifying a period of time in units of milliseconds.

minimum: 0

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

## A.9 CAPIF\_Auditing\_API

openapi: 3.0.0

info:

title: CAPIF\_Auditing\_API

description: |

API for auditing.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/logs/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

paths:

/apiInvocationLogs:

get:

description: Query and retrieve service API invocation logs stored on the CAPIF core function.

parameters:

- name: aef-id

in: query

description: String identifying the API exposing function.

schema:

type: string

- name: api-invoker-id

in: query

description: String identifying the API invoker which invoked the service API.

schema:

type: string

- name: time-range-start

in: query

description: Start time of the invocation time range.

schema:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

- name: time-range-end

in: query

description: End time of the invocation time range.

schema:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/DateTime'

- name: api-id

in: query

description: String identifying the API invoked.

schema:

type: string

- name: api-name

in: query

description: API name, it is set as {apiName} part of the URI structure as defined in subclause 4.4 of 3GPP TS 29.501.

schema:

type: string

- name: api-version

in: query

description: Version of the API which was invoked.

schema:

type: string

- name: protocol

in: query

description: Protocol invoked.

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Protocol'

- name: operation

in: query

description: Operation that was invoked on the API.

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/Operation'

- name: result

in: query

description: Result or output of the invocation.

schema:

type: string

- name: resource-name

in: query

description: Name of the specific resource invoked.

schema:

type: string

- name: src-interface

in: query

description: Interface description of the API invoker.

content:

application/json:

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'

- name: dest-interface

in: query

description: Interface description of the API invoked.

content:

application/json:

schema:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/InterfaceDescription'

- name: supported-features

in: query

description: To filter irrelevant responses related to unsupported features

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

responses:

'200':

description: Result of the query operation along with fetched service API invocation log data.

content:

application/json:

schema:

$ref: 'TS29222\_CAPIF\_Logging\_API\_Invocation\_API.yaml#/components/schemas/InvocationLog'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'414':

$ref: 'TS29122\_CommonData.yaml#/components/responses/414'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

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

## A.10 AEF\_Security\_API

openapi: 3.0.0

info:

title: AEF\_Security\_API

description: |

API for AEF security management.

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version: "1.2.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/aef-security/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222.

paths:

/check-authentication:

post:

summary: Check authentication.

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/CheckAuthenticationReq'

responses:

'200':

description: The request was successful.

content:

application/json:

schema:

$ref: '#/components/schemas/CheckAuthenticationRsp'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/revoke-authorization:

post:

summary: Revoke authorization.

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/RevokeAuthorizationReq'

responses:

'200':

description: The request was successful.

content:

application/json:

schema:

$ref: '#/components/schemas/RevokeAuthorizationRsp'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

schemas:

CheckAuthenticationReq:

type: object

description: Represents authentication check request data.

properties:

apiInvokerId:

type: string

description: API invoker ID assigned by the CAPIF core function to the API invoker while on-boarding the API invoker.

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- apiInvokerId

- supportedFeatures

CheckAuthenticationRsp:

type: object

description: Represents authentication check response data.

properties:

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- supportedFeatures

RevokeAuthorizationReq:

type: object

description: Represents authorization revocation request data.

properties:

revokeInfo:

$ref: 'TS29222\_CAPIF\_Security\_API.yaml#/components/schemas/SecurityNotification'

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- revokeInfo

- supportedFeatures

RevokeAuthorizationRsp:

type: object

description: Represents authorization revocation response data.

properties:

supportedFeatures:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

required:

- supportedFeatures

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

## A.11 CAPIF\_API\_Provider\_Management\_API

openapi: 3.0.0

info:

title: CAPIF\_API\_Provider\_Management\_API

description: |

API for API provider domain functions management.

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version: "1.1.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/api-provider-management/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

paths:

/registrations:

post:

description: Registers a new API Provider domain with API provider domain functions profiles.

requestBody:

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/APIProviderEnrolmentDetails'

responses:

'201':

description: API provider domain registered successfully

content:

application/json:

schema:

$ref: '#/components/schemas/APIProviderEnrolmentDetails'

headers:

Location:

description: 'Contains the URI of the newly created resource, according to the structure: {apiRoot}/api-provider-management/v1/registrations/{registrationId}'

required: true

schema:

type: string

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

/registrations/{registrationId}:

delete:

description: Deregisters API provider domain by deleting API provider domain and functions.

parameters:

- name: registrationId

in: path

description: String identifying an registered API provider domain resource.

required: true

schema:

type: string

responses:

'204':

description: The API provider domain matching registrationId is deleted.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

put:

description: Updates an API provider domain's registration details.

parameters:

- name: registrationId

in: path

description: String identifying an registered API provider domain resource.

required: true

schema:

type: string

requestBody:

description: Representation of the API provider domain registration details to be updated in CAPIF core function.

required: true

content:

application/json:

schema:

$ref: '#/components/schemas/APIProviderEnrolmentDetails'

responses:

'200':

description: API provider domain registration details updated successfully.

content:

application/json:

schema:

$ref: '#/components/schemas/APIProviderEnrolmentDetails'

'204':

description: No Content

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

patch:

description: Modify an individual API provider details.

operationId: ModifyIndApiProviderEnrolment

tags:

- Individual API Provider enrolment details

parameters:

- name: registrationId

in: path

required: true

schema:

type: string

requestBody:

required: true

content:

application/merge-patch+json:

schema:

$ref: '#/components/schemas/APIProviderEnrolmentDetailsPatch'

responses:

'200':

description: The definition of the service API is modified successfully and a representation of the updated service API is returned in the request body.

content:

application/json:

schema:

$ref: '#/components/schemas/APIProviderEnrolmentDetails'

'204':

description: No Content. The definition of the service API is modified successfully.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

schemas:

APIProviderEnrolmentDetails:

type: object

description: Represents an API provider domain's enrolment details.

properties:

apiProvDomId:

type: string

description: API provider domain ID assigned by the CAPIF core function to the API management function while registering the API provider domain. Shall not be present in the HTTP POST request from the API Management function to the CAPIF core function, to on-board itself. Shall be present in all other HTTP requests and responses.

readOnly: true

regSec:

type: string

description: Security information necessary for the CAPIF core function to validate the registration of the API provider domain. Shall be present in HTTP POST request from API management function to CAPIF core function for API provider domain registration.

apiProvFuncs:

type: array

items:

$ref: '#/components/schemas/APIProviderFunctionDetails'

minItems: 1

description: A list of individual API provider domain functions details. When included by the API management function in the HTTP request message, it lists the API provider domain functions that the API management function intends to register/update in registration or update registration procedure. When included by the CAPIF core function in the HTTP response message, it lists the API domain functions details that are registered or updated successfully.

apiProvDomInfo:

type: string

description: Generic information related to the API provider domain such as details of the API provider applications.

suppFeat:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

failReason:

type: string

description: Registration or update specific failure information of failed API provider domain function registrations.Shall be present in the HTTP response body if atleast one of the API provider domain function registration or update registration fails.

required:

- regSec

APIProviderFunctionDetails:

type: object

description: Represents API provider domain function's details.

properties:

apiProvFuncId:

type: string

description: API provider domain functionID assigned by the CAPIF core function to the API provider domain function while registering/updating the API provider domain. Shall not be present in the HTTP POST request from the API management function to the CAPIF core function, to register itself. Shall be present in all other HTTP requests and responses.

regInfo:

$ref: '#/components/schemas/RegistrationInformation'

apiProvFuncRole:

$ref: '#/components/schemas/ApiProviderFuncRole'

apiProvFuncInfo:

type: string

description: Generic information related to the API provider domain function such as details of the API provider applications.

required:

- regInfo

- apiProvFuncRole

RegistrationInformation:

type: object

description: Represents registration information of an individual API provider domain function.

properties:

apiProvPubKey:

type: string

description: Public Key of API Provider domain function.

apiProvCert:

type: string

description: API provider domain function's client certificate

required:

- apiProvPubKey

ApiProviderFuncRole:

anyOf:

- type: string

enum:

- AEF

- APF

- AMF

- type: string

description: >

This string provides forward-compatiblity with future extensions to the enumeration but is not used to encode content defined in the present version of this API.

description: >

Possible values are

- AEF: API provider function is API Exposing Function.

- APF: API provider function is API Publishing Function.

- AMF: API Provider function is API Management Function.

APIProviderEnrolmentDetailsPatch:

type: object

description: Represents an API provider domain's enrolment details.

properties:

apiProvFuncs:

type: array

items:

$ref: '#/components/schemas/APIProviderFunctionDetails'

minItems: 1

description: A list of individual API provider domain functions details. When included by the API management function in the HTTP request message, it lists the API provider domain functions that the API management function intends to register/update in registration or update registration procedure.

apiProvDomInfo:

type: string

description: Generic information related to the API provider domain such as details of the API provider applications.

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

## A.12 CAPIF\_Routing\_Info\_API

openapi: 3.0.0

info:

title: CAPIF\_Routing\_Info\_API

description: |

API for Routing information.

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version: "1.1.0"

externalDocs:

description: 3GPP TS 29.222 V17.5.0 Common API Framework for 3GPP Northbound APIs

url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.222/

servers:

- url: '{apiRoot}/capif-routing-info/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in subclause 7.5 of 3GPP TS 29.222

paths:

/service-apis/{serviceApiId}:

get:

description: Retrieves the API routing information.

parameters:

- name: serviceApiId

in: path

description: Identifier of a published service API

required: true

schema:

type: string

- name: aef-id

in: query

required: true

description: Identifier of the AEF

schema:

type: string

- name: supp-feat

in: query

required: false

description: To filter irrelevant responses related to unsupported features

schema:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/SupportedFeatures'

responses:

'200':

description: OK.

content:

application/json:

schema:

$ref: '#/components/schemas/RoutingInfo'

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'406':

$ref: 'TS29122\_CommonData.yaml#/components/responses/406'

'414':

$ref: 'TS29122\_CommonData.yaml#/components/responses/414'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

schemas:

RoutingInfo:

type: object

description: Represents an API routing information.

properties:

routingRules:

type: array

items:

$ref: '#/components/schemas/RoutingRule'

minItems: 1

required:

- routingRules

RoutingRule:

type: object

description: Represents an API routing rule.

properties:

ipv4AddrRanges:

type: array

items:

$ref: 'TS29510\_Nnrf\_NFManagement.yaml#/components/schemas/Ipv4AddressRange'

minItems: 1

ipv6AddrRanges:

type: array

items:

$ref: '#/components/schemas/Ipv6AddressRange'

minItems: 1

aefProfile:

$ref: 'TS29222\_CAPIF\_Publish\_Service\_API.yaml#/components/schemas/AefProfile'

required:

- aefProfile

Ipv6AddressRange:

type: object

description: Represents IPv6 address range.

properties:

start:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'

end:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv6Addr'

required:

- start

- end

\*\*\* End of Changes \*\*\*