**3GPP TSG-CT WG6 Meeting #119bis*****C6-240520***

**Maastricht, Netherlands; 20th – 23rd August 2024**

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| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **31.124** | **CR** | **0772** | **rev** | **1** | **Current version:** | **17.3.0** |  |
|  |
| *For* ***[HE](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)******[LP](http://www.3gpp.org/3G_Specs/CRs.htm%22%20%5Cl%20%22_blank)*** *on using this form: comprehensive instructions can be found at <http://www.3gpp.org/Change-Requests>.* |
|  |

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| ***Proposed change affects:*** | UICC apps | **x** | ME | **x** | Radio Access Network | **x** | Core Network | **x** |

|  |
| --- |
|  |
| ***Title:***  | Add testcase of REFRESH for Generic Bootstrapping Procedure Request |
|  |  |
| ***Source to WG:*** | China Mobile |
| ***Source to TSG:*** | CT6 |
|  |  |
| ***Work item code:*** | UEConTest\_R16 |  | ***Date:*** | 2024-08-22 |
|  |  |  |  |  |
| ***Category:*** | B |  | ***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)* |
|  |  |
| ***Reason for change:*** | As said in 31.111, ‘If Toolkit-initiated GBA is supported by the ME, as indicated in the TERMINAL PROFILE, then the following applies:When the UICC issues a REFRESH command implying a File Change Notification on EFGBABP (GBA Bootstrapping parameters) under ADF USIM or ADF ISIM the ME shall perform a GBA bootstrapping procedure (as defined in TS 31.102 [14] or TS 31.103 [62]).This procedure applies to REFRESH command only in the following modes: USIM File Change Notification; USIM Initialization and File Change Notification; and 3G Session Reset.’ |
|  |  |
| ***Summary of change:*** | Add testcase of REFRESH for Generic Bootstrapping Procedure Request. |
|  |  |
| ***Consequences if not approved:*** | The test cases for REFRESH are not covered with Generic Bootstrapping Procedure Request. |
|  |  |
| ***Clauses affected:*** | 3.4, 27.22.4.X.X(new) |
|  |  |
|  | **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:*** | C6-240453 |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*start of changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

## 3.4 Applicability table

|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **27.22.4.6** |  | **POLL INTERVAL** |  |  |  |  |  |  |  |
|  | 1.1 | duration | R99 |  | M | E.1/22 | No |  |  |
| **27.22.4.7** |  | **REFRESH** |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |
| **27.22.4.7** |  | **REFRESH** |  |  |  |  |  |  |  |
|  | 1.1 | USIM initialization, enabling FDN mode | R99 | Rel-7 | C146 ANDC177 ANDC178 ANDC180 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-8 |  | C146 ANDC177 ANDC178 ANDC180 ANDC183 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | 1.2 | file change notification of FDN file | R99 | Rel-7 | C146 ANDC177 ANDC178 ANDC180 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-8 |  | C146 ANDC177 ANDC178 ANDC180 ANDC183 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | 1.3 | USIM initialization and file change notification of ADN | R99 | Rel-5 | C168 ANDC177 ANDC178 | E.1/24 ANDE.1/110 ANDE.1/111 | No |  |  |
|  | Rel-6 |  | C177 ANDC178 | E.1/24 ANDE.1/110 ANDE.1/111 | No |  |  |
|  | 1.4 | USIM initialization and full file change notification, enabling FDN mode | R99 | Rel-7 | C146 ANDC177 ANDC178 ANDC180 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-8 |  | C146 ANDC177 ANDC178 ANDC180 ANDC183 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | 1.5 | UICC reset | R99 |  |  | E.1/24 | No |  |  |
|  | 1.6 | USIM Initialization after SMS-PP data download | R99 | Rel-7 | C146 ANDC177 ANDC178 ANDC180 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-8 |  | C146 ANDC177 ANDC178 ANDC180 ANDC183 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | 1.7 | USIM Application Reset | R99 | Rel-5 |  | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-6 | Rel-7 | C146 ANDC177 ANDC178 ANDC180 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-8 |  | C146 ANDC177 ANDC178 ANDC180 ANDC183 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | 2.1 | UICC Reset for IMSI Changing procedure | R99 | Rel-7 |  | E.1/24 | USS orSS only |  |  |
|  | Rel-8 |  | M | E.1/24 | USS orSS only |  |  |
|  | 2.2 | USIM Application Reset for IMSI Changing procedure | R99 | Rel-5 |  | E.1/24 | Yes |  |  |
|  | Rel-6 |  | M | E.1/24 | Yes |  |  |
|  | 2.3 | 3G Session Reset for IMSI Changing procedure | R99 | Rel-7 |  | E.1/24 | USS orSS only |  |  |
|  | Rel-8 |  | M | E.1/24 | USS orSS only |  |  |
|  | 2.4 | reject 3G Session Reset for IMSI Changing procedure during CScall | R99 | Rel-5 |  | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-6 | Rel-7 | C177 ANDC178 ANDC180 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-8 |  | C177 ANDC178 ANDC180 ANDC183 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | 2.5 | reject UICC Reset for IMSI Changing procedure during CS call | R99 | Rel-7 |  | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | Rel-8 |  | C177 ANDC178 ANDC180 ANDC183 | E.1/24 ANDE.1/110 ANDE.1/111 | USS orSS only |  |  |
|  | 2.6 | UICC Reset for IMSI Changing procedure during active PDP context | R99 | Rel-7 |  | E.1/24 | USS orSS only |  |  |
|  | Rel-8 |  | C215 | E.1/24 | USS orSS only |  |  |
|  | 2.7 | 3G Session Reset for IMSI Change procedure during active PDP context | R99 | Rel-7 |  | E.1/24 | USS orSS only |  |  |
|  | Rel-8 |  | C215 | E.1/24 | USS orSS only |  |  |
|  | 3.1 | Steering of roaming, UTRAN | Rel-7 | Rel-7 | M | E.1/24 ANDE.1/236 | USS only |  |  |
|  | Rel-8 |  | C184 | E.1/24 ANDE.1/236 | USS only |  |  |
|  | 3.2 | Steering of roaming, InterRAT | Rel-7 | Rel-7 | C167 | E.1/24 ANDE.1/236 | USS andSS |  |  |
|  | Rel-8 |  | C167 ANDC184 | E.1/24 ANDE.1/236 | USS andSS |  |  |
|  | 3.3 | Steering of roaming, E-UTRAN | Rel-8 | Rel-12 | C190 | E.1/24 ANDE.1/135 ANDE.1/236 | E-USS orNB-SS(See NOTE) |  |  |
|  | Rel-13 |  | C222 | E.1/24 ANDE.1/135 ANDE.1/236 | E-USS orNB-SS(See NOTE) |  |  |
|  | 3.4 | Steering of roaming, NG-RAN | Rel-16 |  | C231 | E.1/24 ANDE.1/236 | NG-SS only |  |  |
|  | 4.1 | Refresh with AID, E-UTRAN or UTRAN | Rel-7 | Rel-7 | C203 | E.1/24 | E-USS only orUSS |  |  |
|  | Rel-8 |  | C202 ORC203 | E.1/24 | E-USS only orUSS |  |  |
|  | 5.1 | UICC Reset for IMSI Changing procedure, E-UTRAN | Rel-8 |  | C190 | E.1/24 | E-USS orNB-SS(See NOTE) |  |  |
|  | 5.2 | 3G Session Reset for IMSI Changing procedure, E-UTRAN | Rel-8 |  | C190 | E.1/24 | E-USS orNB-SS(See NOTE) |  |  |
|  | 6.1 | REFRESH, UICC Reset for IMSI Changing procedure, NG-RAN | Rel-16 |  | C231 | E.1/24 OR(E.1/24 ANDE.1/256) | NG-SS only |  |  |
|  | 6.2 | REFRESH, 3G Session Reset for IMSI Changing procedure, NG-RAN | Rel-16 |  | C231 | E.1/24 OR(E.1/24 ANDE.1/256) | NG-SS only |  |  |
|  | 7.1 | REFRESH, UICC Reset for SUPI\_NAI Changing procedure, NG-RAN | Rel-16 |  | C231 ANDC233 | E.1/24 | NG-SS only |  |  |
|  | 7.2 | REFRESH, 3G Session Reset for SUPI\_NAI Changing procedure, NG-RAN | Rel-16 |  | C231 ANDC233 | E.1/24 | NG-SS only |  |  |
|  | X.X | REFRESH, USIM File Change Notification for Generic Bootstrapping Procedure Request, NG-RAN | Rel-12 |  | CXXX | E.1/24 OR E.1/173 | NG-SS only |  |  |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*next of changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

|  |  |  |
| --- | --- | --- |
| C101 | IF A.1/1 THEN M ELSE N/A | -- O\_Cap\_Conf |
| … | … | … |
| C235 | IF (A.1/187 AND A.1/196) THEN M ELSE N/A | -- pc\_NG\_RAN AND pc\_CAG |
| CXXX | IF (A.1/83 AND A.1/187) THEN M ELSE N/A | -- O\_Toolkit\_GBA AND pc\_NG\_RAN |

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*next of changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*

##### 27.22.4.X.X REFRESH (Generic Bootstrapping Procedure Request, NG-RAN)

27.22.4.X.X.1 Definition and applicability

See clause 3.2.2.

27.22.4.X.X.2 Conformance requirement

The ME shall support the REFRESH command as defined in:

- TS 31.111 [15] clause 6.1, clause 6.4.7, clause 6.4.7.1, clause 6, clause 6.6.13, clause 5.2, clause 8.6, clause 8.7 and clause 8.18.

The ME shall support the USIM Initialization and USIM application closure procedure as defined in:

- TS 31.102 [14] clause 5.1.2, clause 5.1.3 and Annex I.

The ME shall support GBA bootstrapping procedure and Toolkit-initiated GBA as defined in:

 - TS 31.102 [14] clause 7.1.1.4.

 - TS 31.111 [15] clause 5.2 and clause 6.4.7.2.

27.22.4.X.X.3 Test purpose

To verify that the ME performs the Proactive Command – REFRESH in accordance with the Command Qualifier and Generic Bootstrapping Procedure. This may require the ME to perform:

- the USIM initialization

- a re-read of the contents and structure of the EFGBABP on the USIM

- a restart of the card session

- a successful return of the result of the execution of the command in the TERMINAL RESPONSE command sent to the UICC.

27.22.4.X.X.4 Method of test

27.22.4.X.X.4.1 Initial conditions

The ME is connected to the USIM Simulator and connected to the NG-SS.

The NG-RAN parameters of the NG-SS are:

- Mobile Country Code (MCC) = 001;

- Mobile Network Code (MNC) = 01;

- Tracking Area Code (TAC) = 000001;

The elementary files are coded as the default NG-RAN UICC with the following exceptions.

**EFUST (USIM Service Table)**

|  |  |  |
| --- | --- | --- |
| Service n°68 | Generic Bootstrapping Architecture (GBA) | available |

EFGBABP (GBA Bootstrapping parameters)

 Logically: 'FF…FF' (70bytes)

Prior to this test the ME shall have been powered on and performed the PROFILE DOWNLOAD procedure.

27.22.4.X.X.4.2 Procedure

Expected Sequence x.1 (REFRESH, USIM File Change Notification for Generic Bootstrapping Procedure Request, NG-RAN)

|  |  |  |  |
| --- | --- | --- | --- |
| Step | Direction | MESSAGE / Action | Comments |
| 1 | ME → NG-SS | ME successfully REGISTER with NG-RAN cell. |  |
| 2 | UICC | Update EFGBABP | The content of EFGBABP has been changed to "100123456789ABCDEFFEDCBA98765432103200112233445566778899AABBCCDDEEFF00112233445566778899AABBCCDDEEFF00112233445566778899AABBCCDDEEFF001101FF" |
| 3 | UICC → ME | PROACTIVE COMMAND PENDING: REFRESH x.1.1 | [To inform the ME that GBA Bootstrapping parameters will be in an updated state, GBA service already enabled] |
| 4 | ME → UICC | FETCH |  |
| 5 | UICC → ME | PROACTIVE COMMAND: REFRESH x.1.1 |  |
| 6 | ME → UICC | TERMINAL RESPONSE: REFRESH x.1.1AOrTERMINAL RESPONSE: REFRESH x.1.1B | [normal ending][additional EFs read] |
| 7 | ME | Perform a GBA bootstrapping procedure using the updated GBA Bootstrapping parameters |  |

PROACTIVE COMMAND: REFRESH x.1.1

Logically:

Command details

 Command number: 1

 Command type: REFRESH

 Command qualifier: File Change Notification

Device identities

 Source device: UICC

 Destination device: ME

 File List: EFGBABP

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | D0 | 12 | 81 | 03 | 01 | 01 | 01 | 82 | 02 | 81 | 82 | 92 |
|  | 07 | 01 | 3F | 00 | 7F | FF | 6F | D6 |  |  |  |  |

TERMINAL RESPONSE: REFRESH x.1.1A

Logically:

Command details

 Command number: 1

 Command type: REFRESH

 Command qualifier: File Change Notification

Device identities

 Source device: ME

 Destination device: UICC

Result

 General Result: Command performed successfully

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 01 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 00 |

TERMINAL RESPONSE: REFRESH x.1.1B

Logically:

Command details

 Command number: 1

 Command type: REFRESH

 Command qualifier: File Change Notification

Device identities

 Source device: ME

 Destination device: UICC

Result

 General Result: REFRESH performed with additional EFs read

Coding:

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| BER-TLV: | 81 | 03 | 01 | 01 | 01 | 82 | 02 | 82 | 81 | 83 | 01 | 03 |

27.22.4.X.X.5 Test requirement

The ME shall operate in the manner defined in expected sequences x.1.

\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*end of changes \*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*\*