

**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))	
—Knowledge of Customers by Entities with)	WC Docket No. 20-67
Access to Numbering Resources)	

**REPLY COMMENTS
OF
NTCA—THE RURAL BROADBAND ASSOCIATION**



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May 29, 2020

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I. INTRODUCTION & SUMMARY

NTCA–The Rural Broadband Association (“NTCA”)¹ hereby submits these reply comments in response to parties commenting on the Further Notice of Proposed Rulemaking² adopted by the Federal Communications Commission (“Commission”) in the above-captioned proceedings implementing the TRACED Act.³

NTCA herein reiterates its call for the Commission to declare that existing meet points and transport responsibilities will serve as the “default” (i.e., the default in the absence of

¹ NTCA represents approximately 850 rural rate-of-return regulated telecommunications providers (“RLECs”). All of NTCA’s members are full service local exchange carriers and broadband providers, and many of its members provide wireless, cable, satellite, and long distance and other competitive services to their communities. NTCA is a founding member of the Secure Telephone Identity Governance Authority (“STI-GA”) Board of Directors.

² *Call Authentication Trust Anchor*, WC Docket No. 17-97, *Implementation of TRACED Act Section 6(a) — Knowledge of Customers by Entities with Access to Numbering Resources*, WC Docket No. 20-67, Report and Order and Further Notice of Proposed Rulemaking, FCC 20-42 (rel. Mar. 31, 2020) (“*Report and Order*” or “*Further Notice*”).

³ Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence Act, Pub. L. No. 116-105, § 4(b)(1)(A), 133 Stat. 3274, 3277 (2019) (“TRACED Act”).

otherwise negotiated terms) for the exchange of IP voice traffic between “IP-enabled” RLECs⁴ and other operators. Indeed, this minimally intrusive step represents the most pivotal step the Commission can take to promote the effective and timely implementation of call authentication capabilities across as many networks as possible.

In requesting such a default rule, NTCA is simply seeking for its IP-enabled members and similarly situated carriers a path toward rapid STIR/SHAKEN implementation in a manner that will simultaneously protect against the incurrence of significant new costs to interconnect and thereby preserve these operators’ ability to offer affordable and high-quality voice service in deeply rural and remote areas. Thus, the Commission should dismiss baseless assertions that RLECs’ advocacy on this issue is somehow an attempt to seek a blanket exemption from call authentication requirements or in any way undermine the STIR/SHAKEN ecosystem. To the contrary, RLECs are eager to participate in call authentication and a default IP voice interconnection rule provides the most efficient and direct path to do so.

Finally, the Commission should adopt compliance timeframes for IP-enabled RLECs tied to their ability to obtain, and integrate into operating budgets, vendor solutions for implementing STIR/SHAKEN. Even those RLECs able to overcome the IP interconnection barrier – and certify as to having such agreements in place – will face “substantial hardship” in putting vendor solutions in place. Thus, RLECs should have at least until June 2023 – and such a deadline

⁴ References to “IP-enabled RLECs” herein, and for purposes of NTCA’s STIR/SHAKEN advocacy more generally, are those RLECs using an IP switch to originate voice traffic. As the Commission knows, STIR/SHAKEN is an end-to-end all IP standard and only those voice service providers that utilize an IP switch to originate traffic can authenticate that traffic. These carriers are of course distinguished from TDM providers exempt from the STIR/SHAKEN mandate under the terms of the TRACED Act. *See also*, fn 20, *infra*.

should specifically be tied to their ability to obtain IP interconnection on reasonable terms and conditions through a default rule for such interconnection.

II. RLECS STRONGLY SUPPORT WIDESPREAD CALLER-ID AUTHENTICATION FOR THE BENEFIT OF CONSUMERS NATIONWIDE; NTCA’S PROPOSAL FOR DEFAULT IP VOICE INTERCONNECTION RULES WILL ENSURE THAT IP-ENABLED RLECS AND SIMILARLY SITUATED CARRIERS CAN RAPIDLY MOVE FORWARD WITH ADOPTION OF STIR/SHAKEN.

As NTCA stated in initial comments, most RLECs’ ability to fully participate in the STIR/SHAKEN ecosystem (i.e., generate call authentication information and pass that data throughout the call path to all terminating providers) is severely hampered by the IP voice interconnection barrier. What the Commission should take away from NTCA’s discussion of this issue is that RLECs, far from seeking to avoid the need for STIR/SHAKEN adoption, strongly desire the use of this important standard for the benefit of rural consumers. RLECs understand – perhaps better than any other carrier as the “reverse call completion” discussion below indicates – the profound negative consequences for rural consumers of these operators not participating in the STIR/SHAKEN ecosystem. *Simply put, RLECs desire only the ability to participate in the ecosystem while also preserving their ability to maintain high-quality and affordable voice service.*

As background, as NTCA has repeatedly noted,⁵ many RLECs’ ability to obtain IP interconnection for voice traffic (an unavoidable necessity for passing STIR/SHAKEN

⁵ *Ex parte* letter, NTCA, CG Docket No. 17-59, et al. (fil. Jan. 16, 2020) (“January 2020 *ex parte*”), p. 2 (“[E]ven where voice traffic is in IP format on their own networks, many RLECs today exchange traffic with upstream providers via media gateways that convert such traffic to TDM. Small rural carriers have no control over upstream carriers’ relative technical capabilities or their unwillingness to exchange voice traffic in IP. Indeed, NTCA members frequently report the continued presence and use of TDM facilities (such as tandem switches or interexchange carrier points of presence) within upstream provider networks as a barrier to the exchange of voice traffic in IP format.”); Comments of NTCA, CG Docket No. 17-59, WC Docket No. 17-97 (fil. Jan. 29, 2020), p. 5 (stating that “an interconnection barrier exists

authentication data along the entire path of a call and ultimately to the terminating carrier) is severely hampered by the presence of TDM facilities in the networks of upstream carriers. NTCA's RLEC members typically subtend tandem switching facilities owned by upstream carriers – these facilities are most often TDM and represent each RLEC's connection with the rest of the world, where voice traffic destined for other providers in the same local or extended calling area, and interexchange carriers as well, is handed off by the RLEC. This being the case, and in the absence of reasonable alternatives, or even any at all, for getting voice traffic outside or inside of their small service areas, it matters little that many RLECs have been leaders in the IP transition. These carriers, even if IP-enabled (see FN 4), and in possession of tokens, certificates and network equipment necessary to pass call authentication information in SIP identity headers they have the capability to originate and pass to upstream carriers will in fact see that authentication data disappear at the network edge. In other words, even if RLECs implement STIR/SHAKEN within their own networks, many of them cannot participate fully in the ecosystem due to the limitations of other, upstream carriers' networks.

It is here that the comments of AT&T must be addressed,⁶ as several points made therein may give the Commission a false impression of the nature of NTCA's advocacy in this proceeding. For one, contrary to AT&T's assertion,⁷ NTCA and its RLEC members are not seeking a "blanket exemption" from a STIR/SHAKEN mandate. In case it was somehow not

in rural areas, however, due mostly to the presence of TDM facilities utilized by the upstream carriers through which RLECs originate and terminate voice traffic"); *Ex parte* letter, NTCA, CG Docket No. 17-59, et al. (fil. Feb. 12, 2020), p. 3.

⁶ Comments of AT&T, WC Docket Nos. 17-97 & 20-67 (fil. May 15, 2020).

⁷ *Id.*, pp. 13-15.

clear from several previous filings,⁸ with an understanding of the implications of *not* implementing STIR/SHAKEN, NTCA and its RLEC members have simply advocated for simple interconnection rules that would enable small, IP-enabled rural operators’ adoption of this standard. Specifically, as NTCA stated in initial comments,⁹ IP-enabled RLECs that certify as to their inability to pass call authentication beyond their network edge under reasonable terms and conditions should be granted an exemption *only* until such time as they can get in place IP interconnection arrangements that can utilize existing meet points and transport responsibilities. Far from asking for a blanket waiver for any IP-enabled RLEC or all RLECs, the Commission would need only grant a waiver to operators that cannot obtain such interconnection – and most importantly, Commission action on addressing the IP interconnection barrier via simple “default” rules as proposed by NTCA¹⁰ would ensure that such exemptions would be unnecessary as it would remove the most imposing barrier these operators face to STIR/SHAKEN adoption. These rules would enable RLECs to obtain IP interconnection for voice traffic with existing network edges and transport responsibilities as the default, thereby ensuring that these operators can exchange such traffic without incurring additional costs that would threaten the continued affordability of voice rates in rural areas.

⁸ Comments of NTCA, CG Docket No. 17-59, WC Docket No. 17-97 (fil. Jul. 24, 2019), p. 2 (pointing to “certain steps the Commission can take to ‘move the ball forward’ in terms of bringing the protections that SHAKEN/STIR can offer to rural consumers”); January 2020 *ex parte* (discussing the severe negative implications for RLECs of not adopting STIR/SHAKEN and pointing to the simple step the Commission can take to facilitate IP interconnection for these operators and ensure effective and timely adoption of the standard across networks).

⁹ Comments of NTCA–The Rural Broadband Association, WC Docket Nos. 17-97 & 20-67 (fil. May 15, 2020).

¹⁰ *Id.*, pp. 5-10.

While some may argue that alternatives exist for RLECs (and thus Commission action on IP interconnection is unnecessary), these “alternatives” would force these operators to take voice traffic to and from distant points of interconnection on top of the costs otherwise incurred to implement STIR/SHAKEN capabilities. As NTCA noted in initial comments, the nation’s largest carriers have made it undeniably clear (including recently) that a move to a handful of points of interconnection for IP voice traffic is their ultimate goal.¹¹ The ramifications for RLECs and their subscribers of such an approach would be significant – for the first time ever, the costs of transporting calls to and from distant points of interconnection would fall almost entirely on the backs of small, rural carriers and their tiny¹² customer bases. The foisting of such costs on rural operators would undoubtedly increase voice rates, something the Commission has strongly opposed in the past and a result that Congress could not have envisioned when crafting the TRACED Act. Indeed, the very fact that the TRACED Act specifically prohibits providers’ assessment of line-item subscriber charges to recover STIR/SHAKEN costs indicates that Congress was concerned about the costs of this standard being foisted on consumers.¹³ NTCA’s recommendations simply seek to ensure that such costs are not *predominately* borne by rural

¹¹ See T-Mobile, *ex parte* letter, WC Docket No 18-156 (fil. Apr. 27, 2020) (proposing to “migrate from one POI per LATA to no more than a few dozen POIs for the entire country.”); See also AT&T, *ex parte* letter, GN Docket No. 13-5, WC Docket No. 13-97, WC Docket No. 10-90 (fil. Jan. 24, 2014) (asserting that “IP interconnection will take place on a nationwide basis, and at a relatively small number of places”); Sprint, *ex parte* letter, WC Docket Nos. 10-90, 07-135, 05-337,03-109; CC Docket Nos. 01-92, 96-45; and GN Docket No. 09-51 (fil. Oct. 3, 2011) (arguing for “the more efficient regional interconnection arrangements typically used for non-voice IP traffic”).

¹² Broadband/Internet Availability Survey Report, NTCA–The Rural Broadband Association, Dec. 2019, p. 3 available at: <https://www.ntca.org/sites/default/files/documents/2019-12/2019%20Broadband%20Survey%20Report.pdf> (“The average respondent reports having 3,212 residential local exchange voice grade access lines in service in 2019. The average number of business local exchange voice grade access lines in service in 2019 is 1,057.”).

¹³ TRACED Act § 4(b)(6).

consumers that assume the costs of IP voice interconnection while the “efficiencies” accrue only to other larger providers.¹⁴

AT&T’s argument that RLECs’ progress in moving beyond TDM switching facilities within their own networks “*per se* means that their networks are capable of implementing STIR/SHAKEN”¹⁵ fails to understand the full ramifications of the IP Interconnection barrier (or put another way, the “interconnected” nature of the standard at issue). As NTCA stated in initial comments and as other parties noted as well,¹⁶ an individual RLEC’s inability to obtain IP voice interconnection at reasonable terms and conditions or find a suitable alternative (if one even exists) that meets their needs and does not impose undue costs would, quite simply, force a small rural carrier to expend tens of thousands of dollars per year to implement STIR/SHAKEN within its own IP-enabled network only to watch as call authentication information it generates disappears at its own network edge. Even worse, such would be the case not due to that provider’s own technical inability but that of the upstream carrier with whom the RLEC is interconnected. Indeed, the Commission (or AT&T) would be hard-pressed to produce any cost-benefit analysis that supports requiring a small business to implement a technology standard that

¹⁴ As NTCA in initial comments, the failure to preserve existing interconnection meet-points as underlying technology migrates from TDM to IP would only ensure that any “efficiencies” gained in such a transition will accrue entirely and exclusively to the benefit of larger providers. Even worse, smaller rural operators would now be forced to pay for “voice transit” (*i.e.*, transport) to reach those distant points of interconnection. Put another way, even if the *overall* costs of routing calls may be reduced by the migration to IP routing technology, RLECs’ share of those transit/transport costs will undoubtedly rise without targeted “rules of the road” surrounding network edges – and the result would be RLECs needing to recover those increased costs from a small rural customer base in defiance of universal service objectives.

¹⁵ AT&T, p. 14.

¹⁶ NTCA, pp. 5-10; *See also*, Comments of the Montana Telecommunications Association, WC Docket Nos. 17-97 & 20-67 (fil. May 15, 2020) (“MTA”), p. 3.

either fails to work (as SIP headers die at the network edge) or assume costs for alternatives (again, if they exist) that drive end-user rates to unaffordable levels.

The Commission should soundly reject the argument that “a blanket extension for small providers would...be illogical, given the role of some such IP-based providers either in originating and/or serving as the domestic gateway for unauthorized calls.”¹⁷ This line of argument inexplicably and without basis lumps all small providers together, implying that RLECs are among the bad actors originating (knowingly or not) the very calls at issue in this proceeding. Of course, it would make little sense for RLECs to participate in this very proceeding, as noted above, seeking not blanket exemptions or even exemptions of any kind, but rather *seeking a path to full STIR/SHAKEN adoption* if they instead desired a “loophole” to continue nefarious activities (particularly since authenticating a call aids in traceback to its source thus facilitating law enforcement and FCC enforcement actions). It would also make little sense for NTCA to have been a founding member of the STI-GA Board of Directors, investing time and substantial financial resources in participating in the body standing up the entire STIR/SHAKEN ecosystem. In short, NTCA hopes that the Commission will see through this throwaway attempt at distraction from the real concerns that must be addressed in this proceeding, and recognize that far from asking for steps that would *weaken* the STIR/SHAKEN ecosystem, RLECs seek only to *strengthen it* by adopting the standard via IP interconnection rules that make this possible.

Finally, it must be stated here that the implications for RLECs of not adopting STIR/SHAKEN are profound. They recognize that a “blanket exemption” is not in their best

¹⁷ AT&T, p. 14.

interest; implementation is in their best interest. If calls from rural consumers appear unauthenticated when reaching urban areas because IP interconnection does not exist between larger national operators and small rural carriers, there is a serious risk that legitimate calls from rural subscribers will go unanswered by urban consumers because they *appear* “untrustworthy.” Moreover, it is quite possible that ill-intentioned spoofers will migrate to rural telephone numbers, further undermining trust in calls from rural markets and leading to an even greater number of calls failing to be answered by urban consumers. Even worse, the increased use of call blocking applications could result in legitimate calls from rural areas being blocked altogether simply because they cannot be authenticated due to the barriers highlighted above, particularly if such blocking tools cannot differentiate between legitimate calls made from rural areas and those made using rural telephone numbers attached to calls made by spoofers in other parts of the country or the world. Ultimately, the inability to implement STIR/SHAKEN – due in significant part to the inability of IP-enabled RLECs to obtain IP interconnection arrangements on reasonable terms – could leave millions of rural consumers with calls that get blocked far too often in trying to reach the rest of the world. It is with a full understanding of this “reverse rural call completion” danger that NTCA and its members recognize IP interconnection rules as the only viable path toward STIR/SHAKEN adoption.

III. THE COMMISSION SHOULD TIE COMPLIANCE TIMEFRAMES FOR IP-ENABLED RLECS TO THEIR ABILITY TO OBTAIN IP INTERCONNECTION; THOSE OPERATORS ABLE TO OVERCOME THIS BARRIER SHOULD BE GIVEN AT LEAST UNTIL JUNE 2023 TO IMPLEMENT STIR/SHAKEN.

As NTCA noted in initial comments, the ability to obtain IP voice interconnection agreements at reasonable terms and conditions is not the only barrier that IP-enabled RLECs face with respect to STIR/SHAKEN implementation. These carriers face, according to initial reports,

compliance costs of high-five figures to low-six figures per year in addition to upfront network upgrades necessary to enable STIR/SHAKEN vendor solutions to function as intended. These numbers, while insignificant for nationwide carriers that count subscribers in the tens of millions, will be difficult to absorb for RLECs that on average count their subscribers in the thousands.

The Commission should also recognize that vendor solutions, once in place, will require “in-network” testing and in many cases additional network upgrades on the part of RLECs to ensure that call authentication data can be successfully generated and passed to the next provider in the call path (assuming of course that the provider has the ability to interconnect in IP). Moreover, NTCA members report that vendor solutions will “likely” be available in late 2020, though firm commitments from vendors have not been issued.

Thus, like NTCA, several parties recognize that an additional year (a compliance deadline of June 2022 as proposed in the Further Notice) will not enable RLECs to overcome the “substantial hardship” they will face in implementing this standard.¹⁸ As NTCA stated in initial comments, the proposed June 2022 deadline is only a year longer than that granted to the nation’s largest operators, some of which are Fortune 500 companies and, perhaps more importantly, providers that have long participated directly in the creation of the STIR/SHAKEN standard. These carriers have had a years-long “head-start” in terms of planning for and then implementing the standard (and this of course includes their ability to “drive” the vendor community to produce the necessary hardware and software). As the Commission has repeatedly

¹⁸ MTA, p. 4; Comments of MT Networks/Madison Telephone, WC Docket Nos. 17-97 & 20-67 (fil. May 15, 2020), p. 2; Comments of ACA, WC Docket Nos. 17-97 & 20-67 (fil. May 15, 2020) p. 6.

recognized, RLECs do not have this luxury with respect to vendors.¹⁹ Thus, the Commission should at the very least grant RLECs until June 2023 – and this should be extended for entities not able to procure vendor solutions by the end of 2020.²⁰

Finally, NTCA reiterates here that the Commission should still tie any deadline for a given IP-enabled RLEC to that operator’s ability to obtain IP interconnection on reasonable terms and conditions through a default rule for such interconnection. Even those carriers able to obtain vendor solutions by June 2023 will not be able to pass call authentication information (or do so under terms and conditions that preserve their ability offer affordable and high-quality voice service) absent action on IP interconnection for voice traffic. In other words, the June

¹⁹ *Accessibility of User Interfaces, and Video Programming Guides and Menus; Accessible Emergency Information, and Apparatus Requirements for Emergency Information and Video Description: Implementation of the TwentyFirst Century Communications and Video Accessibility Act of 2010*, MB Docket Nos. 12-108, 12-107, Report and Order and Further Notice of Proposed Rulemaking, FCC 13-138 (rel. Oct. 31, 2013) (“Accessible User Interfaces Order”), ¶ 115 (“We recognize that smaller operators generally lack the market power and resources to drive independently the development of MVPD headend or customer premises equipment [and]...it is the large cable operators that generally dictate equipment features to manufacturers and commonly get priority in the delivery of that equipment.”); *Ensuring Continuity of 911 Communications*, PS Docket No. 14-174, Report and Order, FCC 15-98 (rel. Aug. 7, 2015) (“As NCTA/GVNW/Vantage note, [small and rural] providers may not have the same ability as nationwide providers to ‘drive innovation in the equipment market.’”).

²⁰ For the purposes of clarity, the arguments set forth in Sections II and III of this filing (and NTCA’s advocacy on IP interconnection issues as well as the association’s proposal for a June 2023 compliance deadline for small/rural operators more generally) are applicable specifically to those entities that utilize IP switching facilities to originate voice traffic (i.e., IP-enabled RLECs). See, comments of NTCA May 15, pp. 3-18. Entities that utilize TDM switches to originate voice traffic, while exempt from that statute (subject to implementing a robocall mitigation program and taking reasonable measures to find alternatives to STIR/SHAKEN), strongly desire the ability to authenticate their voice traffic as well as calls incoming from other operators and destined for the rural TDM carrier’s subscribers. As one example, for those using TDM switching facilities (or those with TDM within portions of their networks), the Out of Band STIR standard could offer a means of providing subscribers on those networks relief from an untrustworthy caller-ID system and for ensuring that their originated calls do not go unanswered or even blocked because they appear untrustworthy. Thus, while NTCA supported the TRACED Act exemption from a STIR/SHAKEN mandate (because the standard simply does not work on TDM) and agrees with the *Further Notice* that it should remain in place until alternatives are available, additional measures should be pursued to help ensure that customers on all networks can ultimately realize the benefits of call authentication.

2023 deadline proposed here should be specifically applicable only to those providers able to obtain agreements for the exchange of IP voice traffic on reasonable terms and conditions. The resolution of such issues must be the first focus of the Commission.

IV. CONCLUSION

For the reasons discussed above, the Commission should adopt simple, default IP interconnection rules to enable IP-enabled RLECs to adopt STIR/SHAKEN while maintaining affordable and quality voice service. The Commission should set any compliance deadline for IP-enabled RLECs tied to the ability to obtain such agreements. Those carriers able to certify as to their ability to do so should also have until June 2023 to adopt the standard.

Respectfully submitted,



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