**3GPP TSG-CT WG3 Meeting #116e C3-213379**

**E-Meeting, 19th – 28th May 2021 (Revision of C3-21xxxx)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.522** | **CR** | **0361** | **rev** |  | **Current version:** | **17.1.0** |  |
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| *For* [***HE******LP***](http://www.3gpp.org/3G_Specs/CRs.htm#_blank)*on using this form: comprehensive instructions can be found at* [*http://www.3gpp.org/Change-Requests*](http://www.3gpp.org/Change-Requests)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Procedures for AM Policy Authorization service | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | TEI17\_DCAMP | | | | |  | ***Date:*** | | | 2021-05-28 |
|  |  | | | |  | |  | | |  |
| ***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 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-15 (Release 15) Rel-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | TS 23.501 clause 7.2.8, TS 23.502 clause 4.15.6.9.2 and clause 5.2.6.22 introduces Nnef\_AMPolicyAuthorization service provides the ability to provide inputs that can be used by the PCF for deciding access and mobility management related policies  Hence NEF supporting AM Policy Authorization service also need to be supported in this specification. | | | | | | | | |
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| ***Summary of change:*** | | Adding the procedures on NEF supporting AM Policy Authorization service. | | | | | | | | |
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| ***Consequences if not approved:*** | | Not support stage 2 requirement on NEF support AF to provide inputs to PCF for deciding access and mobility management related policy service. | | | | | | | | |
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| ***Clauses affected:*** | | 4.4.x(new) | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 does not impact the OpenAPI files. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

### 4.4.x(new) Procedures for AM Policy Authorization

#### 4.4.x(new).1 General

The procedures are used by AF to send request to NEF for AM Policy Authorization, and for NEF to authorize an AF triggered AM Policy Authorization request and trigger a respective Npcf\_AMPolicyAuthorization request. This service also allows the AF to subscribe/unsubscribe the notification of event(s) for the existing AF application AM context.

The following procedures support:

- Create/Modify/Delete of AF triggered application AM context; and

- Subscribe/Unsubscribe/Notify event(s) for the existing AF application AM context.

Editor's note: The error response in following procedures are FFS.

#### 4.4.x(new).2 Creation of a new Individual Application AM Context

In order to create a new subscription of a new Individual application AM context resource for a given AF, the AF shall initiate an HTTP POST request to the NEF for the "Application AM Contexts" resource. The HTTP POST message shall include AppAmContextExpData data structure as request body. The AppAmContextExpData data structure shall include:

- identification of an individual UE via a "gpsi" attribute;

and may include:

- subscription to AM policy event(s) notification as "evSubc" attribute;

- an AF Application Identifier as "afAppId" attribute;

- requested throughput as "reqThrputUl" and/or "reqThrputDl" attributes;

- requested service coverage area information as "reqResSvCvArea" attribute;

- requested policy duration as "policyDuration" attribute.

Upon receipt of the corresponding HTTP POST message, if the AF is authorized by the NEF to request the AM policy authorization, the NEF shall trigger a respective Npcf\_AMPolicyAuthorization\_Creat request as defined in 3GPP TS 29.534 [m1]. If the request is accepted by the PCF and the PCF informs the NEF with a successful response, the NEF shall create a new subscription and assign a subscription identifier for the "Individual application AM Context" resource. Then the NEF shall send a HTTP "201 Created" response with AppAmContextExpRespData data structure as response body and a Location header field containing the URI of the created individual subscription resource.

#### 4.4.x(new).3 Modification of an existing individual Application AM Context

In order to modify an existing individual Application AM Context resource, the AF shall initiate an HTTP PATCH request to the NEF for the "Individual application AM Context" resource. The body of the HTTP PATCH message shall include the AppAmContextExpUpdateData data type as defined in subclause 5.x.1.3.3.3.

Upon receipt of the corresponding HTTP PATCH message, if the AF is authorized by the NEF to modify the AM policy authorization request, the NEF shall interact with the PCF to modify an existing application AM context by using Npcf\_AMPolicyAuthorization\_Update request as defined in 3GPP TS 29.534 [m1]. If the modification request is accepted by the PCF and the PCF informs the NEF with a successful response, the NEF shall update the existing application AM context for the "Individual application AM Context" resource. Then the NEF shall send a HTTP response including "200 OK" status code with AppAmContextExpRespData data structure or "204 No Content" status code.

#### 4.4.x(new).4 Deletion of an existing individual Application AM Context

To delete an existing application AM context, the AF shall initiate an HTTP DELETE request to the NEF for the "Individual application AM Context" resource.

Upon receipt of the corresponding HTTP DELETE message, if the AF is authorized to delete the application AM context, the NEF shall interact with the PCF to delete an existing application AM context at the PCF by using Npcf\_AMPolicyAuthorization\_Delete request as defined in 3GPP TS 29.534 [m1]. If the request is accepted by the PCF and informs the NEF with a successful response, the NEF shall delete the existing application AM context for the "Individual application AM Context" resource. Then the NEF shall send a HTTP "204 No Content" response.

#### 4.4.x(new).5 Create or modify subscription to notification of AM policy event

In order to create or modify the subscription to notification of AM policy event(s) for the application AM context, the AF shall send an HTTP PUT message to the NEF to the resource "Individual application AM Context", the HTTP PUT message shall include AmEventsSubscData data structure as request body.

Upon receipt of the HTTP request from the AF, if the AF is authorized, the NEF shall interact with the PCF to subscribe to, or modify the subscription to the AM policy event notification by using Npcf\_AMPolicyAuthorization\_Subscribe request as defined in 3GPP TS 29.534 [m1]. If the request is accepted by the PCF and the PCF informs the NEF with a successful response, the NEF shall create a new AM policy event subscription sub-resource in an existing application AM context or modifies an existing AM policy event subscription to the "AM Policy Events Subscription" sub-resource. Then the NEF shall send a HTTP "201 Created" or "200 OK" response code with AmEventsSubscRespData data structure as response body.

#### 4.4.x(new).6 Unsubscription to notification of AM policy event

In order to delete existing subscribed AM policy event(s) within the existing Individual application AM context, the AF shall initiate the HTTP DELETE request message to the NEF to the "AM Policy Events Subscription" sub-resource.

Upon receipt of the corresponding HTTP DELETE message, if the AF is authorized to delete the notification of AM policy event(s), the NEF shall interact with the PCF to delete an existing subscription of notification to AM policy event(s) within the existing application AM context at the PCF by using Npcf\_AMPolicyAuthorization\_Unsubscribe request as defined in 3GPP TS 29.534 [m1]. If the request is accepted by the PCF and informs the NEF with a successful response, the NEF shall delete the existing subscription to notification of AM policy event(s) within the existing application AM context for the "AM Policy Events Subscription" resource. Then the NEF shall send a HTTP "204 No Content" response.

#### 4.4.x(new).7 Notification of AM policy event

If the NEF receives an AM policy event notification from the PCF indicating that the subscribed AM policy event has been detected, the NEF shall provide a notification to AF by sending HTTP POST message that include the AmEventsNotification data structure in the request body. Upon receipt of the AM policy event notification, the AF shall respond with a "204 No Content" status code to confirm the received notification

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