Checklist for Implementing STIR/SHAKEN in the United States

As mandated by the federal TRACED Act (signed into law on Dec 31, 2019) and FCC Report and Order 20-42, all IP-based originating and terminating carriers are mandated to implement STIR/SHAKEN by June 30, 2021. STIR/SHAKEN is an industry-defined framework and standards designed to apply security and digital certificates to phone calls, similar to web transactions. STIR/SHAKEN is intended to combat call spoofing by verifying caller identity.

The checklist below is a guide to the prerequisites and the steps necessary to participate and implement STIR/SHAKEN so you can mitigate the effects of call spoofing and restore your customer's trust in the phone call.

Prerequisites

1. **2020 FCC 499-A Form** – Form 499-A is an annual reporting worksheet used to determine required contributions to the Universal Service Fund. Network operators must have an up-to-date 499-A form on file with the FCC to participate in STIR/SHAKEN.

2. **Valid OCN** – An Operating Company Number (OCN) is the 4-character identification assigned to every North American phone company by the National Exchange Carrier Association (NECA). An OCN is required to obtain a "token" in a STIR/SHAKEN implementation.

3. **Certified with FCC** – A voice service provider is required to have certified with the FCC that they have implemented STIR/SHAKEN or comply with the Robocall Mitigation Program requirements and are listed in the FCC database.

4. **Access to U.S. Telephone Numbers** – This requirement is in place until June 30, 2021. Network operators must have direct access to telephone numbers from the North American Numbering Plan Administrator (NANPA) and/or the National Pooling Administrator to participate in STIR/SHAKEN. Service Providers that have obtained SPC tokens under the initial SPC token Access Policy must meet the revised criteria within 30 days of the FCC certification filing deadline. Any such previously authorized service provider that has not certified with the FCC by July 30, 2021, risks having its SPC token revoked.

Establishing Your Participation in STIR/SHAKEN

5. **Register with the STI Policy Administrator (STI-PA)** – To participate in STIR/SHAKEN, network operators must register with the STI Policy Administrator. The STI-PA verifies the identity of the network operator to ensure they are eligible to participate. In the US, the STI-PA is iconectiv®. For more detailed information, iconectiv has published a document (STI-PA-US-METHO PROCSP-001) detailing the methods and procedures associated with the registration process. Ribbon is an STI-PA (iconectiv) approved Authentication Server and Verification Server (AS/VS) vendor. Network operators deploying Ribbon's STI solution within their network can directly get on-boarded to the STI-PA's production environment without first having to pass test cases in the STI-PA staging environment.

6. **Obtain a SPC Token** – Network operators need to request a Service Provider Code (SPC) Token from the STI-PA for one of its assigned Operating Company Numbers (OCNs). The token includes the network operator's OCN and/or Service Provider Identifier (SPID) and enables them to then request a certificate.

7. **Select an STI Certification Authority (STI-CA)** – Network operators must select which STI Certification Authority they will work with in order to request certificates. The STI-CA ensures requestors of certificates are eligible and that their credentials are validated with the STI-PA. Ribbon is an STI-PA approved Certificate Authority fulfilling this role. For reference, a list of the approved STI-CA, maintained by iconectiv can be found [here](#).

8. **Request a Certificate from the STI-CA** – To be able to digitally authenticate and sign calls, a network operator must obtain a certificate from an approved STI-CA. To request a certificate, the network operators sends a certificate signing request (CSR) to their selected STI-CA with its associated SPC token. A network operator can use Ribbon's Key Management Server (SP-KMS), to generate the private key and to fetch corresponding signed STI public-key certificate from the Ribbon STI-CA.

Implementation and Testing

9. **Implement STIR/SHAKEN** – For a network operator to participate in STIR/SHAKEN, they will need to be able to interwork their VoIP-enabled network elements with the core Secure Telephone Identity (STI) functions. A network operator may choose to deploy their own STI solution or interwork with a 3rd party who provides STI as a hosted service.

    a) **For Ribbon customers.**
    - Ribbon provides specific software in its session border controllers, centralized policy server, gateways, and call controllers to interwork with a STIR/SHAKEN STI solution
    - Ribbon has a complete STI solution which can be deployed within a network operator's network
    - Ribbon also offers STIR/SHAKEN as a Service providing the same complete STI solution as a cloud-hosted service. When a network operator subscribes to S/SaaS, Ribbon will on-board the network operator. Then the network operator will be able to provision their STIR/SHAKEN service and generate signing keys using Ribbon's SP-KMS..

    b) **For non-Ribbon customers** – Please check with your vendor of session border controllers, policy servers, gateways, or call controllers regarding software required to interwork with an STI solution. Just like Ribbon customers, non-Ribbon customers can choose to outsource the STI functions to Ribbon through the purchase of STIR/SHAKEN as a Service.

10. **Update FCC Robocall Mitigation Database** – If the existing entry for your company in the FCC RMD indicated that you had implemented an originating robocall mitigation program, please update it to indicate you now have implemented STIR/SHAKEN.

11. **Perform Internal Testing** – It is important that network operators test originating and terminating calls in a lab environment before deploying in a live network. Ensuring proper system configuration will avoid live network problems. If a network operator purchases Ribbon's S/SaaS, Ribbon will provide a staging environment which the customer can use for this initial testing.

12. **Network Testing** – Once verified within a lab environment, it is equally important to test calls originating and terminating within your own network as well as the hand-off of calls with interconnected networks. Ribbon's STI-AS/VS solution is qualified on the Alliance for Telecommunications Industry Solutions (ATIS) Robocall Testbed, which is an interop facility for this purpose as well as direct testing with existing interconnect partners. If a network operator purchases Ribbon's STI solution, then they may skip the network testing with other network operators.

13. **Go Live – Congratulations**

Ongoing Operations

14. **Ongoing Operations** – As with any new product or service implementation, it is important to ensure robust, efficient, and cost effective network operations. Ongoing service monitoring is needed to maximize the benefits of STIR/SHAKEN so you can mitigate call spoofing in your network.

Contact us to find out how our STIR SHAKEN Solutions can help your customers ➡

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