

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20054**

In the Matter of:]	
]	
Call Authentication Trust Anchor]	WC Docket No. 17-97
]	

COMMENTS

The Voice on the Net Coalition (“VON”)¹ files these comments in response to the Commission’s Notice of Inquiry (“NOI”) seeking comments on how best to address the unavailability of caller ID authentication on non-IP networks.² VON and its members have actively engaged in industry efforts to eliminate illegal robocalls, including through participation on the SIP Interconnection Working Group. As discussed below, the Commission, working cooperatively with industry, should take necessary steps to encourage the transition to all IP-networks, including through support of IP interconnection across all networks and facilities. All IP-networks will facilitate the ubiquitous deployment of STIR/SHAKEN and bring its benefits to all Americans with a telephone.

Background. As early as 2009 VON recommended steps the Commission could take to facilitate the transition to IP networks, including by limiting regulation of IP services, providing targeted support for broadband deployment, reforming the contribution methodology for the Universal Service Fund, and adopting and promoting changes to intercarrier compensation (by

¹ The VON Coalition works to advance regulatory policies that enable Americans to take advantage of the promise and potential of IP-enabled communications, including interconnected Voice over Internet Protocol (“VoIP”). For more information, see www.von.org.

² Notice of Inquiry, WC Docket No. 17-97, FCC 22-81, (rel. October 28, 2022).

supporting bill and keep) and interconnection rules that may have encouraged the continued dependence on circuit switched technology.³ While much progress has been made in the past decade, as the Commission recognizes in the NOI, the lack of ubiquitous IP network technology is now hampering the nationwide STIR/SHAKEN implementation in 2022.⁴ The NOI seeks comments on the status of the IP transition, steps the Commission could take to promote the IP transition and whether adoption of non-IP caller ID authentication solutions may detract from the transition to IP-based solutions.⁵

STIR/SHAKEN REQUIRES IP INTERCONNECTION: The Commission has recognized since 2020 that the unavailability of IP interconnection could be an impediment to end-to-end STIR/SHAKEN.⁶ More recently, the North American Numbering Council’s Call Authentication Trust Anchor Working Group, addressed the problem in a paper call “Deployment of STIR/SHAKEN by Small Voice Service Providers.”⁷ The paper notes that local exchange carriers, particularly in rural areas, operate networks that largely rely on legacy TDM tandems to receive inbound calls from, or send outbound calls to, other carriers; surmising that IP interconnection

³ See, Comments of the Voice on the Net Coalition, GN Docket No. 09-51, filed December 22, 2009, pages 2-7.

⁴ NOI at 17.

⁵ Id.

⁶ See, *Report and Order and Further Notice of Proposed Rulemaking*, WC Docket 17-97 (rel. March 31, 2020)) at para. 85 and para. 35, fn 135 (“We recognize that the transmission of STIR/SHAKEN authentication information over a non-IP interconnection point is not technically feasible at this time.”).

⁷ A copy of the paper may be found on the Commission website at [October 13, 2021 CATA Working Group Report to NANC | Federal Communications Commission \(fcc.gov\)](#) (“CATA Paper”) (last visited September 19, 2022).

is “either not available or is not an economically viable option.”⁸ Without access to IP interconnection, “the subscribers of such providers may have limited benefit from the TRACED Act.”⁹

The conundrum appears to be who will bear the cost to deliver calls to and from distant points of interconnection, or whether efficient solutions exist (regulatory or otherwise) that can fairly address those concerns.¹⁰ The CATA Paper recognizes that for many smaller providers with limited subscriber lines, peak bandwidth and capacity requirements do not justify dedicated physical connections to IP peers but that solutions may exist, including using the public internet, that overcome the costs and burdens associated with physical direct interconnection points, but may raise security or quality of service concerns.¹¹

In an effort to address the obstacles raised by the CATA paper, VON and eight other trade associations (the “SIP Interconnection Working Group”), representing a broad segment of voice service providers, developed a report that included solutions and recommendation available to small service providers to exchange traffic in IP format.¹² The Report understands that “the STIR/SHAKEN call authentication regime is most effective when all voice traffic is carried in IP format from the originating end of the call all the way to the terminating end of the call”¹³ but acknowledges that “exchanging traffic in IP format and TDM interconnection are vastly

⁸ Id. at 5. See also, Reply Comments of NTCA, WC Docket No. 17-97 (filed September 16, 2022) at 5 (“the Commission must do everything in its power to promote IP interconnection and the exchange of calls in IP format so that they can be authenticated via STIR/SHAKEN.”)

⁹ CATA Paper at 5.

¹⁰ NTCA Reply Comments at 6-7.

¹¹ CATA Paper at 12-14.

¹² A copy of the report was filed November 16, 2022, in Docket No. 17-97, and can be found here: [11.16.22 SIP Interconnection Working Group Report.pdf \(fcc.gov\)](https://www.fcc.gov/document/11-16-22-sip-interconnection-working-group-report-pdf).

¹³ Report at 6.

different, and it would be inefficient to replicate TDM interconnection principles for IP traffic exchange.”¹⁴ The Report further recognizes the cost considerations required for nationwide IP interconnection for service providers with small volumes of traffic, who, though most operate IP switching facilities that can generate call authentication data on their own networks, are routing outbound traffic through upstream tandems owned or operated by other providers that are typically TDM and cannot pass call authentication information.¹⁵

The Report recommended three options that would allow small service providers to exchange voice traffic in a manner that preserves SIP header information and facilitates end-to-end call authentication under the STIR/SHAKEN framework.¹⁶ These options include a) exchanging traffic via a dedicated connection, wherein the providers mutually agree on facility capacity, connection location and each is responsible for transport to the connection point; b) traffic exchange over the smaller provider’s existing Internet connection, which is more practical when traffic volumes are too small to justify the cost of a dedicated connection; and c) traffic exchange via a third party transport provider that has its own transport networks and traffic exchange arrangement with other providers throughout the US.¹⁷ Each option has cost and quality of service considerations but all generally rely on commercially negotiated agreements between service providers.¹⁸

¹⁴ Report at 1.

¹⁵ Id. at 2.

¹⁶ VON does not support the adoption of non-IP authentication solutions, and agree with those parties that have suggested that doing so would eliminate incentives for other providers to transition to IP solutions. NOI at p. 17.

¹⁷ Report at 3-5.

¹⁸ VON notes that adoption of the IPLRN solution to Nationwide Number Portability may assist in the successful transition to an all IP network. See, Report on Nationwide Number Portability, submitted to the North American Numbering Council and filed with the Commission

VON fully expects that its members will continue to work diligently with other industry participants to develop commercial solutions to the SIP interconnection problem. To achieve this goal, the members of the SIP Interconnection Working Group agreed to certain market-based expectations for voice service providers, including critically, an expectation that they will negotiate in good faith regarding the terms and condition for IP voice traffic exchange; that no provider shall refuse to negotiate with any other voice providers; that providers should make publicly available basic information by which they would be willing to exchange traffic and any other non-proprietary information that would facilitate negotiations; and that parties will share relevant network information pursuant to non-disclosure agreements.¹⁹

However, despite the best of intentions, given differences in the size and scope of those in the voice ecosystem, commercial arrangements may not always lead to palatable or equitable results for all parties, and in some cases may not be available to providers with smaller volumes of traffic. Currently available commercial agreements generally only include traffic from telephone numbers that are on VoIP or mobile operating company numbers or service profile identifiers. This means that wireline local and long-distance traffic will not be sent via IP interconnections even if that traffic reaches IP switches on the interconnecting party's network.²⁰ VON encourages the Commission and the industry to continue to adopt solutions that address these commercial limitations, while acknowledging that there is still

July 28, 2020, at 8-12. A copy of the report may be found here: [NANC Nationwide Number Portability Working Group Report | Federal Communications Commission \(fcc.gov\)](#).

¹⁹ Report at 6.

²⁰ Without an IP mandate, there are providers that may route calls through TDM, which forces other providers in the call path to peer with each terminating carrier (which is cumbersome, expensive and complicated).

work to be done regarding the adoption of IP traffic exchange. In those situations, or if industry in the first instance cannot reach a consensus on solutions, the Commission should take more proscriptive action, as the CATA report recommends.²¹

CONCLUSION

The Commission should act in accordance with the recommendations herein.

Respectfully submitted,

VOICE ON THE NET COALITION

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²¹ CATA Report at 15.