

**Before the  
Federal Communications Commission  
Washington, D.C. 20554**

In the Matter of	)	
	)	
Call Authentication Trust Anchor	)	WC Docket No. 17-97
	)	
Implementation of TRACED Act Section 6(a) —	)	WC Docket No. 20-67
Knowledge of Customers by Entities with Access	)	
to Numbering Resources	)	

**COMMENTS OF INCOMPAS**

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## TABLE OF CONTENTS

	<u>Page</u>
I. INTRODUCTION AND SUMMARY	3
II. EXTENDING THE STIR/SHAKEN IMPLEMENTATION MANDATE TO INTERMEDIATE PROVIDERS IS APPROPRIATE BUT WARRANTS FURTHER CONSIDERATION TO PREVENT INADVERTENT HARM	5
III. A ONE YEAR IMPLEMENTATION EXTENSION FOR UNDUE HARDSHIP IS WARRANTED IN CERTAIN CIRCUMSTANCES	9
IV. IP INTERCONNECTION WILL FACILITATE THE IMPLEMENTATION OF STIR/SHAKEN, AND THE COMMISSION SHOULD REQUIRE SUCH INTERCONNECTION WHEN TECHNICALLY FEASIBLE	11
V. ANY NEW OBLIGATIONS ON PROVIDERS' ACCESS TO NUMBERING RESOURCES SHOULD NOT BE OVERLY BURDENSOME	14
VI. CONCLUSION	16

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INCOMPAS, by its undersigned counsel, hereby submits these comments in response to the Federal Communications Commission’s (“Commission” or “FCC”) *Further Notice of Proposed Rulemaking* seeking comment on further efforts to promote the STIR/SHAKEN caller ID authentication framework pursuant to section 4 of the TRACED Act and implementation of section 6(a) of the Act which requires the Commission to modify its policies to reduce access to toll free and non-toll free numbering resources for potential perpetrators of illegal robocalls.<sup>1</sup>

**I. INTRODUCTION AND SUMMARY**

With the enactment of the Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence (“TRACED”) Act in 2019,<sup>2</sup> Congress sent a clear signal that the voice service industry and federal government are to work collaboratively to address the ongoing problem of illegal and fraudulent robocalls. Now that a mandate to implement the

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<sup>1</sup> See *Call Authentication Trust Anchor, Implementation of TRACED Act Section 6(a) — Knowledge of Customers by Entities with Access to Numbering Resources*, WC Docket No. 17-97, WC Docket No. 20-67, Report and Order and Further Notice of Proposed Rulemaking, FCC 20-42 (rel. Mar. 20, 2019) (“*Report and Order*” and “*Further Notice*”).

<sup>2</sup> Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence (“TRACED”) Act, S. 151, 116th Cong. (2019).

STIR/SHAKEN call authentication framework has been adopted, the Commission seeks comment on a variety of additional TRACED Act requirements that will reform the manner in which providers exchange traffic, interconnect, and access numbering resources. For their part, INCOMPAS members have been and will continue to be active participants in the development and adoption of the STIR/SHAKEN solution and other industry protocols that can be employed to mitigate illegal robocalls while also preserving competition and innovation in the voice service market.

In these comments, INCOMPAS offers its perspective on the issues raised in the *Further Notice*. Specifically, INCOMPAS urges the Commission to clarify the definition of “intermediate providers” to align it with the stated scope of the TRACED Act and thereby avoid inadvertent outcomes, including potentially to the intended providers that are otherwise engaged in the transport of authenticated voice traffic that ensures that the framework operates over an end-to-end system of providers. Additionally, the Commission should consider extending the compliance deadline for small voice service providers and providers seeking technical accommodations, as well as encouraging industry to adopt a broad certificate delegation process that will allow customers that purchased a telephone number from one provider to sign calls that it originates with a different provider. Given the nature of STIR/SHAKEN as an IP-enabled authentication solution, INCOMPAS also urges the Commission to compel IP interconnection between providers when such an interconnection is technically feasible. Finally, INCOMPAS argues that voice service providers should be able to certify that they have verified customer information without having to provide a customer’s private data to U.S. Numbering administrators.

## **II. EXTENDING THE STIR/SHAKEN IMPLEMENTATION MANDATE TO INTERMEDIATE PROVIDERS IS APPROPRIATE BUT WARRANTS FURTHER CONSIDERATION TO PREVENT INADVERTENT HARM**

In addition to mandating the implementation of the STIR/SHAKEN framework for originating and terminating voice service providers, the Commission seeks comment on extending an implementation mandate to intermediate providers. INCOMPAS, which represents a number of intermediate voice service providers that are already actively engaged in implementing STIR/SHAKEN, supports the goal underlying this proposal and agrees with assertions that intermediate providers' participation, although not explicitly referenced in the TRACED Act, could enhance the achievement of "an 'end-to-end' system for authenticating the identity of the calling party."<sup>3</sup> The success of STIR/SHAKEN ultimately depends on the broad participation of voice service providers, including, wherever technically feasible, intermediate providers. In order to "maintain the integrity of the required STIR/SHAKEN signaling,"<sup>4</sup> voice service providers that originate, terminate, or transport calls must adopt the framework and exchange traffic that includes the SIP Identity header over the IP portions of their networks. The inclusion of intermediate providers who are already under the FCC's jurisdiction in this ecosystem could, if properly designed, have a positive network effect that would increase the likelihood that SHAKEN would help to reduce fraud through unlawful caller ID spoofing. Furthermore, many intermediate providers are well positioned to participate in an IP-based call authentication ecosystem as they are among the industry leaders in adopting and operating IP networks.

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<sup>3</sup> *Further Notice* at ¶ 62.

<sup>4</sup> *Id.*

While INCOMPAS agrees with the overarching goal that forms the basis for the proposal to address the activities of “intermediate providers,” the Commission is correct to seek comment on the outer bounds of its authority. In fact, the TRACED Act does not provide an explicit reference to “intermediate providers” *per se*. Moreover, the definition of “voice service” in the statute explicitly refers to furnishing communications “to an end user,” and intermediate providers do not have relationships with end users. The definition of “intermediate providers” in section 64.1600(i) of the Commission’s rules does not reflect the statutory definition or scope, and would benefit from a more precise and fulsome explanation. In addition, the Commission’s proposals may create unintended or inadvertent outcomes.

For example, the Commission proposes “to require intermediate providers to pass any Identity header they receive to the subsequent intermediate or voice service provider in the call path. Technically, this proposal would require that the Identity header be forwarded downstream in the SIP INVITE transmitted by the intermediate provider.<sup>5</sup> Given the limitations of TDM networks, would this requirement make it unlawful to employ TDM tandem switches? Or would the Commission propose the alternative of applying this requirement solely when using SIP-enabled facilities? Even some SIP-enabled carriers may encounter challenges. The *Further Notice* asks whether there are legitimate reasons for an intermediate provider to alter or strip STIR/SHAKEN header information. For intermediate carriers relying on UDP as a transport protocol (that is, SIP over UDP instead of SIP over TCP, the Identity header could inflate the size of the SIP message sufficiently that a single UDP packet would not be capable of carrying the information. It would be fragmented over multiple UDP packets and the call itself, in some circumstances, could end up being dropped, defeating the provider’s ultimate aim of delivering

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<sup>5</sup> *Id.*

the call or having the necessary information to authenticate it or trace the call back to the source. These important technical jurisdictional issues warrant more consideration. Because addressing the activities of intermediate carriers is not constrained by statutory deadlines, the Commission can take the extra time needed to ensure that its ultimate approach—which is premised upon a worthwhile goal—is sound and does not cause inadvertent harm.

While INCOMPAS supports the goals underlying the Commission’s proposals to bring intermediate providers into the STIR/SHAKEN ecosystem as well as the agency’s basic approach of assigning “C” attestation to unauthenticated calls (in keeping with the STIR/SHAKEN standard), the additional proposals for unauthenticated calls offered by industry stakeholders raise a number of concerns for our members and should be rejected. Though well intentioned and aimed at eliminating fraudulent international robocalls, Verizon’s proposal to mandate the use of STIR/SHAKEN for any provider that allows its customers to use domestic telephone numbers<sup>6</sup> carries a variety of concerns about the extraterritorial jurisdiction and authority of the Commission to impose such requirements. Additionally, USTelecom’s suggestion to require providers to pass international traffic to voice service providers that have already implemented STIR/SHAKEN<sup>7</sup> would disadvantage all but the largest providers that have the resources to implement the framework in advance of next year’s compliance deadline. Rather than advancing these proposals as currently presented, the Commission should charge the STIR/SHAKEN governance authority with developing solutions for international calls that balances the goal of eliminating fraudulent international robocalls with the need of international

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<sup>6</sup> *Id.* at ¶ 64.

<sup>7</sup> *Id.*

providers to pass traffic to domestic intermediate providers at the highest appropriate levels of attestation.

As the Commission continues to examine new obligations and longer term solutions for intermediate providers that will mitigate illegal robocalls that originate abroad, at least one international provider has attempted to structure a solution that can promote the important objective of enabling caller ID authentication by intermediate providers that carry international traffic.<sup>8</sup> According to BT, international and domestic voice traffic can be segmented into separate streams of traffic that is exchanged with a U.S. intermediate provider via separate trunks. BT indicates that it can separate international calls that are set to be terminated in the U.S. into three streams that align with the authentication hallmarks of the three attestation levels of STIR/SHAKEN (i.e. A, B, and C). BT's intermediate provider partner would then assign an attestation level based on the trunk over which the traffic was delivered before sending the calls to a downstream provider. Given the potential exposure to "reputational and enforcement risks," the intermediate provider passing along this traffic has "every incentive to ensure that robust commercial and contract remedies were in place" to ensure that international providers are not segmenting illegal robocalls into "A" or "B" level trunks as a backdoor.<sup>9</sup> In the near term, while the industry works to address known gaps in the current version of the STIR/SHAKEN framework, this kind of approach can help remove some of the inherent bias against calls that originate overseas and permit intermediate providers to pass along traffic. To help ensure competitive neutrality in the communications marketplace, the Commission could encourage intermediate providers to adopt this type of solution with their international partners.

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<sup>8</sup> See Letter of Sheba Chacko, Chief Regulatory Counsel, BT Americas Inc., to Ms. Marlene H. Dortch, Secretary, FCC, WC Docket Nos. 17-97, 20-67 (filed Apr. 21, 2020).

<sup>9</sup> *Id.*

### III. A ONE YEAR IMPLEMENTATION EXTENSION FOR UNDUE HARDSHIP IS WARRANTED IN CERTAIN CIRCUMSTANCES

In keeping with Section 4(b)(5)(A)(ii) of the TRACED Act, the Commission contemplates providing an extension of the implementation deadline “upon a public finding of undue hardship.”<sup>10</sup> The Commission identifies several categories of voice service providers for a potential extension, including TDM providers, small voice service providers (defined as having 100,000 or fewer voice subscriber lines), and rural voice service providers. While each of these categories faces significant burdens that will make compliance with the June 30, 2021 deadline difficult, small voice service providers in particular would benefit from a one-year extension. Small voice providers are more likely to experience financial strain from the process of implementing the STIR/SHAKEN framework. Incorporating STIR/SHAKEN into America’s voice service networks will require one-time implementation costs, network upgrades, and annual operating costs that small service providers will have to absorb in light of the TRACED Act’s prohibitions on line item charges for effective call authentication technology.<sup>11</sup> Even if the Commission’s estimation of the costs of implementing the framework are correct,<sup>12</sup> voice service providers can expect annual operating costs to range anywhere from \$15,000 to \$300,000; an amount that will require small voice service providers to make adjustments to their budget and factor these costs into their business plans. Additionally, while the market has started to offer

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<sup>10</sup> TRACED Act § 4(b)(5)(A)(ii).

<sup>11</sup> *Id.* at § 4(b)(6).

<sup>12</sup> While the Commission’s expected cost analysis states that “[i]mplementation costs will vary depending on a voice service provider’s existing network configuration” as well as its “size and choices as to implementation solutions,” the record contains several concerning examples of STIR/SHAKEN implementation costs for small voice service providers. *Report and Order* at ¶ 53 (citing comments from one small, rural provider that concluded that the annual recurring cost of implementing STIR/SHAKEN for its 319 customers was \$100,000).

third-party authentication solutions, questions remain about the capacity of these vendors to bring along all voice service providers by next year's compliance deadline.

In addition to an extension for undue hardship for small voice service providers, the Commission may also want to consider an extension for those providers capable of demonstrating that implementing the framework will be affected by the type of technology that a provider is using, how network interconnections are established, and whether the standards will accommodate differences in technology adequately. As STIR/SHAKEN-based solutions become available in the marketplace, it remains to be seen whether the framework can be implemented consistently and uniformly across the industry. Providers that are preparing their networks for implementation need to be sure that their legitimate traffic will consistently qualify for "full attestation" and that major voice service providers and other SHAKEN/STIR users will recognize such treatments. A non-uniform implementation is likely to increase the difficulty for service providers building a system to accommodate varying networks' interaction with the framework and may inhibit broad adoption. Furthermore, it raises the possibility of consumer confusion about call authentication when their calls receive different levels of attestation or are blocked. Voice service providers are already incorporating additional algorithmic modeling to their implementation of STIR/SHAKEN that could degrade the level of attestation of some competitive providers' traffic.

Finally, the Commission would be better served insisting that the STIR/SHAKEN governance authority incorporate protocols for certificate delegation into the call authentication framework rather than simply addressing whether or not to grant an extension for undue hardship for enterprise calls as proposed in the *Further Notice*. The STI-GA and other industry forums such as the ATIS IP-NNI (Integrated Private Network-to-Network Interface) Task Force are

actively considering how to effectively delegate certificate authority to enterprise and reseller providers, among other use cases, to allow these companies to sign calls for common scenarios—like telecommunications relay—where legitimate calling models may utilize numbers from third-parties or multiple underlying carriers.<sup>13</sup> Requiring an industry model that cures for certificate delegation would help competitive providers source their telephone numbers (without having their traffic discriminated against) and achieve “A” level attestation. Certificate delegation could enhance the application of STIR/SHAKEN and lead to a more robust use of call authentication in the marketplace. This issue must be resolved as the competitive voice service providers involved in certificate delegation are integral to the interconnected PSTN and have business relationships with dozens of companies that may not otherwise be able to sign calls originating on their networks. While an extension for enterprise calling cases is justified, these types of calls represent just one use case that could be cured by incorporating a certificate delegation model into STIR/SHAKEN.

#### **IV. IP INTERCONNECTION WILL FACILITATE THE IMPLEMENTATION OF STIR/SHAKEN, AND THE COMMISSION SHOULD REQUIRE SUCH INTERCONNECTION WHEN TECHNICALLY FEASIBLE**

In the *Further Notice*, the Commission proposes to provide an implementation extension of STIR/SHAKEN pursuant to section 4(b)(5)(A)(ii) of the TRACED Act to voice service providers that cannot pass authentication information to providers in a call path due to an inability to interconnect in IP.<sup>14</sup> INCOMPAS members agree that a barrier to the exchange of

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<sup>13</sup> See David Preo, *What is STIR/SHAKEN and How Does It Impact Robocalling?*, BANDWIDTH SUPPORT CENTER (May 1, 2020), <https://support.bandwidth.com/hc/en-us/articles/360025664313-What-Is-STIR-SHAKEN-and-How-Does-It-Impact-Robocalling-> (describing Bandwidth’s participation in industry forums working on certificate delegation).

<sup>14</sup> See *Further Notice* at ¶ 85.

authenticated calls occurs at the interconnection point between IP and non-IP networks. Because the STIR/SHAKEN framework requires IP interconnectivity, INCOMPAS urges the Commission to compel IP interconnection between voice service providers where technically feasible. The Commission should consider this approach as opposed to an extension for undue hardship due to existing challenges in IP interconnection.

The lack of IP interconnection and traffic exchange ultimately disrupts the efforts of the Commission and industry to create a call authentication solution between end users and it inhibits the effectiveness of robocalling mitigation utilizing the STIR/SHAKEN framework and attendant call-blocking measures. In a letter to the Commission, NTCA—The Rural Broadband Association noted that “the lack of ‘basic rules of the road’ for IP interconnection for voice traffic” stands as the “primary barrier to industry-wide implementation of SHAKEN/STIR.”<sup>15</sup> A call originated on an IP network receives an identity header that is removed when the call is exchanged between an IP and TDM network. Calls without authentication are more likely to be blocked by call-blocking applications, even if the call is legitimate.<sup>16</sup> Industry would benefit from a uniform implementation of the SHAKEN/STIR framework; however, without IP interconnection and exchange of traffic such uniform implementation will be deterred.

During the recent coronavirus pandemic, some INCOMPAS members have reported an increase in traffic volumes, particularly over interconnection ports that ILECs have not upgraded from TDM to IP. Rather than offering IP interconnection, which is a much more efficient way to

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<sup>15</sup> Letter of NTCA—The Rural Broadband Association, CG Docket No. 17-59, 71-97, CC Docket No. 01-92, 10-90 (filed Jan. 16, 2020).

<sup>16</sup> In its letter to the FCC, NTCA describes this as a “reverse call completion problem” as rural callers without access to IP networks would appear unauthenticated when reaching urban areas. INCOMPAS is equally concerned about the disparate treatment of legitimate calls and the impact this will have on competitive and smaller providers.

exchange traffic, the ILECs are selling trunking that INCOMPAS' CLEC members would prefer not to purchase but are forced to accept because the ILEC is not interconnecting in IP. Where these trunks are set up between interoffices, CLECs are responsible for paying half of the associated costs. If CLECs could decline the trunks in favor of IP interconnection, it would not only be more efficient (particularly for the exchange of authenticated STIR/SHAKEN calls), but it would be more cost effective—savings that could ultimately be passed along to customers. While the national emergency has heightened concerns over IP interconnection, the point stands that the efficacy of STIR/SHAKEN will rely on the Commission's ability to compel voice service providers to exchange traffic over the IP portions of their network. Nine years ago in the *USF/ICC Transformation Order* the Commission set the industry on a course for IP interconnection, removing terminating access fees and setting expectations that providers would begin to transition to IP networks and establish IP interconnection.<sup>17</sup> Since that time, a number of providers have urged the Commission to require voice service providers to make direct connections available to requesting carriers.<sup>18</sup> With the STIR/SHAKEN framework as the vehicle for change, the Commission should reaffirm its previous commitment to IP interconnection. INCOMPAS urges the Commission to require IP interconnection wherever the technical feasibility exists between two networks.

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<sup>17</sup> See *Connect America Fund et al.*, WC Docket No. 10-90 et al., Report and Order and Further Notice of Proposed Rulemaking, 26 FCC Rcd 17663, para. 1335 (2011) (“*USF/ICC Transformation Order*”).

<sup>18</sup> See e.g., Letter from Philip J. Macres, Counsel for Consolidated Communications Companies, Peerless Network, Inc. and West Telecom Services, LLC to Marlene H. Dortch, Secretary, Fed. Comm'n Comm., WC Docket Nos. 10-90, 07-135, CC Docket No. 01-92 (filed Dec. 4, 2017) at 3 (asking the Commission to resolve questions posed by the *USF/ICC Transformation Order* by adopting a direct interconnection requirement).

**V. ANY NEW OBLIGATIONS ON PROVIDERS' ACCESS TO NUMBERING RESOURCES SHOULD NOT BE OVERLY BURDENSOME**

In accordance with Section 6(a) of the TRACED Act, the Commission questions whether changes or modifications are needed to the registration and compliance obligations of providers that access toll free and non-toll free numbering resources. Specifically, the Commission seeks comment on the ability of voice service providers to certify that they “know their customers,” to provide customer information to the Numbering Administrators if necessary, and whether the Commission should impose a U.S. residency requirement for access to numbering resources.

Requiring companies to provide information about their customers to the Numbering Administrators would be overly burdensome and would raise significant concerns about the safety of their customers' private information.<sup>19</sup> First, the administrative cost of collecting and providing data that would be useful to the operating administrators would be prohibitive. Second, if the privacy of customer information was comprised, either through a data breach or cyberattack,<sup>20</sup> it could significantly damage the reputation of the provider and raise serious questions about the provider's or Numbering Administrators' liability for the breach. Furthermore, INCOMPAS members include international providers and the cross border transfer of data and private information represents an additional hurdle to the Commission's proposals.

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<sup>19</sup> It is worth noting that outbound calls can be made without the use of telephone numbers, so attaching “know your customer” requirements to numbering resources will not necessarily be valuable in the effort to deter the placement of fraudulent telephone calls to called parties in the U.S.

<sup>20</sup> See, e.g., *Cybersecurity Resource Center: Cybersecurity Incidents*, OFFICE OF PERSONNEL MANAGEMENT, <https://www.opm.gov/cybersecurity/cybersecurity-incidents/> (last visited May 13, 2020) (describing two separate cybersecurity incidents at the Office of Personnel Management in which data of Federal government employees, contractors, and others was stolen).

Finally, providing this information to a third party is not necessary to accomplish the overarching objective of combating fraudulent use of telephone numbers.

INCOMPAS also urges the Commission to reject proposals to impose a U.S. residency requirement for access to U.S. telephone numbers. If international providers are willing to certify that they know their customers and provide that information as it is appropriate, then a residency requirement is redundant at best, while at its worst, it could have significant anti-competitive consequences. Addressing nefarious spoofing behaviors that incorporate some of the inherent feature functionality of VoIP calling should not give rise to fundamentally anti-competitive outcomes or undermine valuable consumer benefits that flow from competitive VoIP services.

End users across the globe have benefited greatly from the marketplace drivers that competitive VoIP brings to bear and the Commission should work hard to ensure that remains true to the greatest degree possible. The availability of U.S. numbers allows the receipt of calls by persons outside the United States. There are many legitimate bases for doing so: *e.g.*, a child going abroad for a semester can receive calls from friends and family without requiring them to incur international calling charges or a person permanently abroad with many friends in the U.S. can facilitate communications in a similar way. These methods provide market-based alternatives to traditional forms of international calling, placing downward pressure on prices. To require U.S. residency for numbering would remove a popular and legitimate calling option and remove the competitive pressure on international rates.

## VII. CONCLUSION

For the reasons stated herein, INCOMPAS urges the Commission to consider the recommendations in its comments as it examines the issues raised in the *Further Notice*.

Respectfully submitted,

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