**3GPP TSG-CT WG3 Meeting #125 C3-225689**

**Toulouse, France, 14th - 18th, November, 2022 (Revision of C3-225232)**

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| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **29.558** | **CR** | **0023** | **rev** | **1** | **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:***  | Corrections on easId verification in update procedures in EES services |
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| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | CT3 |
|  |  |
| ***Work item code:*** | EDGEAPP |  | ***Date:*** | 2022-10-08 |
|  |  |  |  |  |
| ***Category:*** | **F** |  | ***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-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19)* |
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| ***Reason for change:*** | The easId verification is not aligned, not correctly defined or even missing in some update procedures in EES services, and easId mostly is not defined in PATCH method related data type, current procedure description may lead to the corresponding implementation errors and security issues. |
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| ***Summary of change:*** | Aligned corrections to verify the easId provided in HTTP PUT request to be authorized for the corresponding update procedures. |
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| ***Consequences if not approved:*** | Not aligned and not correct procedure description on easId verification in update procedures in EES services. Authorization leakage and wrong definitino may lead to implementation error and security risks. |
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| ***Clauses affected:*** | 5.2.2.3.2, 5.3.2.5.2, 5.5.2.4.2, 5.6.2.3.2, 5.8.2.3.2, 5.12.2.2.2 |
|  |  |
|  | **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. |
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| ***This CR's revision history:*** |  |

**Additional discussion(if needed):**

**Proposed changes:**

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

##### 5.2.2.3.2 EAS updating registration information using Eees\_EASRegistration\_Update operation

To update the EAS registration information at the EES, the EAS shall send a HTTP PUT or PATCH message to the Edge Enabler Server on resource URI identifying the Individual EAS registration resource representation, as specified in clause 8.1.2.3.3.2 for HTTP PUT message and in clause 8.1.2.3.3.4 for HTTP PATCH message.

The HTTP PUT message shall replace all properties in the existing resource with the EAS registration information in the request. The EASRegistration data type in the request body of the HTTP PUT message shall include the EAS profile information, may include proposed expiration time to update the registration. This request shall not replace the easId property of the existing resource.

The HTTP PATCH message includes parameters (EAS Profile, expiry time) in the EASRegistrationPatch data type that need to modify the existing Individual EAS registration resource. This request shall not replace the easId property of the existing resource.

Upon receiving the HTTP PUT or PATCH message from the EAS, the EES shall:

1. check the registration update message from the EAS to see if the EAS is authorized to modify the requested registration resource;

2. if the EAS is authorized to update the registration information, then the EES shall:

a. update the resource identified by Resource URI of the EAS registration information with the updated EAS registration information received in the HTTP PUT or PATCH request message;

b. upon successful update of EAS registration information, respond to the EAS with "204 No Content", or "200 OK" along with the updated EAS registration information in the response. In the response message, the EES may provide an updated expiration time to indicate to the EAS when the updated registration will automatically expire.

On failure, the EES shall take proper error handling actions, as specified in clause 8.1.6, and respond to the EAS with an appropriate error status code.

If the EES determines that the received HTTP PUT or PATCH request needs to be redirected, the EES 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 URI representing the end point of an alternative EES where the message should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

If the expiration time is provided, then to maintain the registration, the EAS shall send a registration update prior to registration expiry time. If the registration update request is not sent before the expiry time, then the EES shall treat EAS as deregistered and remove the corresponding EAS registration resource.

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

##### 5.3.2.5.2 EAS updating continuous UE(s) location reporting subscription at EES using Eees\_UELocation\_UpdateSubscribe operation

To update continuous UE(s) location information reporting subscription at the EES, the EAS shall send a HTTP PATCH or PUT message to the EES on resource URI identifying the "Individual Location Information" Subscription resource representation, as specified in clause 8.2.2.3.3.2 for HTTP PATCH message and in clause 8.2.2.3.3.3 for HTTP PUT message.

The PATCH message includes the parameters (location QoS, location granularity, Notification Destination, Reporting requirements and proposed expiry time) that need to be replaced in the existing subscription resource.

The PUT message shall replace all the properties of the existing resource with the location subscription information in the request. The request shall not replace the easId, ueId and groupId properties of the existing resource.

Upon receiving the HTTP PATCH or PUT message from the EAS, the EES shall:

1. check the update subscription message from the EAS to see if the EAS is authorized to modify the requested subscription resource;

2. if the EAS is authorized to update the location information subscription, then the EES shall:

a. update the resource identified by Resource URI of the EAS location information subscription with the updated information received in the HTTP PATCH or PUT request message;

b. return the updated EAS Location information subscription in the response. In the response message, the EES may provide an updated expiration time to indicate to the EAS when the updated subscription will automatically expire.

On failure, the EES shall take proper error handling actions, as specified in clause 8.2.6, and respond to the EAS with an appropriate error status code.

If the EES determines that the received HTTP PATCH or PUT request needs to be redirected, the EES 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 URI representing the end point of an alternative EES where the message should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

If the expiration time is provided, then to maintain the subscription, the EAS shall send a update subscription prior to subscription expiry time. If the update subscription request is not sent before the expiry time, then the EES shall treat EAS subscription as unsubscribed and remove the corresponding EAS location information subscription resource.

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

##### 5.5.2.4.2 EAS updating AC information reporting subscription at EES using Eees\_AppClientInformation\_UpdateSubscribe operation

To update AC information reporting subscription at the EES, the EAS shall send a HTTP PATCH or PUT message to the EES on resource URI identifying the "Individual Application Client Information" Subscription resource representation, as specified in clause 8.4.2.3.3.2 for HTTP PATCH message and in clause 8.4.2.3.3.3 for HTTP PUT message.

The PATCH message includes the parameters (AC filter criteria, Notification Destination, Reporting requirements and proposed expiry time) that need to be replaced in the existing subscription resource.

The PUT message shall replace all the properties of the existing resource with the AC subscription information in the request. The request shall not replace the "easId" property of the existing resource.

Upon receiving the HTTP PATCH or PUT message from the EAS, the EES shall:

1. check the update subscription message from the EAS to see if the EAS is authorized to modify the requested subscription resource;

2. if the EAS is authorized to update the AC information subscription, then the EES shall:

a. update the resource identified by Resource URI of the EAS AC information subscription with the updated information received in the HTTP PATCH or PUT request message;

b. return the updated EAS AC information subscription in the "200 OK" response message or respond with the "204 No Content" message indicating to the EAS that the EAS AC information subscription is updated successfully. In the response message, the EES may provide an updated expiration time to indicate to the EAS when the updated subscription will automatically expire.

 On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP PATCH or PUT response body. If the EAS is not registered at the EES when sending the AC information reporting subscription update request, the EES shall respond with an HTTP "403 Forbidden" status code with the response body containing the ProblemDetails data structure with the "cause" attribute set to "REGISTRATION\_REQUIRED".

 If the EES determines that the received HTTP PATCH or PUT message needs to be redirected, the EES 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 URI representing the end point of an alternative EES where the message should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

If the expiration time is provided, then to maintain the subscription, the EAS shall send an update subscription prior to subscription expiry time. If the update subscription request is not sent before the expiry time, then the EES shall treat EAS subscription as unsubscribed and remove the corresponding EAS AC information subscription resource.

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

##### 5.6.2.3.2 EAS updating QoS of a data session between AC and EAS using Eees\_SessionWithQoS\_Update operation

To request modification of the QoS of the data session between AC and EAS, the EAS shall send a HTTP PATCH or PUT message to the EES on resource URI "Individual Session with QoS" resource as specified in clause 8.5.2.3.3.1 for HTTP PATCH message and in clause 8.5.2.3.3.2 for HTTP PUT message.

The PUT message shall replace all the QoS settings of the data session in the existing context. The request shall not change the values of the "easId", "ueId", "ueIpv4Addr", "ueIpv6Addr", "ipDomain", "intGrpId", "extGrpId", "dnn" and/or "snssai" attributes.

Upon receiving the HTTP PATCH or PUT message from the EAS, the EES shall:

1. check the update of the existing Individual Session with QoS from the EAS is authorized or not;

2. if the EAS is authorized to update the QoS setting, then the EES shall:

a. interact with the 3GPP network to update the associated data session; and

b. upon receipt of successful response from 3GPP network, respond to the EAS with "204 No Content", or "200 OK" with the updated Individual session with QoS context in the response message.

On failure, the EES shall take proper error handling actions, as specified in clause 8.5.6, and respond to the EAS with an appropriate error status code.

If the EES determines that the received HTTP PATCH or PUT message needs to be redirected, the EES 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 URI representing the end point of an alternative EES where the message should be sent. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

\*\*\* 5th Change \*\*\*

##### 5.8.2.3.2 EAS updating an existing Individual ACR Management Events Subscription using Eees\_ACRManagementEvent\_UpdateSubscription service operation

To request modification of an existing Individual ACR Management Events Subscription, the EAS shall send a HTTP PATCH request (for partial modification) or PUT request (for fully replacement) message to the EES on resource URI "Individual ACR Management Events Subscription" resource as specified in clause 8.6.2.3.3.1 for HTTP PATCH message and in clause 8.6.2.3.3.2 for HTTP PUT message. This request shall not replace the easId property of the existing resource.

Upon receiving the HTTP PATCH or PUT message from the EAS, the EES shall:

1. check the update of the existing Individual ACR Management Events Subscription from the EAS is authorized or not;

2. if the EAS is authorized, then if one of the subscribed event(s) is UP path change event, the EES shall:

a) if already successful subscribed to the 3GPP core network and there is local cached UP path change event information, perform step 3, and include the local cached UP path change event information in the HTTP PUT or PATCH response; or

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

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.

3. update the existing resource "Individual ACR Management Events Subscription", respond to the EAS with "204 No Content", or "200 OK" with the updated Individual ACR Management Events Subscription message.

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.

If the EES determines that the received HTTP PATCH or PUT message needs to be redirected, the EES 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 URI representing the end point of an alternative EES where the message should be redirected. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

\*\*\* 6th Change \*\*\*

##### 5.12.2.2.2 ACR Status Update Request

The ACR Status Update Request procedure enables a service consumer (i.e. S-EAS or T-EAS) to request to update the EES to request to update the information related to ACR (see also clause 8.8.3.8 of 3GPP°TS°23.558°[2]).

1. The service consumer (S-EAS or T-EAS) shall send for this purpose an HTTP POST request (custom operation: "Request") to the UAE Server, with the request URI set to "{apiRoot}/eees-acrstatus-update/<apiVersion>/request-acrupdate" and the request body including the ACRUpdateData data structure defined in clause 8.9.6.2.2.

2. Upon receiving the HTTP POST request message from the EAS, the EES shall check whether the EAS is autorized to update the ACR status. Then:

2a. Upon success, the EES shall respond with an HTTP "200 OK" status code with the response body including the feedback from the EES within the ACRDataStatus data structure defined in clause 8.9.6.2.3, or an HTTP "204 No Content" status code.

2b. On failure, the appropriate HTTP status code indicating the error shall be returned and appropriate additional error information should be returned in the HTTP POST response body.

If the EES determines that the received HTTP POST request needs to be redirected, the EES 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 URI representing the end point of an alternative EES where the message should be redirected. Redirection handling is described in clause 5.2.10 of 3GPP TS 29.122 [6].

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