



October 19, 2022

Ex Parte Notice

Ms. Marlene H. Dortch, Secretary
Federal Communications Commission
45 L Street, N.E.
Washington, D.C., 20554

RE: Call Authentication Trust Anchor, WC Docket No. 17-97

Dear Ms. Dortch:

On Wednesday, October 19, 2022, the undersigned on behalf of NTCA—The Rural Broadband Association (“NTCA”)¹ met with Priscilla Delgado Argeris with Chairwoman Jessica Rosenworcel of the Federal Communications Commission (the “Commission”). The parties discussed the Draft Notice of Inquiry (“*Draft NOI*”)² released on October 6, 2022 by the Commission seeking comment on its ongoing implementation of the TRACED Act.³ In summary, NTCA welcomed the *Draft NOI* but urged the Commission to focus in more specifically on the important interplay between IP interconnection, a broader transition to IP technologies, and call authentication objectives. In particular, NTCA urged the Commission to take careful account of the role it can and should play in promoting *both* effective call authentication *and* adoption of IP technologies more broadly through action in this proceeding. To these ends, NTCA highlighted several areas for further consideration in the *Draft NOI*.

The Draft NOI Fails to Recognize that the Resolution of Certain IP Interconnection Issues for Voice Traffic Could Mitigate, if not Overcome Entirely, the need for Non-IP Call Authentication Standards.

Before turning to the text of the *Draft NOI*, NTCA noted that its members’ interest in the instant proceeding stems from a desire to solve the “TDM (or non-IP) in the call path” barrier that limits

¹ NTCA represents approximately 850 providers of high-quality voice and broadband services in the most rural parts of the United States. In addition to voice and broadband, many NTCA members provide wireless, video, and other advanced services in their communities. Most of its members are subject to the June 2023 STIR/SHAKEN implementation deadline applicable to “small” voice service providers as adopted by the Commission in the Second Caller ID Authentication Report and Order. NTCA is a founding board member of the Secure Telephone Identity Governance Authority (“STI-GA”) Board of Directors, and serves as well on the ATIS Non-IP Call Authentication Task Force, on the North American Numbering Council (“NANC”), and the NANC Call Authentication Trust Anchor Working Group.

² *Call Authentication Trust Anchor*, WC Docket No. 17-97, Notice of Inquiry, FCC-CIRC2210-03 (rel. Oct. 6, 2022) (“*Draft NOI*”).

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”).

their ability to authenticate/verify (with STIR/SHAKEN protocols) most originated and terminated voice traffic. It is important for the Commission to understand that most NTCA members can generate STIR/SHAKEN call authentication information within their own IP networks, as well as verify it on the terminating end of a call path.⁴ The “TDM/non-IP in the call path” barrier arises because many NTCA member companies and other small rural providers like them route the vast majority of voice traffic through upstream TDM tandem switches that are owned and operated by other carriers, meaning that any call authentication information in IP format generated by subtending carriers is lost.

Against this backdrop, NTCA then asserted that the Commission faces a clear choice to fulfill its goal (and that of Congress as found in the TRACED Act) for widespread call authentication – the Commission can either adopt the non-IP call authentication standards that have been published by a standards body⁵ or ensure effective IP interconnection across all voice networks so that STIR/SHAKEN in IP format will be more universally available. There is no other clear option to ensure the end-to-end authentication of all calls as contemplated by Congress and as necessary to attack the scourge of robocalling. NTCA therefore asks that the *Draft NOI*'s questions be better targeted to articulate this binary choice, and in particular seek comment on whether steps taken to facilitate the exchange of voice traffic in IP across all networks will mitigate or render altogether unnecessary a mandate for providers' adoption of non-IP call authentication standards.

Noting that the *Draft NOI* seeks comment on industry efforts to resolve the IP interconnection issue,⁶ NTCA also asserted that the Commission's inquiry with respect to potential solutions must go further, considering *that the mere possibility of options for IP voice traffic exchange does not mean that they are effective options – in particular, there is no assurance that the affordability or quality of voice service for rural consumers will be automatically preserved simply because IP interconnection might be in theory available*. To hone in on the critical questions related to IP interconnection, NTCA proposed that any inquiries made with respect to that issue seek comment not just on the mere availability of alternatives for doing so, but also on the impacts of such alternatives on voice providers and the consumers they serve. Specifically, the Commission should expressly inquire (1) whether available alternatives for IP interconnection will shift transport costs in ways that harm certain kinds of consumers (such as those residing in rural areas

⁴ NTCA member survey data that found that more than 90 percent of the association's members have IP switching facilities in their networks that could be used to generate call authentication data. Broadband/Internet Availability Survey Report, NTCA–The Rural Broadband Association, Dec. 2021, p. 4, available at:

<https://www.ntca.org/sites/default/files/documents/2021-12/2021-broadband-survey-report-final-12-15-21.pdf>

⁵ ATIS-1000096, Out-of-Band PASSporT Transmission Involving TDM Networks (Jul. 2021); ATIS-1000095, Extending STIR/SHAKEN over TDM (Jun. 2021).

⁶ *Draft NOI*, ¶ 33.

and/or served by smaller operators);⁷ and (2) whether various IP interconnection options present implications for service quality.⁸

To ensure that the feedback produced by the *Draft NOI* fully illuminates the binary choice the Commission has before it, NTCA proposed the following amendments (found in bold and italics) to paragraph 33 of the item:

33. We seek comment on whether there are any alternative steps we should take to address the impact of non-IP interconnection points on caller ID authentication. The October 2021 NANC Report recommended that industry stakeholders examine this problem in a working group expected to issue its report before the end of this year. We welcome the final report of that working group as part of this record, and we seek comment on whether there are any additional steps we can take to help this effort succeed. ***In particular, we seek comment on whether there are any rules (including default arrangements, safe harbors, or “regulatory backstops”) that we could adopt to facilitate voice service providers’ migration to the exchange of voice traffic in IP. In addition, we seek comment on whether the solutions coming from this working group will preserve the current apportionment of costs between interconnecting providers and, if not, why it is appropriate that those costs should shift and how we should ensure that the continued affordability of voice service is not undermined for any particular group of customers as a result of any such shifts.*** We are also aware of efforts underway at ATIS on a technical report describing an interconnect profile for VoIP service providers who choose to interconnect over the public interconnect. We seek comment on these efforts, including whether the proposed approach sufficiently satisfies quality of service requirements of providers, and whether it would provide enough incentive for non-IP providers to migrate their infrastructure to support SIP signaling using STIR/SHAKEN protocols. ***We also seek comment on the extent to which providers of all sizes and technologies***

⁷ With respect to this issue, NTCA noted the nation’s largest service providers have made no secret that their vision of IP interconnection involves the exchange of voice traffic at a few points of interconnection (“POIs”) across the nation. As noted above, many RLECs route voice traffic through TDM tandem facilities owned and operated by upstream providers. In exchanging calls, RLECs typically are financially responsible to carry such traffic today to and from their “network edges” that are typically at the RLEC’s central office or some other mutually agreed upon meet point. It is NTCA’s experience that, in seeking to migrate to IP interconnection arrangements, most other providers are uninterested in retaining this relative apportionment of financial responsibility and would seek instead to transfer the costs of transport to distant POIs entirely to the RLEC. Absent Commission attention to this specific issue, RLECs will be forced to deliver calls to and from distant POIs that may be several states and hundreds or even thousands of miles away from the rural area where such calls originate/terminate. This will mean that RLECs will, for the first time, be responsible for the costs of transport to and from distant POIs – costs that will, for the first time, need to be recovered entirely from small, rural customer bases.

⁸ As NTCA noted, the *Draft NOI* seeks comment on an IP NNI standard. *Draft NOI*, ¶ 33. While the transport costs of moving to fewer POIs across the nation might be somewhat minimized via the alternative use of only “best efforts” transport of voice calls, there is no assurance of service quality under this standard. In practical terms, this would unfortunately force RLECs to decide whether rural consumers should have affordable or quality voice service – but not both. Such a result would be hard to square with the broader public policy goals of universal service.

utilize now (or intend to once this standard is finalized) “public Internet” or “best efforts” or “non-dedicated” transport facilities for the provision of voice service. Finally, we seek comment on the impact of non-IP interconnection points should the Commission take steps to encourage additional exchange of voice traffic in IP, and specifically seek input on whether such action would render a mandate to adopt non-IP call authentication standards moot.

The NOI Should Ask Additional Targeted Questions with Respect to Commission Rules that Could be Adopted, Amended, or Eliminated to Facilitate the Ongoing IP Transition and Thereby Lead to Increased Exchange of Voice Traffic in IP.

Turning to the IP transition issues raised in the *Draft NOI*,⁹ NTCA noted that it welcomes the focus on “the nexus between non-IP caller ID authentication and the IP transition generally.”¹⁰ That said, in addition to seeking comment on whether it should encourage or require providers to upgrade to IP, the Commission should seek comment on whether any of its rules (or, perhaps even more appropriately, the absence of rules) stand in the way of such a transition – simply put, the Commission should inquire as to why so many non-IP interconnection points still exist and why owners/operators of those have not moved away from them. Moreover, the Commission should seek comment on whether adoption of “clear rules of the road” with respect to how parties will exchange traffic in IP format, even just as a default construct, will give operators the regulatory certainty necessary to move beyond TDM facilities and enter into IP interconnection agreements.

To ensure that the feedback produced by the *Draft NOI* fully illuminates these issues, NTCA proposed the following amendments (found in bold and italics) to paragraph 37 of the item:

37. We first seek comment on the nexus between non-IP caller ID authentication and the IP transition generally. In lieu of pursuing a non-IP authentication solution, should we instead further encourage or require providers using non-IP technology in their networks to upgrade to IP? We seek comment on whether encouraging or requiring voice service providers and intermediate providers to spend resources on a non-IP authentication solution would delay the IP transition. Would requiring implementation of a non-IP authentication solution discourage providers from upgrading non-IP network technologies? In what ways? For example, ATIS observes that the adoption of the Out-of-Band standard may necessitate upgrades to non-IP systems that would be rendered useless if a provider transitioned to IP-based technology. Would implementation of this standard discourage providers from upgrading to IP, given that doing so would make their investment in a non-IP authentication solution obsolete? Are providers currently using resources to upgrade their networks to IP technology that would need to be diverted to accommodate a non-IP caller ID authentication framework? What is the relative scope of resources that would need to be diverted to non-IP caller ID authentication as compared to those resources called for by the IP transition? *Are there existing Commission rules that stand in the way of*

⁹ *Draft NOI*, ¶¶ 36-42.

¹⁰ *Id.*, ¶ 37.

providers' progress in the IP transition? On the other hand, are there rules that we could adopt to facilitate the IP transition, and thereby not only further the transition more broadly but also give providers the certainty necessary to retire non-IP interconnection points?

The Commission Should Also Seek More Focused Input on the Non-IP Standards, in Particular on Specific Technical or Other Barriers to Their Adoption.

NTCA turned next to a discussion of the non-IP call authentication standards referenced in the *Draft NOI*. Noting substantial preference for a migration to an all-IP voice environment – and noting that the Commission taking concrete steps to facilitate IP interconnection is the path preferable to use of these standards – NTCA noted that the non-IP standards could nonetheless serve as an essential “tool in the toolkit” for widespread use of call authentication technology should the Commission fail to address interconnection.

NTCA then noted that it is important for the Commission to take a deeper dive into the non-IP standards, particularly if it chooses that path to increased call authentication over other steps that could render these standards moot. While the *Draft NOI* references a few parties’ objections to the non-IP call authentication standards, the input sought by the Commission is misplaced. First, the *Draft NOI* cites a “lack of industry consensus” on the two non-IP standards – a statement that misses the mark for several reasons. For one, these two standards are finalized and published – that alone would seem to indicate industry consensus, whereas rejection of these standards after nearly two years of discussions in the ATIS Non-IP Call Authentication Task Force (“NIPCA”) would be actual evidence of a lack of consensus. At the very least, *the Commission should insist that parties referring to the alleged “lack of consensus” highlight specific reasons why this is so*, pointing in particular to actual reasons why the standards are not workable from a technical standpoint. In short, a segment of the industry not wanting to adopt these standards as an absolute matter does not make them unworkable as a technical matter.

In addition, the *Draft NOI*’s inquiry on “how should we incorporate cost into our analysis of whether a technology is reasonable available”¹¹ should go a step further, and seek comment on whether such costs can be avoided or at least minimized with an industry shift away from TDM facilities and towards increased exchange of voice traffic in IP interconnection. Finally, it is critical that the *Draft NOI* insist upon specifics from parties citing “security” concerns with the Out-of-Band standard. NTCA noted that consumers all across the nation not able to take advantage of call authentication due to “TDM in the call” path deserve more from the Commission than to allow platitudes or base assertions about a “lack of consensus” or “security concerns” to stand in the way of standards that are published and supported by the vendor community.

To get at these issues, in paragraph 21, NTCA proposed the following edits (found in bold and italics):

21. We seek comment on issues unique to the Out-of-Band standard in ATIS-1000096. In a report, ATIS found that this standard would complement the

¹¹ *Id.*, ¶ 27.

existing STIR/SHAKEN framework and not require any changes to the networks of providers currently using STIR/SHAKEN in their IP networks. We seek comment on these findings. Are there any compatibility concerns between the Out-of-Band standard and the STIR/SHAKEN framework that we should consider? Are there any security concerns associated with the deployment of the Out-of-Band standard? *Parties pointing to security concerns should be specific, and should discuss why the standards body process has not resolved these after nearly two years of deliberations and why proposals to do so are not viable. We also seek comment on whether security concerns have been discussed in the standards body process and whether proposals to address concerns have been fully vetted.* If so, how could the standard be changed to mitigate those concerns, and does the Commission have a role in that effort? We seek comment on the specific costs a provider would incur to implement the Out-of-Band standard on its network, and how long it could take to achieve full implementation of the standard across the network. Alongside our current STIR/SHAKEN rules for IP networks, would full implementation of this standard on non-IP networks—including the networks of both voice service and intermediate providers—mean that every call in the United States could now be authenticated and verified under the STIR/SHAKEN framework?

Moreover, in paragraph 26, NTCA proposed the following edits (found in bold and italics):

26. We seek comment on whether one or both of these standards is, as established by the Commission in the Second Caller ID Authentication Report and Order, “fully developed and finalized by industry standards” and “reasonably available . . . on the commercial market.” Regarding the first prong, does the publication of standards by ATIS represent full development and finalization? When the Commission adopted this threshold, it explained that this “would exist when the fundamental aspects of the protocol are standardized and implementable by industry.” Have the published standards met this threshold? If not, in what specific ways do they fall short? We seek comment on what specific aspects of these standards lack consensus, as some commenters argue. What problems still need to be solved? *Do parties' objections stem from clearly articulated technical infeasibility concerns (notwithstanding the standards promulgated already) or rather from a simple desire to avoid the costs of implementation?* Why is ATIS’s adoption of the Out-of-Band and Non-IP In-Band standards itself not indicative of industry consensus? What more needs to be done beyond ATIS publication, either by ATIS or other industry groups, before one or both of these standards would be considered fully developed and finalized? Is it necessary for the IETF to finish related work on Out-of-Band standards and, if so, why? What is the status of those parallel efforts and when will that work be completed? How does the alleged lack of industry consensus relate to the Commission’s threshold that a standard be “fully developed and finalized by industry standards” before requiring implementation? What progress is industry making to address any open issues? Do the recent revisions to ATIS-1000095 address them? Would rules

requiring the implementation of one or both of these ATIS standards drive the development of consensus on whatever open issues remain?

Finally, in paragraph 27, NTCA proposed the following edits (found in bold and italics):

27. Regarding the second prong, is the technology reasonably available on the commercial market? When the Commission adopted this prong, it detailed that it would consider it met when “the equipment and software necessary for implementation is commercially available.” One commenter asserts that “commercially available solutions exist,” another states that the standards “meet the requirements . . . for a non-IP standard that is ‘reasonably available,’” and others represent that providers have implemented solutions based on the Out-of-Band standard. Does this mean that the equipment and software needed to implement either of the standards is available on the commercial market? If so, what is the range of costs of this equipment and software, and how should we incorporate cost into our analysis of whether a technology is reasonable available? ***Should we also consider whether these costs can be avoided by industry should we adopt rules to facilitate increased exchange of voice traffic in IP format?*** And are these solutions interoperable? Given that one small provider represented that it has already implemented the Out-of-Band standard, should we understand that costs associated with implementation can be reasonably borne by providers of all sizes? If not, what needs to occur to make the required equipment and software available and affordable? In the time since these standards were adopted, how widely have they been implemented? If one or neither have yet to be widely implemented, we seek comment on why. Are providers waiting for a Commission mandate to begin implementation, so as to avoid investing in a solution different from one we may ultimately require?

Thank you for your attention to this correspondence. Pursuant to Section 1.1206 of the Commission’s rules, a copy of this letter is being filed via ECFS.

Sincerely,
/s/ Brian Ford
Brian Ford
Vice President – Federal Regulatory
NTCA-The Rural Broadband Association

cc: Priscilla Delgado Argeris