



**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, D.C. 20554**

<i>In the Matter of</i>)	
)	
Advanced Methods to Target and Eliminate Unlawful Robocalls)	CG Docket No. 17-59
)	
Call Authentication Trust Anchor)	WC Docket No. 17-97
)	

Reply Comments of the Cloud Communications Alliance

The initial comments in this proceeding overwhelmingly agree that it is premature to establish a safe harbor for blocking calls based on SHAKEN/STIR information.¹ Numerous commenters joined the Cloud Communications Alliance (“Alliance”) in noting that significant work remains to be done before the framework can be universally implemented. There is also substantial support for coupling any safe harbor with requirements to address erroneously blocked calls. The record also indicates that wholesale blocking based on the nature of the call, for example international calls, or the nature of the provider, should be avoided pending further analysis and experience with the framework.

I. The SHAKEN/STIR Framework Remains a Work in Progress

The Alliance’s initial comments highlighted the extent to which the SHAKEN/STIR framework remains a work in progress. In particular, it noted that the industry is still grappling with the treatment of complex, but common, enterprise calling use cases.² The initial comments

¹ Unless otherwise noted, all comments cited herein were filed in WC Docket No. 17-97 and/or CG Docket No. 17-59 pursuant to the June 26, 2019 Public Notice, DA 19-597.

² Alliance Comments at 5-8.

reflect that this is a widespread concern.³ Sprint, for example, notes that “[v]arious proposals are being discussed in industry standards bodies to address how large callers with complicated intermeshed originating calling patterns involving multiple carriers, call centers, and phone number providers can uniquely and securely establish their identities.”⁴

Several commenters also noted, as did the Alliance, that providers using numbering resources from other carriers or engaged in least cost routing may not be able to participate in the framework pending adoption of further standards, such as certificate delegation.⁵ Telnyx states, for example, that full attestation is almost impossible where smaller service providers select the originating carrier based on cost in real time.⁶ RingCentral, which states it has made significant investments to upgrade its network to implement SHAKEN/STIR by the end of the year, nevertheless cautions that the Commission must ensure that carriers reselling numbers or involved in legitimate number substitution, a growing practice as workers become increasingly mobile, are able to participate.⁷ These shortcomings are in addition to the well-known concerns regarding the embedded base of TDM networks that may preclude participation by smaller, primarily rural providers that either continue to serve their customers over legacy networks, or,

³ See e.g., ACA Connects Comments at 4 (practical aspects of SHAKEN/STIR implementation are still evolving); App Association Comments at 5 (stating that it is too early in the implementation process to create a safe harbor because the framework “cannot yet accommodate a number of voice services”); Competitive Carriers Association Comments at 4 (there are still significant unanswered questions concerning the development of the framework); INCOMPAS Comments at 4 (stating that a safe harbor would be premature because the industry is still setting standards); RingCentral Comments at 6 (identifying unresolved issues involving carriers that resell numbering resources or engage in legitimate number substitution such as inserting an in-bound toll-free number); Telnyx Comments at 2 (SHAKEN/STIR does not accommodate enterprise use cases); Transaction Network Services, Inc. (TNS) Comments at 5-6 (noting that the SHAKEN/STIR framework “still is at an early stage of deployment”); VON Comments at 2-3 (identifying a number of open issues).

⁴ Sprint Comments at 5.

⁵ See e.g., RingCentral Comments at 6 (the Commission must ensure that effective mechanisms exist for all legitimate voice providers to participate in the framework, particularly where competitive providers are reselling numbering services); Securus Comments at 5 (expressing concern that, as an interconnected VoIP provider that does not have its own OCN and obtains numbers from other voice service providers, Securus may not be able to sign calls absent the implementation of a solution such as certificate delegation).

⁶ Telnyx Comments at 1-2. See also INCOMPAS Comments at 9 (noting importance of least cost routing, which is integral to PSTN connectivity, yet providers using such routing may not be able to obtain full attestation).

⁷ RingCentral Comments at 5-6.

even if they have transitioned to IP, may be required to convert traffic to TDM when interconnecting with other providers.⁸

Apart from particular use cases, the comments note that various technical issues may prevent the transmission of tokens across even purely SIP networks or delay or preclude the retrieval of a certificate from the certificate repository, frustrating the ability of the terminating carrier to verify the call. First Orion explains that verification might fail because it takes too long to download the public certificate or because of interoperability problems or software bugs. These issues may take months or years to resolve even after full deployment.⁹ Transnexus states that there may be many reasons that tokens may not pass through the call chain, including that many networks use the UDP protocol, which is prone to packet fragmentation and packet loss.¹⁰ It concludes that it has “found that Identity tokens do not survive transit across SIP networks today, and we have no idea how long it will take to deploy fixes to make the network ready for SHAKEN/STIR.”¹¹

None of this is to detract from the incredibly hard work undertaken (and ongoing) by industry and standards bodies to develop this important tool to combat illicit spoofing. Rather, it is to point out that critical work in fact remains and that the Commission would be well advised to refrain from authorizing call blocking and safe harbors based on SHAKEN/STIR information until standards and best practices to address these common calling scenarios have been completed, tested, and proven to work. The Alliance joins those commenters urging the

⁸ NTCA Comments at 5-6.

⁹ First Orion Comments at 4.

¹⁰ Transnexus Comments at 5-6.

¹¹ Transnexus Comments at 6.

Commission to work with industry to expeditiously resolve these issues so that the framework can be fully implemented.¹²

II. Safe Harbors for Blocking Calls Based on SHAKEN/STIR Information Are Premature and Any Call Blocking Programs Must Include an Effective Challenge Mechanism

The Alliance fully appreciates the need and desire for a reasonable safe harbor if voice service providers are authorized to block calls based on technologies and standards that will inevitably result in the blocking of legitimate and even critical calls. On this score, there is virtual unanimity that calls should not be blocked based solely on SHAKEN/STIR information.¹³ As numerous comments point out, SHAKEN/STIR provides no information regarding the intent or potential legality or desirability of a call.¹⁴ Rather the lack of, or level of, attestation should, according to a number of commenters, be considered as an input into a broader set of analytics.¹⁵ As has been pointed out in the context of the *Declaratory Ruling*, however, many of the factors that comprise “reasonable analytics” are equally applicable to legitimate calling scenarios, such as call volume and short duration calls.¹⁶ Whether the additional input derived from SHAKEN/STIR will improve the ability of analytic engines to accurately determine the validity of a call remains to be seen. At its current incipient stage of implementation, the information provided by SHAKEN/STIR would not seem to be a sufficiently reliable indicator of a call’s

¹² See, e.g., RingCentral Comments at 2-3.

¹³ See, e.g., AT&T Comments at 6-7; First Orion Comments at 6 (blocking calls based solely on failed authentication would be both underinclusive (allowing illegal calls to go through) and overinclusive (blocking legal calls)); TNS Comments at 4-5 (noting that “while SHAKEN/STIR can attest to the authentication of the *number*, that doesn’t answer the question as to the validity of the call itself”)(emphasis in original); USTelecom Comments at 6-7 (“Since the SHAKEN/STIR framework does not provide insight to the nature or content of a call (*i.e.*, whether a call is legal or illegal, legitimate or fraudulent, wanted or unwanted), it is an insufficient basis alone for voice providers to determine whether to block a call”).

¹⁴ See, e.g., Noble Systems Comments at 4; USTelecom Comments at 6-7.

¹⁵ See, e.g., TNS Comments at 5-6; USTelecom Comments at 7-8.

¹⁶ See, e.g., Letter from Jonathan Thessin, Senior Counsel, American Bankers Association, to Marlene H. Dortch, Secretary, FCC, CG Docket Nos 02-278, 17-59, 18-152 & WC Docket 17-97 (filed May 31, 2019).

validity to materially add to the mix of information used by entities to block calls. It is thus premature to authorize provider-initiated blocking based on SHAKEN/STIR information alone or in combination with other analytical tools.

All of this potential uncertainty has led to overwhelming support in the record to coupling any safe harbor with a requirement that blocking entities have an effective mechanism to promptly correct the inadvertent blocking of legitimate calls.¹⁷ There is virtually no opposition in the record to establishing a redress mechanism, although some commenters express concern with overly prescriptive requirements and a few urge the Commission to exercise caution in requiring notification, at least until notice standards are finalized.¹⁸

The Alliance agrees that overly prescriptive requirements may not be necessary at this time and that voice service providers should have flexibility to develop challenge mechanisms. Nonetheless, voice service providers blocking calls must have a transparent, quick and effective challenge mechanism in place before being afforded the protections of a safe harbor. Voice service providers should be required to publicize their process, including contact information and promised time frames within which they will act to resolve disputes. An irreducible minimum requirement, however, must be a notification, preferably in real-time through an intercept message and/or a SIP code, alerting callers and called parties that a call is being blocked.¹⁹ If

¹⁷ Requiring the establishment of an effective challenge mechanism has support across the universe of stakeholders. *See, e.g.*, AAHAM Comments at 5-6; ACA International Comments at 10-11; AT&T Comments at 13; Consumer Reports et. al, Comments at 10; Electronic Transactions Comments at 2; Joint Trades Letter at 5-6; NCTA Comments at 10; NTCA Comments at 14-15; PACE Comments at 4-5 Sprint Comments at 2-3; TCN Comments at 2-3; Twilio Comments at 2-3.

¹⁸ *See, e.g.*, CTIA Comments 17; NCTA Comments at 10; Sprint Comments at 4.

¹⁹ Alliance Comments at 10. *See also*, ACA Comments at 11 (require notification as a condition of a safe harbor); Consumer Reports Comments at 10 (stating that there should be a standard notification so that a caller knows that a call has been intercepted); Encore Comments at 4 (voice service providers should immediately notify callers and their customers of inadvertent blocking); Noble Systems Comments at 9, 20 (callers should be informed of blocking via an audio intercept and error code); NTCA Comments at 14-15 (require notification that includes instructions on where and how to correct false positives); PACE Comments at 4 (provide an intercept message or SIP code); Sirius Comments at 7; TCN Comments at 2; Twilio Comments at 9 (require notification, for example by sending a unique

more time is needed to develop a set of standards and protocols for such a notification, the Commission should refrain from providing a safe harbor until that process is concluded.

An effective redress mechanism is integral to ensuring that SHAKEN/STIR is implemented in a non-discriminatory and competitively neutral manner. A number of commenters call on the Commission to ensure this vital policy outcome.²⁰ This is particularly important in the early stages of implementation when smaller carriers may be struggling to upgrade networks and standards are still being developed to ensure that service providers offering new and innovative service to enterprises can meaningfully participate in the framework. The ability in the near term for major carriers to authenticate and verify calls within their network or with other major carriers should not be allowed to become a competitive advantage while standards such as certificate delegation, out-of-band transmission of tokens and other processes needed for more universal implementation are being developed and tested.

Finally, the Alliance is concerned that the industry and the Commission may be overly focused on blocking based on SHAKEN/STIR information as the optimal way to combat illegal calls. The overemphasis on blocking gives insufficient weight to an equally important aspect of the framework, the enhanced ability to trace calls through the use of the originating ID included with each signed call. As more and more voice service providers participate in the framework, the ability quickly to trace back calls to their origin (or place of entry into a domestic SIP network) should greatly facilitate identifying “bad” actors. At the end of the day, the inclusion of

SIP code); VON Comments at 3 (require a robust mechanism that includes an intercept message or response code); WTA Communications at 7.

²⁰ See, e.g., APP Association Comments at 6 (stating that SHAKEN/STIR should be implemented in a non-discriminatory manner); INCOMPAS Comments at 4; NTCA Comments at 4-5 (expressing concern that large carriers might leverage need to participate in SHAKEN/STIR to extract unfavorable IP interconnection terms); Twilio Comments at 9 (arguing that safe harbors should only be available to providers that implement on a competitive and technology neutral manner); West Comments at 24-25 (urging the Commission to establish a more defined ban on discriminatory blocking tactics and expressing concern that large carriers could create programs that may favor their own message distribution customers).

a unique originating ID to every call may prove the most powerful aspect of the framework and may lessen the need to rely on network-based blocking and attendant disruption of voice communications.²¹

III. International Calls Should Not Automatically Be Blocked

The Alliance's initial comments noted the difficulties that foreign-originated calls destined for the U.S. poses for the SHAKEN/STIR framework.²² The SHAKEN/STIR framework contemplates that most international calls would receive a gateway attestation by the first U.S.-based carrier that receives the foreign originated call. There could, however, be instances where foreign originated calls receive a higher level of attestation. A carrier with foreign operations or a foreign affiliate may have sufficient confidence in the caller's authorization to use the number in the caller ID to assign a full attestation to an international call.²³ Otherwise, however, foreign carriers sending calls to the U.S. may have their calls either unsigned or assigned a gateway attestation, which may lead to the call being blocked or adversely labelled even if it is a legitimate call.²⁴

At this point, the Commission wisely is not proposing safe harbor treatment based on the level of attestation or even a failure to sign. The lack of safe harbor protection may reduce the incidence of outright blocking of international calls. As noted above, commenters also suggest

²¹ Verizon suggests that trace back efforts be supplemental by a requirement that any voice provider that is not signing calls certify to the Commission that it is taking actions to minimize the use of its network to originate illegal robocalls. Verizon Comments at 5-6. Verizon proposes that should traceback efforts identify a provider as consistently originating illegal robocalls, the Commission should assess its mitigation efforts and take regulatory action as appropriate. These heavy-handed regulatory proposals are unnecessary. Either the Commission, with respect to common carriers, or the Federal Trade Commission for non-common carriers, has sufficient existing authority to police and address such actions.

²² Alliance Comments at 11.

²³ See Noble Systems Comments at 7 (explaining that the SHAKEN/STIR standards do not define how an originating carrier determines the level of attestation.)

²⁴ See First Orion Comments at 6 (stating that international calls will fail authentication/verification at high rates for the foreseeable future); INCOMPAS Comments at 6 ("Providers must have confidence that lawful international calls will receive gateway attestation without the risk that they will be blocked simply based on the fact that they originated outside the United States.").

that a blocking decision should not be based solely on the level of attestation but rather include application of various metrics. If those metrics do not indicate a problematic pattern of calls, there should be no reason to block an international call with a gateway attestation, particularly where the call shows an international number in the caller ID. As noted by Verizon, “U.S.-inbound international calls originating from foreign telecommunications carriers with numbers corresponding to their countries’ numbering plans do not currently materially contribute to the robocall problem. . . .”²⁵ There would thus be no basis for blocking international calls entering into the U.S. with foreign numbers and assigned a gateway attestation.

Verizon does, however, propose blocking all international calls using a U.S. number. Verizon describes its proposal as extending the SHAKEN/STIR framework to foreign VoIP providers to the extent that the provider allows its foreign-based customer to insert U.S. phone numbers into caller ID.²⁶ Verizon states that “[t]he STIR/SHAKEN rules need not apply to calls from providers subject to the jurisdiction of foreign regulators if those providers do not permit their callers to insert numbers from the U.S. portion of the North American Numbering Plan and send those calls to U.S. consumers.”²⁷

It is unclear how Verizon proposes to enforce this requirement. Verizon does propose to prohibit any U.S.-based provider from “accepting any voice traffic from any other provider if that provider has failed to certify to the Commission that it complies with the STIR/SHAKEN rule.”²⁸ If this prohibition is intended to apply to a foreign provider, which is unlikely to certify

²⁵ Verizon Comments at 4.

²⁶ Verizon Comments at 3 (“It is therefore important to require STIR/SHAKEN for any provider, regardless of its geographic location, if it intends to permit its customers to make calls using U.S. telephone numbers.”)

²⁷ Verizon Comments at 4.

²⁸ Verizon Comments at 3-4.

compliance to the Commission, Verizon's proposal amounts to blocking all foreign-originated calls to U.S. consumers that include a U.S. number in the caller ID.

Verizon's proposal is overbroad. The Commission previously recognized in the *2017 Blocking Order* that there are valid reasons that internationally originated calls may use U.S. numbers.²⁹ The Commission cited as an example a "U.S.-based user of a service may be traveling in Europe but uses their service to make Wi-Fi-based calls (and have their U.S. caller ID shown.)"³⁰ Although the *2017 Blocking Order* authorized blocking of international calls using **invalid** numbers to the same extent that order authorized such blocking for domestic calls, the Commission refused to authorize the blocking of "any international call purporting to use a valid NANP number assigned to that user."³¹ Verizon's proposal conflicts with this Commission precedent because it would block all international calls using a U.S. number even if use of that number was valid. The proposal should be rejected.

More broadly, the Commission and the industry must carefully assess how to treat international calls. The Alliance recognizes that many illegal robocalls originate from other countries, but any blanket blocking of all international calls, or only those using U.S. numbers will, just as with domestic calls, result in blocking of legitimate calls and could result in disparate treatment of providers' customers' calls depending on the size and geographic reach of the provider. Until more countries adopt their own version of SHAKEN/STIR, the Commission should approach blocking of international calls with care.

²⁹ *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 9706, 9721, ¶ 43 (2017) ("We agree with commenters that internationally originated calls may have lawful reasons to use a NANP number.") (*2017 Blocking Order*).

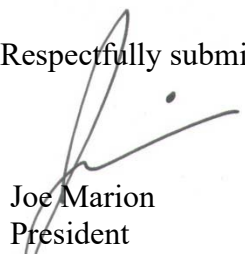
³⁰ *2017 Blocking Order*, 32 FCC Rcd at 9721, ¶ 43 (quoting Comments of the Voice on the Net Coalition, CG Docket No. 17-59, at 6 (filed June 30, 2017)).

³¹ *Id.* The *2017 Call Blocking Order* authorized providers to block calls from phone numbers on a Do Not Originate list and those that purport to be from invalid, unallocated or unused numbers. *Id.* at ¶ 1. The Commission agreed that international calls could be blocked on the same basis if using a NANP number. *Id.* ¶ 42.

CONCLUSION

The Commission should continue to press industry to develop standards, best practices and processes to enable full participation in the SHAKEN/STIR framework. Pending the development and testing of these processes, the Commission should avoid authorizing blocking based on SHAKEN/STIR information or establishing safe harbors. Any entity engaged in blocking should be required to implement transparent and effective mechanisms to address blocking of legitimate calls, including immediately notifying callers that their calls are being blocked and by whom. The Commission should also exercise great care in authorizing the blocking of international calls.

Respectfully submitted,



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