**3GPP TSG- Meeting #C3-242xxx**

**Changsha, China, – was C3-242364**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  |  | **CR** | **1255** | **rev** | **1** | **Current version:** |  |  |
|  | | | | | | | | |
| *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:*** | Various corrections to the definition of the ECSAddress API | | | | | | | | |
|  |  | | | | | | | | |
| ***Source to WG:*** | Huawei | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | |
|  |  | | | | | | | | |
| ***Work item code:*** | EDGE\_Ph2 | | | | |  | ***Date:*** | | 2024-04-18 |
|  |  | | | |  | |  | |  |
| ***Category:*** | **F** |  | | | | | ***Release:*** | |  |
|  | *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:*** | | | The definition of the ECSAddress API needs various corrections and alignments with the drafting rules and NBI TS skeleton. | | | | | | |
|  | | |  | | | | | | |
| ***Summary of change:*** | | | This CR proposes to:   * Correct the above-detailed issues. | | | | | | |
|  | | |  | | | | | | |
| ***Consequences if not approved:*** | | | * The provisions related to the definition of the ECSAddress API continue to contain errors and misalignments with the drafting rules and NBI TS skeleton. | | | | | | |
|  | |  | | | | | | | |
| ***Clauses affected:*** | | 5.36.1, 5.36.2.1, 5.36.2.2.1, 5.36.2.2.2, 5.36.2.2.3, 5.36.2.2.3.1, 5.36.2.2.3.2, 5.36.2.2.3.3, 5.36.2.2.4 (new clause), 5.36.2.3.1, 5.36.2.3.2, 5.36.2.3.3, 5.36.2.3.3.1, 5.36.2.3.3.2, 5.36.2.3.3.3, 5.36.2.3.3.4, 5.36.2.3.4 (new clause), 5.36.3.1, 5.36.3.2, 5.36.3.2.1, 5.36.3.2.2, 5.36.5.1, 5.36.5.2, 5.36.5.3.2, 5.36.5.3.3, 5.36.5.4 (new clause), 5.36.6, 5.36.7.1, 5.36.7.3, A.34 | | | | | | | |
|  | |  | | | | | | | |
|  | | **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 corrections to the OpenAPI description of the ECSAddress API defined in this specification. | | | | | | | |
|  | |  | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | |

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

### 5.36.1 Introduction

The Nnef\_ECSAddress service shall use the ECSAddress API.

The API URI of ECSAddress API shall be:

**{apiRoot}/<apiName>/<apiVersion>**

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 5.2.4 of 3GPP TS 29.122 [4], i.e.:

**{apiRoot}/<apiName>/<apiVersion>/<apiSpecificSuffixes>**

with the following components:

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

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

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

- The <apiSpecificSuffixes> shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [4].

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

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

#### 5.36.2.1 Overview

This clause describes the structure for the Resource URIs as shown in figure 5.36.2.1-1 and the resources and HTTP methods used for the ECSAddress API.



Figure 5.36.2.1-1: Resource URI structure of the northbound ECSAddress API

Table 5.36.2.1-1 provides an overview of the resources and HTTP methods applicable for the northbound ECSAddress API.

Table 5.36.2.1-1: Resources and methods overview

|  |  |  |  |
| --- | --- | --- | --- |
| **Resource name** | **Resource URI** | **HTTP method** | **Description** |
| ECS Address Configuration Information | /{afId}/ecs-address-info | GET | Retrieve all the active ECS Address Configuration Information. |
| POST | Create a new ECS Address Configuration Information. |
| Individual ECS Address Configuration Information | /{afId}/ecs-address-info/{ecsAddrInfoId} | GET | Retrieve an existing "Individual ECS Address Configuration Information" resource. |
| PUT | Update an existing "Individual ECS Address Configuration Information" resource. |
| DELETE | Delete an existing "Individual ECS Address Configuration Information" resource. |

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

##### 5.36.2.2.1 Introduction

This resource represents all the active ECS Address Configuration Information managed by the NEF.

This resource is modelled with the Collection resource archetype (see clause C.2 of 3GPP TS 29.501 [3]).

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

##### 5.36.2.2.2 Resource Definition

Resource URI: **{apiRoot}/3gpp-ecs-address/<apiVersion>/{afId}/ecs-address-info**

This resource shall support the resource URI variables defined in table 5.36.2.2.2-1.

Table 5.36.2.2.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Definition** |
| apiRoot | string | See clause 5.36.1. |
| afId | string | Represents the identifier of the AF. |

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

##### 5.36.2.2.3 Resource Standard Methods

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

###### 5.36.2.2.3.1 Void

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

###### 5.36.2.2.3.2 GET

The HTTP GET method allows to retrieve all the active ECS Address Configuration Information at the NEF.

This method shall support the URI query parameters specified in table 5.36.2.2.3.2-1.

Table 5.36.2.2.3.2-1: URI query parameters supported by the GETmethod on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 5.36.2.2.3.2-2, the response data structures and response codes specified in table 5.36.2.2.3.2-3, and the location headers specified in table 5.36.2.2.3.2-4 and table 5.36.2.2.3.2-5.

Table 5.36.2.2.3.2-2: Data structures supported by the GETRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |

Table 5.36.2.2.3.2-3: Data structures supported by theGET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| array(EcsAddrInfo) | M | 0..N | 200 OK | Successful case. All the active "Individual ECS Address Configuration Information" resources are returned.  If there are no active "Individual ECS Address Configuration Information" resources at the NEF, an empty array is returned. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative target 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 target 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 HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. | | | | |

Table 5.36.2.2.3.2-4: Headers supported by the 307 Response Code on this resource

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

Table 5.36.2.2.3.2-5: Headers supported by the 308 Response Code on this resource

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

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

###### 5.36.2.2.3.3 POST

The HTTP POST method allows to create a new ECS Address Configuration Information at the NEF.

This method shall support the URI query parameters specified in table 5.36.2.2.3.3-1.

Table 5.36.2.2.3.3-1: URI query parameters supported by the POST method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 5.36.2.2.3.3-1, the response data structures and response codes specified in table 5.36.2.2.3.3-2, and the Location Headers specified in table 5.36.2.2.3.3-3.

Table 5.36.2.2.3.3-1: Data structures supported by the POSTRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| EcsAddrInfo | M | 1 | Contains the parameters to request the cretaion of an ECS Address Configuration Information. |

Table 5.36.2.2.3.3-2: Data structures supported by thePOST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| EcsAddrInfo | M | 1 | 201 Created | Successful case. A representation of the created "Individual ECS Address Configuration Information" resource is returned in the response body.  The URI of the created resource shall be returned in the "Location" HTTP header. |
| NOTE: The mandatory HTTP error status codes for the HTTP POST method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. | | | | |

Table 5.36.2.2.3.3-3: Headers supported by the 201 Response Code on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| Location | string | M | 1 | Contains the URI of the newly created resource, according to the structure:  {apiRoot}/3gpp-ecs-address/<apiVersion>/{afId}/ecs-address-info/{ecsAddrInfoId} |

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

##### 5.36.2.2.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

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

##### 5.36.2.3.1 Introduction

This resource represents an "Individual ECS Address Configuration Information" resource managed by the NEF.

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

##### 5.36.2.3.2 Resource Definition

Resource URI: **{apiRoot}/3gpp-ecs-address/<apiVersion>/{afId}/ecs-address-info/{ecsAddrInfoId}**

This resource shall support the resource URI variables defined in table 5.36.2.3.2-1.

Table 5.36.2.3.2-1: Resource URI variables for this resource

|  |  |  |
| --- | --- | --- |
| **Name** | **Data type** | **Definition** |
| apiRoot | string | See clause 5.36.1. |
| afId | string | Represents the identifier of the AF. |
| ecsAddrInfoId | string | Represents the identifier of the "Individual ECS Address Configuration Information" resource. |

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

##### 5.36.2.3.3 Resource Standard Methods

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

###### 5.36.2.3.3.1 Void

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

###### 5.36.2.3.3.2 GET

The GET method allows to retrieve an existing "Individual ECS Address Configuration Information" resource at the NEF.

This method shall support the URI query parameters specified in table 5.36.2.3.3.2-1.

Table 5.36.2.3.3.2-1: URI query parameters supported by theGETmethod on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| N/A |  |  |  |  |

This method shall support the request data structures specified in table 5.36.2.3.3.2-2 and the response data structures and response codes specified in table 5.36.2.3.3.2-3.

Table 5.36.2.3.3.2-2: Data structures supported by the GETRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |

Table 5.36.2.3.3.2-3: Data structures supported by theGET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| EcsAddrInfo | M | 1 | 200 OK | Successful case. The requested "Individual ECS Address Configuration Information" resource is successfully returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative target 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 target 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 HTTP GET method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. | | | | |

Table 5.36.2.3.3.2-4: Headers supported by the 307 Response Code on this resource

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

Table 5.36.2.3.3.2-5: Headers supported by the 308 Response Code on this resource

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

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

###### 5.36.2.3.3.3 PUT

The HTTP PUT method allows to update an existing "Individual ECS Address Configuration Information" resource at the NEF.

This method shall support the URI query parameters specified in table 5.36.2.3.3.3-1.

Table 5.36.2.3.3.3-1: URI query parameters supported by the PUT method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| n/a |  |  |  |  |  |

This method shall support the request data structures specified in table 5.36.2.3.3.3-2 and the response data structures and response codes specified in table 5.36.2.3.3.3-3.

Table 5.36.2.3.3.3-2: Data structures supported by the PUTRequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| EcsAddrInfo | M | 1 | Contains the updated representation of the "Individual ECS Address Configuration Information" resource. |

Table 5.36.2.3.3.3-3: Data structures supported by thePUT Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| EcsAddrInfo | M | 1 | 200 OK | Successful case. The "Individual ECS Address Configuration Information" resource is successfully updated and a representation of the updated resource is returned in the response body. |
| n/a |  |  | 204 No Content | Successful case. The "Individual ECS Address Configuration Information" resource is successfully updated and no content is returned in the response body. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative target 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 target 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 HTTP PUT method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. | | | | |

Table 5.36.2.3.3.3-4: Headers supported by the 307 Response Code on this resource

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

Table 5.36.2.3.3.3-5: Headers supported by the 308 Response Code on this resource

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

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

###### 5.36.2.3.3.4 DELETE

The DELETE method allows to delete an existing "Individual ECS Address Configuration Information" resource at the NEF.

This method shall support the URI query parameters specified in table 5.36.2.3.3.4-1.

Table 5.36.2.3.3.4-1: URI query parameters supported by theDELETE method on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Name** | **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |  |

This method shall support the request data structures specified in table 5.36.2.3.3.4-2 and the response data structures and response codes specified in table 5.36.2.3.3.4-3.

Table 5.36.2.3.3.4-2: Data structures supported by the DELETERequest Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| n/a |  |  |  |

Table 5.36.2.3.3.4-3: Data structures supported by theDELETE Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response codes** | **Description** |
| N/A |  |  | 204 No Content | Successful case. The "Individual ECS Address Configuration Information" resource is successfully deleted. |
| N/A |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative target 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 target 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 HTTP DELETE method listed in table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. | | | | |

Table 5.36.2.3.3.4-4: Headers supported by the 307 Response Code on this resource

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

Table 5.36.2.3.3.4-5: Headers supported by the 308 Response Code on this resource

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

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

##### 5.36.2.3.4 Resource Custom Operations

There are no resource custom operations defined for this resource in this release of the specification.

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

#### 5.36.3.1 Overview

The structure of the custom operation URIs of the ECSAddress API is shown in Figure 5.36.3.1-1.



Figure 5.36.3.1-1: Custom operation URI structure of the ECSAddress API

Table 5.36.3.1-1 provides an overview of the custom operations and applicable HTTP methods defined for the ECSAddress API.

Table 5.36.3.1-1: Custom operations without associated resources

|  |  |  |  |
| --- | --- | --- | --- |
| Custom operation name | **Custom operation URI** | **Mapped HTTP method** | **Description** |
| RemoveEcsAddr | /remove-ecsaddr | POST | Enables to request the V-NEF to delete ECS Address Configuration Information based on given attributes. |

The custom operations shall support the URI variables defined in table 5.36.3.1-2.

Table 5.36.3.1-2: URI variables for this custom operation

|  |  |  |
| --- | --- | --- |
| Name | Data type | Definition |
| apiRoot | string | See clause 5.36.1. |

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

#### 5.36.3.2 Operation: RemoveEcsAddr

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

##### 5.36.3.2.1 Description

The custom operation enables to delete ECS Address Configuration Information based on given attributes.

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

##### 5.36.3.2.2 Operation Definition

This operation shall support the request data structures shown in Table 5.36.3.2.2-1 and the response data structures and error codes specified in Table 5.36.3.2.2-2.

Table 5.36.3.2.2-1: Data structures supported by the POST Request Body on this resource

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Description** |
| EcsAddrDeleteCriteria | M | 1 | Contains the information about the criteria to be used for ECS Address Configuration Information deletion. |

Table 5.36.3.2.2-2: Data structures supported by the POST Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Data type** | **P** | **Cardinality** | **Response**  **codes** | **Description** |
| n/a |  |  | 204 No Content | Successful case. The request to remove ECS Address Configuration Information based on given criteria is successfully received and processed. |
| n/a |  |  | 307 Temporary Redirect | Temporary redirection.  The response shall include a Location header field containing an alternative target 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 target 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 HTTP POST method listed in Table 5.2.6-1 of 3GPP TS 29.122 [4] shall also apply. | | | | |

Table 5.36.3.2.2-3: Headers supported by the 307 Response Code on this resource

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

Table 5.36.3.2.2-4: Headers supported by the 308 Response Code on this resource

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

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

#### 5.36.5.1 General

This clause specifies the application data model supported by the ECSAddress API. Table 5.36.5.1-1 specifies the data types defined for the ECSAddress API.

Table 5.36.5.1-1: ECSAddress API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Clause defined** | **Description** | **Applicability** |
| EcsAddrDeleteCriteria | 5.36.5.3.3 | Contains criteria for deleting ECS Address Configuration Information. |  |
| EcsAddrInfo | 5.36.5.3.2 | Contains ECS Address Configuration Information. |  |

Table 5.36.5.1-2 specifies data types re-used by the ECSAddress API from other specifications, including a reference to their respective specifications, and when needed, a short description of their use within the ECSAddress API.

Table 5.36.5.1-2: ECSAddress API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| **Data type** | **Reference** | **Comments** | **Applicability** |
| AfId | 5.14.5.4.2 | Represents an AF identifier. |  |
| Dnn | 3GPP TS 29.571 [8] | Represents a DNN. |  |
| EcsServerAddr | 3GPP TS 29.571 [8] | Represents the Edge Configuration Server (ECS) address configuration information. |  |
| Link | 3GPP TS 29.122 [4] | Represents a link. |  |
| Snssai | 3GPP TS 29.571 [8] | Represents an S-NSSAI. |  |
| SupportedFeatures | 3GPP TS 29.571 [8] | Represents the list of supported feature(s) and is used to negotiate the applicability of the optional features. |  |
| TargetUeId | 5.6.3.3.7 | Represents the target UE(s) information. |  |

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

#### 5.36.5.2 Void



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

##### 5.36.5.3.2 Type: EcsAddrInfo

Table 5.36.5.3.2-1: Definition of type EcsAddrInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Attribute name** | **Data type** | **P** | **Cardinality** | **Description** | **Applicability** |
| self | Link | C | 0..1 | Identifies the individual resource.  This attribute shall be present in the HTTP GET response when retrieving all the resources for an AF. |  |
| ecsServerAddr | EcsServerAddr | M | 1 | Represents the ECS address(es). |  |
| spatialValidityCond | SpatialValidityCond | O | 0..1 | Contains the spatial validity conditions. |  |
| tgtUe | TargetUeId | O | 0..1 | Contains the target UE information. Only the "anyUeInd" and "exterGroupId" attributes are applicable. |  |
| suppFeat | SupportedFeatures | C | 0..1 | Contains the list of supported features used as defined in clause 5.36.6.  This attribute shall be present only when feature negotiation needs to take place. |  |

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

##### 5.36.5.3.3 Type: EcsAddrDeleteCriteria

Table 5.36.5.3.3-1: Definition of type EcsAddrDeleteCriteria

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Attribute name** | | **Data type** | | **P** | | **Cardinality** | | **Description** | | **Applicability** | |
| afIds | | array(AfId) | | C | | 1..N | | Contains the targeted identifier(s) of the AF(s).  (NOTE 1) | |  | |
| dnn | | Dnn | | C | | 0..1 | | Contains the DNN to be used as deletion criterion.  (NOTE 1) | |  | |
| snssai | | Snssai | | C | | 0..1 | | Contains the S-NSSAI to be used as deletion criterion.  (NOTE 1) | |  | |
| ecsAddrInfo | | EcsAddrInfo | | C | | 0..1 | | Contains the ECS Address Configuration Information to be used as deletion criterion. Only entries that are exact matches of this attribute shall be deleted.  (NOTE 1, NOTE 2) | |  | |
| suppFeat | | SupportedFeatures | | C | | 0..1 | | Contains the list of supported features used as defined in clause 5.36.6.  This attribute shall be present only when feature negotiation needs to take place. | |  | |
| NOTE 1: At least one of these attributes shall be present.  NOTE 2: The "self" and "suppFeat" attributes of the "ecsAddrInfo" attribute (encoded using the EcsAddrInfo data type) shall not be provided and shall not be considered when finding the matching entries. | | | | | | | | | | | |

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

#### 5.36.5.4 Data types describing alternative data types or combinations of data types

There are no data types describing alternative data types or combinations of data types defined for this API in this release of the specification.

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

### 5.36.6 Used Features

The optional features listed in table 5.36.6-1 are defined for the ECSAddress API. They shall be negotiated using the extensibility mechanism defined in clause 5.2.7 of 3GPP TS 29.122 [4].

Table 5.36.6-1: Features used by ECSAddress API

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

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

#### 5.36.7.1 General

For the ECSAddress API, HTTP error responses shall be supported as specified in clause 5.2.6 of 3GPP TS 29.122 [4]. Protocol errors and application errors specified in clause 5.2.6 of 3GPP TS 29.122 [4] shall be supported for the HTTP status codes specified in table 5.2.6-1 of 3GPP TS 29.122 [4].

In addition, the requirements in the following clauses are applicable for the ECSAddress API.

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

#### 5.36.7.3 Application Errors

The application errors defined for ECSAddress API are listed in table 5.36.7.3-1.

Table 5.36.7.3-1: Application errors

|  |  |  |  |
| --- | --- | --- | --- |
| **Application Error** | **HTTP status code** | **Description** | **Applicability** |
|  |  |  |  |

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

A.34 ECSAddress API

openapi: 3.0.0

info:

title: 3gpp-ecs-address

version: 1.0.0-alpha.2

description: |

API for AF provisioned ECS Address Configuration Information.

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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-ecs-address/v1'

variables:

apiRoot:

default: https://example.com

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

paths:

/{afId}/ecs-address-info:

get:

summary: Retrieve all the active ECS Address Configuration Information.

operationId: ReadEACIs

tags:

- ECS Address Configuration Information (Collection)

parameters:

- name: afId

in: path

description: Represents the identifier of the AF.

required: true

schema:

type: string

responses:

'200':

description: >

OK. All the Individual ECS Address Configuration Information resource(s) managed by

the NEF are returned.

If there are no active Individual ECS Address Configuration Information resources at the

NEF, an empty array is returned.

content:

application/json:

schema:

type: array

items:

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

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 ECS Address Configuration Information.

operationId: CreateEACI

tags:

- ECS Address Configuration Information (Collection)

parameters:

- name: afId

in: path

description: Represents the identifier of the AF.

required: true

schema:

type: string

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'201':

description: >

Created. A representation of the created Individual ECS Address Configuration

Information resource is returned in the response body.

content:

application/json:

schema:

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

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}/ecs-address-info/{ecsAddrInfoId}:

parameters:

- name: afId

in: path

description: Represents the identifier of the AF.

required: true

schema:

type: string

- name: ecsAddrInfoId

in: path

description: >

Represents the identifier of the Individual ECS Address Configuration Information

resource.

required: true

schema:

type: string

get:

summary: Retrieve an existing Individual ECS Address Configuration Information resource.

operationId: ReadEACI

tags:

- Individual ECS Address Configuration Information (Document)

responses:

'200':

description: >

OK. The requested Individual ECS Address Configuration Information resource is

successfully returned in the response body.

content:

application/json:

schema:

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

'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:

summary: Update an existing Individual ECS Address Configuration Information resource

operationId: UpdateEACI

tags:

- Individual ECS Address Configuration Information (Document)

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

description: >

OK. The Individual ECS Address Configuration Information resource is successfully

updated and a representation of the updated resource is returned in the response

body.

content:

application/json:

schema:

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

'204':

description: >

No Content. The Individual ECS Address Configuration Information resource is

successfully updated and no content is returned 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'

delete:

summary: Delete an existing Individual ECS Address Configuration Information resource

operationId: DeleteEACI

tags:

- Individual ECS Address Configuration Information (Document)

responses:

'204':

description: >

No Content. The Individual ECS Address Configuration Information resource is

successfully 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'

/remove-ecsaddr:

post:

summary: Remove ECS Address Configuration Information based on given criteria.

operationId: DeleteEACIs

tags:

- ECS Address Configuration Information Deletion Request

requestBody:

content:

application/json:

schema:

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

required: true

responses:

'204':

description: >

No Content. The request to remove ECS Address Configuration Information based on given

criteria is successfully received and processed.

'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:

EcsAddrInfo:

description: Represents ECS Address Configuration Information.

type: object

properties:

self:

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

ecsServerAddr:

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

spatialValidityCond:

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

tgtUe:

$ref: 'TS29522\_AnalyticsExposure.yaml#/components/schemas/TargetUeId'

suppFeat:

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

required:

- ecsServerAddr

EcsAddrDeleteCriteria:

description: >

Contains criteria to be used for deleting ECS Address Configuration Information.

type: object

properties:

afIds:

type: array

items:

$ref: 'TS29522\_AKMA.yaml#/components/schemas/AfId'

minItems: 1

dnn:

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

snssai:

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

ecsAddrInfo:

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

anyOf:

- required: [afIds]

- required: [dnn]

- required: [snssai]

- required: [ecsAddrInfo]

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