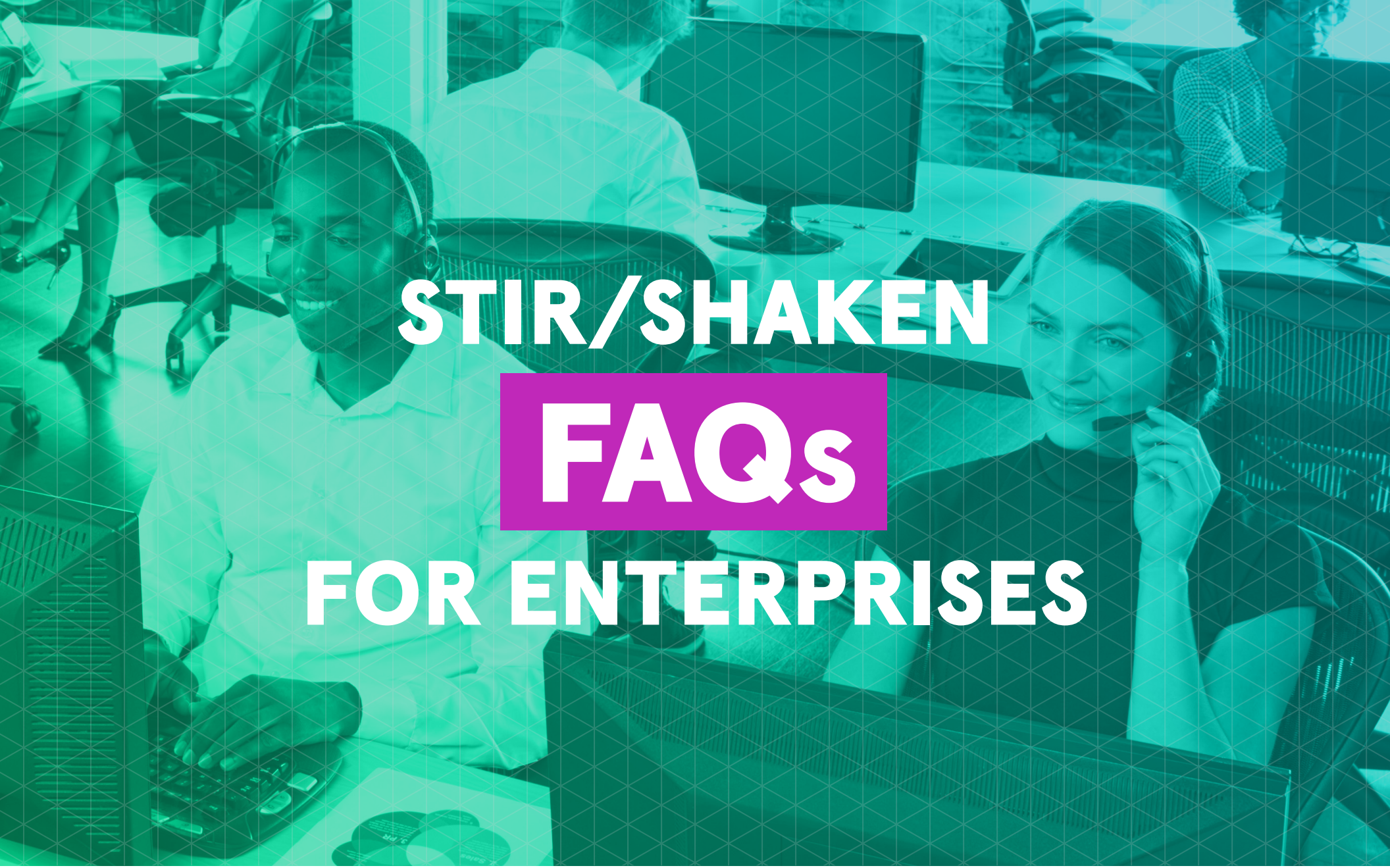

STIR/SHAKEN FAQs FOR ENTERPRISES

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Despite the growth in digital communications, businesses still rely on the phone channel to engage one-on-one with consumers—and customers prefer calls for urgent, private, or important messages.

But the increase in robocalls and scam calls has decreased trust between businesses and consumers.

To protect themselves, consumers don't answer unless they are certain of who is calling, and enterprises treat all inbound callers with caution.

New regulations that required voice service providers to implement STIR/SHAKEN call authentication promise to deter fraudsters. However, that has big implications for enterprises across every industry as legitimate outbound phone calls may be mistakenly blocked or tagged as spam. Also, inbound calls to contact centers may require additional authentication measures.

Read on to learn the top STIR/SHAKEN questions we've been asked by enterprises, with answers from our team of experts.

FAQ 1

What Is STIR/SHAKEN?

STIR/SHAKEN is an industry-developed set of protocols and a governance model designed to stop the deluge of illegal robocalls to ensure the caller ID has not been spoofed.

STIR (Secure Telephony Identity Revisited) is a set of technical standards developed by the Internet Engineering Task Force (IETF) to certify the identity of originating calls. SHAKEN (Signature-based Handling of Asserted information using toKENs) is a framework developed by the Alliance of Telecommunications Industry Solutions (ATIS) that focuses on the implementation of STIR within IP-based service provider networks.

SHAKEN introduces a governance model that designates the roles and responsibilities of the Policy Administrator (STI-PA) and Certificate Authority (STI-CA), and outlines who is eligible to receive certificates (U.S. carriers with Operating Company Numbers (OCNs).

It also defines additional data fields not included in STIR that enable traceback capabilities and a level of trust (attestation) based upon the carrier's relationship to the telephone number.

FAQ 2

Is There a Difference Between Robocalls and Spoofed Calls?

Robocalls, usually done in high volume, are phone call that uses a computerized autodialer to deliver a prerecorded message. Legal robocalls are used for quickly getting out important messages for emergencies, school closures, weather alerts or more.

Call spoofing is when a call originator changes the calling number, to hide or control what calling number is shown on the call display. An example of legal spoofing is when a main callback number for call centers or customer support is displayed, or to keep a calling number private, like when a doctor contacts a patient from their private phone.

Many parties illegitimately spoof numbers to avoid detection or trick users into picking up unwanted calls. Currently, the illegal calls causing a big problem are often a combination of automated dialing with spoofing with the intent to defraud consumers.

Watch Neustar's video on robocall mitigation, and read the eBook: Robocall Mitigation FAQs for CSPs.

FAQ 3

Why Is STIR/SHAKEN the Best Way to Stop Illegal Spoofing?

STIR/SHAKEN is the most viable way to provide a measure of trust in the displayed caller name and number by authenticating the calling number with the identity of the caller. Today, the Terminating Service Provider (TSP) cannot tell if the number has been spoofed, which enables bad actors to pose as the IRS, banks, health care providers or other.

STIR/SHAKEN brings together the cryptography that enables safe e-commerce with telephone security by providing an authentication mechanism to ensure a caller has permissions to use a given telephone number. This best practice uses digital certificate to create a secure chain between the caller and recipient.

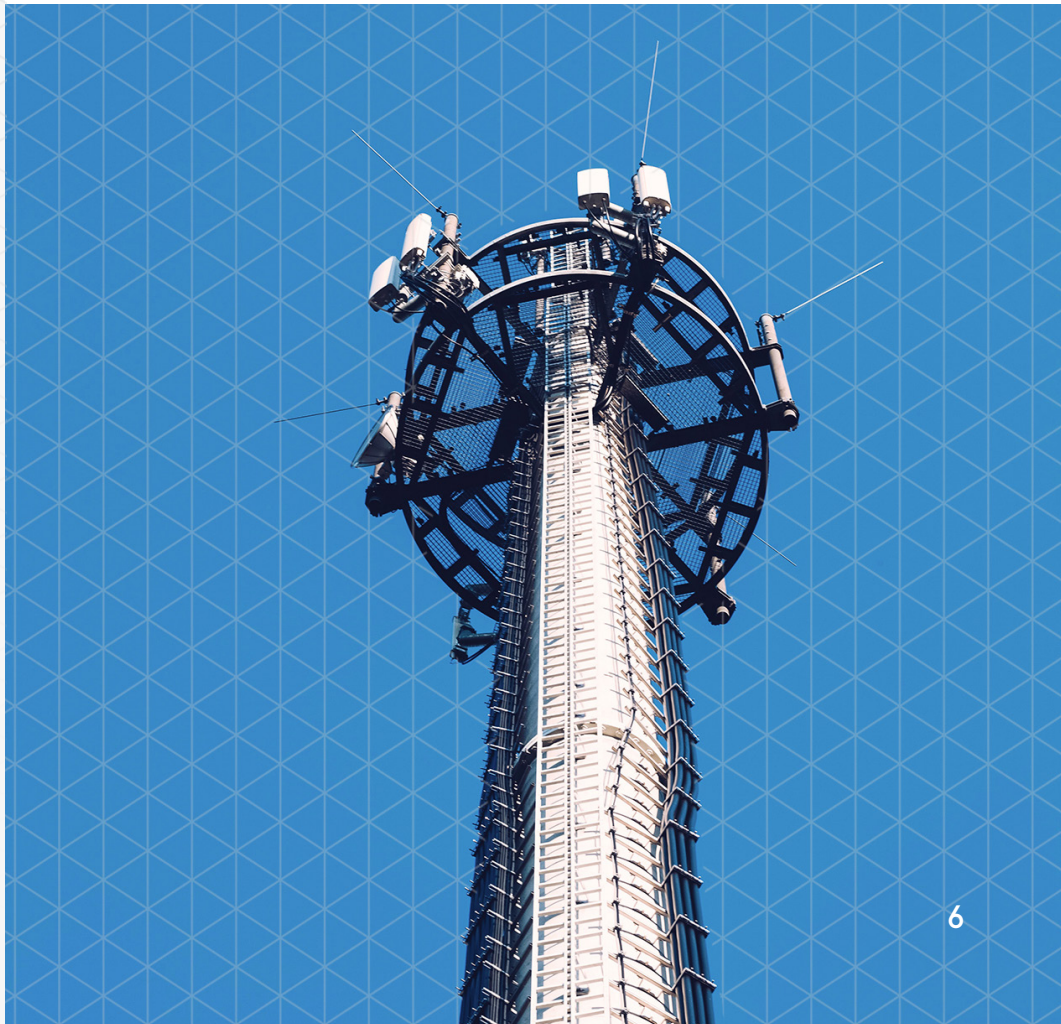
In the STIR/SHAKEN framework, digital certificates are typically issued to service providers, or in some cases others who are assigned dedicated telephone numbers. The private key associated with a digital certificate is used to sign a VoIP call, thereby indicating the calling party number has been properly attested.

The TSP uses the public key to unlock the message and ensures the message has not been compromised. The contents of the message are used by the TSP to determine call treatment and alerts to the subscriber.

FAQ 4

How Will STIR/SHAKEN Impact Legitimate Use Cases of Call Spoofing?

With STIR/SHAKEN, legitimate use cases of call spoofing, such as displaying a toll-free call back number, can still be verified if the voice service provider knows the caller has the right to spoof that number.



FAQ 5

What Are the Regulations That Require STIR/SHAKEN?

To address the surge in voice fraud, Congress passed the TRACED Act in 2019 mandating that voice service providers offer call-blocking services and call authentication – at no cost to consumers. In March 2020, the Federal Communications Commission (FCC) adopted rules requiring service providers to implement STIR/SHAKEN call authentication or a robust robocall mitigation strategy by June 31, 2021.

FAQ 6

What Types of Calls Does STIR/SHAKEN Address? How Will Non-IP Calls Be Handled?

Currently STIR/SHAKEN focuses on calls that originate on VoIP (Voice over Internet Protocol). Standards are still being developed on how to address calls that traverse POTS (plain old telephone service).

In the meantime, service providers are directed to implement a robocall mitigation program as well, and document what they are doing in the FCC's Robocall Mitigation Database.

FAQ 7

How Are Calls Assessed With STIR/SHAKEN?

STIR/SHAKEN uses a system to categorize the essential information about the caller into three levels of "attestation." These attestation levels characterize a caller's level of trust of a particular number.

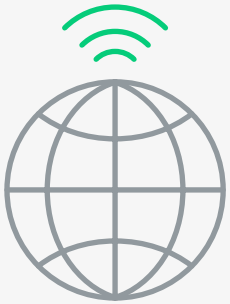
Full attestation, also known as "A-attestation," has several requirements but provides the highest level of confidence by the originating carrier. These calls must originate on the carrier's own network, as opposed to originating from another carrier or a VoIP provider. The carrier has also directly authenticated the caller and verified the caller's right to use the number. This will present challenges for some enterprises that have more sophisticated telephony implementations as some of their calls will receive a "B" level attestation. This creates an attestation gap that Neustar and others have developed solutions to resolve.

If the signing provider has not established a verified association with the telephone number or has no relationship to the initiator of the call (i.e., international gateways) the call will be attested at a "B" or "C" level.

Read the blog: Easy as ABC? Attestation Story Still Unfolding

FAQ 8

What Regions Are Using STIR/SHAKEN?



STIR/SHAKEN was mandated by regulators for implementation in the U.S. by June 2021, and November 2021 in Canada.

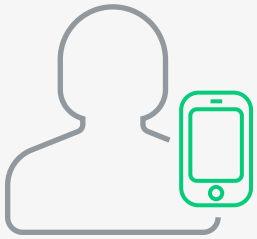
Tier one carriers in the U.S. have already begun rolling out STIR/SHAKEN capabilities, well ahead of the June 2021 deadline, and leading Canadian operators are testing STIR/SHAKEN implementations.

As for other countries, a number of regulators in Europe, including Ofcom in the U.K., are tracking the progress of STIR/SHAKEN adoption in the U.S. and are at various stages of developing initiatives in their own countries.

Certain small- to mid-sized carriers were given an extension to June 2022.

FAQ 9

How Will Consumers Be Impacted By STIR/SHAKEN?

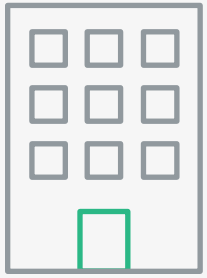


As STIR/SHAKEN is rolled out, more phone numbers and sources of calls will be verified. Service providers are experimenting with various alerts, but to date there is no standardized way to notify consumers of verified calls.

If the call can be validated, the consumer may be notified with a verification keyword or symbol on the incoming call display. If the call can't be verified, it may be blocked or the consumer notified on their caller ID screen with a warning of a potential scam call. The purpose of notifications is to allow consumers to decide whether they wish to answer, ignore, or block the number. With STIR/SHAKEN and other anti-robocall protections in place to stop scam calls, consumers should feel more confident and empowered about answering the calls they do want to receive.

FAQ 10

How Does STIR/SHAKEN Affect My Outbound Calls?



Most carriers are well on their way to using STIR/SHAKEN to verify calls across their networks. For enterprises, this means that if their calling numbers can't be verified for their outbound calls, the call could be blocked or tagged as spam.

Enterprises that get their phone numbers and voice services from a single carrier are likely to receive an "A" attestation for their calls, because the originating carrier is certain of their identity and the source of the number and can originate the call on their network. However, most organizations have complex architectures where there are multiple carriers involved in the process to connect their outbound calls.

It's especially true for:

- Enterprises that receive number blocks from multiple Operating Service Providers (OSPs), and use Least Cost Routing (LCR) for outbound traffic
- Enterprises that outsource to call center providers
- Contact centers and enterprises who receive SIP trunks from carriers and manage their numbers

In these cases, because enterprises may not be able to get a certificate, and sign their own calls, some calls may not get the highest attestation levels. This is known as the "attestation gap".

Read the eBook: Overcoming the Attestation Gap: A Technical Guide for CSPs and Enterprises

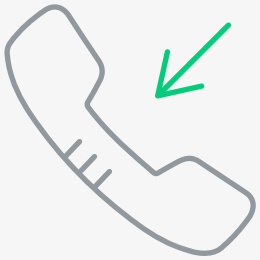
Current Approaches to Address the Attestation Gap

Until solutions that resolve the attestation gap are adopted as standards, the industry must introduce measures to bridge the gap to enable carriers and enterprises to fully embrace STIR/SHAKEN. Neustar, a TransUnion company, supports multiple approaches to bridge the attestation gap, as outlined below:

Carriers and Enterprises	Name	Description	Status
Without the ability to get certificates or the ability to sign their own calls	OPTION 1 STIR Certificate	▪ **Option 1 – A:** Vetted enterprise or carrier signs calls with STIR certificate ▪ **Option 1 – B:** It alerts the OSP that the TN has been vetted so they can sign with an A	▪ Standard: Based upon STIR RFC 8226 standard ▪ Tested and available now
	OPTION 2 Delegated SHAKEN Certificate	▪ **Option 2 – A:** SHAKEN certificate is delegated from the Telephone Number Service Provider (TNSP) ▪ **Option 2 – B:** Vetted enterprise or carriers sign calls with SHAKEN certificate and can add rich call data	▪ Standard: Approved by ATIS, but pending GA/PA adoption ▪ Tested in lab environment.
	OPTION 3 Telephone Number Database (TNDB)	▪ Vetted TNs are stored and OSP signs using SHAKEN certificate ▪ Multiple flavors: local, centralized, federated	▪ Standard: Non-standard custom development ▪ Local DB being deployed now
With the ability to get certificates and sign own calls	Standard SHAKEN certificate	▪ Sign calls (generate PASSporT) with a standard SHAKEN certificate	▪ Standard: Must meet criteria outlined on page 16 ▪ Can obtain a certificate through an STI-CA, such as the Neustar Certificate Manager service

FAQ 11

How Does STIR/SHAKEN Affect My Inbound Calls?



STIR/SHAKEN helps contact centers address fraudulent call spoofing. However, call center leaders face multiple types of fraud that revolve around the identity of the caller. That can be addressed by other analytics tools. In those cases, STIR/SHAKEN serves as an input to – but does not displace – current analytic approaches. The combination of using STIR/SHAKEN call authentication with existing call analytics tools provides incremental benefits.

Forward-thinking enterprises are authenticating inbound callers' identities by inspecting their calls and calling devices. When the calling device is confirmed as authentic, and the Automatic Number Identification (ANI) matches the reference phone number on file, then the contact center can determine that it has engaged in an authentic call with the customer's unique, physical, legitimate phone – most often a mobile or landline phone. (This is identical to how credit cards facilitate cashless transactions).

If the caller's device is not unique and physical, then other signals can be used for a probabilistic risk assessment, such as calling history, call routing, line type, and STIR/SHAKEN attestation level.

Read the blog: Not All Greens Are Created Equal

FAQ 12

What Solutions Are Available To Help Enterprises Improve Contact Rates?

Neustar is a pioneer of call authentication. We are co-author of the IETF STIR standards, contributor to the ATIS SHAKEN framework. We play a vital role in the governance structure for STIR/SHAKEN as an authorized Certification Authority in the U.S. and the Policy Administrator and Certificate Authority for Canada. We're also the exclusive host of the ATIS Robocalling Testbed.

We offer a number of solutions to empower enterprises:

Vetting Services: help enterprises validate their caller identity as a legitimate call originator, by verifying their entity, business purpose, intent of calls, and ownership of telephone numbers across the entire calling ecosystem.

Caller Name Optimization: provide a way for enterprises to prevent spoofing of their caller ID, wrongful call blocking and spam tagging and inaccurate call display by registering inbound only numbers as Do-Not-Originate, designating verified business numbers used for outbound calling and effectively managing caller display across 850+ voice service providers and the leading caller ID apps.

Certified Caller: enable enterprises to authenticate their caller identity for outbound calls and digitally sign calls by integrating STIR/SHAKEN in their enterprise calling networks.

Branded Call Display: allow enterprises to deliver a custom rich multimedia display for calls to mobile phones. Enterprises can leverage the valuable real estate of the smartphone screen to provide context and identity for their call and a personalized calling experience that gives customers a reason to answer and engage in the conversation.

Inbound Authentication: instantly identify and authenticate inbound callers before they hear "Hello" to mitigate fraud, reduce average handle times, and improve customer experience.

Read the eBook: Branded Calling: The Next STIR/SHAKEN Frontier

Count on a Neutral Expert for Help.

The landscape continues to shift, so make sure you partner with a vendor that is staying abreast of the latest technical and regulatory changes.

As an approved Certification Authority and co-author of the STIR certificate management standards, Neustar plays an integral role in the governance structure for STIR/SHAKEN. We're at the forefront of the industry's quest to mitigate illegal robocalling and call spoofing. Learn more about our Certified Caller (STIR/SHAKEN) and Certificate Manager offering for service providers.

Visit our Trusted Call Resource Center to learn how STIR/SHAKEN is impacting your customers and how you can help them and see what resources and solutions Neustar offers.

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