

Ribbon Secure Telephone Identity



Robocalling is on the rise and every single one of us feels the negative impacts of this problem. An important pre-condition to properly classifying robocalls is trust in the proffered calling identity. This is problematic as some robocalls may be spoofed calls wherein the call is made with a calling number that is not real/legitimate – it could be an unassigned number, another entity's inbound-only number, or another subscriber's number, to make it seem like it is coming from a legitimate source. This leads to more subscribers picking up the phone as it seems to come from a real source. There is a need to mitigate spoofed calls – irrespective of the fact that they may be harmless or harmful – because the mere act of spoofing the calling identity implies an intent to deceive.

By implementing the FCC/CRTC mandated STIR/SHAKEN framework and ARCEP mandated MAN program, it will be possible to significantly reduce the negative effect that spoofed calls have on subscribers and increase the chances of subscribers answering the calls.

STIR (Secure Telephony Identity Revisited) is the protocol standardized by Internet Engineering Task Force (IETF) and defines a signature to verify the calling number and specifies how it will be transported in SIP "on the wire". And SHAKEN (Signature-based Handling of Asserted information using toKENs) is the framework developed by Alliance for Telecommunications Industry Solutions (ATIS) to provide a STIR implementation profile for service providers.

Ribbon Secure Telephone Identity (STI) is a STIR/SHAKEN standards-compliant solution that enables service providers to authenticate the veracity of a calling line identity originating from their network or verifying the calling line identity of calls terminating to their network.

Ribbon STI is qualified to be inter-operable with STI-AS/VS from other vendors and is certified by the U.S. STI-PA (iconectiv) as an approved STI-AS/VS vendor.

For Service Providers in France, Ribbon STI also supports the adaptation of the STIR/SHAKEN model referred to as the Number Authentication Mechanism (MAN) program.

Ribbon STI Components

Ribbon STI includes the following components:

- Secure Telephone Identity – Authentication Server (STI-AS)
- Secure Telephone Identity – Verification Server (STI-VS)
- Service Provider – Key Management Service (SP-KMS)
- Secure Key Store (SKS)
- Secure Telephone Identity - Certificate Repository (STI-CR)

In France, the Public Database of Operator Certificates (BPCO) component of the MAN platform stores all STI public-key certificates signed by the certification authority (GCO) and makes them publicly accessible to STI Verification Services. So STI-CR component is not applicable for STI deployments in France.

Ribbon STI exposes ATIS 1000082-compliant HTTPS interface to VoIP and IMS network elements for authentication, signing and verification of calls. Ribbon STI can also be integrated with Ribbon's centralized policy and routing solution (PSX) to proxy SIP requests to HTTPS request for network elements that are unable to invoke ATIS 1000082-compliant HTTPS messages. Deploy STI with PSX for Call Validation Treatment (CVT) and configurable selection of: calls to be signed; Call Attestation Rules; and OrigID Values.

Ribbon STI is horizontally scalable, fully virtualized and cloud-native containerized solution with an active-active georedundant architecture, that can be deployed on any industry-standard server using KVM, VMware, or RHV.

Minimum Resource Requirements

- Application
 - Number of VMs: 2
 - vCPU for each VM: 4
 - vMemory for each VM: 16G
 - vHDD for each VM: 80G
 - vNIC for each VM: 1 (recommended 3)

Minimum Resource Requirements (continued)

- Database
 - Number of VMs: 3
 - vCPU for each VM: 2
 - vMemory for each VM: 8G
 - vHDD for each VM: 500G
 - vNIC for each VM: 1 (recommended 2)

Supported Protocols

- REST

Compliance

- IETF STIR standards
 - RFC 8224
 - RFC 8225
 - RFC 8226
 - RFC 8443
 - RFC 8588
- ATIS SHAKEN standards
 - ATIS-1000074-E
 - ATIS-1000078
 - ATIS-1000080-E
 - ATIS-1000082
 - ATIS-1000084-E
 - ATIS-1000085 for "div" PASSporT support
- 3GPP standards
 - 3GPP TS 24.229 (ISC and verstat)
- MAN (France) Program Standards
 - MAN Mode operateire Mecanisme de Confiance version 1.5.

Contact us to find out more about Ribbon Secure Telephone Identity 