**3GPP TSG- Meeting #C3-243576**

**Hyderabad, IN, 27 - 31 May, 2024 was C3-243261**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **1291** | **rev** | **1** | **Current version:** | **18.5.0** |  |
|  | | | | | | | | |
| *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:*** | Additional corrections to the DNAIMapping API | | | | | | | | |
|  |  | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | |
|  |  | | | | | | | | |
| ***Work item code:*** | EDGE\_Ph2 | | | | |  | ***Date:*** | | 2024-05-30 |
|  |  | | | |  | |  | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)  Rel-20 (Release 20)* | |
|  |  | | | | | | | | |
| ***Reason for change:*** | | | There is a need to apply further corrections and alignments with the drafting rules and NBI TS skeleton (in addition to the ones already agreed in C3-242566). | | | | | | |
|  | | |  | | | | | | |
| ***Summary of change:*** | | | This CR proposes to:   * Address the above-detailed missing provisions and issues. | | | | | | |
|  | | |  | | | | | | |
| ***Consequences if not approved:*** | | | * The provisions related to the definition of the DNAIMapping API continue to contain errors and misalignments with the drafting rules and NBI TS skeleton. | | | | | | |
|  | |  | | | | | | | |
| ***Clauses affected:*** | | 5.30.2.1, 5.30.2.2.3.2A (new clause), 5.30.5.1, 5.30.5.2.2, 5.30.5.2.3, 5.30.5.2.4 (new clause), A.28 | | | | | | | |
|  | |  | | | | | | | |
|  | | **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 introduces backwards compatible new feature and corrections to the OpenAPI description of the DNAIMapping API defined in this specification. * The clashes between this CR and C3-242566 in clause 5.30.5.1 are to be solved by the rapporteur. | | | | | | | |
|  | |  | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | |

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

#### 5.30.2.1 Overview

This clause describes the structure for the Resource URIs as shown in figure 5.30.2.1-1 and the resources and HTTP methods used for the DNAIMapping API.



Figure 5.30.2.1-1: Resource URI structure of the DNAIMapping API

Table 5.30.2.1-1 provides an overview of the resources and HTTP methods applicable for the DNAIMapping API.

Table 5.30.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| Resource name | Resource URI | HTTP method | Description |
| DNAI Mapping Subscriptions | /{afId}/subscriptions | GET | Read all subscriptions for a given AF |
| POST | Create a new subscription to DNAI Mapping |
| Individual DNAI Mapping Subscription | /{afId}/subscriptions/{subscriptionId} | GET | Read a subscription to DNAI Mapping |
| DELETE | Delete a subscription to DNAI Mapping |

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

#### 5.30.5.1 General

This clause specifies the application data model supported by the DNAIMapping API. Table 5.30.5.1-1 specifies the data types defined for the DNAIMapping API.

Table 5.30.5.1-1: DNAIMapping specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| DnaiMapUpdateNotif | 5.30.5.2.3 | Represents the notification data of they update of DNAI Mapping information. |  |
| DnaiMapSub | 5.30.5.2.2 | Represents DNAI Mapping subscription data. |  |

Table 5.30.5.1-2 specifies data types re-used by the DNAIMapping API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the DNAIMapping API.

Table 5.30.5.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| DnaiEasInfo | 3GPP TS 29.519 [23] | Contains EAS information for a DNAI. |  |
| Dnn | 3GPP TS 29.571 [8] | Identifies the DNN. |  |
| Fqdn | 3GPP TS 29.571 [8] | Identifies an FQDN. |  |
| IpAddr | 3GPP TS 29.571 [8] | Identifes an IP address. |  |
| ReportingInformation | 3GPP TS 29.523 [22] | Represents the event reporting requirements. |  |
| Snssai | 3GPP TS 29.571 [8] | Identifies an S-NSSAI. |  |
| SupportedFeatures | 3GPP TS 29.571 [8] | Represents the list of supported feature(s) and used to negotiate the applicability of the optional features. |  |
| Uri | 3GPP TS 29.122 [4] | Contains a URI. |  |
| WebsockNotifConfig | 3GPP TS 29.122 [4] | Contains the configuration parameters to set up notification delivery over Websocket protocol. |  |

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

##### 5.30.5.2.2 Type: DnaiMapSub

Table 5.30.5.2.2-1: Definition of type DnaiMapSub

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| easIpAddrs | array(IpAddr) | C | 1..N | the IP address(es) of the EAS(s) in the Local part of the DN or the IP address range(s) (i.e., IPv4 subnetwork(s) and/or IPv6 prefix(es)) of the Local part of the DN where the EAS(s) is/are deployed.  (NOTE) |  |
| fqdns | array(Fqdn) | C | 1..N | the FQDN(s) of the EAS(s) in the Local part of the DN where the EAS(s) is/are deployed.  (NOTE) |  |
| dnn | Dnn | O | 0..1 | Contains a DNN, a full DNN with both the Network Identifier and Operator Identifier, or a DNN with the Network Identifier only. |  |
| snssai | Snssai | O | 0..1 | Identifies an S-NSSAI. |  |
| immReports | array(DnaiEasInfo) | C | 1..N | the DNAI EAS mapping information.  This attribute shall be present only in subscription creation/update responses and only when immediate reporting was requested in the corresponding subscription creation/update request and the information is available. |  |
| eventReq | ReportingInformation | O | 0..1 | Indicates the event reporting requirements. |  |
| notifUri | Uri | M | 1 | Represents the URI via which the DNAI Mapping Information Update notifications shall be delivered. |  |
| notifCorrId | string | M | 1 | Notification correlation identifier |  |
| requestTestNotification | boolean | O | 0..1 | Set to true by the AF to request the NEF to send a test notification as defined in clause 5.2.5.3 of 3GPP TS 29.122 [4]. Set to false or omitted otherwise. | Notification\_test\_event |
| websockNotifConfig | WebsockNotifConfig | O | 0..1 | Configuration parameters to set up notification delivery over Websocket protocol. | Notification\_websocket |
| suppFeat | SupportedFeatures | C | 0..1 | Indicates the list of Supported features used as described in clause 5.30.4.  This attribute shall be provided in the POST request and in the response of successful resource creation. |  |
| NOTE: Either "easIpAddrs" or "fqdns" attribute shall be provided. | | | | | |

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

##### 5.30.5.2.3 Type: DnaiMapUpdateNotif

Table 5.30.5.2.3-1: Definition of type DnaiMapUpdateNotif

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| dnaiEasAddrMap | array(DnaiEasInfo) | M | 1..N | Represents the mapping information between the DNAI(s) and the EAS address(es). |  |
| notifCorrId | string | M | 1 | Notification correlation identifier. |  |

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

# A.28 DNAIMapping API

openapi: 3.0.0

info:

title: 3gpp-dnaimapping

version: 1.0.0-alpha.4

description: |

API for DNAI Mapping.

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externalDocs:

description: >

3GPP TS 29.522 V18.5.0; 5G System; Network Exposure Function Northbound APIs.

url: 'https://www.3gpp.org/ftp/Specs/archive/29\_series/29.522/'

security:

- {}

- oAuth2ClientCredentials: []

servers:

- url: '{apiRoot}/3gpp-dnai-mapping/v1'

variables:

apiRoot:

default: https://example.com

description: apiRoot as defined in clause 5.2.4 of 3GPP TS 29.122.

paths:

/{afId}/subscriptions:

get:

summary: read all of the active subscriptions for the AF

operationId: ReadAllSubscriptions

tags:

- DNAI Mapping Subscriptions

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get all of the active subscriptions for the AF)

content:

application/json:

schema:

type: array

items:

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

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'

post:

summary: Create a new subscription resource

operationId: CreateNewSubscription

tags:

- DNAI Mapping Subscriptions

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

requestBody:

description: new subscription creation

required: true

content:

application/json:

schema:

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

callbacks:

notification:

'{request.body#/notifUri}':

post:

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

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

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)

content:

application/json:

schema:

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

headers:

Location:

description: Contains the URI of the newly created resource.

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'

/{afId}/subscriptions/{subscriptionId}:

get:

summary: read an active subscription for the AF and the subscription Id

operationId: ReadAnSubscription

tags:

- Individual DNAI Mapping Subscription

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

responses:

'200':

description: OK (Successful get the active subscription)

content:

application/json:

schema:

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

'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'

delete:

summary: Deletes an already existing subscription

operationId: DeleteAnSubscription

tags:

- Individual Dnai Mapping Subscription

parameters:

- name: afId

in: path

description: Identifier of the AF

required: true

schema:

type: string

- name: subscriptionId

in: path

description: Identifier of the subscription resource

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'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

DnaiMapSub:

description: Represents a DNAI Mapping subscription.

type: object

properties:

easIpAddrs:

type: array

items:

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

minItems: 1

description: >

Contains the IP address(es) of the EAS(s) in the Local part of the DN or the IP address

range(s)(IPv4 subnetwork(s) and/or IPv6 prefix(es)) of the Local part of the DN where the

EAS(s) is/are deployed.

fqdns:

type: array

items:

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

minItems: 1

description: >

Contains the FQDN(s) of the EAS(s) in the Local part of the DN where the EAS(s) is/are

deployed.

dnn:

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

snssai:

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

eventReq:

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

immReport:

type: array

items:

$ref: 'TS29519\_Application\_Data.yaml#/components/schemas/DnaiEasInfo'

minItems: 1

description: Contains the DNAI EAS mapping information.

notifUri:

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

notifCorrId:

type: string

description: Contains the updated notification correlation identifier.

requestTestNotification:

type: boolean

description: >

Set to true by the AF to request the NEF to send a test notification

as defined in clause 5.2.5.3 of 3GPP TS 29.122. Set to false or omitted otherwise.

websockNotifConfig:

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

suppFeat:

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

oneOf:

- required: [easIpAddrs]

- required: [fqdn]

required:

- notifUri

- notifCorrId

DnaiMapUpdateNotif:

description: Represents an updated DNAI Mapping notification.

type: object

properties:

dnaiEasAddrMap:

type: array

items:

$ref: 'TS29519\_Application\_Data.yaml#/components/schemas/DnaiEasInfo'

minItems: 1

description: >

Contains the mapping information between DNAI(s) and EAS address(es).

notifCorrId:

type: string

description: Contains the notification correlation identifier.

required:

- dnaiEasAddrMap

- notifCorrId

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