**3GPP TSG-CT3 Meeting #130C3-234442**

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-234187)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.522** | **CR** | **1059** | **rev** | **1** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *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:*** | UEAddress API definitions | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | eNetAE | | | | |  | ***Date:*** | | | 2023-09-22 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | Nnef\_UEAddress API is included in clause 6.2.8.2.4.3 of TS 23.288 and clause 5.2.6.36 of 3GPP TS 23.502 to support Input data collection from AF on UE address correlation in user plane, which is not implemented yet. While this is a new API not always needed, hence consider to add UEAddress API in this specification from Rel-18. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding UEAddress API definitions. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Not supporting API definitions for stage 2 required Nnef\_UEAddress API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.35(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  | **X** | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  | **X** | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  | **X** | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | | This CR does not impact the OpenAPI file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

## 5.35 UeAddress API

### 5.35.1 Introduction

The Nnef\_UeAddress service shall use the UeAddress API.

The API URI of UeAddress API shall be:

**{apiRoot}/3gpp-ue-address/v1**

with the following components:

- "apiRoot" is set as described in clause 5.2.4 in 3GPP TS 29.122 [4].

- "apiName" shall be set to "3gpp-ue-address".

- "apiVersion" shall be set to "v1" for the current version defined in the present document.

All resource URIs in the clauses below are defined relative to the above API URI.

### 5.35.2 Resources

There are no resources defined for this API in this release of the specification.

### 5.35.3 Custom Operations without associated resources

#### 5.35.3.1 Overview

The structure of the custom operation URIs of the UeAddress API is shown in Figure 5.35.3.1-1.



Figure 5.35.3.1-1: Custom operation URI structure of the UeAddress API

Table 5.35.3.1-1 provides an overview of the custom operations and applicable HTTP methods.

Table 5.35.3.1-1: Custom operations without associated resources

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Custom operation URI | Mapped HTTP method | Description |
| Retrieve | /retrieve | POST | Request to retrieve UE Address information. |

#### 5.35.3.2 Operation: Retrieve

##### 5.35.3.2.1 Description

The custom operation allows a service consumer to retrieve UE Address information via the NEF.

##### 5.35.3.2.2 Operation Definition

This operation shall support the request and response data structures and response codes specified in table 5.35.3.2.2-1 and table 5.35.3.2.2-2.

Table 5.35.3.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| UeAddressReq | M | 1 | Parameters to request to retrieve UE Address information. |

Table 5.35.3.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Response  codes | Description |
| UeAddressInfo | M | 1 | 200 OK | The requested UE Address information was returned successfully. |
| ProblemDetails | O | 0..1 | 403 Forbidden | If the AF request is not authorized, the NEF shall respond with "403 Forbidden". |
| ProblemDetails | O | 0..1 | 404 Not Found | If the requested UE ID does not exist or not available in the subscription, the NEF shall respond with "404 Not Found". |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection. The response shall include a Location header field containing an alternative URI of the resource located in an alternative NEF.  Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [4] |
| NOTE: The mandatory HTTP error status codes for the POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] also apply. | | | | |

Table 5.35.3.2.2-3: Headers supported by the 307 Response Code on this resource

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

Table 5.35.3.2.2-4: Headers supported by the 308 Response Code on this resource

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

### 5.35.4 Notifications

There are no Notifications defined for this API in this release of the specification.

### 5.35.5 Data Model

#### 5.35.5.1 General

This clause specifies the application data model supported by the UeAddress API. Table 5.35.5.1-1 specifies the data types defined for the UeAddress API.

Table 5.35.5.1-1: UeAddress service specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| UeAddressReq | 5.35.5.2.2 | Represents the parameters to requestUE Address retrieval. |  |
| UeAddressInfo | 5.35.5.2.3 | Represents UE Address information. |  |

Table 5.35.5.1-2 specifies data types re-used by the UeAddress API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the UeAddress API.

Table 5.35.5.1-2: Re-used Data Types

|  |  |  |
| --- | --- | --- |
| Data type | Reference | Comments |
| Gpsi | 3GPP TS 29.571 [8] | Identifies a GPSI of the UE. |
| IpAddr | 3GPP TS 29.571 [8] | Identifes an IP address. |
| ProblemDetails | 3GPP TS 29.122 [4] | Represents error related information. |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of the optional features. |

#### 5.35.5.2 Structured data types

##### 5.35.5.2.1 Introduction

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

##### 5.35.5.2.2 Type: UeAddressReq

Table 5.35.5.2.2-1: Definition of type UeAddressReq

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| afId | string | M | 1 | Represents the identifier of the AF that is sending the request. |  |
| gpsi | Gpsi | M | 1 | Identifies a GPSI of the UE. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Indicates the list of supported features.  This attribute shall be provided if feature negotiation needs to take place. |  |

##### 5.35.5.2.3 Type: UeAddressInfo

Table 5.35.5.2.3-1: Definition of type UeAddressInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| ueIpAddrs | array(IpAddr) | M | 1..N | Contains the UE Address(es) corresponding to the requested GPSI. |  |

#### 5.35.5.3 Simple data types and enumerations

##### 5.35.5.3.1 Introduction

This clause defines simple data types and enumerations that can be referenced from data structures defined in the previous clauses.

##### 5.35.5.3.2 Simple data types

The simple data types defined in table 5.35.5.3.2-1 shall be supported.

Table 5.35.5.3.2-1: Simple data types

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

### 5.35.6 Used Features

The table below defines the features applicable to the UeAddress API. Those features are negotiated as described in clause 5.2.7 of 3GPP TS 29.122 [4].

Table 5.35.6-1: Features used by UeAddress API

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

### 5.35.7 Error handling

#### 5.35.7.1 General

HTTP error handling shall be supported as specified in clause 5.2.6 of 3GPP TS 29.122 [4].

In addition, the requirements in the following clauses shall apply.

#### 5.35.7.2 Protocol Errors

In this Release of the specification, there are no additional protocol errors applicable for the UeAddress API.

#### 5.35.7.3 Application Errors

The application errors defined for the UeAddress API are listed in table 5.35.7.3-1.

Table 5.35.7.3-1: Application errors

|  |  |  |
| --- | --- | --- |
| Application Error | HTTP status code | Description |
| REQUEST\_NOT\_AUTHORIZED | 403 Forbidden | Indicates that the UE Address retrieval request is not authorized. |
| UE\_NOT\_FOUND | 404 Not Found | Indicates that the requested UE address is not found. |

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