**3GPP TSG-CT WG3 Meeting #118e C3-215391**

**E-Meeting, 11th – 15th October 2021 (Revision of C3-215143)**

|  |
| --- |
| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
|  |
|  | **29.522** | **CR** | **0416** | **rev** | **1** | **Current version:** | **17.3.0** |  |
|  |
| *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:***  | Update OpenAPI definition of AM Policy Authorization service |
|  |  |
| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | TEI17\_DCAMP |  | ***Date:*** | 2021-09-28 |
|  |  |  |  |  |
| ***Category:*** | **B** |  | ***Release:*** |  Rel-17 |
|  | *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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
|  |  |
| ***Reason for change:*** | SA2 LS reply refer to TS 23.503 clause 6.1.2.6.1 definition on the related input parameters, TS 23.502 clause 5.2.6.22 also updated input parameters.Hence need to update the OpenAPI definition in this specification. |
|  |  |
| ***Summary of change:*** | Update AppAmContextExpData and AppAmContextExpUpdateData data types according to the data structure updated in the Data Model, and new data type GeographicalArea, and remove the editor’s note. |
|  |  |
| ***Consequences if not approved:*** | Misalignment with stage 2. NEF cannot completely support AF triggered AM Policy Authorization. |
|  |  |
| ***Clauses affected:*** | 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 introduces backward compatible feature into the OpenAPI file applicable to AmPolicyAuthorization API. |
|  |  |
| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

# A.15 AmPolicyAuthorization API

openapi: 3.0.0

info:

 title: 3gpp-am-policyauthorization

 version: 1.0.0-alpha.2

 description: |

 API for AM policy authorization.

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externalDocs:

 description: 3GPP TS 29.522 V17.3.0; 5G System; Network Exposure Function Northbound APIs.

 url: 'http://www.3gpp.org/ftp/Specs/archive/29\_series/29.522/'

security:

 - {}

 - oAuth2ClientCredentials: []

servers:

 - url: '{apiRoot}/3gpp-am-policyauthorization/v1'

 variables:

 apiRoot:

 default: https://example.com

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

paths:

 /{afId}/app-am-contexts:

 post:

 summary: Creates a new Individual application AM Context resource

 operationId: PostAppAmContexts

 tags:

 - Application AM Contexts

 parameters:

 - name: afId

 in: path

 description: Identifier of the AF

 required: true

 schema:

 type: string

 requestBody:

 description: new resource creation

 required: true

 content:

 application/json:

 schema:

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

 responses:

 '201':

 description: Created (Successful creation)

 content:

 application/json:

 schema:

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

 headers:

 Location:

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

 required: true

 schema:

 type: string

 '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'

 callbacks:

 amEventNotification:

 '{$request.body#/evSubsc/eventNotifUri}':

 post:

 requestBody:

 description: Notification of an event occurrence.

 required: true

 content:

 application/json:

 schema:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsNotification'

 responses:

 '204':

 description: The receipt of the notification is acknowledged

 '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'

 /{afId}/app-am-contexts/{appAmContextId}:

 get:

 summary: read an existing Individual application AM context

 operationId: GetAppAmContext

 tags:

 - Individual Application AM Context

 parameters:

 - name: afId

 in: path

 description: Identifier of the AF

 required: true

 schema:

 type: string

 - name: appAmContextId

 in: path

 description: Identifier of the Individual application AM context

 required: true

 schema:

 type: string

 responses:

 '200':

 description: OK (A representation of the resource is successfully returned)

 content:

 application/json:

 schema:

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

 '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'

 patch:

 summary: partial modifies an existing Individual application AM context

 operationId: ModAppAmContext

 tags:

 - Individual Application AM Context

 parameters:

 - name: afId

 in: path

 description: Identifier of the AF

 required: true

 schema:

 type: string

 - name: appAmContextId

 in: path

 description: Identifier of the application AM context resource

 required: true

 schema:

 type: string

 requestBody:

 required: true

 content:

 application/merge-patch+json:

 schema:

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

 responses:

 '200':

 description: successful modification of the resource and a representation of that resource is returned. If a subscribed event is matched, the event notification is also included in the response.

 content:

 application/json:

 schema:

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

 '204':

 description: The successful modification

 '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'

 callbacks:

 amEventNotification:

 '{$request.body#/evSubsc/eventNotifUri}':

 post:

 requestBody:

 description: Notification of an event occurrence.

 required: true

 content:

 application/json:

 schema:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsNotification'

 responses:

 '204':

 description: The receipt of the notification is acknowledged

 '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: Deletes an existing Individual Application AM Context

 operationId: DeleteAppAmContext

 tags:

 - Individual Application AM Context

 parameters:

 - name: afId

 in: path

 description: Identifier of the AF

 required: true

 schema:

 type: string

 - name: appAmContextId

 in: path

 description: string identifying the Individual aaplication AM context resource

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The deletion is confirmed without returning additional data.

 '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'

 /{afId}/app-am-contexts/{appAmContextId}/events-subscription:

 put:

 summary: creates or modifies an AM Policy Events Subscription sub-resource.

 operationId: UpdateAmEventsSubsc

 tags:

 - AM Policy Events Subscription

 parameters:

 - name: afId

 in: path

 description: Identifier of the AF

 required: true

 schema:

 type: string

 - name: appAmContextId

 in: path

 description: string identifying the AM Policy Events Subscription subresource

 required: true

 schema:

 type: string

 requestBody:

 description: Creation or modification of an application AM Policy Events Subscription sub-resource.

 required: true

 content:

 application/json:

 schema:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsSubscData'

 responses:

 '201':

 description: The creation of the application AM Policy Events Subscription sub-resource is confirmed and its representation is returned. If an AM Event is matched, the response also includes the notification.

 content:

 application/json:

 schema:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsSubscRespData'

 headers:

 Location:

 description: 'Contains the URI of the created AM Policy Events Subscription subresource, according to the structure: {apiRoot}/3gpp-am-policyauthorization/v1/{afId}/app-am-contexts/{appAmContextId}/events-subscription}'

 required: true

 schema:

 type: string

 '200':

 description: The modification of the AM Policy Events Subscription subresource is confirmed and its representation is returned. If an AM Event is matched, the response also includes the notification.

 content:

 application/json:

 schema:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsSubscRespData'

 '204':

 description: The modification of the AM Policy Events Subscription subresource is confirmed without returning additional data.

 '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'

 callbacks:

 amEventNotification:

 '{$request.body#/evSubsc/eventNotifUri}':

 post:

 requestBody:

 description: Contains the information for the notification of an event occurrence.

 required: true

 content:

 application/json:

 schema:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsNotification'

 responses:

 '204':

 description: The receipt of the notification is acknowledged.

 '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: deletes the AM Policy Events Subscription sub-resource

 operationId: DeleteAmEventsSubsc

 tags:

 - AM Policy Events Subscription

 parameters:

 - name: afId

 in: path

 description: Identifier of the AF

 required: true

 schema:

 type: string

 - name: appAmContextId

 in: path

 description: string identifying the Individual Application AM Context resource.

 required: true

 schema:

 type: string

 responses:

 '204':

 description: The deletion of the of the AM Policy Events Subscription subresource is confirmed without returning additional data.

 '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:

 AppAmContextExpData:

 description: Represents an Individual application AM context exposure resource.

 type: object

 properties:

 self:

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

 evSubscs:

 type: array

 items:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsSubscData'

 minItems: 1

 gpsi:

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

 afAppIds:

 type: array

 items:

 type: string

 minItems: 1

 description: Identifies an application.

 highThruInd:

 type: boolean

 covReqs:

 type: array

 items:

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

 minItems: 1

 policyDuration:

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

 trafficFilters:

 type: array

 items:

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

 minItems: 1

 ethTrafficFilters:

 type: array

 items:

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

 minItems: 1

 notificationDestination:

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

 requestTestNotification:

 type: boolean

 description: Set to true by the AF to request the NEF to send a test notification as defined in subclause 5.2.5.3 of 3GPP TS 29.122. Set to false or omitted otherwise.

 websockNotifConfig:

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

 required:

 - gpsi

 - anyOf:

 - required: [highThruInd]

 - required: [covReqs]

 - oneOf:

 - required: [afAppIds]

 - required: [trafficFilters]

 - required: [ethTrafficFilters]

 AppAmContextExpUpdateData:

 description: Contains the modification(s) to be applied to the Individual application AM context exposure resource.

 type: object

 properties:

 evSubscs:

 type: array

 items:

 $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsSubscDataRm'

 minItems: 1

 afAppIds:

 type: array

 items:

 type: string

 minItems: 1

 description: Identifies an application.

 highThruInd:

 type: boolean

 covReqs:

 type: array

 items:

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

 minItems: 1

 policyDuration:

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

 trafficFilters:

 type: array

 items:

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

 minItems: 1

 ethTrafficFilters:

 type: array

 items:

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

 minItems: 1

 notificationDestination:

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

 GeographicalArea:

 description: Contains geographical area information (e.g.a civic address or shapes).

 type: object

 properties:

 civicAddress:

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

 shapes:

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

 AppAmContextExpRespData:

 description: It represents a response to a modification or creation request of an Individual Application AM resource. It may contain the notification of the already met events

 anyOf:

 - $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AppAmContextData'

 - $ref: 'TS29534\_Npcf\_AMPolicyAuthorization.yaml#/components/schemas/AmEventsNotification'

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