

STIR/SHAKEN LI enhancements (provisioning)

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Background

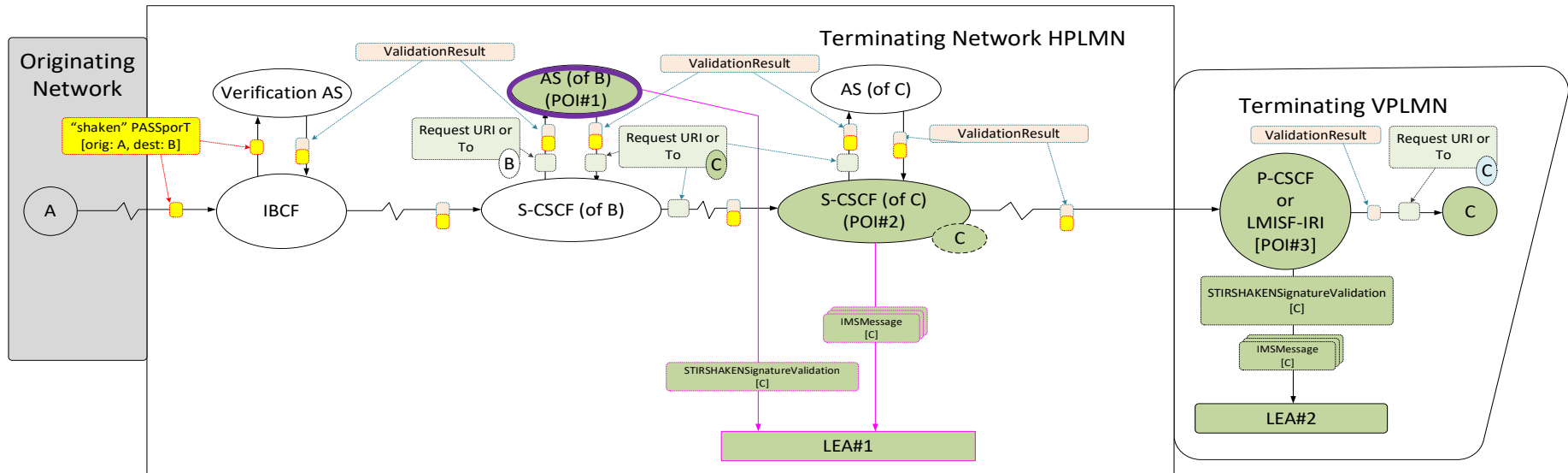
TS 33.128 (clause 7.11.1.1)

The LIPF uses the following logic to provision the IRI-POI present in the Telephony AS or IBCF for the reporting of signing and verification results:

- If signing of RCD is required in the network, then Telephony AS shall be provisioned for the reporting of RCD/eCNAM related signature.
- If the signing of intra-CSP sessions is required, then Telephony AS is provisioned for the reporting of STIR/SHAKEN related signature.
- If the signing of RCD is not required, then the IBCF shall be provisioned for the reporting of STIR/SHAKEN related signature.
- If verification of RCD is required in the network, then Telephony AS shall be provisioned.
- When signing applies only for inter-CSP SMS related to a destination only identified by a SIP address (i.e. MSISDN-less SMS), IBCF is provisioned.
- When verification applies only for inter-CSP MSISDN-less SMS, IBCF is provisioned.
- The LMISF-IRI or P-CSCF are provisioned.

NOTE: LMISF-IRI is considered Point of Interception of all SIP INVITE or SIP MESSAGE messages in which STIR/SHAKEN and RCD/eCNAM messages are available.

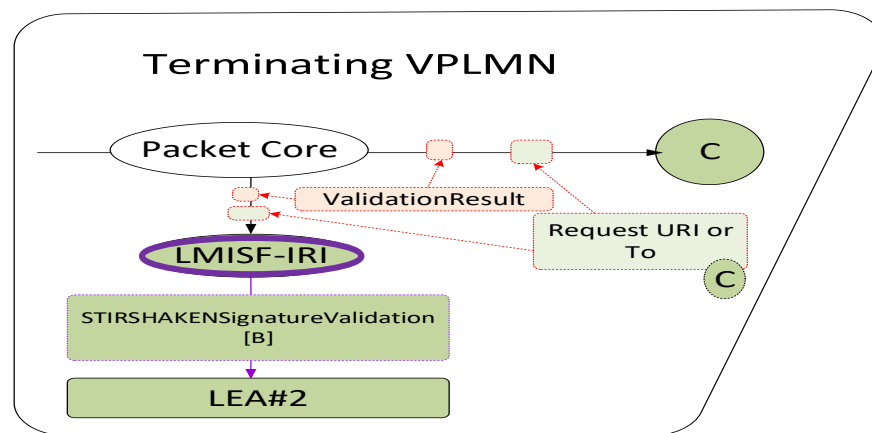
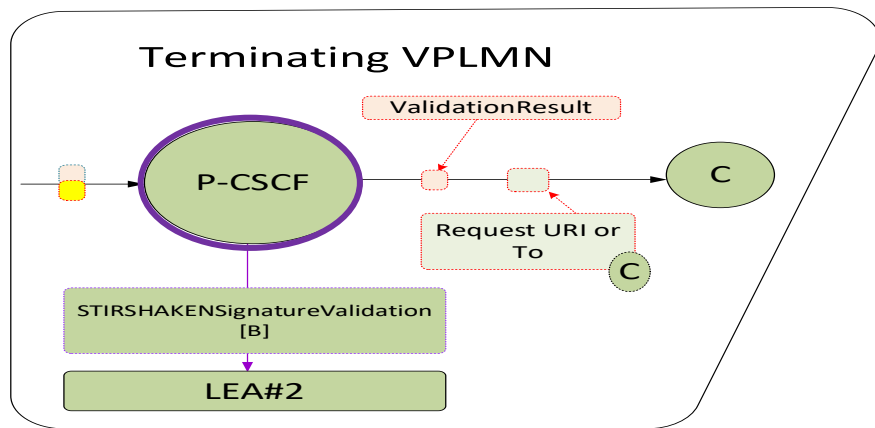
Intra-CSP calls are not signed/verified - IBCF interacts with the Verification AS, IRI-POI is at AS



The IRI-POI present in the Telephony AS shall also generate an xIRI containing a STIRSHAKENSignatureValidation record when it detects the following conditions:

- Session is redirected.
- Request URI header of outgoing SIP INVITE is a target identity.
- Validation result is included in the outgoing SIP INVITE with the possible the RCD data and the eCNAM data as Call-Info headers.

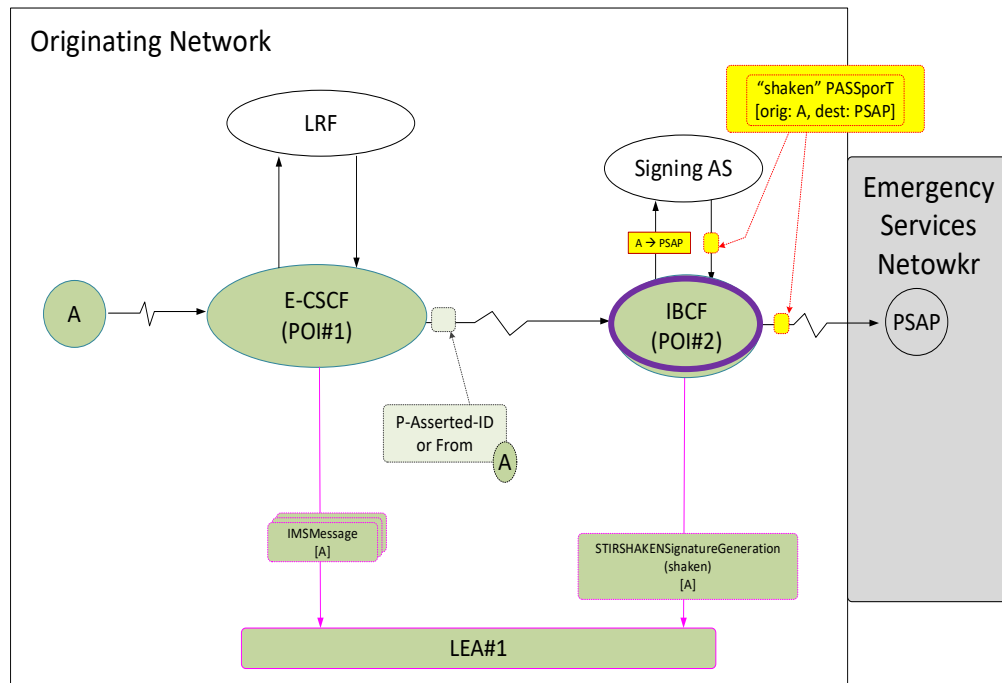
VPLMN – P-CSCF and LMISF-IRI



The IRI-POI present in the LMISF-IRI or P-CSCF (VPLMN) shall generate an xIRI containing a STIRSHAKENSignatureValidation record when the following conditions are met:

- With one or both of the following two are true:
 - Request URI or To header of SIP INVITE or SIP MESSAGE request sent to the UE is a target identity.
 - One or more of P-Asserted Identity, From, Diversion, History-Info Headers of SIP INVITE request sent to the UE is a target non-local identity.
 - One or more of P-Asserted Identity, From Headers of SIP MESSAGE request sent to the UE is a target non-local identity.
- SIP INVITE or SIP MESSAGE request sent to the UE includes SIP Call-Info headers containing possible RCD data or eCNAM data, and the result of the PASSporT verification.

Emergency call – always IBCF

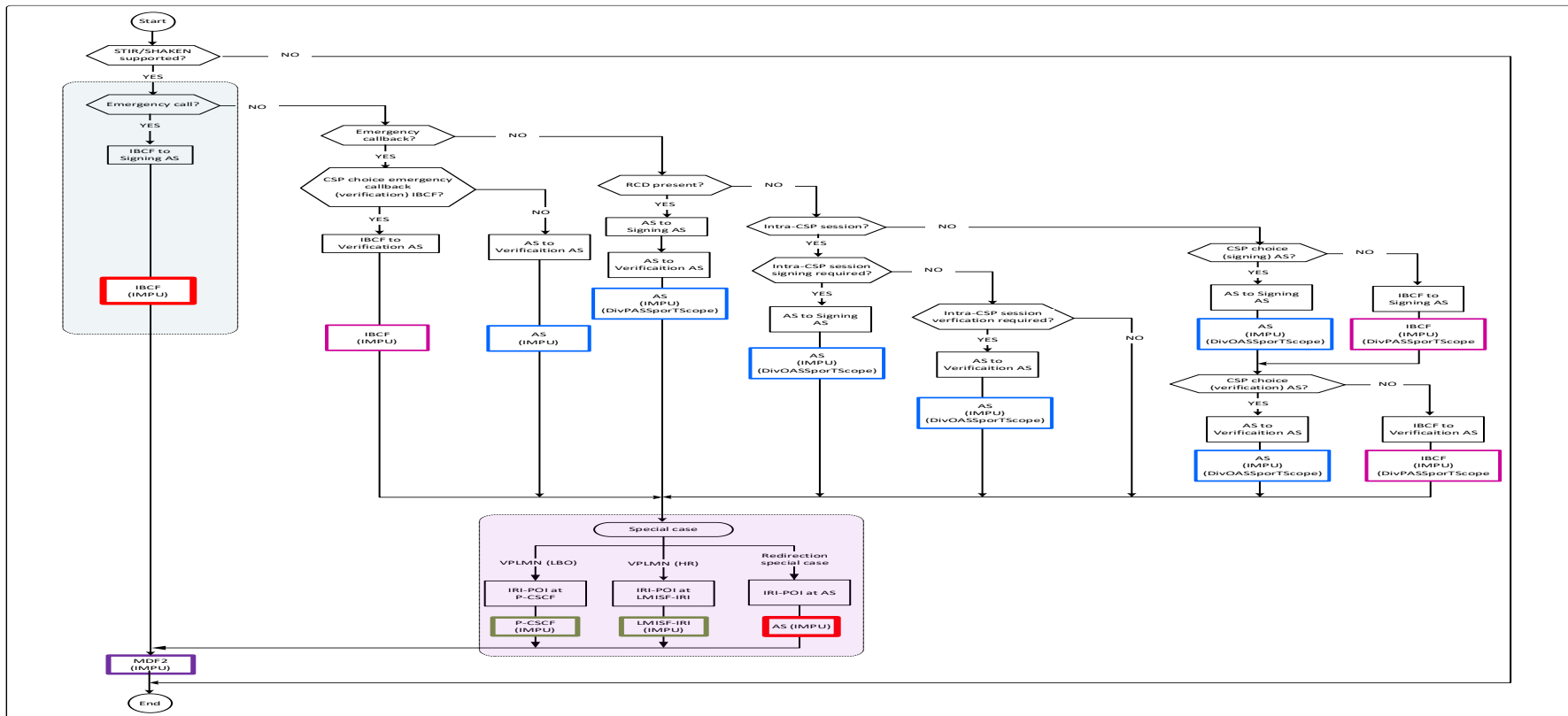


Telephony AS or IBCF is interacting with the SIGNING AS

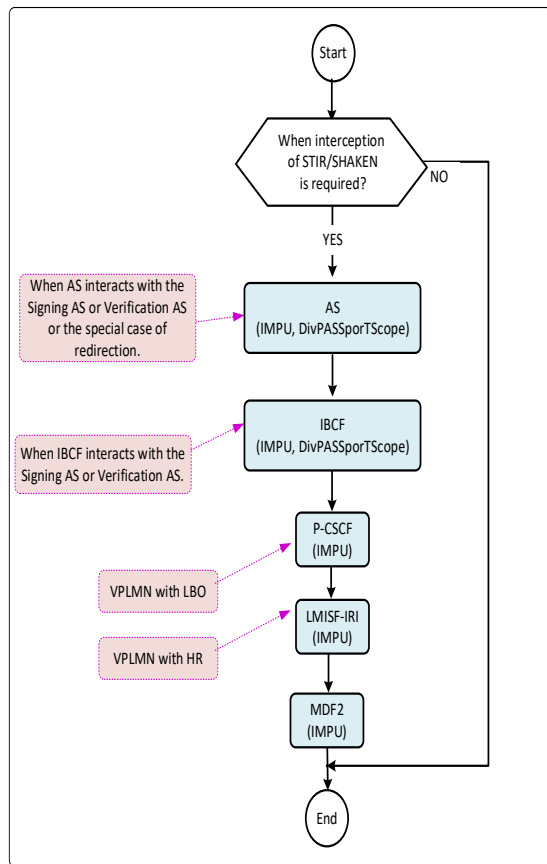
- When P-Asserted Identity or From header of SIP INVITE or SIP MESSAGE request received from S-CSCF is a target identity with the conditions mentioned below:
 - The identities in one or both of those headers are used to interact with the Signing AS.
 - The "shaken" PASSporT is not received in the SIP INVITE request from the S-CSCF.
 - The "shaken" PASSporT is received from the Signing AS.
 - The "shaken" PASSporT is included in the outgoing SIP INVITE or SIP MESSAGE.

Enhancements (Provisioning)

LIPF logic for LI provisioning



LIPF logic for LI provisioning



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.

NOTE: IRI-POI in P-CSCF is for LBO type of roaming and LMISF-IRI is for home-routed roaming when the PLMN becomes a VPLMN for a target's communications.

The LIPF uses the following logic to provision the IRI-POI present in the Telephony AS or IBCF for the reporting of signing and verification results:

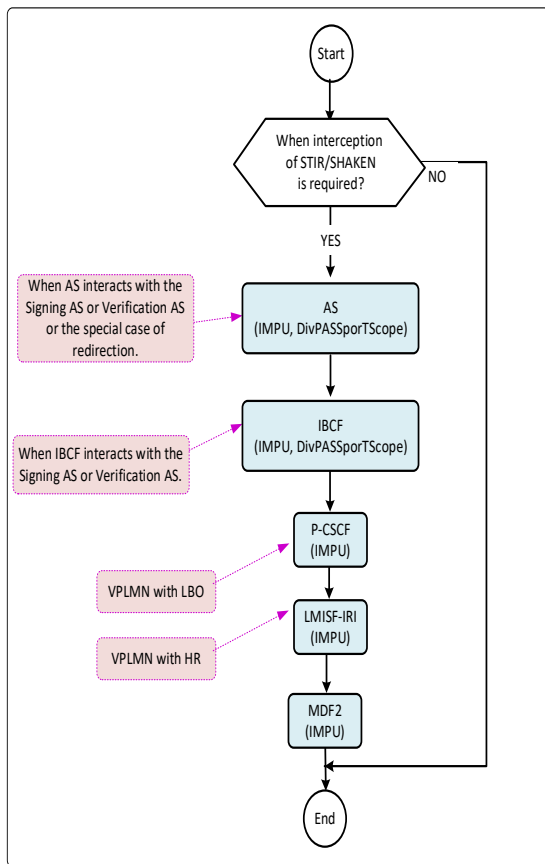
- If signing of RCD is required in the network, then Telephony AS shall be provisioned for the reporting of RCD/eCNAM-related signature.
- If the signing of intra-CSP sessions is required, then Telephony AS is provisioned for the reporting of STIR/SHAKEN-related signature.
- If the signing of RCD is not required, then the IBCF shall be provisioned for the reporting of STIR/SHAKEN-related signature.
- If verification of RCD is required in the network, then Telephony AS shall be provisioned.
- When signing applies only for inter-CSP SMS related to a destination only identified by a SIP address (i.e. MSISDN-less SMS), IBCF is provisioned.
- When verification applies only for inter-CSP MSISDN-less SMS, IBCF is provisioned.
- The LMISF-IRI or P-CSCF are provisioned.

NOTE: LMISF-IRI is considered Point-of-Interception of all SIP INVITE or SIP MESSAGE messages in which STIR/SHAKEN and RCD/eCNAM messages are available.

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 "DivPASSporT" 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.

LIPF logic for LI provisioning



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 “DivPASSporTScope” shall be included as part of ActivateTask message.

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
DivPASSporTScope	Indicates whether “div” PASSporT information of redirecting party (ies) when the IMS session is redirected later on the signaling path is to be reported. It shall be reported when set to “Yes” and it shall not be reported when set to “No”.	M

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