**3GPP TSG-CT3 Meeting #130C3-234548**

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-234169)**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.558** | **CR** | **0129** | **rev** | **1** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Corrections to boolean type definitions | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EDGEAPP | | | | |  | ***Date:*** | | | 2023-09-20 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **A** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories can be found in 3GPP [TR 21.900](http://www.3gpp.org/ftp/Specs/html-info/21900.htm). | | | | | | | | *Use one of the following releases: Rel-8 (Release 8) Rel-9 (Release 9) Rel-10 (Release 10) Rel-11 (Release 11) … Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | The boolean type definitions in this TS missing several essential definitions. The false definition is missing in the easAckInd attribute within the AcrMgntEventSubsc data type. The default value definition is missing in the eecRegConf attribute of the EESProfile type. Some boolean type also missing the corresponding descriptions in the OpenAPI file.  Hence needs to correct the boolean type definitions in this TS. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Adding the missing false definition for the missing default value definition for the eecRegConf attributes within the EESProfile, also updated in the OpenAPI files. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Missing the essential boolean type definitions in Eees\_ACRManagementEvent API and Ecs\_EESRegistration API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.6.5.2.3, 9.1.5.2.3, A.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 in the OpenAPI files of the Eees\_ACRManagementEvent API and Eecs\_EESRegistration API. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 8.6.5.2.3 Type: AcrMgntEventSubsc

Table 8.6.5.2.3-1: Definition of type AcrMgntEventSubsc

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| event | AcrMgntEvent | M | 1 | Indicates the subscribed ACR management event. |  |
| eventFilter | AcrMgntEventFilter | O | 0..1 | Represents the event filter for the subscribed ACR management event.  This attribute may be provided only if the "event" attribute is set to "ACR\_MONITORING". |  |
| evtReq | ReportingInformation | O | 0..1 | Indicates the event reporting requirements (e.g. reporting periodicity, immediate reporting indication, etc).  (NOTE) |  |
| tgtUeId | TargetUeIdentification | C | 0..1 | Contains the UE identification information.  This attribute shall be provided only if the "event" attribute is set to either "UP\_PATH\_CHG", "ACR\_MONITORING" or "ACR\_FACILITATION". |  |
| dnaiChgType | DnaiChangeType | O | 0..1 | Identifies a type of notification regarding UP path management event.  This attribute may be provided only if the "event" attribute is set to "UP\_PATH\_CHG". |  |
| easAckInd | boolean | O | 0..1 | Identifies whether EAS acknowledgement of UP path change event notifications is to be expected.  Set to "true" if the EAS acknowledgement is expected.  Set to "false" if the EAS acknowledgement is not expected.  Default value is "false".  This attribute may be provided only if the "event" attribute is set to "UP\_PATH\_CHG". |  |
| easChars | array(EasCharacteristics) | O | 1..N | Represents a list of EAS characteristics.  This attribute may be provided only if the "event" attribute is set to either "ACR\_MONITORING" or "ACR\_FACILITATION". |  |
| acIds | array(string) | O | 1..N | List of identifiers of the ACs for which the list of selected ACR scenarios are to be notified.  This attribute may be provided only if the "event" attribute is set to "ACR\_SELECTION" | EdgeApp\_2 |
| trafFilterInfo | TrafficFilterInfo | O | 0..1 | Represents the traffic filter information.  This attribute may be present only if the "event" attribute is set to "UP\_PATH\_CHG", "ACR\_MONITORING" and/or "ACR\_FACILITATION". | EdgeApp\_2 |
| servContPlanInd | boolean | O | 0..1 | Contains the service continuity planning indication (i.e., whether or not the EES shall monitor whether the UE(s) enter the predicted location).  - When set to "true", it indicates that service continuity planning is required.  - When set to "false", it indicates that service continuity planning is not required.  - The default value when this attribute is omitted is false. | EdgeApp\_2 |
| NOTE: The "evtReq" takes precedence over the "evtReq" attribute of the AcrMgntEventsSubscription data structure when both are present. | | | | | |

Editor's Note: The definition and encoding of the "acIds" attribute and whether it is needed or not is FFS and pending stage 2 progress.

Editor's Note: The ACR management event(s) to which the "servContPlanInd" attribute shall apply is FFS and pending stage 2 progress.

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

##### 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..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 budle ID(s) within the map value correspond.  (NOTE) | 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. |  |
| 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. |  |
| NOTE: Within each EASBundleInfo encoded entry of this attribute, the "bdlId" attribute containing the EAS bundle identifier shall be present and only the "easBdlReqs" attribute containing the EAS bundle requirements may be provided in addition. The other attributes shall not be provided. | | | | | |

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

# A.7 Eees\_ACRManagementEvent API

openapi: 3.0.0

info:

title: EES ACR Management Event\_API

description: |

API for EES ACR Management Event.

© 2023, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

All rights reserved.

version: 1.1.0-alpha.4

externalDocs:

description: >

3GPP TS 29.558 V18.3.0 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-acrmgntevent/v1'

variables:

apiRoot:

default: https://example.com

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

paths:

/subscriptions:

post:

summary: Creates a new Individual ACR Management Events Subscription

operationId: CreateACRMngEventSubscr

tags:

- ACR Management Events Subscriptions (Collection)

description: Create an Individual ACR Management Event Subscription resource.

requestBody:

required: true

content:

application/json:

schema:

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

callbacks:

ACRManagementEventsNotification:

'{request.body#/notificationDestination}':

post:

requestBody: # contents of the callback message

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content (successful notification)

'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'

UPPathChangeAvailabilityNotif:

'{request.body#/notificationDestination}/report-availability':

post:

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: No Content. The notification is successful received.

'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'

responses:

'201':

description: Created (Successful creation)

content:

application/json:

schema:

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

headers:

Location:

description: 'Contains the URI of the newly created resource'

required: true

schema:

type: string

'204':

description: >

Successful case. The resource has been successfully created and no

additional content is to be sent in the response message.

'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:

summary: Read all ACR Management Events Subscriptions

operationId: GetACRMngEventSubscrs

tags:

- ACR Management Events Subscriptions (Collection)

description: Retrieve all the ACR Management Events Subscriptions information.

parameters:

- name: supp-feat

in: query

description: Features supported by the EAS.

required: false

schema:

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

responses:

'200':

description: OK (Successful get all of the active subscriptions)

content:

application/json:

schema:

type: array

items:

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

minItems: 1

description: All the active ACR management events subscriptions

'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'

/subscriptions/{subscriptionId}:

get:

summary: Read an Individual ACR Management Events Subscription

operationId: GetIndACRMngEventSubscr

tags:

- Individual ACR Management Events Subscription (Document)

description: Retrieve an Individual ACR Management Events Subscription.

parameters:

- name: subscriptionId

in: path

description: Subscription Id.

required: true

schema:

type: string

- name: supp-feat

in: query

description: Features supported by the EAS.

required: false

schema:

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

responses:

'200':

description: OK (Successful get the active subscription).

content:

application/json:

schema:

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

'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 ACR Management Events Subscription

operationId: UpdateIndACRMngEventSubscr

tags:

- Individual ACR Management Events Subscription (Document)

description: Fully replace an existing Individual ACR Management Events Subscription.

parameters:

- name: subscriptionId

in: path

description: Subscription Id.

required: true

schema:

type: string

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'200':

description: OK (Successful get the active subscription).

content:

application/json:

schema:

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

'204':

description: No Content

'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 ACR Management Events Subscription

operationId: ModifyIndACRMngEventSubscr

tags:

- Individual ACR Management Events Subscription (Document)

parameters:

- name: subscriptionId

in: path

description: Subscription Id.

required: true

schema:

type: string

requestBody:

description: Partial update an existing Individual ACR Management Events Subscription.

required: true

content:

application/merge-patch+json:

schema:

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

responses:

'200':

description: >

The Individual ACR Management Events Subscription is successfully modified

and the updated subscription information is returned in the response.

content:

application/json:

schema:

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

'204':

description: No Content.

'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 ACR Management Events Subscription

operationId: DeleteIndACRMngEventSubscr

tags:

- Individual ACR Management Events Subscription (Document)

description: Delete an existing Individual ACR Management Events Subscription.

parameters:

- name: subscriptionId

in: path

description: Subscription Id.

required: true

schema:

type: string

responses:

'204':

description: The individual subscription 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

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

AcrMgntEventsSubscription:

type: object

description: Represents an Individual ACR Management Events Subscription.

properties:

self:

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

easId:

type: string

description: Identifier of an EAS.

eventSubscs:

type: array

items:

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

minItems: 1

description: The subscribed ACR management events.

evtReq:

$ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

notificationDestination:

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

eventReports:

type: array

items:

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

minItems: 1

description: The ACR management event report(s).

availabilityInfo:

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

failEventReports:

type: array

items:

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

minItems: 1

description: Failure event reports.

requestTestNotification:

type: boolean

description: >

Set to true by the EAS to request the EES to send a test notification.

Set to false or omitted otherwise.

websockNotifConfig:

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

suppFeat:

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

required:

- easId

- eventSubscs

- notificationDestination

AcrMgntEventSubsc:

type: object

description: Represents an ACR Management Event Subscription.

properties:

event:

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

eventFilter:

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

evtReq:

$ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

tgtUeId:

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

dnaiChgType:

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

easAckInd:

type: boolean

description: >

Identifies whether EAS acknowledgement of UP path change event notifications is to be

expected. Set to "true" if the EAS acknowledgement is expected. Set to "false" if

the EAS acknowledgement is not expected. Default value is "false" if ommited.

This attribute may be provided only if the "event" attribute is set to"UP\_PATH\_CHG".

easChars:

type: array

items:

$ref: 'TS24558\_Eees\_EASDiscovery.yaml#/components/schemas/EasCharacteristics'

minItems: 1

description: A list of EAS characteristics.

trafFilterInfo:

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

servContPlanInd:

type: boolean

description: >

Represents the service continuity planning indication (i.e., whether or not the EES

shall monitor whether the UE(s) enter the predicted location).

When set to true, it indicates that service continuity planning is required.

When set to false, it indicates that Service continuity planning is not required.

The default value when this attribute is omitted is false.

required:

- event

AcrMgntEventsSubscriptionPatch:

type: object

description: >

Represents a modification request of Individual ACR Management Events Subscription.

properties:

eventSubscs:

type: array

items:

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

minItems: 1

description: The subscribed ACR management events.

evtReq:

$ref: 'TS29523\_Npcf\_EventExposure.yaml#/components/schemas/ReportingInformation'

notificationDestination:

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

AcrMgntEventsNotification:

type: object

description: Represents the ACR management events notification.

properties:

subpId:

type: string

description: >

String identifying the Individual ACR Management Events Subscription

for which the notification is delivered.

eventReports:

type: array

items:

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

minItems: 1

description: A list of ACR management event reports.

required:

- subpId

- eventReports

AcrMgntEventReport:

type: object

description: Represents an ACR management event report.

properties:

event:

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

timeStamp:

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

upPathChgInfo:

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

easEndPoint:

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

actStatus:

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

acrParams:

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

acId:

type: string

selACRScen:

type: array

items:

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

minItems: 1

servContPlanInd:

type: boolean

description: >

Represents the service continuity planning indication (i.e., whether or not the EES will

monitor whether the UE(s) enter the predicted location).

When set to true, it indicates that service continuity planning will be performed.

When set to false, it indicates that Service continuity planning will not be performed.

The default value when this attribute is omitted is false.

required:

- event

ACRParameters:

type: object

description: Represents the ACR parameters.

properties:

predictExpTime:

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

FailureAcrMgntEventInfo:

type: object

description: Represents a failure ACR management event.

properties:

event:

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

failureCode:

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

required:

- event

- failureCode

TargetUeIdentification:

description: Identifies the target UE information.

type: object

properties:

gpsi:

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

intGrpId:

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

extGrpId:

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

ueIpAddr:

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

oneOf:

- required: [gpsi]

- required: [intGrpId]

- required: [extGrpId]

- required: [ueIpAddr]

AvailabilityNotif:

type: object

description: >

Represents the availability information of user plane path management events monitoring

via the 3GPP 5GC network.

properties:

availabilityStatus:

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

required:

- availabilityStatus

UpPathChangeInfo:

description: Represents user plane path change information.

type: object

properties:

ueId:

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

dnaiChgType:

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

sourceTrafficRoute:

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

targetTrafficRoute:

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

sourceDnai:

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

targetDnai:

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

srcUeIpv4Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

srcUeIpv6Prefix:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

tgtUeIpv4Addr:

$ref: 'TS29122\_CommonData.yaml#/components/schemas/Ipv4Addr'

tgtUeIpv6Prefix:

$ref: 'TS29571\_CommonData.yaml#/components/schemas/Ipv6Prefix'

required:

- ueId

- dnaiChgType

IndUeIdentification:

description: Represents identification information of a UE.

type: object

properties:

gpsi:

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

externalId:

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

ueIpAddr:

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

oneOf:

- required: [gpsi]

- required: [externalId]

- required: [ueIpAddr]

TrafficFilterInfo:

description: Represents the Traffic Filter Information.

type: object

properties:

ipFlows:

type: array

items:

$ref: 'TS29514\_Npcf\_PolicyAuthorization.yaml#/components/schemas/FlowDescription'

minItems: 1

description: Contains the flow description for the Uplink and/or Downlink IP flows.

uris:

type: array

items:

type: string

minItems: 1

description: Indicates URI(s) matching criteria.

domainNames:

type: array

items:

type: string

minItems: 1

description: Indicates Domain Name matching criteria.

dnProtocol:

$ref: 'TS29122\_PfdManagement.yaml#/components/schemas/DomainNameProtocol'

anyOf:

- required: [ipFlows]

- required: [uris]

- required: [domainNames]

SelectedACRScenarios:

type: object

description: >

Represents the selected ACR scenario(s) applicable for a given combination of AC and UE.

properties:

acrList:

type: array

items:

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

minItems: 0

acId:

type: string

ueId:

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

required:

- acrList

- acId

- ueId

#

# ENUMERATIONS DATA TYPES

#

AcrMgntEvent:

anyOf:

- type: string

enum:

- UP\_PATH\_CHG

- ACR\_MONITORING

- ACR\_FACILITATION

- ACT\_START\_STOP

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Represents the ACR Management event.

Possible values are:

- UP\_PATH\_CHG: User plane path change event.

- ACR\_MONITORING: ACR monitoring event.

- ACR\_FACILITATION: ACR facilitation event.

- ACT\_START\_STOP: ACT start/stop event.

AcrMgntEventFilter:

anyOf:

- type: string

enum:

- INTRA\_EDN\_MOBILITY

- INTER\_EDN\_MOBILITY

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Represents the filtering criteria for the ACR Management event.

Possible values are:

- INTRA\_EDN\_MOBILITY: Indicates that the ACR Management Event filter is intra-EDN mobility.

- INTER\_EDN\_MOBILITY: Indicates that the ACR Management Event filter is inter-EDN mobility.

ActStatus:

anyOf:

- type: string

enum:

- ACT\_START

- ACT\_STOP

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Represents the ACT status.

Possible values are:

- ACT\_START: Indicates ACT start.

- ACT\_STOP: Indicates ACT stop.

AcrMgntEventFailureCode:

anyOf:

- type: string

enum:

- 3GPP\_UP\_PATH\_CHANGE\_MON\_NOT\_AVAILABLE

- OTHER\_REASONS

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Represents the failure reason for the ACR Management event.

Possible values are:

- 3GPP\_UP\_PATH\_CHANGE\_MON\_NOT\_AVAILABLE: Indicates that the ACR Management Event

Subscription failed because user plane path management event notifications from the 3GPP

network is NOT available. This value is only applicable for the "UP\_PATH\_CHG",

"ACR\_MONITORING" and "ACR\_FACILITATION" events.

- OTHER\_REASONS: Indicates that the ACR Management Event Subscription failed for other

reasons. This value is applicable for all events.

AvailabilityStatus:

anyOf:

- type: string

enum:

- AVAILABLE

- NOT\_AVAILABLE

- type: string

description: >

This string provides forward-compatibility with future extensions to the enumeration

and is not used to encode content defined in the present version of this API.

description: |

Represents the availability status.

Possible values are:

- AVAILABLE: Indicates availability.

- NOT\_AVAILABLE: Indicates unavailability.

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

# A.11 Eecs\_EESRegistration API

openapi: 3.0.0

info:

title: ECS EES Registration\_API

description: |

API for EES Registration.

© 2023, 3GPP Organizational Partners (ARIB, ATIS, CCSA, ETSI, TSDSI, TTA, TTC).

All rights reserved.

version: 1.1.0-alpha.4

externalDocs:

description: >

3GPP TS 29.558 V18.3.0 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.

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.

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.

.

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:

type: array

items:

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

minItems: 1

description: A list of date time periods when the EAS is instiantiable.

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 \*\*\*