**3GPP TSG-SA3 Meeting #85-LI-e *s3i220218***

**Online, , 25th Apr 2022 - 29th Apr 2022**

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *CR-Form-v12.2* | | | | | | | | |
| **CHANGE REQUEST** | | | | | | | | |
|  | | | | | | | | |
|  | **33.128** | **CR** | **0341** | **rev** | **1** | **Current version:** | **17.4.0** |  |
|  | | | | | | | | |
| *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 |  | Radio Access Network |  | Core Network | **X** |

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|  | | | | | | | | | | |
| ***Title:*** | Correction of Identity Association Record | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Source to WG:*** | SA3-LI (OTD), ZITiS | | | | | | | | | |
| ***Source to TSG:*** | SA3 | | | | | | | | | |
|  |  | | | | | | | | | |
| ***Work item code:*** | LI17 | | | | |  | ***Date:*** | | | 2022-04-25 |
|  |  | | | |  | |  | | |  |
| ***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:*** | | TS 33.127 has the capaiblity to report location information for Identity Association Records. This is currently not supported in Stage 3. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Summary of change:*** | | Addition of NCGIs parameter to Table 5.7.2-5. Additions/Changes to XSD in Annex E. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Consequences if not approved:*** | | Stage 2 and Stage 3 misalignment may cause errors when implementing LI. | | | | | | | | |
|  | |  | | | | | | | | |
| ***Clauses affected:*** | | 5.7.2, Annex E | | | | | | | | |
|  | |  | | | | | | | | |
|  | | **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:*** | | Current version of XSD can be found on forge at:  <https://forge.3gpp.org/rep/sa3/li/-/merge_requests/39/diffs?commit_id=47511529603084cfaea43b618f443c0c62ba7811> | | | | | | | | |
|  | |  | | | | | | | | |
| ***This CR's revision history:*** | | s3i220218 | | | | | | | | |

START OF CHANGES

START OF FIRST CHANGE

#### 5.7.2.3 Response structure

The LI\_HIQR request is used to generate a request to the ICF over LI\_XQR (see clause 5.8). The response received over LI\_XQR is then transformed into an LI\_HIQR response.

LI\_HIQR responses and updates are represented as XML following the IdentityResponseDetails type definition (see Annex E).

Responses and updates are delivered within a DELIVER Request (see ETSI TS 103 120 [6] clause 6.4.10) containing a DeliveryObject (see ETSI TS 103 120 [6] clause 10).

IdentityResponseDetails contain IdentityAssociation records. The fields of each IdentityAssociationRecord shall be set as follows:

Table 5.7.2-5: IdentityAssociationRecord

|  |  |  |
| --- | --- | --- |
| Field | Value | M/C/O |
| SUPI | SUPI associated with the provided identity. | M |
| SUCI | SUCI associated with the provided identity, if available. | C |
| 5G-GUTI | 5G GUTI associated with the provided identity, provided in the form given in the request (see table 5.7.2-4). | M |
| PEI | PEI associated with the provided identity during the association period, if known. | C |
| AssociationStartTime | The time that the association between the SUPI and the temporary identity became valid. (see NOTE). | M |
| AssociationEndTime | The time that the association between the SUPI and the temporary identity ceased to be valid. Shall be omitted if the association is still valid (see NOTE). | C |
| FiveGSTAIList | List of tracking areas associated with the registration area within which the UE was or is registered in the lifetime of the reported association, if available. See clause 7.6.2.4 for details. | C |
| GPSI | GPSI associated with the provided identity during the association period, if known. | C |
| nCGIs | NR Cell Global Identities associated with the UE at the time of association between the SUPI and the temporary identity. Shall be sent if included in RequestValue sent via LI\_HIQR and available at the ICF. | C |
| NOTE: The AssociationStartTime and AssociationEndTime represent the lifespan of the SUPI to 5G-GUTI association. When a SUCI is present, the AssociationStartTime also represents the time of the SUCI's validity. | | |

If no association is found which matches the criteria provided in the LI\_XQR request, then the LI\_XQR response contains zero IdentityAssociationRecords. Similarly, the LI\_HIQR response contains zero IdentityAssociationRecords.

For responses or updates providing a currently valid SUPI to 5G-GUTI identity association, the AssociationEndTime shall be absent. The AssociationStartTime shall indicate when the 5G-GUTI became associated with the SUPI. The SUCI field shall be populated if it was present in the IEF record for the association (see clause 6.2.2A.2.1). The PEI and TAI List fields may be populated as well, see clause 7.6.2.4 for details.

In the case of ongoing updates, the presence of the AssociationEndTime indicates the SUPI to 5G-GUTI identity disassociation. Such updates shall only happen when no new association is replacing the outgoing one.

The DeliveryObject Reference field (see ETSI TS 103 120 [6] clause 10.2.1) shall be set to the Reference of the LDTaskObject used in the request, to provide correlation between request and response. The DeliveryID, SequenceNumber and LastSequence fields shall be set according to ETSI TS 103 120 [6] clause 10.2.1.

The content manifest (see ETSI TS 103 120 [6] clause 10.2.2) shall be set to indicate the present document, using the following Specification Dictionary extension.

Table 5.7.2-6: Specification Dictionary

|  |  |
| --- | --- |
| Dictionary Owner | Dictionary Name |
| 3GPP | ManifestSpecification. |
|  | |
| Defined DictionaryEntries | |
| Value | Meaning |
| LIHIQRResponse | The delivery contains IdentityResponseDetails (see Annex E) |

END OF FIRST CHANGE

START OF SECOND CHANGE

Annex E (normative):  
XSD Schema for Identity Association

<?xml version="1.0" encoding="utf-8"?>

<xs:schema xmlns:xs="http://www.w3.org/2001/XMLSchema"

xmlns="urn:3GPP:ns:li:3GPPIdentityExtensions:r17:v3"

xmlns:x1="http://uri.etsi.org/03221/X1/2017/10"

xmlns:common="http://uri.etsi.org/03280/common/2017/07"

targetNamespace="urn:3GPP:ns:li:3GPPIdentityExtensions:r17:v3"

elementFormDefault="qualified">

<xs:import namespace="http://uri.etsi.org/03221/X1/2017/10"/>

<xs:import namespace="http://uri.etsi.org/03280/common/2017/07"/>

<xs:complexType name="IdentityAssociationRequest">

<xs:complexContent>

<xs:extension base="x1:X1RequestMessage">

<xs:sequence>

<xs:element name="RequestDetails" type="RequestDetails"/>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

<xs:complexType name="RequestDetails">

<xs:sequence>

<xs:element name="Type" type="DictionaryEntry"/>

<xs:element name="ObservedTime" type="common:QualifiedDateTime"/>

<xs:element name="RequestValues" type="RequestValues"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="RequestValues">

<xs:sequence>

<xs:element name="RequestValue" type="RequestValue" maxOccurs="unbounded"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="RequestValue">

<xs:sequence>

<xs:element name="FormatType" type="FormatType"/>

<xs:element name="Value" type="common:LongString"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="FormatType">

<xs:sequence>

<xs:element name="FormatOwner" type="common:ShortString"/>

<xs:element name="FormatName" type="common:ShortString"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="DictionaryEntry">

<xs:sequence>

<xs:element name="Owner" type="common:ShortString"/>

<xs:element name="Name" type="common:ShortString"/>

<xs:element name="Value" type="common:ShortString"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="IdentityAssociationResponse">

<xs:complexContent>

<xs:extension base="x1:X1ResponseMessage">

<xs:sequence>

<xs:element name="ResponseDetails" type="IdentityResponseDetails"/>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

<xs:element name="LIHIQRResponse" type="IdentityResponseDetails"/>

<xs:complexType name="IdentityResponseDetails">

<xs:sequence>

<xs:element name="Associations" type="IdentityAssociationRecords"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="IdentityAssociationRecords">

<xs:sequence>

<xs:element name="IdentityAssociationRecord" type="IdentityAssociationRecord" minOccurs="0" maxOccurs="unbounded"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="IdentityAssociationRecord">

<xs:sequence>

<xs:element name="SUPI" type="SUPI"/>

<xs:element name="SUCI" type="SUCI" minOccurs="0"/>

<xs:element name="FiveGGUTI" type="FiveGGUTI"/>

<xs:element name="PEI" type="PEI" minOccurs="0"/>

<xs:element name="AssociationStartTime" type="common:QualifiedMicrosecondDateTime"/>

<xs:element name="AssociationEndTime" type="common:QualifiedMicrosecondDateTime" minOccurs="0"/>

<xs:element name="FiveGSTAIList" type="FiveGSTAIList" minOccurs="0"/>

<xs:element name="GPSI" type="GPSI" minOccurs="0"/>

<xs:element name="NCGIs" type="NCGIs" minOccurs="0"/> </xs:sequence>

</xs:complexType>

<xs:complexType name="SUPI">

<xs:choice>

<xs:element name="SUPIIMSI" type="common:SUPIIMSI"/>

<xs:element name="SUPINAI" type="common:SUPINAI"/>

</xs:choice>

</xs:complexType>

<xs:simpleType name="SUCI">

<xs:restriction base="xs:string"/>

</xs:simpleType>

<xs:simpleType name="FiveGGUTI">

<xs:restriction base="xs:string"/>

</xs:simpleType>

<xs:complexType name="PEI">

<xs:choice>

<xs:element name="PEIIMEI" type="common:PEIIMEI"/>

<xs:element name="PEIIMEISV" type="common:PEIIMEISV"/>

<xs:element name="PEIMAC" type="common:MACAddress"/>

</xs:choice>

</xs:complexType>

<xs:complexType name="FiveGSTAIList">

<xs:sequence>

<xs:element name="FiveGSTAI" type="FiveGSTAI" maxOccurs="unbounded"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="FiveGSTAI">

<xs:sequence>

<xs:element name="MCC" type="MCC"/>

<xs:element name="MNC" type="MNC"/>

<xs:element name="TAC" type="TAC"/>

<xs:element name="NID" type="NID" minOccurs="0"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="GPSI">

<xs:choice>

<xs:element name="GPSIMSISDN" type="common:GPSIMSISDN"/>

<xs:element name="GPSINAI" type="common:GPSINAI"/>

</xs:choice>

</xs:complexType>

<xs:complexType name="NCGIs">

<xs:sequence>

<xs:element name="NCGI" type="NCGI" maxOccurs="unbounded"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="NCGI">

<xs:sequence>

<xs:element name="PLMNID" type="PLMNID"/>

<xs:element name="NRCellID" type="NRCellID"/>

<xs:element name="NID" type="NID" minOccurs="0"/>

<xs:element name="NCGI Time" type="common:QualifiedMicrosecondDateTime"/> minOccurs="0"/>

</xs:sequence>

</xs:complexType>

<xs:complexType name="PLMNID">

<xs:sequence>

<xs:element name="MCC" type="MCC"/>

<xs:element name="MNC" type="MNC"/>

</xs:sequence>

</xs:complexType>

<xs:simpleType name="NRCellID">

<xs:restriction base="xs:string">

<xs:pattern value="([A-Fa-f0-9]{9}"></xs:pattern>

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="MCC">

<xs:restriction base="xs:string">

<xs:pattern value="[0-9]{3}"></xs:pattern>

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="MNC">

<xs:restriction base="xs:string">

<xs:pattern value="[0-9]{2,3}"></xs:pattern>

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="TAC">

<xs:restriction base="xs:string">

<xs:pattern value="([A-Fa-f0-9]{2}){2,3}"></xs:pattern>

</xs:restriction>

</xs:simpleType>

<xs:simpleType name="NID">

<xs:restriction base="xs:string">

<xs:pattern value="[A-Fa-f0-9]{11}"></xs:pattern>

</xs:restriction>

</xs:simpleType>

<xs:complexType name="ActivateAssociationUpdates">

<xs:complexContent>

<xs:extension base="x1:X1RequestMessage">

<xs:sequence>

<xs:element name="OngoingAssociationTaskID" type="common:UUID"></xs:element>

<xs:element name="SUPI" type="SUPI"></xs:element>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

<xs:complexType name="ActivateAssociationUpdatesAcknowledgement">

<xs:complexContent>

<xs:extension base="x1:X1ResponseMessage">

<xs:sequence>

<xs:element name="oK" type="x1:OKAckAndComplete"/>

<xs:element name="CurrentAssociations" type="IdentityResponseDetails"></xs:element>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

<xs:complexType name="DeactivateAssociationUpdates">

<xs:complexContent>

<xs:extension base="x1:X1RequestMessage">

<xs:sequence>

<xs:element name="OngoingAssociationTaskID" type="common:UUID"></xs:element>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

<xs:complexType name="DeactivateAssociationUpdatesAcknowledgement">

<xs:complexContent>

<xs:extension base="x1:X1ResponseMessage">

<xs:sequence>

<xs:element name="oK" type="x1:OKAckAndComplete"/>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

<xs:complexType name="IdentityAssociationUpdate">

<xs:complexContent>

<xs:extension base="x1:X1RequestMessage">

<xs:sequence>

<xs:element name="OngoingAssociationTaskID" type="common:UUID"/>

<xs:element name="UpdateDetails" type="IdentityResponseDetails"/>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

<xs:complexType name="IdentityAssociationUpdateAcknowledgement">

<xs:complexContent>

<xs:extension base="x1:X1ResponseMessage">

<xs:sequence>

<xs:element name="oK" type="x1:OKAckAndComplete"/>

</xs:sequence>

</xs:extension>

</xs:complexContent>

</xs:complexType>

</xs:schema>

END OF SECOND CHANGE

END OF ALL CHANGES