Intra-Network Flow (orig SHAKEN arch)

**KEY POINTS:**
- All originated calls are signed
- If call is Intra-network, the call is signed then immediately verified
  - Signing/verification is unnecessary
  - Signing is only required when handing off call to another network (trust domain)

Orig Proc: SIP-UA → P-CSCF → S-CSCF → I-CSCF → S-CSCF → P-CSCF → SIP-UA

Term Proc: Verstat available to UE or CVT (not shown)

All originating traffic sent for signing

Identity Header presence triggers verification

PAI verstat added; Identity removed

ATT PROPRIETARY
Intra-Network Flow (new arch)

Adds:
- Verstat=TN-Authentication-Passed (to PAI)
- P-Attestation-Indicator: A (full attestation)
- P-Origination-ID: <UUID>

KEY POINTS:
- Eliminates unnecessary signing and corresponding verification for intra-network calls
- All VoLTE/CVoIP originated calls have verstat and new P-Headers added, but are not automatically signed.
  - Verstat=TN-Authentication-Passed can be added at this point because the PAI is known to be good
  - Verstat is passed to UE or CVT logic (not shown)
- New P-headers are used when calls egress to another network

Identity Header not present; no verification performed – none required.

Verstat available to UE or CVT (not shown)
Inter-Network Flow (new arch) - origination

Add:
- Verstat=TN-Authentication-Passed (to PAI)
- P-Attestation-Indicator: A (full attestation)
- P-Origination-ID: <UUID>

I-SBC configured to initiate HTTP signing request for traffic destined to egress carriers supporting SHAKEN

Identity Header added; Always remove verstat

KEY POINTS:
- Signing (adding Identity header) only performed on egress to another carrier (trust domain)
- I-SBC enabled to perform signing request using HTTP Restful API
  - Signing is initiated based on reception of new P-headers and trigger on egress logical TG
- I-SBC always removes verstat (regardless of whether call is signed)
Inter-Network Flow – Signed Termination (no change)

KEY POINTS:
• Terminating inter-network flow not changed by proposed new architecture
• Verification of signed traffic triggered by presence of Identity header
Inter-Network Flow – Unsigned Termination (orig flow)

KEY POINTS:
• Original plan was to sign all unsigned traffic received from other carriers
  • Plan was to partially attest this traffic
  • Primary reason to sign was for traceback
• Signed traffic would have been immediately verified
Inter-Network Flow – Unsigned Termination (new flow)

For unsigned traffic received from other carrier, I-SBC:
- Adds P-Attestation-Indicator = (A, B, or C)
- Adds P-Orig-ID = ingress TG unique value
- Verstat (provisionable)

KEY POINTS:
- Unsigned traffic received from untrusted carrier is not signed by term network
- I-SBC does add:
  - Verstat (value is provisionable on ingress logical TG basis), to be used by terminating UE and/or CVT
  - New P-headers, in the event call is redirected out of the network and would then require signing