

# STIR/SHAKEN - A Compliance Guide

This document is intended as a STIR/SHAKEN compliance guide for Communication Service Providers (CSPs). It outlines the steps that need to be completed by a provider to be issued a STIR token and then what's involved in deploying a STIR/SHAKEN compliant service.

## Background

In December 2019, then President Trump signed into law the Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence Act (TRACED Act), which requires major telecom service providers to implement STIR/SHAKEN in the Internet Protocol (IP) portions of their networks by June 30th., 2021. In September 2020, the FCC further implemented Congressional direction and adopted more rules to ensure that even those providers unable to implement STIR/SHAKEN right away are still taking steps to protect their customers from illegal robocalls.

As the June 30, 2021 STIR/SHAKEN implementation deadline approaches, the FCC will require that all providers certify in a newly created public database that they have fully implemented STIR/SHAKEN, or have instituted a robocall mitigation program to ensure that they are not originating illegal robocalls. All providers will be required to submit to the database the contact information for the personnel at their company responsible for robocall-mitigation-related issues.

Those providers who certify their implementation of a robocall mitigation program will be required to include descriptions of the reasonable steps they are taking to avoid originating illegal robocall traffic. Also, because the STIR/SHAKEN framework is only operational on IP networks, Commission rules also require providers using older forms of network technology to either upgrade their networks to IP or actively work to develop a caller ID authentication solution that is operational on non-IP networks.

It is our understanding that most mobile wireless providers, ILECs, and some CLECS will meet the June 30, 2021 deadline. Many smaller CLECs and VoIP providers with less than 100,000 lines may not attempt to meet this deadline but rather work towards the June 30, 2023 deadline. In our opinion, this may not be a wise strategy for the following reasons:

- The FCC has mandated that any carrier requesting an exception to the June 30, 2021 deadline must file a RoboCall Mitigation Plan with the FCC prior to this deadline.
- If a provider is not in compliance, their calls may be blocked by providers who are in compliance.
- Calls by those not in compliance, may not be answered by the intended recipients due to the lack of information being provided in the call header.

There's an enormous amount of pressure on the FCC to do more to take action to reduce robocalling and fraudulent calls so the situation is fluid. Just recently the FCC voted to shorten the deadline to June 30, 2022 for some smaller providers who are generating a large volume of calls - [more information here](#). It's wise to monitor the evolving landscape on the [FCC website](#).



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## How Do I Get Started to be STIR/SHAKEN Compliant?

There are a number of steps that must be completed before you can utilize one of the STIR/SHAKEN service providers so that you can be compliant. Unfortunately, these steps may be complicated and take some time - plan on around 180 days.

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### Simplifying The Not-So-Simple Steps To Implement STIR/SHAKEN

1. File a 499A with the FCC
2. Obtain an Operating Company Number (OCN)
3. Apply for Numbering Authority with the FCC
4. Complete STI-PA Plan with Policy Administrator
5. Obtain a certificate from a Certificate Authority such as Sansay
6. Implement with the Complete Sansay STIR/SHAKEN Service

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### Prerequisites

You must first apply to the STI-PA ([iconnectiv](#)) who issues the STIR Token. To do this you will need:

- **A current 499A** that must show that you are either:
  - ➔ CAP/CLEC
  - ➔ An integrated VoIP provider, or
  - ➔ Cellular, PCS, SMR wireless telephone provider.
- **OCN (Operator Company Number)** which is a 4-character identification assigned to every North American phone company by the National Exchange Carrier Association (NECA). If you don't have one, you must obtain one from NECA. If your 499A identifies you as an Integrated VoIP provider, and you don't have an OCN, you must file with the FCC for IPES (Internet Protocol Edge Services) designation.
- **Proof of access to U.S. Telephone Numbers** via CPCN (Certificate of Public Convenience and Necessity), your CLEC certificate, or proof of direct access to numbers from NANPA/NPA.

If you don't currently have an OCN and you are a VoIP provider, getting one can be time-consuming and complex. Sansay can connect you with experts to guide you through the process.

## Implementation

Sansay can guide you through these steps and complete most of them for you. So you understand what's involved, we've outlined what is required and what we'll be doing on your behalf.

Once your STIR Token request is approved, you will receive an email containing the temporary password and links to the STI-PA login page. Next;

- Login and change the password.
- Accept the Account Level Agreement and service provider Annual Fee Agreement to activate the account.
- Once the account is activated users can be assigned, contact information can be updated, and the PA can be notified of any revoked certificates.

At this stage, the STI-PA will vet your application and send you a request for additional information which must be completed.

We will next go through a Readiness Evaluation Test Plan within the PA staging environment. Once we have completed this test plan and the Readiness Evaluation Test, we will submit the results to the PA Administrator. If results are accepted, we will receive login instructions for the Production environment.

If you have selected Sansay as your STI-CA, we are one of only six companies with this designation, we will then provide proof to the STI-PA of our agreement, and then they can whitelist our IPs and url.

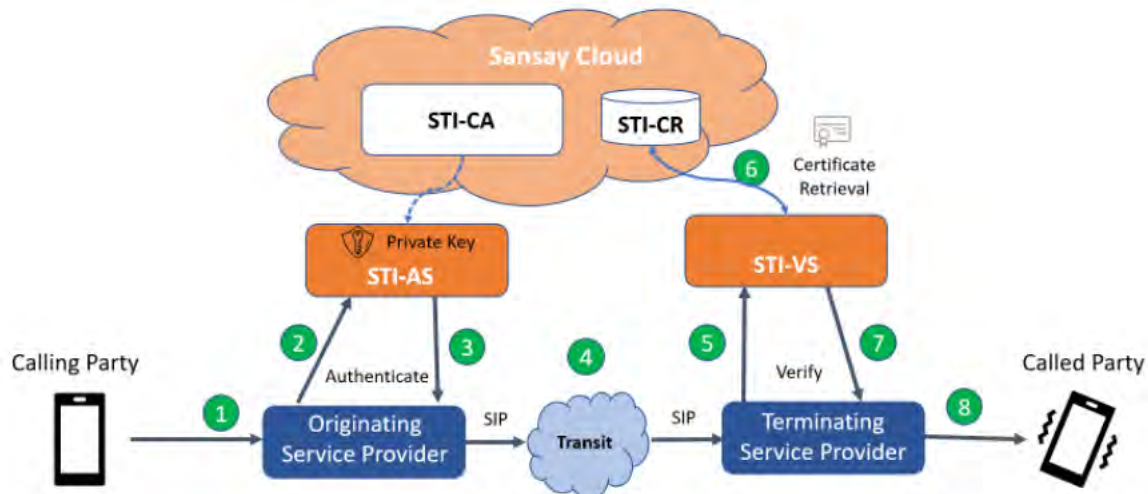
Now we can begin the production phase of the implementation.

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## Production Phase

Here's what the call flow looks like once you have received your STIR Token and successfully completed testing by being cleared by the STI-PA, we can move to production. The illustration shows the call flow for your new STIR/SHAKEN service.

- Authentication Service (STI-AS) which provides the originating service provider's SBC with call authentication - the STIR/SHAKEN signature.



- Verification Service (STI-VS) provides the terminating service provider with call verification to verify the legitimacy of the signature.
- Repository (STI-CR) - provides originating service providers with certificate hosting that terminating service providers use for call verification.
- Certificate Authority (STI-CA) - provides the originating service providers with STIR/SHAKEN certificates to sign calls.



## Frequently Asked Questions

- **What is the FCC requiring of service providers and what are the deadlines:**
  - ➔ All providers must register with the newly established Robocall Mitigation Database by June 30, 2021.
  - ➔ Use STIR/SHAKEN or a Robocall Mitigation Program on every call originated with U.S. NANP (North American Number Plan) calling numbers,
  - ➔ File a Robocall Mitigation Certification with the FCC,
  - ➔ Block calls with U.S. NANP calling numbers from providers that don't have a Robocall Mitigation Certification on file from September 28, 2021.
- **What is the FCC's Robocall Mitigation Database?**
  - ➔ The FCC's Robocall Mitigation Database (RMD) was launched in mid-April 2021. This database will be used for voice service providers to document their efforts to control the origination of illegal robocalls on their networks.
  - ➔ The RMD's submission asks for information regarding the implementation of the STIR/SHAKEN caller ID authentication framework and/or a robocall mitigation program.
- **What are the deadlines for the STIR/SHAKEN FCC requirements:**
  - ➔ Most service providers are required to implement the STIR/SHAKEN framework by June 30, 2021. Small service providers, with 100,000 or fewer subscriber lines, have until June 30, 2022 (originally 2023).
  - ➔ By September 30, 2021, intermediate and terminating voice service providers are prohibited from accepting calls from any provider that has not filed a certificate.
- **If I'm a small service provider, is there a benefit to meeting deploying STIR/SHAKEN before the deadline?**
  - ➔ Your customers will be happier once you have deployed the service. If you haven't deployed STIR/SHAKEN, other carriers may block your customers' calls from completing, and the intended recipient of the call will be less likely to answer the call.
- **If you have deployed STIR/SHAKEN, do you also need to implement robocall mitigation and what does need to include?**
  - ➔ If you have deployed STIR/SHAKEN you can submit the FCC Robocall Mitigation Certification indicating that you have a full STIR/SHAKEN solution in place. An additional robocall mitigation program is optional and not required.
  - ➔ The mitigation plan must include detailed practices that can reasonably be expected to significantly reduce the origination of illegal robocalls.

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## Frequently Asked Questions

- **What is required for a Robocall Mitigation Certification?**
  - ➔ Certification that traffic is either fully, partially, or not yet signed with STIR/SHAKEN.
  - ➔ Certification that some or all calls originated are subject to a robocall mitigation program including steps that are being taken to avoid originating illegal robocalls, and a commitment to respond to traceback requests and to cooperate with investigating and stopping illegal robocalls.
  - ➔ Certifications, identification information, and contact information must be submitted via a portal on the Commission’s website at [https://fccprod.servicenowservices.com/rmd?id=rmd\\_welcome](https://fccprod.servicenowservices.com/rmd?id=rmd_welcome).
- **Am I required to respond to Industry Traceback Group (ITG) requests for tracebacks?**
  - ➔ In late 2020, the FCC formally endorsed a mandatory traceback requirement, stating that all “voice service providers are now legally required to respond to traceback requests” from the ITG.
  - ➔ Providers do not need to register with the ITG but must respond to their traceback requests.
- **What happens if I don’t implement STIR/SHAKEN?**
  - ➔ Likely loss of revenue and unhappy customers. If you are not providing an STI token in the SIP header, other carriers may block the call from completing, and the intended recipient of the call will be less likely to answer the call.
  - ➔ If you don’t qualify for the extension, you may be subject to FCC fines and penalties.
- **What are the Attestation levels that STIR/SHAKEN enables and what do they mean?**
  - ➔ STIR/SHAKEN will identify calls from trusted and separate those from those that aren’t trusted. It enables service providers to attest how trusted a caller is.
  - ➔ There are three possible attestation Levels:

Attestation Level	Known Customer	Telephone Number Known
Full (A)	✓	✓
Partial (B)	✓	✗
Gateway (C)	✗	✗

- ▶ **“A” Attestation** - Indicates that the service provider knows the identity of the calling party, and that the calling party is known to have the right to use the calling telephone number. An “A” attestation indicates to the terminating service provider that the received caller ID can be fully trusted.
- ▶ **“B” Attestation** - Indicates that the service provider knows the identity of the calling party, but does not have direct knowledge of the calling party’s right to use the presented caller ID. Therefore, the terminating service provider cannot present this call to the recipient as “trusted”. While a “B” attestation is not valuable to the call recipient, it is of value to the terminating service provider, particularly if they want to trace a call back to its source.
- ▶ **“C” Attestation** - This states that the service provider does not know the identity of the calling party and has no knowledge of their right to use the presented calling telephone number.

## Frequently Asked Questions

- **What is the role of the OrigID?**
  - ➔ It is an important element of maintaining a trusted network. It can be used to trace back calls to their originating service provider. If, for instance, a service provider is assigning a "A" Attestation to calls that are fraudulent, the OrigID can be used to determine the service provider and possibly the originator of the call.
  - ➔ The minimum requirement of an OrigID is that it must be a UUID (Universally Unique Identifier) that identifies the service provider, but it can be more granular to include the call originator. Providers who are passing fraudulent calls and aren't including the identity of the caller in their OrigID, may find itself excluded from STIR/SHAKEN until they can resolve issues with the STI-PA.
- **If I am a foreign service provider do I need to take action?**
  - ➔ The FCC has declared that on and after September 28, 2021 "intermediate providers and voice service providers will be prohibited from accepting calls directly from a voice service provider, including a foreign voice service provider that uses North American Numbering Plan resources that pertain to the United States to send voice traffic to residential or business subscribers in the United States, if that voice service provider's filing does not appear in the Robocall Mitigation Database".
  - ➔ If you are a foreign service provider that uses US NANP DIDs/calling numbers you must file a registration in the RMD.

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## Important Terms and Definitions

- **STIR/SHAKEN** - Is a framework of interconnected standards and is an acronym for the Secure Telephone Identity Revisited (STIR) and Signature-based Handling of Asserted Information Using toKENS (SHAKEN) standards. This means that calls traveling through interconnected phone networks would have their caller ID "signed" as legitimate by originating carriers and validated by other carriers before reaching consumers. STIR/SHAKEN digitally validates the handoff of phone calls passing through the complex web of networks, allowing the phone company of the consumer receiving the call to verify that a call is in fact from the number displayed on Caller ID. More information is available on the FCC website - [Combating Spoofed Robocalls with Caller ID Authentication | Federal Communications Commission \(fcc.gov\)](#).
- **ATIS** - Alliance for Telecommunications Industry Solutions
  - ➔ ATIS's 150 member companies are currently addressing illegal robocall mitigation, 5G, Smart Cities, artificial intelligence-enabled networks, distributed ledger/blockchain technology, cybersecurity, IoT, emergency services, quality of service, billing support, and operations.
  - ➔ Reports to FCC with advice on technical standards and implementation operations.
- **STI-GA** - Secure Telephone Identity Governance Authority
  - ➔ The STI-GA defines the rules governing the certificate management infrastructure to ensure the effective use and security of SHAKEN certificates.
- **STI-PA** - Secure Telephony Identity Policy Administrator
  - ➔ iconectiv serves an operational role and has been selected by the STI-GA to apply and enforce the rules defined for the SHAKEN framework.
  - ➔ As the policy administrator, iconectiv will confirm which service providers are authorized to request certificates and review and approve Certification Authorities to issue them.
- **STI-CA** - Secure Telephony Identity Certificate Authority
  - ➔ Selected by the STI-PA to issue, authorize and validate the digital certificates used by communication service providers to authenticate and verify telephone calls. Sansay is an STI-CA.
- **PASSporT** - Personal Assertion Token
  - ➔ Is the Identity Token which contains the information that STIR/SHAKEN needs for authentication and verification of calls. It has a header, payload, and signature.
  - ➔ A SHAKEN PASSport has additional requirements that include the origin and destination (telephone numbers) in their payload. Also, there must be a claim for attestation:
    - A. Full Attestation. B. Partial Attestation. C. Gateway AttestationThere must also be a claim in the payload for orig ID - a globally unique string that helps with Traceback.
- **Rich Call Data (RCD)**
  - ➔ Provides a way to send additional information about the caller in the PASSporT including; caller name, logo image, a text field for call reason.
  - ➔ RCD is controlled by the calling party and the originating service provider who authenticates and signs the call.
  - ➔ How the RCD information is displayed is controlled by the handset software developers.



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## Why Choose Sansay?

Sansay, one of the telecommunications industry's most respected cloud-based infrastructure companies provides a complete STIR/SHAKEN service. Our success in guiding customers through compliance and deploying customers on our complete STIR/SHAKEN service will give you confidence in success.

- **Experience** - Sansay has issued a large percentage of the STIR/SHAKEN certificates already in production.
- **Affordability** - We encourage you to get competitive quotes. No one can compare to the level of value we offer.
- **Customer Success** - We are happy to provide customer references who will rave about our Complete STIR/SHAKEN Service.
- **Fully Standards-based** - We have completed testing with the ATIS Robocalling Testbed to confirm adherence to the new standards.
- **Flexibility** - Deploy our service in your datacenter, public cloud, or hosted, and attestation policies can be tailored to your needs.
- **Scalability** - Dedicated and redundant CA and CR infrastructure for each customer. 99.999% uptime guaranteed.
- **Intuitive** - your service can be managed via a friendly UI and rich APIs (REST/SOAP) are available.
- **Outstanding Support** - 24/7/365 knowledgeable and helpful customer support - you'll feel loved!

Sansay can help you go above and beyond STIR/SHAKEN with our Anti Fraud services which put you in control of blocking and stopping likely fraudulent calls. The Sansay robocall mitigation layer helps Service Providers groom traffic in their networks to block the origination of calls from numbers that should not have originated traffic or have a bad reputation.

## Sansay - The Complete STIR/SHAKEN Service



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