Ribbon STI qualification on ATIS Testbed : Interoperability Note

Table of Contents

Copyright

Scope / Non-Goals

This is an interoperability Note - it is *not* intended to be a full Configuration Guide / Interoperability Guide.

It is an informational document that briefs on the interop achieved between Ribbon products & various third party products.

This document focuses on the feasibility aspects in providing a Ribbon interoperable solution instead of the actual configuration involved for the Ribbon and Third Party product(s).

Details of the test setup used will be included, along with full details of the Ribbon and Third party products, including details of any hardware and software versions used.

The document will also detail results of the interop, and any notes or caveats related to the interworking.

Audience

This read-out document is open for all telecom-aware professionals including Ribbon customers & partners. It provides high-level information of the interop solution provided.

Product and Device Details

The sample configuration uses the following equipment and software:

Table 1: Requirements

Product	Equipment	Software Version
Ribbon Communication	SBC Core	V09.02.00-R002
	PSX	V13.02.00-R000
	STI-AS/VS	V21.04-R000
Neustar	Neustar AS/VS	na

Network Topology Diagram

Interoperability Test Lab Topology

IOT high level architecture covering call flows & overall topology is depicted below.

Test Scenario 1
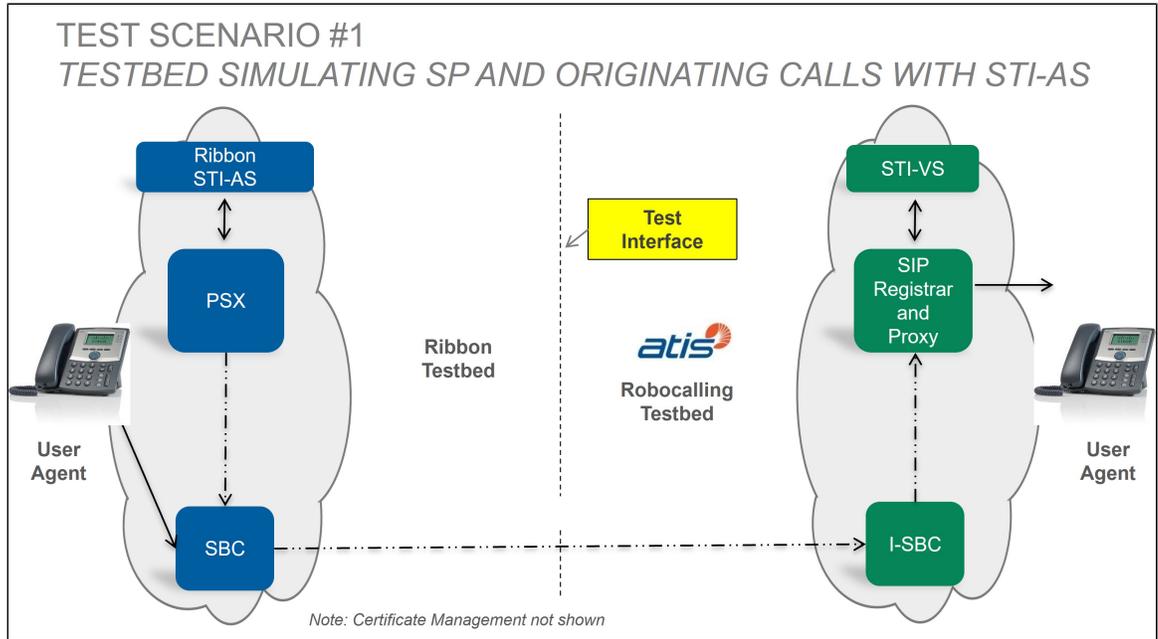
Test Scenario 2
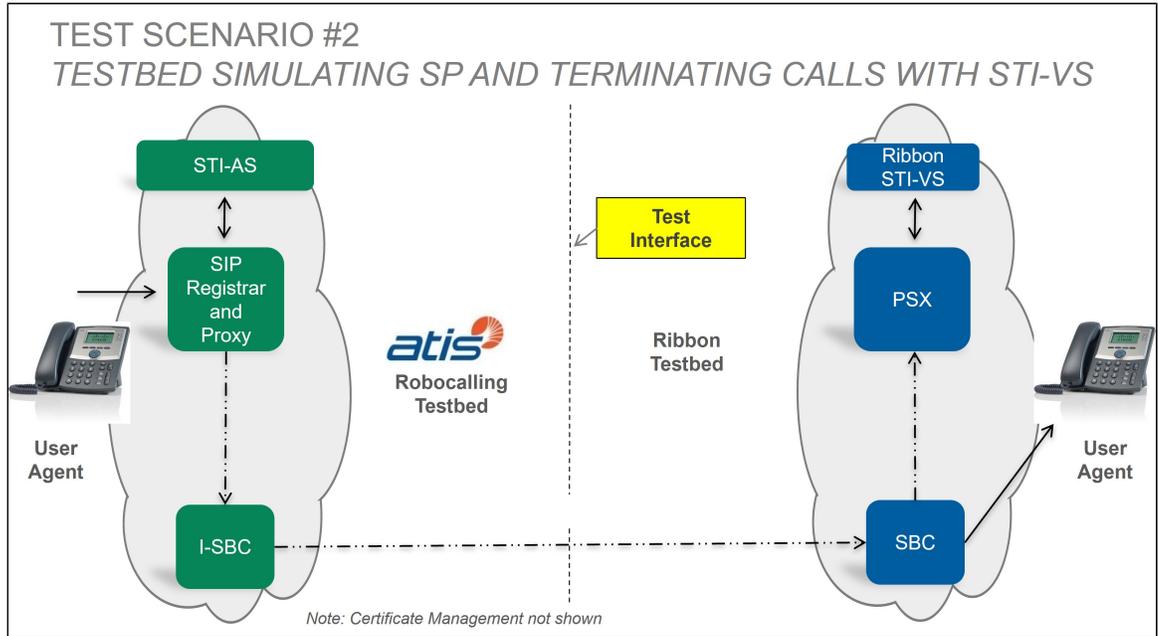
Interoperability Overview

This document discusses the testing aspects of Ribbon and ATIS Robocalling test bed. The ATIS Robocalling Testbed is intended to facilitate interoperability testing for the new ATIS/SIP Forum IP-NNI Task Force SHAKEN (Signature-based Handling of Asserted information using toKENs) framework.

This testbed environment helps in verifying industry implementations of the SHAKEN framework in a representative network configuration. Initial testing is intended to evolve and track with the SHAKEN test plan as currently being defined in the ATIS/SIP Forum IP-NNI Task Force (specifically, the "Secure Telephone Identity (STI) Protocol Test Plan", IPNNI-2018-00055R000).

In this interoperability testing SBC, PSX, and Ribbon STI products were used.

Call Flow

Two types of call flows were tested as part of this Proof of Concept (POC).

Test Scenario 1

Ribbon simulating the implementation of STI Authentication Service (STI-AS) and ATIS Testbed simulating the terminating service provider using its STI Verification Service (STI-VS).

In this test scenario,

- Calls originated from the phone comes to the Ribbon SBC and SBC sends the policy request to PSX.
- If the Trigger Criteria matches, PSX sends HTTPS request to the Ribbon STI-AS, and response from the STI-AS contains the Signing information. This is sent to the SBC in policy response.
- This signed call is sent to the ATIS Robocalling testbed via the SBC.
- ATIS in turn will validate the call using the Neustar STI-VS and if validation is success, then call is terminated successfully on the phones connected.

Test Scenario 2

ATIS Testbed simulating originating SP using its STI Authentication Service (STI-AS) and Ribbon simulating the implementation of STI Verification Service (STI-VS).

In this test scenario,

- Call is originated from the ATIS testbed which sends the Signed INVITE to Ribbon SBC where policy request is sent to PSX.
- If the Trigger Criteria matches, PSX sends HTTPS request to the Ribbon STI-VS, and response from the STI-VS contains the Verification information. This is sent to the SBC in policy response.
- If the call is successfully verified from Ribbon STI-VS, then call is terminated successfully on the phones connected.

In both the test scenarios, if there are any errors in Signing or Verification, call should be disconnected with appropriate errors as defined in the standard.

Highlights

1. SBC sends the diameter request to PSX.
2. Configure the PSX to trigger the HTTPS request to Ribbon STI-AS/VS server as per the wiki Ribbon - ATIS Neustar Interop Guide for STIR /SHAKEN Testing
3. Signing response from Ribbon STI-AS or Verification response from Ribbon STI-VS should be sent to the SBC in the diameter response.

4. Based on Signing or Verification response, SBC should continue or tear down the calls.

ⓘ   For information regarding SBC Core configuration, refer to the product documentation on SBC Core Documentation

Supplementary Services & Features Coverage

The following checklist depicts the set of services/features covered through the configuration defined in this Interop Guide.

Sr.No.	Supplementary Features/Services	Coverage
1	Basic Registration over UDP	✗
2	Basic Call Setup	✓
3	Basic Call Termination	✓

Legend

✓	Supported
✗	Not Supported
N/A	Not Applicable

Support

For any support related queries about this guide, please contact your local Ribbon representative, or use the details below:

- Sales and Support: 1-833-742-2661
- Other Queries: 1-877-412-8867
- Website: https://ribboncommunications.com/services/ribbon-support-portal

References

For detailed information about Ribbon products and solutions, please visit: https://ribboncommunications.com/products

For detailed information about ATIS Robocalling testbed, please visit: https://www.home.neustar/atis-testbed/index.php

Conclusion

This Interoperability Note describes a successful configuration covering ATIS Robocalling interop with the SBC Core. All the necessary features and serviceability aspects stand covered as per the details provided in this interoperability document.