**3GPP TSG-CT3 Meeting #130C3-234180**

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-233284)**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.558** | **CR** | **0089** | **rev** | **3** | **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:***  | Updates to Eees\_UEIdentifier API |
|  |  |
| ***Source to WG:*** | Ericsson, Samsung |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | EDGEAPP\_Ph2 |  | ***Date:*** | 2023-09-20 |
|  |  |  |  |  |
| ***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 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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
|  |  |
| ***Reason for change:*** | TS 23.558 clause 8.6.5.4 added EEC as service consumer of Eees\_UEIdentifier API, clause 8.6.5.2 procedure adding EEC invoking UE ID retrieval from EES with different handling requirements, clause 8.6.5.3 adding EEC related UE ID retrieval description and extended related paratemeters in the response, covering the approved TS 23.558 CR 0156 (S6-231035), CR 0326 (S6-231635), CR 0379 (S6-232016) and CR 0409 (S6-232190).Hence needs to implement accordingly this specification. |
|  |  |
| ***Summary of change:*** | Update in Eees\_UEIdentifier API adding extended UE Identifier supporting with new feature and adding EEC related description aligned with stage 2.Add new custom operation for EAS and EEC as service consumer and depreate existing custom operation upon new feature. |
|  |  |
| ***Consequences if not approved:*** | Not effectively supporting stage 2 required extension for Eees\_UEIdentifier API. |
|  |  |
| ***Clauses affected:*** | 5.4, 5.4.2.1, 5.4.2.2.1A(new), 5.4.2.2.2, 8.3.3.1, 8.3.3.3(new), 8.3.3.3.1(new), 8.3.3.3.2(new), 8.3.3.4(new), 8.3.3.4.1(new), 8.3.3.4.2(new), 8.3.5.1, 8.3.5.2.2, 8.3.5.2.3(new), 8.3.5.2.4(new), 8.3.5.2.5(new), 8.3.5.3, 8.3.5.3.1 (new), 8.3.5.3.2 (new), 8.3.5.3.3 (new), 8.3.7, A.4 |
|  |  |
|  | **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 backward compatible feature to the OpenAPI file of Eees\_UEIdentifier API. |
|  |  |
| ***This CR’s revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

## 5.4 Eees\_UEIdentifier Service

#### 5.4.2.1 Introduction

The service operation defined for Eees\_UEIdentifier API is shown in the table 5.4.2.1-1.

Table 5.4.2.1-1: Operations of the Eees\_UEIdentifier API

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Eees\_UEIdentifier\_Get | This service operation is used by the EAS to request UE identifier information from a given EES that uses 3GPP CN capability to retrieve UE Identifier which is specific to the EAS. | EAS |

The Eees\_UEIdentifier\_Get service operation as defined in 3GPP TS 23.558 [2] is used by a service consumer to retrieve UE Identifier Information.

The following procedures using the Eees\_UEIdentifier\_Get service operation service operation are supported:

- EAS obtaining UE Identifier Information using the Get custom operation.

\*\*\* 2nd Change \*\*\*

##### 5.4.2.2.1A EAS obtaining UE Identifier Information using "Get" custom operation

In order to obtain an UE Identifier from the EES, the EAS shall send a HTTP POST request message to the EES with the request custom operation URI set to "{apiRoot}/eees-ueidentifier/<apiVersion>/get" and the request body including the UserInfo data structure as defined in clause 8.3.5.2.3.

Upon receiving the HTTP POST message from the EAS, the EES shall:

1. verify the identity of the EAS and check if the EAS is authorized to obtain the UE Identifier; and

3. if the EAS is authorized to obtain the UE's Identifier information, the EES shall:

a. invoke the Nnef\_UEId service as specified in clause 4.4.32 of 3GPP TS 29.522 [10] to obtain the UE identifier based on the user information received, and may derive the coresponding DNN and/or S-NSSAI based on the verified identity of the EAS; and

b. upon successful retrieval of the UE identifier, respond with "200 OK" along with the retrieved UE identifier information in the UeIdInformation data type to the EAS. If an error occurs when processing the request, the EES shall send an HTTP error response as specified in clause 7.7.

If the EES determines the received HTTP POST request needs to be redirected, the EES may respond with an HTTP "307 Temporary Redirect" status code or an HTTP "308 Permanent Redirect" status code including an HTTP "Location" header containing an alternative URI representing the end point of an alternative EES where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

\*\*\* 3rd Change \*\*\*

##### 5.4.2.2.2 EAS obtaining UE identifier from EES using "Fetch" custom operation

This procedure and the corresponding custom operation are deprecated. The procedure in clause 5.4.2.2.1A should be used instead.

To obtain an UE's Identifier from the EES, the EAS shall send a HTTP POST message to the EES with the request URI set to "{apiRoot}/eees-ueidentifier/<apiVersion>/fetch" and the request body with the UserInformation data structure including the information about the user or UE available with EAS, for which the UE identifier is requested.

Upon receiving the HTTP POST message from the EAS, the EES shall:

1. Process the EAS UE Identifier request;

2. verify the identity of the EAS and check if the EAS is authorized to obtain the UE Identifier;

3. if the EAS is authorized to obtain the UE's Identifier information, then the EES shall;

a. invoke the Nnef\_UEId service as specified in clause 4.4.32 of 3GPP TS 29.522 [10] to obtain the UE identifier based on the user information received, and may derive the corresponding DNN and/or S-NSSAI based on the verified identity of the EAS;

b. upon successful retrieval of UE identifier, respond with "200 OK" along with the retrieved UE identifier to the EAS. If the UE identifier cannot be successfully retrieved or an internal error or an error in the HTTP POST request, the EES shall send an HTTP error response as specified in clause 7.7.

If the EES determines the received HTTP POST request needs to be redirected, the EES may respond with an HTTP "307 Temporary Redirect" status code or an HTTP "308 Permanent Redirect" status code including an HTTP "Location" header containing an alternative URI representing the end point of an alternative EES where the notification should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

\*\*\* 4th Change \*\*\*

#### 8.3.3.1 Overview

The structure of the custom operation URIs of the Eees\_UEIdentifier API is shown in Figure 8.3.3.1-1.



Figure 8.3.3.1-1: Custom operation URI structure of the Eees\_UEIdentifier API

Table 8.3.3.1-1 provides an overview of the custom operations and applicable HTTP methods defined for the Eees\_UEIdentifier API.

Table 8.3.3.1-1: Custom operations without associated resources

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Custom operation URI | Mapped HTTP method | Description |
| Fetch | /fetch | POST | Fetch the identifier of a UE.This custom operation is deprecated. The "Get" operation should be used instead. |
| Get | /get | POST | EAS fetch the UE Identifier information. |

NOTE 1: Based on SA3 specified security mechanisms for EDGE-1 and EDGE-3 interfaces, the EES can identify the initiator of the API (EEC or EAS) and apply the appropriate security procedures as specified in 3GPP TS 33.558 [20].

NOTE 2: The same service API can be implemented on two different interfaces, i.e. EDGE-1 and EDGE-3, which are for separate endpoints, i.e. the EEC and the EAS.

\*\*\* 5th Change \*\*\*

#### 8.3.3.2 Operation: Fetch

This operation is deprecated. The operation defined in clause 8.3.3.3 should be used instead.

##### 8.3.3.2.1 Description

This custom operation allows the EAS to fetch a UE's identifier, which is UE ID as specified in 3GPP TS 23.558 [2], from the EES for a given UE information.

##### 8.3.3.2.2 Operation Definition

This operation shall support the request data structures and the response data structure and response codes specified in the tables 8.3.3.2.2-1 and 8.3.3.2.2-2.

Table 8.3.3.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| UserInformation | M | 1 | Information about the User or the UE, available at the EAS. |

Table 8.3.3.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| Gpsi | M | 1 | 200 OK | The UE Identifier (UE ID), returned by the Edge Enabler Server. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection. The response shall include a Location header field containing an alternative target URI located in an alternative EES.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection. The response shall include a Location header field containing an alternative target URI located in an alternative EES.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6] |
| NOTE: The manadatory HTTP error status code for the POST method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

Table 8.3.3.2.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative target URI located in an alternative EES. |

Table 8.3.3.2.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative target URI located in an alternative EES. |

\*\*\* 6th Change \*\*\*

#### 8.3.3.3 Operation: Get

##### 8.3.3.3.1 Description

This custom operation allows the service consumer to retrieve UE Identifier information from the EES for a given User information as specified in 3GPP TS 23.558 [2].

##### 8.3.3.3.2 Operation Definition

This operation shall support the request data structures and the response data structure and response codes specified in the tables 8.3.3.3.2-1 and 8.3.3.3.2-2.

Table 8.3.3.3.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | P | Cardinality | Description |
| UserInfo | M | 1 | Information about the User or the UE, provided by the service consumer. |

Table 8.3.3.3.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| UeIdInfo | M | 1 | 200 OK | The operation is successful and the corresponding UE Identifier information, returned by the Edge Enabler Server is included in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection. The response shall include a Location header field containing an alternative target URI located in an alternative EES.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6]. |
| n/a |  |  | 308 Permanent Redirect | Permanent redirection. The response shall include a Location header field containing an alternative target URI located in an alternative EES.Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6] |
| NOTE: The mandatory HTTP error status code for the POST method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] also apply. |

Table 8.3.3.3.2-3: Headers supported by the 307 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative target URI located in an alternative EES. |

Table 8.3.3.3.2-4: Headers supported by the 308 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description |
| Location | string | M | 1 | An alternative target URI located in an alternative EES. |

\*\*\* 7th Change \*\*\*

#### 8.3.5.1 General

This clause specifies the application data model supported by the API. Data types listed in clause 7.2 apply to this API

Table 8.3.5.1-1 specifies the data types defined specifically for the Eees\_UEIdentifier API service.

Table 8.3.5.1-1: Eees\_UEIdentifier API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| UserInformation | 8.3.5.2.2 | Information about the User or the UE, that used by EES to use 3GPP CN capability to retrieve the EAS specific UE identifier.Deprecated. |  |
| UserInfo | 8.3.5.2.3 | Information about the User or the UE, that used by EES to retrieve the UE identifier Information. |  |
| UeIdInfo | 8.3.5.2.4 | UE Identifier Information, including list of UE Identifier related information. |  |
| UeId | 8.3.5.2.5 | UE identifier. |  |
| UeIdType | 8.3.5.3.3 | Identifies the UE Identifier type. |  |

Table 8.3.5.1-2 specifies data types re-used by the Eees\_UEIdentifier API service.

Table 8.3.5.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| Gpsi | 3GPP TS 29.571 [8] | Used to identify the UE with GPSI.  |  |
| IpAddr | 3GPP TS 29.571 [8] | IP address of the UE. |  |
| Port | 3GPP TS 29.122 [6] | Identifies a port, unsigned integer with valid values between 0 and 65535. |  |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of optional features defined in table 8.3.7-1. |  |

\*\*\* 8th Change \*\*\*

##### 8.3.5.2.2 Type: UserInformation

This data type is deprecated.

Table 8.3.5.2.2-1: Definition of type UserInformation

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| easId | string | M | 1 | The application identifier of the EAS, e.g. URI, FQDN, requesting the UE Identifier information. |  |
| easProviderId | string | O | 0..1 | Identifier of the ASP that provides the EAS. |  |
| ipAddr | IpAddr | M | 1 | IP address of the UE. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Used to negotiate the supported optional features of the API as described in clause 7.8.This attribute shall be provided in the HTTP POST request and success response. |  |

\*\*\* 9th Change \*\*\*

##### 8.3.5.2.3 Type: UserInfo

Table 8.3.5.2.3-1: Definition of type UserInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| easIds | array(string) | C | 1..N | The list of EAS Identifiers for which the UE IDs are requested by the service consumer for the given user information (e.g. IP address).(NOTE 1) |  |
| easProviderId | string | O | 0..1 | Identifier of the ASP that provides the EAS. |  |
| ueId | Gpsi | O | 0..1 | Identify the UE with GPSI.(NOTE 2, NOTE 4) |  |
| ipAddr | IpAddr | C | 1 | IP address of the UE.(NOTE 3, NOTE 4) |  |
| portNumber | Port | C | 0..1 | Indicates the UDP or TCP port number associated with the UE IP address as provided in the "ipAddr" attribute.(NOTE 5) |  |
| suppFeat | SupportedFeatures | C | 0..1 | Used to negotiate the supported optional features of the API as described in clause 7.8.This attribute shall be provided in the HTTP POST request and success response. |  |
| NOTE 1: This attribute shall be present when the service consumer is an EAS. If this attribute is not present, it shall be interpreted by the EES that it is an EEC that is requesting the UE ID.NOTE 2: This attribute may be present only if the service consumer is an EEC.NOTE 3: This attribute shall be present when the service consumer is an EAS. When the service consumer is an EEC, this attribute, if provided, may contain both UE's private IPv6 address and UE's private IPv4 address.NOTE 4: At least one of these attributes shall be present.NOTE 5: This attribute shall be present only when the service consumer is an EAS and the EAS recognizes the UE IP address is a public IP address different from the actual UE IP address (private IP address). |

\*\*\* 10th Change \*\*\*

##### 8.3.5.2.4 Type: UeIdInfo

Table 8.3.5.2.4-1: Definition of type UeIdInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
|  |  |  |  |  |  |
| ueIds | array(UeId) | C | 1..N | Represents the UE Identifier(s). |  |

\*\*\* 11th Change \*\*\*

##### 8.3.5.2.5 Type: UeId

Table 8.3.5.2.5-1: Definition of type UeId

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| edgeUeId | string | C | 0..1 | Represents the EES generated EDGE UE Identifier of the UE.This attribute shall be provided only if it is the Edge UE ID that needs to be returned.(NOTE) |  |
| afSpecUeId | Gpsi | C | 0..1 | Identifier of the AF specific UE Identifier in the GPSI fomat of External ID.This attribute shall be provided only if it is the AF-specific UE ID that needs to be returned.(NOTE) |  |
|  |  |  |  |  |  |
| easId | string | M | 0..1 | Represents the identifier of the EAS for which the provided UE ID is related.This attribute shall be present only if the "easIds" attribute was provided in the corresponding request. |  |
| NOTE: These attributes are mutually exclusive. Either one of them shall be present. |

\*\*\* 12th Change \*\*\*

#### 8.3.5.3 Simple data types and enumerations

##### 8.3.5.3.1 Introduction

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

##### 8.3.5.3.2 Simple data types

The simple data types defined in table 8.3.5.3.2-1 shall be supported.

Table 8.3.5.3.2-1: Simple data types

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

|  |  |  |
| --- | --- | --- |
|  |  |  |
|  |  |  |
|  |  |  |

\*\*\* 13th Change \*\*\*

# A.4 Eees\_UEIdentifier API

openapi: 3.0.0

info:

 title: EES UE Identifier Service

 version: 1.1.0-alpha.1

 description: |

 EES UE Identifier Service.

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externalDocs:

 description: >

 3GPP TS 29.558 V18.0.0; Enabling Edge Applications;

 Application Programming Interface (API) specification; Stage 3.

 url: https://www.3gpp.org/ftp/Specs/archive/29\_series/29.558/

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/eees-ueidentifier/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /fetch:

 post:

 deprecated: true

 summary: Fetch the identifier of an UE.

 operationId: FetchUEId

 tags:

 - Fetch UE Identifier

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 The communicated ACR update information was successfully received.

 The response body contains the feedback of the EES.

 content:

 application/json:

 schema:

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

 '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'

 /get:

 post:

 summary: Get the identifier of an UE.

 operationId: GetUEId

 tags:

 - Get UE Identifier

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 The operation is successful and the corresponding UE Identifier information, returned

 by the Edge Enabler Server is included in the response body.

 content:

 application/json:

 schema:

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

 '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:

 UserInformation:

 deprecated: true

 description: >

 Represents information about the User or the UE, that used by EES to use 3GPP CN capability

 to retrieve the EAS specific UE identifier.

 type: object

 properties:

 easId:

 description: >

 The application identifier of the EAS, e.g. URI, FQDN, requesting the UE Identifier

 information

 type: string

 easProviderId:

 description: Identifier of the ASP that provides the EAS.

 type: string

 ipAddr:

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

 suppFeat:

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

 required:

 - easId

 - ipAddr

 UserInfo:

 description: >

 Represents information about the User or the UE, that used by EES to retrieve the UE

 Identifier information.

 type: object

 properties:

 easIds:

 type: array

 items:

 type: string

 minItems: 1

 description: >

 The additional list of EAS Identifier for which the UE IDs are requested for by EAS or

 EEC given the User information (e.g. IP address).

 easProviderId:

 description: Identifier of the ASP that provides the EAS.

 type: string

 ueId:

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

 ipAddr:

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

 suppFeat:

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

 anyOf:

 - required: [ueId]

 - required: [ipAddr]

 UeIdInfo:

 description: >

 Represents UE Identifier Information, including list of UE Identifier related information.

 type: object

 properties:

 ueIds:

 type: array

 items:

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

 minItems: 1

 required:

 - ueIds

 UeId:

 description: >

 Represents UE Identifier Information, including list of UE Identifier related information.

 type: object

 properties:

 edgeUeId:

 description: Represents EDGE UE Identifier.

 type: string

 afSpecUeId:

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

 easId:

 description: >

 The application identifier of the EAS, e.g. URI, FQDN, requesting the UE Identifier

 Information.

 type: string

 oneOf:

 - required: [edgeUeId]

 - required: [afSpecUeId]

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