**3GPP TSG CT WG3 Meeting #138 *C3-246484***

**Orlando, US, 18 - 22 November, 2024** (revision of C3-246120)

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  | **558** | **CR** |  | **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** |

|  |
| --- |
|  |
| ***Title:***  | Tunnel information in retrieve T-EES procedure |
|  |  |
| ***Source to WG:*** | Samsung, Ericsson |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | TEI19, EDGEAPP\_Ph2 |  | ***Date:*** | 2024-11-11 |
|  |  |  |  |  |
| ***Category:*** |  |  | ***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 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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | As per the agreed TS 23.558 CR 0655 (S6-243697), the tunnel information if available is included in the retrieve T-EES request. The same needs to implemented for Eecs\_TargetEESDiscovery API.New feature is needed, as this is introduced from EDGEAPP\_Ph2. Since the CR is proposed for Rel-19, new feature name is defined. |
|  |  |
| ***Summary of change:*** | 1. Add tunnel information as new query parameter for Eecs\_TargetEESDiscovery2. Defined Tunnel Info data type3. New feature4. Open API updates |
|  |  |
| ***Consequences if not approved:*** | Tunnel information missing and not aligned with stage-2. |
|  |  |
| ***Clauses affected:*** | 9.2.2.2.3.1, 9.2.5.1, 9.2.5.2, (new) 9.2.5.2.1, (new) 9.2.5.2.2, 9.2.7, A.12 |
|  |  |
|  | **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 proposes backward compatible feature to Eecs\_TargetEESDiscovery Open API specification file. |
|  |  |
| ***This CR's revision history:*** |  |

\* \* \* \* Start of Change \* \* \* \*

###### 9.2.2.2.3.1 GET

This method allows the service consumer to fetch the target Enabler Server information as specified in 3GPP TS 23.558 [2], from the ECS with a given discovery filters.

This method shall support the URI query parameters specified in table 9.2.2.2.3.1-1.

Table 9.2.2.2.3.1-1: URI query parameters supported by the GET method on this resource

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Name | Data type | P | Cardinality | Description | Applicability |
| ees-id | string | M | 1 | Unique identifier of the target Enabler Server. |  |
| eas-id | string | M | 1 | Represents the application identifier of the source Application Server (e.g., S-EAS or CAS), e.g. URI, FQDN. |  |
| target-dnai | Dnai | O | 0..1 | The DNAI information associated with the potential target Enabler Server(s) and/or target Application Server(s). |  |
| ue-id | Gpsi | O | 0..1 | Identifier of the UE. |  |
| ue-location | LocationArea5G | O | 0..1 | The location information of the UE. |  |
| eec-srv-cont-supp | EECSrvContinuitySupport | O | 0..1 | Indicates whether the EEC supports service continuity or not and the related service continuity support information. | EdgeApp\_2 |
| ac-svc-cont-supp | array(ACRScenario) | O | 1..N  | Indicates that the AC supports service continuity and contains the related service continuity support information (i.e., supported ACR scenarios). | EdgeApp\_2 |
| bdl-id | string | O | 0..1 | Contains the identifier of the EAS bundle.This query parameter may be present only when the "bdl-type" query parameter is also present and set to "PROXY". | EdgeApp\_2 |
| bdl-type | BdlType | O | 0..1 | Contains the EAS bundle type. | EdgeApp\_2 |
| ens-ind | boolean | O | 0..1 | Indicates whether edge node sharing is requested.- When set to "true", it indicates that edge node sharing is requested.- When set to "false" (default if omitted), it indicates that node sharing is not requested. | EdgeApp\_2 |
| app-grp-id | string | O | 0..1 | Contains the application group identifier.When this query parameter is provided, then it indicates that the request is for the retrieval of an EES list for the announcement of common EAS. | EdgeApp\_2 |
| supp-feats | SupportedFeatures | C | 0..1 | Contains the list of supported feature(s) among the ones defined in clause 9.2.7.This query parameter shall be present only when feature negotiation needs to take place. |  |
| serving-mno-info | PlmnIdNid | O | 0..1 | Contains the serving MNO information, i.e., the MNO that is serving the subscriber. | EdgeApp\_3 |
| pred-exp-time | DateTime | O | 0..1 | Contains the prediction expiration time, i.e., the estimated time at which the UE should reach the predicted/expected location or EAS service area at the latest. | EdgeApp\_3 |
| tunnel-info | TunnelInfo | O | 0..1 | Contains the target tunnel information. | EdgeApp\_2\_Ext1 |

This method shall support the request data structures specified in table 9.2.2.2.3.1-2 and the response data structures and response codes specified in table 9.2.2.2.3.1-3.

Table 9.2.2.2.3.1-2: Data structures supported by the GET Request Body on this resource

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

Table 9.2.2.2.3.1-3: Data structures supported by the GET Response Body on this resource

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Data type | P | Cardinality | Responsecodes | Description |
| ECSServProvResp | M | 1 | 200 OK | The EDN configuration and the target Enabler Server information determined by the ECS based on the query parameters. |
| NOTE: The mandatory HTTP error status code for the HTTP GET method listed in Table 5.2.6-1 of 3GPP TS 29.122 [6] shall also apply. |

\* \* \* \* Next Change \* \* \* \*

#### 9.2.5.1 General

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

Table 9.2.5.1-1 specifies the data types defined specifically for the Eecs\_TargetEESDiscovery API.

Table 9.2.5.1-1: Eecs\_TargetEESDiscovery API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| TunnelInfo | 9.2.5.2.2 | Contains the tunnel information. | EdgeApp\_2\_Ext1 |

Table 9.2.5.1-2 specifies data types re-used by the Eecs\_TargetEESDiscovery API service.

Table 9.2.5.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| ACRScenario | Clause 9.1.5.3.3 | Represents ACR scenarios. | EdgeApp\_2 |
| BdlType | Clause 8.1.5.3.6 | Represent EAS Bundle type. | EdgeApp\_2 |
| DateTime | 3GPP TS 29.122 [6] | Represents a date and a time. | EdgeApp\_3 |
| Dnai | 3GPP TS 29.571 [8] | Used to indicate the target DNAI information. |  |
| ECSServProvResp | 3GPP TS 24.558 [14] | The response to the target EES discovery request, which includes the EDN configuration along with list of EES(s) information. |  |
| EECSrvContinuitySupport | Clause 8.7.5.2.8 | Represent service continuity support related information for an EEC. | EdgeApp\_2 |
| Gpsi | 3GPP TS 29.571 [8] | Used to identify the UE in the query parameter. |  |
| LocationArea5G | 3GPP TS 29.122 [6] | Used to indicate the location information of the UE in the query parameter. |  |
| PlmnIdNid | 3GPP TS 29.571 [8] | Represents the identifier of the network, i.e., PLMN or SNPN. | EdgeApp\_3 |
| TunnelAddress | 3GPP TS 29.571 [8] | Represents the tunnel address information. | EdgeApp\_2\_Ext1 |

\* \* \* \* Next Change \* \* \* \*

#### 9.2.5.2 Structured data types

##### 9.2.5.2.1 Introduction

This clause defines the structures to be used in resource representations.

##### 9.2.5.2.2 Type: TunnelInfo

Table 9.2.5.2.2-1: Definition of type TunnelInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| servProvId | string | M | 1 | Contains the identifier of the service provider. |  |
| endPoint | TunnelAddress | M | 1 | Contains the endpoint address of the tunnel server. |  |

\* \* \* \* Next Change \* \* \* \*

### 9.2.7 Feature negotiation

General feature negotiation procedures are defined in clause 7.8. Table 9.2.7-1 lists the supported features for Eecs\_TargetEESDiscovery API.

Table 9.2.7-1: Supported Features

|  |  |  |
| --- | --- | --- |
| **Feature number** | **Feature Name** | **Description** |
| 1 | EdgeApp\_2 | This feature indicates the support of the enhancements to the Edge Applications. Within this feature, the following enhancements are covered:- Support T-EAS discovery based on EEC service continuity information and/or AC service continuity information.- Support EAS bundle information management.- Support of requesting edge node sharing.- Support of T-EES discovery based on application group identifier. |
| 2 | EdgeApp\_3 | This feature indicates the support of the enhancements to the Edge Applications.Within this feature, the following enhancements are covered:- Support of the allowed MNO information in the T-EES discovery request.- Support of the prediction expiration time in the T-EES discovery request. |
| 3 | EdgeApp\_2\_Ext1 | This feature indicates the support of the enhancements to the Edge Applications.Within this feature, the following enhancements are covered:- Support of the tunnel information in the T-EES discovery request. |

\* \* \* \* Next Change \* \* \* \*

# A.12 Eecs\_TargetEESDiscovery API

openapi: 3.0.0

info:

 title: ECS Target EES Discovery API

 description: |

 API for Target EES Discovery.

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 version: 1.2.0-alpha.1

externalDocs:

 description: >

 3GPP TS 29.558 V19.0.0 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}/eecs-targeteesdiscovery/v1'

 variables:

 apiRoot:

 default: https://example.com

 description: apiRoot as defined in clause 7.5 of 3GPP TS 29.558.

paths:

 /ees-profiles:

 get:

 summary: Read all the targeted Enabler Server Profiles

 operationId: GetEESProfiles

 tags:

 - EES Profiles (Collection)

 description: Retrieve the T-EES information.

 parameters:

 - name: ees-id

 in: query

 description: Unique identifier of the source Enabler Server.

 required: true

 schema:

 type: string

 - name: eas-id

 in: query

 description: Unique identifier of the source Application Server.

 required: true

 schema:

 type: string

 - name: target-dnai

 in: query

 description: >

 The DNAI information associated with the potential target Enabler Server(s)

 and/or target Application Server(s).

 required: false

 schema:

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

 - name: ue-id

 in: query

 description: Identifier of the UE.

 required: false

 schema:

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

 - name: ue-location

 in: query

 description: The location information of the UE.

 required: false

 schema:

 $ref: 'TS29122\_CommonData.yaml#/components/schemas/LocationArea5G'

 - name: eec-srv-cont-supp

 in: query

 description: >

 Indicates whether the EEC supports service continuity or not and the related service

 continuity support information.

 required: false

 schema:

 $ref: 'TS29558\_Eees\_EECContextRelocation.yaml#/components/schemas/EECSrvContinuitySupport'

 - name: ac-svc-cont-supp

 in: query

 description: >

 Indicates that the AC supports service continuity and contains the related service

 continuity support information (i.e., supported ACR scenarios).

 required: false

 schema:

 type: array

 items:

 $ref: 'TS29558\_Eecs\_EESRegistration.yaml#/components/schemas/ACRScenario'

 minItems: 1

 - name: bdl-id

 in: query

 description: >

 Contains EAS bundle identifier.

 required: false

 schema:

 type: string

 - name: bdl-type

 in: query

 description: >

 Contains EAS bundle type.

 required: false

 schema:

 $ref: 'TS29558\_Eees\_EASRegistration.yaml#/components/schemas/BdlType'

 - name: ens-ind

 in: query

 description: indicates whether edge node sharing is requested.

 required: false

 schema:

 type: boolean

 description: >

 Set to true if edge node sharing is requested.

 Set to false if edge node sharing is not requested.

 The default value when omitted is false.

 - name: app-grp-id

 in: query

 description: >

 Contains the application group identifier.

 required: false

 schema:

 type: string

 - name: supp-feats

 in: query

 description: Contains the list of supported feature(s).

 required: false

 schema:

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

 - name: serving-mno-info

 in: query

 description: >

 Contains the serving MNO information, i.e., the MNO that is serving the subscriber.

 required: false

 schema:

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

 - name: pred-exp-time

 in: query

 description: >

 Contains the prediction expiration time.

 required: false

 schema:

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

 - name: tunnel-info

 in: query

 description: >

 Contains the target tunnel information.

 required: false

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: >

 The EDN configuration and the Enabler Server information determined by the ECS.

 content:

 application/json:

 schema:

 $ref: 'TS24558\_Eecs\_ServiceProvisioning.yaml#/components/schemas/ECSServProvResp'

 '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'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

#

# STRUCTURED DATA TYPES

#

 schemas:

 TunnelInfo:

 description: >

 Represents the tunnel information.

 type: object

 properties:

 servProvId:

 type: string

 endPoint:

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

 required:

 - servProvId

 - endPoint

\* \* \* \* End of Change \* \* \* \*