**3GPP TSG-RAN WG2 Meeting #121 *R2-23xxxx***

**Athens, Greece, 27 February – 03 March 2023**

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| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **36.331** | **CR** | **xx** | **rev** | **-** | **Current version:** | **17.3.0** |  |
|  | | | | | | | | |
| *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 | **X** | Core Network |  |

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|  | | | | | | | | | | |
| ***Title:*** | Correction to nas-SecurityParamFromNR in Mobility from NR command | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | Nokia, Nokia Shanghai Bell | | | | | | | | | |
| ***Source to TSG:*** | R2 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LTE | | | | |  | ***Date:*** | | | 2023-02-16 |
|  |  | | | |  | |  | | |  |
| ***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-16 (Release 16) Rel-17 (Release 17) Rel-18 (Release 18) Rel-19 (Release 19)* | |
|  |  | | | | | | | | | |
| ***Reason for change:*** | | 1. The field actually delivers DL NAS COUNT, not anything about key freshness (as per 33.501, 33.401). | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | 1. It is clarified that nas-SecurityParamFromEUTRA contains either 8 or 4 LSB of DL NAS COUNT for different inter-RAT mobility cases.   **Impact analysis**  Impacted functionality: Security parameters for mobility from EUTRA.  Inter-operability: If the UE is implemented according to the CR and the NW is not there is no issue.  If the NW is implemented according to the CR and the UE is not, the UE does not know which corresponding IEs from other interfaces it shall seek for. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Description remains ambiguous and the UE does not know which are the corresponding specifications. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 6.2.2 | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **Y** | **N** |  | | | |  | | |
| ***Other specs*** | |  |  | Other core specifications | | | | TS/TR ... CR ... | | |
| ***affected:*** | |  |  | Test specifications | | | | TS/TR ... CR ... | | |
| ***(show related CRs)*** | |  |  | O&M Specifications | | | | TS/TR ... CR ... | | |
|  | |  | | | | | | | | |
| ***Other comments:*** | |  | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | |  | | | | | | | | |

*First Modified Subclause*

<skipped unchanged sections>

#### – *MobilityFromEUTRACommand*

The *MobilityFromEUTRACommand* message is used to command handover or a cell change from E‑UTRA to another RAT (3GPP or non-3GPP), or enhanced CS fallback to CDMA2000 1xRTT.

Signalling radio bearer: SRB1

RLC-SAP: AM

Logical channel: DCCH

Direction: E‑UTRAN to UE

*MobilityFromEUTRACommand message*

-- ASN1START

MobilityFromEUTRACommand ::= SEQUENCE {

rrc-TransactionIdentifier RRC-TransactionIdentifier,

criticalExtensions CHOICE {

c1 CHOICE{

mobilityFromEUTRACommand-r8 MobilityFromEUTRACommand-r8-IEs,

mobilityFromEUTRACommand-r9 MobilityFromEUTRACommand-r9-IEs,

spare2 NULL, spare1 NULL

},

criticalExtensionsFuture SEQUENCE {}

}

}

MobilityFromEUTRACommand-r8-IEs ::= SEQUENCE {

cs-FallbackIndicator BOOLEAN,

purpose CHOICE{

handover Handover,

cellChangeOrder CellChangeOrder

},

nonCriticalExtension MobilityFromEUTRACommand-v8a0-IEs OPTIONAL

}

MobilityFromEUTRACommand-v8a0-IEs ::= SEQUENCE {

lateNonCriticalExtension OCTET STRING OPTIONAL,

nonCriticalExtension MobilityFromEUTRACommand-v8d0-IEs OPTIONAL

}

MobilityFromEUTRACommand-v8d0-IEs ::= SEQUENCE {

bandIndicator BandIndicatorGERAN OPTIONAL, -- Cond GERAN

nonCriticalExtension SEQUENCE {} OPTIONAL

}

MobilityFromEUTRACommand-r9-IEs ::= SEQUENCE {

cs-FallbackIndicator BOOLEAN,

purpose CHOICE{

handover Handover,

cellChangeOrder CellChangeOrder,

e-CSFB-r9 E-CSFB-r9,

...

},

nonCriticalExtension MobilityFromEUTRACommand-v930-IEs OPTIONAL

}

MobilityFromEUTRACommand-v930-IEs ::= SEQUENCE {

lateNonCriticalExtension OCTET STRING OPTIONAL,

nonCriticalExtension MobilityFromEUTRACommand-v960-IEs OPTIONAL

}

MobilityFromEUTRACommand-v960-IEs ::= SEQUENCE {

bandIndicator BandIndicatorGERAN OPTIONAL, -- Cond GERAN

nonCriticalExtension MobilityFromEUTRACommand-v1530-IEs OPTIONAL

}

MobilityFromEUTRACommand-v1530-IEs ::= SEQUENCE {

smtc-r15 MTC-SSB-NR-r15 OPTIONAL, -- Need OP

nonCriticalExtension SEQUENCE {} OPTIONAL

}

Handover ::= SEQUENCE {

targetRAT-Type ENUMERATED {

utra, geran, cdma2000-1XRTT, cdma2000-HRPD,

nr, eutra, spare2, spare1, ...},

targetRAT-MessageContainer OCTET STRING,

nas-SecurityParamFromEUTRA OCTET STRING (SIZE (1)) OPTIONAL, -- Cond UTRAGERANEPC

systemInformation SI-OrPSI-GERAN OPTIONAL -- Cond PSHO

}

CellChangeOrder ::= SEQUENCE {

t304 ENUMERATED {

ms100, ms200, ms500, ms1000,

ms2000, ms4000, ms8000, ms10000-v1310},

targetRAT-Type CHOICE {

geran SEQUENCE {

physCellId PhysCellIdGERAN,

carrierFreq CarrierFreqGERAN,

networkControlOrder BIT STRING (SIZE (2)) OPTIONAL, -- Need OP

systemInformation SI-OrPSI-GERAN OPTIONAL -- Need OP

},

...

}

}

SI-OrPSI-GERAN ::= CHOICE {

si SystemInfoListGERAN,

psi SystemInfoListGERAN

}

E-CSFB-r9 ::= SEQUENCE {

messageContCDMA2000-1XRTT-r9 OCTET STRING OPTIONAL, -- Need ON

mobilityCDMA2000-HRPD-r9 ENUMERATED {

handover, redirection

} OPTIONAL, -- Need OP

messageContCDMA2000-HRPD-r9 OCTET STRING OPTIONAL, -- Cond concHO

redirectCarrierCDMA2000-HRPD-r9 CarrierFreqCDMA2000 OPTIONAL -- Cond concRedir

}

-- ASN1STOP

| *MobilityFromEUTRACommand* field descriptions |
| --- |
| ***bandIndicator***  Indicates how to interpret the ARFCN of the BCCH carrier. |
| ***carrierFreq***  contains the carrier frequency of the target GERAN cell. |
| ***cs-FallbackIndicator***  Value *true* indicates that the CS fallback procedure to UTRAN or GERAN is triggered. |
| ***messageContCDMA2000-1XRTT***  This field contains a message specified in CDMA2000 1xRTT standard that either tells the UE to move to specific 1xRTT target cell(s) or indicates a failure to allocate resources for the enhanced CS fallback to CDMA2000 1xRTT. |
| ***messageContCDMA2000-HRPD***  This field contains a message specified in CDMA2000 HRPD standard that either tells the UE to move to specific HRPD target cell(s) or indicates a failure to allocate resources for the handover to CDMA2000 HRPD. |
| ***mobilityCDMA2000-HRPD***  This field indicates whether or not mobility to CDMA2000 HRPD is to be performed by the UE and it also indicates the type of mobility to CDMA2000 HRPD that is to be performed; If this field is not present the UE shall perform only the enhanced CS fallback to CDMA2000 1xRTT. |
| ***nas-SecurityParamFromEUTRA***  If the *targetRAT-Type* is set to "*eutra"* and the source CN is 5GC, this field is used to deliver 8 LSB of the DL NAS COUNT for the 5GS to EPS handovers as specified in TS 33.501 [86] and the content of the parameter is defined in TS 24.501 [95]. Otherwise, this field is used to deliver 4 LSB of the DL NAS COUNT for the E-UTRAN to UTRAN handovers as specified in TS 33.401 [32] and the content of the parameter is defined in TS24.301 [35]. |
| ***networkControlOrder***  Parameter NETWORK\_CONTROL\_ORDER in TS 44.060 [36]. |
| ***purpose***  Indicates which type of mobility procedure the UE is requested to perform. EUTRAN always applies value *e-CSFB* in case of enhanced CS fallback to CDMA2000 (e.g. also when that procedure results in handover to CDMA2000 1XRTT only, in handover to CDMA2000 HRPD only or in redirection to CDMA2000 HRPD only), |
| ***redirectCarrierCDMA2000-HRPD***  The *redirectCarrierCDMA2000-HRPD* indicates a CDMA2000 carrier frequency and is used to redirect the UE to a HRPD carrier frequency. |
| ***smtc***  The SSB periodicity/offset/duration configuration of target cell for inter-RAT handover to NR. It is based on timing reference of EUTRA PCell. If the field is absent, the UE uses the SMTC in the *measObjectNR* having the same SSB frequency and subcarrier spacing, as configured before the reception of the RRC message. |
| ***SystemInfoListGERAN***  If *purpose* = *CellChangeOrder* and if the field is not present, the UE has to acquire SI/PSI from the GERAN cell. |
| ***t304***  Timer T304 as described in clause 7.3. Value ms100 corresponds with 100 ms, ms200 corresponds with 200 ms and so on. EUTRAN includes extended value *ms10000-v1310* only when UE supports CE. |
| ***targetRAT-Type***  Indicates the target RAT type. |
| ***targetRAT-MessageContainer***  The field contains a message specified in another standard, as indicated by the *targetRAT-Type*, and carries information about the target cell identifier(s) and radio parameters relevant for the target radio access technology. NOTE 1.  A complete message is included, as specified in the other standard. |

| Conditional presence | Explanation |
| --- | --- |
| *concHO* | The field is mandatory present if the *mobilityCDMA2000-HRPD* is set to "*handover*"; otherwise the field is optional present, need ON. |
| *concRedir* | The field is mandatory present if the m*obilityCDMA2000-HRPD* is set to "*redirection*"; otherwise the field is not present. |
| *GERAN* | The field should be present if the *purpose* is set to "*handover*" and the *targetRAT-Type* is set to "*geran*"; otherwise the field is not present |
| *PSHO* | The field is mandatory present in case of PS handover toward GERAN; otherwise the field is optionally present, but not used by the UE |
| *UTRAGERANEPC* | The field is mandatory present if the *targetRAT-Type* is set to "*utra*" or "*geran*" or if the *targetRAT-Type* is set to "*eutra*" and the source CN is 5GC; otherwise the field is not present |

NOTE 1: The correspondence between the value of the *targetRAT-Type*, the standard to apply and the message contained within the *targetRAT-MessageContainer* is shown in the table below:

|  |  |  |
| --- | --- | --- |
| targetRAT-Type | Standard to apply | targetRAT-MessageContainer |
| *cdma2000-1XRTT* | C.S0001 or later, C.S0007 or later, C.S0008 or later |  |
| *cdma2000-HRPD* | C.S0024 or later |  |
| *eutra* | TS 36.331 (clause 5.4.2) | *RRCConnectionReconfiguration* | |
| *geran* | GSM TS 04.18, version 8.5.0 or later, or TS 44.018 (clause 9.1.15)  TS 44.060, version 6.13.0 or later (clause 11.2.43)  TS 44.060, version 7.6.0 or later (clause 11.2.46) | HANDOVER COMMAND  PS HANDOVER COMMAND  DTM HANDOVER COMMAND |
| *nr* | TS 38.331 (clause 6.2.2) | RRCReconfiguration |
| *utra* | TS 25.331 (clause 10.2.16a) | Handover TO UTRAN command |

<skipped unchanged sections>

*End of Changes*