**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** |

|  |
| --- |
|  |
| ***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 canbe found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | *Use one of the following releases:Rel-8 (Release 8)Rel-9 (Release 9)Rel-10 (Release 10)Rel-11 (Release 11)…Rel-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | 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 releaseCAPIF\_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 asCAPIF\_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 \*\*\*