**3GPP TSG-CT WG3 Meeting #130 *C3-234402\_r1***

**Xiamen, China, 9 - 13 October, 2023**  *(revision of C3-234402)*

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **29.558** | **CR** | **0133** | **rev** | **-** | **Current version:** | **18.3.0** |  |
|  | | | | | | | | |
| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
|  | | | | | | | | |

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

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | | | | | | | | | |
| ***Title:*** | Updates to Common EAS Announcement service | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EDGEAPP\_Ph2 | | | | |  | ***Date:*** | | | 2023-09-29 |
|  |  | | | |  | |  | | |  |
| ***Category:*** | **B** |  | | | | | ***Release:*** | | | Rel-18 |
|  | *Use one of the following categories:* ***F*** *(correction)* ***A*** *(mirror corresponding to a change in an earlier release)* ***B*** *(addition of feature),* ***C*** *(functional modification of feature)* ***D*** *(editorial modification)*  Detailed explanations of the above categories 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:*** | | For the Eees\_AnnouceCommonEAS service, the API name and service operation needs to aligned with stage-2 agreed CR (S6-232646), i.e. Eees\_CommonEASAnnouncement and Declare.  The selected Common EAS endpoint information should be included in the request message as agreed in S6-232753.  The Application group ID description needs to be updated as agreed in S6-232632. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Update the API name to Eees\_CommonEASAnnouncement.  Update Service operatio name to Declare  Include Endpoint information the request data structure (CommonEASInfo)  Update of description of application group ID attribute. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Common EAS Annoucement service definition is not aligned with stage-2. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.1, 5.14 and its sub-clauses, 8.11, 8.11.1, 8.11.2, 8.11.4, 8.11.4.1, 8.11.4.2, 8.11.6.1, 8.11.6.2, 8.11.6.2.1, 8.11.6.2.2, 8.11.7, 8.11.8, A.15 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 correction to Open API file (Eees\_CommonEASAnnouncement) which is introduced in this release. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

\* \* \* First Change \* \* \* \*

## 5.1 Introduction

The table 5.1-1 lists the Edge Enabler Server APIs below the service name. A service description clause for each API gives a general description of the related API.

Table 5.1-1: List of EES Service APIs

|  |  |  |  |
| --- | --- | --- | --- |
| Service Name | Service Operations | Operation Semantics | Consumer(s) |
| Eees\_EASRegistration | Request | Request/Response | EAS |
| Update | Request/Response | EAS |
| Deregister | Request/Response | EAS |
| Eees\_UELocation | Get | Request/Response | EAS |
| Subscribe | Subscribe/Notify | EAS |
| Notify |
| UpdateSubscription |
| Unsubscribe |
| Eees\_UEIdentifier | Get | Request/Response | EAS, EEC |
| Eees\_AppClientInformation | Subscribe | Subscribe/Notify | EAS |
| Notify |
| UpdateSubscription |
| Unsubscribe |
| Eees\_SessionWithQoS | Create | Request/Response | EAS |
| Update | Request/Response | EAS |
| Revoke | Request/Response | EAS |
| Notify | Subscribe/Notify | EAS |
| Eees\_EASDiscovery | TEasDiscRequest | Request/Response | EAS, EES |
| Eees\_ACRManagementEvent | Subscribe | Subscribe/Notify | EAS |
| Notify |
| UpdateSubscription |
| Unsubscribe |
| Eees\_EECContextRelocation | Push | Request/Response | EES, CES |
| Pull | Request/Response | EES |
| Eees\_EELManagedACR | Request | Request/Response | EAS |
| Subscribe | Subscribe/Notify | EAS |
| Notify |
| Eees\_ACRStatusUpdate | Request | Request/Response | EAS |
| Eees\_AppContextRelocation | ACRDetermination\_Request | Request/Response | EAS |
| SelectedTargetEAS\_Declare | Request/Response | EAS |
| Eees\_ACRParameterInformation | Request | Request/Response | EES, CES |
| Eees\_CommonEASAnnouncement | Declare | Request/Response | EES |

Editor's note: whether the CES is a consumer of the Eees\_ACRParameterInformation service is FFS.

Editor's note: whether the CES is a consumer of the Eees\_EECContextRelocation service is FFS.

Table 5.1-2 summarizes the corresponding Edge Enabler Server APIs defined in this specification.

Table 5.1-2: API Descriptions

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Service Name** | **Clause** | **Description** | **OpenAPI Specification File** | **apiName** | **Annex** |
| Eees\_EASRegistration | 5.2 | EAS registration service | TS29558\_Eees\_EASRegistration.yaml | eees-easregistration | A.2 |
| Eees\_UELocation | 5.3 | Service for fetching UE location information | TS29558\_Eees\_UELocation.yaml | eees-uelocation | A.3 |
| Eees\_UEIdentifier | 5.4 | Service for fetching UE identifier. | TS29558\_Eees\_UEIdentifier.yaml | eees-ueidentifier | A.4 |
| Eees\_AppClientInformation | 5.5 | Service to obtain the capabilities of the ACs. | TS29558\_Eees\_AppClientInformation.yaml | eees-appclientinformation | A.5 |
| Eees\_SessionWithQoS | 5.6 | Service to setup data session between AC and EAS with specific QoS. | TS29558\_Eees\_SessionWithQoS.yaml | eees-session-with-qos | A.6 |
| Eees\_ACRManagementEvent | 5.8 | Service to receive notification related to ACR management events. | TS29558\_Eees\_ACRManagementEvent.yaml | eees-acrmgmtevent | A.7 |
| Eees\_EECContextRelocation | 5.10 | Service to push or pull EEC context information. | TS29558\_Eees\_EECContextRelocation.yaml | eees-eeccontextreloc | A.8 |
| Eees\_EELManagedACR | 5.11 | Service to request for handling of ACR related operations and receive ACT notifications. | TS29558\_Eees\_EELManagedACR.yaml | eees-eel-acr | A.9 |
| Eees\_ACRStatusUpdate | 5.12 | Service to update the status of ACR. | TS29558\_Eees\_ACRStatusUpdate.yaml | eees-acrstatus-update | A.10 |
| Eees\_ACRParameterInformation | 5.13 | Service to send ACR parameters information. | TS29558\_Eees\_ACRParameterInformation.yaml | eees-acr-param | A.13 |
| Eees\_CommonEASAnnouncement | 5.14 | Service to announce common EAS information. | TS29558\_Eees\_CommonEASAnnouncement.yaml | eees-common-eas | A.15 |

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

## 5.14 Eees\_CommonEASAnnouncement Service

### 5.14.1 Service Description

The Eees\_CommonEASAnnouncement service exposed by the EES enables a service consumer (i.e. announcing EES) to:

- send common EAS information to the receiving EES.

### 5.14.2 Service Operations

#### 5.14.2.1 Introduction

The service operations defined for the Eees\_CommonEASAnnouncement API are shown in the table 5.14.2.1-1.

Table 5.14.2.1-1: Eees\_CommonEASAnnouncement Service Operations

|  |  |  |
| --- | --- | --- |
| Service operation name | Description | Initiated by |
| Eees\_CommonEASAnnouncement\_Declare | This service operation enables a service consumer (i.e. announcing EES) to send common EAS information to the receiving EES. | EES |

#### 5.14.2.2 Eees\_CommonEASAnnouncement\_Declare

##### 5.14.2.2.1 General

This service operation is used by a service consumer (i.e. announcing EES) to send common EAS information to the receiving EES.

The following procedures are supported by the "Eees\_CommonEASAnnouncement\_Declare" service operation:

- Declare Common EAS Information Request procedure.

##### 5.14.2.2.2 Declare Common EAS Information Request

The Declare Common EAS Information Request procedure enables a service consumer (i.e. announcing EES) to send common EAS information to the receiving EES (see clause 8.19.2 of 3GPP°TS°23.558°[2]).

1. The service consumer (i.e. announcing EES) shall send for this purpose an HTTP POST request (custom operation: "Declare") to the EES (i.e. receiving EES), with the request URI set to "{apiRoot}/eees-common-eas/<apiVersion>/declare" and the request body including the CommonEASInfo data structure defined in clause 8.11.6.2.2.

2. Upon reception of the HTTP POST request message from the service consumer (i.e. announcing EES), the EES (i.e. receiving EES) shall check whether the declaring EES is authorized to declare the common EAS information. Then:

2a. upon success, the EES (i.e. announcing EES) shall respond with an HTTP "204 No Content" status code indicating that the common EAS information is successfully received.; and

2b. on failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information, as defined in clause 8.11.7, should be returned in the HTTP POST response body.

If the receiving EES is not able to handle the request, it may respond with an HTTP "307 Temporary Redirect" status code or an HTTP "308 Permanent Redirect" status code including an HTTP "Location" header containing an alternative target URI of the custom operation in an alternative EES (i.e. T-EES), as defined in clause 5.2.10 of 3GPP TS 29.122 [2].

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

## 8.11 Eees\_CommonEASAnnouncement API

### 8.11.1 Introduction

The Eees\_CommonEASAnnouncement service shall use the Eees\_CommonEASAnnouncement API.

The API URI of the Eees\_CommonEASAnnouncement API shall be:

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

The request URIs used in HTTP requests shall have the Resource URI structure defined in clause 5.2.4 of 3GPP TS 29.122 [6], i.e.:

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

with the following components:

- The {apiRoot} shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [6].

- The <apiName>shall be "eees-common-eas".

- The <apiVersion> shall be "v1".

- The <apiSpecificSuffixes> shall be set as described in clause 5.2.4 of 3GPP TS 29.122 [6].

### 8.11.2 Usage of HTTP

The provisions of clause 5.2.2 of 3GPP TS 29.122 [6] shall apply for the Eees\_CommonEASAnnouncement API.

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

### 8.11.4 Custom Operations without associated resources

#### 8.11.4.1 Overview

The structure of the custom operation URIs of the Eees\_CommonEASAnnouncement API is shown in Figure 8.11.4.1-1.



Figure 8.11.4.1-1: Custom operation URI structure of the Eees\_CommonEASAnnouncement API

Table 8.11.4.1-1 provides an overview of the custom operations and applicable HTTP methods defined for the Eees\_CommonEASAnnouncement API.

Table 8.11.4.1-1: Custom operations without associated resources

|  |  |  |  |
| --- | --- | --- | --- |
| Operation name | Custom operation URI | Mapped HTTP method | Description |
| Declare | /declare | POST | Enables a service consumer (i.e. announcing EES) to send common EAS information to the receiving EES. |

#### 8.11.4.2 Operation: Declare

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

#### 8.11.6.1 General

This clause specifies the application data model supported by the API.

Table 8.11.6.1-1 specifies the data types defined for the Eees\_CommonEASAnnouncement API.

Table 8.10.6.1-1: Eees\_CommonEASAnnouncement API specific Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Clause defined | Description | Applicability |
| CommonEASInfo | 8.11.6.2.2 | Represents the common EAS information. |  |

Table 8.11.6.1-2 specifies data types re-used by the Eees\_CommonEASAnnouncement API from other specifications, including a reference to their respective specifications and when needed, a short description of their use within the Eees\_CommonEASAnnouncement API.

Table 8.11.6.1-2: Eees\_CommonEASAnnouncement API re-used Data Types

|  |  |  |  |
| --- | --- | --- | --- |
| Data type | Reference | Comments | Applicability |
| EndPoint | 8.1.5.2.5 | To indicate the end point information of the common EAS. |  |

#### 8.11.6.2 Structured data types

##### 8.11.6.2.1 Introduction

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

##### 8.11.6.2.2 Type: CommonEASInfo

Table 8.11.6.2.2-1: Definition of type CommonEASInfo

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Attribute name | Data type | P | Cardinality | Description | Applicability |
| requestorId | string | M | 1 | Contains the identifier of the service consumer (i.e. announcing EES) that is sending the request. |  |
| easId | string | M | 1 | Contains the identifier of the selected common EAS. |  |
| appGrpId | string | M | 1 | The application group identifier. |  |
| endPt | EndPoint | M | 1 | The endpoint information of the selected common EAS. |  |

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

### 8.11.7 Error Handling

#### 8.11.7.1 General

For the Eees\_CommonEASAnnouncement 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 Eees\_CommonEASAnnouncement API.

#### 8.11.7.2 Protocol Errors

No specific protocol errors for the Eees\_CommonEASAnnouncement API are specified.

#### 8.11.7.3 Application Errors

The application errors defined for the Eees\_CommonEASAnnouncement API are listed in Table 8.11.7.3-1.

Table 8.11.7.3-1: Application errors

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

### 8.11.8 Feature negotiation

The optional features in table 8.10.8-1 are defined for the Eees\_CommonEASAnnouncement API. They shall be negotiated using the extensibility mechanism defined in clause 5.2.7 of 3GPP TS 29.122 [6].

Table 8.11.8-1: Supported Features

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

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

# A.15 Eees\_CommonEASAnnouncement API

openapi: 3.0.0

info:

title: EES Announce Common EAS Information Service

version: 1.0.0-alpha.1

description: |

EES Announce Common EAS Information Service.

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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-common-eas/v1'

variables:

apiRoot:

default: https://example.com

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

paths:

/declare:

post:

summary: Request to declare common EAS information.

operationId: Declare

tags:

- Declare common EAS Information

requestBody:

required: true

content:

application/json:

schema:

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

responses:

'204':

description: >

No Content. The common EAS information is successfully received and no content is

returned in the response body.

'307':

$ref: 'TS29122\_CommonData.yaml#/components/responses/307'

'308':

$ref: 'TS29122\_CommonData.yaml#/components/responses/308'

'400':

$ref: 'TS29122\_CommonData.yaml#/components/responses/400'

'401':

$ref: 'TS29122\_CommonData.yaml#/components/responses/401'

'403':

$ref: 'TS29122\_CommonData.yaml#/components/responses/403'

'404':

$ref: 'TS29122\_CommonData.yaml#/components/responses/404'

'411':

$ref: 'TS29122\_CommonData.yaml#/components/responses/411'

'413':

$ref: 'TS29122\_CommonData.yaml#/components/responses/413'

'415':

$ref: 'TS29122\_CommonData.yaml#/components/responses/415'

'429':

$ref: 'TS29122\_CommonData.yaml#/components/responses/429'

'500':

$ref: 'TS29122\_CommonData.yaml#/components/responses/500'

'503':

$ref: 'TS29122\_CommonData.yaml#/components/responses/503'

default:

$ref: 'TS29122\_CommonData.yaml#/components/responses/default'

components:

securitySchemes:

oAuth2ClientCredentials:

type: oauth2

flows:

clientCredentials:

tokenUrl: '{tokenUrl}'

scopes: {}

schemas:

CommonEASInfo:

description: >

Represents the common EAS information.

type: object

properties:

requestorId:

type: string

description: Represents the identifier of the announcing EES sending the request.

easId:

type: string

description: Represents the EAS ID of the selected common EAS

appGrpId:

type: string

description: Represents the application group identifier.

endPt:

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

required:

- requestorId

- easId

- appGrpId

- endPt

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