**3GPP TSG- Meeting # *95***

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| *CR-Form-v12.3* |
| **CHANGE REQUEST** |
|  |
|  |  | **CR** |  | **rev** | **1** | **Current version:** |  |  |
|  |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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|  |
| ***Title:***  |  |
|  |  |
| ***Source to WG:*** | SA3LI () |
| ***Source to TSG:*** | SA3 |
|  |  |
| ***Work item code:*** |  |  | ***Date:*** |  |
|  |  |  |  |  |
| ***Category:*** |  |  | ***Release:*** |  |
|  | *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-17 (Release 17)Rel-18 (Release 18)Rel-19 (Release 19) Rel-20 (Release 20)* |
|  |  |
| ***Reason for change:*** | Currently UDM Subscriber Record Change reporting assumes that only one identity is modified within a service operation. There are cases where multiple identifiers are changed within one service operation. This CR proposes a method to allow for one xIRI to carry multiple changes. |
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| ***Summary of change:*** | Add usage text related to generation of one or multiple messages, modify table to 5 column, correct table numbers, expand note 2 to cover multiple change methods in one service operation, promote note 1 and 2 into the table, Add table for enumeration for UDMSubscriberRecordChangeMethod, modify ASN.1 to allow for multiple change methods in one xIRI. |
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| ***Consequences if not approved:*** | Record will remain confusing and incomplete. Potential issues at implementation. |
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| ***Clauses affected:*** | 7.2.2.3.3, Table 7.2.2.3.3-1, (New) Table 7.2.2.3.3-2, Attachment ASN.1 |
|  |  |
|  | **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:*** | ASN.1 Changes can be found in Forge:Merge Request: [!266](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/266)Commit Hash: [f32ddc54428a62183ac4dfc2263c4f2541e48344](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/266/diffs?commit_id=f32ddc54428a62183ac4dfc2263c4f2541e48344)  |
|  |  |
| ***This CR's revision history:*** | s3i240443 |

\*\*\*Start of Changes \*\*\*

\*\*\* Start of first Change \*\*\*

##### 7.2.2.3.3 Subscriber record change

The IRI-POI in the UDM shall generate an xIRI containing the UDMSubscriberRecordChangeMessage record when it detects the following events:

- When the UDM receives the Amf3GppAccessRegistration from the AMF as part of the Nudm\_UEContextManagement Registration service operation (see TS 29.503 [25] clause 5.3.2.2.2) and detects a change in the SUPI/GPSI/PEI association for a target.

- When the UDM receives the AmfNon3GppAccessRegistration from the AMF as part of the Nudm\_UEContextManagement Registration service operation (see TS 29.503 [25] clause 5.3.2.2.3) and detects a change in the SUPI/GPSI/PEI association for a target.

- When the UDM receives the Amf3GppAccessRegistrationModification from the AMF as part of Nudm\_UEContextManagement Update service operation (see TS 29.503 [25] clause 5.3.2.6.2) and detects a change in the SUPI/GPSI/PEI association for a target.

- When the UDM receives the AmfNon3GppAccessRegistrationModification from the AMF as part of Nudm\_UEContextManagement Update service operation (see TS 29.503 [25] clause 5.3.2.6.3) and detects a change in the SUPI/GPSI/PEI association for a target.

- When the UDM receives the PeiUpdateInfo from the HSS as part of the Nudm\_UEContextManagement PEI Update service operation (see TS 29.503 [25] clause 5.3.2.10.2) and detects a change in the SUPI/GPSI/PEI association for a target.

- Upon detection of modification between SUPI and GPSI association (if UDR is deployed, when UDM receives the DataChangeNotify from the UDR including the modified GPSI as part of the Nudr\_DataRepository Notification service operation (see TS 29.504 [48] clause 5.2.2.8.3 and TS 29.505 [49] clause 5.4.2.6); if UDR is not deployed, when the modification is detected as result of UDM provisioning).

- Upon UE de-provisioning (if UDR is deployed, when UDM receives the DataChangeNotify from the UDR including the deleted SUPI as part of the Nudr\_DataRepository Notification service operation (see TS 29.504 [48] clause 5.2.2.8.3 and TS 29.505 [49] clause 5.4.2.6); if UDR is not deployed, when the modification is detected as result of UDM deprovisioning).

- When a new SUPI is provisioned (if UDR is deployed, when UDM receives the DataChangeNotify from the UDR including the new and the old SUPI as part of the Nudr\_DataRepository Notification service operation (see TS 29.504 [48] clause 5.2.2.8.3 and TS 29.505 [49] clause 5.4.2.6); if UDR is not deployed, when the modification is detected as result of UDM provisioning).

- When the UDM receives the Amf3GppAccessRegistrationModification from the AMF as part of Nudm\_UEContextManagement Update service operation (see TS 29.503 [25] clause 5.3.2.2.2) and detects a change in the ServiceID association for a target.

- Upon detection of modification in the Service ID association (if UDR is deployed, when UDM receives the DataChangeNotify from the UDR including the modified Service ID as part of the Nudr\_DataRepository Notification service operation (see TS 29.504 [48] clause 5.2.2.8.3 and TS 29.505 [49] clause 5.4.2.6); if UDR is not deployed, when the modification is detected as a result of UDM provisioning.

When a target UE registers to both 3GPP and non-3GPP access, two separate xIRIs each containing the UDMSubscriberRecordChangeMessage report record may be generated by the IRI-POI in the UDM.

When more than one identity associated with the same target identifier changes with a single procedure, either one or multiple UDMSubscriberRecordChangeMessage report record(s) may be generated by the IRI-POI in the UDM. This decision (of one or multiple records) is left to implementation.

Table 7.2.2.3.3-1: Payload for UDMSubscriberRecordChangeMessage record

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Field name | Type | Cardinality | Description | M/C/O |
| sUPI | SUPI | 0..1 | SUPI currently associated with the target UE, see TS 29.571 [17], see NOTE 1 | C |
| pEI | PEI | 0..1 | PEI currently associated with the target UE, when known, see TS 29.571 [17]. | C |
| gPSI | GPSI | 0..1 | GPSI currently associated with the target UE, when known, see TS 29.571 [17]. | C |
| oldSUPI | SUPI | 0..1 | Old SUPI associated with the target UE, when known. | C |
| oldServiceID | ServiceID | 0..1 | Identifies the target UE’s old service identifiers (e.g. SNSSAI, CAGID), when known, see TS 29.571 [17]. | C |
| oldPEI | PEI | 0..1 | Old PEI associated with the target UE, when known. | C |
| oldGPSI | GPSI | 0..1 | Old GPSI associated with the target UE, when known. | C |
| subscriberRecordChangeMethod | UDMSubscriberRecordChangeMethod | 1 | Identifies the trigger of Subscriber Record Change operation, see NOTE 2. | M |
| serviceID | ServiceID | 0..1 | Identifies the target UE’s 5G service identifiers that have been modified (e.g. SNSSAI, CAGID), when known, see TS 29.571 [17]. | C |
| NOTE 1: When an identity is changed, both the old one and the current one are reported; the target identity is always reported either as current identity or old identity depending on the change, together with the other current identities (e.g. ServiceIDs), if available. If the target identity is changed, the old identity represents the target otherwise the current identity represents the target (as examples, when SUPI is the target and PEI is changing, SUPI (target), PEI and old PEI, along with GPSI, if available, are reported; when SUPI is the target and SUPI is changed, SUPI and oldSUPI (target), along with PEI and GPSI, if available, are reported).NOTE 2: This identifies whether the xIRI containing the UDMSubscriberRecordChangeMessage record is generated due to a PEI change, a GPSI change, a SUPI modification or ServiceID change, or a UE de-provisioning. If a single UDMSubscriberRecordChangeMessage xIRI is generated to report more than one subscriberRecordChangeMethod within a single service operation, this parameter enumeration shall be set to multipleIDChanges. |

Table 7.2.2.3.3-2: Enumeration for UDMSubscriberRecordChangeMethod

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| --- | --- |
| Enumeration Value | Description |
| pEIChange | Indicates that PEI is the identifier changed as part of the service operation. |
| sUPIChange | Indicates that SUPI is the identifier changed as part of the service operation. |
| gPSIChange | Indicates that GPSI is the identifier changed as part of the service operation. |
| uEDeprovisioning | Used when UE de-provisioning is the cause of the service operation. |
| unknown | Used when no information is available. |
| serviceIDChange | Indicates that NSSAI or CAG ID is changed as part of the service operation. |
| multipleIDChanges | Indicates that multiple identifiers have been changed with one service operation (e.g. pEIChange and gPSIChange). |

The IRI-POI present in the UDM generating an xIRI containing an UDMSubscriberRecordChangeMessage record shall set the Payload Direction field in the PDU header to *not applicable* (Direction Value 5, see ETSI TS 103 221-2 [8] clause 5.2.6).

TS 29.571 [17] requires that the encoding of 3GPP defined identifiers (e.g. IMSI, NAI) shall be prefixed with its corresponding prefix (e.g. with reference to SUPI it requires 'imsi-','nai-'). However, identifiers and parameters shall be coded over the LI\_X2 and LI\_HI2 according to Annex A of the present document, so without the prefix specified in TS 29.571 [17].

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

\*\*\* Start of Attachment Changes \*\*\*

 START OF CHANGE 1

---a/33128/r18/TS33128Payloads.asn
+++b/33128/r18/TS33128Payloads.asn

@@ -2990,7 +2990,8 @@ UDMSubscriberRecordChangeMethod ::= ENUMERATED

2990 2990 gPSIChange(3),

2991 2991 uEDeprovisioning(4),

2992 2992 unknown(5),

2993 - serviceIDChange(6)

 2993 + serviceIDChange(6),

 2994 + multipleIDChanges(7)

2994 2995 }

2995 2996

2996 2997 UDMCancelLocationMethod ::= ENUMERATED

 END OF CHANGE 1

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

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