**3GPP TSG-CT3 Meeting #137 *C3-245537***

**Hefei, China, 14th Oct 2024 - 18th Oct 2024 revision of C3-245249**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.3* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **1392** | **rev** | **1** | **Current version:** | **19.0.0** |  |
|  | | | | | | | | |
| *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)*.* | | | | | | | | |
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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Update Open API for Enhancement of getting NATed UE public IP address and port number | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Ericsson, ZTE | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | UPEAS\_Ph2 | | | | |  | ***Date:*** | | | 2024-10-17 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-19 |
|  | *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:*** | | As per SA agreed CR#SP-241306 (refer cl 5.2.6.36, 5.2.6.36.3, 5.2.6.36.4, 5.2.6.36.5 from 23.502), the Nnef\_UEAddress service is extended to use new service operation (Subscriber/Unsubscribe/Notify) for NF service consumer to request NEF to provide the NATed UE public IP address and Port number corresponding to given UE private IP address as required in the SA agreed CR#SP-241416 (refer cl 6.2.8.2.4.5 from 23.228). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | This CR proposes to:   * Update the Open API specification to the UeAddress API to fulfill the above requirement. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Stage 2 requirements for retrieving the UE public IP address when there is NAT between UE and AF are not supported in stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | A.33 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR provides backward compatible feature updates to the Open API UEAddress API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* \* 1st Change \* \* \* \*

# A.33 UEAddress API

openapi: 3.0.0

info:

title: 3gpp-ue-address

version: 1.0.0

description: |

API for UE Address service.

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externalDocs:

description: 3GPP TS 29.522 V18.6.0; 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-ue-address/v1'

variables:

apiRoot:

default: https://example.com

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

paths:

/subscriptions:

get:

summary: read all of the active subscriptions for the AF.

operationId: ReadAllSubscriptions

tags:

- UE Address Subscriptions

parameters:

- name: supp-feat

in: query

description: Features supported by the NF service consumer

required: false

schema:

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

responses:

'200':

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

content:

application/json:

schema:

type: array

items:

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

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: Creates a new subscription resource

operationId: CreateNewSubscription

tags:

- UE Address Subscriptions

requestBody:

description: new subscription creation

required: true

content:

application/json:

schema:

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

callbacks:

notification:

'{$request.body#/notifUri}':

post:

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

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

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/UeAddrSubsc'

headers:

Location:

description: Contains the URI of the newly created resource.

required: true

schema:

type: string

'204':

description: >

Successful case. The resource has been successfully created and no additional

content is to be sent in the response message.

'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'

/subscriptions/{subscriptionId}:

get:

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

operationId: ReadAnSubscription

tags:

- Individual UE Address information Subscription

parameters:

- name: subscriptionId

in: path

description: Identifier of the subscription resource

required: true

schema:

type: string

- name: supp-feat

in: query

description: Features supported by the NF service consumer

required: false

schema:

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

responses:

'200':

description: OK (Successful get the active subscription)

content:

application/json:

schema:

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

'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 UE Address Subscription

parameters:

- 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'

/retrieve:

post:

summary: Request to retrieve UE Address information.

operationId: RetrieveUEAddress

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

OK. The UE Address information request is successfully processed, and UE address

information is returned in the response body.

content:

application/json:

schema:

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

'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:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

UeAddressReq:

description: Represents the parameters to request the retrieval of UE Address information.

type: object

properties:

afId:

type: string

gpsi:

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

suppFeat:

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

required:

- afId

- gpsi

UeAddressInfo:

description: Represents UE Address information.

type: object

properties:

ueIpAddrs:

type: array

items:

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

minItems: 1

required:

- ueIpAddrs

UeAddrSubsc:

description: Represents the parameters to subscribe for UE Address information.

type: object

properties:

notifUri:

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

notifId:

type: string

afId:

type: string

ueAddrInfo:

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

immRepInd:

type: boolean

default: false

immReport:

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

suppFeat:

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

self:

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

required:

- notifUri

- notifId

- afId

UeAddrInfo:

description: Represents the parameters to subscribe for UE NAT Address information.

type: object

properties:

uePrivateIpAddr:

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

ipDomain:

type: string

remoteIpAddr:

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

remotePortNumber:

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

required:

- uePrivateIpAddr

- remoteIpAddr

UeAddrNotif:

description: Represents a UE address information.

type: object

properties:

notifCorrId:

type: string

description: Contains the updated notification correlation identifier.

ueNatAddrInfo:

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

required:

- notifCorrId

UeNatAddrInfo:

description: Represents UE NAT Address information.

type: object

properties:

ueNatIpAddr:

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

ueNatPortNumber:

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

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