

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

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

FOURTH REPORT AND ORDER

Adopted: December 9, 2021

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By the Commission:

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I. INTRODUCTION

1. Today, we take action to further combat illegally spoofed robocalls by accelerating the date by which small voice service providers that are most likely to be the source of illegal robocalls must implement the STIR/SHAKEN caller ID authentication framework. STIR/SHAKEN combats illegally spoofed robocalls by allowing voice service providers to verify that the caller ID information transmitted with a particular call matches the caller’s number. In 2020, the Commission required voice service providers to implement STIR/SHAKEN by June 30, 2021,1 but provided an extension for small voice service providers until June 30, 2023.2 In light of new evidence that some providers subject to this extension were originating a high and increasing share of illegal robocalls relative to their subscriber base, in May of this year, we proposed shortening the extension for those small voice service providers at the

1 Call Authentication Trust Anchor, Implementation of the TRACED Act Section 6(a) Knowledge of Customers by Entities with Access to Numbering Resources, WC Docket Nos. 17-97 and 20-67, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 3241, 3260, para. 41 (2020) (First Caller ID Authentication Report and Order and Further Notice of Proposed Rulemaking).

2 See Call Authentication Trust Anchor, WC Docket No. 17-97, Second Report and Order, 36 FCC Rcd 1859, 1876-77, paras. 39-40 (2020) (Second Caller ID Authentication Report and Order).

greatest risk of originating illegal robocalls.³ To better protect Americans from illegally spoofed calls, we now act on this proposal and require non-facilities-based small voice providers to implement STIR/SHAKEN by June 30, 2022. An extension for an additional year—until June 30, 2023—remains applicable to facilities-based small voice providers. We also require small voice service providers of any kind suspected of originating illegal robocalls to implement STIR/SHAKEN on an accelerated timeline.

II. BACKGROUND

2. The STIR/SHAKEN caller ID authentication framework is a key part of our efforts to combat illegal robocalls. The framework relies on public-key cryptography to securely transmit the information that the originating voice service provider knows about the identity of the caller and its relationship to the phone number it is using along with the call, allowing the terminating voice service provider to verify the information on the other end.⁴ To implement STIR/SHAKEN, a voice service provider must update portions of its network infrastructure to enable it to authenticate and verify caller-ID information consistent with the framework.

3. In March 2020, the Commission adopted rules requiring voice service providers to implement STIR/SHAKEN in the Internet Protocol (IP) portions of their voice networks by June 30, 2021.⁵ In accordance with the Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence (TRACED) Act, the Commission required voice service providers that use IP technology, including both two-way and one-way interconnected VoIP providers to comply with this mandate.⁶

4. The Commission found that widespread implementation of STIR/SHAKEN provides numerous benefits for voice service providers, their subscribers, and entities involved in enforcement.⁷ The STIR/SHAKEN framework allows an originating voice service provider to share what it knows about the caller ID information transmitted with a call, providing vital information that can be used by terminating voice service providers to block or label illegal robocalls before those calls reach their subscribers.⁸ It also promotes enforcement by appending information about the source of a call into the metadata of the call itself, offering instantaneous traceback without the need to go through the traceback process.⁹ STIR/SHAKEN implementation further restores trust in caller ID information and makes call recipients more willing to answer the phone, reduces disruption to E911 networks, reduces providers' compliance response costs, and reduces the government-wide costs of enforcement.¹⁰ In total, the

³ See generally, *Call Authentication Trust Anchor*, WC Docket No. 17-97, Third Further Notice of Proposed Rulemaking, 36 FCC Rcd 8827 (2021) (*Small Provider Further Notice*).

⁴ *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1863, para. 8.

⁵ 47 CFR § 64.6301; *First Caller ID Authentication Report and Order and Further Notice of Proposed Rulemaking*, 35 FCC Rcd at 3252, para. 24 (2020).

⁶ *First Caller ID Authentication Report and Order and Further Notice of Proposed Rulemaking*, 35 FCC Rcd at 3259, para. 37; Pallone-Thune Telephone Robocall Abuse Criminal Enforcement and Deterrence Act, Pub. L. No. 116-105, § 4(a)(2)(B)(ii), 133 Stat. 3274, 3277 (2019) (TRACED Act).

⁷ See *First Caller ID Authentication Report and Order and Further Notice of Proposed Rulemaking*, 35 FCC Rcd at 3263-65, paras. 46-52.

⁸ See *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1863-64, para. 10.

⁹ See *id.*; see also ATIS & SIP Forum, Errata on ATIS Standard on Signature-based Handling of Asserted information using toKENs (SHAKEN), ATIS-1000074-E at § 5.2.4 (2019), https://access.atis.org/apps/group_public/download.php/46536/ATIS-1000074-E.zip (describing the origination identifier).

¹⁰ See *First Caller ID Authentication Report and Order and Further Notice of Proposed Rulemaking*, 35 FCC Rcd at 3263-65, paras. 49-52.

Commission has estimated that the potential monetary benefit from eliminating fraud and nuisance alone would exceed \$13.5 billion per year.¹¹

5. The TRACED Act created a process by which the Commission could grant an extension for a “reasonable period of time” to voice service providers that the Commission determined face “undue hardship” in implementing STIR/SHAKEN.¹² After assessing the burdens and barriers faced by different classes of voice service providers, the Commission granted the following class-based extensions: (1) a two-year extension to small voice service providers;¹³ (2) an extension to voice service providers that cannot obtain a “certificate” until such provider can obtain one;¹⁴ (3) a one-year extension to services scheduled for section 214 discontinuance;¹⁵ and (4) a continuing extension for the parts of a voice service provider’s network that relies on technology that cannot initiate, maintain, and terminate SIP calls until a solution for such calls is readily available.¹⁶ Voice service providers seeking the benefit of these extensions must implement a robocall mitigation program.¹⁷ And like all voice service providers, they must also respond fully and in a timely manner to traceback requests from certain entities;¹⁸ effectively mitigate illegal traffic when notified by the Commission;¹⁹ and adopt affirmative, effective measures to prevent new and renewing customers from using their network to originate illegal calls.²⁰

6. The Commission defined small voice service providers subject to an extension as those with 100,000 or fewer voice service subscriber lines.²¹ It determined that an extension for small voice service providers until June 30, 2023, was appropriate under the TRACED Act because of their high implementation costs compared to their revenues, the limited STIR/SHAKEN vendor offerings available to them, the likelihood that costs would decline over time, because an extension would allow small voice service providers to spread their costs over time, and because small voice service providers serve only a small percentage of total voice subscribers, limiting potential consumer harm of an extension.²² In adopting a blanket extension for small voice service providers, based on the record before it, the Commission rejected arguments that not all voice service providers face identical hardships and that some of these providers may originate illegal robocalls.²³ It determined that all small voice service providers,

¹¹ See *id.* at 3263, paras. 47-48.

¹² TRACED Act § 4(b)(5)(A)(ii).

¹³ *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1877-82, paras. 40-48; 47 CFR § 64.6304(a).

¹⁴ *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1882-83, paras. 49-50; 47 CFR § 64.6304(b).

¹⁵ *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1883, para. 51; 47 CFR § 64.6304(c).

¹⁶ *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1892-96, paras. 66-70; 47 CFR § 64.6304(d). The Wireline Competition Bureau also denied two provider-specific extension requests. *Call Authentication Trust Anchor*, WC Docket No. 17-97, Order, 36 FCC Rcd 6550, para. 1 (WCB 2021).

¹⁷ 47 CFR § 64.6305(a); *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1899-1901, paras. 76-80. While Commission rules reflect a non-prescriptive approach to this robocall mitigation requirement, a voice service provider’s robocall mitigation plan must “include reasonable steps to avoid originating illegal robocall traffic” and “a commitment to respond fully and in a timely manner to all traceback requests.” 47 CFR § 64.6305(a)(2); see also *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1900-01, paras. 78-79.

¹⁸ 47 CFR § 64.1200(n)(1).

¹⁹ 47 CFR § 64.1200(n)(2).

²⁰ See *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, Fourth Report and Order, 35 FCC Rcd 15221, 15229-32, paras. 22-30 (2020) (*Call Blocking Fourth Report and Order*). To be codified at 47 CFR § 64.1200(n)(2). See *id.* at Appx. A.

²¹ See 47 CFR § 64.6304(a)(2); *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1877, para. 40.

²² See *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1877-82, paras. 40-48.

²³ See *id.* at 1879-80, para. 44.

as a class, face undue hardship, and thus a blanket extension for such providers was necessary to give them time to implement STIR/SHAKEN.²⁴

7. In May 2021, in light of new evidence indicating that certain small voice service providers are originating a high and increasing share of illegal robocalls relative to their subscriber base, we proposed to reassess the Commission's earlier determination that all small voice service providers should receive a two-year extension.²⁵ Specifically, we proposed to shorten by one year the extension for small voice service providers at a heightened risk of originating illegal robocalls.²⁶ We proposed that these providers implement STIR/SHAKEN in the IP portions of their networks no later than June 30, 2022, in order to ensure that voice service providers most likely to be the source of illegal robocalls authenticate calls sooner, in turn allowing terminating voice service providers to know if the caller ID is legitimate and take action as appropriate.²⁷ We sought comment on how to best define the subset of small voice service providers that are at a heightened risk of originating illegal robocalls, including whether to turn that determination on whether a provider "offer[s] voice service over physical lines to end-user customers."²⁸ And we sought comment on ways to ensure affected providers comply with a shortened extension, including whether to collect information from providers or rely on information already submitted by providers for other purposes (e.g., FCC Forms 477 and 499),²⁹ and whether the Commission could use this information to determine if a provider meets the adopted criteria.³⁰

8. The response to this *Small Provider Further Notice* reflected widespread support for shortening the extension for a subset of small voice service providers most likely to originate robocalls, including from large and small voice service providers and their representatives, robocall analytics companies, and a bipartisan coalition of all 51 state attorneys general.³¹ Many commenters favored

²⁴ See *id.*

²⁵ See *Call Authentication Trust Anchor*, WC Docket 17-97, Third Further Notice of Proposed Rulemaking, 36 FCC Rcd 8827, 8830-31, para. 7 (2021) (*Small Provider Further Notice*).

²⁶ See *id.*

²⁷ See *id.*

²⁸ See *Small Provider Further Notice*, 36 FCC Rcd at 8840-41, para. 35 & n.82 (citing 47 CFR § 1.7001(a)(2) for the definition of "facilities-based provider" for the purpose of FCC Form 477 Data collection).

²⁹ *Small Provider Further Notice*, 36 FCC Rcd at 8841, para. 36. Fixed voice service providers filing an FCC Form 477 must submit information regarding whether they offer voice service to end-users. See generally, Fed. Comm'n. Comm'n., *FCC Form 477 Local Telephone Competition and Broadband Reporting Instructions*, <https://us-fcc.app.box.com/v/Form477Instructions> (last visited Nov. 8, 2021) (*FCC Form 477 Instructions*). Specifically, they must submit the number of interconnected VoIP lines sold bundled with transmission service and subscriptions sold on a standalone basis without transmission service. See *id.* at 23-25. Providers must also submit information on their number of "facilities-based" broadband lines. See *id.* at 15-21.

³⁰ See *Small Provider Further Notice*, 36 FCC Rcd at 8843, para. 44 (asking whether it should "avoid requiring service providers to submit data by relying on data already in our possession to monitor compliance.").

³¹ See generally, Competitive Carriers Ass'n Reply Comments (CCA Reply Comments) at 1-2; NCTA Reply Comments; ACA Connects Comments and Reply Comments; USTelecom Comments and Reply Comments; Transaction Network Servs. (TNS) Comments; ZipDX Reply Comments; S.C. Dep't of Consumer Affs. Comments; INCOMPAS Comments; Comments of 51 State Attorneys General. Individual Attorneys General also released statements in support. See also, e.g. Wis. Dep't of Just., *AG Kaul Calls for Faster Implementation of Anti-Robocall Technology*, Aug. 9, 2021), <https://www.doj.state.wi.us/news-releases/ag-kaul-calls-faster-implementation-anti-robocall-technology>; The Albany Herald, *Georgia AG Ready to Crack down on National Robocalls* (Aug. 11, 2021), <https://www.govtech.com/public-safety/georgia-ag-ready-to-crack-down-on-national-robocalls>. In a comment in response to a Wireline Competition Bureau Public Notice submitted after the close of the comment cycle in the *Small Provider Further Notice*, CCA expressed additional support for retaining the extension for facilities-based providers. See CCA Comments, WC Docket No. 17-97 at 4-6 (filed Nov. 12); *Wireline Competition Bureau Seeks*

(continued)

shortening the extension specifically for non-facilities-based voice service providers—because such providers are most frequently determined to be the source of illegal robocalls—and those providers that have been found to have been the source of illegal robocalls.³²

III. DISCUSSION

9. In light of the overwhelming record support and available evidence showing that non-facilities-based small voice service providers are originating a large and disproportionate amount of robocalls, we require this subset of providers to implement STIR/SHAKEN a year sooner than previously required, while maintaining the full extension for those small voice service providers that are facilities-based.³³ We further require any small voice service providers that the Enforcement Bureau suspects of originating illegal robocalls and that fails to mitigate such traffic upon Bureau notice or otherwise fails to meet its burden under section 64.1200(n)(2) of our rules, to implement STIR/SHAKEN within 90 days of that determination unless sooner implementation is otherwise required. Through this action, we close a gap in our current STIR/SHAKEN regime and, by targeting those providers most likely to be involved in illegal robocalling, we reap a substantial portion of the benefits offered by STIR/SHAKEN to Americans.³⁴

A. Basis for Shortening Extension for a Subset of Small Voice Service Providers

10. We find that a subset of small voice service providers constitute a large and increasing source of illegal robocalls and should therefore be subject to a shortened extension. In the *Small Provider Further Notice*, we proposed supporting this conclusion on the basis of evidence reflecting that small voice service providers are responsible for a substantial portion of the illegal robocall problem.³⁵ Transaction Network Services (TNS), a call analytics provider, asserted in a March 2021 report that given their disproportionate role originating robocalls, small voice service providers need to implement STIR/SHAKEN for the Commissions' rules “to have a significant impact.”³⁶ Similarly, Robokiller, a spam call and protection service, concluded in a February 2021 report that because “smaller carriers have exemptions lasting . . . until 2023 . . . [w]ithout a unified front from all carriers, STIR/SHAKEN cannot

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Comment on Two Traced Act Obligations Regarding Caller ID Authentication, WC Docket Nos. 17-97, 20-68, Public Notice, DA 21-1103 (WCB, rel. Sept. 3, 2021) (*WCB Extension PN*).

³² NCTA Reply Comments at 1 (arguing that shortening the extension for, among others, non-facilities-based providers, “best balance[s] STIR/SHAKEN implementation burdens for small providers and the public benefits of call authentication technology.”); NTCA Reply Comments at 4-5; ACA Connects Comments at 10; ZipDX Reply Comments at 1; USTelecom Reply Comments at 3; CCA Reply Comments at 5.

³³ See INCOMPAS Comments at 3 (arguing for retaining the extension for those providers “against which there is no evidence or suggestion that they are originating illegal robocall campaigns.”); ACA Connects Comments at 6 (arguing for the Commission to ensure that any shortened deadline “applies only to those providers that are the legitimate target of this proceeding: those that facilitate illegal robocalls as a core part of their business.”); Letter from Brian Hurley, Vice President of Regulatory Affairs, ACA Connects, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 17-97, at 1 (filed Oct. 11, 2011) (ACA Connects Oct. 11 *Ex Parte*) (“[A]ny acceleration of the small provider deadline for bad actors must be narrowly tailored to exclude the good ones.”).

³⁴ S.C. Dep’t of Consumer Affs. Comments at 4 (supporting shortening the extension for those providers most likely to originate illegal robocalls because of “the higher number of unwanted calls received, the higher the losses suffered by South Carolina Consumers”); *First Caller ID Authentication Report and Order and Further Notice of Proposed Rulemaking*, 35 FCC Rcd at 3263-65, paras. 46-52 (noting the billions of dollars of potential savings to be gained from eliminating robocalls).

³⁵ *Small Provider Further Notice*, 36 FCC Rcd at 8831-32, paras. 8-10 (citing Transaction Network Services report show that by the end of 2020, “[a]lmost 95% of high risk calls originate from non-Tier-1 telephone resources.”).

³⁶ See *id.* at 8833-34, para. 16 (internal citations omitted).

be completely effective.”³⁷ The Commission’s analysis indicates that small providers are a substantial part of the problem. In the *Small Provider Further Notice*, we explained that we had reason to believe just one of the 19 providers that received letters from the FTC in January 2020 for facilitating robocalls had more than 100,000 access lines.³⁸

11. No commenter disputed this evidence, and additional evidence indicating that some small voice service providers now are a major source of illegal robocalls supports this view. TNS released a follow-up report in September 2021, stating that “only 4% of the high-risk calls in 1H2021 originated from the top six carriers . . . [reflecting] a significant drop from 11% in 2019 and down from 6% in 2020.”³⁹ It concludes that the small provider extension “has likely resulted in the increase of unwanted VoIP calls”⁴⁰ and, in the comments, argues that “problematic robocalls increasingly are shifting to small carrier networks . . . [a]s large carriers continue to implement STIR/SHAKEN.”⁴¹ No commenter disputed these conclusions or offered competing evidence suggesting a different conclusion.

12. We draw further support for our conclusion from the near-unanimous consensus in the record for shortening the STIR/SHAKEN extension for the subset of small voice service providers most responsible for illegally spoofed robocalls in order to better protect Americans. For example, CCA argued that the “Commission has reasonably proposed that the subset of small providers . . . responsible for a disproportionate amount of unlawful robocalls should not continue to benefit from the . . . extension.”⁴² Similarly, TNS “supports the Commission’s proposal to accelerate the deployment deadline” for “those types of providers that are most closely associated with originating problematic calls.”⁴³ INCOMPAS agrees that “[a]s the Commission indicates, it is a ‘subset’ of small voice service providers that are at a heightened risk of originating a significant percentage of illegal robocalls,” that should be subject to a “curtailment of the compliance extension.”⁴⁴ Others agreed the Commission should take action,⁴⁵ and that the benefits of doing so will outweigh the costs.⁴⁶ These comments underscore our conclusion that the benefits of a shortened extension for those providers at greatest risk of originating illegal robocalls far outweigh the costs of such action.

13. We therefore reject WTA’s assertion that we should not place additional obligations on a subset of small voice service providers likely to be the source of illegal robocalls. WTA argues that doing so is “premature” and would lead to “uncertain[ty].”⁴⁷ We disagree.⁴⁸ Many voice service providers have

³⁷ See *id.* (internal citations omitted).

³⁸ See *id.* at 8831-32, at para. 10 (internal citations omitted).

³⁹ See TNS 2021 1H Robocall Investigation Report, Seventh Edition at 11 (Sept. 21, 2021), <https://tnsi.com/forms/tns-sept-2021-robocall-report/>.

⁴⁰ See *id.* at 10.

⁴¹ TNS Comments at 2.

⁴² CCA Reply Comments at 1.

⁴³ TNS Comments at 1.

⁴⁴ See INCOMPAS Comments at 3.

⁴⁵ See, e.g., NTCA Reply Comments at 2; ACA Connects Oct. 11 *Ex Parte* Letter at 1.

⁴⁶ See, e.g., NTCA Reply Comments at 1 (arguing that, shortening the extension for, among others, non-facilities-based providers, “best balance[s] STIR/SHAKEN implementation burdens for small providers and the public benefits of call authentication technology”); TNS Comments at 4 (arguing that a targeted approach to shortening the extension “provides significant public benefits” because of the consumer harms and losses that can be avoided).

⁴⁷ See WTA Comments at 1-2. However, in a comment in response to the *WCB Extension PN* submitted after the comment cycle in the *Small Provider Further Notice* closed, WTA expressed support for retaining the extension for at least facilities-based providers but eliminating it for bad actors. See WTA Comments, WC Docket Nos. 17-97, 20-68 at 3-4 (filed Nov. 12).

invested significant resources implementing STIR/SHAKEN, a technology that, when widely deployed, will offer substantial benefits to Americans by combating illegally spoofed calls. Implementation gaps undermine its effectiveness, however, especially when providers most likely to be the source of illegal robocalls are not participating in the framework. As Robokiller notes, the trends in illegal robocalls have not markedly improved, counseling against further delays.⁴⁹ Indeed, the North American Numbering Council (NANC) recently explained that the failure of small voice service providers to implement STIR/SHAKEN “negatively impacts the broader service provider ecosystem.”⁵⁰ Finally, we find that the clear rule we adopt today gives potentially-affected providers certainty as to their STIR/SHAKEN obligations.

B. Scope of Providers Subject to Shortened Extension

14. As detailed below, we require two categories of small voice service providers to implement STIR/SHAKEN before the June 30, 2023, extended implementation deadline: (1) non-facilities-based providers, and (2) those providers that the Enforcement Bureau determined has, upon notice to a provider, failed to: mitigate suspected illegal robocall traffic, provide information requested by the Enforcement Bureau, including credible evidence that they are in fact not originating such traffic, respond in a timely manner, or violated section 64.1200(n)(2) of the Commission’s rules. In the *Small Provider Further Notice*, we proposed to shorten the extension for small voice service providers that “originate an especially large amount of calls” and therefore, we asserted, “were at a heightened risk of being a source of unlawful calls.”⁵¹ We sought comment on whether we should shorten the extension for providers that meet certain outgoing call thresholds or, as a proxy for originating a significant number of calls, meet a certain percentage of revenue by market segment.⁵² We also sought comment on alternative criteria for determining whether a provider is likely at a heightened risk of originating robocalls, including whether a provider does not offer voice service over physical lines to end-user customers or has violated our rules.⁵³ After review of the record, we conclude that subjecting small voice service providers that do not offer voice service over physical lines to end-users or that have violated certain rules to a hastened STIR/SHAKEN implementation deadline will best protect Americans from illegal robocalls.

1. Non-Facilities-Based Small Voice Providers

15. We conclude that non-facilities-based small voice service providers are at a higher risk of originating illegal robocalls than other small voice service providers and should be subject to an accelerated STIR/SHAKEN implementation deadline. ACA Connects observes, based on its review of “information that is publicly available . . . voice providers targeted by the Commission recently for facilitating illegal robocalls” tend to be non-facilities-based providers.⁵⁴ As ZipDX asserts, most providers originating a large number of robocalls are not facilities-based.⁵⁵ In contrast to “providers that

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⁴⁸ See USTelecom Reply Comments at 2-3 (opposing WTA’s approach and noting they were the only commenter to “urge[] the Commission to refrain from action at this time”).

⁴⁹ See Robokiller, *Robocall Insights*, <https://www.robokiller.com/robocall-insights/> (last visited Nov. 8, 2021) (showing an increase in Robocalls from July 1 through October, 2021).

⁵⁰ See North American Numbering Council Call Authentication Trust Anchor Working Group, *Deployment of STIR/SHAKEN by Small Voice Service Providers* 3 (Oct. 13, 2021), http://nanc-chair.org/docs/October_13_2021_CATA_Working_Group_Report_to_NANC.pdf (Oct. 2021 NANC CATA Report).

⁵¹ See *Small Provider Further Notice*, 36 FCC Rcd at 8835, para. 20.

⁵² See *id.* at 8835-38, paras. 20-29.

⁵³ See *Small Provider Further Notice*, 36 FCC Rcd at 8838-41, paras. 30-38.

⁵⁴ ACA Connects Comments at 10.

⁵⁵ ZipDX Reply Comments at 1.

deploy physical facilities ('lines') . . . to human end-users," ZipDX argues that there is a "cottage industry of small VoIP providers" that focus their business on calling services associated with illegal robocalls.⁵⁶ Additional information reinforces the near-unanimous consensus in the record: all but one of the seven interconnected VoIP providers that both received letters from the Enforcement Bureau or FTC for their suspected involvement in illegal robocalling⁵⁷ and submitted an FCC Form 477 offered VoIP not sold bundled with transmission service.⁵⁸

16. Conversely, the record convinces us that facilities-based small voice service providers are less likely than non-facilities-based providers to be the source of illegally spoofed robocalls. USTelecom, which established the Industry Traceback Group (ITG) that currently serves as the registered traceback consortium to conduct private-led traceback efforts, explains that "[t]racebacks seldom conclude that a facilities-based provider, whether a large one or small one" originate robocalls.⁵⁹ We agree with NTCA that "[t]he risk of illegal robocalls being generated by [facilities-based] providers . . . would appear relatively low,"⁶⁰ because facilities-based providers are likely to offer voice and transmission services, so they are not focused solely on serving customers with services such as auto-dialing services used for illegal robocalls.⁶¹ In addition, as WTA notes, small facilities-based providers are "familiar with their relatively small group of existing and potential customers," making it "easy for them to stop, investigate, discourage or disconnect potential illegal robocallers."⁶²

⁵⁶ See Letter of David Frankel, CEO, ZipDX, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 17-97 at 1 (filed May 5, 2021).

⁵⁷ See FCC, *FCC Issues Robocall Cease-and-Desist Letters to 3 More Companies* (Oct. 21, 2021), <https://www.fcc.gov/document/fcc-issues-robocall-cease-and-desist-letters-3-more-companies>; FCC, *FCC Demands Two Companies Cease-and-Desist Illegal Robocall Campaigns* (May 3, 2021), <https://www.fcc.gov/document/fcc-demands-two-companies-cease-and-desist-illegal-robocall-campaigns>; FCC, *FCC Announces Push for Robocall Blocking* (Apr. 13, 2021), <https://www.fcc.gov/document/fcc-announces-push-robocall-blocking-consumer-resources> (attaching letters to two providers); FCC, *FCC Issues Robocall Cease-And-Desist Letters to Six Voice Providers* (Mar. 18, 2021), <https://www.fcc.gov/document/fcc-issues-robocall-cease-and-desist-letters-six-voice-providers> (attaching letters to six providers); FTC, *FTC and FCC Send Joint Letters to Additional VoIP Providers Warning against 'Routing and Transmitting' Illegal Coronavirus Robocalls*, (May 20, 2020), <https://www.ftc.gov/news-events/press-releases/2020/05/ftc-fcc-send-joint-letters-additional-voip-providers-warning> (attaching letters to three providers); FTC, *VoIP Companies*, <https://www.ftc.gov/about-ftc/foia/frequently-requested-records/voip-companies> (last visited Nov. 10, 2021) (attaching letters to 20 providers that received letters in February 2020); FCC, *FCC Urges More in Phone Industry to Join in Tracing Scam Robocalls* (Nov. 6, 2018), <https://www.fcc.gov/document/fcc-urges-more-phone-industry-join-tracing-scam-robocalls> (attaching letters to eight providers).

⁵⁸ Based on confidentially filed FCC Form 477 Data. See also *Chamber of Commerce v. SEC*, 443 F.3d 890, 900 (D.C. Cir. 2006) (holding that an agency may rely on supplementary data, unavailable during the notice and comment period, that expands upon and confirms information contained in the proposed rulemaking absent prejudice).

⁵⁹ USTelecom Comments at 4.

⁶⁰ NTCA Comments at 9-10.

⁶¹ See ACA Connects Comments at 6 (arguing that, because facilities-based providers typically offer an array of voice, broadband, and related services, they do not facilitate illegal robocalls as "a core part of their business"); NTCA Comments at 2 (contending that reducing the extension for non-facilities-based providers captures providers responsible for illegal robocalls in a more "surgical and precise manner" than our original proposal); CCA Reply Comments at 5 (asserting that shortening the extension for non-facilities-based providers "offers a clear line that seems to lessen the risk that good-faith actors are unduly held to an accelerated timeline"); see also *Small Provider Further Notice*, 35 FCC Rcd at 8839, para. 30 (seeking comment on whether we should "curtail the extension for those small voice service providers that offer customers autodialing functionality or whose call durations are very short.").

⁶² WTA Comments at 2.

17. We also find that the burden of STIR/SHAKEN implementation for non-facilities-based small voice service providers is sufficiently low to make earlier implementation by this subset appropriate in light of the substantial benefits that will flow from shortening the extension for these providers.⁶³ As the NANC recently concluded, “[i]n general, there are no significant barriers which prevent universal STIR/SHAKEN implementation for interconnected and non-interconnected VoIP providers (regardless of size).”⁶⁴ USTelecom observes that certifications in our Robocall Mitigation Database reflect that a substantial number of non-facilities-based small voice service providers have already partially or completely implemented the STIR/SHAKEN framework.⁶⁵ This record evidence and conclusion corroborates the Commission’s own data, which shows that non-facilities-based providers have been able to deploy STIR/SHAKEN more quickly than other providers. By cross-referencing FCC Registration Numbers of FCC Form 477 filers and Robocall Mitigation Database filers, we estimate that 328 out of 1,768 filers offer only VoIP voice service not bundled with transmission service. Of these 328 providers, 106 (32%) report complete STIR/SHAKEN implementation, 70 (21%) report partial implementation, and 152 (46%) report no implementation. By comparison, of the 1,440 remaining providers out of 1,768, 167 (12%) report complete implementation, 309 (21%) report partial implementation and 964 (67%) report no implementation.⁶⁶

18. We recognize that not all non-facilities-based small voice service providers disproportionately originate illegal robocalls, nor are all voice service providers that disproportionately originate illegal robocalls non-facilities-based. Nevertheless, based on the undisputed evidence in the record, we conclude that the approach we adopt is tailored to identify only those small voice service providers reasonably likely to be originating illegal robocalls while also providing significant administrative advantages over alternative approaches.⁶⁷ For example, as described in more detail below, the bright-line approach we adopt does not require providers to submit additional information to show whether they are non-facilities-based. Further, we note that no commenter has opposed shortening the extension for non-facilities-based providers, and several specifically supported this approach or supported retaining the extension for facilities-based providers.⁶⁸

19. *Definition.* We define a voice service provider as “non-facilities based” if it offers voice service to end-users solely using connections that are not sold by the provider or its affiliates. We adopt this definition for a “non-facilities-based” small voice service provider because it captures those providers that lack facilities-based voice connections, provides certainty to both affected voice service providers

⁶³ TRACED Act § 4(b)(5)(A)(ii).

⁶⁴ See Oct. 2021 NANC CATA Report at 4.

⁶⁵ See USTelecom Comments at 4 (“[A] cursory review of the Robocall Mitigation Database indicates that many small VoIP providers have already fully implemented STIR/SHAKEN.”); USTelecom Reply Comments at 4-5 (describing non-facilities-based and “small VoIP” providers as synonymous).

⁶⁶ Based on confidentially filed FCC Form 477 and data filed in the Robocall Mitigation Database, available at https://fccprod.servicenowservices.com/rmd?id=rmd_welcome. We note that it is possible that some providers with multiple FRNs may report their data differently across both databases. But there is no reason to believe that this fact would materially affect the percentages described above.

⁶⁷ See, e.g., *Rural Cellular Assn. v. FCC*, 588 F.3d 1095, 1105 (D.C. Cir. 2009). For this reason, we disagree with the National Consumer Law Center (NCLC) and Electronic Privacy Information Center (EPIC) who argued in their comments in response to the *WCB Extension PN*, filed after the docket in the *Small Provider Further Notice* closed, that we should not adopt a non-facilities-based approach because providers that are not in fact originating illegal robocalls might face a shortened extension. See EPIC/NCLC Comments, WC Docket No. 17-97 at 13 (filed Nov. 12, 2021) (EPIC/NCLC PN Comments).

⁶⁸ See ACA Connects Oct 11. Ex Parte at 2, NTCA Comments at 8-10, NCTA Reply Comments at 4, CCA Reply Comments at 4-5.

and the Commission, and has record support.⁶⁹ A voice service provider's voice service that does not use connections sold by the provider or its affiliates, by definition, "rides atop" another provider's transmission service. Therefore, such voice service is not offered over the voice service provider's own facilities. A voice service provider readily knows whether it is offering voice service that relies on its own (or its affiliates') facilities or not, and therefore can easily determine whether it is subject to this definition.

20. This definition also tracks with information collected with respect to interconnected VoIP providers in the context of our FCC Form 477. In that collection, if a provider offers interconnected VoIP service, it must separately indicate on FCC Form 477 the number of interconnected VoIP service subscriptions (1) sold bundled with a transmission service carrying underlying VoIP service and (2) voice service not bundled for sale with a transmission service.⁷⁰ We agree with ACA Connects that it is beneficial to examine such data to assist us in identifying "non-facilities-based" providers because it would "enable the Commission to rely on resources already in its possession to determine which providers are subject to an earlier deadline and to track compliance."⁷¹ We further find that using FCC Form 477 as a reference to assist affected interconnected VoIP providers in determining whether they are subject to a reduced extension will ease compliance and limit uncertainty for affected small interconnected VoIP voice service providers. We note that one-way interconnected VoIP providers are subject to our STIR/SHAKEN rules but are not required to file FCC Form 477 because they do not fall within the relevant definition of "interconnected VoIP,"⁷² and FCC Form 477 data has traditionally been used for collecting deployment information for purposes unrelated to STIR/SHAKEN compliance. For these reasons, we believe an approach that uses FCC Form 477 data as a guide to determine whether a provider may be non-facilities-based, but not as an automatic trigger for a shortened extension,⁷³ is the appropriate use of that data.

⁶⁹ While many commenters supported shortening the extension for non-facilities-based providers, ACA Connects suggested as an option the particular test we adopt here. See Letter of Brian Hurley, Vice President, Regulatory Affairs, ACA Connects to Marlene H. Dortch, Secretary, FCC, WC Docket No. 17-97 at 2 n.5 (filed Oct. 18, 2021) ("An alternative approach . . . is for the Commission to apply the earlier deadline to any provider that lacks any facilities-based voice connections, regardless of whether a provider filed Form 477 or the contents of its filing. Under this approach, the Commission could still rely on Form 477 filings as a reference to help identify providers that are subject to an earlier deadline.").

⁷⁰ See *FCC 477 Instructions* at 12 ("Count a subscription as an Over-the-Top Subscription if you (including affiliates) **do not** supply (that is, do not sell to the end user) the high-capacity connection that terminates at the end-user's premises and delivers the *interconnected VoIP service*. If a subscription **is not** an Over-the-top Subscription, count it among All Other Subscriptions.") (emphasis in original); see also Voice Telephone Services: Status as of December 31, 2018, 2020 WL 1082281 *3 (IATD Mar. 1, 2020) ("Interconnected VoIP service retailers distinguish over-the-top ('OTT') interconnected VoIP subscriptions — where the end user accesses the service using a broadband connection from an entity that is not affiliated with the VoIP service retailer — from all other interconnected VoIP subscriptions."); *id.* at n.7 ("A broadband connection may or may not provide the end user with internet access.").

⁷¹ ACA Connects Oct. 11 Ex Parte at 2 (suggesting that we rely on FCC Form 477 data as a trigger for a shortened extension, an approach we do not adopt here); see also Letter of Michael Romano, Senior Vice President, NTCA, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 17-97 at 3 (filed Oct. 5, 2021) (suggesting we require providers to submit certifications that reference their Form 477 filing data and whether that data indicates provision of facilities-based service).

⁷² See 47 CFR § 9.3 (defining "interconnected VoIP service," outside of the 911 context, as a service that, among other things "[e]nables real-time, two-way voice communications."); *FCC Form 477 Instructions* at 8 (requiring "providers of interconnected Voice over Internet Protocol (VoIP) Service" to submit data).

⁷³ See ACA Connects Oct. 11 Ex Parte at 2 (proposing that "the Commission require any provider that (a) does not have a Form 477 on file or (b) that has reported on its most recent Form 477 a lack of any facilities-based voice connections to meet an earlier deadline.").

21. We decline to adopt NTCA’s proposed new definition of “facilities-based” voice service provider, a modified version of the definition of “facilities-based” broadband provider in our rules.⁷⁴ NTCA’s novel and complex definition would place a higher compliance obligation on potentially-affected small voice service providers to determine whether they meet its terms, compared to our more straightforward definition, and NTCA has not explained why each component of its complex definition would accurately capture facilities-based voice service providers.⁷⁵ We also decline to adopt ACA Connects’s earlier suggestion that we base our definition on providing service to a “relatively well-defined geographic area.”⁷⁶ ACA Connects does not explain its proposal in sufficient detail to evaluate its merits. To the extent ACA Connects is proposing to allow a provider to continue to receive an extension in certain geographic areas and not others, ACA Connects does not explain, nor can we identify, how to administer such a patchwork approach.⁷⁷

22. We likewise decline to adopt NTCA’s proposal that we require providers to file a certification or other additional data to demonstrate whether they are entitled to a continued extension.⁷⁸ Mandating in this Order that providers certify their compliance would require further effort on the providers’ part and cause non-facilities-based small voice service providers subject to the shortened timeline to delay their implementation of the STIR/SHAKEN framework while the Commission seeks approval of the information collection associated with that certification requirement under the Paperwork Reduction Act.⁷⁹ Moreover, relying on submitted data increases transparency and reduces ambiguity for providers and the Commission, facilitating administration and enforcement. Providers also have significant experience with filing FCC Form 477 voice data, increasing the likelihood that the information

⁷⁴ NTCA Comments at Appendix A (“**(2) Facilities-based provider.** For the purposes of this rule, an entity is a *facilities-based provider* of a voice service if it supplies such service to an end user that has its own separate premises for receipt of such voice service and is not collocated with the provider or an affiliate of the provider using facilities that satisfy any of the following criteria: **(i)** Physical facilities that the entity owns, that terminate at the end-user premises, and that are used to originate and/or terminate voice service; **(ii)** Facilities that the entity has obtained the right to use from other entities, that terminate at the end-user premises, and that are used to originate and/or terminate voice service; **(iii)** Unbundled network element (UNE) loops, special access lines, or other leased facilities that the entity uses to complete terminations to the end-user premises and that are used to originate and/or terminate voice service; **(iv)** Wireless spectrum for which the entity holds a license or that the entity manages or has obtained the right to use via a spectrum leasing arrangement or comparable arrangement used with a mobile base station owned or leased and to originate and/or terminate voice service at the end-user premises; or **(v)** Unlicensed spectrum used by the entity to originate and/or terminate voice service at the end-user premises.”) (emphasis in original).

⁷⁵ See NCTA Reply Comments at n.14 (arguing that NTCA’s test must be modified take into account wireless voice service providers’ network configurations).

⁷⁶ ACA Connects Comments at 10 n.18.

⁷⁷ For the same administrability concerns, we decline to adopt NCLC and EPIC’s recommendation in their comments filed in response to the *WCB Extension PN* that we retain a two year extension for a provider’s voice services offered over its own facilities, while shortening the extension for a provider’s voice services not offered over its own facilities. See EPIC/NCLC PN Comments at 13.

⁷⁸ See, e.g., NTCA Oct. 5 Ex Parte at 3 (arguing that to implement its proposal, providers “could certify that their operations fall within the definition of ‘facilities-based’”).

⁷⁹ See Paperwork Reduction Act, Public Law 104-13, 109 Stat. 163 (codified at 44 U.S.C § 3501 *et seq.*) (requiring, among other things, obtaining approval from the Office of Management and Budget prior to collecting information from a wide-set of participants); see also ACA Connects Oct. 18 Ex Parte at 2 (noting that relying on FCC Form 477 data will avoid need for PRA approval for alternative means of determining whether a provider is subject to a shortened extension).

submitted is a true reflection of providers' operations.⁸⁰ While not all VoIP providers are required to file FCC Form 477 (e.g., one-way VoIP providers), we conclude that the burden of requiring just those providers to submit similar data or certifications to take the place of FCC Form 477 data would outweigh the benefit of doing so.

23. *New Implementation Deadline.* Non-facilities-based small voice service providers must implement STIR/SHAKEN in the IP portions of their network by June 30, 2022. We conclude that a one-year curtailment is a "reasonable period of time" for this subset of small voice service providers to implement STIR/SHAKEN given the burdens and barriers to implementation they face and the likelihood they are the source of illegal robocalls.⁸¹ While we provided all small voice providers a two-year extension, we believe that this is a reasonable period for non-facilities-based providers to implement STIR/SHAKEN in light of recent marketplace progress to increase the availability of STIR/SHAKEN solutions and subsequent evidence that non-facilities-based providers are at an increased risk of originating illegal robocalls.⁸² We proposed this timeline in the *Small Provider Further Notice*.⁸³ All commenters addressing the issue expressed support for this approach and none opposed it.⁸⁴

24. *Updating Extension Status.* We adopt our proposal in the *Small Provider Further Notice* to rely on the current rule requiring voice service providers to update their filings in the Robocall Mitigation Database.⁸⁵ We conclude that this approach will limit any additional burden on providers while allowing the Commission to readily track each providers' extension status. Commenters also supported this approach.⁸⁶ In the *Small Provider Further Notice*, we explained that the requirement, by its terms, would require small voice service providers subject to any shortened extension we adopt to: (1) within 10 business days of the effective date of any Order we adopt, update their certifications and associated filings indicating that they are subject to a shortened extension; and (2) further update their certifications and associated filings within 10 business days of completion of STIR/SHAKEN implementation in the IP portions of their networks.⁸⁷ Parties supported this proposal and did not suggest alternatives.⁸⁸ Consistent with this current rule, non-facilities-based small voice service providers must

⁸⁰ Providers have been submitting voice data in the same or similar format since at least 2013. See *Wireline Competition Bureau Releases Data Specification For Form 477 Data Collection*, WC Docket No. 11-10, Public Notice, 28 FCC Rcd 12665 (WCB, 2013).

⁸¹ *Small Provider Further Notice*, 36 FCC Rcd at 8841-42, para. 39; TRACED Act § (4)(b)(5)(A)(ii).

⁸² See Oct. 2021 NANC CATA Report at 4.

⁸³ *Small Provider Further Notice*, 36 FCC Rcd at 8841-42, para. 39.

⁸⁴ See, e.g., USTelecom Comments at 4 (arguing that "[t]he Commission's proposal to reduce the extension by one year is reasonable.>").

⁸⁵ *Small Provider Further Notice*, 36 FCC Rcd at 8842, para. 43 ("[W]e propose relying on the current rule requiring voice service providers to update the Commission on the term and type of their extension and when they have implemented STIR/SHAKEN."); *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1903, para. 85; 47 CFR § 64.6305(b)(5).

⁸⁶ See ACA Connects Reply Comments at 9 (arguing that this approach "would enable it to track those providers that are subject to an earlier deadline without imposing burdensome and intrusive reporting mandates on providers. Moreover, because this existing mechanism is sufficient for tracking compliance, there is no need for the Commission to collect 'additional data' from providers demonstrating that they qualify to retain the June 30, 2023 deadline."); NCTA Reply Comments at 4 (arguing that we should rely on our existing rule we proposed in the *Small Provider Further Notice*).

⁸⁷ *Small Provider Further Notice*, 36 FCC Rcd at 8842-43, para. 43.

⁸⁸ See, e.g., USTelecom Comments at 4 ("USTelecom also supports the Commission's proposal to rely on the current rule requiring providers to update the Commission on the term and type of their extension and when they have implemented STIR/SHAKEN [within 10 business days]").

update the database within 10 business days of the effective date of this Order to indicate they are no longer subject to a two-year extension and must implement STIR/SHAKEN by June 30, 2022 in the IP portions of their networks.⁸⁹ These providers, like other voice service providers, must also update their certifications and associated filings in the Robocall Mitigation Database within 10 business days of completion of STIR/SHAKEN implementation.⁹⁰

25. In light of the support for our proposal to update the Robocall Mitigation Database, we also take this opportunity to revise section 64.6305(b)(5) of our rules to conform its terms with the language of the *Call Authentication Second Report and Order*, which served as the basis for our proposal. Section 64.6305(b)(5) requires voice service providers to update their certifications in the Robocall Mitigation Database when needed for accuracy.⁹¹ The adopted rule refers to updating the information required by section 64.6305(b)(2)-(4), but it inadvertently omitted the information that is part of Robocall Mitigation Database certification listed in section 64.6305(b)(1), which requires the voice service provider to certify whether it has completely, partially, or not implemented the STIR/SHAKEN authentication framework. The adopted rule is inconsistent with the text of the *Second Caller ID Authentication Report and Order* that requires providers to “submit to the Commission via the appropriate portal any necessary updates to the information they filed in the certification process within 10 business days,”⁹² which includes information required by subsection (b)(1). Revised 64.6305(b)(5) provides that a voice service provider must update, within 10 business days of any change, all information originally submitted with its certification.⁹³ We make this revision to align the rule with the text of the *Second Caller ID Authentication Report and Order* without seeking notice and comment pursuant to section 553(b)(3)(B) of the Administrative Procedure Act, which states that an agency may dispense with rulemaking if it finds that notice and comment are “impracticable, unnecessary, or contrary to the public interest.”⁹⁴ Here, notice and comment are not necessary because aligning section 64.6305(b)(5) with the statement of the rule in the *Second Caller ID Authentication Report and Order* does not alter the regulatory framework adopted by the *Second Caller ID Authentication Report and Order*.⁹⁵

26. *Enforcement.* We direct the Wireline Competition Bureau to send written notice to small voice service providers listed in the Robocall Mitigation Database (1) for which the most recent FCC Form 477 filing indicates that it is non-facilities-based and (2) that does not update its Robocall Mitigation Database certifications in a timely manner to indicate that it is no longer subject to an extension until June 2023. The Wireline Competition Bureau will also send written notice to those

⁸⁹ See 47 CFR § 64.6305(b)(5); see also 47 CFR § 64.6305(b)(2)(i) (requiring voice service provider to indicate the “type” of extension received). For example, a provider could indicate in its certification that it is subject to a one-year extension for being a non-facilities-based small voice service provider.

⁹⁰ See *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1903, para. 85 (“We also require voice service providers to submit to the Commission via the appropriate portal any necessary updates to the information they filed in the certification process within 10 business days.”). Below, we make a non-substantive change to conform the text of the rule (47 CFR § 64.6305(b)(5)) to paragraph 85 of the *Second Caller ID Authentication Report and Order* to make clear that providers have the duty to update their STIR/SHAKEN implementation status.

⁹¹ See 47 CFR § 64.6305(b)(5) (requiring the provider to update within 10 business days changes to the information “provided pursuant to paragraphs (b)(2) through (4)”).

⁹² *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1903, para. 85 (emphasis added).

⁹³ See *infra* Appx. A (revising the rule require the provider to update within 10 business days changes to the information it “must provide pursuant to paragraphs (b)(1) through (b)(4) of this section.”).

⁹⁴ 5 U.S.C. § 553(b)(3)(B).

⁹⁵ See *Nat’l Helium Corp. v. Fed. Energy Admin.*, 569 F.2d 1137, 1146 (Temp. Emer. Ct. App. 1977) (where a rule change “did not substantively alter the existing regulatory framework . . . and because there was ultimately no detrimental impact on the rights of the parties regulated, prior notice and opportunity to comment were ‘unnecessary’”).

providers listed in the Robocall Mitigation Database and that did not file an FCC Form 477. The written notice shall provide the small voice service providers an opportunity to explain why they are not subject to the shortened extension (i.e., they are a facilities-based provider). If, as a result of its inquiry, the Wireline Competition Bureau determines that the provider is non-facilities-based, has not complied with its duty to update its filings in the Robocall Mitigation Database, has not implemented STIR/SHAKEN by the appropriate deadline (e.g., June 30, 2022 for non-facilities-based small voice service providers), or did not respond to the Wireline Competition Bureau's inquiry, we direct the Wireline Competition Bureau to refer the provider to the Enforcement Bureau, which may pursue an enforcement action as appropriate.⁹⁶

2. Small Voice Service Providers Found to Be the Source of Illegal Robocalls

27. We are also convinced by the record to require small voice service providers found by the Enforcement Bureau to have failed to, upon notice: mitigate suspected illegal robocall traffic, provide information requested by the Enforcement Bureau, including credible evidence that they are in fact not originating such traffic, respond in a timely manner or failed to meet their burden under section 64.1200(n)(2), to implement STIR/SHAKEN on an accelerated timeline. In the *Small Provider Further Notice*, we sought comment on whether to shorten the extension for those small voice service providers that have committed "possible or actual violations of our rules or the law," and specifically asked whether we should "authorize the Enforcement Bureau to curtail the extension for small voice service providers it notifies of illegal traffic under our rules."⁹⁷ There is wide support in the record for shortening the extension for providers identified as a source of illegal robocalls. Commenters widely agree that penalizing perpetrators of illegal robocalls and ensuring that they implement caller ID authentication more swiftly than would otherwise be required is warranted.⁹⁸ No party opposed shortening the extension for voice service providers the Enforcement Bureau finds to be a source of illegal robocalls.

28. We now direct the Enforcement Bureau to require an originating voice service provider suspected of being the source of illegal robocalls to implement STIR/SHAKEN on an accelerated timeframe if the Enforcement Bureau makes certain findings or determines it has violated section 64.1200(n)(2) of our rules. The Enforcement Bureau is authorized pursuant to section 0.111(a)(27) to provide written notice to a voice service provider identifying suspected illegal robocalls originating on the voice service provider's network.⁹⁹ Under section 64.1200(n)(2) of our rules, the voice service provider must take specific steps as directed by the Enforcement Bureau in that written notice, including mitigating the origination of suspected illegal robocalls identified by the Enforcement Bureau. We direct the Enforcement Bureau to require the voice service provider to implement STIR/SHAKEN on an accelerated basis if it determines that the provider, following notice, fails to: mitigate suspected illegal robocall traffic, provide information requested by the Enforcement Bureau including credible evidence that they

⁹⁶ See generally 47 CFR § 0.111 (outlining the Enforcement Bureau's authority).

⁹⁷ *Small Provider Further Notice*, 36 FCC Rcd at 8839-40, para. 33.

⁹⁸ NTCA Reply Comments at 5; INCOMPAS Comments at 4; TNS Comments at 8-9; ZipDX Reply Comments at 2.

⁹⁹ 47 CFR § 0.111(a)(27) (authorizing the Enforcement Bureau to send a notice identifying suspected illegal calls and providing written notice to voice service providers that (1) identifies with as much particularity as possible the suspected traffic; (2) cites the statutory or regulatory provisions the suspected traffic appears to violate; (3) provides the basis for the Enforcement Bureau's reasonable belief that the identified traffic is unlawful, including any relevant nonconfidential evidence from credible sources such as the Industry Traceback Group or law enforcement agencies; and (4) directs the voice service provider receiving the notice that it must comply with section 64.1200(n)(2) of the Commission's rules). Under 47 CFR 64.1200(n)(2), a provider must "[t]ake steps to effectively mitigate illegal traffic when it receives actual written notice of such traffic from the . . . Enforcement Bureau." The notice must, among other things, (1) identify the suspected traffic; (2) cite the relevant rules or statutes violated; and (3) provide a basis for the Enforcement Bureau's "reasonable belief" that the traffic is unlawful. The provider must then "promptly investigate" the traffic and "promptly report the results of its investigation to the Enforcement Bureau, including any steps the provider has taken to effectively mitigate the identified traffic" or provide an explanation why the traffic is not illegal. 47 CFR § 64.1200(n)(2).

are in fact not originating such traffic, respond in a timely manner or meet its burden under section 64.1200(n)(2) in responding to the Enforcement Bureau notice.¹⁰⁰ The voice service provider would be subject to an accelerated timeframe if (1) the voice service provider fails to respond to the notice within the timeframe the Enforcement Bureau requests or (2) the Enforcement Bureau determines that the provider's response is inadequate. A response may be considered inadequate if, for example, it does not reflect that the provider will "promptly investigate the identified traffic" or does not indicate that it has taken steps to "effectively mitigate [the] illegal traffic."¹⁰¹ Shortening the extension for these providers complements and strengthens the existing obligations and purpose of section 64.1200(n)(2) to "hold[] the notified voice service provider liable" for failing to mitigate illegal traffic.¹⁰²

29. *New Implementation Deadline.* We direct the Enforcement Bureau to require a small voice service provider to implement STIR/SHAKEN within 90 days of the date of an Enforcement Bureau's determination described in the paragraph above. While an approximately six-month period starting from the effective date of this Order is an appropriate amount of time for non-facilities-based providers to implement STIR/SHAKEN, we require a shorter period for these providers identified as a source of illegal robocalls. More rapid STIR/SHAKEN implementation by these providers is likely to produce a greater public benefit than implementation by non-facilities-based providers that are at a higher risk of originating illegal robocalls, but have not been shown to have actually originated such calls. Rapid implementation for such providers was supported in the record because of the harm these providers present.¹⁰³ Nevertheless, we decline to require implementation within 30 days as TNS proposes because of the possible practical difficulties providers may face in adhering to such an aggressive timetable.¹⁰⁴ Requiring implementation of STIR/SHAKEN within 90 days of an Enforcement Bureau determination, half as long as the approximately six months given to non-facilities-based providers after release of this Order, ensures prompt implementation of this important technology by those providers that have failed to take specific steps to stop the origination of illegal robocalls.¹⁰⁵ Because we provide a longer implementation timetable than TNS proposes, we see no need to adopt TNS' suggestion that we give identified providers an alternative option of "submit[ting] a modified Robocall Mitigation Plan for Bureau approval" in the event that its aggressive 30-day implementation timetable is not feasible.¹⁰⁶ If the 90-day period would extend past an earlier implementation deadline (i.e., June 30, 2022 for non-facilities-based

¹⁰⁰ In their comments filed in response to the *WCB Extension PN*, NCLC and EPIC agree that we should require voice service providers that fail to respond to a notice to mitigate suspected illegal robocall traffic to implement STIR/SHAKEN. See EPIC/NCLC PN Comments at 16. However, together with ZipDX, they argue that we should go further and require voice service providers to implement STIR/SHAKEN *without* notice or the opportunity to respond to a Commission inquiry. See ZipDX Comments Reply Comments at 2 (recommending that "a history of no illegal-call tracebacks and no warning letters be prerequisites for any extension"); EPIC/NCLC PN Comments at 10, 16 (supporting ZipDX and additionally arguing that providers should lose their extension solely if they fail to comply with their own robocall mitigation program or do not respond fully and in a timely manner to traceback requests). For purposes of this rulemaking, we conclude that the approach we adopt—whereby we curtail the extension following a summary process—better captures those providers that are most likely to be originating unlawful robocalls than suggested alternatives that do not include this additional process. We do not, however, foreclose the possibility of applying this obligation when appropriate on a case-by-case basis.

¹⁰¹ 47 CFR § 64.1200(n)(2).

¹⁰² *Call Blocking Fourth Report and Order*, 35 FCC Rcd at 15230, para 22.

¹⁰³ See, e.g., TNS Comments at 9 (arguing that the shortening the extension for providers the Commission found to be responsible for illegal robocalls "would provide the Commission with the tools to target the most significant sources of illegal traffic and to protect the public from harm from such traffic.").

¹⁰⁴ *Id.* at 8 (recommending 30 days); INCOMPAS Comments at 4 (recommending 90 days).

¹⁰⁵ See *infra* para. 35; Oct. 2021 NANC CATA Report at 4 (noting that "there are no significant barriers for interconnected and non-interconnected VoIP providers (regardless of size)").

¹⁰⁶ See TNS Comments at 9.

providers and June 30, 2023 for all other small voice service providers), the earlier of the two deadlines applies.

30. *Updating Extension Status.* Consistent with our rule for non-facilities-based providers, providers identified as a source of illegal robocalls must, within 10 business days of an Enforcement Bureau determination described above, update their Robocall Mitigation Database filing indicating that they are subject to a shortened extension and update the database again once they have implemented STIR/SHAKEN.¹⁰⁷ This approach limits providers' burden while allowing the Commission to track providers' extension status and was supported by commenters.¹⁰⁸

3. Alternative Approaches

31. We decline to adopt other criteria to identify those small voice service providers that will be subject to an accelerated STIR/SHAKEN implementation deadline. Though we proposed doing so in the *Small Provider Further Notice*,¹⁰⁹ the record convinces us not to adopt criteria tied to the volume of calls originated by a small voice service provider or revenue by market segment.¹¹⁰ We do not adopt our original proposal to shorten the extension for those providers originating a large number of calls because we conclude that our chosen criteria better capture those providers at greatest risk of originating robocalls and because of the administrative benefits of our chosen approach. We agree with CCA that criteria based on calls-per-line and revenue “require difficult line drawing” and we have been unable to identify a readily administrable way to implement such an approach without “risk[ing] sweeping in providers that are not the intended target.”¹¹¹ As TNS notes, “bad actors are adept at evading simple numerical thresholds” and are increasingly doing so.¹¹² We also fear that a volume-based approach could be subject to manipulation or evasion by bad actors.¹¹³ While INCOMPAS and WTA argue that the Commission should consider a volume-based approach, both concede that drawing a clear line would be difficult¹¹⁴—and we find that the approach we adopt is more readily administrable and more likely to accurately capture voice service providers at heightened risk of originating illegal robocalls.

32. We sought comment in the *Small Provider Further Notice* on whether to shorten the extension for small voice service providers that offer certain services, such as caller ID spoofing or the

¹⁰⁷ See 47 CFR § 64.6305(b)(5); see also 47 CFR § 64.6305(b)(2)(i) (requiring voice service provider to indicate the “type” of extension it received); *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1903, para. 85 (“We also require voice service providers to submit to the Commission via the appropriate portal any necessary updates to the information they filed in the certification process within 10 business days.”). For example, a provider could indicate that it is subject to a 90 day extension because it was found to be the source of illegal robocalls.

¹⁰⁸ See ACA Connects Reply Comments at 9; NCTA Reply Comments at 4.

¹⁰⁹ *Small Provider Further Notice*, 36 FCC Rcd at 8833, para. 13.

¹¹⁰ *Id.* at 8835-38 paras. 20-29; see also Letter from Joshua M. Bercu, Vice President, Policy & Advocacy, USTelecom, to Marlene H. Dortch, Secretary, FCC, WC Docket No. 17-97, at 5-6 (filed Sept. 18, 2020).

¹¹¹ CCA Comments at 4; see also WTA Comments at 4 (opposing a stand-alone calls-per-line test); NTCA Comments at 4-6 (opposing a calls-per-line and revenue test); NTCA Reply Comments at 2 (reiterating earlier arguments); TNS Comments at 6-7 (opposing a calls-per-line test); ACA Connects Comments at 7-9 (opposing a calls-per-line or revenue-based approach).

¹¹² TNS Comments at 6 (“TNS has observed an increase in bad actors that are using low-volume spamming across a large amount of telephone numbers while attempting to avoid analytics engines.”).

¹¹³ See INCOMPAS Comments at 5 (noting that “many of the data analytics companies in our membership indicate that it is relatively easy to manipulate [calling] data, as bad actors are capable of spreading the impact of this approach over a collection of telephone numbers”).

¹¹⁴ See *id.* at 4-5 (arguing that the Commission should consider adopting such an approach, but noting risks of manipulation); WTA Comments at 4-5 (arguing that while a calls-per-line test may be feasible, it should include other criteria to prevent “false positives”).

ability to broadcast a pre-recorded message that illegal robocallers typically use to make large amounts of calls.¹¹⁵ While several commenters supported such an approach,¹¹⁶ no party suggested—nor are we able to identify—an administrable approach to distinguish between providers that offer such services for the purpose of illegal calling and those that do not.¹¹⁷

33. We decline to adopt ACA Connects’s suggestion that we shorten the extension only for non-facilities-based providers that have business models that correlate with origination of high volumes of illegal robocalls.¹¹⁸ ACA Connects does not explain with specificity how we would identify such business models, nor are we able to identify a reliable method of doing so. As a result, there is significant risk that any definition we adopt would exclude providers at heightened risk of originating illegal robocalls. We further do not adopt TNS’s proposal or ACA Connects’s suggestion to adopt a providers’ offering of “all-IP” service as either one factor among several which alone would justify a shortened extension or one factor justifying a shortened extension only when present with other factors.¹¹⁹ While the evidence indicates that most robocalls come from providers offering IP voice service, the STIR/SHAKEN rules already apply only to IP-based voice service, and we do not wish to discourage the transition to all-IP networks. As NCTA notes, shortening the extension for all-IP providers would “capture large numbers of small providers delivering lawful service to legitimate customers.”¹²⁰ Neither TNS nor ACA Connects explain how relying on an “all-IP” factor in combination with other factors in a single criterion would avoid these shortcomings. Indeed, ACA Connects notes that an “all IP provider” criterion “is completely removed from any consideration of a voice providers’ business practices and, as such, is even more likely to be overbroad than” quantitative factors such as calls-per-line.¹²¹

34. We do not adopt “carve-outs” or backstops to our non-facilities-based test as some commenters suggest.¹²² For the same reason we do not adopt a calls-per-line test in the first instance, we decline to adopt NTCA’s alternative test to allow providers that are “non-facilities-based” to demonstrate that they meet a “calls-per-line” criterion to maintain their current extension;¹²³ it would require the Commission to engage in difficult line-drawing.¹²⁴ We find it unnecessary to consider carving out incumbent LECs (or a subset of incumbent LECs) from the reduced extension for non-facilities-based providers¹²⁵ because all incumbent LECs offer facilities-based service. We further see no need to adopt a

¹¹⁵ *Small Provider Further Notice*, 36 FCC Rcd at 8838-39, para. 30.

¹¹⁶ *See, e.g.*, USTelecom Comments at 2; TNS Comments at 8.

¹¹⁷ *See* ACA Connects Reply Comments at 3, 7-8 & n.18 (noting that high volume calling providers can be problematic but that these types of services are not inherently illegal, and “some ACA Connects members may provide such services on a limited basis to businesses or other enterprises (e.g., schools) that have ‘valid business reasons’ to use them. These types of valid service arrangements should not be the basis for subjecting a provider to an earlier STIR/SHAKEN deadline.”); TNS Comments at 8 (arguing that the Commission should “look closely” at providers offering spoofing service, but not suggesting a specific approach to targeting providers using such services for illegal purposes).

¹¹⁸ ACA Connects Reply Comments at 6-8.

¹¹⁹ TNS Comments at 7; *see also* ACA Connects Reply Comments at 7, n.16 (arguing that it could be one factor combined with others).

¹²⁰ NCTA Reply Comments at 3 n.10.

¹²¹ *See* ACA Connects Reply Comments at 7.

¹²² *See, e.g.*, NTCA Comments at 10.

¹²³ *See, e.g., id.*; INCOMPAS Comments at 4-5; WTA Comments at 4; USTelecom Comments at 2.

¹²⁴ *See* CCA Comments at 4; ACA Connects Reply Comments at 6-7.

¹²⁵ *See* WTA Comments at 2 (arguing that rural LECs are not involved in robocalling and have been relying on two year extensions to deploy and upgrade their broadband networks); *see also Caller ID Authentication Second Report and Order*, 35 FCC Rcd at 1885-86, paras. 54-55 (declining to provide a specific extension for rural providers).

specific procedural mechanism to allow providers subject to the accelerated implementation deadline to argue that they should nonetheless retain the full two-year extension.¹²⁶ No party suggesting such a procedure identified why our existing processes are inadequate other than a conclusory assertion that a “compressed time period” makes such a process necessary.¹²⁷ We disagree and note that voice service providers subject to a shortened extension may submit a waiver request.¹²⁸ We direct the Wireline Competition Bureau to act on any such requests expeditiously.

C. Legal Authority

35. We conclude that we have authority to curtail the extension for a subset of small voice service providers under section 4(b)(5)(A)(ii) of the TRACED Act.¹²⁹ That section gives us authority to grant extensions of the caller ID authentication implementation deadline “for a reasonable period of time” upon a finding of “undue hardship,” and was the source of authority for the small voice service provider extension we today curtail for some providers.¹³⁰ In the *Small Provider Further Notice*, we proposed to find authority under this section, and no party filed comments opposing our authority to do so. As proposed in the *Small Provider Further Notice*, we find that, in considering whether the hardship is “undue” under the TRACED Act—as well as whether an extension is for a “reasonable period of time”—it is appropriate to balance the hardship of compliance due to the “the burdens and barriers to implementation” faced by a voice service provider or class of voice service providers with the benefit to the public of implementing STIR/SHAKEN expeditiously.¹³¹ We find we have the authority to grant a shorter extension for small voice service providers that present a higher risk of originating illegal robocalls or providers that may also face a lesser hardship than other small voice service providers. We further find revising the small provider extension in this way is consistent with our authority under section 4(b)(5)(F) of the TRACED Act, which expressly directs the Commission to consider revising or extending any granted extensions.¹³²

IV. PROCEDURAL MATTERS

36. *Final Regulatory Flexibility Analysis.* As required by the Regulatory Flexibility Act of 1980 (RFA),¹³³ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated in the *Small Provider*

¹²⁶ See USTelecom Reply Comments at 4-5; ACA Connects Reply Comments at 8 (requesting the creation of a new mechanism that would enable the Wireline Competition Bureau to grant individual exemptions on an expedited basis); *but see* USTelecom Comments at 4 n.13 (arguing that any provider unable to meet the one year deadline could “seek a waiver” based upon its circumstances).

¹²⁷ See ACA Connects Reply Comments at n.19 (arguing for an expedited process so that a provider could prove that it has a valid business reason for a high proportion of outgoing calls, a criterion we do not adopt).

¹²⁸ See 47 CFR § 1.3. The Commission may exercise its discretion to waive a rule where the particular facts at issue make strict compliance inconsistent with the public interest. *Northeast Cellular Telephone Co. v. FCC*, 897 F.2d 1164, 1166 (D.C. Cir. 1990). In considering whether to grant a waiver, the Commission may take into account considerations of hardship, equity, or more effective implementation of overall policy on an individual basis. *WAIT Radio v. FCC*, 418 F.2d 1153, 1159 (D.C. Cir. 1969).

¹²⁹ *Small Provider Further Notice*, 36 FCC Rcd at 8843-44, para. 45.

¹³⁰ See TRACED Act § (4)(b)(5)(A)(ii).

¹³¹ *Small Provider Further Notice*, 36 FCC Rcd at 8843-44, para. 45.

¹³² TRACED Act § (4)(b)(5)(F). Although the Commission directed the Wireline Competition Bureau to engage in an annual review of granted extensions, *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1896, paras. 71-72, that delegation of authority does not prevent the Commission from separately exercising the authority granted to it under section 4(b)(5)(F) to “consider revising or extending any delay of compliance.”

¹³³ See 5 U.S.C. § 603.

Further Notice.¹³⁴ The Commission sought written public comment on the possible significant economic impact on small entities regarding proposals addressed in the *Small Provider Further Notice*, including comments on the IRFA.¹³⁵ Pursuant to the RFA, a Final Regulatory Flexibility Analysis is set forth in Appendix B. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this *Fourth Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).¹³⁶

37. *Paperwork Reduction Act*. This document does not contain new or modified information collection requirements subject to the Paperwork Reduction Act of 1995 (PRA), Public Law 104-13. In addition, therefore, it does not contain any new or modified information collection burden for small business concerns with fewer than 25 employees, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, *see* 44 U.S.C. 3506(c)(4).

38. *Congressional Review Act*. The Commission has determined, and the Administrator of the Office of Information and Regulatory Affairs, Office of Management and Budget, concurs, that this rule is "non-major" under the Congressional Review Act, 5 U.S.C. § 804(2). The Commission will send a copy of this *Fourth Report and Order* to Congress and the Government Accountability Office pursuant to 5 U.S.C. § 801(a)(1)(A).

39. *People with Disabilities*: To request materials in accessible formats for people with disabilities (Braille, large print, electronic files, audio format), send an e-mail to fcc504@fcc.gov or call the Consumer & Governmental Affairs Bureau at 202-418-0530 (voice).

40. *Contact Person*. For further information about the *Fourth Report and Order*, contact Jonathan Lechter, Attorney Advisor, Competition Policy Division, Wireline Competition Bureau, at (202) 418-0984 or jonathan.lechter@fcc.gov.

V. ORDERING CLAUSES

41. Accordingly, IT IS ORDERED, pursuant to sections 4(i), 4(j), 201(b), 227b, and 303(r) of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 201(b) 227b, and 303(r), that this *Fourth Report and Order* IS ADOPTED.

42. IT IS FURTHER ORDERED that Part 64 of the Commission's rules IS AMENDED as set forth in Appendix A, and that, pursuant to sections 1.4(b)(1) and 1.103(a) of the Commission's rules, 47 CFR §§ 1.4(b)(1), 1.103(a), this *Fourth Report and Order* SHALL BE EFFECTIVE 30 days after publication of this *Fourth Report and Order* in the Federal Register.

43. IT IS FURTHER ORDERED that the Commission SHALL SEND a copy of this *Fourth Report and Order* to Congress and to the Government Accountability Office pursuant to the Congressional Review Act, *see* 5 U.S.C. § 801(a)(1)(A).

¹³⁴ *Small Provider Further Notice*, 36 FCC Rcd at 8847-55, Appx. A.

¹³⁵ *Id.* at 8855, para. 19.

¹³⁶ *See* 5 U.S.C. § 603(a).

44. IT IS FURTHER ORDERED that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, SHALL SEND a copy of this *Fourth Report and Order*, including the Final Regulatory Flexibility Analysis (FRFA), to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Final Rules

The Federal Communications Commission amends part 64 of Title 47 of the Code of Federal Regulations as follows:

PART 64 – MISCELLANEOUS RULES RELATING TO COMMON CARRIERS

1. Amend section 64.6300 by redesignating paragraphs (g) through (l) as paragraphs (h) through (m) and adding new paragraph (g) to read as follows:

* * * * *

(g) Non-Facilities-Based Small Voice Service Provider. The term “non-facilities-based small voice service provider” means a small voice service provider that is offering voice service to end-users solely using connections that are not sold by the provider or its affiliates.

* * * * *

2. Amend section 64.6304 to modify paragraph (a) to read as follows:

§ 64.6304 Extension of Implementation Deadline.

(a) * * *

(1) Small voice service providers are exempt from the requirements of § 64.6301 through June 30, 2023, except that:

(i) a non-facilities-based small voice service provider is exempt from the requirements of § 64.6301 only until June 30, 2022; and

(ii) a small voice service provider notified by the Enforcement Bureau pursuant to § 0.111(a)(27) that fails to respond in a timely manner, fails to respond with the information requested by the Enforcement Bureau, including credible evidence that the robocall traffic identified in the notification is not illegal, fails to demonstrate that it taken steps to effectively mitigate the traffic, or if the Enforcement Bureau determines the provider violates § 64.1200(n)(2), will no longer be exempt from the requirements of § 64.6301 beginning 90 days following the date of the Enforcement Bureau’s determination, unless the extension would otherwise terminate earlier pursuant to paragraphs (a)(1) or (a)(1)(i), in which case the earlier deadline applies.

* * * * *

3. Amend section 63.6305 to modify paragraph (b) to read as follows:

§ 64.6305 Robocall Mitigation and Certification.

(b) * * *

(5) A voice service provider shall update its filings within 10 business days of any change to the information it must provide pursuant to paragraphs (b)(1) through (b)(4) of this section.

* * * * *

APPENDIX B

Final Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended,¹ an Initial Regulatory Flexibility Analysis (IRFA) was incorporated into the *Caller ID Authentication Third Further Notice of Proposed Rulemaking (Small Provider Further Notice)*.² The Commission sought written public comments on the proposals in the *Small Provider Further Notice*, including comments on the IRFA. No comments were filed addressing the IRFA. This present Final Regulatory Flexibility Analysis (FRFA) conforms to the RFA.³

A. Need for, and Objectives of, the Proposed Rules

2. This *Fourth Report and Order* continues the Commission's efforts to combat illegal spoofed robocalls. Specifically, the *Fourth Report and Order* takes action to combat illegally spoofed robocalls by accelerating the date by which small voice service providers that are most likely to be the source of illegal robocalls must implement the STIR/SHAKEN caller ID authentication framework.⁴ We require non-facilities-based small voice providers to implement STIR/SHAKEN by June 30, 2022.⁵ We also require small voice service providers suspected of originating illegal robocalls to implement STIR/SHAKEN within 90 days of an Enforcement Bureau determination following a summary process.⁶ The procedures in the *Fourth Report and Order* will help promote effective caller ID authentication through STIR/SHAKEN.

B. Summary of Significant Issues Raised by Public Comments in Response to the IRFA

3. There were no comments filed that specifically addressed the proposed rules and policies presented in the IRFA.

C. Response to Comments by the Chief Counsel for Advocacy of the SBA

4. Pursuant to the Small Business Jobs Act of 2010, which amended the RFA, the Commission is required to respond to any comments filed by the Chief Counsel for Advocacy of the Small Business Administration (SBA), and to provide a detailed statement of any change made to the proposed rules as a result of those comments.⁷

5. The Chief Counsel did not file any comments in response to the proposed rules in this proceeding.

¹ See 5 U.S.C. § 603. The RFA, see 5 U.S.C. § 601-612, has been amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA), Pub. L. No. 104-121, Title II, 110 Stat. 857 (1996).

² *Call Authentication Trust Anchor*, WC Docket No. 17-97, Second Further Notice of Proposed Rulemaking, 36 FCC Rcd 684, 696-704, Appx. B. (2020) (*Second Caller ID Authentication Further Notice*).

³ See 5 U.S.C. § 604.

⁴ STIR/SHAKEN was developed by industry standards groups. A working group of the Internet Engineering Task Force (IETF) called the Secure Telephony Identity Revisited (STIR) developed several protocols for authenticating caller ID information. See *Second Caller ID Authentication Report and Order*, 36 FCC Rcd at 1862, para. 6. The Alliance for Telecommunications Industry Solutions (ATIS), in conjunction with the SIP Forum, produced the Signature-based Handling of Asserted information using toKENs (SHAKEN) specification, which standardizes how the protocols produced by STIR are implemented across the industry. See *id.* at 1862-63, para. 7.

⁵ See *supra* paras. 15-24.

⁶ See *supra* paras. 27-30.

⁷ 5 U.S.C. § 604(a)(3).

D. Description and Estimate of the Number of Small Entities to Which the Rules Will Apply

6. The RFA directs agencies to provide a description of and, where feasible, an estimate of the number of small entities that may be affected by the proposed rules and by the rule revisions on which the Notice seeks comment, if adopted.⁸ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”⁹ In addition, the term “small business” has the same meaning as the term “small-business concern” under the Small Business Act.¹⁰ A “small-business concern” is one which: (1) is independently owned and operated; (2) is not dominant in its field of operation; and (3) satisfies any additional criteria established by the SBA.¹¹

1. Wireline Carriers

7. *Wired Telecommunications Carriers.* The U.S. Census Bureau defines this industry as “establishments primarily engaged in operating and/or providing access to transmission facilities and infrastructure that they own and/or lease for the transmission of voice, data, text, sound, and video using wired communications networks. Transmission facilities may be based on a single technology or a combination of technologies. Establishments in this industry use the wired telecommunications network facilities that they operate to provide a variety of services, such as wired telephony services, including VoIP services, wired (cable) audio and video programming distribution, and wired broadband internet services. By exception, establishments providing satellite television distribution services using facilities and infrastructure that they operate are included in this industry.”¹² The SBA has developed a small business size standard for Wired Telecommunications Carriers, which consists of all such companies having 1,500 or fewer employees.¹³ U.S. Census Bureau data for 2012 show that there were 3,117 firms that operated that year.¹⁴ Of this total, 3,083 operated with fewer than 1,000 employees.¹⁵ Thus, under this size standard, the majority of firms in this industry can be considered small.

8. *Local Exchange Carriers (LECs).* Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to local exchange services. The closest applicable NAICS Code category is Wired Telecommunications Carriers.¹⁶ Under the applicable SBA

⁸ See 5 U.S.C. § 603(b)(3).

⁹ See 5 U.S.C. § 601(6).

¹⁰ 5 U.S.C. § 601(3) (incorporating by reference the definition of “small-business concern” in the Small Business Act, 15 U.S.C. § 632). Pursuant to 5 U.S.C. § 601(3), the statutory definition of a small business applies “unless an agency, after consultation with the Office of Advocacy of the Small Business Administration and after opportunity for public comment, establishes one or more definitions of such term which are appropriate to the activities of the agency and publishes such definition(s) in the Federal Register.”

¹¹ See 15 U.S.C. § 632.

¹² See U.S. Census Bureau, 2017 NAICS Definition, “517311 Wired Telecommunications Carriers”, <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

¹³ See 13 CFR § 120.201, NAICS Code 517311 (previously 517110).

¹⁴ See U.S. Census Bureau, 2012 Economic Census of the United States, Table No. EC1251SSSZ5, Information: Subject Series - Estab & Firm Size: Employment Size of Firms: 2012. NAICS Code 517110. <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

¹⁵ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

¹⁶ See U.S. Census Bureau, 2017 NAICS Definition, NAICS Code 517311 “Wired Telecommunications Carriers,” <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

size standard, such a business is small if it has 1,500 or fewer employees.¹⁷ U.S. Census Bureau data for 2012 show that there were 3,117 firms that operated for the entire year.¹⁸ Of that total, 3,083 operated with fewer than 1,000 employees.¹⁹ Thus under this category and the associated size standard, the Commission estimates that the majority of local exchange carriers are small entities.

9. *Incumbent LECs.* Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange services. The closest applicable NAICS Code category is Wired Telecommunications Carriers.²⁰ Under the applicable SBA size standard, such a business is small if it has 1,500 or fewer employees.²¹ U.S. Census Bureau data for 2012 indicate that 3,117 firms operated the entire year.²² Of this total, 3,083 operated with fewer than 1,000 employees.²³ Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses that may be affected by our actions. According to Commission data, one thousand three hundred and seven (1,307) Incumbent Local Exchange Carriers reported that they were incumbent local exchange service providers.²⁴ Of this total, an estimated 1,006 have 1,500 or fewer employees.²⁵ Thus, using the SBA's size standard the majority of incumbent LECs can be considered small entities.

10. *Competitive Local Exchange Carriers (Competitive LECs), Competitive Access Providers (CAPs), Shared-Tenant Service Providers, and Other Local Service Providers.* Neither the Commission nor the SBA has developed a small business size standard specifically for these service providers. The appropriate NAICS Code category is Wired Telecommunications Carriers.²⁶ Under the applicable SBA size standard, such a business is small if it has 1,500 or fewer employees.²⁷ U.S. Census Bureau data for 2012 indicate that 3,117 firms operated for the entire year.²⁸ Of that number, 3,083 operated with fewer

¹⁷ See 13 CFR § 120.201, NAICS Code 517311 (previously 517110).

¹⁸ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table No. EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms: 2012* NAICS Code 517110. <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false..>

¹⁹ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

²⁰ See U.S. Census Bureau, *2017 NAICS Definition, NAICS Code 517311 "Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

²¹ See 13 CFR § 121.201, NAICS Code 517311 (previously 517110).

²² See U.S. Census Bureau, *2012 Economic Census of the United States*, Table No. EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms: 2012* (517110 Wired Telecommunications Carriers). <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

²³ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

²⁴ See *Trends in Telephone Service*, Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*).

²⁵ *Id.*

²⁶ See U.S. Census Bureau, *2017 NAICS Definition, "517311 Wired Telecommunications Carriers,"* <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

²⁷ See 13 CFR § 121.201, NAICS Code 517311 (previously 517110).

²⁸ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517110, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

than 1,000 employees.²⁹ Based on these data, the Commission concludes that the majority of Competitive LECS, CAPs, Shared-Tenant Service Providers, and Other Local Service Providers, are small entities. According to Commission data, 1,442 carriers reported that they were engaged in the provision of either competitive local exchange services or competitive access provider services.³⁰ Of these 1,442 carriers, an estimated 1,256 have 1,500 or fewer employees.³¹ In addition, 17 carriers have reported that they are Shared-Tenant Service Providers, and all 17 are estimated to have 1,500 or fewer employees.³² Also, 72 carriers have reported that they are Other Local Service Providers.³³ Of this total, 70 have 1,500 or fewer employees.³⁴ Consequently, based on internally researched FCC data, the Commission estimates that most providers of competitive local exchange service, competitive access providers, Shared-Tenant Service Providers, and Other Local Service Providers are small entities.³⁵

11. *Interexchange Carriers (IXCs)*. Neither the Commission nor the SBA has developed a small business size standard specifically for Interexchange Carriers. The closest applicable NAICS Code category is Wired Telecommunications Carriers.³⁶ The applicable size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.³⁷ U.S. Census Bureau data for 2012 indicate that 3,117 firms operated for the entire year.³⁸ Of that number, 3,083 operated with fewer than 1,000 employees.³⁹ According to internally developed Commission data, 359 companies reported that their primary telecommunications service activity was the provision of interexchange services.⁴⁰ Of this total,

²⁹ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

³⁰ See Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division, Trends in Telephone Service at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*), https://apps.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf.

³¹ *Id.*

³² *Id.*

³³ *Id.*

³⁴ *Id.*

³⁵ We have included small incumbent LECs in this present RFA analysis. As noted above, a “small business” under the RFA is one that, *inter alia*, meets the pertinent small business size standard (e.g., a telephone communications business having 1,500 or fewer employees), and “is not dominant in its field of operation.” The SBA’s Office of Advocacy contends that, for RFA purposes, small incumbent LECs are not dominant in their field of operation because any such dominance is not “national” in scope. We have therefore included small incumbent LECs in this RFA analysis, although we emphasize that this RFA action has no effect on Commission analyses and determinations in other, non-RFA contexts.

³⁶ See U.S. Census Bureau, *2017 NAICS Definition*, “517311 Wired Telecommunications Carriers,” <https://www.census.gov/naics/?input=517311&year=2017&details=517311>.

³⁷ See 13 CFR § 121.201, NAICS Code 517311 (previously 517110).

³⁸ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517110, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517110&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

³⁹ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁴⁰ See *Trends in Telephone Service*, Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*), https://apps.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf.

an estimated 317 have 1,500 or fewer employees.⁴¹ Consequently, the Commission estimates that the majority of interexchange service providers are small entities.

12. *Cable System Operators (Telecom Act Standard)*. The Communications Act of 1934, as amended, also contains a size standard for small cable system operators, which is “a cable operator that, directly or through an affiliate, serves in the aggregate fewer than one percent of all subscribers in the United States and is not affiliated with any entity or entities whose gross annual revenues in the aggregate exceed \$250,000,000.”⁴² As of 2018, there were approximately 50,504,624 cable video subscribers in the United States.⁴³ Accordingly, an operator serving fewer than 505,046 subscribers shall be deemed a small operator if its annual revenues, when combined with the total annual revenues of all its affiliates, do not exceed \$250 million in the aggregate.⁴⁴ We note that the Commission neither requests nor collects information on whether cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million.⁴⁵ Therefore we are unable at this time to estimate with greater precision the number of cable system operators that would qualify as small cable operators under *the* definition in the Communications Act.

2. Wireless Carriers

13. *Wireless Telecommunications Carriers (except Satellite)*. This industry comprises establishments engaged in operating and maintaining switching and transmission facilities to provide communications via the airwaves. Establishments in this industry have spectrum licenses and provide services using that spectrum, such as cellular services, paging services, wireless internet access, and wireless video services.⁴⁶ The appropriate size standard under SBA rules is that such a business is small if it has 1,500 or fewer employees.⁴⁷ For this industry, U.S. Census Bureau data for 2012 show that there were 967 firms that operated for the entire year.⁴⁸ Of this total, 955 firms employed fewer than 1,000 employees and 12 firms employed of 1000 employees or more.⁴⁹ Thus under this category and the associated size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small entities.

⁴¹ *Id.*

⁴² 47 U.S.C. § 543(m)(2); *see* 47 CFR § 76.901(f) & n.1–3.

⁴³ S&P Global Market Intelligence, *U.S. Cable Subscriber Highlights, Basic Subscribers(actual) 2018, U.S. Cable MSO Industry Total*, <https://platform.marketintelligence.spglobal.com/>.

⁴⁴ 47 CFR § 76.901(f) and n. ff. 1, 2, and 3.

⁴⁵ The Commission does receive such information on a case-by-case basis if a cable operator appeals a local franchise authority’s finding that the operator does not qualify as a small cable operator pursuant to § 76.901(f) of the Commission’s rules. *See* 47 CFR § 76.909(b).

⁴⁶ U.S. Census Bureau, *2017 NAICS Definitions*, “517312 Wireless Telecommunications Carriers (Except Satellite)” <https://www.census.gov/naics/?input=517312&year=2017&details=517312>.

⁴⁷ 13 CFR § 121.201, NAICS Code 517312 (previously 517210).

⁴⁸ U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ5, *Information: Subject Series: Estab and Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517210. <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517210&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false&vintage=2012>.

⁴⁹ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.”

14. The Commission's own data—available in its Universal Licensing System—indicate that, as of August 31, 2018 there are 265 Cellular licensees that will be affected by our actions.⁵⁰ The Commission does not know how many of these licensees are small, as the Commission does not collect that information for these types of entities. Similarly, according to internally developed Commission data, 413 carriers reported that they were engaged in the provision of wireless telephony, including cellular service, Personal Communications Service (PCS), and Specialized Mobile Radio (SMR) Telephony services.⁵¹ Of this total, an estimated 261 have 1,500 or fewer employees, and 152 have more than 1,500 employees.⁵² Thus, using available data, we estimate that the majority of wireless firms can be considered small.

15. *Satellite Telecommunications.* This category comprises firms “primarily engaged in providing telecommunications services to other establishments in the telecommunications and broadcasting industries by forwarding and receiving communications signals via a system of satellites or reselling satellite telecommunications.”⁵³ Satellite telecommunications service providers include satellite and earth station operators. The category has a small business size standard of \$35 million or less in average annual receipts, under SBA rules.⁵⁴ For this category, U.S. Census Bureau data for 2012 show that there were a total of 333 firms that operated for the entire year.⁵⁵ Of this total, 299 firms had annual receipts of less than \$25 million.⁵⁶ Consequently, we estimate that the majority of satellite telecommunications providers are small entities.

3. Resellers

16. *Local Resellers.* The SBA has not developed a small business size standard specifically for Local Resellers. The SBA category of Telecommunications Resellers is the closest NAICS code category for local resellers.⁵⁷ The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households.⁵⁸ Establishments in this industry resell telecommunications.⁵⁹ They do not operate

⁵⁰ See <http://wireless.fcc.gov/uls>. For the purposes of this FRFA, consistent with Commission practice for wireless services, the Commission estimates the number of licensees based on the number of unique FCC Registration Numbers.

⁵¹ See Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division, Trends in Telephone Service at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*), https://apps.fcc.gov/edocs_public/attachmatch/DOC-301823A1.pdf.

⁵² See *id.*

⁵³ U.S. Census Bureau, 2017 NAICS Definitions, “517410 Satellite Telecommunications”; <https://www.census.gov/naics/?input=517410&year=2017&details=517410>.

⁵⁴ 13 CFR § 121.201, NAICS code 517410.

⁵⁵ U.S. Census Bureau, 2012 Economic Census of the United States, Table EC1251SSSZ4, *Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the United States: 2012*, NAICS Code 517410, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4/naics~517410.

⁵⁶ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard of annual receipts of \$35 million or less.

⁵⁷ See U.S. Census Bureau, 2017 NAICS Definition, “517911 Telecommunications Resellers,” <https://www.census.gov/naics/?input=517911&year=2017&details=517911>.

⁵⁸ *Id.*

⁵⁹ *Id.*

transmission facilities and infrastructure.⁶⁰ Mobile virtual network operators (MVNOs) are included in this industry.⁶¹ Under the SBA's size standard, such a business is small if it has 1,500 or fewer employees.⁶² U.S. Census Bureau data from 2012 show that 1,341 firms provided resale services for the entire year.⁶³ Of that number, all of the firms operated with fewer than 1,000 employees.⁶⁴ Thus, under this category and the associated SBA small business size standard, the majority of these resellers can be considered small entities. According to Commission data, 213 carriers have reported that they are engaged in the provision of local resale services.⁶⁵ Of these, an estimated 211 have 1,500 or fewer employees and two have more than 1,500 employees.⁶⁶ Consequently, the Commission estimates that the majority of local resellers are small entities.

17. *Toll Resellers.* The closest NAICS Code category is Telecommunications Resellers.⁶⁷ The Telecommunications Resellers industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households.⁶⁸ Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure.⁶⁹ MVNOs are included in this industry.⁷⁰ The SBA small business size standard for Telecommunications Resellers classifies a business as small if it has 1,500 or fewer employees.⁷¹ 2012 U.S. Census Bureau data show that 1,341 firms provided resale services for the entire year.⁷² Of that number, 1,341 operated with fewer than 1,000 employees.⁷³ Thus, under this category and the associated SBA small business size standard, the majority of these resellers can be considered small entities. According to Commission data,

⁶⁰ *Id.*

⁶¹ *Id.*

⁶² See 13 CFR § 121.201, NAICS Code 517911.

⁶³ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517911, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517911&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

⁶⁴ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA's size standard.

⁶⁵ See *Trends in Telephone Service*, Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*).

⁶⁶ See *id.*

⁶⁷ See U.S. Census Bureau, *2017 NAICS Definition*, "517911 Telecommunications Resellers," <https://www.census.gov/naics/?input=517911&year=2017&details=517911>.

⁶⁸ *Id.*

⁶⁹ *Id.*

⁷⁰ *Id.*

⁷¹ See 13 CFR § 121.201, NAICS Code 517911.

⁷² See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517911, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517911&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

⁷³ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA's size standard.

881 carriers have reported that they are engaged in the provision of toll resale services.⁷⁴ Of this total, an estimated 857 have 1,500 or fewer employees.⁷⁵ Consequently, the Commission estimates that the majority of toll resellers are small entities.

18. *Prepaid Calling Card Providers.* The most appropriate NAICS code-based category for defining prepaid calling card providers is Telecommunications Resellers.⁷⁶ This industry comprises establishments engaged in purchasing access and network capacity from owners and operators of telecommunications networks and reselling wired and wireless telecommunications services (except satellite) to businesses and households. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual networks operators (MVNOs) are included in this industry.⁷⁷ Under the applicable SBA size standard, such a business is small if it has 1,500 or fewer employees.⁷⁸ U.S. Census Bureau data for 2012 show that 1,341 firms provided resale services during that year.⁷⁹ Of that number, 1,341 operated with fewer than 1,000 employees.⁸⁰ Thus, under this category and the associated small business size standard, the majority of these prepaid calling card providers can be considered small entities. According to the Commission's Form 499 Filer Database, 86 active companies reported that they were engaged in the provision of prepaid calling cards.⁸¹ The Commission does not have data regarding how many of these companies have 1,500 or fewer employees, however, the Commission estimates that the majority of the 86 active prepaid calling card providers that may be affected by these rules are likely small entities.

4. Other Entities

19. *All Other Telecommunications.* The "All Other Telecommunications" category is comprised of establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation.⁸² This industry also includes establishments primarily engaged in providing satellite terminal stations and associated facilities connected with one or more terrestrial systems and capable of transmitting telecommunications to, and receiving telecommunications from, satellite systems.⁸³ Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also

⁷⁴ See *Trends in Telephone Service*, Federal Communications Commission, Wireline Competition Bureau, Industry Analysis and Technology Division at Table 5.3 (Sept. 2010) (*Trends in Telephone Service*).

⁷⁵ See *id.*

⁷⁶ See U.S. Census Bureau, *2017 NAICS Definition, "517911 Telecommunications Resellers,"* <https://www.census.gov/naics/?input=517911&year=2017&details=517911>.

⁷⁷ *Id.*

⁷⁸ See 13 CFR § 121.201, NAICS Code 517911.

⁷⁹ See U.S. Census Bureau, *2012 Economic Census of the United States*, Table ID: EC1251SSSZ5, *Information: Subject Series - Estab & Firm Size: Employment Size of Firms for the U.S.: 2012*, NAICS Code 517911, <https://data.census.gov/cedsci/table?text=EC1251SSSZ5&n=517911&tid=ECNSIZE2012.EC1251SSSZ5&hidePreview=false>.

⁸⁰ *Id.* The available U.S. Census Bureau data does not provide a more precise estimate of the number of firms that meet the SBA size standard.

⁸¹ See Federal Communications Commission, *FCC Form 499 Filer Database*, <http://apps.fcc.gov/cgb/form499/499a.cfm> (last visited July 10, 2020).

⁸² See U.S. Census Bureau, *2017 NAICS Definitions, "517919 All Other Telecommunications,"* <https://www.census.gov/naics/?input=517919&year=2017&details=517919>.

⁸³ *Id.*

included in this industry.⁸⁴ The SBA has developed a small business size standard for “All Other Telecommunications”, which consists of all such firms with annual receipts of \$35 million or less.⁸⁵ For this category, U.S. Census Bureau data for 2012 show that there were 1,442 firms that operated for the entire year.⁸⁶ Of those firms, a total of 1,400 had annual receipts less than \$25 million and 15 firms had annual receipts of \$25 million to \$49, 999,999.⁸⁷ Thus, the Commission estimates that the majority of “All Other Telecommunications” firms potentially affected by our action can be considered small.

E. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements for Small Entities

20. None.

F. Steps Taken to Minimize the Significant Economic Impact on Small Entities, and Significant Alternatives Considered

21. The RFA requires an agency to describe any significant alternatives that it has considered in reaching its proposed approach, which may include the following four alternatives (among others): (1) the establishment of differing compliance or reporting requirements or timetables that take into account the resources available to small entities; (2) the clarification, consolidation, or simplification of compliance and reporting requirements under the rules for such small entities; (3) the use of performance rather than design standards; and (4) an exemption from coverage of the rule, or any part thereof, for such small entities.⁸⁸

22. The Commission considered the record submitted in response to the *Small Provider Further Notice* in crafting the final order. We evaluated comments with the goal of protecting consumers from illegal robocalls while minimizing the burden on small entities; specifically, small voice service providers. There was strong record support for shortening the extension to implement STIR/SHAKEN caller ID authentication for non-facilities-based small voice service providers and small voice service providers likely to be involved with originating illegal robocalls, and no party specifically opposed doing so.⁸⁹ We conclude that, consistent with the TRACED Act, the public benefit of curtailing the two-year extension for these providers outweighs the burden.⁹⁰

23. We address the concerns of small entities by allowing facilities-based small voice service providers that are not likely to be involved with originating illegal robocalls to continue to benefit from a two-year extension, until June 30, 2023, to implement STIR/SHAKEN. We also decline to adopt criteria for shortening the extension that would have increased the burden on all small voice service providers.⁹¹ Nor do we require implementation of STIR/SHAKEN within 30 days after an Enforcement Bureau

⁸⁴ *Id.*

⁸⁵ See 13 CFR § 121.201, NAICS Code 517919.

⁸⁶ U.S. Census Bureau, *2012 Economic Census of the United States*, Table EC1251SSSZ4, *Information: Subject Series - Estab and Firm Size: Receipts Size of Firms for the United States: 2012*, NAICS Code 517919, https://factfinder.census.gov/bkmk/table/1.0/en/ECN/2012_US/51SSSZ4//naics~517919.

⁸⁷ *Id.*

⁸⁸ 5 U.S.C. § 603(c)(1)-(4).

⁸⁹ See *supra* paras. 15-22, 27.

⁹⁰ See *supra* paras. 17, 35.

⁹¹ See *supra* paras. 22, 31.

determination that a small voice service provider did not take the necessary steps in response to the Enforcement Bureau's notice or that the provider violated section 64.1200(n)(2) of our rules.⁹²

G. Federal Rules that May Duplicate, Overlap, or Conflict with the Proposed Rules

24. None.

H. Report to Congress

25. The Commission will send a copy of the *Fourth Report and Order*, including this FRFA, in a report to be sent to Congress pursuant to the Congressional Review Act.⁹³ In addition, the Commission will send a copy of the *Fourth Report and Order*, including the FRFA, to the Chief Counsel for Advocacy of the SBA. A copy of the *Fourth Report and Order* and FRFA (or summaries thereof) will also be published in the *Federal Register*.⁹⁴

⁹² See *supra* para. 25.

⁹³ See 5 U.S.C. § 801(a)(1)(A).

⁹⁴ See 5 U.S.C. § 604(b).