**ATIS IPNNI Task Force**

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**Denver, CO**

**Contribution**

**TITLE: Proposed Text for Section 4.3 Reference Architecture for SIP RPH Signing**

**SOURCE\*: Vencore Labs**

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**Abstract**

This contribution proposes text for Section 4.3 (Reference Architecture for SIP RPH Signing).

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1 Introduction

This contribution proposes text for Section 4.3 (Reference Architecture for SIP RPH Signing) of the baseline text.

2 Proposal

The following is proposed for Section 4.3:

## Reference Architecture for SIP RPH Signing

Editor’s Note: This section will provide a reference model for RPH Signing

The figure below shows the reference architecture for SIP RPH signing. This is a logical view of the architecture and does not mandate any particular deployment and/or implementation. For reference, this architecture is specifically based on the SHAKEN architecture defined in [ATIS-1000074] which is based on the 3GPP IMS architecture. Specifically, the diagram shows the NS/EP NGN-PS functional entities for SIP RPH signing overlaid on the SHAKEN architecture defined in [ATIS-1000074]. The diagram shows the two IMS instances that comprise the IMS half-call model; an originating IMS network hosted by Service Provider A, and a terminating IMS network hosted by Service Provider B.



The reference architecture includes the following elements:

**IMS Elements:**

* SIP User Agent (SIP UA) – This component represents the originating and terminating end points for an NS/EP NGN-PS session.
* IMS/Call Session Control Function (CSCF) – This component represents the SIP registrar and routing function. It also has a SIP application server interface.
* Session Border Controller – Interconnection (SBC-I) (Interconnection Border Control Function (IBCF)/Transition Gateway (TrGW) – This function is at the edge of the service provider network and represents the Network-to-Network Interface (NNI) or peering interconnection point between telephone service providers. It is the ingress and egress point for SIP calls between providers.

**SHAKEN Elements**

* Secure Telephone Identity Authentication Service (STI-AS) – Defined in [ATIS-1000074] for TN signing.
* Secure Telephone Identity Verification Service (STI-VS) – Defined in [ATIS-1000074] for TN signing.
* Call Validation Treatment (CVT) – Defined in [ATIS-1000074] for TN signing.
* Secure Key Store (SKS) – Defined in [ATIS-1000074] for TN signing.
* Certificate Provisioning Service – Defined in [ATIS-1000074] for TN signing.
* Secure Telephone Identity Certificate Repository (STI-CR) – Defined in [ATIS-1000074] for TN signing.

**NS/EP NGN-PS Elements**

* Telephone Application Server/NS/EP NGN-PS Application Server (TAS/NS/EP NGN-PS AS) – This element represents NS/EP NGN-PS processing and routing
* RPH Authentication Service (RPH-AS) – This element represents the logical authentication service for SIP RPH signing defined in [draft-ietf-stir-rph-06] (Note: the actual validation of the user device (i.e., for WPS) and user authentication (i.e., PIN) is part of the NS/EP NGN-PS process)
* RPH Validation Service (RPH-VS) - This element represents the logical verification service for SIP RPH signing defined in [draft-ietf-stir-rph-06].

The focus of this document is on the RPH-AS and RPH-VS functionality and the relevant SIP signaling and interfaces.

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