**3GPP SA3LI#86-b S3i220414**

**Sophia Antipolis, France, 30 August - 2 September 2022**

|  |
| --- |
| *CR-Form-v12.2* |
| **CHANGE REQUEST** |
|  |
|  | **33.128** | **CR** | **0385** | **rev** | **1** | **Current version:** | **18.0.0** |  |
|  |
| *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)*.* |
|  |

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

|  |
| --- |
|  |
| ***Title:***  | STIR/SHAKEN: Enhancements to stage 3 LI descriptions (LI\_X1 provisioning) |
|  |  |
| ***Source to WG:*** | SA3-LI (Nokia, Nokia Shanghai Bell, Ministère Economie et Finances)  |
| ***Source to TSG:*** | SA3 |
|  |  |
| ***Work item code:*** | LI17 |  | ***Date:*** | 2022-09-01 |
|  |  |  |  |  |
| ***Category:*** | ***A*** |  | ***Release:*** | Rel-18 |
|  | *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:*** | STIR/SHAKEN related stage 3 descriptions related to the LI\_X1 provisioning have information that may not be available at the LIPF. The conditions need to be redefined.  |
|  |  |
| ***Summary of change:*** | Provisioning conditions are enhanced. |
|  |  |
| ***Consequences if not approved:*** | Erratic implementation of STIR/SHAKEN related LI functions |
|  |  |
| ***Clauses affected:*** | 7.11.1.1, 7.11.1.2 , Annex C |
|  |  |
|  | **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:*** | Schema changes for this CR can be found on the Forge:Merge request: [86](https://forge.3gpp.org/rep/sa3/li/-/merge_requests/86)Commit hash: [ccdf34b4d6d8533c970a4c13b4395a6c577d0db3](https://forge.3gpp.org/rep/sa3/li/-/commit/ccdf34b4d6d8533c970a4c13b4395a6c577d0db3) |
|  |  |
| ***This CR's revision history:*** | S3i220414 |

### \*\* First Change \*\*

#### 7.11.1.1 General

When the interception of STIR/SHAKEN is required, the LIPF shall provision the IRI-POI present in the following IMS NFs for the reporting of signing and verification results, as applicable:

* IBCF.
* Telephony AS.

If the IRI-POI functions in IBCF or Telephony AS are already provisioned for IMS-based services, then separate provisioning is not required. However, the "ReportDiversionPASSporTInfo" shall be included, as specified in clause 7.11.1.2, as a part of provisioning the IRI-POIs in Telephony AS and IBCF for IMS-based services.

NOTE: The P-CSCF and LMISF-IRI may also provide IRI-POI functions for reporting of STIR/SHAKEN validation results when the target (or user communicating with the target non-local ID) is roaming (P-CSCF with LBO and LMIF-IRI with home-routed). However, separate provisioning of those IRI-POIs for STIR/SHAKEN is not required.

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

#### 7.11.1.2 Provisioning of the IRI-POI in the IMS network functions

The LIPF provisions the IRI-POIs present in the NFs mentioned in 7.11.1.1 using the X1 protocol as described in clause 5.2.2 with the following target identifier formats as defined in the ETSI TS 103 221-1 [7] messages (or equivalent if ETSI TS 103 221-1 [7] is not used):

- IMPU.

The "div" PASSporT information for the redirecting party (ies) when the IMS session is redirected later on the signaling path may have to be reported to some LEAs. To identify the need for such reporting, a parameter "ReportDiversionPASSporTInfo" shall be included as part of ActivateTask message.

Table 7.11.1.2-1 shows the minimum details of the LI\_X1 ActivateTask message used for provisioning the IRI-POI in the Telephony AS, IBCF, for separate provisioning case, for STIR/SHAKEN and RCD/eCNAM.

Table 7.11.1.2-1: ActivateTask message for IRI-POI in the IMS Network Functions for STIR/SHAKEN and RCD/eCNAM

|  |  |  |
| --- | --- | --- |
| ETSI TS 103 221-1 [7] field name | Description | M/C/O |
| XID | XID assigned by LIPF. | M |
| TargetIdentifiers | The target identifier listed in the paragraph above. | M |
| DeliveryType | Set to "X2Only". | M |
| ListOfDIDs | Delivery endpoints of LI\_X2. These delivery endpoints shall be configured using the *CreateDestination* message as described in ETSI TS 103 221-1 [7] clause 6.3.1 prior to first use. | M |
| TaskDetailsExtensions/STIRSHAKENProvisioning | Shall be included if the interception of STIR/SHAKEN is required. See table 7.11.1.2-2 | C |

Table 7.11.1.2-2: STIRSHAKENProvisioning extension

|  |  |  |
| --- | --- | --- |
| Extensions field name | Description | M/C/O |
| ReportDiversionPASSporTInfo | Indicates whether "div" PASSporT information of redirecting party (ies) when the IMS session is redirected later on the signaling path is to be reported. When set to "true" or absent, it shall be reported. When set to "false" or absent, it shall not be reported. | M |

When the IRI-POIs in Telephony AS or IBCF are provisioned for IMS-based services, then the minimal details of LI\_X1 ActivateTask message shall be as defined in clause 7.12.3.2.1 (table 7.12.3.2-2) with the addition of "ReportDiversionPASSporTInfo" parameter.

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

**Annex C (normative):
XSD Schema for LI\_X1 extensions**

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

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

 xmlns="urn:3GPP:ns:li:3GPPX1Extensions:r17:v3"

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

 targetNamespace="urn:3GPP:ns:li:3GPPX1Extensions:r17:v3"

 elementFormDefault="qualified">

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

 <xs:element name="X1Extensions" type="X1Extension"></xs:element>

 <xs:element name="PTCLIX1TargetIdentifierExtensions" type="PTCLIX1TargetIdentifierExtensions"></xs:element>

 <xs:complexType name="PTCLIX1TargetIdentifierExtensions">

 <xs:sequence>

 <xs:element name="PTCLIX1TargetIdentifier" type="PTCLIX1TargetIdentifier" minOccurs="1" maxOccurs="unbounded"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="PTCLIX1TargetIdentifier">

 <xs:choice>

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

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

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

 </xs:choice>

 </xs:complexType>

 <xs:simpleType name="MCPTTID">

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

 </xs:simpleType>

 <xs:simpleType name="InstanceIdentifierURN">

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

 </xs:simpleType>

 <xs:simpleType name="PTCChatGroupID">

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

 </xs:simpleType>

 <xs:element name="UPFLIT3TargetIdentifierExtensions" type="UPFLIT3TargetIdentifierExtensions"></xs:element>

 <xs:complexType name="UPFLIT3TargetIdentifierExtensions">

 <xs:sequence>

 <xs:element name="UPFLIT3TargetIdentifier" type="UPFLIT3TargetIdentifier" minOccurs="1" maxOccurs="unbounded"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="UPFLIT3TargetIdentifier">

 <xs:choice>

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

 <xs:element name="PDRID" type="xs:unsignedInt"></xs:element>

 <xs:element name="QERID" type="xs:unsignedInt"></xs:element>

 <xs:element name="NetworkInstance" type="xs:hexBinary"></xs:element>

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

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

 </xs:choice>

 </xs:complexType>

 <xs:complexType name="FSEID">

 <xs:sequence>

 <xs:element name="SEID" type="xs:unsignedLong"></xs:element>

 <xs:element name="IPv4Address" type="common:IPv4Address" minOccurs="0"></xs:element>

 <xs:element name="IPv6Address" type="common:IPv6Address" minOccurs="0"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="FTEID">

 <xs:sequence>

 <xs:element name="TEID" type="xs:unsignedInt"></xs:element>

 <xs:element name="IPv4Address" type="common:IPv4Address" minOccurs="0"></xs:element>

 <xs:element name="IPv6Address" type="common:IPv6Address" minOccurs="0"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:simpleType name="GTPTunnelDirection">

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

 <xs:enumeration value="Outbound"></xs:enumeration>

 <xs:enumeration value="Inbound"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

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

 <xs:complexType name="X1Extension">

 <xs:choice>

 <xs:element name="LALSLILCSTargetProvisioning" type="LALSLILCSTargetProvisioningExtensions"></xs:element>

 <xs:element name="LALSLTFProvisioning" type="LALSLTFProvisioningExtensions"></xs:element>

 <xs:element name="HeaderReporting" type="PDHRReportingExtensions"></xs:element>

 <xs:element name="SMSFExtensions" type="SMSFProvisioningExtensions"></xs:element>

 <xs:element name="IdentifierAssociation" type="IdentifierAssociationExtensions"></xs:element>

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

 <xs:element name="STIRSHAKENProvisioning" type="STIRSHAKENTargetProvisioningExtensions"></xs:element>

 </xs:choice>

 </xs:complexType>

 <xs:complexType name="LALSLILCSTargetProvisioningExtensions">

 <xs:sequence>

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

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

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

 </xs:sequence>

 </xs:complexType>

 <xs:simpleType name="PositioningServiceType">

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

 <xs:enumeration value="Immediate"></xs:enumeration>

 <xs:enumeration value="Periodic"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:simpleType name="PositioningPeriodicity">

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

 </xs:restriction>

 </xs:simpleType>

 <xs:complexType name="PositioningParameters">

 <xs:sequence>

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

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

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

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

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

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

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

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

 </xs:sequence>

 </xs:complexType>

 <xs:simpleType name="RequestedLocationType">

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

 <xs:enumeration value="CURRENT"></xs:enumeration>

 <xs:enumeration value="CURRENT\_OR\_LAST"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:simpleType name="RequestedResponseType">

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

 <xs:enumeration value="SYNC"></xs:enumeration>

 <xs:enumeration value="ASYNC"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:simpleType name="ResponseTimingRequired">

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

 <xs:enumeration value="NO\_DELAY"></xs:enumeration>

 <xs:enumeration value="LOW\_DELAY"></xs:enumeration>

 <xs:enumeration value="DELAY\_TOL"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:complexType name="NumberWithQOSClass">

 <xs:simpleContent>

 <xs:extension base="xs:nonNegativeInteger">

 <xs:attribute name="qos\_class" type="QOSClass"></xs:attribute>

 </xs:extension>

 </xs:simpleContent>

 </xs:complexType>

 <xs:simpleType name="QOSClass">

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

 <xs:enumeration value="ASSURED"></xs:enumeration>

 <xs:enumeration value="BEST\_EFFORT"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:simpleType name="EmptyElement">

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

 <xs:enumeration value=""></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:complexType name="LALSLTFProvisioningExtensions">

 <xs:sequence>

 <xs:element name="LILCSClientAddress" type="LILCSClientIPAddress"></xs:element>

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

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="LILCSClientIPAddress">

 <xs:sequence>

 <xs:choice>

 <xs:element name="IPv4Address" type="common:IPv4Address"/>

 <xs:element name="IPv6Address" type="common:IPv6Address"/>

 </xs:choice>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="PDHRReportingExtensions">

 <xs:sequence>

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

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="PDHType">

 <xs:choice>

 <xs:element name="PDHR" type="EmptyElement"></xs:element>

 <xs:element name="PDSR" type="PDSRParameters"></xs:element>

 </xs:choice>

 </xs:complexType>

 <xs:complexType name="PDSRParameters">

 <xs:sequence>

 <xs:element name="PDSRTriggerType" type="PDSRTriggerType" minOccurs="1" maxOccurs="unbounded"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="PDSRTriggerType">

 <xs:choice>

 <xs:element name="TimerExpiry" type="TimerExpiryInSeconds"></xs:element>

 <xs:element name="PacketCount" type="xs:nonNegativeInteger"></xs:element>

 <xs:element name="ByteCount" type="xs:nonNegativeInteger"></xs:element>

 </xs:choice>

 </xs:complexType>

 <xs:complexType name="SMSFProvisioningExtensions">

 <xs:sequence>

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

 </xs:sequence>

 </xs:complexType>

 <xs:simpleType name="TimerExpiryInSeconds">

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

 </xs:restriction>

 </xs:simpleType>

 <xs:complexType name="IdentifierAssociationExtensions">

 <xs:sequence>

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

 </xs:sequence>

 </xs:complexType>

 <xs:simpleType name="IdentifierAssociationEventsGenerated">

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

 <xs:enumeration value="IdentifierAssociation"></xs:enumeration>

 <xs:enumeration value="All"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:element name="IdentityAssociationTargetIdentifier" type="EmptyElement"></xs:element>

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

 <xs:complexType name="AKMATargetIdentifier">

 <xs:choice>

 <xs:element name="AKID" type="common:NAI"></xs:element>

 </xs:choice>

 </xs:complexType>

 <xs:element name="HR" type="EmptyElement"></xs:element>

 <xs:element name="IMSSignaling" type="EmptyElement"></xs:element>

 <xs:element name="HRLIT1TargetIdentifierExtensions" type="HRLIT1TargetIdentifierExtensions"></xs:element>

 <xs:complexType name="HRLIT1TargetIdentifierExtensions">

 <xs:sequence>

 <xs:element name="HRLIT1TargetIdentifier" type="HRLIT1TargetIdentifier" minOccurs="1" maxOccurs="unbounded"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="HRLIT1TargetIdentifier">

 <xs:choice>

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

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

 <xs:element name="IMSVoiceMedia" type="EmptyElement"></xs:element>

 </xs:choice>

 </xs:complexType>

 <xs:simpleType name="PDUSessionID">

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

 <xs:minInclusive value="0"/>

 <xs:maxInclusive value="255"/>

 </xs:restriction>

 </xs:simpleType>

 <xs:simpleType name="BearerID">

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

 <xs:minInclusive value="0"/>

 <xs:maxInclusive value="255"/>

 </xs:restriction>

 </xs:simpleType>

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

 <xs:complexType name="RCSTargetIdentifierExtensions">

 <xs:sequence>

 <xs:element name="RCSTargetIdentifier" type="RCSTargetIdentifier" minOccurs="1" maxOccurs="unbounded"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="RCSTargetIdentifier">

 <xs:choice>

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

 </xs:choice>

 </xs:complexType>

 <xs:simpleType name="RCSContentURI">

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

 </xs:simpleType>

 <xs:element name="IMST3TargetIdentifierExtensions" type="IMST3TargetIdentifierExtensions"></xs:element>

 <xs:complexType name="IMST3TargetIdentifierExtensions">

 <xs:sequence>

 <xs:element name="IMST3TargetIdentifierExtension" type="IMST3TargetIdentifierExtension" minOccurs="1" maxOccurs="unbounded"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="IMST3TargetIdentifierExtension">

 <xs:choice>

 <xs:element name="H248ContextID" type="H248ContextID"></xs:element>

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

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

 </xs:choice>

 </xs:complexType>

 <xs:simpleType name="PayloadDirectionAssignment">

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

 <xs:enumeration value="ToTarget"></xs:enumeration>

 <xs:enumeration value="FromTarget"></xs:enumeration>

 <xs:enumeration value="NotDetermined"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:simpleType name="H248ContextID">

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

 <xs:minInclusive value="1"></xs:minInclusive>

 <xs:maxInclusive value="4294967293"></xs:maxInclusive>

 </xs:restriction>

 </xs:simpleType>

 <xs:simpleType name="TriggerScope">

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

 <xs:enumeration value="Unidirectional"></xs:enumeration>

 <xs:enumeration value="Bidirectional"></xs:enumeration>

 </xs:restriction>

 </xs:simpleType>

 <xs:complexType name="SDP">

 <xs:sequence>

 <xs:element name="SDPData" type="SDPData" minOccurs="1" maxOccurs="unbounded"></xs:element>

 </xs:sequence>

 </xs:complexType>

 <xs:complexType name="SDPData">

 <xs:choice>

 <xs:element name="LocalSDP" type="SDPInfo"></xs:element>

 <xs:element name="RemoteSDP" type="SDPInfo"></xs:element>

 </xs:choice>

 </xs:complexType>

 <xs:simpleType name="SDPInfo">

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

 </xs:restriction>

 </xs:simpleType>

 <xs:complexType name="STIRSHAKENTargetProvisioningExtensions">

 <xs:sequence>

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

 </xs:sequence>

 </xs:complexType>

 <xs:simpleType name="ReportDiversionPASSporTInfo">

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

 </xs:restriction>

 </xs:simpleType>

</xs:schema>

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