**3GPP TSG-CT3 Meeting #130C3-234181**

**Xiamen, China, 9 - 13 October, 2023 (Revision of C3-23xxxx)**

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| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
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|  | **29.558** | **CR** | **0130** | **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)*.* | | | | | | | | |
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| ***Proposed change affects:*** | UICC apps |  | ME |  | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | ACR Management subscription API update | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Ericsson, Huawei | | | | | | | | | |
| ***Source to TSG:*** | CT3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EDGEAPP\_Ph2 | | | | |  | ***Date:*** | | | 2023-09-20 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
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| ***Reason for change:*** | | TS 23.558 has specified that if the subscription contains at least one of the "user plane path change", "ACR monitoring" and "ACR facilitation" events, the EES need to check with 3GPP core network is a user plane path management event notification has been included.  However, in the current TS 29.558, this is only applicable while receive a subscription event of user plane path change, which not aligned with SA6 requirements, and can cause errors while other events are included in the subscriptions.  Therefore, the TS 29.558 need to be revised to conver a complete list of events. | | | | | | | | |
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| ***Summary of change:*** | | Complete the subscription event description, while the user plane path management event notification from 3GPP core network is checked. | | | | | | | | |
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| ***Consequences if not approved:*** | | Not supporting the "ACR monitoring" and "ACR facilitation" event while need to check the user plane path change with 5G core network, not aligned with the stage2 requirements. | | | | | | | | |
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| ***Clauses affected:*** | | 5.8.2.2.2 | | | | | | | | |
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|  | | **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 file. | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 5.8.2.2.2 EAS requesting to get notifications of ACR management events using Eees\_ACRManagementEvent\_Subscribe service operation

In order to subscribe to notifications of ACR management events, the EAS shall send a HTTP POST request message to the EES targeting the "ACR Management Events Subscriptions" resource as specified in clause 8.6.2.2.3.1. The body of the HTTP POST request message shall include the AcrMgntEventsSubscription data type as specified in clause 8.6.5.2.2.

Upon reception of the HTTP POST request message from the EAS:

1. the EES shall process the ACR management events subscription request;

2. the EES shall verify the identity of the EAS and check if the EAS is authorized to subscribe to notifications of ACR management events;

3. if the EAS is authorized, then if one of the subscribed event(s) is "UP\_PATH\_CHG", "ACR\_MONITORING" and/or "ACR\_FACILITATION" event:

a) if the "EdgeApp\_2" feature is supported, the EAS may provide the traffic filter information in the "trafFilterInfo" attribute in the request body. Then:

i) the EES may invoke the Nnef\_PfdManagement API as described in clause 4.4.6 of 3GPP TS 29.522 [10] and clause 4.4.10 of 3GPP TS 29.122 [18] with the same Application Identifier that is used for requesting UP path management events monitoring as defined further below;

ii) if the Application Identifier is not provided by the EAS, the EES may map the EAS ID into the Application Identifier that is used to invoke the Nnef\_PfdManagement API; and

iii) if the invocation of the PFD management procedures towards the 3GPP network fails (e.g. the PFD Management service is not supported by the 3GPP Core Network), the EES shall reject the request in step 6 with an appropriate error response;

4. if the EAS is authorized, then if one of the subscribed event(s) is the UP path change event, or when the "EdgeApp\_2" feature is supported, at least one of the "UP\_PATH\_CHG", "ACR\_MONITORING" and "ACR\_FACILITATION" event, , the EES shall:

a) if already subscribed to the 3GPP core network (i.e. either directly through the PCF or via the NEF TrafficInfluence API) on UP path management events and there is locally cached UP path change event information, perform step 6, and include the locally cached UP path change event information in the HTTP POST response body; or

b) if not yet subscribed to the 3GPP core network on UP path management events, interact with the NEF by invoking the TrafficInfluence API as specified in 3GPP TS 29.522 [10] or directly towards the PCF to request to be notified of the UP path change event. Upon receipt of a successful response from the NEF, the EES shall perform step 6;

NOTE: Only the trusted EES can subscribe to the 3GPP core network directly through the PCF, the untrusted EES needs to subscribe to the 3GPP core network via the NEF.

5 the EES may interact with the NEF by invoking the AnalyticsExposure API as specified in 3GPP TS 29.522 [10] to subscribe to notifications of, or retrieve the UE mobility and UE communication events;

6a. on success, the EES shall create a new resource "Individual ACR Management Events Subscription" and respond to the EAS with "201 Created" and include the Individual ACR Management Events Subscription information. The new created resource URI shall also be included in the Location header field of the HTTP response message;

6b. on failure, the EES shall take proper error handling actions, as specified in clause 8.6.6, and respond to the EAS with an appropriate error status code;

and

7. if the target UE and the 3GPP network supports mobility between 5GC and EPC, interact with the SCEF+NEF by invoking the MonitroingEvent API as specified in 3GPP TS 29.122 [6] with the monitoring type sets to "API\_SUPPORT\_CAPABILITY" or interact with the CAPIF core function by invoking the CAPIF\_Events\_API service as specified in 3GPP TS 29.222 [17] to request to be notified the availability of the TrafficInfluence API.

On failure, the EES shall take proper error handling actions, as specified in clause 8.6.6, and respond to the EAS with an appropriate error status code.

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