

ATIS Robocalling Testbed Overview

January 16, 2020



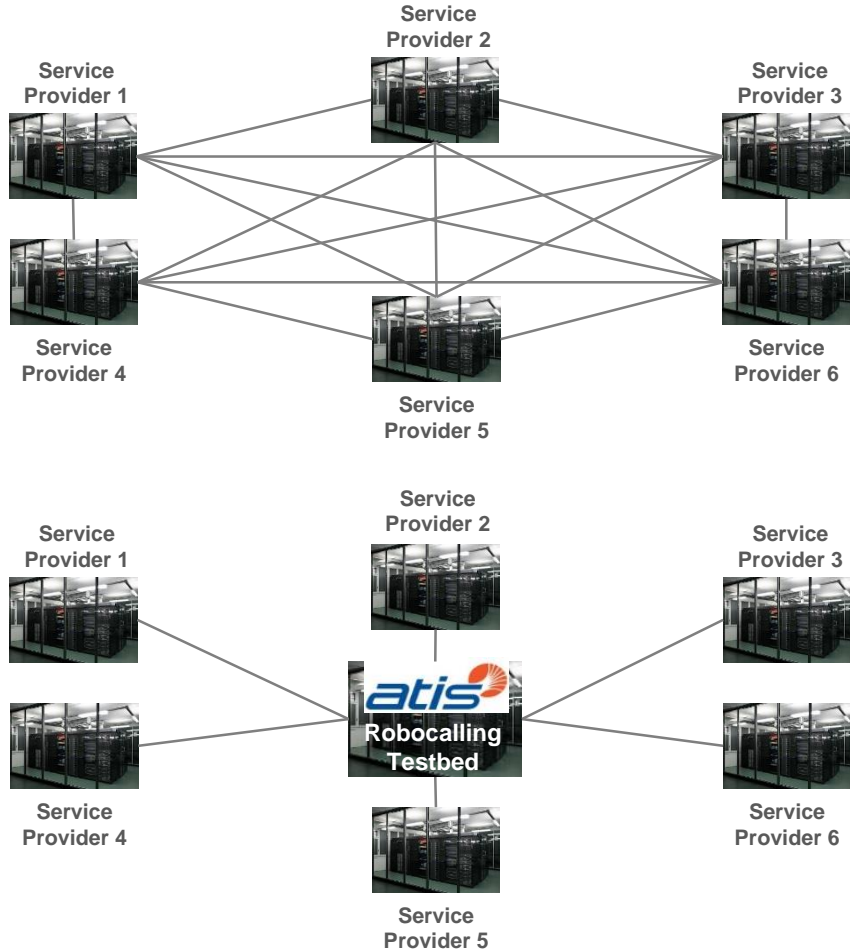
AGENDA

- What is the ATIS Robocalling Testbed?
- Why participate in the Testbed?
- How do you participate?

WHAT IS THE ATIS ROBOCALLING TESTBED?

- Initially established in response to ATIS task from Robocall Strike Force Report (10/26/2016) and as an outgrowth of work underway at the ATIS Testbeds Focus Group
- Virtualized industry test platform to help service providers, suppliers and third parties verify implementations of new ATIS SHAKEN framework
- Support 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-E)
- Provide non-preferential participant access
- Open to both ATIS members and qualified non-ATIS members
- Support scheduled testing 9:00 AM – 5:00 PM Eastern Time, Monday through Friday
- Testbed operated by Neustar:
 - ❑ Physical lab environment to support remote testing
 - ❑ Lab support resources
 - ❑ Applicable documentation to support testing
 - ❑ Dedicated e-mail for Technical Support requests

WHY PARTICIPATE IN THE ATIS ROBOCALLING TESTBED?



Key Benefits:

- Test (and re-test) against an emerging 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 1Q 2020

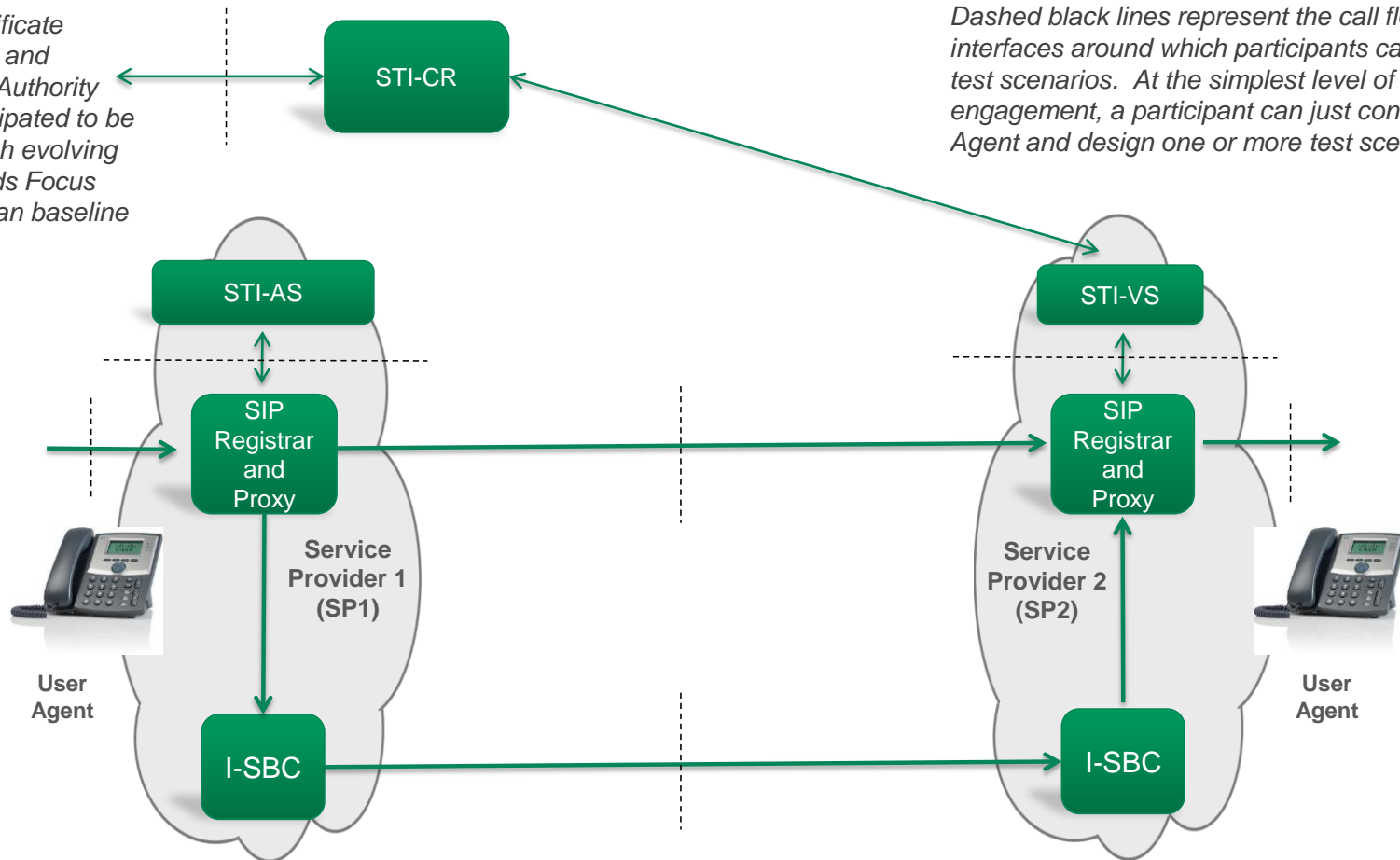
HOW TO PARTICIPATE IN THE ATIS ROBOCALLING TESTBED?

- Engage on-line at: <https://www.home.neustar/atis-testbed/index.php>
- Review, sign and return following two prerequisite documents:
 - ❑ ATIS Confidentiality Agreement
 - ❑ Neustar Robocalling Testbed Use Policy
- 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 (RobocallTestBedSupport@team.neustar)

ATIS ROBOCALLING TESTBED SNAPSHOT

Broader Certificate Management and Governance Authority aspects anticipated to be added through evolving ATIS Testbeds Focus Group test plan baseline document

Dashed black lines represent the call flow interfaces around which participants can design test scenarios. At the simplest level of engagement, a participant can just connect a User Agent and design one or more test scenarios.



CURRENT ATIS ROBOCALLING TESTBED CAPABILITIES

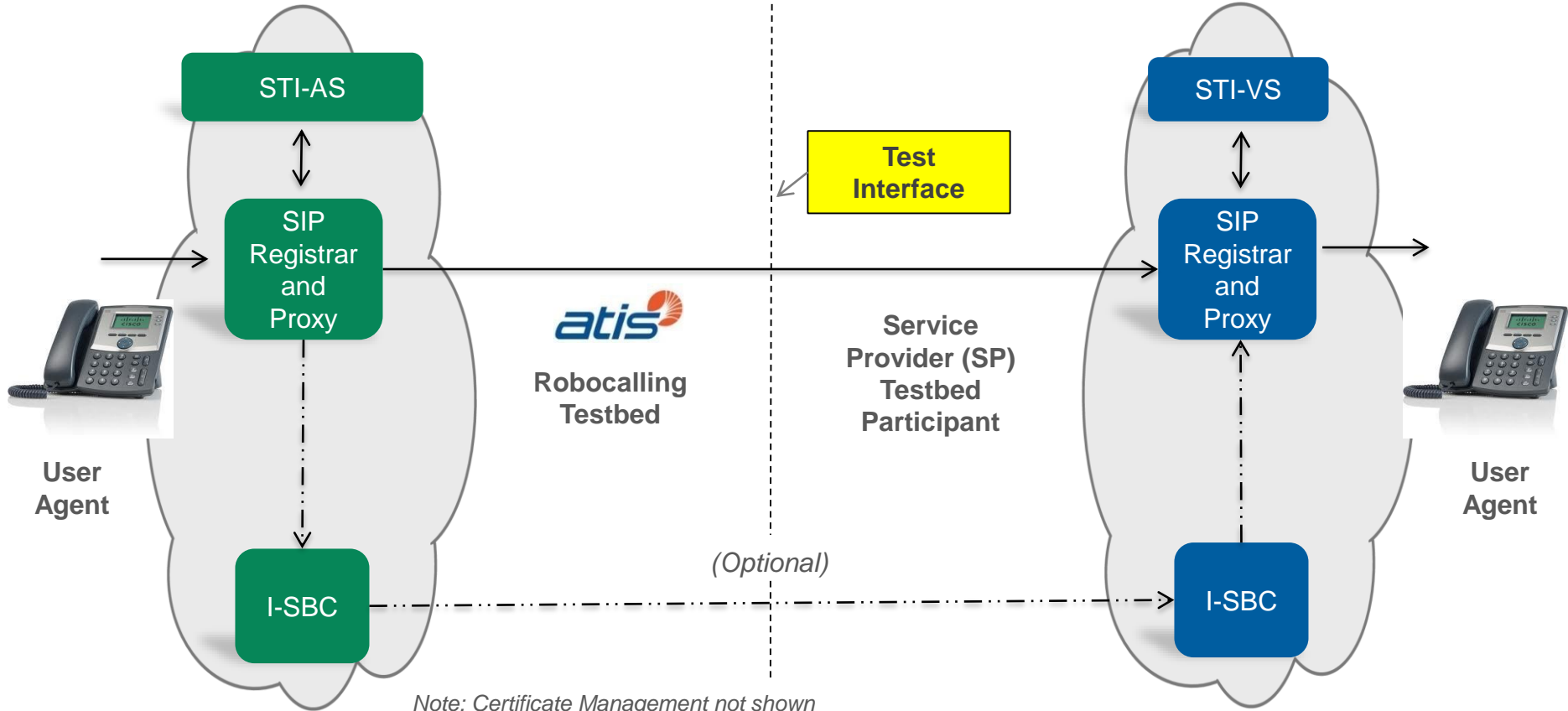
- **Caller Authentication and Verification**
 - ❑ Authentication Service (STI-AS) instance per evolving standards
 - ❑ Verification Service (STI-VS) instance per evolving standards
 - ❑ Both accessed via documented REST APIs or SIP Proxy
- **Certificate Authority**
 - ❑ EJBCA instance (e.g., signing and storing certificates from Certificate Signing Requests)
 - ❑ Integrated with STI-AS instance above and supports any STI-VS as a public certificate repository (STI-CR)
- **Access and Network infrastructure**
 - ❑ Phones
 - ❑ Asterisk and FreeSWITCH PBXs (SIP Registrars and Proxies)
 - ❑ Oracle/Acme SBCs (simulating inter-carrier connectivity)
 - ❑ Access Firewall (public Internet, whitelisting IPs)

CURRENT ATIS ROBOCALLING TESTBED FOCUS

- Validate SHAKEN implementation and cross-provider interoperability
- Focus entails:
 - Correct implementation of SHAKEN functions:
 - ✓ Authentication Service – generate PASSporT token and SIP Identity header
 - ✓ Insert and correctly transport SIP Identity header in signalling
 - ✓ Verification Service – correctly remove and process PASSporT token
 - Proper error handling of STI-AS and STI-VS, as injected by Testbed, including defined SIP response codes and reason phrases:
 - ✓ Malformed Identity header or PASSporT token
 - ✓ Expired STI certificate
 - ✓ Invalid STI certificate

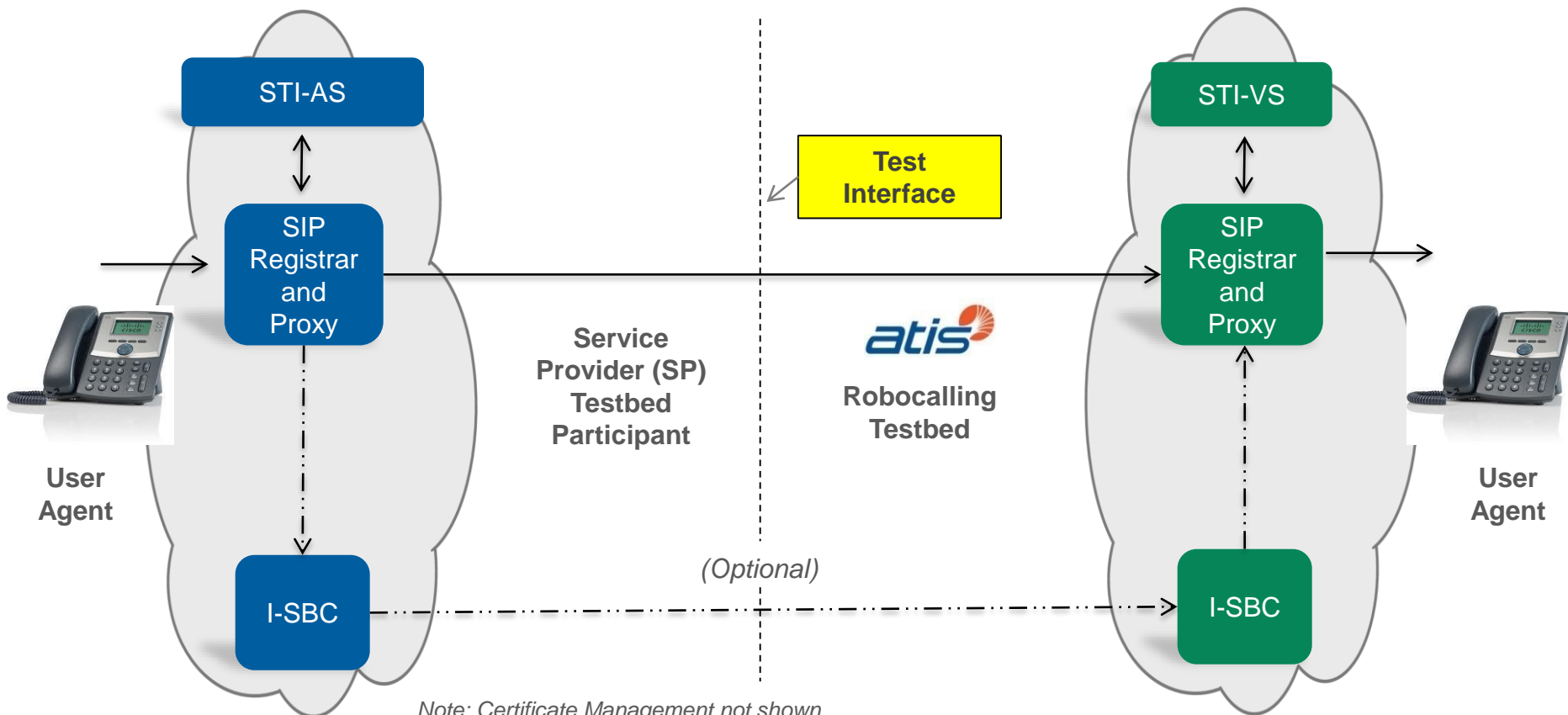
TEST SCENARIO #1

TESTBED SIMULATING SP AND ORIGINATING CALLS WITH STI-AS



TEST SCENARIO #2

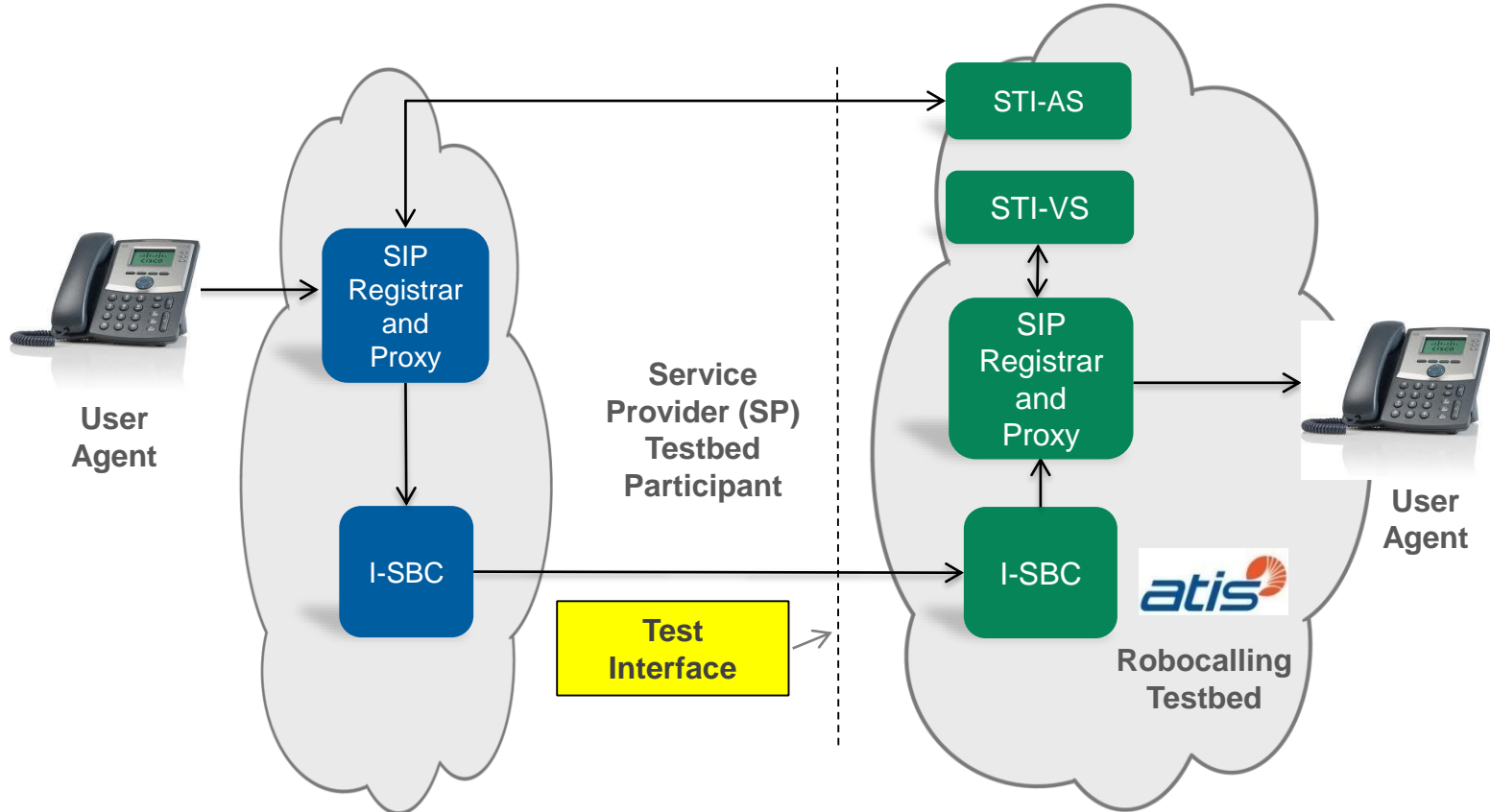
TESTBED SIMULATING SP AND TERMINATING CALLS WITH STI-VS



Note: Certificate Management not shown

TEST SCENARIO #3

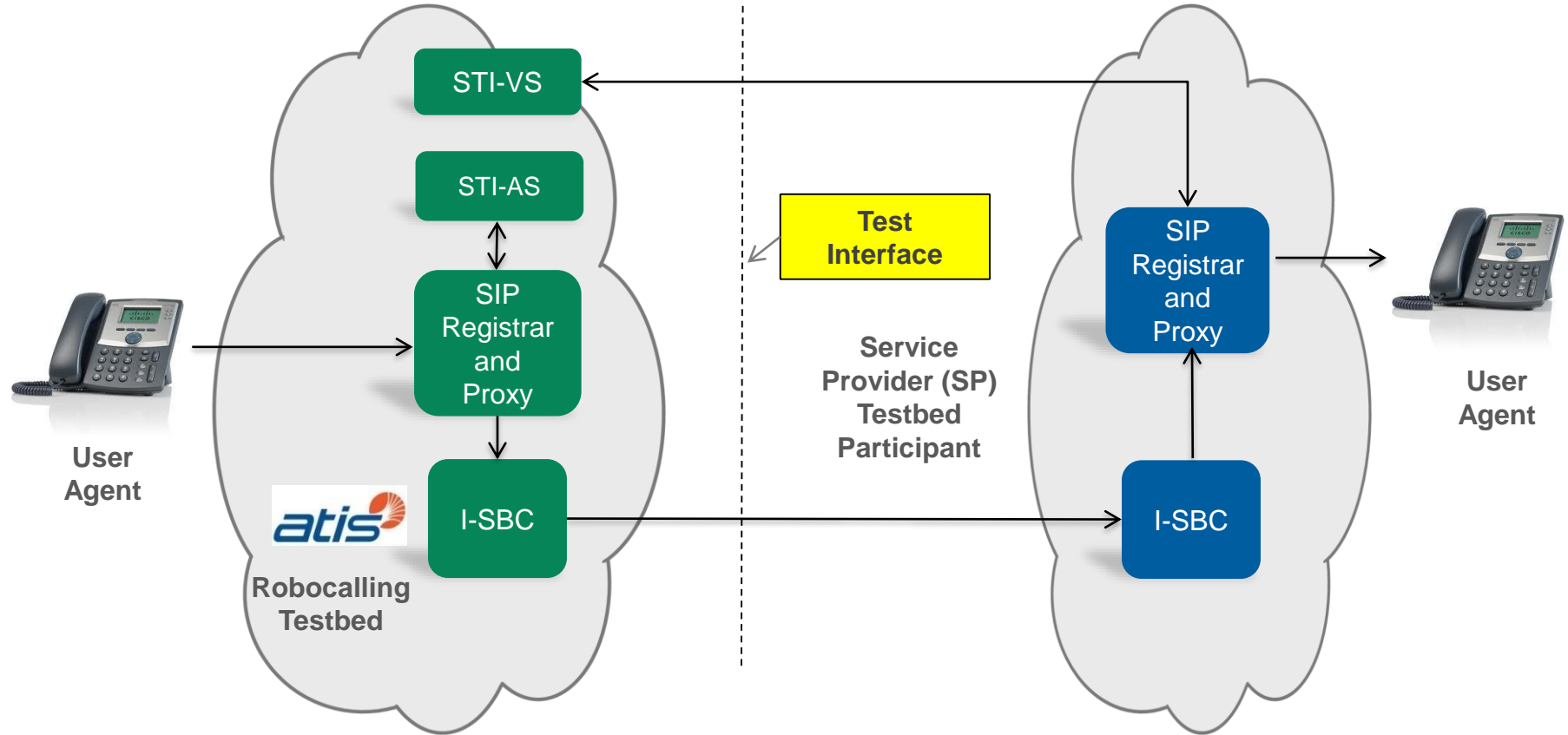
TESTBED PROVIDING STI-AS AND TERMINATING CALLS WITH STI-VS



Note: Certificate Management not shown

TEST SCENARIO #4

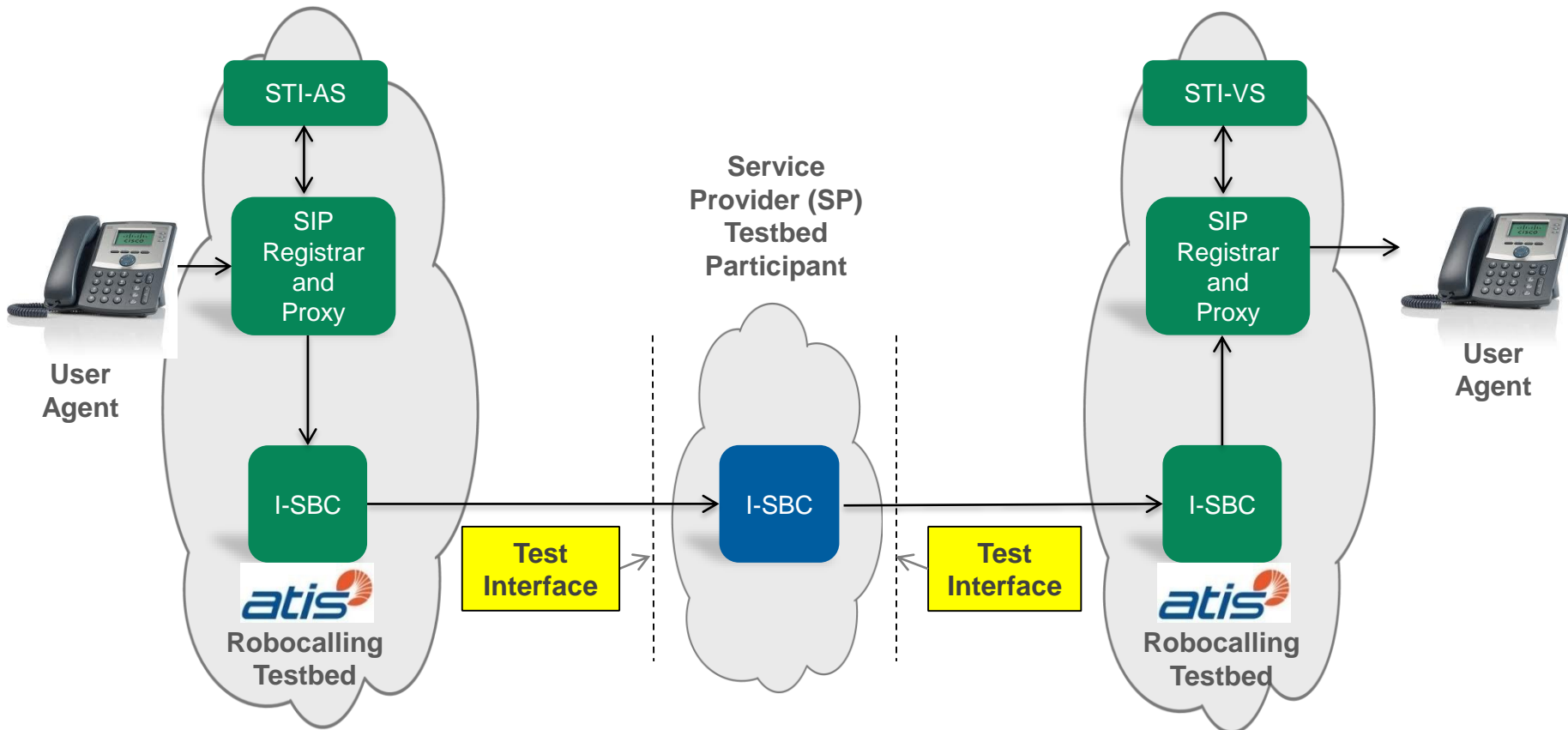
TESTBED ORIGINATING CALLS WITH STI-AS AND PROVIDING STI-VS



Note: Certificate Management not shown

TEST SCENARIO #5

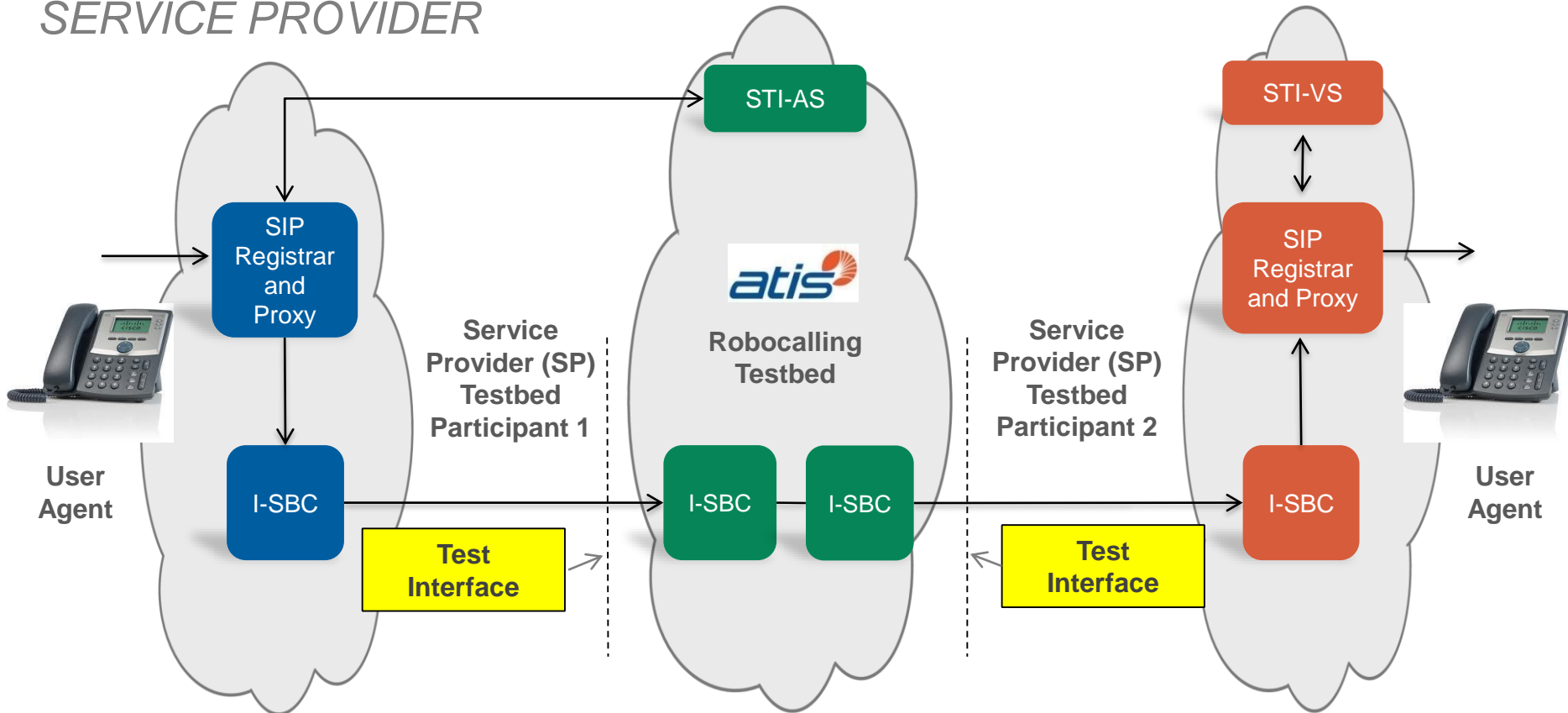
PARTICIPANT SIMULATING A TRANSIT SERVICE PROVIDER



Note: Certificate Management not shown

TEST SCENARIO #6

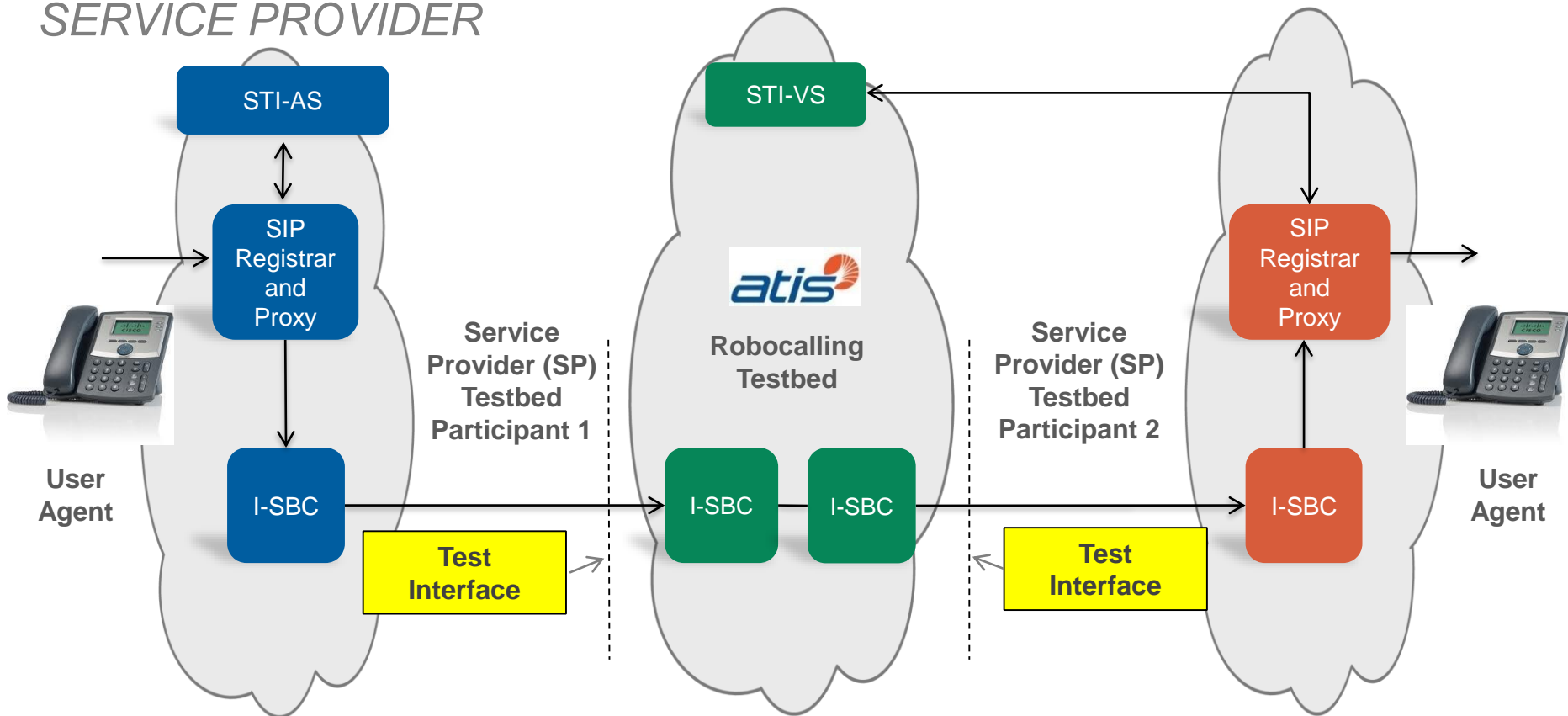
TESTBED PROVIDING STI-AS AND SIMULATING A TRANSIT SERVICE PROVIDER



Note: Certificate Management not shown

TEST SCENARIO #7

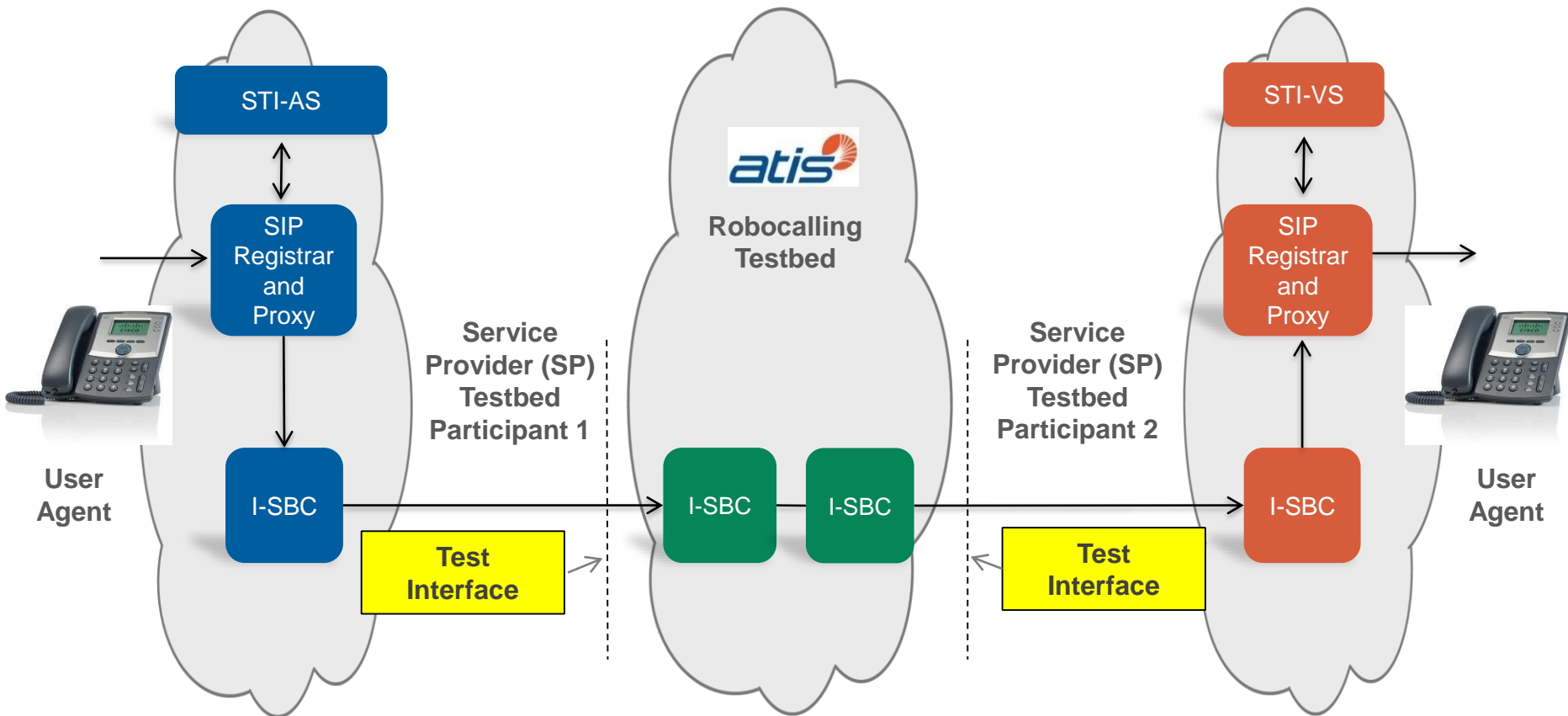
TESTBED PROVIDING STI-VS AND SIMULATING A TRANSIT SERVICE PROVIDER



Note: Certificate Management not shown

TEST SCENARIO #8

TESTBED SIMULATING A TRANSIT SERVICE PROVIDER



Note: Certificate Management not shown

TEST RESULTS

- All test results protected under the ATIS Testbeds Focus Group NDA
- An anonymized test results summary may be drafted (if drafted, always reviewed by participant before publishing for those signing NDA)
- Anonymized and aggregated results across participants may be published by ATIS
- Participants can test implementations through the ATIS Robocalling Testbed to ensure interoperability and facilitate preparation of aggregate test results
- Bilateral testing outside of ATIS Robocalling Testbed is also possible and will be included in the overall results (assuming it is conducted under the Testbeds Focus Group NDA and in accordance with Testbed test plan)

SUMMARY

- ATIS Robocalling Testbed initially launched as outgrowth of work underway at the ATIS Testbeds Focus Group and Robocall Strike Force to promote SHAKEN framework industry testing and broad adoption
- Neustar partnered with ATIS to operate Testbed in support of ATIS and non-ATIS member participants
- Future “STI Test Plan” development will be through ATIS-SIP Forum NNI Task Force (IPNNI-2018-00055)
- Requesting and encouraging your support and participation
- For further questions, please contact Brent Struthers