**3GPP TSG CT WG3 Meeting #137 *C3-245xxx***

**Hefei, CN, 14th – 18th October, 2024 was C3-245189**

|  |
| --- |
| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** | **0223** | **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)*.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

|  |
| --- |
|  |
| ***Title:***  | Corrections to the encoding of EAS load level |
|  |  |
| ***Source to WG:*** | Huawei |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | EDGEAPP\_Ph3 |  | ***Date:*** | 2024-10-07 |
|  |  |  |  |  |
| ***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 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:*** | The following issues have been identified in the definition of EAS load information reporting within the EES Profile:* The encoding of the load level is currently based on the "Uinteger" data type defined in TS 29.571. However, this data type is an integer with only a minimum value set to "0", whereas the load level should have both a minimum (0) and maximum (100) value as it is a percentage. It is hence better to encode it as a simple integer with a minimum (0) and maximum (100) value.
* It is not necessary to restrict the LoadInfo data type only to the EAS, it can very well be extended in the future to be used for the other EEL entities.
* Some editorial and formulation issues that need to be fixed.
 |
|  |  |
| ***Summary of change:*** | This CR proposes to:* Address the above-detailed issues.
 |
|  |  |
| ***Consequences if not approved:*** | * The above-detailed issues are not addressed and the corresponding stage 2 requirements are properly defined in stage 3.
 |
|  |  |
| ***Clauses affected:*** | 9.1.5.1, 9.1.5.2.3, 9.1.5.2.11, 9.1.6, 9.1.7, A.11 |
|  |  |
|  | **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 Eecs\_EESRegistration API defined in this specification. |
|  |  |
| ***This CR's revision history:*** |  |

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

#### 9.1.5.1 General

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

Table 9.1.5.1-1 specifies the data types defined specifically for the Eecs\_EESRegistration API service.

Table 9.1.5.1-1: Eecs\_EESRegistration API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Section defined | Description | Applicability |
| EDNInfo | 9.1.5.2.10 | Represents EDN related information | EdgeApp\_2 |
| EESRegistration | 9.1.5.2.2 | The EES registration information on ECS. |  |
| EESProfile | 9.1.5.2.3 | The profile information related to the EES in the EESRegistration data type. |  |
| ACRScenario | 9.1.5.3.3 | The ACR scenarios supported by EES. |  |
| EESRegistrationPatch | 9.1.5.2.4 | To partially update the EES Registration information. |  |
| ServiceArea | 9.1.5.2.5 | The topological and geographic areas served by EES. |  |
| TopologicalServiceArea | 9.1.5.2.6 | The topological areas served by EES. |  |
| GeographicalServiceArea | 9.1.5.2.7 | The geographic areas served by EES. |  |
| EASInstantiationInfo | 9.1.5.2.8 | Represents the EAS instantiation information. | EdgeApp\_2 |
| InstantiationCriteria | 9.1.5.2.9 | Represents the instantiation cirteria. | EdgeApp\_2 |
| InstantiationStatus | 9.1.5.3.4 | Represents the instantiation status. | EdgeApp\_2 |
| LoadInfo | 9.1.5.2.11 | Represents the load information. | EdgeApp\_3 |

Table 9.1.5.1-2 specifies data types re-used by the Eecs\_EESRegistration API service.

Table 9.1.5.1-2: Re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| SupportedFeatures | 3GPP TS 29.571 [8] | Used to negotiate the applicability of optional features defined in table 9.1.7-1. |  |
| ScheduledCommunicationTime | 3GPP TS 29.122 [6] | Represents the schedule information.  |  |
| DateTime | 3GPP TS 29.122 [6] | Represents a date and a time. |  |
| Ecgi | 3GPP TS 29.571 [8] | Represents an EUTRA cell identifier. |  |
| Ncgi | 3GPP TS 29.571 [8] | Represents an NR cell identifier. |  |
| Tai | 3GPP TS 29.571 [8] | Represents a tracking area identity. |  |
| GeographicArea | 3GPP TS 29.572 [11] | Identifies the geographical information of the user(s). |  |
| CivicAddress | 3GPP TS 29.572 [11] | Identifies the civic address information of the user(s). |  |
| PlmnIdNid | 3GPP TS 29.571 [8] | Identifies the network: PLMN Identifier or the SNPN Identifier (the PLMN Identifier and the NID). Used to indicate the serving network as part of topological service areas. |  |
| Dnn | 3GPP TS 29.571 [8] | Represents a DNN. | EdgeApp\_2 |
| Dnai | 3GPP TS 29.571 [8] | Used to represent the list of DNAI(s) information associated with EES. |  |
| TimeWindow | 3GPP TS 29.122 [6] | Represents the time window.  |  |
| DateTimeRm | 3GPP TS 29.571 [8] | Used to capture the expiration time EES registration patch. |  |
| EndPoint | 8.1.5.2.5 | The end point information of the Edge Enabler Server in the EES profile. |  |
| EASBundleInfo | 8.1.5.3.8 | Represents EAS bundle information. | EdgeApp\_2 |
|  |  |  |  |

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

##### 9.1.5.2.3 Type: EESProfile

Table 9.1.5.2.3-1: Definition of type EESProfile

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| eesId | string | M | 1 | The identifier of the EES |  |
| endPt | EndPoint | M | 1 | Endpoint information (e.g. URI, FQDN, IP address) used to communicate with the EES. This information is provided to the EEC to connect to the EES.  |  |
| easIds | array(string) | O | 1..N | The application identities of the Edge Application Servers (e.g. URI, FQDN) registered with the EES or expected to be registered with the EES.  |  |
| easBdlInfos | map(array(EASBundleInfo)) | O | 1..N(1..M) | Represents the list of EAS bundles to which each EAS among the ones identified by the "easIds" attribute belongs.The key of the map shall be the identifier of the EAS to which the provided EAS bundle information within the map value corresponds.(NOTE) | EdgeApp\_2 |
| allowedMNOsInfo | map(array(PlmnIdNid)) | O | 1..N | Contains the per-EAS allowed MNO information, i.e., the list of the allowed PLMN ID(s) for an EAS among the ones identified by the "easIds" attribute. Only the subscribers of the allowed PLMN(s) can consume the EES services for a concerned EAS.The key of the map shall be the identifier of the EAS to which the provided allowed MNO information within the map value corresponds. | EdgeApp\_3 |
| ednInfoSets | EDNInfo | O | 0..1 | Contains EDN related information for the EDN where the EES resides. | EdgeApp\_2 |
| easInstInfo | map(EASInstantiationInfo) | O | 1..N | Contains the EAS instantiation information for each EAS identified by the "easIds" arrtibute.The key of the map shall be the EAS ID to which the provided instantiation information within the map value relates. | EdgeApp\_2 |
| provId | string | O | 0..1 | Identifier of the ECSP that provides the EES provider. |  |
| svcArea | ServiceArea | O | 0..1 | The list of geographical and topological areas that the EES serves. EECs in the UE that are outside the area shall not be served. |  |
| appLocs | array(Dnai) | O | 1..N | List of DNAI(s) associated with the EES. This is a list of potential locations of the applications.It is a subset of the DNAI(s) associated with the EDN, where the EES resides. |  |
| svcContSupp | array(ACRScenario) | O | 1..N | The ACR scenarios supported by the EES for service continuity. If this attribute is not present, then the EES does not support service continuity. |  |
| svcContSuppExt1 | array(EASBundleInfo) | O | 1..N | Represents the information related to the EES ability to handle bundled EAS ACRs.This attribute may be present only when the "svcContSupp" attribute is also present.When this attribute is present, it indicates that the EES (identified by the "eesId" attribute) is able to handle bundled EAS ACRs and contains the information of the EAS bundle(s) for which the EES is able to handle bundled EAS ACRs. | EdgeApp\_2 |
| eecRegConf | boolean | M | 1 | Set to "true" if the EEC is required to register on the EES to use edge services. Set to "false" if EEC is not required to register on the EES to use edge services. Default value is "false" if omitted. |  |
| easLoadInfoList | map(LoadInfo) | O | 1..N | Represents the list of load information per application identified by the "easIds" arrtibute.The load information provided within each map value corresponds to the load information of all the the EAS(s) providing the particular application..The key of the map shall be set to the the EAS ID (among the ones provided within the "easIds" attribute) for which the load information provided within the map value corresponds. | EdgeApp\_3 |
| NOTE: Within each EASBundleInfo encoded map entry of this attribute, the "mainEasId" attribute shall not be present. |

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

##### 9.1.5.2.11 Type: LoadInfo

Table 9.1.5.2.11-1: Definition of type LoadInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| loadLevel | integer | O | 0..1 | Represents the laod level, expressed as a percentage.Minimum = 0. Maximum = 100. |  |
| loadWarnStatus | boolean | O | 0..1 | Represents the status of load warning.- "true" indicates that load warning is activated.- "false" indicates that load warning is not activated.- The default value is "false" when this attribute is omitted. |  |

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

### 9.1.6 Error Handling

#### 9.1.6.1 General

For the Eecs\_EESRegistration API, HTTP error responses shall be supported as specified in clause 5.2.6 of 3GPP TS 29.122 [6]. Protocol errors and application errors specified in clause 5.2.6 of 3GPP TS 29.122 [6] shall be supported for the HTTP status codes specified in table 5.2.6-1 of 3GPP TS 29.122 [6].

In addition, the requirements in the following clauses are applicable for the Eecs\_EESRegistration API.

#### 9.1.6.2 Protocol Errors

No specific protocol errors for the Eecs\_EESRegistration API are specified.

#### 9.1.6.3 Application Errors

The application errors defined for the Eecs\_EESRegistration API are listed in Table 9.1.6.3-1.

Table 9.1.6.3-1: Application errors

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

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

### 9.1.7 Feature negotiation

General feature negotiation procedures are defined in clause 7.8 Table 9.1.7-1 lists the supported features for Eecs\_EESRegistration API.

Table 9.1.7-1: 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 of EAS bundle information.- Support of EAS instantiation information management.- Support of EDN related information provisioning within the EES profile.- Support of the indication of the EAS ability to handle bundled EAS ACRs within the EAS profile. |
| 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 per-EAS allowed MNO information in the EES Profile.- Support of EAS load information reporting within the EES Profile. |

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

# A.11 Eecs\_EESRegistration API

openapi: 3.0.0

info:

 title: ECS EES Registration\_API

 description: |

 API for EES Registration.

 © 2024, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

 All rights reserved.

 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-eesregistration/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /registrations:

 post:

 summary: Create a new EES Registration

 operationId: CreateEESRegistration

 tags:

 - EES Registrations (Collection)

 description: Registers a new EES at the Edge Configuration Server.

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: EES information is registered successfully at ECS.

 content:

 application/json:

 schema:

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

 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'

 /registrations/{registrationId}:

 get:

 summary: Get an Individual EES Registration

 operationId: GetIndEESReg

 tags:

 - Individual EES Registration (Document)

 description: Retrieve an Individual EES registration resource.

 parameters:

 - name: registrationId

 in: path

 description: Registration Id.

 required: true

 schema:

 type: string

 responses:

 '200':

 description: OK (The EES registration information at the Edge Configuration Server).

 content:

 application/json:

 schema:

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

 '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 Individual EES Registration

 operationId: UpdateIndEESReg

 tags:

 - Individual EES Registration (Document)

 description: Fully replace an existing EES Registration resource.

 parameters:

 - name: registrationId

 in: path

 description: EES Registration Id.

 required: true

 schema:

 type: string

 requestBody:

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '200':

 description: OK (The EES registration information is updated successfully).

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The individual EES registration information is updated successfully.

 '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'

 patch:

 summary: Modify an Individual EES Registration

 operationId: ModifyIndEESReg

 tags:

 - Individual EES Registration (Document)

 description: Partially update an existing EES Registration resource.

 parameters:

 - name: registrationId

 in: path

 description: EES registration Id.

 required: true

 schema:

 type: string

 requestBody:

 description: Partial update an existing EES registration resource.

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: >

 The Individual EES registration is successfully modified and

 the updated registration information is returned in the response.

 content:

 application/json:

 schema:

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

 '204':

 description: >

 No Content. The individual EES registration information is updated successfully.

 '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 Individual EES Registration

 operationId: DeleteIndEESReg

 tags:

 - Individual EES Registration (Document)

 description: Delete an existing EES registration at ECS.

 parameters:

 - name: registrationId

 in: path

 description: Registration Id.

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The individual EES registration is 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'

components:

 securitySchemes:

 oAuth2ClientCredentials:

 type: oauth2

 flows:

 clientCredentials:

 tokenUrl: '{tokenUrl}'

 scopes: {}

 schemas:

 EESRegistration:

 type: object

 description: Represents an EES registration information.

 properties:

 eesProf:

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

 expTime:

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

 suppFeat:

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

 required:

 - eesProf

 EESProfile:

 type: object

 description: Represents the EES profile information.

 properties:

 eesId:

 type: string

 description: Identifier of the EES.

 endPt:

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

 easIds:

 type: array

 items:

 type: string

 minItems: 1

 description: Application identifiers of EASs that are registered with EES.

 easBdlInfos:

 type: object

 additionalProperties:

 type: array

 items:

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

 minItems: 1

 minProperties: 1

 description: >

 The key used in this map for each entry is the EAS ID of the concerned EAS.

 Within each EASBundleInfo encoded map entry of this attribute, the "mainEasId" attribute

 shall not be present.

 allowedMNOsInfo:

 type: object

 additionalProperties:

 type: array

 items:

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

 minItems: 1

 minProperties: 1

 description: >

 The key of the map shall be the identifier of the EAS to which the provided allowed MNO

 information within the map value corresponds.

 ednInfoSets:

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

 easInstInfo:

 type: object

 additionalProperties:

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

 minProperties: 1

 description: >

 Represents the EAS instantiation information for the EAS(s) registered at the EES.

 The key of the map shall be the EAS ID to which the provided instantiation information

 within the map value relates.

 provId:

 type: string

 description: Identifier of the ECSP that provides the EES provider.

 svcArea:

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

 appLocs:

 type: array

 items:

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

 minItems: 1

 description: List of DNAI(s) associated with the EES.

 svcContSupp:

 type: array

 items:

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

 minItems: 1

 description: The ACR scenarios supported by the EES for service continuity.

 svcContSuppExt1:

 type: array

 items:

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

 minItems: 1

 description: >

 Represents the information related to the EES ability to handle bundled EAS ACRs.

 This attribute may be present only when the "svcContSupp" attribute is also present.

 When this attribute is present, it indicates that the EES (identified by the "eesId"

 attribute) is able to handle bundled EAS ACRs and contains the information of the EAS

 bundle(s) for which the EES is able to handle bundled EAS ACRs.

 eecRegConf:

 type: boolean

 description: >

 Set to true if the EEC is required to register to the EES to use edge service.

 Set to false if the EEC is not required to register to use edge services. Default

 Value is false if omitted.

 easLoadInfoList:

 type: object

 additionalProperties:

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

 minProperties: 1

 description: >

 Represents the load information for each EAS identified by the "easIds" attribute.

 The key of the map shall be set to the identifier of the EAS (among the ones provided

 within the "easIds" attribute) for which the load info provided within the map value corresponds.

 required:

 - eesId

 - endPt

 - eecRegConf

 EESRegistrationPatch:

 type: object

 description: Represents partial update request of individual EES registration information.

 properties:

 eesProf:

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

 expTime:

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

 ServiceArea:

 type: object

 description: Represents a service area information of the EdgeApp entity.

 properties:

 topServAr:

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

 geoServAr:

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

 TopologicalServiceArea:

 type: object

 description: Represents topological service area information.

 properties:

 ecgis:

 type: array

 items:

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

 minItems: 1

 description: A list of E-UTRA cell identities.

 ncgis:

 type: array

 items:

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

 minItems: 1

 description: A list of NR cell identities.

 tais:

 type: array

 items:

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

 minItems: 1

 description: A list of tracking area identities.

 plmnIds:

 type: array

 items:

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

 minItems: 1

 description: A list of serving network identities.

 GeographicalServiceArea:

 type: object

 description: Represents geographical service area information.

 properties:

 geoArs:

 type: array

 items:

 $ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/GeographicArea'

 minItems: 1

 description: A list of geographic area information.

 civicAddrs:

 type: array

 items:

 $ref: 'TS29572\_Nlmf\_Location.yaml#/components/schemas/CivicAddress'

 minItems: 1

 description: A list of civic address information.

 EASInstantiationInfo:

 type: object

 description: Represents the EAS instantiation information.

 properties:

 easId:

 type: string

 description: Identifier of the EAS.

 status:

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

 instCrit:

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

 required:

 - easId

 - status

 InstantiationCriteria:

 type: object

 description: Represents the instantiation criteria for an EAS.

 properties:

 instantiationTime:

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

 instWindows:

 type: array

 items:

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

 minItems: 1

 description: A list time windows at which the EAS is instantiated.

 scheds:

 type: array

 items:

 $ref: 'TS29122\_CpProvisioning.yaml#/components/schemas/ScheduledCommunicationTime'

 minItems: 1

 description: Represents the EAS instantiation schedule.

 oneOf:

 - required: [instantiationTime]

 - required: [instWindows]

 - required: [scheds]

 EDNInfo:

 type: object

 description: Represents EDN related information.

 properties:

 dnn:

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

 dnais:

 type: array

 items:

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

 minItems: 1

 required:

 - dnn

 LoadInfo:

 type: object

 description: Represents the load information of an EEL entity.

 properties:

 loadLevel:

 type: integer

 minimum: 0

 maximum: 100

 loadWarningStat:

 type: boolean

 description: >

 true indicates that load warning is activated.

 false indicates that load warning is not activated.

 The default value is "false" when this attribute is omitted.

 ACRScenario:

 anyOf:

 - type: string

 enum:

 - EEC\_INITIATED

 - EEC\_EXECUTED\_VIA\_SOURCE\_EES

 - EEC\_EXECUTED\_VIA\_TARGET\_EES

 - SOURCE\_EAS\_DECIDED

 - SOURCE\_EES\_EXECUTED

 - EEL\_MANAGED\_ACR

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: |

 Represents the ACR scenarios supported by EES.

 Possible values are:

 - EEC\_INITIATED: Represents the EEC initiated ACR scenario.

 - EEC\_EXECUTED\_VIA\_SOURCE\_EES: Represents the EEC ACR scenario executed via the S-EES.

 - EEC\_EXECUTED\_VIA\_TARGET\_EES: Represents the EEC ACR scenario executed via the T-EES.

 - SOURCE\_EAS\_DECIDED: Represents the EEC ACR scenario where the S-EAS decides to perform

 ACR.

 - SOURCE\_EES\_EXECUTED: Represents the EEC ACR scenario where S-EES executes the ACR.

 - EEL\_MANAGED\_ACR: Represents the EEC ACR scenario where the ACR is managed by the

 Edge Enabler Layer.

 InstantiationStatus:

 anyOf:

 - type: string

 enum:

 - INSTANTIATED

 - INSTANTIABLE

 - type: string

 description: >

 This string provides forward-compatibility with future

 extensions to the enumeration but is not used to encode

 content defined in the present version of this API.

 description: |

 Represents the instantiation status information of an EAS.

 Possible values are:

 - INSTANTIATED: Indicates that the EAS status is instantiated.

 - INSTANTIABLE: Indicates that the EAS status is instantiable but not yet instantiated.

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