**3GPP TSG-SA WG6 Meeting #47-e S6-220366\_Rev1**

**e-meeting, 14th – 22nd February 2022 (revision of S6-220366, S6-220184)**

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| *CR-Form-v12.1* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **23.558** | **CR** |  | **rev** | **2** | **Current version:** | **17.2.0** |  |
|  | | | | | | | | |
| *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:*** | Implicit registration handling in service continuity | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Samsung | | | | | | | | | |
| ***Source to TSG:*** | S6 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | EDGEAPP | | | | |  | ***Date:*** | | | 2022-02-03 |
|  |  | | | |  | |  | | |  |
| ***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)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | S-EES initiates EEC Context Push relocation with the T-EES in following 4 scenarios:  1) clause 8.8.2.2 Initiation by EEC using regular EAS Discovery  2) clause 8.8.2.3 EEC executed ACR via S-EES  3) clause 8.8.2.4 S-EAS decided ACR scenario  4) clause 8.8.2.5 S-EES executed ACR  Further, clause 8.8.2.1 specifies following:  “In scenarios described in clause 8.8.2.4 and clause 8.8.2.5, a successful EEC context relocation procedure enables the EEC to become implicitly registered to the target EES without the EEC sending an EEC registration request.”  It is clear that out of 4 scenarios where EEC context Push relocation is used, in 2 scenarios (8.8.2.2 and 8.8.2.3) EEC sends explicit registration while for remaining 2 scenario (8.8.2.4 and 8.8.2.5) T-EES performs implicit registration without EEC sending an EEC registration request.  Following are the gaps observed in this context:  A) T-EES doesn’t know when to perform implict registration of the EEC and when to wait for explict EEC registration request message from the EEC  B) If implicit registration is performed, the EEC is not aware of new Registration ID at the T-EES, to be used in future for modifying the registration if required. Further, the EEC is not aware of the expiration time of the new registration at T-EES.  The above mentioned gaps need to be addressed for the proper service continuity for EEC. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | A) Added implicit registration flag in the EEC Context push relocation procedure to indicate T-EES to perfrom implicit registration  B) If implict registration is successful, then T-EES will inform regsitration ID and the registration expiration time to the S-EES which in turn will inform EEC in ACR complete event. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | During service continuity, the EEC will not be registered with new T-EES and the EEC will not be aware of new regsitration ID which will lead to service interuption as T-EES may consider EEC as not regsitered to use services. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 8.9.2.3, 8.9.3.5, 8.8.3.5.3, 8.8.4.10 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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 \* \* \* \*

#### 8.9.2.3 EEC Context Push relocation

An EEC Context is relocated via an EEC Context Push request initiated by the source EES.

Pre-conditions:

1. The source EES has provided the EEC with an EEC Context ID.



Figure 8.9.2.3-2: EEC Context relocation procedure initiated by source EES

1. The source EES determines to forward EEC Context for relocation to a target EES. The source EES determines the target and the EEC Context to be forwarded.

2. The source EES sends EEC Context Push request to the target EES including the EEC Context determined.

3. Upon receiving the request from the source EES, the target EES validates the request and verifies the security credentials. The target EES uses the EEC Context ID provided to authorize the EEC Context to be stored and managed. Then the target EES sends an EEC Context response indicating success. The T-EES performs implicit registration and creates the registration ID for the registration and includes it in the EEC context push response message for S-EAS decided ACR or S-EES executed ACR scenarios. The S-EES stores the registration details, and when required, notifes the EEC about registration details while sending ACR information notification.

\* \* \* Next Change \* \* \* \*

#### 8.9.3.5 EEC Context Push response

Table 8.9.3.5-1 describes information elements in the EEC Context Push request between two EES.

Table 8.9.3.5-1: EEC Context Push response

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Successful response | O | Indicates that the request was successful. |
| > registration ID | O | Identifier of the registration for the EEC |
| > expiration time | O | Indicates the expiration time of the EEC registration. |
| Failure response | O | Indicates that the request failed. |
| > Cause | O | Indicates the cause of request failure, mandatory if the request failed. |

\* \* \* Next Change \* \* \* \*

##### 8.8.3.5.3 Notify

Figure 8.8.3.5.3-1 illustrates the ACR information notification procedure between the EEC and the EES, which can be used by the EES to notify the EEC of the following:

- target information, i.e. the details of the selected T-EAS and, if required, the selected T-EES, during ACR;

NOTE: The T-EAS and T-EES information can be used to determine the PDU session(s) to provide connectivity to the T-EAS and the T-EES. If the ACR does not require change in EES, i.e. T-EES is same as S-EES, then the T-EES information can be skipped.

- ACR complete events.

Pre-conditions:

1. The EEC has subscribed with the EES for the ACR information as specified in clause 8.8.3.5.2.



Figure 8.8.3.5.3-1: ACR information notification

1. An event (e.g. ACR complete, or Target information notification) occurs at the EES that satisfies trigger conditions for providing ACR information to a subscribed EEC.

2. The EES sends an ACR information notification to the EEC with the ACR information determined in step 1. The ACR information notification may include ACID to indicate the application context relocation of the AC is complete. If the S-EES has received the successful EEC Context Push response from T-EES, along with registration ID and the registration expiration time in the EEC Context Push relocation procedure, then the ACR information notification towards EEC also includes the registration ID and registration expiration time under EEC context relocation status (for successful status).

\* \* \* Next Change \* \* \* \*

#### 8.8.4.10 ACR information notification

Table 8.8.4.10-1 describes the information elements for ACR information notification from the EES to the EEC.

Table 8.8.4.10-1: ACR information notification

|  |  |  |
| --- | --- | --- |
| Information element | Status | Description |
| Subscription ID | M | Subscription identifier corresponding to the subscription stored in the EES for the request |
| EASID | M | The identifier of the EAS |
| ACID | O | The identifier of the AC corresponding to the Selected target EAS |
| Event ID | M | Either Target information notification or ACR complete |
| Target information (NOTE 1) | O | Details of the selected T-EAS and the T-EES. |
| > T-EAS information | M | Details of the selected T-EAS as described in 'Discovered EAS' IE of Table 8.5.3.3-1. |
| > T-EES information (NOTE 4) | O | Details of the selected T-EES as described in 'EDN configuration information' IE of Table 8.3.3.3.3-1. |
| Result of ACR (NOTE 2) | O | Indicates whether the ACR is successful or failure |
| EEC Context Relocation status (NOTE 5) | O | Indicates whether the EEC context relocation was successful or not. |
| > Registration Id (NOTE 6) | O | Identifier of the registration for the EEC. |
| > Expiration Time (NOTE 6) | O | Indicates the expiration time of the registration. |
| Cause information (NOTE 3) | O | Indicates the cause information for the failure |
| NOTE 1: This IE shall be included when Event ID indicates 'Target information notification' event  NOTE 2: This IE shall be included when Event ID indicates 'ACR complete' event  NOTE 3: This IE shall be included when the Result of ACR indicates failure.  NOTE 4: This IE shall be included if the selected T-EES is different from the S-EES. Otherwise, it may be skipped.  NOTE 5: This IE shall be included when Event ID indicates 'ACR complete' event and EEC context relocation was attempted.  NOTE 6: This IE shall be included if S-EES has received successful implicit registration status and EEC Context Relocation status is set to success. | | |

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