Robocall Summit:
Progress Report on the ATIS Robocalling Testbed

Ken Politz
December 4, 2018
AGENDA

1. What is the ATIS Robocalling Testbed?
2. Testbed process and participation status
3. Potential future areas for testing
4. How to register and participate?
Formally launched in February 2017 to promote SHAKEN framework industry testing and broad adoption

Virtualized industry test platform to help service providers, suppliers and third parties verify implementations of ATIS SHAKEN framework for interoperability

Neustar partnered with ATIS to exclusively operate Testbed:

- Physical lab environment to support remote testing
- Lab support resources
- Applicable documentation to support testing
- Dedicated e-mail for Technical Support requests

Supports testing per ATIS/SIP Forum IP-NNI Task Force “Secure Telephone Identity (STI) Protocol Test Plan” (IPNNI-2018-00055) and joint standard, “SHAKEN” (ATIS-1000074)

Provides non-preferential participant access

Open to both ATIS members and qualified non-ATIS members

Supports scheduled testing 9:00 AM – 5:00 PM Eastern Time, Monday through Friday
TESTBED SCOPE AND SHAKEN FRAMEWORK ARCHITECTURE

1. Secure Telephone Identity-Governance Authority (STI-GA) not shown
2. STI-Policy Administrator (STI-PA)
3. STI-Certification Authority (STI-CA)
4. STI-Certificate Repository (STI-CR)
5. Secure Key Store (SKS)
6. STI-Authentication Service (STI-AS)
7. STI-Verification Service (STI-VS)
8. Service Provider-Key Management Server (SP-KMS)
9. Call Validation Treatment (CVT)

Figure 7.1 from ATIS-1000084
SUMMARY OF TESTBED CAPABILITIES

**Call Authentication and Verification**
- Authentication Service (STI-AS) instance
- Verification Service (STI-VS) instance
- Both accessed via documented REST APIs or SIP Proxy

**Certification Authority**
- EJBCA instance (e.g., signing and storing certificates from Certificate Signing Requests, including “TN Authorization List” certificate extension)
- Integrated with STI-AS instance above through SP-KMS and supports any STI-VS as a public STI-CR

**Access and Network infrastructure**
- Phones
- Asterisk PBXs (SIP Registrars and Proxies)
- Oracle/Acme SBCs (simulating inter-carrier connectivity)
- Access Firewall (public Internet, whitelisting IPs)
TYPICAL TEST SCENARIO #1
TESTBED SIMULATING SP AND ORIGINATING CALLS WITH STI-AS

STI-AS

SIP Registrar and Proxy

STI-VS

SIP Registrar and Proxy

Service Provider (SP) Testbed Participant

Test Interface

User Agent

I-SBC

Robocalling Testbed

I-SBC

User Agent

Note: Certificate Management not shown
TYPICAL TEST SCENARIO #2
TESTBED SIMULATING SP AND TERMINATING CALLS WITH STI-VS

- **STI-AS**
- **SIP Registrar**
- **Proxy**
- **STI-VS**
- **SIP Registrar**
- **Proxy**
- **I-SBC**
- **Test Interface**

User Agent

Service Provider (SP) Testbed Participant

Robocalling Testbed

(Optional)

Note: Certificate Management not shown

©2018 ATIS and Neustar, Inc. All rights reserved.
1. Participant registers by signing two (prerequisite) documents
2. Neustar shares latest version of “ATIS Robocalling Testbed Connectivity Guidelines”
3. Neustar schedules and hosts testing kickoff call for review of test scenarios
4. Neustar drafts and posts detailed test plan document to private Participant folder managed through Neustar’s implementation of the “Box” secure file sharing and collaboration application
5. Neustar further provides Participant access to separate, shared “Box” folder that contains all approved and anonymized “Test Results Summary” documents to date
6. Neustar and Participant schedule date and time to conduct testing (typically via Webex)
7. Neustar ensures that Testbed environment is properly configured in advance of testing
8. On completion (which usually takes several sessions), collectively complete detailed test plan document with traces and results for their own use and mutually agreed to summary of testing. The approved and anonymized Test Results Summary document is then published as .PDF file to shared folder referenced above
TESTING PARTICIPATION STATUS: SIPNOC 2017

20 Registered Test Participants

Testing Status

- 4 Completed
- 4 In-progress/Pending
TESTING PARTICIPATION STATUS: SIPNOC 2018

37 Registered Test Participants

- 85% increase in Registrations
- 188% increase in Testing activity

Testing Status
- 14 Completed
- 9 In-progress/Pending

Testing participation rate: 54%
Testing mix:
- 65% Vendors
- 35% Service Providers
POTENTIAL FUTURE AREAS FOR TESTING

1. Certificate management interoperability, including STI-CA(s) (with “TN Authorization List” extension through Testbed SP-KMS (before and after STI-PA established)

2. PASSporT extensions beyond “shaken”

3. Ongoing standards compliance for STI-AS and STI-VS (e.g., expected errata)

4. Other?
   a. Multi-Participant testing (see next Slide)
   b. Industry display considerations (landline and mobile)
   c. Industry CVT considerations

Figure 7.1 from ATIS-1000084
WHY PARTICIPATE?

Key Benefits:

Test (and re-test) against de facto “reference” implementation before testing in service provider labs

Industry interoperability through ATIS-developed test plan

Verify error-handling functionality through automated tool scripts (e.g., invalid certificates)

Industry feedback – share/discuss/resolve issues identified during testing

Remote access to virtual lab through uniform set of access, connectivity and configuration profiles

No cost testbed solution for ATIS and qualified non-ATIS members through at least 1Q 2019
Engage on-line at: https://www.neustar.biz/atis-testbed/index.php

Review, sign and return following two prerequisite documents:

- ATIS Confidentiality Agreement
- Neustar Robocalling Testbed Use Policy

- Review “ATIS Robocalling Testbed Overview” presentation

Request and review “ATIS Robocalling Testbed Connectivity Guidelines”

- Illustrates representative test scenarios
- Identifies technical information that a participant needs to provide for testbed access
- Provides technical information that a participant needs to configure and test
- Provides information on how an ATIS member “observes” testing

Engage through Technical Support link (robocall-testbed-support@neustar.biz)

Note: No scheduled testing will take place during holiday period of 12/17 through 1/4/19
Neustar, Inc. is a leading global information services provider driving the connected world forward with responsible identity resolution. As a company built on a foundation of Privacy by Design, Neustar is depended upon by the world’s largest corporations to help grow, guard and guide their businesses with the most complete understanding of how to connect people, places and things. Neustar’s unique, accurate and real-time identity system, continuously corroborated through billions of transactions, empowers critical decisions across our clients’ enterprise needs. More information is available at https://www.communications.neustar/.

Visit our table to meet Krishna and Rama.

Enter into the raffle to win an Apple Home Pod!