**3GPP TSG-SA WG6 Meeting #46-e S6-212603**

**e-meeting, 15th – 23rd November 2021 (revision of S6-21xxxx)**

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| *CR-Form-v12.1* |
| **CHANGE REQUEST** |
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|  | **23.558** | **CR** | **0065** | **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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:***  | Correct ACR inconsistencies |
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| ***Source to WG:*** | Ericsson |
| ***Source to TSG:*** | S6 |
|  |  |
| ***Work item code:*** | EDGEAPP |  | ***Date:*** | 2021-10-23 |
|  |  |  |  |  |
| ***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-15 (Release 15)Rel-16 (Release 16)Rel-17 (Release 17)Rel-18 (Release 18)* |
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| ***Reason for change:*** | **Inconsistency: service continuity planning in scenario#1**1st of all, the sentence is not complete in step 8 of cl.8.8.2.2:When in step 1 the ACR has been triggered for service continuity planning, if the UE does not move to the expected/predicted the EEC does not connect to T-EES, the AC does not connect to the T-EAS. Post-ACR Clean-up is skipped. Also, unlike other ACR scenarios where ACT is included as part of service continuity planning, note 8 in cl.8.8.2.2 says ACT is only done when UE arrives at the predicted location. But the 1st sentence in note 8 gives the impression that there is possiblity to include ACT as part of the ACR planning. |
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| ***Summary of change:*** | * Complete setence in cl.8.8.2.2, step 8.
* Remove the 1st sentence in note8.
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| ***Consequences if not approved:*** | Inconsistency in the TS may lead to wrong implementation. |
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| ***Clauses affected:*** | 8.8.2.2 |
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|  | **Y** | **N** |  |  |
| ***Other specs*** |  | **N** |  Other core specifications  | TS/TR ... CR ...  |
| ***affected:*** |  | **N** |  Test specifications | TS/TR ... CR ...  |
| ***(show related CRs)*** |  | **N** |  O&M Specifications | TS/TR ... CR ...  |
|  |  |
| ***Other comments:*** |  |
|  |  |
| ***This CR's revision history:*** |  |

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

#### 8.8.2.2 Initiation by EEC using regular EAS Discovery

This procedure handles ACR as a result of the UE moving to, or the UE expecting to move to, a new location which is outside the service area of the serving EAS. It further relies on the EEC being triggered as a result of the UE's movement.

This procedure is based on Service Provisioning (as specified in clause 8.3) and EAS Discovery (as specified in clause 8.5) procedures to discover the T-EESs and EASs that shall serve the ACs as a result of the UE's new location, and that shall receive the Application Context from the serving EASs.

The procedure in the following clause describes the relocation of a single application context to a new EAS. It should be repeated for each active AC in the UE.

This procedure relies on an interface between the EEC and ACs over EDGE-5, which is out of the scope of this specification.

Pre-conditions:

1. The AC in the UE already has a connection to a corresponding S-EAS;

2. The preconditions listed in clause 8.3.3.2.2 with regards to the EEC are fulfilled; and

3. The EEC is triggered when it obtains the UE's new location or is triggered by another entity such as an ECS notification.

NOTE 1: This procedure is applicable only for Edge-aware ACs and EASs.



Figure 8.8.2.2-1: ACR initiated by the EEC and ACs

Phase I: ACR Detection

1. The EEC detects the UE location update as a result of a UE mobility event and is provided with the UE's new location as described in clause 8.8.1. The EEC can also detect an expected or predicted UE location in the future as described in clause 8.8.1.

NOTE 2: If the EEC is triggered by an external entity such as by a notification from the ECS, a list of new EESs (to be used as T-EESs) is provided by that notification and step 3 below is skipped.

Phase II: ACR Decision

2. Either the AC or the EEC makes the decision to perform the ACR.

NOTE 3: Which applications require ACR can be decided based on the application profile, e.g. requirement of service continuity of the application.

Phase III: ACR Execution

3. The EEC performs Service Provisioning (as specified in clause 8.3) for all active applications that require ACR. Since the location of the UE has changed, this procedure results in a list of T-EESs that are relevant to the supplied applications and the new location of the UE. When in step 1 the ACR for service continuity planning is triggered, then the Connectivity information and UE Location in the Service Provisioning (as specified in clause 8.3) procedure contains the expected Connectivity information and expected UE Location.

NOTE 4: If the change in UE's location does not trigger a need to change the serving EAS, the subsequent steps will not take place. The EEC remains connected to the serving EESs and the ACs remain connected to their corresponding serving EASs.

4. The EEC performs EAS discovery (as specified in clause 8.5) for the desired T-EASs by querying the T-EESs that were established in step 3 (or provided in the notification from the ECS – if it was the trigger). If EEC registration configuration for the EESs established in step 2 indicates that EEC registration is required, the EEC performs EEC registration with the EESs (as specified in clause 8.4.2.2.2) before sending the EAS discovery request. Step 5 is skipped if EAS discovery procedure results in only one discovered T-EAS.

5. The AC and EEC select the T-EAS to be used for the application traffic.

NOTE 5: Several EEC registrations with different EESs may result from T-EAS discovery process during a single ACR operation.

6. The EEC performs ACR launching procedure (as described in clause 8.8.3.4) to the S-EES with the ACR action indicating ACR initiation and the corresponding ACR initiation data (without the need to notify the EAS). The S-EES may apply the AF traffic influence with the N6 routing information of the T-EAS in the 3GPP Core Network (if applicable), as described in clause 8.8.3.4. If the EEC has not subscribed to receive ACR information notifications for ACR complete events from the S-EES, the EEC subscribes for the notifications as described in clause 8.8.3.5.2.

7. If the T-EES is different than the S-EES and the EEC Context at the S-EES is not stale, the S-EES initiates EEC Context Push relocation with the T-EES as described in clause 8.9.2.3. Otherwise, if the T-EES is the same as the S-EES, EEC Context Push relocation is skipped.

8. The AC is triggered by the EEC to start ACT. The AC decides to initiate the transfer of application context from the S-EAS to the T-EAS. There may be different ways of transferring context and they are all outside the scope of this specification.

 When in step 1 the ACR for service continuity planning has been triggered, the AC connects to the T-EAS when the UE moves to the predicted location. Otherwise, the rest of this step is skipped.

 After the ACT is completed, the AC remains connected to the T-EAS and disconnects from the S-EAS; the EEC is informed of the completion.

NOTE 6: Whether and how the AC initiates the ACT is out of scope of the present document

When in step 1 the ACR has been triggered for service continuity planning, if the UE does not move to the expected/predicted location the EEC does not connect to T-EES, the AC does not connect to the T-EAS. Post-ACR Clean-up is skipped.

NOTE 7: The S-EAS or T-EAS can further decide to terminate the ACR, and the T-EAS can discard the application context based on information received from EEL and/or other methods (e.g. monitoring the location of the UE). It is up to the implementation of the S-EAS and T-EAS whether and how to make such a decision.

NOTE 8: It is out of scope of this specification how the AC informs the S-EAS and T-EAS that ACT was part of service continuity planning. When in step 1 the ACR for service continuity planning is triggered, Post-ACR Clean up is performed after the UE moves to the predicted location.

Phase IV: Post-ACR Clean up

9. The S-EAS sends the ACR status update message to the S-EES as specified in clause 8.8.3.8.

10. The T-EAS sends the ACR status update message to the T-EES as specified in clause 8.8.3.8. If the status indicates a successful ACT, and that the EEC Context relocation procedure was attempted but failed, then the T-EES indicates the failure to the T-EAS with the ACR status update response.

NOTE 9: If the EDGE-3 subscription initialization result indicates failure, then the EAS can perform the required EDGE-3 subscriptions at the T-EES.

NOTE 10: Steps 9 and 10 can occur in any order.

11. If the status in step 9 indicates a successful ACT, the S-EES sends the ACR information notification (ACR complete) message to the EEC to confirm that the ACR has completed as specified in clause 8.8.3.5.3. If the EEC Context relocation procedure was attempted, then the notification includes EEC context relocation status IE, indicating the result of the EEC context relocation procedure. If the EEC context relocation status indicates that the EEC context relocation was not successful, then the EEC may perform the required EDGE-1 operations such as create subscriptions at the T-EES.

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