**3GPP TSG-SA WG6 Meeting #45 bis-e S6-212463**

**e-meeting, 11st – 19th Oct 2021 (revision of S6-212311, 2414)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.558** | **CR** | **0057** | **rev** | **2** | **Current version:** | **17.1.0** |  |
|  | | | | | | | | |
| *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 | **X** | Radio Access Network |  | Core Network | **X** |

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| ***Title:*** | Correction on ACR failure alleviation mechanisms | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Huawei, HiSilicon | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EDGEAPP | | | | |  | ***Date:*** | | | 2021-09-27 |
|  |  | | | |  | |  | | |  |
| ***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 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)* | |
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| ***Reason for change:*** | | Re-selecting another T-EES will add the significant delay in ACR which conflict with maintaining service continuity. It should be ensure that when step 4 fails, the failure scenario should consider either to proceed without service continuity or with service continuity.  Currently the support for handling failure scenario with service continuity support is missing. | | | | | | | | |
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| ***Summary of change:*** | | Update the EEC selecting different T-EES with service continuity support to alleviate the ACR failure. | | | | | | | | |
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| ***Consequences if not approved:*** | | Just re-selecting another T-EES cannot ensure the service continuity. | | | | | | | | |
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| ***Clauses affected:*** | | 8.8.2.6 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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's revision history:*** | |  | | | | | | | | |

\* \* \* First change\* \* \* \*

#### 8.8.2.6 EEC executed ACR via T-EES

Figure 8.8.2.6-1 illustrates the procedure for the EEC to execute the ACR via T-EES.

Pre-condition:

1. The EEC has the S-EAS information that serves the AC.



Figure 8.8.2.6-1: EEC executed ACR via T-EES

Phase I: ACR Detection

1. The EEC detects that ACR may be required as described in clause 8.8.1. The EEC may detect that ACR may be required for an expected or predicted UE location in the future as described in clause 8.8.1.

Phase II: ACR Decision

2. The EEC decides to proceed with required procedures for ACR.

NOTE 1: If supported, the AC can be involved in the decision. It is out of scope of the present document how the AC is involved.

Phase III: ACR Execution

3. The EEC determines the T-EES by using the provisioned information or performing service provisioning procedure per clause 8.3. When in step 1 the ACR for service continuity planning is triggered, then the Connectivity information and UE Location used in the service provisioning procedure contain the expected Connectivity information and expected UE Location. If the UE is within the service area of the T-EES, upon selecting the T-EES the UE may need to establish a new PDU connection to the target EDN. If EEC registration configuration for the T-EES indicates that EEC registration is required, the EEC performs registration with the selected T-EES as specified in clause 8.4.2.2.2. The EEC performs EAS Discovery with the T-EES per clause 8.5.2.

NOTE 2: Several EEC registrations with different EESs may result from T-EAS discovery process during a single ACR operation.

4. The EEC performs ACR launching procedure (as described in clause 8.8.3.4) to the T-EES with the ACR action indicating ACR initiation and the corresponding ACR initiation data (with the need to notify the EAS). If the received ACR initiation request contains an EEC context ID and the S-EES Endpoint, the T-EES performs an EEC Context Pull relocation (clause 8.9.2.2). The T-EES may apply the AF traffic influence with the N6 routing information of the T-EAS in the 3GPP Core Network (if applicable). Then the T-EES sends the ACR Notify message to the T-EAS. The EEC also subscribes to receive ACR information notifications for ACR complete events from the T-EES, as described in clause 8.8.3.5.2.

5. The T-EAS initiates ACT between the S-EAS and the T-EAS. This process is out of scope of the present specification.

When in step 1 the ACR has been triggered for service continuity planning, if the UE does not move to the 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 3: 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 4: When in step 1 the ACR has been triggered for service continuity planning, Post-ACR Clean up is performed after the UE moves to the expected location.

Phase IV: Post-ACR clean up

6. 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.

NOTE5: If the EDGE-3 subscription initialization result indicates failure, then the EAS can perform the required EDGE-3 subscriptions at the T-EES.

7. The T-EES sends the ACR information notification (ACR complete) message to the EEC as described 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.

If the procedure fails after step 4, it will be terminated with an appropriate cause in the ACR information notification to the EEC in step 7. The EEC may then proceed attempting to obtain services from the T-EAS discovered in step 3 without service cotinuity support. Alternatively, the EEC may resume the present procedure starting with step 4 and selecting a different T-EES discovered in step 3 with EAS service continuity support.

NOTE 6: The support of ACR between EDNs operated by different ECSPs is dependent on business agreement between the ECSPs.

\* \* \* End of Change \* \* \* \*