

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

In the Matter of)
Advanced Methods to Target and Eliminate) CG Docket No. 17-59
Unlawful Robocalls)
Call Authentication Trust Anchor) WC Docket No. 17-97

DECLARATORY RULING AND THIRD FURTHER NOTICE OF PROPOSED RULEMAKING

Adopted: June 6, 2019

Released: June 7, 2019

Comment Date: (30 days after date of publication in the Federal Register)

Reply Comment Date: (60 days after date of publication in the Federal Register)

By the Commission: Chairman Pai and Commissioners Carr and Starks issuing separate statements;
Commissioners O’Rielly and Rosenworcel approving in part, dissenting in part and issuing separate
statements.

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I. INTRODUCTION

1. Stopping illegal calls to consumers is the Commission's top consumer protection priority. Each year we receive and analyze hundreds of thousands of complaints from consumers about unwanted calls, including illegal calls, and have taken aggressive enforcement action against illegal callers. Unfortunately, enforcement occurs only after consumers receive the calls they so detest. Today, we take immediate steps and propose future steps to provide the ability to block these types of calls before they even reach consumers' phones.

2. The Commission's 2017 *Call Blocking Report and Order and Further Notice of Proposed Rulemaking* was an important step toward ending the scourge of robocalls, but it did not address instances where fraudsters or other illegal callers spoof legitimate, in-service numbers. Similarly, it left unaddressed cases where fraudsters or other illegal callers do not spoof Caller ID. The volume of illegal calls is reducing the value of telephony for anyone who makes or receives calls. Indeed, they are leading some people to give up voice telephony altogether. And illegal calls can pose a risk to public safety by tying up emergency lines when the calls are made to public safety entities. We believe the clarification we make that voice service providers may immediately start offering call-blocking services by default—while giving consumers the choice to opt out—is essential to curtail illegal calls.¹ Furthermore, we propose a safe harbor for call-blocking programs targeting unauthenticated calls, which may be potentially spoofed—a step that will encourage the widespread deployment of the SHAKEN/STIR framework—as well as safeguards for critical calls. We also propose to require voice service providers to implement the SHAKEN/STIR Caller ID Authentication framework, in the event major voice service providers have failed to do so by the end of this year. With these steps, the Commission continues its multi-pronged strategy to curb illegal robocalls.

II. BACKGROUND

3. *State of Robocalling.* Robocall volume remains high and may be increasing. The Commission receives thousands of informal consumer complaints regarding various telecommunications issues each week and makes portions of that data available online at the Consumer Complaint Data Center and on the unwanted calls data page.² The Commission uses complaint data to inform policy and enforcement while also making it available for third parties to improve call blocking and filtering tools.

4. Our data show that the number of complaints about unwanted calls, including robocalls and telemarketing calls, has fluctuated somewhat over the past few years, with 172,000 complaints in calendar year 2015, 150,000 complaints in 2016, 185,000 complaints in 2017, and 232,000 complaints in 2018.³ While the volume of complaints may be influenced by the volume of robocalls, other factors may be at play. For example, complaints might increase following consumer outreach regarding how to file a complaint or after news media coverage of a particular scam. Additionally, the number of complaints received does not equal the number of illegal robocalls placed. Many illegal robocalls likely go

¹ For purposes of this item, “voice service providers” include both traditional wireline and wireless carriers and Voice over Internet Protocol (VoIP) providers that offer voice telephony services, including those that use time-division multiplexing (TDM), interconnected and one-way voice over Internet Protocol (VoIP), or commercial mobile radio service. *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 9706, 9710, para. 10 (2017) (*Call Blocking Report and Order and Further Notice*).

² FCC, Consumer Complaint Data Center, <https://www.fcc.gov/consumer-help-center-data> (last visited June 7, 2019); FCC, Consumer Complaints Data - Unwanted Calls, <https://opendata.fcc.gov/Consumer/ConsumerComplaints-Data-Unwanted-Calls/vakf-fz8e> (last visited June 7, 2019).

³ FCC, Consumer Complaint Data Center, <https://www.fcc.gov/consumer-help-center-data> (last visited June 7, 2019).

unreported, while consumers may report calls and file complaints about calls that are lawful but are simply unwanted.

5. The FTC also tracks consumer complaint data and makes the information available on its Do Not Call (DNC) Reported Calls Data page.⁴ Like the Commission data, the FTC data are based on consumer complaints, and the information is not verified. The FTC also provides Congress with a Biennial Report on the operation of the National Do Not Call Registry.⁵ Further, the FTC administers the Consumer Sentinel Network (CSN), a secure online database of millions of consumer complaints available only to entities that enforce relevant laws, including the Commission and state agencies.⁶ Its scope is broad, and it includes all consumer fraud complaints, not just telephone-based fraud.⁷

6. FTC data show the number of complaints increased through 2017 and decreased slightly in 2018. Do Not Call complaints increased from 3,578,710 in fiscal year 2015 (2,125,968 of which were classified as robocalls), to 5,340,234 in 2016 (3,401,614 of which were classified as robocalls), and 7,157,370 in 2017 (4,501,967 of which were classified as robocalls).⁸ In fiscal year 2018, FTC data show a decrease to 5,780,172 Do Not Call complaints (3,790,614 of which were classified as robocalls).⁹

7. Third parties also track and publish robocall data, including YouMail, Hiya, and First Orion.¹⁰ They analyze the calls blocked by their tools and publish information about call volumes. YouMail estimates the monthly robocall volume in the U.S., as well as in various regions, and highlights the worst offenders. Hiya lists the top area codes that receive robocalls, the calling numbers making the most robocalls, the number of robocalls received in particular cities, and the top call categories of robocalls. First Orion published 2018 Scam Call Trends and Projections in September 2018, in which it combines call patterns and behaviors with other phone number attributes to predict the future volume of fraudulent calls.

8. YouMail shows the estimated national volume of robocalls increasing from 29,082,325,500 in 2016, to 30,507,422,900 in 2017, to 47,839,232,200 in 2018.¹¹ Hiya estimates 26.3

⁴ FTC, Do Not Call Reported Calls Data, <https://www.ftc.gov/site-information/open-government/data-sets/do-not-call-data> (last visited June 7, 2019).

⁵ Federal Trade Commission, Biennial Report to Congress Under the Do Not Call Registry Fee Extension Act of 2007 (2017), https://www.ftc.gov/system/files/documents/reports/biennial-report-congress-under-do-not-call-registry-fee-extension-act-2007-operation-national-do-not/biennial_do_not_call_report_fy_2016-2017_0.pdf.

⁶ FTC, Consumer Sentinel Network Reports, <https://www.ftc.gov/enforcement/consumer-sentinel-network/reports> (last visited June 7, 2019).

⁷ Sentinel includes complaints about: identity theft; Do-Not-Call Registry violations; computers, the internet, and online auctions; telemarketing scams; advance-fee loans and credit scams; immigration services; sweepstakes, lotteries, and prizes; business opportunities and work-at-home schemes; health and weight loss products; and debt collection, credit reports, and financial matters. FTC, Consumer Sentinel Network, <https://www.ftc.gov/enforcement/consumer-sentinel-network> (last visited June 7, 2019).

⁸ FTC, Do Not Call Registry Data Book 2017: Complaint Figures for FY 2017, <https://www.ftc.gov/policy/reports/policy-reports/commission-staff-reports/national-do-not-call-registry-data-book-fy-1>.

⁹ FTC, Do Not Call Registry Data Book 2018: Complaint Figures for FY 2018, <https://www.ftc.gov/policy/reports/policy-reports/commission-staff-reports/national-do-not-call-registry-data-book-fy-10>.

¹⁰ YouMail and the other companies extrapolate the data they collect from their user bases to estimate the entire volume of calls in the United States. YouMail, August 2018 Nationwide Robocall Data, <https://robocallindex.com/2018/august> (last visited June 7, 2019); Hiya, Robocall Radar, <https://hiya.com/robocall-radar> (last visited June 7, 2019); Press Release, First Orion, Nearly 50% of U.S. Mobile Traffic Will Be Scam Calls by 2019 (Sept. 12, 2018), <https://firstorion.com/nearly-50-of-u-s-mobile-traffic-will-be-scam-calls-by-2019/>.

¹¹ YouMail, Historical Robocalls By Time, <https://robocallindex.com/history/time> (last visited June 7, 2019).

billion robocalls were made to mobile phones in the United States in 2018, but does not provide trend analysis on its public website. YouMail further reports the number of calls per month, day, hour, and second, and per person to illustrate how pervasive robocalls are. For example, in November 2018, YouMail identified 5.1 billion calls placed for the month, 169.6 million calls per day, 7.1 million calls per hour, 2,000 calls per second, and an average of 15.7 calls per person.¹²

9. These sources do not generally differentiate between legal and illegal calls, wanted and unwanted, but they do offer some description of the calls. For example, over 30% of the calls reported by Hiya are classified as “general spam” and not fraud or other illegal activity, and approximately 20% are “telemarketing.” More than half of the top 20 spam callers identified by YouMail are categorized as debt collection callers. And First Orion projects that 44.6% of calls to mobile phones will be scam calls in 2019, and that neighbor spoofing will increase to the point where nine out of ten scam calls will be from a familiar area code in 2019.¹³

10. Unwanted wireline and wireless calls are such a problem for consumers that many tell us they have stopped answering their phones when they ring:

- “[R]obocalls . . . have become a major nuisance to the point where I don’t answer any calls unless I know the number—and have missed some very important calls from service people because of that.”¹⁴
- “I receive so many robocalls that I don’t answer the phone unless I recognize the number and even then some sneak through as they have hijacked my neighbors phone number!”¹⁵
- “Many people, including me, don’t answer the phone for ANY number not already on our contact list. This severely limits my legitimate use of my phone.”¹⁶
- “I now find that my cell phone is becoming useless as a telephone. Others don’t answer my calls, assuming they are from machines and only respond to voice messages or texts. I don’t answer calls as often as I once did, because, despite the blockers I use, so many robocalls get through.”¹⁷

¹² YouMail, November 2018 Nationwide Robocall Data, <https://robocallindex.com/2018/november> (last visited June 7, 2019).

¹³ First Orion, Scam Call Trends and Projections Report (2018), [https://ecfsapi.fcc.gov/file/109272058817712/FirstOrion_Scam_Trends_Report_FINAL%20\(002\)%20\(002\).pdf](https://ecfsapi.fcc.gov/file/109272058817712/FirstOrion_Scam_Trends_Report_FINAL%20(002)%20(002).pdf).

¹⁴ Beryl Cook Comments, CG Docket No. 18-152 (rec. June 19, 2018).

¹⁵ James Corwith Comments, CG Docket No. 18-152 (rec. June 21, 2018).

¹⁶ Rosemarie Parker Comments, CG Docket No. 18-152 (rec. June 16, 2018).

¹⁷ Brian Ragen Comments, CG Docket No. 18-152 (rec. June 19, 2018); *see also, e.g.*, Leah Hanson Comments, CG Docket No. 18-152 (rec. June 19, 2018) (“I have missed many important phone calls since I don’t answer any numbers not installed on my phone, for fear it is a robocall, and answer once, then the calls escalate. My daughter left on a cruise, and named me the contact person. I said to her, ‘Oh great! Now I have to answer every robocall for fear it might be a call about you.’”); Sue Coon Comments, CG Docket No. 18-152 (rec. June 19, 2018) (“Even though I don’t answer, I still have to check to see if the call is from someone I actually want to hear from.”); Phyllis Poppalardo Comments, CG Docket No. 18-152 (rec. June 17, 2018) (“My land line is just as bad, have stopped answering it—when I need it I use it.”); Robert Weinreb Comments, CG Docket No. 18-152 (rec. June 16, 2018) (“They prevent me from receiving a call from no one that i don’t positively know; because I don’t answer anyone who doesn’t have call recognition . so no strangers. nor any 2nd lines from people or companies that i would want to hear from. These robocalls are attacking our society.”); Bernadette Folliot Comments, CG Docket No. 18-152 (rec. June 25, 2018) (“It is so bad that I don’t answer calls that are just a number. If no person or business name shows on my cell, I don’t answer and let it go to voice mail. This means that I have to check my phone for messages several times a day.”); Elizabeth Nelson Comments, CG Docket No. 18-152 (rec. June 19, 2018) (“We are inundated with robocalls to the point where we don’t answer our phone without checking the caller ID. If a phone [number] is not readily available we let the call go to voicemail because more than likely there is no one there anyway.”).

11. Illegal calls can also pose a risk to public safety. For example, emergency medical paging services are not designed to handle voice calls, and so a large-scale robocalling campaign can disrupt emergency medical communications.¹⁸ Robocalling campaigns can also tie up emergency lines to 911 call centers (also known as Public Safety Answering Points (PSAPs)), which have limited capacity to process large call volumes.

12. And illegal calls are often vehicles for consumer fraud and identity theft. The FTC's Consumer Sentinel Network Databook for fiscal year 2018 states that out of 1,427,563 fraud reports received, 647,310 reports indicated phone as the contact method.¹⁹ Common scams include: imposter scams; prizes, sweepstakes, and lotteries; travel, vacations, and timeshare plans; mortgage foreclosure relief and debt management; advanced payments for credit services; grants; charitable solicitations; and tax preparation.²⁰

13. One of the best-known scams, involving Caller ID spoofing of Internal Revenue Service (IRS) telephone numbers and the impersonation of IRS employees, has resulted in 14,700 victims collectively losing more than \$72 million since October 2013, despite concerted efforts by the Commission and the IRS to warn consumers.²¹ There are many other examples, such as fraudulent flood insurance calls following hurricanes and fraudulent vehicle warranty calls.²² Consumers reported a total loss of \$429 million to these frauds, with the median loss per consumer being \$840.²³ Both the number of calls and the dollar amount of losses have increased since 2017.²⁴

14. More recently, bad actors have deployed the “one ring” phone scam on unsuspecting American consumers. One-ring calls may appear to be from phone numbers somewhere in the United States, including three initial digits that resemble U.S. area codes. But savvy scammers often use international numbers from regions that also begin with three-digit codes—for example, “649” goes to the

¹⁸ See *Adrian Abramovich, Marketing Strategy Leaders, Inc., and Marketing Leaders, Inc.*, Forfeiture Order, 33 FCC Rcd 4663, 4664, para. 5 (2018) (*Abramovich Forfeiture Order*).

¹⁹ FTC, Consumer Sentinel Network Data Book 2018 at 12, https://www.ftc.gov/system/files/documents/reports/consumer-sentinel-network-data-book-2018/consumer_sentinel_network_data_book_2018_0.pdf. Only 66% of complaints indicated the means of contact.

²⁰ FTC, Consumer Sentinel Network Data Book 2017 at 9, https://www.ftc.gov/system/files/documents/reports/consumer-sentinel-network-data-book-2017/consumer_sentinel_data_book_2017.pdf.

²¹ See, e.g., *FCC and TIGTA Warn Consumers of IRS Impersonation Phone Scam: Scam Has Cost Victims Tens of Millions of Dollars*, DA 16-1392, Enforcement Advisory, 31 FCC Rcd 13184 (EB 2016) (warning consumers of scam callers claiming to be from the Internal Revenue Service and in which Caller ID is spoofed to display an IRS telephone number or “IRS”); Internal Revenue Service, *IRS: Be Vigilant Against Phone Scams; Annual “Dirty Dozen” List Continues* (Mar. 5, 2019), <https://www.irs.gov/uac/newsroom/phone-scams-remain-serious-threat-no-2-on-the-irs-dirty-dozen-list-of-tax-scams-for-2017>.

²² See Federal Communications Commission, *After Storms, Watch Out for Scams* (Nov. 30, 2017), <https://www.fcc.gov/consumers/guides/after-storms-watch-out-scams>; Federal Communications Commission, *Watch Out for Auto Warranty Scams* (Sept. 8, 2017), <https://www.fcc.gov/consumers/guides/beware-auto-warranty-scams>.

²³ FTC, Consumer Sentinel Network Data Book 2018 at 12, https://www.ftc.gov/system/files/documents/reports/consumer-sentinel-network-data-book-2018/consumer_sentinel_network_data_book_2018_0.pdf. Only 8% of complaints where the contact method was phone reported a monetary loss.

²⁴ The FTC's Consumer Sentinel Network Databook for fiscal year 2017 states that out of 1,138,306 fraud reports received, 509,142 reports indicated phone as the contact method. Consumers reported a total loss of \$209 million to these frauds, with the median loss per consumer being \$720. FTC, Consumer Sentinel Network Data Book 2017 at 12, https://www.ftc.gov/system/files/documents/reports/consumer-sentinel-network-data-book-2017/consumer_sentinel_data_book_2017.pdf.

Turks and Caicos and “809” goes to the Dominican Republic. Such scammers may also use spoofing techniques to further mask the number in your Caller ID display. Variations of this scam rely on phony voicemail messages urging a consumer to call a number with an unfamiliar area code to “schedule a delivery” or to notify a consumer about a “sick” relative. Calling the scammer back connects a consumer to a phone number outside the U.S., resulting in connection and per-minute fees, similar to 900 numbers within the U.S., for as long as the consumer remains on the line. These charges show up on consumer bills as “premium” services, international calling, or toll calling.

15. Telephone scammers often succeed because they falsify (or spoof) the Caller ID that appears on a call recipient’s phone.²⁵ Spoofing makes it impossible for consumers to identify the caller when deciding whether to answer a call and makes it difficult for federal and state enforcement agencies to trace illegal calls to their source.

16. *Commission Action to Stop Unlawful Calls.* The Commission has been active on multiple fronts to protect consumers from unlawful calls. First, the Commission has authorized voice service providers to block certain illegal calls before they reach consumers’ phones. In March 2017, the Commission proposed to allow blocking on objective criteria designed to identify illegal calls, including analytics, and how best to guard against the blocking of wanted calls.²⁶ In November 2017, the Commission expressly authorized voice service providers to block certain categories of calls that are highly likely to be illegal: calls purporting to originate from unassigned, unallocated, or invalid numbers; and calls purporting to originate from numbers that are valid and in service but that are not used by their subscribers to originate calls.²⁷ The Commission further encouraged voice service providers that block calls to establish a means for a caller whose calls are blocked in error to contact the voice service provider in order to remedy the problem.²⁸ In 2018, the Consumer and Governmental Affairs Bureau (Bureau) sought comment to refresh the record on call blocking issues.²⁹

17. Second, as part of the RAY BAUM’S Act, Congress amended section 227(e) of the Communications Act to (1) reach spoofing activities directed at consumers in the United States from actors outside the United States; and (2) extend its reach to caller ID spoofing using alternative voice and text messaging services. Accordingly, the Commission proposed rules in February to implement these recently adopted amendments which expand and clarify the Act’s prohibition on the use of misleading and inaccurate caller ID information.³⁰

18. Third, the Commission has taken steps to address the problem of unwanted calls to reassigned numbers. When a consumer cancels service with a voice service provider, the provider may reassign the number to a new consumer. If callers are unaware of the reassignment, they can make calls that are unwanted by the new consumer and missed by the previous consumer, while wasting the time and effort of the caller. In March 2018, the Commission proposed to ensure that one or more databases are

²⁵ Callers can spoof any number, including invalid numbers. Many spoofed calls use what is referred to as “neighbor spoofing” which displays a phone number similar to the called party’s number, for example using the same area code and exchange, to increase the chance that the called party will answer.

²⁶ *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Notice of Proposed Rulemaking and Notice of Inquiry, 32 FCC Rcd 2306 at 2314-17, paras. 27-40 (2017).

²⁷ *Call Blocking Report and Order and Further Notice*, 32 FCC Rcd at 9710-21, paras. 10-40.

²⁸ *Id.* at 9724-25, paras. 54-55.

²⁹ *Consumer and Governmental Affairs Bureau Seeks to Refresh the Record on Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, Public Notice, 33 FCC Rcd 8114 (CGB 2018).

³⁰ RAY BAUM’S Act § 503, 132 Stat. at 1091-94. In February 2019, the Commission sought comment on proposed rules to implement these amendments. *Implementing Section 503 of RAY BAUM’S Act, Rules and Regulations Implementing the Truth in Caller ID Act of 2009*, WC Docket No. 18-335, WC Docket No. 11-39, Notice of Proposed Rulemaking, FCC 19-12 (Feb. 15, 2019).

available to provide callers with the comprehensive and timely information they need to discover potential number reassignments before making a call.³¹ In December 2018, the Commission authorized the creation of a reassigned numbers database to enable callers to verify whether a telephone number has been permanently disconnected, and is therefore eligible for reassignment, before calling that number, thereby helping to protect consumers with reassigned numbers from receiving unwanted calls.³²

19. Fourth, the Commission has taken strong enforcement action against illegal callers. Since January 2017, the Commission has imposed or proposed about \$240 million in forfeitures against callers for illegal spoofed calls. One case involved an individual who was responsible for making more than 96 million illegal spoofed robocalls over a three-month period.³³ The calls falsely claimed to be from well-known travel or hospitality companies such as TripAdvisor, Expedia, Marriott, or Hilton.³⁴ Another involved an individual who conducted a large-scale spoofed robocalling campaign that marketed health insurance to vulnerable populations.³⁵ In both cases, the illegal calls not only disturbed call recipients, but also disrupted an emergency medical paging service.³⁶ A third case involved more than two million spoofed calls in just 14 months, where tens of thousands of the calls displayed spoofed numbers that had been assigned, at the time of the calls, to innocent consumers—leaving them vulnerable to scores of angry callbacks.³⁷ The Commission’s enforcement actions stopped these illegal callers and sent a warning to other bad actors.

20. Fifth, the Commission has pushed industry to quickly develop and implement Caller ID authentication, a critical component in the fight against illegal Caller ID spoofing.³⁸ In 2017, the Commission launched a broad inquiry into Caller ID authentication, asking how to expedite its development and implementation.³⁹ In November 2018 and again in February 2019, Chairman Pai called on major voice service providers to implement a robust Caller ID authentication framework this year.⁴⁰ Many voice service providers affirmed their commitment to implementing this framework, referred to as “SHAKEN/STIR,” in 2019.⁴¹

³¹ *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Second Further Notice of Proposed Rulemaking, 33 FCC Rcd 3203 (2018).

³² *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Second Report and Order, 33 FCC Rcd 12024 (2018).

³³ *Abramovich Forfeiture Order*, 33 FCC Rcd at 4663.

³⁴ *Id.*

³⁵ *Best Insurance Contracts, Inc., and Philip Roesel, dba Wilmington Insurance Quotes*, Forfeiture Order, 33 FCC Rcd 9204 (2018) (*Best Forfeiture Order*).

³⁶ Because some paging technology is not equipped to handle voice calls, a large-scale robocalling campaign may disrupt—and can potentially disable—the network. *Abramovich Forfeiture Order*, 33 FCC Rcd at 4664; *Best Forfeiture Order*, 33 FCC Rcd at 9205.

³⁷ *Affordable Enterprises of Arizona, LLC*, Notice of Apparent Liability for Forfeiture, 33 FCC Rcd 9233 (2018).

³⁸ The Internet Engineering Task Force (IETF), Alliance for Telecommunications Industry Solutions (ATIS), the Session Initiation Protocol (SIP) Forum, and other industry stakeholders developed standards and protocols for Caller ID authentication. See generally *Secure Telephone Identity Revisited (STIR)*, IETF, <https://datatracker.ietf.org/wg/stir/about/> (last visited June 7, 2019) (describing IETF STIR standards and efforts). SHAKEN/STIR authentication will reduce the effectiveness of unlawful spoofing and will improve traceback, but it is not, taken alone, intended to determine whether the content of a particular call is lawful.

³⁹ See generally *Call Authentication Trust Anchor*, WC Docket No. 17-97, Notice of Inquiry, 32 FCC Rcd 5988 (2017) (*Call Authentication NOI*).

⁴⁰ Press release, FCC, Chairman Pai Sent Letters To Voice Service Providers In November, Demanding That They Move Forward On Caller ID Authentication (Nov. 5, 2018), <https://www.fcc.gov/document/chairman-pai-demands-industry-adopt-protocols-end-illegal-spoofing>; see also Press Release, FCC, Chairman Pai: Caller ID Authentication

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21. SHAKEN/STIR is an industry-developed system to authenticate Caller ID and address unlawful spoofing by confirming that a call actually comes from the number indicated in the Caller ID, or at least that the call entered the US network through a particular voice service provider or gateway.⁴² Together, the Signature-based Handling of Asserted information using toKENs (SHAKEN) framework and Secure Telephony Identity Revisited (STIR) make use of public key cryptography to provide assurances that certain information about the Caller ID transmitted with a particular call is accurate.⁴³ Once an originating or gateway provider has implemented these standards, it should sign, or attest to, all IP-based calls originating on its IP-based network or entering the network through its gateway by adding a SIP header containing specific information enumerated in the standards. This header is then transmitted with the call to the terminating provider, which authenticates the call using the header and the originating provider's public key to ensure nothing has changed.⁴⁴ Providers can give full, partial, or gateway attestation to the calls they sign. Full attestation indicates the greatest certainty that the caller is authorized to use the number, while partial and gateway attestation indicate less certainty but indicates where the call originated on the network.⁴⁵ Once fully implemented, SHAKEN/STIR should reduce the effectiveness of illegal spoofing and allow bad actors to be identified more easily.⁴⁶

III. DECLARATORY RULING

22. The Commission has repeatedly stated that offering call-blocking services does not violate voice service providers' call completion obligations under section 201(b) of the Communications Act of 1934, as amended (the Act), and that consumers have a right to block calls.⁴⁷ As early as 1991, the Commission encouraged local exchange carriers to offer blocking and screening services to assist in the prevention of toll fraud.⁴⁸ In 2004, the Commission allowed Telecommunications Relay Service providers to offer anonymous call rejection.⁴⁹ In 2007, the Commission's Wireline Competition Bureau reaffirmed "the right of individual end users to choose to block incoming calls from unwanted callers."⁵⁰ And in 2015, the Commission reaffirmed that voice service providers may offer consumers call-blocking

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is Necessary for American Consumers in 2019 (Feb. 13, 2019), <https://docs.fcc.gov/public/attachments/DOC-356187A1.pdf>.

⁴¹ See, e.g., Letter from Joan Marsh, Executive Vice President, Regulatory and State External Affairs, AT&T Communications, to Ajit Pai, Chairman, FCC, WC Docket No. 17-97 (filed Nov. 19, 2018) (AT&T Nov. 19th Letter); Letter from Tony Werner, President of Technology and Product, Comcast Cable, to Ajit Pai, Chairman, FCC, WC Docket No. 17-97 (filed Nov. 19, 2018) (Comcast Nov. 19th Letter); Letter from Jennifer Hightower, Senior Vice President and General Counsel, Cox Communications, to Ajit Pai, Chairman, FCC, WC Docket No. 17-97 (filed Nov. 19, 2018) (Cox Nov. 19th Letter); Letter from Kathleen O'Brien Ham, Senior Vice President, Government Affairs, T-Mobile, to Ajit Pai, Chairman, FCC, WC Docket No. 17-97 (Nov. 19, 2018) (T-Mobile Nov. 19th Letter); Letter from Joseph J. Russo, Vice President, Global Network Operations, Verizon, to Ajit Pai, Chairman, FCC, WC Docket No. 17-97 (filed Nov. 19, 2018) (Verizon Nov. 19th Letter).

⁴² See generally *Call Authentication NOI*.

⁴³ See *Id.* at 5991, paras. 7-8. We note that SHAKEN/STIR as developed is intended for IP networks. As a result, calls that originate, transit, or terminate on TDM networks may not benefit from it.

⁴⁴ Moreover, SHAKEN/STIR provides non-repudiation: since only the carrier holding the private key can have signed an attestation validated with the public key, we know definitively which carrier has signed the attestation. This greatly improves the traceback process, as the public key directly and definitively identifies the originating carrier.

⁴⁵ Attestation under the SHAKEN framework can take three basic forms. Full attestation requires that the signing voice service provider: 1) is responsible for the origination of the call onto the network; 2) "[h]as a direct authenticated relationship with the customer and can identify the customer;" and 3) "[h]as established a verified association with the telephone number used for the call." By contrast, partial attestation only requires that the first two requirements be met. Finally, gateway attestation is the most limited form of attestation, requiring only that the

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technology.⁵¹ In that decision, the Commission reiterated that “there appears to be no legal dispute in the record that the Communications Act or Commission rules do not limit consumers’ right to block calls, as long as the consumer makes the choice to do so.”⁵²

23. The Commission has also made clear that voice service providers may implement network-based blocking (*i.e.*, blocking without consumer choice) only in “specific, well-defined circumstances.”⁵³ For example, the Commission has allowed voice service providers to block calls that are “highly likely to be illegitimate” without violating our call completion rules.⁵⁴

24. Nonetheless, uncertainty regarding when voice service providers may implement call-blocking programs remains. Most notably, a single sentence of the Commission’s 2015 declaratory ruling on call blocking suggested that consumers could only exercise their choice “through an informed opt-in process”⁵⁵—a sentence that has muddied the legal waters for voice service providers.

25. Accordingly, we issue this declaratory ruling to resolve uncertainty and make clear the call-blocking tools that voice service providers can offer their customers.⁵⁶ Specifically, we address how voice service providers may offer consumers programs to block unwanted calls through analytics (call-blocking programs) and block calls from numbers not in a consumer’s contact list (white-list programs). We also remind voice service providers that protecting emergency communications is paramount.

A. Call-blocking Programs

26. Call-blocking programs have become more prevalent over the past several years.⁵⁷ There are a variety of blocking tools for different platforms, and the number of available tools is growing.⁵⁸ For example, AT&T offers Call Protect to its wireless customers, with features including fraud blocking, suspected spam warning, personal block list, enhanced Caller ID, reverse number lookup, and custom call controls.⁵⁹ Nomorobo is a widely available call-blocking program that screens calls, sending wanted calls through to the call recipients and blocking unwanted calls.⁶⁰ Nearly 40 voice service providers offer Nomorobo to their VoIP customers, and wireless customers can download it as an app.⁶¹

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signing voice service provider both be “the entry point of the call into its VoIP network” and have “no relationship with the initiator of the call (e.g., international gateways).” ATIS & SIP Forum, Joint ATIS/SIP Forum Standard—Signature-Based Handling of Asserted Information Using toKENs (SHAKEN) at 8 (2017), <https://www.atis.org/sti-ga/resources/docs/ATIS-1000074.pdf> (*SHAKEN Report*). Voice service providers that have implemented SHAKEN/STIR may be able to provide gateway attestation to calls that enter their network from a non-IP network.

⁴⁶ Industry is also working together to create and maintain an administrative structure governing the framework across networks. The North American Numbering Council (NANC) Call Authentication Trust Anchor Working Group reported in May 2018 that it anticipated the Governance Authority and Policy Administrator becoming operational in 2019. NANC Call Authentication Trust Anchor Working Group, Report on Selection of Governance Authority and Timely Deployment of SHAKEN/STIR (2018), http://nanc-chair.org/docs/mtg_docs/May_18_Call_Authentication_Trust_Anchor_NANC_Final_Report.pdf. ATIS announced the launch of the Governance Authority in September 2018. Letter from Susan Miller, ATIS President and CEO, to Ajit Pai, Chairman, FCC et al., CG Docket No. 17-59 (filed Sept. 13, 2018). The Governance Authority issued a Request for Proposal (RFP) for the selection of the Policy Administrator in November 2018, and the deadline for proposals was February 4, 2019. STI Governance Authority, Secure Telephone Identity Policy Administrator Request for Proposal, [https://www.atis.org/sti-ga/rfp/docs/STI-PA%20Request%20for%20Proposal%20\(RFP\).pdf](https://www.atis.org/sti-ga/rfp/docs/STI-PA%20Request%20for%20Proposal%20(RFP).pdf).

⁴⁷ We use “blocking” in this declaratory ruling to mean stopping calls outright so that they do not ring a phone, routing the calls directly to voicemail without ringing the phone, or some other treatment, such as an interactive voice response session or voice call screening.

⁴⁸ *Policies and Rules Concerning Operator Service Access and Pay Telephone Compensation*, CG Docket No. 91-35, Report and Order and Further Notice of Proposed Rule Making, 6 FCC Rcd 4736, 4741, para. 15 (1991).

⁴⁹ *Telecommunications Relay Services and Speech-to-Speech Services for Individuals with Hearing and Speech Disabilities*, CG Docket Nos. 90-571, 98-67, 03-123, Report and Order, Order on Reconsideration, and Further Notice of Proposed Rulemaking, 19 FCC Rcd 12475, 12508, para. 74 (2004).

27. But many voice service providers appear to offer call-blocking programs only on an opt-in basis—limiting the impact of such programs on consumers. As Consumers Union puts it, “so few consumers opt-in to robocall blocking tools, yet continually express their frustration with the unending barrage of nuisance calls.”⁶² Setting a call-blocking program as the default can significantly increase consumer participation while maintaining consumer choice: As Hiya explains, 95% of consumers choose to remain on its opt-out call-blocking program whereas only 20% choose to join its opt-in call blocking program.⁶³

28. Inertia may be an obstacle for many consumers who might otherwise participate in a call-blocking program,⁶⁴ and convincing consumers to affirmatively sign up for a call-blocking program (rather than offering it as the default) can be a costly endeavor, especially for smaller voice service providers. What is more, the opt-in nature of current offerings appears to deter voice service providers from investing in such programs because “[t]he knowledge that opt-in rates for [call blocking] technologies are currently low is a factor that deters some providers from investing resources to deploy these services more widely as part of their own offerings.”⁶⁵ And requiring consumers to opt in may also reduce the flexibility of call-blocking programs: If a consumer only opted in to block one type of call (say, telemarketing calls) but a new form of unlawful calls arose (say, one-ring scams), the voice service provider could not extend new protections to that consumer without again soliciting the consumer to opt in.

29. This focus on requiring consumers to opt in to call-blocking programs, rather than making call-blocking programs the default and allowing consumers to opt out, appears to have slowed the development of call-blocking programs in the United States. As Consumers Union points out, “[t]he phone industry lags far behind email providers, as anti-spam technology is able to automatically identify spam and direct it into separate folders.”⁶⁶ The cure, as Consumers Union points out, is to address “the robocall problem in a way that is not burdensome for consumers—for example, by providing anti-robocall tools on an opt-out basis.”⁶⁷

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⁵⁰ *Just and Reasonable Rate for Local Exchange Carriers; Call Blocking by Carriers*, WC Docket No. 07-135, Declaratory Ruling and Order, 22 FCC Rcd 11629, 11631-32, para. 6 & n.21 (WCB 2007).

⁵¹ *Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991*, CG Docket No. 02-278, WC Docket No. 07-135, Declaratory Ruling and Order, 30 FCC Rcd 7961, 8033, para. 152 (2015) (*2015 TCPA Order*), vacated in part, aff'd in part, *ACA Int'l et al. v. FCC*, 885 F.3d 687 (D.C. Cir. 2018). The Telephone Consumer Protection Act of 1991 (TCPA), Pub. L. No. 102-243, 105 Stat. 2394 (1991), is codified at 47 U.S.C. § 227. The TCPA amended Title II of the Communications Act of 1934, 47 U.S.C. § 201 *et seq.*

⁵² *2015 TCPA Order*, 30 FCC Rcd at 8035, para. 156.

⁵³ *Call Blocking Report and Order and Further Notice*, 32 FCC Rcd at 9709, para. 9. We note that the Commission has other rules requiring certain originating providers to take steps to ensure that calls placed to rural America are appropriately delivered. See 47 CFR §§ 64.2101, 64.2115, 64.2117; see also *Rural Call Completion*, Fourth Report and Order, FCC 19-23, at 11, para. 27 (2019) (*RCC Fourth Report and Order*). We note that that while voice service providers have a continuing obligation to transmit legal calls, that obligation does not extend to illegal calls, calls blocked with consumer choice, or calls for which the Commission has authorized blocking. See *Call Blocking Report and Order and Further Notice*, 32 FCC Rcd at 9709, para. 9 (specifying the “certain, well-defined circumstances” where call blocking is permitted without consumer consent); *RCC Fourth Report and Order*, FCC 19-23, at 5, para. 11.

⁵⁴ *Call Blocking Report and Order and Further Notice*, 32 FCC Rcd at 9709, para. 9.

⁵⁵ *2015 TCPA Order*, 30 FCC Rcd at 8034, para. 154.

⁵⁶ See 47 CFR § 1.2 (“The Commission may . . . on its own motion issue a declaratory ruling terminating a controversy or removing uncertainty.”).

30. Several small and medium size voice service providers agree. They state that the “feedback we’ve received from ‘early adopters’ of robocall blocking tools has been overwhelmingly positive, which makes it unfortunate that customers who are less familiar with and slower to adopt new technologies are missing out. . . . We could help more of our customers enjoy the benefits of free robocall blocking if we offered these tools on an informed opt-out basis.”⁶⁸

31. Against this background, we again reiterate that “there appears to be no legal dispute in the record that the Communications Act or Commission rules do not limit consumers’ right to block calls, as long as the consumer makes the choice to do so.”⁶⁹ Nor have we identified any provision of the Communications Act or any Commission rule that would limit consumers to exercising such consent on an opt-in basis. Although the *2015 TCPA Order*, in a single sentence, referred to opt-in call-blocking programs, it did not suggest that such a narrow ruling was required, nor did it claim to prohibit opt-out call-blocking programs.⁷⁰ Accordingly, we clarify that voice service providers may offer consumers call blocking through an opt-out process. Or to use the language of the Act, we find that opt-out call-blocking programs are generally just and reasonable practices (not unjust and unreasonable practices) and enhancements of service (not impairments of service).⁷¹

32. We believe consumers would welcome this blocking choice and that it should therefore be offered to existing subscribers of a given voice service provider, rather than only new subscribers. This clarification will allow more voice service providers to offer more call-blocking programs that are simpler and easier to administer than those currently available. We encourage voice service providers to offer these tools immediately to their customers, and where they already provide opt-in call-blocking programs, to make them the default for all consumers. To that end, we encourage voice service providers to make consumers aware of the programs’ availability and, for that limited subset of consumers who do not want to participate, make the opt-out process simple and easily accessible.

33. We next turn to the scope of our declaration. *First*, we clarify that voice service

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⁵⁷ See, e.g., First Orion October 9, 2018 Comments at 4-5; AT&T July 20, 2018 Comments at 2-3. All referenced comments are from CG Docket No. 17-59, Advanced Methods to Target and Eliminate Unlawful Robocalls, unless otherwise indicated.

⁵⁸ “App platforms have seen a 495% increase in the number of available call-blocking apps between October 2016 and March 2018.” CTIA, Consumer Resources, How to Stop Robocalls, <https://www.ctia.org/consumer-resources/how-to-stop-robocalls/> (last visited June 7, 2019); see also USTelecom Association July 20, 2018 Comments at 3-4 (“there are now over 550 [call-blocking] applications available”).

⁵⁹ AT&T, *Mobile Security and Call Protect*, <https://www.att.com/features/security-apps.html#faq> (last visited June 7, 2019).

⁶⁰ Nomorobo, *How Does It Work?*, <https://nomorobo.zendesk.com/hc/en-us/articles/200536477-How-does-it-work-> (last visited June 7, 2019).

⁶¹ Nomorobo, *Nomorobo for Landlines*, <https://www.nomorobo.com/signup> (last visited June 7, 2019).

⁶² Consumers Union et al. Sept. 24, 2018 Comments at 8.

⁶³ See Letter from Jonathan Nelson, Director of Product Management, Hiya, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 5 (Aug. 20, 2018).

⁶⁴ Many economic studies have demonstrated that inertial decision making by consumers can diminish the consumer benefits from new service offerings and retail competition. See, e.g., “Power to Choose? An Analysis of Consumer Inertia in the Residential Electricity Market,” A. Hortaçsu et al., *American Economic Journal*, Vol. 9 No. 4, Nov. 2017, at <https://www.aeaweb.org/articles?id=10.1257/pol.20150235>.

⁶⁵ American Cable Association (ACA) Sept. 24, 2018 Comments at 3.

⁶⁶ Consumers Union et al. Oct. 8, 2018 Reply Comments at 5.

⁶⁷ *Id.*

providers offering opt-out call-blocking programs must offer sufficient information so that consumers can make an informed choice as to whether they wish to remain in the program or opt out.⁷² Voice service providers should clearly disclose to consumers what types of calls may be blocked and the risks of blocking wanted calls, and they should do so in a manner that is clear and easy for a consumer to understand.⁷³ For example, voice service providers could feature such information prominently on their websites to allow consumers to research and compare the available options. Voice service providers could also push information to their customers using texts (consistent with federal law) or email with a link the customer could use to opt out of the service.⁷⁴ Voice service providers may also explain these options via inserts in customer bills, with a telephone number consumers may call to get more information and opt out of the feature, to reach customers who may not have Internet service or a data plan. At a minimum, we would expect each voice service provider to describe in plain language how the call-blocking program makes the determination to block certain calls, the risks that it may block calls the consumer may want, and how a consumer may opt out of the service. We would expect voice service providers to also make the opt-out process simple and straightforward.

34. *Second*, we clarify that voice service providers may offer opt-out call-blocking programs based on any reasonable analytics designed to identify unwanted calls. We recognize that limiting opt-out call-blocking programs to rigid blocking rules that prescribe in detail when a voice service provider may block is unnecessary when consumers have the option to opt out, could enable callers to evade blocking,⁷⁵ and could impede the ability of voice service providers to develop dynamic blocking schemes that evolve with calling patterns.⁷⁶ As USTelecom states in arguing for flexibility, “a diversity of approaches would create a more challenging operating environment for illegal robocallers.”⁷⁷ And to the extent certain callers claim that consumers do indeed want to receive calls from them, we believe the ability for

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⁶⁸ Letter from Jonathan Bullock, VP, Corporate Development and Government, Hotwire Communications et al., to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 1 (filed May 29, 2019).

⁶⁹ *2015 TCPA Order*, 30 FCC Rcd at 8035, para. 156.

⁷⁰ *Id.* at 8034, para. 154.

⁷¹ See 47 U.S.C. §§ 201(b), 214(a). In this *Declaratory Ruling*, we do not disturb the blocking the Commission permitted in the 2017 *Call Blocking Report and Order and Further Notice*.

⁷² *2015 TCPA Order*, 30 FCC Rcd at 8038, para. 161 (“In order to aid customers in making such informed choices, we encourage technologies designed for blocking incoming calls that are part of mass unsolicited calling events to provide features that will allow customers to ensure that calls that are solicited, such as municipal and school alerts, are not blocked, and that will allow customers to check what calls have been blocked and easily report and correct blocking errors.”). Some providers already include these capabilities in their offerings, allowing consumers to view lists of blocked calls to prevent wanted calls from being blocked in the future. See, e.g., AT&T, Security Apps Frequently Asked Questions, <https://www.att.com/features/security-apps.html#faqs> (last visited June 7, 2019) (“Can I view a list of calls that were blocked? Yes! You may view the list of calls blocked by AT&T Call Protect within the AT&T Call Protect app.”). We encourage all providers to offer these options when they block any calls on an opt-in or opt-out basis.

⁷³ *2015 TCPA Order*, 30 FCC Rcd at 8038, para. 160.

⁷⁴ Under the TCPA, providers could send such text messages with the prior express consent of their customers or as messages for which the customers are not charged. See 47 U.S.C. § 227(b)(1)(A); 47 CFR § 64.1200(a)(1)-(2); see also *Rules and Regulations Implementing the Telephone Consumer Protection Act of 1991*, CG Docket No. 92-90,

(continued....)

consumers to opt out of call-blocking programs adequately addresses such concerns.⁷⁸

35. In line with the record, we note several examples of call-blocking programs that may be effective and would be based on reasonable analytics designed to identify unwanted calls. For example, a call-blocking program might block calls based on a combination of factors, such as: large bursts of calls in a short timeframe; low average call duration; low call completion ratios; invalid numbers placing a large volume of calls; common Caller ID Name (CNAM) values across voice service providers; a large volume of complaints related to a suspect line; sequential dialing patterns; neighbor spoofing patterns; patterns that indicate TCPA or other contract violations; correlation of network data with data from regulators, consumers, and other carriers; and comparison of dialed numbers to the National Do Not Call Registry.⁷⁹ Similarly, a call-blocking program might be designed to block callers engaged in war dialing, unlawful foreign-based spoofing, or one-ring scams and might be designed to incorporate information about the originating provider, such as whether it has been a consistent source of unwanted robocalls and whether it appropriately signs calls under the SHAKEN/STIR framework. Although we suggest these as examples of potentially effective opt-out call-blocking programs, this list is not exhaustive. To be reasonable, however, such analytics must be applied in a non-discriminatory, competitively neutral manner.

36. *Third*, we reaffirm the Commission's commitment to safeguarding calls from emergency numbers. We again caution voice service providers using call blocking tools by default to avoid blocking calls from "public safety entities, including PSAPs, emergency operations centers, or law enforcement agencies."⁸⁰ We emphasize that voice service providers should make all feasible efforts for those tools to avoid blocking emergency calls.

37. *Fourth*, we reaffirm the Commission's commitment to safeguarding calls to rural areas. We do not expect that our holding will have any negative impact on rural call completion rates given that opt-out call-blocking programs would be offered by terminating providers (*i.e.*, those with a direct relationship to the called party). But we nonetheless remind all voice service providers that call-blocking programs may not be used to avoid the effect of our rural call completion rules.⁸¹

38. *Fifth*, while some parties have expressed concern about blocking of calls required for

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Report and Order, 7 FCC Rcd 8752, 8775, para. 45 (1992) (establishing that "cellular carriers need not obtain additional consent from their cellular subscribers prior to initiating autodialer and artificial and prerecorded message calls for which the cellular subscriber is not charged").

⁷⁵ See, e.g., First Orion July 3, 2017 Comments at 10; TNS July 3, 2017 Comments at 14; USTelecom July 3, 2017 Comments at 16.

⁷⁶ See, e.g., ACT | The App Association July 3, 2017 Comments at 5-6 (ACT); AT&T July 31, 2017 Comments at 6-8; CTIA June 30, 2017 Comments at 16-18; First Orion July 3, 2017 Comments at 10-14; Federal Trade Commission July 3, 2017 Comments at 8 (FTC); Sprint June 30, 2017 Comments at 16-17; Transaction Network Services July 3, 2017 Comments at 12, 19 (TNS); USTelecom July 3, 2017 Comments at 3, 15-17; Letter from Matthew T. Murchison, Counsel for Comcast, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 1 (filed July 14, 2017) (Comcast *Ex Parte*).

⁷⁷ USTelecom July 3, 2017 Comments at 15.

⁷⁸ See, e.g., ACA International Oct. 9, 2018 Reply Comments at 2-6; Encore Sept. 24, 2018 Comments at 1; PRA Group Sept. 24, 2018 Comments at 1-2, 5; Sirius XM Oct. 9, 2018 Reply Comments at 14.

⁷⁹ See Letter from Linda Vandeloop, AVP Federal Regulatory, AT&T, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59 at 4 (filed Mar. 6, 2018).

⁸⁰ 2015 TCPA Order, 30 FCC Rcd at 8036, para. 157.

⁸¹ See generally 47 CFR § 64.2101 *et seq.*; see also Improving Rural Call Quality and Reliability Act of 2017, Pub. L. No. 115-129, 132 Stat 329 (2018) (RCC Act).

compliance with other laws, rules, or policy considerations,⁸² we believe that a reasonable call-blocking program instituted by default would include a point of contact for legitimate callers to report what they believe to be erroneous blocking as well as a mechanism for such complaints to be resolved. Further, callers who believe their calls have been unfairly blocked may seek review of a call-blocking program they believe to be unreasonable by filing a petition for declaratory ruling with the Commission.⁸³ We also encourage voice service providers that block calls to develop a mechanism for notifying callers that their calls have been blocked. We note that industry has been active in developing solutions that allow callers to communicate with voice service providers and analytics companies to identify themselves and share their call patterns that might otherwise seem to indicate illegal call activity.⁸⁴ Moreover, we believe that reducing the number of unwanted calls that consumers receive will make it more likely that they will answer their phones, thus making it easier for legitimate callers to reach people. Thus, this *Declaratory Ruling* will ultimately increase call completion rates for legitimate callers.

39. We believe that the benefit to consumers of voice service providers offering opt-out blocking services—which could potentially block billions of unwanted, including illegal, calls—will exceed any costs incurred. Indeed, we expect these blocking services will yield an overall reduction in costs incurred by voice service providers as illegal and unwanted calls will consume less of their network capacity, which can then be devoted more fully to calls and other services that consumers value.

40. For example, YouMail estimates that there were 5.2 billion robocalls in March 2019.⁸⁵ YouMail also estimates that 47% of robocalls are scam calls. This implies that approximately 30 billion calls a year are scam calls.⁸⁶ Based on this data, we conservatively estimate that, assuming the public benefit of eliminating an illegal call is only ten cents on average, the benefit floor for blocking 30 billion illegal calls is \$3 billion.⁸⁷ This figure likely understates the size of the problem because we are basing our calculation on the assumption that only the 47% of calls YouMail classifies as scam calls are illegal and assuming that all of the remaining 53%—*i.e.*, all of the telemarketing, alerts, and payment reminders—are legal calls that consumers want to receive. The \$3 billion benefit floor also is understated because it does not include the many hundreds of millions of dollars that consumers would not lose each

⁸² See, e.g., Letter from Mark W. Brennan, Counsel to the American Association of Healthcare Administrative Management, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, WC Docket No. 17-97, at 2-3 (filed May 28, 2019); Letter from Paul L. Mercer, President and Emily C. Leite, VP of Advocacy, Ohio Credit Union League, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, WC Docket No. 17-97, at 2 (filed May 29, 2019).

⁸³ 47 CFR § 1.2.

⁸⁴ See, e.g., Letter from John Ayers, VP Corporate Development, First Orion Corp., to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, WC Docket No. 17-97 at 1 (filed May 30, 2019); Letter from Rebekah Johnson, CEO, Numeracle, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, WC Docket No. 17-97 at 1 (filed May 24, 2019).

⁸⁵ YouMail, March 2019 Nationwide Robocall Data, <https://robocallindex.com/2019/march> (last visited June 7, 2019). Other providers also collect and report on this data. See, e.g., Hiya, Robocall Radar, <https://hiya.com/robocall-radar> (last visited June 7, 2019); Press Release, First Orion, Nearly 50% of U.S. Mobile Traffic Will Be Scam Calls by 2019 (Sept. 12, 2018), <https://firstorion.com/nearly-50-of-u-s-mobile-traffic-will-be-scam-calls-by-2019/>.

⁸⁶ 5.2 billion robocalls x 12 months x 47% scam calls = 29.3 billion scam calls per year.

⁸⁷ Approximately 30 billion scam calls per year x \$0.10 per call = \$3 billion per year. We conservatively estimate that a reasonable cost of an unwanted call is 10 cents for illustrative and estimation purposes. We expect that \$3 billion in benefit is a conservative floor and that the actual benefit would be higher. But even if one concludes that the cost of an unwanted call is only 1 cent, the benefits would exceed costs.

year by being protected from robocall scams.⁸⁸ Nor does it include the savings to voice service providers who avoid having to handle those illegal calls.

41. We also believe that the costs to the voice service provider, for its own analytics program or one outsourced, if amortized against a large percentage of their customer base, is far less expensive than the costs of allowing unwanted calls to bother its subscribers. The record to date also indicates that voice service providers believe a critical mass of served consumers would subscribe to call blocking services on an opt-out basis.

42. Finally, we understand the cost of handling customer service calls from consumers annoyed by illegal robocalls can be more than ten dollars per consumer call. Further, we anticipate that our authorization of opt-out blocking would impose no mandatory costs on voice service providers because implementation is voluntary, not required. As such, we would expect voice service providers to offer an opt-out service for free, as many already do, with no line-item charge.⁸⁹

B. White-list Programs

43. We next turn to white-list programs.⁹⁰ As with the call-blocking programs discussed above, white-list blocking stops unwanted calls on the voice service provider's network before the calls reach the consumer's phone, providing an added level of protection from unwanted calls and the frustrations that go with them. But unlike one-ring and analytics programs, a white-list program requires consumers to specify the telephone numbers from which they wish to receive calls—in other words, call blocking is the default.

44. We note that some voice service providers already offer similar services. For example, Selective Call Acceptance has long been available on an opt-in basis as a Custom Local Area Signaling Services (CLASS) feature of traditional wireline service, allowing consumers to specify a limited number of telephone numbers from which they will accept calls.⁹¹

45. But the evolution of technology has allowed the evolution of white-list programs. With the advent of smartphones, consumers regularly carry their contact lists in their pockets. And one deterrent for the white lists of old—updating the white list as a consumer makes new contacts—can now

⁸⁸ Consumers reported a total loss of \$209 million to fraud in fiscal year 2017. FTC, Consumer Sentinel Network Data Book 2017 at 12, https://www.ftc.gov/system/files/documents/reports/consumer-sentinel-network-data-book-2017/consumer_sentinel_data_book_2017.pdf (last visited June 7, 2019). The amount of unreported losses may well have exceeded that amount.

⁸⁹ See, e.g., AT&T, *Mobile Security and Call Protect*, <https://www.att.com/features/security-apps.html#faq> (last visited June 7, 2019) (“[t]he basic version of AT&T Mobile Security & Call Protect is free to eligible AT&T wireless customers”); Cox, *Selective Call Rejection*, <https://www.cox.com/residential/support/using-selective-call-rejection-for-cox-digital-telephone.html> (last visited June 7, 2019) (“Selective Call Rejection service offers you the ability to block specific telephone numbers”); Spectrum, *Using Nomorobo to Block Robo Callers*, <https://www.spectrum.net/support/voice/block-robo-callers/?redirected=true> (last visited June 7, 2019) (“[t]he Nomorobo voice feature, available to residential Spectrum Voice customers at no additional charge, screens and blocks incoming calls”); T-Mobile, *Scam protection solutions*, <https://www.t-mobile.com/resources/call-protection> (last visited June 7, 2019) (indicating that Scam ID and Scam Block are included at no extra cost); Verizon, *Stop Unwanted Calls*, <https://www.verizon.com/support/residential/homephone/calling-features/stop-unwanted-calls> (last visited June 7, 2019) (listing several ways to block calls at no additional cost); Xfinity, *Call Types That Can Be Blocked with Xfinity Voice*, <https://www.xfinity.com/support/articles/restricting-calls> (last visited June 7, 2019) (showing several types of call blocking offered without additional charge).

⁹⁰ We use “white-list program” in this section to mean a program offering to block all calls to a customer except from a customer-defined list of telephone numbers. We distinguish this type of white-list program from the “Critical Calls List” discussed below.

⁹¹ See, e.g., Public Service Communications, *CLASS Calling Features*, <https://www.pstel.com/class-features.cms> (last visited June 7, 2019).

be automated. In other words, technology now makes possible what was never before: Giving consumers the choice for their phone to ring only when a known contact calls, and the ability to add new contacts to their white list merely by updating their smartphone's contact list.

46. To ensure that regulatory uncertainty does not deter such offerings, we make clear that nothing in the Act nor our rules prohibits a voice service provider from offering an opt-in white list program using the consumer's contact list. Note that we are in no way limiting the consumer's ability to use phone-based applications installed, for example, by the consumer, the phone manufacturer, or bundled by the service provider where the data in the consumer's contact list never leaves the device. For a whitelist program that transfers the consumer's contact list to a service provider, provides access to the contact list by the service provider, or otherwise stores the consumer's contacts with the service provider or its designees, consumers need to understand they are disclosing the telephone numbers contained in their phone's contact lists with their voice service providers. As such, we limit this Declaratory Ruling to white-list programs requiring informed, opt-in consent. Voice service providers should clearly disclose to consumers the risks of blocking wanted calls and the scope of information disclosed in a manner that is clear and easy for a consumer to understand. For example, voice service providers could feature information about their opt-in white-list program prominently on their marketing materials to allow consumers to determine whether a white-list program, rather than more standard call blocking, is appropriate for them. Voice service providers may also explain these options via inserts in customer bills, with a telephone number customers may call to get more information and sign up for the feature, to reach customers who may not have Internet service or a data plan.

C. Legal Authority

47. We believe that we have ample legal authority to issue this Declaratory Ruling. Section 554(e) of the Administrative Procedure Act authorizes the Commission to issue a declaratory ruling to terminate a controversy or remove uncertainty.⁹² And section 1.2 of our rules provides that "The Commission may . . . on motion or on its own motion issue a declaratory ruling terminating a controversy or removing uncertainty." In issuing this Declaratory Ruling, we note that a necessary corollary of permitting consumer-driven call blocking is that such blocking must be consistent with provisions in Title II, including section 201(b) and section 214(a). As we explain above, the Commission has previously held that consumers have a right to block certain calls and that offering call-blocking services to consumers is a just and reasonable practice under section 201(b) of the Act.⁹³ We also find that consumer-driven call blocking is an enhancement of service, not a discontinuance or impairment of "service" to a "community, or part of a community," within the meaning of section 214(a).⁹⁴ In any event, because our discussion in the *2015 TCPA Order* focusing on opt-in call blocking programs created

⁹² 5 U.S.C. § 554(e).

⁹³ See *supra* para. 22.

⁹⁴ See *supra* para. 22. In arguing that the Commission is permitting voice service providers to block calls "without prior consumer consent," ACA International fundamentally mischaracterizes the Commission's action today. This Declaratory Ruling makes clear that voice service providers may block calls only pursuant to the informed choice of consumers. Where a consumer opts in to call blocking or has been afforded notice that call-blocking is offered and decides not to opt out, that consumer has made an informed choice to participate in a lawful call-blocking program. Accordingly, there is no harm to "a community, or part of a community" under section 214(a), nor is the present or future public convenience "adversely affected" under that provision. To the contrary, we find that communities and the public convenience will benefit from our clarifications today, which we anticipate will result in new call-blocking tools that voice service providers can offer their customers. As explained above, extensive record evidence shows that the incidence of unwanted and illegal robocalls is high and may be increasing, and we therefore reject the argument that we lack a "factual basis" to make this determination. See paras. 3-15, 32 *supra*; Letter from Leah Dempsey, ACA International, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, WC Docket No. 17-97, at 5 (May 30, 2019) (ACA International Letter).

uncertainty as to the call-blocking tools that voice service providers can offer their customers,⁹⁵ we are expressly authorized to issue a declaratory ruling here to clarify that voice service providers' long-recognized ability to block unlawful calls encompasses the right to block calls where the customer chooses on an informed opt-out basis.⁹⁶ In short, as stated above, we find that opt-out call-blocking programs are generally just and reasonable practices (not unjust and unreasonable practices) under section 201 and enhancements of service (not impairments of service) under section 214.⁹⁷

IV. THIRD FURTHER NOTICE OF PROPOSED RULEMAKING

48. In the accompanying *Declaratory Ruling*, we make clear that voice service providers may offer their customers blocking services on an opt-out basis and encourage them to do so in a way that makes such opt out simple and easy for consumers. With this *Third Further Notice of Proposed Rulemaking*, we take additional steps to protect consumers from illegal calls and ensure the effectiveness and integrity of the SHAKEN/STIR Caller ID authentication framework by proposing rules to allow voice service providers to block calls based on Caller ID authentication in certain instances. We further propose protections to ensure that the most important calls are not blocked. We also propose to require voice service providers to implement the SHAKEN/STIR Caller ID authentication framework in the event that major voice service providers have not met Chairman's Pai's deadline for doing so by the end of 2019. We believe that these changes will make it easier for voice service providers to block calls, which has the potential to help providers achieve \$3 billion in savings for consumers without inadvertently blocking critical calls.⁹⁸

A. Safe Harbor for Call-Blocking Programs Based on Potentially Spoofed Calls

49. We propose a safe harbor for voice service providers that offer call-blocking programs that take into account whether a call has been properly authenticated under the SHAKEN/STIR framework and may potentially be spoofed. Voice service providers have emphasized the value of SHAKEN/STIR in addressing the illegal call problem.⁹⁹ Many have asked us to provide a safe harbor for the blocking of calls that are likely to be illegal.¹⁰⁰ The Call Authentication Trust Anchor Working Group

⁹⁵ See *supra* paras. 24-25.

⁹⁶ We reject the assertions of ACA International that we lack statutory authority to issue this Declaratory Ruling and that we are improperly using a Declaratory Ruling to create a new rule without providing adequate notice under the APA. See ACA International Letter at 4-6. Moreover, ACA International's arguments that the Commission's ruling "threatens lawful calls" and enables voice service providers to "unilaterally" block legal calls "without prior consumer consent," see *id.* at 3-6, are unavailing because this Declaratory Ruling makes clear that voice service providers may provide a service that blocks legal but unwanted calls only after providing customers sufficient information so that they can make an informed choice as to whether to opt out of the offered service. See para. 33 *supra*. Finally, ACA makes a passing reference to Section 202, without indicating why that section would be relevant here or why it would be violated by this Declaratory Ruling. ACA International Letter at 5.

⁹⁷ See *supra* para. 31.

⁹⁸ See *supra* para. 38.

⁹⁹ See, e.g., Comcast Sept. 24, 2018 Comments at 5 (noting that Comcast and others "have noted previously, SHAKEN/STIR currently represents the most promising way of addressing illegal spoofed robocalls in a comprehensive and robust manner"); Consumers Union Sept. 24, 2018 Comments at 5 (suggesting that with proper guidance from the Commission, "[c]aller ID verification procedures, such as SHAKEN/STIR, have a great deal of promise in addressing the scam robocall problem"); USTelecom Aug. 20, 2018 Comments at 6-7 (agreeing with other commenters who assert "these standards should improve the reliability of the nation's communications system by better identifying legitimate traffic, and enhancing the ability of stakeholders (such as USTelecom's Industry Traceback Group) to identify illegal robocalls and the sources of untrustworthy communications").

¹⁰⁰ See, e.g., AT&T Sept. 24, 2018 Comments at 3 (urging the Commission to adopt a safe harbor allowing voice service providers to take a measured and reasonable approach to blocking calls); Comcast Sept. 24, 2018 Comments at 8 (asking the Commission to adopt rules authorizing voice service providers to block calls determined to be illegal spoofed robocalls); CTIA Sept. 24, 2018 Comments at 4-7 (seeking a robust safe harbor for carrier-initiated

(continued....)

and The Alliance for Telecommunications Industry Solutions (ATIS) have specifically asked for a safe harbor for blocking based on SHAKEN/STIR.¹⁰¹ Here, we propose to provide a narrow safe harbor for blocking in specific instances based on SHAKEN/STIR.

50. The Commission has encouraged swift implementation of authentication and we believe that authentication, amongst its many benefits, will provide a strong basis for call blocking. A call is signed, or attested, when the originating provider or gateway provider inserts the header described in the SHAKEN/STIR standards. A call is then authenticated when the terminating provider checks the attestation information against the originating or gateway provider's certificate. Many commenters support the use of Caller ID authentication as part of a long-term solution to combat illegal calls.¹⁰² For example, iconectiv states that “[s]tandard implementation of the SHAKEN/STIR technique worldwide would dramatically mitigate the international robocall problem.”¹⁰³ And in conjunction with call labels, blocking calls from numbers that are potentially spoofed could significantly reduce the number of robocalls that many consumers receive while ensuring that any spoofed calls they do receive can be more easily traced back.

51. *First*, we propose a safe harbor for voice service providers that choose to block calls (or a subset of calls) that fail Caller ID authentication under the SHAKEN/STIR framework. Under that framework, participating voice service providers should be cryptographically signing each call that originates on their network and that they transmit to another voice service provider, with calls failing authentication only in certain limited circumstances. Most notably, a call would fail authentication when the attestation header has been maliciously altered or inserted—in other words, where a malicious actor has tried to inappropriately spoof another number and attempted to circumvent the protection provided by SHAKEN/STIR. Accordingly, we would expect the vast majority of calls blocked in such circumstances to be illegitimate and call-blocking programs targeting such calls to be deserving of safe harbor. We seek comment on this view.

52. Are there other instances where authentication would fail? For example, authentication may fail if a voice service provider fails to update its signing certificate and the certificate expires. Would a safe harbor for such a call-blocking program provide a strong incentive to participating SHAKEN/STIR providers to ensure their public key infrastructure is up to date, as well as bolster the value of a failed authentication as a strong indicator of an illegal call? We note that the value of this safe harbor will increase as more voice service providers deploy the SHAKEN/STIR framework. As SHAKEN/STIR deployment becomes more widespread, will failed authentication be a good proxy for

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blocking); USTelecom Sept. 24, 2018 Comments at 4 (supporting a safe harbor for measured and reasonable call blocking).

¹⁰¹ ATIS Comments, WC Docket No. 17-97 (rec. Aug. 14, 2017) (“This effort may also include identifying a need for a safe harbor provision to cover and protect service providers deploying SHAKEN and associated call blocking services if following recognized best practices.”); NANC Call Authentication Trust Anchor Working Group, Report on Selection of Governance Authority and Timely Deployment of SHAKEN/STIR at 14 (2018), http://nanc-chair.org/docs/mtg_docs/May_18_Call_Authentication_Trust_Anchor_NANC_Final_Report.pdf (“For example, a safe harbor for unintended blocking or mis-identification of the level of trust for individual calls would provide a strong incentive for communications service provider adoption of SHAKEN, particularly where analytics are overlaid on the framework.”).

¹⁰² See, e.g., Comcast July 3, 2017 Comments at 5-10; CTIA June 30, 2017 Comments at 18; iconectiv July 3, 2017 Comments at 6; Taff June 29, 2017 Comments at 5; Neustar Inc. July 3, 2017 Comments at 13-14; Noble Systems July 3, 2017 Comments at 9-10 (Noble); USTelecom July 3, 2017 Comments at 13; Vincent Lucas July 31, 2017 Reply Comments at 1-4.

¹⁰³ iconectiv July 3, 2017 Comments at 4. iconectiv notes that implementation of SHAKEN/STIR in the U.S. will allow traceback of all calls to the point of entry onto the U.S. network for international calls. However, they point out that there could still be significant difficulty tracing international calls back to their point of origin absent international implementation of the standards. *Id.*

illegal calls? To the extent it is overbroad, how should we address false positives? Are there specific notification or other procedures that are most appropriate for use to enable callers to correct such false positives quickly?

53. We note that call-blocking programs that consider the degree of attestation (whether full, partial, or gateway attestation) for successfully authenticated calls would not fit within the scope of this safe harbor. Further, only calls for which attestation information is available—the originating provider has implemented SHAKEN/STIR and each intermediate provider in the call path accurately passes authentication information to the terminating provider—and that fail authentication would be blocked. Is that striking the appropriate balance? Should we offer a more expansive safe harbor to encourage compliance or a less expansive safe harbor to account for potential technical problems?

54. *Second*, we seek comment on whether we should create a safe harbor for blocking unsigned calls from particular categories of voice service providers. For example, if a voice service provider is participating in the SHAKEN/STIR framework but fails to sign certain calls, should blocking such calls fall within the safe harbor? Are there any legitimate reasons why a subset of calls should be unsigned from an otherwise participating voice service provider? Many larger voice service providers have committed to deploying the SHAKEN/STIR framework within their networks in 2019. If other large voice service providers with the technical capacity to implement the SHAKEN/STIR framework on a similar timeline fail to do so, should blocking unsigned calls from such voice service providers, after a reasonable transition period, fall within the safe harbor? How should we define “large voice service provider” for these purposes—for example, should we include all voice service providers subject to our rural call completion rules or only a subset? To the extent the Commission has similar terms in other contexts, should we use those definitions here?

55. Alternatively, should a safe harbor target those voice service providers that are most likely to facilitate unlawful robocallers? The Industry Traceback Group, which is led by USTelecom, works to identify the source of illegal calls and works with law enforcement to bring the perpetrators to justice.¹⁰⁴ Should a safe harbor target those voice service providers that do not appropriately sign calls *and* do not participate in the Industry Traceback Group? Or should the safe harbor extend only to call blocking for those that do not appropriately sign calls and send hundreds, thousands, or millions of apparently unwanted calls to American consumers? We seek comment on how to define “appropriately sign” in this instance. For example, would any voice service provider that does not sign some or all of its calls meet this criterion, or should the safe harbor be reserved for voice service providers that provide an incorrect level of attestation?¹⁰⁵ Or should the safe harbor target some other well-defined source of unsigned calls?

56. Although we recognize that smaller voice service providers serving rural America will eventually implement the SHAKEN/STIR framework, we are also conscious that they may need more time than their larger peers to transition their networks to Internet Protocol (IP) while also meeting their universal service obligations to deploy voice-capable broadband networks. How can we ensure that any safe harbor does not impose undue costs on eligible telecommunications carriers participating in the Commission’s high-cost program? And how can we ensure any such carve-out does not protect those few voice service providers that actively facilitate unlawful spoofing and robocalling, often from foreign countries?

57. Can downstream providers reliably determine on which network a particular unsigned call originated? Are there concerns regarding a call that was initially signed transiting a non-IP network; for example, what is the risk that header information would be lost in transit on a non-IP network? Should we set a date certain for when this type of blocking is permissible?

¹⁰⁴ See USTelecom Sept. 24, 2018 Comments at 6-7.

¹⁰⁵ For example, a voice service provider that seeks to facilitate illegal callers may choose to sign all calls with full attestation to avoid blocking, even where they do not know that the caller is authorized to use the number.

58. Are there any particular protections we should establish for a safe harbor to ensure that wanted calls are not blocked? We further seek comment on whether to require voice service providers seeking a safe harbor to provide a mechanism for identifying and remedying the blocking of wanted calls. Is such a mechanism necessary? Should we require voice service providers to send an intercept message to blocked callers or return a specific SIP or Integrated Services Digital Network User Part response code when calls are blocked?¹⁰⁶ Are there other approaches that would be more appropriate?

59. *Cost/Benefit.* We believe that the benefit to consumers of providing a safe harbor for voice service providers that block these calls—which could potentially block billions of illegal or unwanted calls—will exceed any costs incurred by voice service providers. We expect that the carriers' reasonable use of call blocking technologies will substantially reduce their costs while increasing consumer benefits by more than \$3 billion annually. We tentatively conclude that adopting a safe harbor would greatly facilitate that effort by providing carriers with more certainty. We seek comment on this tentative conclusion. Indeed, we expect this safe harbor will yield an overall reduction in costs incurred by voice service providers as unwanted calls, including illegal calls, will consume less of their network capacity, which can then be devoted more fully to calls and other services that consumers value. In addition, we believe that these proposals will improve the integrity and effectiveness of SHAKEN/STIR by making it more difficult for illegal callers to find ways to circumvent the framework.

60. We also believe that the costs to the voice service provider to block calls, if amortized against a large percentage of their customer base, is far less expensive than the costs of allowing unwanted calls to bother its subscribers. Finally, we understand the cost of handling customer service calls from consumers annoyed by illegal robocalls can be more than ten dollars per consumer call. We seek comment on these points. More broadly, are there other costs and benefits we should consider?

61. *Compliance with Rural Call Completion Rules.* Because any voice service provider on the call path could potentially block calls on these grounds, we also seek comment on how our proposal intersects with the Commission's rural call completion rules, including those implementing the Rural Call Quality and Reliability Act of 2017 (RCC Act), and whether to include additional criteria related to these rules.¹⁰⁷ In implementing the RCC Act, the Commission adopted rural call completion service quality standards and intermediate provider registry requirements.¹⁰⁸ We seek comment on whether, consistent with our rural call completion rules, Caller ID authentication provides sufficient justification to permit a downstream provider to block calls from an upstream provider.

62. *Use of SHAKEN/STIR-Based Analytics.* In the accompanying *Declaratory Ruling*, we recognize the role that analytics plays in the fight to eliminate unwanted and illegal robocalls by permitting voice service providers to offer opt-out call-blocking programs based on any reasonable

¹⁰⁶ Such a response code could provide information to an upstream provider or an automated calling system that may not recognize the intercept message. A proposal for a SIP response code specifically intended to notify calling parties that an intermediary has rejected their call attempt is currently in process with the IETF. This code, 608, would make callers aware that future attempts are likely to fail, and is distinct from the 607 code, which indicates that the call is not wanted by the recipient, because it indicates that a machine or other process, rather than the recipient, refused the call. A Session Initiation Protocol (SIP) Response Code for Rejected Calls draft-ietf-sipcore-rejected-03 (Feb. 3, 2019) <https://tools.ietf.org/html/draft-ietf-sipcore-rejected-06>.

¹⁰⁷ See generally 47 CFR § 64.2101 *et seq.*; see also Improving Rural Call Quality and Reliability Act of 2017, Pub. L. No. 115-129, 132 Stat 329 (2018) (RCC Act).

¹⁰⁸ Under these rules “intermediate providers”—entities that transmit, but do not originate or terminate voice calls—are generally required to: (1) register with the Commission before offering to transmit calls; and (2) abide by the Commission's service quality standards. Additionally, certain originating providers, known as “covered providers,” are required to ensure that any intermediate providers that they rely on to deliver calls are registered with the Commission. Similarly, intermediate providers subject to the Commission's service quality standards are required to ensure that any additional intermediate providers that they hand off calls to are registered. See 47 CFR §§ 64.2101, 64.2115, 64.2117; *RCC Fourth Report and Order* at 11, para. 27.

analytics designed to identify unwanted calls and illegal calls. SHAKEN/STIR's ability to determine the source of robocalls will be a significant contribution to the quality of these analytics. We therefore seek comment on the use of SHAKEN/STIR-based analytics once this technology is implemented. How can we best promote the use of SHAKEN/STIR-based analytics to fight the scourge of illegal robocalls? What steps should we take to encourage or require the use of SHAKEN/STIR-based analytics?

B. Protections for Critical Calls

63. Certain emergency calls must never be blocked. Accordingly, we here consider requiring any voice service provider that offers call-blocking to maintain a "Critical Calls List" of numbers it may not block. Such lists would include at least the outbound numbers of 911 call centers (*i.e.*, PSAPs) and government emergency outbound numbers—numbers that we believe all consumers would not want blocked. The prohibition on call blocking would only apply to authenticated calls. We seek comment on this proposal.

64. Although many callers argue that the Commission should require voice service providers to support some sort of white list,¹⁰⁹ others urge us to exercise caution.¹¹⁰ For example, the Federal Trade Commission cautions that a centralized white list mechanism creates a risk that illegal callers will obtain those numbers and spoof them in order to reach consumers.¹¹¹ We accordingly start with the list "limited to genuine emergency calls only," as suggested by Consumers Union.¹¹² Such a limited list is also likely easier to define and more manageable than opening it up to a broader set of callers. And we limit the prohibition to calls that are signed and pass authentication to ensure illegal robocallers cannot spoof a number on the Critical Calls List without the caller being more easily identified and to ensure delivery of its calls to American consumers.

65. We seek comment on what numbers should be required on a Critical Calls List. How should we define outbound numbers of 911 call centers (*i.e.*, PSAPs)? How should we define government emergency outbound numbers? TNS notes that the Commission "could be instrumental in gathering the numbers of emergency and other important services to distribute to solution providers."¹¹³ How can we mitigate the burden of administering a Critical Calls List? Should a Critical Calls List be centrally maintained, or should each voice service provider instead maintain its own list?¹¹⁴ If centrally, what entity should maintain the list and how should voice service providers access the list?

¹⁰⁹ "White list" in these comments refers to a list of numbers from which calls should not be blocked, similar to the "Critical Calls List" we propose, and is distinguished from the "white list or contact list" belonging to an individual consumer discussed in the preceding *Declaratory Ruling*. See, e.g., ABA June 30, 2017 Comments at 1-2, 6; AFSA July 3, 2017 Comments at 3; Colonial Penn January 23, 2018 Comments at 4, 10; Encore July 3, 2017 Comments at 3; Encore January 22, 2018 Comments at 2; Insights Association August 1, 2017 Reply Comments at 4-5; ITTA July 3, 2017 Comments at 9-11; Retail Energy Supply Association January 24, 2018 Comments at 9-10; SiriusXM January 23, 2018 Comments at 9; Tele-Town Hall July 5, 2017 Comments at 6-7.

¹¹⁰ See, e.g., ATIS July 3, 2017 Comments at 12 (encouraging the creation of a white list by voice service providers, but stating that the Commission should not require such a list so that voice service providers are free to cease supporting it if bad actors obtain the list and begin spoofing numbers on it); Consumers Union July 31, 2017 Comments at 2 (arguing against an expansive white list); Consumers Union et al January 23, 2018 Comments at 5 (arguing that any white list should be limited to emergency numbers only); CTIA July 31, 2017 Reply Comments at 7-8 (arguing that the Commission should reject calls for a white list due to security risks); USTelecom July 3, 2017 Comments at 18-19 (discouraging the Commission from mandating some form of white list, citing major concerns in the event such a list were breached).

¹¹¹ FTC January 19, 2018 Comments at 5-6; Montgomery County MD Office of Consumer Protection January 23, 2018 Comments at 2 (agreeing with the FTC) (Montgomery County).

¹¹² Consumers Union July 31, 2017 Comments at 2; Consumers Union et al January 23, 2018 Comments at 1, 5.

¹¹³ TNS July 3, 2017 Comments at 20.

¹¹⁴ See, e.g., CTIA July 31, 2017 Reply Comments at 7-8.

66. Does our proposal capture the most important numbers to avoid blocking? We recognize that other calls are important to consumers. For example, we know consumers value calls from schools, doctors, local governments, and alarm companies, as well as fraud and weather alerts, and TNS adds to the list calls from recall centers, hospitals, and flight alerts.¹¹⁵ Should we expand the scope of the Critical Calls List to include any or all of these categories (or any others)? How can we do so in an administratively feasible manner?

67. We also seek comment on limiting Critical Calls List protections to only those calls for which the Caller ID is authenticated. Does this provide protection against illegal callers spoofing these crucial numbers? We recognize that all or part of some voice service provider networks are not IP-based. In these instances, deployment of authentication technology may be delayed. Is this sufficient cause for us to require voice service providers to grant white list protection to calls where the Caller ID is not authenticated? We note that SHAKEN/STIR provides for three levels of attestation: full, partial, and gateway.¹¹⁶ We seek comment on whether voice service providers should be required to complete calls where any level of attestation is present so long as the Caller ID authenticates, or whether we should limit this requirement. For example, should we allow voice service providers to block calls where the Caller ID authenticates, but the signing authority does not make sense for the asserted calling identity (*e.g.*, an international gateway for a local sheriff's office)?¹¹⁷ Should we only require voice service providers to complete calls where the number purporting to originate the call is on the Critical Calls List and the Caller ID receives full attestation? If so, does this present any unique problems?

68. How can we ensure that a Critical Calls List is sufficiently protected from abuse by unscrupulous callers?¹¹⁸ Should the list be kept non-public to avoid unlawful spoofing of listed numbers in networks that are just in the process of upgrading to SHAKEN/STIR? We seek comment on whether there are any benefits to making the list public that outweigh these risks.¹¹⁹ If the list is not public, who should be able to access it? For example, should it be available to call blocking applications or developers to avoid the application inadvertently blocking calls? We invite comment on any other critical details, including how frequently a Critical Calls List should be updated and under what situations voice service providers should be permitted to block numbers on a Critical Calls List. We further seek comment on the associated costs and benefits of implementing such a Critical Calls List.

69. *Calls Placed to 911.* The Commission has emphasized that voice service providers should not block emergency calls and the Commission's rules prohibit voice service providers from

¹¹⁵ TNS July 3, 2017 Comments at 19 (supporting a list of schools, hospitals, emergency numbers, recall centers, flight alerts, etc. but not a broader list as it would be a target for spoofers).

¹¹⁶ Full attestation requires that the signing provider: 1) is responsible for the origination of the call onto the network; 2) “[h]as a direct authenticated relationship with the customer and can identify the customer”; and 3) “[h]as established a verified association with the telephone number used for the call.” By contrast, partial attestation only requires that the first two requirements be met. Finally, gateway attestation is the most limited form of attestation, requiring only that the signing provider both be “the entry point of the call into its VoIP network” and have “no relationship with the initiator of the call (*e.g.*, international gateways).” *SHAKEN Report* at 8.

¹¹⁷ Full attestation provides the greatest assurance that the calling party is indeed who they claim to be, while spoofed calls could receive partial or gateway attestation.

¹¹⁸ *See, e.g.*, ATIS July 3, 2017 Comments at 12; CTIA July 31, 2017 Reply Comments at 8; FTC January 19, 2018 Comments at 5-6; Montgomery County January 23, 2018 Comments at 2; TNS July 3, 2017 Comments at 19; USTelecom July 3, 2017 Comments at 18-19.

¹¹⁹ *See, e.g.*, ATIS July 3, 2017 Comments at 12; CTIA July 31, 2017 Reply Comments at 7-8; First Orion July 3, 2017 Comments at 14; FTC July 3, 2017 Comments at 9 (urging caution in establishing specific protections such as white lists); Neustar July 3, 2017 Comments at 18-19; Taff June 29, 2017 Comments at 7; USTelecom July 3, 2017 Comments at 18-19; ZipDX June 27, 2017 Comments at 23.

blocking emergency calls to 911.¹²⁰ We see no reason that the rule prohibiting blocking of calls to 911 should not apply to the forms of blocking proposed herein. At the same time, we seek comment on the extent to which PSAPs have received calls with a spoofed Caller ID reporting a false emergency. Are there mechanisms that would enable blocking of illegal spoofed calls to PSAPs without blocking legitimate 911 calls? We seek comment on any additional issues related to protecting PSAPs from illegal calls while ensuring the public's universal and reliable access to 911 in emergencies.

70. We seek comment on other ways to protect callers from erroneous blocking. What costs would be imposed on voice service providers implementing these protections? How significantly would they reduce erroneous blocking, or allow such blocking to be corrected more quickly? Is there a risk that callers placing illegal calls would be able to exploit these protections to circumvent blocking? If so, how might these risks be reduced? Should we consider other bases for blocking unwanted, illegal calls? Are there incentives we should consider for voice service providers to develop or improve existing blocking programs?

C. Mandating Caller ID Authentication

71. If major voice service providers fail to meet an end of 2019 deadline for voluntary implementation of the SHAKEN/STIR Caller ID authentication framework,¹²¹ we propose to require voice service providers to implement that framework. We seek comment on this proposal. We are cognizant of the fact that, at the urging of the Commission, industry has been working to develop and test the SHAKEN/STIR Caller ID authentication framework.¹²² ATIS, as the governance authority for this framework, is deeply involved in coordinating that work among the providers and recently selected iconectiv as the policy administrator.¹²³ Some major voice service providers have made significant progress in their company-specific SHAKEN/STIR implementation efforts. Comcast, AT&T, and T-Mobile, for example, have announced that they are already exchanging SHAKEN/STIR-signed traffic on a bilateral basis.¹²⁴ Furthermore, AT&T has expressed its intention to exchange signed calls with multiple voice service providers by the end of the third quarter of 2019.¹²⁵ Comcast expects to be able to indicate

¹²⁰ See 47 CFR § 64.1200(k)(3) (“[a] provider may not block a voice call under paragraph (k)(1) or (2) of this section if the call is an emergency call placed to 911”); see also *Call Blocking Report and Order and Further Notice*, 32 FCC Rcd at 9721, para. 41.

¹²¹ See Press Release, FCC, Chairman Pai: Caller ID Authentication is Necessary for American Consumers in 2019 (Feb. 13, 2019), <https://www.fcc.gov/document/chairman-pai-caller-id-authentication-necessary-consumers-2019>; Press Release, FCC, Chairman Pai Calls on Industry to Adopt Anti-Spoofing Protocols to Help Consumers Combat Scam Robocalls (Nov. 5, 2018), <https://www.fcc.gov/document/chairman-pai-demands-industry-adopt-protocols-end-illegal-spoofing>.

¹²² See Press Release, AT&T, AT&T, Comcast Announce Anti-Robocalling Fraud Milestone Believed to be Nation's First (Mar. 20, 2019), https://about.att.com/story/2019/anti_robocall.html; Press Release, Verizon, Verizon Offers New Ways to Battle Robocalls (Mar. 28, 2019), <https://www.verizon.com/about/news/verizon-offers-new-ways-battle-robocalls>; Press Release, T-Mobile, T-Mobile First to Launch Caller Verification to Help Protect Customers From Scams (Jan. 10, 2019) <https://www.t-mobile.com/news/caller-verified-note9>.

¹²³ Press Release, ATIS, Mitigating Illegal Robocalling Advances with Secure Telephone Identity Governance Authority Board's Selection of iconectiv as Policy Administrator (May 30, 2019), <https://sites.atis.org/insights/mitigating-illegal-robocalling-advances-with-secure-telephone-identity-governance-authority-boards-selection-of-iconectiv-as-policy-administrator/>; Press Release, FCC, Chairman Pai on Latest Progress Combatting Malicious Spoofing (May 30, 2019), <https://docs.fcc.gov/public/attachments/DOC-357734A1.pdf>.

¹²⁴ See Press Release, AT&T, AT&T, Comcast Announce Anti-Robocalling Fraud Milestone Believed to be Nation's First (Mar. 20, 2019), https://about.att.com/story/2019/anti_robocall.html; Press Release, T-Mobile, T-Mobile and Comcast FIRST to Give Customers New Anti-Robocalling Feature (Apr. 17, 2019), <https://www.t-mobile.com/news/inter-carrier-stir-shaken-launch>.

¹²⁵ See AT&T Nov. 19th Letter at 4.

to end users whether a call is signed by the end of the third quarter of 2019.¹²⁶ Cox Communications is transitioning its residential customer base to a new IP Multimedia Subsystem platform throughout 2019, which will include the capability for deployment of the SHAKEN/STIR solution.¹²⁷ T-Mobile announced it was ready as of November 2018 to implement SHAKEN/STIR. Verizon has stated that the majority of its calls will be signed under the SHAKEN/STIR standard during 2019. And Charter has said that it will be able to sign and verify calls on its network by the end of this year.¹²⁸

72. Implementation of the SHAKEN/STIR framework across voice networks is important in the fight against unwanted, including illegal, robocalls. Thus, while we remain optimistic that, through their voluntary efforts, major voice service providers will deploy SHAKEN/STIR by the end of the year, seeking comment at this time will permit us to move directly to adoption an order and final rules in the event that voluntary adoption of SHAKEN/STIR is delayed and it becomes necessary for us to mandate action. Should major voice service providers fail to meet this end-of-year deadline, we propose to take appropriate regulatory action to ensure that voice service providers implement the SHAKEN/STIR framework. If major voice service providers meet the end-of-year deadline, what steps should the Commission take to ensure that other voice service providers implement the SHAKEN/STIR framework?

73. *Determining whether it is necessary to mandate implementation of the SHAKEN/STIR framework.* First, we seek comment on how best to define “major voice service providers” for the purpose of evaluating the progress made by such providers in implementing the SHAKEN/STIR framework by the end of this year. Should we include in the definition of “major voice service provider” all of the 14 providers to which Chairman Pai directed letters in November 2018 asking for information about their timelines for deploying the SHAKEN/STIR framework?¹²⁹ Are there providers in that group that should not be considered “major voice service providers” for the purposes of this rulemaking? Are there other voice service providers that should be considered major voice service providers? We ask commenters to explain their reasoning for recommending that we add or remove providers from that list. In the alternative, in determining whether an entity is a major voice service provider for purposes of this rulemaking, should we focus on the size of the voice provider? If so, should we use the number of voice subscribers a provider has as a proxy for determining what constitutes a major voice service provider? For example, should we evaluate the progress made by all voice providers with more than 10 million subscribers or more than 1 million subscribers? Is there some other threshold we should use? Should we use different thresholds for different types of providers, e.g. wireline, wireless and VoIP providers? If so, what should they be? Are there other methods we should use to evaluate what constitutes a major voice service provider?

74. Next, we seek comment on how best to evaluate whether major voice service providers have met the end of year deadline for implementation set by Chairman Pai. When providers discuss implementation of SHAKEN/STIR, they often refer to signing calls on an intercarrier basis and using signature information they receive to enhance the consumer experience.¹³⁰ Should this be the standard we use to measure whether the major voice service providers have implemented SHAKEN/STIR by the end

¹²⁶ See Comcast Nov. 19th Letter at 3.

¹²⁷ See Cox Nov. 19th Letter at 2.

¹²⁸ See T-Mobile Nov. 19th Letter at 1; Verizon Nov. 19th Letter at 1 (filed Nov. 19, 2018); Charter, Using Technology to Stop Robocalls and Protect Consumers (May 2, 2019), <https://policy.charter.com/blog/using-technology-stop-robocalls-protect-consumers/>.

¹²⁹ Chairman Pai sent letters on SHAKEN/STIR deployment to AT&T Services, Inc., Bandwidth Inc., CenturyLink, Charter Communications, Comcast Corporation, Cox Communications, Frontier Communications, Google LLC, Sprint, TDS Telecommunications LLC, T-Mobile USA, Inc., U.S. Cellular Corp, Verizon, and Vonage Holdings Corp.). Those letters and the responses can be found at <https://www.fcc.gov/call-authentication> (last visited June 7, 2019).

¹³⁰ See AT&T Nov. 19th Letter at 2-4; Comcast Nov. 19th Letter at 2-4; Verizon Nov. 19th Letter 1-2.

of this year? We invite comment on this approach and on specific alternatives. How should we determine compliance? Should we require certifications from major voice service providers documenting compliance by the end of the year? If so, what should such certifications cover? Or is there some other form of documentation demonstrating progress that we can look to or should require?

75. *Voice service providers covered by the SHAKEN/STIR implementation requirement.* If we mandate provider implementation of the SHAKEN/STIR framework, we propose to require implementation by all voice service providers—wireline, wireless, and Voice over Internet Protocol (VoIP) providers. Implementation of SHAKEN/STIR by major voice service providers should act as a significant deterrent to unwanted, including illegal, robocalls. Unwanted and illegal robocalls and caller ID spoofing are problems that affect all consumers, however, not just those who are served by larger voice service providers. As the Commission explained in the *Call Authentication NOI*, “[t]he existence of multiple call origination platforms, each using a number of technology combinations, creates multiple opportunities for bad actors seeking to mislead victims and law enforcement about their identity in order to make unwanted and illegal robocalls.”¹³¹ We seek comment on this proposal. Are there any other voice service providers we should include? Are there any exceptions to a SHAKEN/STIR implementation requirement that we should consider? What criteria should we use in delineating any exceptions?

76. *Implementation.* If we mandate the implementation of SHAKEN/STIR, what should we require providers to accomplish to meet the requirement? Should we require providers to sign calls on an intercarrier basis and use signature information they receive to enhance the consumer experience? Are there other or different requirements we should impose to ensure implementation of the SHAKEN/STIR framework?

77. For example, if we mandate SHAKEN/STIR implementation should we require providers to adopt a uniform display showing consumers whether a call has been authenticated? Or should we encourage provider experimentation to develop the most useful display for consumers? What types of displays would be most meaningful for consumers? Would it be helpful if the display differs based on level of attestation—that is, full, partial or gateway?¹³² Some voice service providers currently notify their customers when they have reason to believe that a voice call is spam or a fraudulent call. What are the lessons to be learned from this and any other existing practices? Do consumers find the type of information currently displayed to be useful or confusing? Are there lessons we can learn from other types of consumer notices, for example attempts to notify consumers about the security of web pages?¹³³ Recognizing that the use of, and standards for, Caller ID authentication will likely evolve, how should we ensure that our rules encourage rather than impede new developments in Caller ID authentication and its uses?

78. *Timing of the requirement.* If we mandate implementation of the SHAKEN/STIR framework, how much implementation time should we give voice service providers? Given that major voice service providers are already working on implementation, should we provide them with a short time to implement the framework? What timeframe is sufficient to achieve implementation, recognizing the

¹³¹ *Call Authentication NOI*, 32 FCC Rcd at 5998, para. 38.

¹³² See *SHAKEN Report* at 8-9.

¹³³ See, e.g., Tara Whalen & Kori Inkpen, *Gathering Evidence: Use of Visual Security Cues in Web Browsers*, Proceeding of Graphics Interface 2005, Victoria, British Columbia, Canada, May 9-11, 137-144 (showing that almost no users checked to verify the website being certified was actually the site they intended to browse); Min Wu, Robert C. Miller & Simson L. Garfinkel, *Do Security Toolbars Actually Prevent Phishing Attacks?*, Proceedings of the SIGCHI Conference on Human Factors in Computing Systems 2006, Montréal, Quebec, Canada, Apr. 22-27, 601-610 (showing that a secure connection indicator is inadequate to protect users and discussing how advanced information, like a verified name of the site or that even in the presence of a secure connection the site is a phishing site, can protect users).

critical need to act quickly to protect consumers and businesses alike? The record suggests that small voice service providers lack the financial ability and in-house professional expertise necessary to quickly implement the SHAKEN/STIR framework.¹³⁴ Should we, therefore, adopt staggered timetables that allow smaller and/or medium-sized voice service providers more time to implement the SHAKEN/STIR framework? If so, how much more time to implement SHAKEN/STIR should we allow smaller and medium-sized providers? On what basis should we determine whether to treat a voice service provider as a large, medium-sized, or smaller provider for purposes of implementation deadlines? Should we look to the number of subscribers or some other measure? If we use the number of subscribers as a proxy for the size of a provider, what should be the thresholds between differently sized providers? Or, is there some other way we should distinguish between differently sized voice service providers? Should we recognize more than two or three categories of voice service providers for purposes of setting implementation deadlines? We invite commenters to propose specific categories of voice service providers, specify how we should distinguish between or among them, explain why we should do so for purposes of setting implementation deadlines, and propose specific implementation deadlines for each proposed specific category of voice service providers.

79. *Governance.* What role should the Commission have in SHAKEN/STIR governance? Since the Commission released the *Call Authentication NOI*, industry has taken steps to establish a governance regime. ATIS has selected a governance authority and even more recently announced iconectiv as the policy administrator.¹³⁵ Given these developments, are there any aspects of the governance authority that the Commission should handle itself or should the Commission's role be limited to a formal oversight one with regard to the governance regime? Are there other functions that the Commission should undertake to ensure the adoption and implementation of the SHAKEN/STIR authentication framework?

80. *Legacy Networks.* As explained earlier, SHAKEN/STIR as developed is intended for IP-based networks, and thus, is less effective for calls that originate, terminate, or transit across TDM networks and does not work at all for calls that exclusively traverse TDM networks. Although the Commission has encouraged carriers to transition to IP networks as soon as possible, we recognize that there are challenges for smaller and rural carriers. We therefore seek comment on how to encourage Caller ID authentication for carriers that maintain some portion of their network on legacy technology. Are there technologies available to enable legacy networks to participate in Caller ID authentication? For

¹³⁴ See American Cable Association (ACA) Comment, WC Docket No. 17-97, at 2-8 (rec. Aug. 14, 2017) (noting that “small and mid-sized VoIP providers have not been involved in the development of the proposed authentication protocols, and thus cannot address key issues such as the technical feasibility of implementing the protocols or the potential costs involved”); NTCA–The Rural Broadband Association Comment, WC Docket No. 17-97, at 2-5 (rec. Aug. 14, 2017) (urging that the “continued development, implementation, governance and administration of SHAKEN/STIR should not result in requirements for equipment upgrades outside of normal business needs, unfunded mandates, or increased costs for rural telecommunications providers”); Letter from Brian Ford, Director of Industry Affairs, NTCA-The Rural Broadband Association, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, WC Docket No. 17-97, at 5-6 (May 23, 2019) (stating that small providers face several hurdles and barriers to SHAKEN/STIR deployment, such as lack of vendor engagement, the absence of rules governing IP interconnection, and the potential loss of network-cost-recovery revenues); CTIA Comment, WC Docket No. 17-97, at 7 (rec. Aug. 14, 2017) (cautioning that “the Commission should understand that implementing a call authentication protocol like SHAKEN/STIR is costly and small or mid-size companies may struggle with it”).

¹³⁵ See Press Release, ATIS, Secure Telephone Identity Governance Authority Launched In Major Industry Effort to Combat Unwanted Robocalling (Sept. 18, 2018), <https://sites.atis.org/insights/secure-telephone-identity-governance-authority-launched-in-major-industry-effort-to-combat-unwanted-robocalling/>; Press Release, ATIS, Mitigating Illegal Robocalling Advances with Secure Telephone Identity Governance Authority Board's Selection of iconectiv as Policy Administrator (May 30, 2019), <https://sites.atis.org/insights/mitigating-illegal-robocalling-advances-with-secure-telephone-identity-governance-authority-boards-selection-of-iconectiv-as-policy-administrator/>.

example, there is work on “out of band STIR” in the IETF.¹³⁶ Should we take further steps to promote or require Caller ID authentication on legacy networks? If so, what steps should we take? For example, should we require voice service providers that have implemented the SHAKEN/STIR framework to sign calls entering their network with either partial or gateway attestations?

81. *Costs and Benefits.* In the *Declaratory Ruling*, we conclude that the benefits of eliminating unwanted, including illegal, calls would far exceed \$3 billion annually and that most of these benefits can be achieved through call-blocking algorithms primarily because SHAKEN/STIR will inform providers of the call’s true origination. We seek comment on the critical role that SHAKEN/STIR plays in eliminating these illegal and unwanted calls and on the benefits that would be realized as the result of mandating SHAKEN/STIR. As to costs, we conclude in the *Declaratory Ruling* that the implementation of these effective call blocking programs would greatly lower network costs by eliminating unwanted traffic and by eliminating the labor costs of handling numerous customer complaints. We reaffirm that conclusion. Some commenters, however, express concern regarding the costs to implement SHAKEN/STIR, particularly for smaller providers.¹³⁷ We therefore seek information from providers on the upfront and recurring costs to implement SHAKEN/STIR. We are particularly interested in obtaining current data on costs from carriers that have begun the implementation process for SHAKEN/STIR. Commenters also express concern about how SHAKEN/STIR costs are to be recovered.¹³⁸ We therefore seek comment on whether cost recovery is likely to be an issue, given that the net effect of this implementation is expected to reduce the providers’ total costs within a few years.

82. *Illegal calls originating outside the United States.* Illegal robocalling often originates from sources outside the United States. Congress and the Commission have both recognized this and have taken steps to address the issue. For example, in a 2011 report submitted to Congress on “Caller Identification Information in Successor or Replacement Technologies”¹³⁹ the Commission recommended, as one of several suggestions, expanding the scope of the Truth in Caller ID Act to include a prohibition on Caller ID spoofing directed at people in the United States by persons outside the United States. Accordingly, in section 503 of the RAY BAUM’S Act, Congress amended section 227(e) of the Act and adopted the Commission’s suggestion by expanding the reach of covered entities from “any person within the United States” to include “any person outside the United States if the recipient is within the United States.”¹⁴⁰ Consistent with these efforts, we seek comment on how we and the industry can best leverage Caller ID authentication technology and specifically SHAKEN/STIR to combat illegal calls originating outside the United States.

D. Measuring the Effectiveness of Robocall Solutions

83. Should the Commission create a mechanism to provide information to consumers about the effectiveness of various voice service providers’ robocall solutions? If so, how should “effectiveness” be defined? How would the Commission obtain the information needed to evaluate the effectiveness of the robocall solutions?

¹³⁶ See STIR Out-of-Band Architecture and Use Cases, IETF Internet Draft, <https://tools.ietf.org/html/draft-ietf-stir-oob> (last visited June 7, 2019).

¹³⁷ ACA Comments at 5-6; CTIA Comments at 7; NTCA Comments at 5-6; Transaction Network Services Comments at 4; USTelecom Comments at 4.

¹³⁸ NTCA Comments at 5-6; US Telecom Comments at 4; VON Coalition Comments at 3; USTelecom Reply Comments at 3-4.

¹³⁹ *Caller Identification Information Successor or Replacement Technologies*, Report, 26 FCC Rcd 8643 (2011), https://docs.fcc.gov/public/attachments/DA-11-1089A1_Rcd.pdf.

¹⁴⁰ RAY BAUM’S Act § 503(a)(1), 132 Stat. at 1091.

E. Legal Authority

84. We seek comment on our authority to adopt new rules here. Sections 201(b) and 202(a) of the Communications Act have formed the basis for the Commission’s traditional prohibitions on call blocking.¹⁴¹ The Commission also is charged with prescribing regulations to implement the Truth in Caller ID Act, which made unlawful the spoofing of Caller ID “in connection with any telecommunications service or IP-enabled voice service . . . with the intent to defraud, cause harm, or wrongfully obtain anything of value”¹⁴² And section 251(e) of the Act gives the Commission authority over the use and allocation of numbering resources in the United States, including the use of unallocated and unused numbers.¹⁴³ In the *Call Blocking Report and Order*, we exercised that authority to make clear that voice service providers may block calls that spoof invalid, unallocated, or unused numbers, none of which actually can be used to originate a call, and to make clear that voice service providers, upon subscriber request, may block calls spoofing any number that the subscriber does not use to make calls.¹⁴⁴

85. We seek comment on whether these statutory provisions—or any others—confer on the Commission sufficient authority to adopt rules to create a safe harbor for certain call-blocking programs and require voice service providers that offer call-blocking programs to maintain a Critical Calls List. Is creating a safe harbor equivalent to declaring certain practices presumptively just and reasonable? Is encouraging voice service providers to adopt the SHAKEN/STIR framework consistent with our authority under the Truth in Caller ID Act? Does our plenary authority over numbering extend to requiring that calls from certain numbers be sacrosanct? Does our authority depend, in part or at all, on whether the calls considered in a call-blocking program are in fact illegal under federal law or merely unwanted by consumers? Given the continuing and ever-evolving schemes by unscrupulous callers to harm and defraud consumers using spoofed Caller ID, are these proposals necessary to allow voice service providers to help prevent unlawful acts and protect voice service subscribers? Would any of these proposals be limited only to calls purporting to use North American Numbering Plan numbers?

86. Finally, we believe section 251(e), which grants the Commission plenary jurisdiction over the North American Numbering Plan resources in the United States and the authority to administer numbering resources, provides the Commission the authority to mandate Caller ID authentication and specifically SHAKEN/STIR.¹⁴⁵ When bad actors falsify or spoof the Caller ID that appears on a consumer’s phone, they are using numbering resources to advance an illegal scheme. By permitting voice providers and consumers to identify when a Caller ID number has been spoofed, mandating SHAKEN/STIR would prevent North American Numbering Plan resources from being fraudulently exploited. Accordingly, we conclude that section 251(e) provides us sufficient authority to adopt such

¹⁴¹ 47 U.S.C. §§ 201(b), 202(a).

¹⁴² *Id.* § 227(e); 47 CFR § 64.1604.

¹⁴³ 47 U.S.C. § 251(e).

¹⁴⁴ See *Call Blocking Report and Order and Further Notice*, 32 FCC Rcd at 9727, para. 62.

¹⁴⁵ 47 U.S.C. § 251(e); see also *Call Authentication NOI*, 32 FCC Rcd at 6001, para. 48; *In the Matter of Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, Section Notice of Inquiry, 32 FCC Rcd 6007, 6009-10, para. 7 (2017) (“Section 251(e)(1) of the Communications Act of 1934, as amended (the Act), gives the Commission plenary authority over that portion of the North American Numbering Plan (NANP) that pertains to the United States and the Commission has authority to set policy on all facets of numbering administration in the United States”) (citing *Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Interconnection Between Local Exchange Carriers and Commercial Mobile Radio Service Providers; Area Code Relief Plan for Dallas and Houston, Ordered by the Public Utility Commission of Texas; Administration of the North American Numbering Plan; Proposed 708 Relief Plan and 630 Numbering Plan Area Code by Ameritech-Illinois*, CC Docket Nos. 96-98, 95-185, and 92-237, NSD File No. 96-8, IAD File No. 94-102, Second Report and Order and Memorandum Opinion and Order, 11 FCC Rcd 19392, 19512, para. 271 (1996)).

rules. Do commenters agree? Are there any other statutory provisions or other sources of authority we should consider?

V. REPORTS ON DEPLOYMENT AND IMPLEMENTATION OF CALL BLOCKING AND CALLER ID AUTHENTICATION

87. In order to measure the effectiveness of efforts of the Commission and industry to thwart illegal robocalls and empower consumers, we direct the Consumer and Governmental Affairs Bureau (CGB), in consultation with the Wireline Competition Bureau (WCB) and Public Safety and Homeland Security Bureau (PSHSB), to prepare two reports on the state of deployment of advanced methods and tools to eliminate such calls, including the impact of call blocking on 911 and public safety. The reports shall be submitted to the Commission no later than 12 months, for the first report, and 24 months, for the second report, after the publication of this *Declaratory Ruling and Third Further Notice of Proposed Rulemaking* in the Federal Register.

88. Specifically, the Commission adopts the recommendation of its Consumer Advisory Committee dated September 18, 2017, to study the implementation and effectiveness of blocking measures, to include:

[T]he availability to consumers of call blocking solutions; the fees charged, if any, for call blocking tools available to consumers; the proportion of subscribers whose providers offer and/or enable call blocking tools; the effectiveness of various categories of call blocking tools; and an assessment of the number of subscribers availing themselves of available call blocking tools.¹⁴⁶

89. In order to fully assess the efforts of the Commission and industry, the reports should assess the impact of previous Commission rule changes to allow providers to block calls from phone numbers on a Do-Not-Originate (DNO) list and those that purport to be from invalid, unallocated, or unused numbers. Further, the reports should also include information on the state of deployment of Caller ID authentication through implementation of the SHAKEN/STIR framework. The reports should contain “snapshots” of deployment and implementation of Commission and industry efforts at the time of release.

90. We recognize that to determine the “effectiveness of various categories of call blocking tools,” as the Consumer Advisory Committee recommended, it may be necessary for CGB to collect additional information and data from voice service providers. After all, to fully evaluate the effectiveness of the deployed tools, the reports should include authoritative data about the number of illegal robocalls transiting our phone system; “evaluate all of the call-blocking efforts provided by each company, whether as an opt-in service or conducted on the network level,”¹⁴⁷ or as an opt-out service, or a combination of different types of services; relevant metrics pertaining to the use of each type of call blocking service such as the number of intercept messages sent, false positives, false negatives (i.e., illegal or fraudulent robocalls that reach consumers), and calls blocked, among other relevant data points. We explicitly delegate authority to CGB, in consultation with WCB and PSHSB, to collect any and all relevant information and data from voice service providers necessary to complete these reports. Following delivery of the first report, we will assess whether, contrary to our expectation, consumers are being charged and, if so, we will seek comment on rules requiring providers that offer these services to do so for free.

¹⁴⁶ FCC Consumer Advisory Committee, Recommendation Regarding Unwanted Call Blocking (Sept. 27, 2017), available at <https://www.fcc.gov/ecfs/filing/1092759171055>.

¹⁴⁷ Consumers Union et al. January 23, 2018 Comments at 5.

VI. PROCEDURAL MATTERS

91. *Ex Parte Rules.* This proceeding shall be treated as a “permit-but-disclose” proceeding in accordance with the Commission’s *ex parte* rules.¹⁴⁸ Persons making *ex parte* presentations must file a copy of any written presentation or a memorandum summarizing any oral presentation within two business days after the presentation (unless a different deadline applicable to the Sunshine period applies). Persons making oral *ex parte* presentations are reminded that memoranda summarizing the presentation must (1) list all persons attending or otherwise participating in the meeting at which the *ex parte* presentation was made, and (2) summarize all data presented and arguments made during the presentation. If the presentation consisted in whole or in part of the presentation of data or arguments already reflected in the presenter’s written comments, memoranda or other filings in the proceeding, the presenter may provide citations to such data or arguments in his or her prior comments, memoranda, or other filings (specifying the relevant page and/or paragraph numbers where such data or arguments can be found) in lieu of summarizing them in the memorandum. Documents shown or given to Commission staff during *ex parte* meetings are deemed to be written *ex parte* presentations and must be filed consistent with rule 1.1206(b). In proceedings governed by rule 1.49(f) or for which the Commission has made available a method of electronic filing, written *ex parte* presentations and memoranda summarizing oral *ex parte* presentations, and all attachments thereto, must be filed through the electronic comment filing system available for that proceeding, and must be filed in their native format (e.g., .doc, .xml, .ppt, searchable .pdf). Participants in this proceeding should familiarize themselves with the Commission’s *ex parte* rules.

92. *Filing Requirements: Comments and Replies.* Pursuant to sections 1.415 and 1.419 of the Commission’s rules, 47 CFR §§ 1.415, 1.419, interested parties may file comments and reply comments on or before the dates indicated on the first page of this document. Comments may be filed using the Commission’s Electronic Comment Filing System (ECFS). See *Electronic Filing of Documents in Rulemaking Proceedings*, 63 FR 24121 (1998).

- Electronic Filers: Comments may be filed electronically using the Internet by accessing the ECFS: <http://apps.fcc.gov/ecfs/>.
- Paper Filers: Parties who choose to file by paper must file an original and one copy of each filing. If more than one docket or rulemaking number appears in the caption of this proceeding, filers must submit two additional copies for each additional docket or rulemaking number.

Filings can be sent by hand or messenger delivery, by commercial overnight courier, or by first-class or overnight U.S. Postal Service mail. All filings must be addressed to the Commission’s Secretary, Office of the Secretary, Federal Communications Commission.

- All hand-delivered or messenger-delivered paper filings for the Commission’s Secretary must be delivered to FCC Headquarters at 445 12th St., SW, Room TW-A325, Washington, DC 20554. The filing hours are 8:00 a.m. to 7:00 p.m. All hand deliveries must be held together with rubber bands or fasteners. Any envelopes and boxes must be disposed of before entering the building.

Commercial overnight mail (other than U.S. Postal Service Express Mail and Priority Mail) must be sent to FCC, 9050 Junction Drive, Annapolis Junction, MD 20701.

U.S. Postal Service first-class, Express, and Priority mail must be addressed to 445 12th Street, SW, Washington DC 20554.

¹⁴⁸ 47 CFR § 1.1200 *et seq.*

93. Comments Containing Proprietary Information. Commenters that file what they consider to be proprietary information may request confidential treatment pursuant to section 0.459 of the Commission's rules. Commenters should file both their original comments for which they request confidentiality and redacted comments, along with their request for confidential treatment. Commenters should not file proprietary information electronically. *See Examination of Current Policy Concerning the Treatment of Confidential Information Submitted to the Commission*, Report and Order, 13 FCC Rcd 24816 (1998), Order on Reconsideration, 14 FCC Rcd 20128 (1999). Even if the Commission grants confidential treatment, information that does not fall within a specific exemption pursuant to the Freedom of Information Act (FOIA) must be publicly disclosed pursuant to an appropriate request. *See* 47 CFR § 0.461; 5 U.S.C. § 552. We note that the Commission may grant requests for confidential treatment either conditionally or unconditionally. As such, we note that the Commission has the discretion to release information on public interest grounds that falls within the scope of a FOIA exemption.

94. 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), 202-418-0432 (tty).

95. Availability of Documents. Comments, reply comments, and *ex parte* submissions will be available for public inspection during regular business hours in the FCC Reference Center, Federal Communications Commission, 445 12th Street, S.W., CY-A257, Washington, D.C., 20554. These documents will also be available via ECFS. Documents will be available electronically in ASCII, Microsoft Word, and/or Adobe Acrobat.

96. Additional Information. For additional information on this proceeding, contact Jerusha Burnett, Jerusha.Burnett@fcc.gov or (202) 418-0526, of the Consumer and Governmental Affairs Bureau, Consumer Policy Division.

97. Initial Regulatory Flexibility Analysis. As required by the Regulatory Flexibility Act of 1980 (RFA),¹⁴⁹ the Commission has prepared an Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on small entities of the policies and rules proposed in this *Third Further Notice of Proposed Rulemaking*. The IRFA is set forth in Appendix F. We request written public comment on this IRFA. Comments must be filed by the deadlines for comments on the *Third Further Notice of Proposed Rulemaking* indicated on the first page of this document and must have a separate and distinct heading designating them as responses to the IRFA. The Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, will send a copy of this Notice of Proposed Rulemaking, including the IRFA, to the Chief Counsel for Advocacy of the Small Business Administration (SBA).¹⁵⁰

98. Paperwork Reduction Act. This document contains proposed new or modified information collection requirements. The Commission, as part of its continuing effort to reduce paperwork burdens, invites the general public and the Office of Management and Budget (OMB) to comment on the information collection requirements contained in this document, as required by the Paperwork Reduction Act of 1995, Public Law 104-13. In addition, pursuant to the Small Business Paperwork Relief Act of 2002, Public Law 107-198, see 44 U.S.C. 3506(c)(4), we seek specific comment on how we might further reduce the information collection burden for small business concerns with fewer than 25 employees."¹⁵¹

¹⁴⁹ *See* 5 U.S.C. § 603.

¹⁵⁰ *See* 5 U.S.C. § 603(a).

¹⁵¹ 44 U.S.C. § 3506(c)(4).

VII. ORDERING CLAUSES

99. **IT IS ORDERED** that, pursuant to sections 4(i), 4(j), 201, and 214 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 154(i), 154(j), 201, 214, and sections 1.2 and 64.1200 of the Commission's Rules, 47 CFR §§ 1.2, 64.1200, this *Declaratory Ruling* in CG Docket No. 17-59 **IS ADOPTED**.

100. **IT IS FURTHER ORDERED** that, pursuant to section 1.103 of the Commission's rules, 47 CFR § 1.103, this *Declaratory Ruling* **SHALL BE EFFECTIVE** upon release.

101. **IT IS FURTHER ORDERED** that, pursuant to sections 201, 202, 227, 251(e), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 201, 202, 227, 251(e), 403, this *Third Further Notice of Proposed Rulemaking* **IS ADOPTED**.

102. **IT IS FURTHER ORDERED** that the Commission's Consumer and Governmental Affairs Bureau, Reference Information Center, **SHALL SEND** a copy of this *Third Further Notice of Proposed Rulemaking*, including the Initial Regulatory Flexibility Analysis, to the Chief Counsel for Advocacy of the Small Business Administration.

FEDERAL COMMUNICATIONS COMMISSION

Marlene H. Dortch
Secretary

APPENDIX A

Draft Proposed Rules for Public Comment

The Federal Communications Commission proposes to amend Part 64 of Title 47 of the Code of Federal Regulations as follows:

PART 64—MISCELLANEOUS RULES RELATING TO COMMON CARRIERS

Subpart L—Restrictions on Telemarketing, Telephone Solicitation, and Facsimile Advertising

1. Amend § 64.1200(k) by redesignating paragraphs (1), (2), and (4); revising and redesignating paragraph (3), and adding paragraphs (5), (6), (7), (8), (9), and (10) to read:

§ 64.1200 Delivery restrictions

(k) Voice service providers may block calls so that they do not reach a called party as follows:

(1) A provider may not block a voice call under this subsection if the call is an emergency call placed to 911.

(2) For purposes of this subsection, a provider may rely on Caller ID information to determine the purported originating number without regard to whether the call in fact originated from that number.

(3) Any provider blocking pursuant to this subsection must maintain a list of numbers from which calls will not be blocked where the Caller ID is authenticated on a call purporting to originate from the number. Providers must include on their lists only numbers used for outbound calls by Public Safety Answering Points or other emergency services; government-originated calls, such as calls from local authorities generated during emergencies; and outbound calls from schools and similar educational institutions to provide school-related emergency notifications, such as weather-related closures or the existence of an emergency affecting the school or students.

(4) A provider may block a voice call when the subscriber to which the originating number is assigned has requested that calls purporting to originate from that number be blocked because the number is used for inbound calls only.

(5) A provider may block a voice call purporting to originate from any of the following:

(i) A North American Numbering Plan number that is not valid;

(ii) A valid North American Numbering Plan number that is not allocated to a provider by the North American Numbering Plan Administrator or the Pooling Administrator; and

(iii) A valid North American Numbering Plan number that is allocated to a provider by the North American Numbering Plan Administrator or Pooling Administrator, but is unused, so long as the provider blocking the calls is the allocatee of the number and confirms that the number is unused or has obtained verification from the allocatee that the number is unused at the time of the blocking.

(6) A provider may block a call that is eligible for authentication of Caller ID and for which authentication by the terminating provider has failed.

APPENDIX B

Comments Filed in Response to Call Blocking NPRM/NOI

<u>Commenter</u>	<u>Abbreviation</u>
30 State Attorneys General	30 State AGs
AARP	AARP
ACA International	ACA Int'l
ACT The App Association	ACT
John Adler, CEO Call Control	Adler
The Alliance for Telecommunications Industry Solutions*	ATIS
American Bankers Association	ABA
American Financial Services Association	AFSA
AT&T Services, Inc.	AT&T
Robert Bensman	Bensman
CenturyLink, Inc.	CenturyLink
Citizens Utility Board	Citizens Utility Board
Comcast Corporation	Comcast
Consumers Union, Consumer Action, Consumer Federation of America, National Association of Consumer Advocates, National Consumer Law Center on behalf of its low-income clients, Public Citizen, and Public Knowledge*	Consumers Union <i>et al.</i>
CTIA*	CTIA
Electronic Privacy Information Center*	EPIC
The Electronic Transactions Association *	ETA
Encore Capital Group, Inc.	Encore
First Orion, Corp.	First Orion
Federal Trade Commission	FTC
INCOMPAS*	INCOMPAS
Insights Association	Insights Association
ITTA – The Voice of America’s Broadband Providers	ITTA
Matt Jennings	Jennings
Vincent Lucas	Lucas
Metaswitch Networks	Metaswitch Networks
Microsoft Corporation	Microsoft
National Mortgage Servicing Association	NMSA
NC–A - The Internet & Television Association	NCTA
Neustar, Inc.	Neustar
NobelBiz, Inc.	NobelBiz
Noble Systems Corporation*	Noble Systems
NTCA-The Rural Broadband Association	NTCA
Professional Association for Customer Engagement*	PACE
Quicken Loans*	Quicken Loans
Joe Shields	Shields
Sprint Corporation	Sprint
Louis Taff	Taff
Telcordia Technologies, Inc., doing business as iconectiv	iconectiv
Tele-Town Hall, LLC	Tele-Town
T-Mobile USA, Inc.	T-Mobile
TracFone Wireless, Inc.	TracFone
Transaction Network Services, Inc.*	TNS
USTelecom Association*	USTelecom
Voice on the Net Coalition	VON
ZipDX LLC*	ZipDX

More than 400 individuals filed comments directly in the record. Nearly 200 of those comments expressed a general dislike for robocalls, while approximately 220 commented on a separate matter not relevant here. In addition to the individual comments, Citizens Utility Board submitted a petition containing 2,903 signatures urging the FCC to enact rules to prevent spoofed robocalls.

* filing both comments and reply comment (bold - reply comments only).

APPENDIX C

Comments Filed in Response to Call Blocking Report and Order and Further Notice

<u>Commenter</u>	<u>Abbreviation</u>
ACA International	ACA Int'l
Ad Hoc Telecommunications Users Committee	Ad Hoc
American Bankers Association	ABA
Colonial Penn Life Insurance Company*	Colonial Penn
Comcast Corporation	Comcast
Consumer Advisory Committee	CAC
Consumers Union, National Consumer Law Center, on behalf of its low-income clients, Consumer Action, Consumer Federation of America, National Association of Consumer Advocates, Public Citizen, Public Knowledge*	Consumers Union <i>et al.</i>
CTIA*	CTIA
Electronic Transactions Association	ETA
Encore Capital Group	Encore
First Orion, Corp.*	First Orion
Greg Ihnen	Greg Ihnen
Hiya, Inc.	Hiya
INCOMPAS*	INCOMPAS
ITTA – The Voice of America’s Broadband Providers	ITTA
Jean Public	Jean Public
Montgomery County MD Office of Consumer Protection	Montgomery County
National Association of Federally-Insured Credit Unions	NAFCU
NCTA – The Internet and Television Association	NCTA
Noble Systems Corporation*	Noble
Professional Association of Customer Engagement	PACE
Professional Association for Customer Engagement, Alorica, Inc. and the Consumer Relations Consortium	PACE <i>et al.</i>
Retail Energy Supply Association*	RESA
Sirius XM Radio Inc.*	Sirius XM
Staff of the Federal Trade Commission	FTC
Transaction Network Services, Inc.	TNS
USTelecom	USTelecom
Verizon	Verizon
Voice on the Net Coalition	VON
ZipDX LLC	ZipDX

* filing both comments and reply comment (bold - reply comments only).

APPENDIX D

Comments Filed in Response to Call Blocking Record Refresh Public Notice

<u>Commenter</u>	<u>Abbreviation</u>
ACA International	ACA Int'l
American Bankers Association	ABA
American Cable Association*	ACA
American Financial Services Association	AFSA
AT&T Services Inc.	AT&T
Charter Communications, Inc.	Charter
Comcast Corporation	Comcast
Consumers Union, National Consumer Law Center, on behalf of its low-income clients, Consumer Action, Consumer Federation of America, National Association of Consumer Advocates, Public Citizen, Public Knowledge*	Consumers Union <i>et al.</i>
CTIA*	CTIA
Electronic Privacy Information Center	EPIC
Encore Capital Group	Encore
First Orion	First Orion
Hiya	Hiya
INCOMPAS	INCOMPAS
ITTA – The Voice of America’s Broadband Providers	ITTA
NCTA – The Internet and Television Association	NCTA
Neustar, Inc.	Neustar
NTCA – The Rural Broadband Association	NTCA
Numeracle, Inc.	Numeracle
PRA Group, Inc.	PRA
Retail Energy Supply Association	RESA
Securus Technologies, Inc.	Securus
Sirius XM Radio Inc.*	Sirius XM
Sprint	Sprint
Thirty-Five (35) State Attorneys General	35 State AGs
T-Mobile USA, Inc.	T-Mobile
Transaction Network Services	TNS
The USTelecom Association*	USTelecom
Voice on the Net Coalition	VON

* filing both comments and reply comment (bold - reply comments only).

APPENDIX E

Comments Filed in Response to Call Authentication Trust Anchor Notice of Inquiry

<u>Commenter</u>	<u>Abbreviation</u>
American Cable Association	ACA
American Financial Services Association	AFSA
Alliance for Telecommunications Industry Solutions*	ATIS
CenturyLink	CenturyLink
Comcast Corporation	Comcast
Consumer Bankers Association	CBA
Consumers Union, National Consumer Law Center, on behalf of its low-income clients, Consumer Action, Consumer Federation of America, National Association of Consumer Advocates, National Consumers League Public Citizen, Public Knowledge*	Consumers Union <i>et al.</i>
CTIA*	CTIA
Edison Electric Institute	EI
INCOMPAS	INCOMPAS
iconectiv	iconectiv
Internet Architecture Board	IAB
Jaclyn Stere	Jaclyn Stere
NCTA – The Internet and Television Association	NCTA
NTCA – The Rural Broadband Association	NTCA
Neustar, Inc.*	Neustar
Noble Systems Corporation	Noble
Professional Association for Customer Engagement	PACE
Shockey Consulting	Shockey
Sprint Corporation	Sprint
Transaction Network Services, Inc.	TNS
USTelecom*	USTelecom
Vincent Lucas	Vincent Lucas
Voice on the Net Coalition	VON

* filing both comments and reply comment (bold - reply comments only).

APPENDIX F

Initial Regulatory Flexibility Analysis

1. As required by the Regulatory Flexibility Act of 1980, as amended, (RFA)¹ the Commission has prepared this Initial Regulatory Flexibility Analysis (IRFA) of the possible significant economic impact on a substantial number of small entities by the policies and rules proposed in this *Third Further Notice of Proposed Rulemaking* (FNPRM). Written public comments are requested on this IRFA. Comments must be identified as responses to the IRFA and must be filed by the deadlines for comments on the FNPRM provided on the first page of this document. The Commission will send a copy of the FNPRM, including this IRFA, to the Chief Counsel for Advocacy of the Small Business Administration.² In addition, the FNPRM and IRFA (or summaries thereof) will be published in the Federal Register.³

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

2. The FNPRM continues a process to allow voice service providers to block illegal calls, which pose real dangers to consumers, who may lose money or suffer from identity theft as a result of such calls.⁴ The FNPRM proposes rules to permit voice service providers, on their own initiative, to block calls based on Caller ID authentication, specifically where the Caller ID is eligible for authentication but fails. The FNPRM also proposes to require a “Critical Calls List” of numbers that must never be blocked so long as the Caller ID is authenticated. It is clear that illegal calls are a major concern across industry, government, and consumer groups. On the other hand, the Commission has long had a strong policy against allowing voice service providers to block calls in order to prevent the degradation of the reliability of the nation’s communications network and harm to consumers. As a result, the Commission must balance these competing policy considerations. The FNPRM seeks comment on several proposals that we believe strike the correct balance.

3. The FNPRM seeks comment on proposed rules to permit voice service providers to block calls in certain instances without consumer consent.⁵ Specifically, the FNPRM proposes to allow voice service providers to block calls that are eligible for authentication but where authentication fails.⁶ The FNPRM further proposes rules to require a Critical Calls List to ensure that the most important calls are never blocked and emphasizes that emergency calls to 911 should not be blocked.⁷

4. The FNPRM proposes and seeks comment on requiring voice service providers to implement the SHAKEN/STIR call authentication framework if major voice service providers fail to voluntarily implement the SHAKEN/STIR framework by the end of 2019.⁸ Although some major voice

¹ 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 5 U.S.C. § 603(a).

³ *Id.*

⁴ “Voice service providers” include both traditional wireline and wireless carriers and Voice over Internet Protocol (VoIP) providers that offer voice telephony services, including those that use time-division multiplexing, interconnected and one-way voice over Internet Protocol, or commercial mobile radio service. *Advanced Methods to Target and Eliminate Unlawful Robocalls*, Report and Order and Further Notice of Proposed Rulemaking, 32 FCC Rcd 9706, 9710, para. 10 (2017) (*Call Blocking Report and Order and Further Notice*).

⁵ *Third Further Notice of Proposed Rulemaking* at paras. 47-61.

⁶ *Id.* at paras. 49-51.

⁷ *Id.* at paras. 62-69.

⁸ *Id.* at paras. 70-81.

service providers have made significant progress in their company-specific SHAKEN/STIR implementation efforts, should major voice service providers fail to meet an end of 2019 deadline, the Commission will be ready to take appropriate regulatory action to ensure that voice service providers do implement call authentication.

B. Legal Basis

5. The proposed and anticipated rules are authorized under sections 201, 202, 227, 251(e), and 403 of the Communications Act of 1934, as amended, 47 U.S.C. §§ 201, 202, 227, 251(e), 403.

C. Description and Estimate of the Number of Small Entities to Which the Proposed 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 rules adopted herein.⁹ The RFA generally defines the term “small entity” as having the same meaning as the terms “small business,” “small organization,” and “small governmental jurisdiction.”¹⁰ In addition, the term “small business” has the same meaning as the term “small-business concern” under the Small Business Act.¹¹ 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.¹²

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.”¹³ 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.¹⁴ Census data for 2012 shows that there were 3,117 firms that operated that year. 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.

⁹ See 5 U.S.C. § 603(b)(3).

¹⁰ See 5 U.S.C. § 601(6).

¹¹ See 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.”

¹² See 15 U.S.C. § 632.

¹³ U.S. Census Bureau, 2012 NAICS Definitions, “517110 Wired Telecommunications Categories”; <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

¹⁴ See 13 CFR § 120.201, NAICS Code 517110.

¹⁵ 2012 U.S. Economic Census, NAICS Code 517110, at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodType=table.

8. *Local Exchange Carriers (LECs)*. Neither the Commission nor the SBA has developed a small business size standard specifically for local exchange services. The closest applicable size standard under SBA rules is for the category 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.”¹⁶ Under that size standard, such a business is small if it has 1,500 or fewer employees.¹⁷ Census data for 2012 show that there were 3,117 firms that operated that year. Of this total, 3,083 operated with fewer than 1,000 employees.¹⁸ Consequently, the Commission estimates that most providers of local exchange service are small businesses.

9. *Incumbent Local Exchange Carriers (Incumbent LECs)*. Neither the Commission nor the SBA has developed a small business size standard specifically for incumbent local exchange services. The closest applicable size standard under SBA rules is for the category 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.”¹⁹ Under that size standard, such a business is small if it has 1,500 or fewer employees.²⁰ Census data for 2012 show that there were 3,117 firms that operated that year. Of this total, 3,083 operated with fewer than 1,000 employees.²¹ Consequently, the Commission estimates that most providers of incumbent local exchange service are small businesses.

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 size standard under SBA rules is for the category 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

¹⁶ U.S. Census Bureau, 2012 NAICS Definitions, “517110 Wired Telecommunications Categories”; <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

¹⁷ 13 CFR § 121.201, NAICS code 517110.

¹⁸ 2012 U.S. Economic Census, NAICS Code 517110, at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table.

¹⁹ U.S. Census Bureau, 2012 NAICS Definitions, “517110 Wired Telecommunications Categories”; <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

²⁰ 13 CFR § 121.201, NAICS code 517110.

²¹ 2012 U.S. Economic Census, NAICS Code 517110, at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table.

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.”²² Under that size standard, such a business is small if it has 1,500 or fewer employees.²³ Census data for 2012 show that there were 3,117 firms that operated that year. Of this total, 3,083 operated with fewer than 1,000 employees.²⁴ Consequently, 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.

11. 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.”²⁵ 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.²⁶ 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.

12. *Interexchange Carriers.* Neither the Commission nor the SBA has developed a small business size standard specifically for providers of interexchange services. The appropriate size standard under SBA rules is for the category 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.”²⁷ Under that size standard, such a business is small if it has 1,500 or fewer employees.²⁸ Census data for 2012 show that there were 3,117 firms that operated that year. Of this total, 3,083 operated with fewer than 1,000

²² U.S. Census Bureau, 2012 NAICS Definitions, “517110 Wired Telecommunications Categories”; <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

²³ 13 CFR § 121.201, NAICS code 517110.

²⁴ 2012 U.S. Economic Census, NAICS Code 517110, at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table.

²⁵ 5 U.S.C. § 601(3).

²⁶ Letter from Jere W. Glover, Chief Counsel for Advocacy, SBA, to William E. Kennard, Chairman, Federal Communications Commission (May 27, 1999). The Small Business Act contains a definition of “small business concern,” which the RFA incorporates into its own definition of “small business.” 15 U.S.C. § 632(a); 5 U.S.C. § 601(3). SBA regulations interpret “small business concern” to include the concept of dominance on a national basis. 13 CFR § 121.102(b).

²⁷ U.S. Census Bureau, 2012 NAICS Definitions, “517110 Wired Telecommunications Categories”; <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

²⁸ 13 CFR § 121.201, NAICS code 517110.

employees.²⁹ Consequently, the Commission estimates that the majority of interexchange carriers are small entities.

13. *Cable System Operators (Telecom Act Standard)*. The Communications Act 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 1 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.”³⁰ There are approximately 52,403,705 cable video subscribers in the United States today.³¹ Accordingly, an operator serving fewer than 524,037 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.³² Based on available data, we find that all but nine incumbent cable operators are small entities under this size standard.³³ 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.³⁴ Although it seems certain that some of these cable system operators are affiliated with entities whose gross annual revenues exceed \$250 million, 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.

14. *Other Toll Carriers*. Neither the Commission nor the SBA has developed a size standard for small businesses specifically applicable to other toll carriers. This category includes toll carriers that do not fall within the categories of interexchange carriers, operator service providers, prepaid calling card providers, satellite service carriers, or toll resellers. The closest applicable size standard under SBA rules is for 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.”³⁵ Under that size standard, such a business is small if it has 1,500 or fewer employees.³⁶ Census data for 2012 show that there were 3,117 firms that operated that year. Of this total, 3,083 operated with fewer than 1,000 employees.³⁷ Thus,

²⁹ 2012 U.S. Economic Census, NAICs Code 517110, at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table.

³⁰ 47 CFR § 76.901 (f) and notes ff. 1, 2, and 3.

³¹ See SNL KAGAN at www.snl.com/interactivex/MultichannelIndustryBenchmarks.aspx.

³² 47 CFR § 76.901(f) and notes ff. 1, 2, and 3.

³³ See SNL KAGAN at <https://www.snl.com/Interactivex/TopCableMSOs.aspx>.

³⁴ 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 section 76.901(f) of the Commission’s rules. See 47 CFR § 76.901(f).

³⁵ U.S. Census Bureau, 2012 NAICS Definitions, “517110 Wired Telecommunications Categories”; <http://www.census.gov/cgi-bin/sssd/naics/naicsrch>.

³⁶ 13 CFR § 121.201, NAICS code 517110.

³⁷ 2012 U.S. Economic Census, NAICs Code 517110, at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table.

under this category and the associated small business size standard, the majority of other toll carriers can be considered small.

2. Wireless Carriers

15. *Wireless Telecommunications Carriers (except Satellite)*. Since 2007, the Census Bureau has placed wireless firms within this new, broad, economic census category.³⁸ Under the present and prior categories, the SBA has deemed a wireless business to be small if it has 1,500 or fewer employees.³⁹ For the category of Wireless Telecommunications Carriers (except Satellite), Census data for 2012 show that there were 967 firms that operated for the entire year. Of this total, 955 firms had fewer than 1,000 employees.⁴⁰ Thus under this category and the associated size standard, the Commission estimates that the majority of wireless telecommunications carriers (except satellite) are small 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) services.⁴¹ Of this total, an estimated 261 have 1,500 or fewer employees.⁴² Thus, using available data, we estimate that the majority of wireless firms can be considered small.

16. *Satellite Telecommunications Providers*. The category of Satellite Telecommunications “comprises establishments 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.”⁴³ This category has a small business size standard of \$32.5 million or less in average annual receipts, under SBA rules.⁴⁴ For this category, Census Bureau data for 2012 show that there were a total of 333 firms that operated for the entire year.⁴⁵ Of this total, 299 firms had annual receipts of under \$25 million.⁴⁶ Consequently, we estimate that the majority of Satellite Telecommunications firms are small entities.

17. *All Other Telecommunications*. All Other Telecommunications comprises, *inter alia*, “establishments primarily engaged in providing specialized telecommunications services, such as satellite tracking, communications telemetry, and radar station operation. 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. Establishments providing Internet services or voice over Internet protocol (VoIP) services via client-supplied telecommunications connections are also

³⁸ U.S. Census Bureau, 2012 NAICS Definitions, “517210 Wireless Telecommunications Categories (Except Satellite)”; <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517210&search=2012%20NAICS%20Search>.

³⁹ 13 CFR § 121.201, NAICS code 517210 (2012 NAICS). The now-superseded, pre-2007 CFR citations were 13 CFR § 121.201, NAICS codes 517211 and 517212 (referring to the 2002 NAICS).

⁴⁰ 2012 U.S. Economic Census, NAICS Code 517210, at http://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ5&prodType=table.

⁴¹ *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*).

⁴² *Id.*

⁴³ U.S. Census Bureau, 2012 NAICS Definitions, “517410 Satellite Telecommunications,” <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517410&search=2012>.

⁴⁴ 13 CFR § 121.201, NAICS Code 517410.

⁴⁵ U.S. Census Bureau, 2012 Economic Census, Subject Series: Information, “Establishment and Firm Size,” NAICS code 517410.

⁴⁶ *Id.*

included in this industry.”⁴⁷ The SBA has developed a small business size standard for the category of All Other Telecommunications.⁴⁸ Under that size standard, such a business is small if it has \$32.5 million in annual receipts.⁴⁹ For this category, Census Bureau data for 2012 show that there were a total of 1,442 firms that operated for the entire year.⁵⁰ Of this total, 1,400 had annual receipts below \$25 million per year.⁵¹ Consequently, we estimate that the majority of All Other Telecommunications firms are small entities.

3. Resellers

18. *Toll Resellers.* The Commission has not developed a definition for toll resellers. The closest NAICS Code Category is Telecommunications Resellers. 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. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry.⁵² The SBA has developed a small business size standard for the category of Telecommunications Resellers.⁵³ Under that size standard, such a business is small if it has 1,500 or fewer employees.⁵⁴ Census data for 2012 show that 1,341 firms provided resale services during that year. Of that number, 1,341 operated with fewer than 1,000 employees.⁵⁵ Thus, under this category and the associated small business size standard, the majority of these resellers can be considered small entities. According to Commission data, 881 carriers have reported that they are engaged in the provision of toll resale services.⁵⁶ Of this total, an estimated 857 have 1,500 or fewer employees.⁵⁷ Consequently, the Commission estimates that the majority of toll resellers are small entities.

19. *Local Resellers.* The Commission has not developed a definition for local resellers. The closest NAICS Code Category is Telecommunications Resellers and therefore the associated definition and data for Telecommunications Resellers has been used for local resellers. 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. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry.⁵⁸ Under that size standard, such a

⁴⁷ U.S. Census Bureau, 2012 NAICS Definitions, “517919 All Other Telecommunications,” <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?code=517919&search=2012>.

⁴⁸ 13 CFR § 121.201, NAICS code 517919.

⁴⁹ *Id.*

⁵⁰ U.S. Census Bureau, 2012 Economic Census, Subject Series: Information, “Establishment and Firm Size,” NAICS code 517919.

⁵¹ *Id.*

⁵² <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517911&search=2012+NAICS+Search&search=2012>.

⁵³ 13 CFR § 121.201, NAICS code 517911.

⁵⁴ *Id.*

⁵⁵ 2012 U.S. Economic Census, NAICS Code 517911, at https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?pid=ECN_2012_US_51SSSZ2&prodType=table.

⁵⁶ *Trends in Telephone Service*, at tbl. 5.3.

⁵⁷ *Id.*

⁵⁸ <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517911&search=2012+NAICS+Search&search=2012>.

business is small if it has 1,500 or fewer employees.⁵⁹ Census data for 2012 show that 1,341 firms provided resale services during that year. Of that number, all operated with fewer than 1,000 employees.⁶⁰ Thus, under this category and the associated small business size standard, the majority of these local resellers can be considered small entities.

20. *Prepaid Calling Card Providers.* The Commission has not developed a definition for prepaid calling card providers. The closest NAICS Code Category is Telecommunications Resellers and therefore the associated definition and data for Telecommunications Resellers has been used for prepaid calling card providers. 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. Establishments in this industry resell telecommunications; they do not operate transmission facilities and infrastructure. Mobile virtual network operators (MVNOs) are included in this industry.⁶¹ Under that size standard, such a business is small if it has 1,500 or fewer employees.⁶² Census data for 2012 show that 1,341 firms provided resale services during that year. Of that number, all operated with fewer than 1,000 employees.⁶³ Thus, under this category and the associated small business size standard, the majority of these prepaid calling card providers can be considered small entities.

D. Description of Projected Reporting, Recordkeeping, and Other Compliance Requirements

21. As indicated above, the FNPRM seeks comment on proposed rules to codify that voice service providers may block telephone calls in certain circumstances to protect subscribers from illegal calls, as well as on proposed rules to prevent the blocking of lawful calls. Until these requirements are defined in full, it is not possible to predict with certainty whether the costs of compliance will be proportional between small and large voice service providers. In the FNPRM, we seek to minimize the burden associated with reporting, recordkeeping, and other compliance requirements for the proposed rules, such as modifying software, developing procedures, and training staff.

22. Under the proposed rules, we tentatively conclude that voice service providers will need to keep records of Caller ID authentication information. In addition, voice service providers may need to set up communication with other voice service providers to share information about failed authentication. Voice service providers will also be required to maintain a “Critical Calls List” of numbers that should not be blocked.

23. The FNPRM also proposes to require voice service providers to implement the SHAKEN/STIR call authentication framework if major voice service providers have not voluntarily implemented the framework by the end of 2019. At this time, the Commission is not in a position to determine whether, if adopted, our proposals will require small entities to hire attorneys, engineers, consultants, or other professionals and cannot quantify the cost of compliance with the potential rule changes discussed herein. The FNPRM proposes to require implementation by all voice service providers—wireline, wireless, and Voice over Internet Protocol (VoIP) providers.

⁵⁹ 13 CFR § 121.201, NAICS code 517911.

⁶⁰ U.S. Census Bureau, 2012 Economic Census, Subject Series: Information, “Establishment and Firm Size,” NAICS code 517911.

⁶¹ <https://www.census.gov/cgi-bin/sssd/naics/naicsrch?input=517911&search=2012+NAICS+Search&search=2012>.

⁶² 13 CFR § 121.201, NAICS code 517911.

⁶³ U.S. Census Bureau, 2012 Economic Census, Subject Series: Information, “Establishment and Firm Size,” NAICS code 517911.

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

24. 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 or reporting requirements under the rule for 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 small entities.⁶⁴

25. It should be noted that these proposed rules to codify that voice service providers may block telephone calls in certain circumstances to protect subscribers from illegal and unwanted calls are permissive and not mandatory. Small businesses may avoid compliance costs entirely by declining to block calls, or may delay their implementation of call blocking to allow for more time to come into compliance with the rules. However, we intend to craft rules that encourage all carriers, including small businesses, to block such calls and the FNPRM therefore seeks comment from small businesses on how to minimize costs associated with implementing the proposed rules. The FNPRM poses specific requests for comment from small businesses regarding how the proposed rules affect them and what could be done to minimize any disproportionate impact on small businesses.

26. The Commission's proposed rules allow voice service providers to block calls based on certain criteria, including where the Caller ID fails authentication. In addition, the proposed rules protect callers from the risk of their calls being blocked erroneously. The FNPRM requests feedback from small businesses and seeks comment on ways to make the proposed rules less costly and minimize the economic impact of our proposals.

27. The FNPRM also seeks comment on the length of time the Commission should allow voice service providers to implement the SHAKEN/STIR framework; whether smaller and medium-sized voice providers should be given additional time to implement this framework; and how to qualify and quantify voice providers' sizes. Moreover, the Commission seeks updated information for entities of all sizes, including small entities, regarding the upfront and recurring costs to providers of implementing the SHAKEN/STIR framework.

28. The Commission expects to consider the economic impact on small entities, as identified in comments filed in response to the FNPRM and this IRFA, in reaching its final conclusions and taking action in this proceeding.

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

29. None.

⁶⁴ 5 U.S.C. § 603(c).

**STATEMENT OF
CHAIRMAN AJIT PAI**

Re: *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, *Call Authentication Trust Anchor*, WC Docket No. 17-97

In the three weeks since I announced that the FCC would be voting on my proposal to allow telephone companies to block unwanted robocalls by default, I've heard from many Americans across the country. Here is a sampling of what they've had to say.

"I read with great delight in the [*Wall Street Journal*] today that you are proposing to allow [carriers] to analyze network traffic to spot and block certain robocalls. Please, please, please do so. I am retired and have been on the do not call list for years. I get at least 5 spam calls per day or telemarketer calls. I have stopped answering my telephone unless the caller name is displayed."

"Please respect the wishes of a vast majority of citizens who wish to free their lives from automatic robot calling. Stop robocalls!"

"I was so happy to hear about your plan to allow carriers to block the robo calls [sic]. I have been so depressed because I feel these robocalls have absconded with my expensive iPhone. There is simply no rest from these calls"

"I just read today's *Wall Street Journal* article about your plan to block robocalls and I support it. I get two or three robocalls per day. It has to be stopped. Please move ahead as soon as possible."

"I received over 500 robocalls from the end of February until the end of March of this year from so-called Health Insurance. These calls ALL came from SPOOFED phone numbers. Why would any legitimate company have to spoof their phone number to try to solicit business? The calls slowed down for a few weeks but are now kicking up again. Today I have received 8 calls with no voice mails. I now have to put my phone on Do Not Disturb so I can get some peace. . . . You will be my hero and I dare say millions of other Americans if you actually put an end to this harassment."

"[D]o not side with the businesses that want to harass our fellow citizens. We are getting international and domestic robo calls [sic] at all hours of the day including the early AM hours from countries like Lithuania. This needs to stop."

These voices are representative of what I hear when I travel across the United States. If there is one thing in our country right now that unites Republicans and Democrats, liberals and conservatives, socialists and libertarians, vegetarians and carnivores, Ohio State and Michigan fans, it is that they are sick and tired of being bombarded by unwanted robocalls.

And my message to the American people today is simple: We hear you and we are on your side.

Since the beginning of 2017, fighting illegal robocalls has been the FCC's top consumer protection priority. In the last two years, for example, we've expressly authorized phone companies to block certain categories of calls that are highly likely to be illegal, such as calls purporting to originate from unassigned, unallocated, or invalid numbers. We've taken steps to address the problem of unwanted calls to reassigned numbers by authorizing the creation of a reassigned numbers database. We've taken strong enforcement action against illegal robocallers, imposing or proposing almost a quarter-billion dollars in forfeitures against callers for illegal, spoofed calls. And we've demanded that industry develop and implement by the end of the year Caller ID authentication—a critical component in the fight against illegal Caller ID spoofing.

But there isn't a silver bullet to solving the problem of unwanted robocalls. So today, we take additional steps as part of our comprehensive strategy to combat this scourge.

Most importantly, we clarify that phone companies may immediately start offering call-blocking programs by default, based on any reasonable analytics designed to identify unwanted calls, so long as consumers are given the choice to opt out. There are many tools available right now that are effective in blocking unwanted calls before they reach consumers. But their deployment has been limited because they're only being made available on an opt-in basis, and many of the consumers who would most benefit from these tools, such as elderly Americans, are unaware that they can opt in. We believe today's clarification will make it easier for consumers to participate in and benefit from call-blocking programs. We also want to ensure that consumers can make an informed decision whether to remain in a call-blocking program or not. That's why we are requiring providers to clearly disclose to their customers what types of calls may be blocked and the potential risks of blocking wanted calls, while providing them with an opt-out mechanism.

We also clarify that providers may allow consumers to opt in to more aggressive blocking services. Specifically, carriers can permit consumers to use their own smartphones' contact lists as a "white list," and block calls not included on that list.

I'm optimistic that all of these measures will meaningfully reduce the number of unwanted robocalls that Americans get.

Of course, I recognize that not everyone is a fan of our approach. Some opponents themselves are subjecting consumers to a torrent of unwanted robocalls. My message to them is simple: The FCC will stand with American consumers, not with those who are badgering them with unwanted robocalls.

I also recognize that some who make legitimate calls have expressed concern about our decision today. But I believe that we've appropriately addressed their concerns by making clear that any reasonable call-blocking program offered by default must include a mechanism for allowing legitimate callers to register a complaint and for having that complaint resolved.

Turning to the *Third Further Notice*, we advance significant proposals related to the Caller ID authentication framework known as SHAKEN/STIR. SHAKEN/STIR will be critical in telling consumers whether the Caller ID information they see is real or spoofed. And it can be used to assist with blocking spoofed calls. That's why we're proposing a safe harbor for phone companies that choose to block calls that can't be authenticated under SHAKEN/STIR.

When it comes to the implementation of SHAKEN/STIR, I have made clear my expectation that major carriers will get this done by the end of the year. I believe that a voluntary, industry-led process is most likely to achieve this goal. And to date, I've been pleased by the progress that industry has made and am optimistic that the end-of-the year deadline will be met. But in case it isn't, the FCC will not hesitate to take regulatory action. That's why today, we're taking the necessary steps so that we will be in a position to take regulatory action early next year, should that be required.

In closing, I would like to express my thanks for my colleagues who offered edits during the last three weeks that have made this a better item. And I'd like to thank all of the Commission staff who worked so hard to bring the American people much-needed relief: from the Consumer and Governmental Affairs Bureau, John B. Adams, Ed Bartholme, Jerusha Burnett, Greg Haledjian, Karen Schroeder, Kurt Schroeder, Mark Stone, Kristi Thornton, and Patrick Webre; from the Enforcement Bureau, Parul Desai and Kristi Thompson; from the Office of Communications Business Opportunities, Belford Lawson; from the Office of Economic Analytics, Eric Burger, Giulia McHenry, Chuck Needy, and Emily Talaga; from the Office of General Counsel, Malena Barzilai, Ashley Boizelle, Richard Mallen, Linda Oliver, and Bill Richardson; from the Office of Managing Director, Pete Renee; from the Public Safety and Homeland

Security Bureau, Ken Carlberg and Lauren Kravetz; and from the Wireline Competition Bureau, Pamela Arluk, Matthew Collins, Melissa Droller Kinkel, Justin Faulb, Heather Hendrickson, Lisa Hone, and Kris Monteith.

With today's vote, the Commission is taking a major step forward in the fight against unwanted robocalls. And now is the time for telephone companies to take the baton. I commend those carriers who have stepped up to the plate and already indicated that they will implement call-blocking services by default. And I encourage those who haven't already done so to listen to the American people and help to end this scourge.

**STATEMENT OF
COMMISSIONER MICHAEL O'RIELLY
APPROVING IN PART AND DISSENTING IN PART**

Re: *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, *Call Authentication Trust Anchor*, WC Docket No. 17-97

At the outset, let me thank Chairman Pai for his enormous leadership on the fight to eliminate bad robocalls. He's been very incredibly focused on reducing this perverse problem. I am at a loss to see more steps that the Chairman could take on the matter.

Like my fellow Commissioners, I share the desire to eliminate the menace of *illegal* robocalls and believe that this item is very well-intended, though I nonetheless wonder if it may lead to certain problematic consequences. Completely legitimate organizations and businesses regularly engage in so-called "robocalling" to provide consumers with critical and time-sensitive information, such as fraud alerts, flight schedule changes, school closures, delivery window delays, prescription notices, appointment reminders, public safety alerts, and—yes—anti-delinquency notices. Efforts to attack illegal and fraudulent calls should not restrict or prevent these beneficial robocalls.

To ensure lawful calls are delivered to consumers, I have urged carriers to adopt expeditious processes to correct call blocking and labeling errors. We should applaud providers for offering such services to their customers, generally free of charge, and I have supported the adoption of safe harbors from Communications Act liability. However, formalizing redress mechanisms is a necessary corollary, especially for blocking performed at the network level and not subject to customer consent. And, that is why, in the November 2017 illegal robocall blocking order, I sought inclusion of a Further Notice seeking comment on adopting mechanisms to ensure swift redress for erroneously blocked calls. I have heard countless accounts of erroneous blocking and labeling both prior to and in the aftermath of the 2017 Order and welcome the adoption of a future item in response to that record in prompt course.¹

Notably, that 2017 Order only allowed carriers to block very circumscribed categories of calls, namely, calls on a Do-Not-Originate list, and those from invalid, unallocated, or unused numbers. That is a narrower universe than the vast range of calls affected by today's Declaratory Ruling, which enables opt-out blocking of illegal *and* "unwanted" calls. While I fully and wholeheartedly support Commission efforts to purge *illegal* calls from our networks, I am concerned about encouraging default blocking of so-called "unwanted" calls. Categories like "wanted" or "unwanted" can be somewhat vague and subjective, to put it mildly. Giving carriers such vast discretion to decide which calls are *unwanted* could lead to *wanted* calls, containing highly-pertinent consumer information, being blocked.

Further, to the extent that carriers may block calls by virtue of their use of "reasonable analytics," that term seems to invite a similar risk of problematic blocking. While there are very sophisticated call analytics services on the market that boast very low error rates, we don't favor any particular maximum error rate, or the use of analytics of a certain caliber. Since the treatment of a given call has been shown to vary from service to service,² callers could experience unpredictable call completion outcomes.

¹ See, e.g., Letter from Paula Boyd, Senior Director, Government and Regulatory Affairs, Microsoft, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59 et al. (filed February 8, 2019); Letter from Rebekah Johnson, CEO, Numeracle, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59 et al. at 3-5 (filed May 22, 2019) (Numeracle *Ex Parte*); Letter from Yaron Dori, et al., Counsel to PRA Group, Inc., to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59 et al, at 1 (filed May 29, 2019).

² Numeracle *Ex Parte* at 3-5.

As any e-mail user knows, spam filters, which operate through analytics, are by no means perfect. Almost everyone has had the experience of missing important messages because of an oversensitive filter. For a service that is generally free and unregulated, I can accept placing the burden on consumers to go into their spam folders periodically to look for erroneously-labeled emails. That same circumstance doesn't exist for voice calls, which have been hyper-regulated for decades and do not feature a means to determine what has been missed. To the extent that providers implement this new default regime, I worry that consumers will only realize that important voice calls have been blocked after it's too late.

I sought to rectify this potential harm by requesting that the item at a minimum require carriers to implement a redress process for erroneously blocked calls. After all, even the CEO of First Orion, one of the largest analytics companies and likely beneficiaries of this item, recently sat in my office and stressed the need for mechanisms that respond to blocking complaints effectively and expeditiously—in hours, not days, in his words.³

Procedurally, this didn't exactly fit the Declaratory Ruling. However, the Chairman did agree to add language noting that a “reasonable” blocking program would include a mechanism for resolving complaints. That is a huge step forward even if it may not provide a complete respite from blocking purgatory. I thank the Chairman for recognizing the need for effective redress.

In availing themselves of this Declaratory Ruling, providers will need to exercise great vigilance in their call blocking efforts and establish meaningful safeguards for consumers and legitimate callers. I hold out hope that all goes well because there is so much at stake. At the same time, put me down as someone open to refining some of the item's points of contention going forward.

Nonetheless, I am going to dissent on one smaller issue: the draft's delegation to bureau staff to collect “any and all relevant information” from voice service providers to prepare reports on the state of call blocking. I worry that this language is breathtakingly expansive and gives the bureau virtually unlimited authority to demand whatever data it wishes from carriers. I have raised similar concerns over past delegations and see this instance as unnecessary and unaccountable, even if based in good intentions.

Accordingly, I will vote to approve the majority of the item and dissent on that one piece.

³ Letter from Patricia J. Paoletta, Counsel to First Orion, to Marlene H. Dortch, Secretary, FCC, CG Docket No. 17-59, at 2 (filed May 1, 2019).

**STATEMENT OF
COMMISSIONER BRENDAN CARR**

Re: *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, *Call Authentication Trust Anchor*, WC Docket No. 17-97

Americans are fed up with robocalls. They are tired of scam artists lighting up their phones. They are done with fraudsters placing calls at all hours of the day and night. And they are sick of spoofed numbers tricking them into picking up the phone. Like many people today, I rarely answer my cellphone unless the caller is in my contact list.

All of this is why the FCC has elevated robocalls to our top enforcement priority. We have imposed major fines on illegal callers. We have created a reassigned numbers database to help combat unwanted calls. And we have proposed rules to target illegal calls that originate overseas.

It's now time for wireless carriers to step up their efforts. And with today's decision, we make clear that they have the power to do so. This decision removes any doubt that carriers can block calls before they even reach a consumer's phone based on call analytics. And it clarifies that carriers can offer customers the option of blocking all calls that do not appear on a customer's "white list" or contact list. I expect that carriers will use this decision to take immediate and additional actions to combat illegal calls.

To ensure that providers do step up their efforts, I asked my colleagues to expand today's Notice to seek comment on setting up a robocall scorecard. The idea is to publicize data on each carrier and how effective they are at targeting and blocking illegal calls. By bringing transparency to these metrics, we could enhance consumer choice and create additional incentives for carriers to continue their efforts to crack down on illegal calls. So I look forward to seeing how the record develops on this idea.

Finally, our action today is no silver bullet. It's part of a series of actions we are taking to break the back of illegal robocalls. Another important step will be industry's implementation of the SHAKEN/STIR call authentication framework. And on this score, I want to commend Chairman Pai for expanding today's Notice to seek comment on requiring carriers to implement this framework. By seeking comment today, we are now in a position to move directly to an order if industry's own efforts to implement the regime fall short.

So I want to thank the staffs of the Consumer and Governmental Affairs Bureau, the Office of Economics and Analytics, and the Wireline Competition Bureau for your diligent work on this item. I look forward to continuing to work with all stakeholders on efforts to combat these calls. This item has my full support.

**STATEMENT OF
COMMISSIONER JESSICA ROSENWORCEL,
APPROVING IN PART, DISSENTING IN PART**

Re: *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, *Call Authentication Trust Anchor*, WC Docket No. 17-97

Robocalls keep getting worse and consumers are paying the price. At the start of this Administration, Americans received roughly 2 billion robocalls a month. That number is now about 5 billion a month. That is about two thousand robocalls every second of every day. That's insane.

Given the explosion of these nuisance calls, it is no wonder that consumers are complaining in droves. They are complaining to the Federal Communications Commission. They are seeking redress with our colleagues at the Federal Trade Commission. They are registering their righteous anger in state houses, in court houses, and on Capitol Hill.

They are frustrated. They are seeking a fix. They know this mess of calls and our failure to do anything about them is not right. So today the FCC kicks off a long overdue rulemaking to require call authentication technology. Then, we expressly authorize phone companies to deploy technology to block robocalls across the network, unless a consumer opts out.

As far as this new blocking technology goes, so far, so good. But there is one devastating problem with our approach. There is nothing in our decision today that prevents carriers from charging consumers for this blocking technology to stop robocalls.

I think robocall solutions should be free to consumers. Full stop. I do not think that this agency should pat itself on the back for its efforts to reduce robocalls and then tell consumers to pay up. They are already paying the price—in scams flooding our phone lines; wasted time responding to false and fraudulent calls offering us what we did not ask for, do not want, and do not need; and a growing distrust in our most basic communications.

I like hope. But I am not interested in pinky promises. I think we should be up front and clear with consumers that today's decision offers no more than an "expectation" that phone companies installing this technology will not charge consumers a premium for its use. But every one of us knows there is nothing enforceable about an expectation. There is nothing here that prevents companies from charging each of us whatever additional fees they want to put this call blocking technology on our line.

I'm a consumer, too. I receive robocalls at home, in my office, on my landline, on my mobile. I've even received multiple robocalls sitting here on this dais. I want it to stop. But I do not believe I should have to pay for that privilege. I am disappointed that for all our efforts to support new blocking technology, we couldn't muster up the courage to do what consumers want most—stop robocalls and do it for free. On this aspect of today's decision, I dissent.

**STATEMENT OF
COMMISSIONER GEOFFREY STARKS**

Re: *Advanced Methods to Target and Eliminate Unlawful Robocalls*, CG Docket No. 17-59, *Call Authentication Trust Anchor*, WC Docket No. 17-97

In 1938, the Bell Telephone System ran a print advertisement that began with the following words: “This very hour, millions of words are being spoken by telephone. Friend talks to friend and two lives are happier because of it.” The ad concludes by saying: “[D]ay and night, the country over, these oft-repeated words reflect the value of the telephone . . . ‘I’m glad you called.’”

Some things change, and some things remain the same. This very hour, the millions of words between friends and loved ones are being exchanged. But we also know that at this very hour, millions of robocalls are bombarding consumers – 6.4 million per hour, to be exact. In large part, these calls are not making lives happier. Far from it. The calls range from being a nuisance or disruptive to being deceptive and dangerous, and causing unwitting consumers to be defrauded out of real money. Typically, these calls do not “reflect the value” of phone service but, more likely, devalue the service to the point that consumers are dropping phone service at an alarming rate. And I think it is safe to say that “glad” is not the four-letter word most likely to conclude one of these calls.

I’ve said it before and I’ll say it again, robocalls have changed the fabric of our culture – if you get a call and don’t recognize the number, you don’t pick it up. Often, calls are spoofed to look like they are coming from a local business or neighbor. This pernicious practice makes it so we can’t differentiate these unwanted robocalls from calls from our doctors or our kids’ schools. Put simply, by allowing these calls to proliferate, we’ve broken phone service in this country.

I believe that we need to take a holistic approach to combating robocalls, by combining technological tools, policy fixes, and strong enforcement. Stemming the tide of illegal robocalls should be one of the Commission’s top priorities and we should consider any and all ideas, new or old, to try to put a real dent in this growing problem. We must target illegal robocalls throughout their lifecycle - from preventing scam calls from originating on the network in the first instance to empowering consumers to block unwanted calls from ever reaching their phones.

The Commission must take action. Consumers demand it. It is incumbent upon us to take positive steps to thwart illegal robocalls and empower consumers to take back control over their phones. The American people are looking to us to lead and to act – aggressively, intentionally, and quickly.

I support today’s item. I am hopeful that clarifying that providers may offer informed opt-out call blocking services will make these tools available to millions more consumers as soon as possible. I appreciate that this item notes that these services should not negatively impact emergency calls or rural call completion obligations. And I am glad that we will now be positioned to act on mandating Caller ID authentication by the end of the year, if needed.

I was supportive of edits proposed by my colleagues to ensure that such blocking is offered in a competitively neutral and non-discriminatory way, to study the impact of blocking on 911 and public safety, and to empower consumers to gather additional information about the effectiveness of call blocking solutions. I am also supportive of revisions proposed by my colleagues that provide callers with a mechanism to dispute blocked calls that may have been misidentified, provided that consumers remain in the driver’s seat throughout the process.

And I would like to extend my thanks to the Chairman and my colleagues for their support of a section that I proposed we add to the item requiring the Consumer and Governmental Affairs Bureau, in

consultation with the Wireline Competition Bureau and the Public Safety and Homeland Security Bureau, to gather information from carriers and produce a series of comprehensive reports on the deployment and implementation of call blocking and Caller ID authentication. As I have made clear in a number of recent items, it is imperative that in dealing with the most significant issues of telecommunications policy—such as who has access to broadband—the Commission must gather and rely on clear and accurate data.

Specifically, at my request, the item will give us critical feedback on how our tools are performing. It will now study the availability of call blocking solutions; the fees charged, if any, for these services; the effectiveness of various categories of call blocking tools; and an assessment of the number of subscribers availing themselves of available call blocking tools. The item also now asks that the reports assess the impact of previous Commission rule changes and, critically, include information on the state of deployment of Caller ID authentication through the implementation of the SHAKEN/STIR framework for the first time ever.

Data analysis will be critical to ensuring that we finish the job of protecting and empowering consumers. I therefore successfully pushed to modify the item to explicitly delegate authority to CGB to collect any and all relevant information and data from voice service providers necessary to complete these reports, including authoritative data about the number of illegal robocalls transiting our phone system; the number of calls blocked, false positives or false negatives, and other relevant data points. I will review these reports with great interest and expect that they will enable the Commission to take additional action quickly, if warranted.

Finally, let me be very clear – I expect call blocking services should be offered to consumers for free. I'd note that this item makes it abundantly clear that providers who implement these services will save billions of dollars as network capacity is freed up and customer service representatives field fewer complaints. Moreover, making phone service usable again, I believe, will cause fewer consumers to cancel their phone service and, perhaps, some will come back. Against this backdrop, in my view, I would have serious concerns with a carrier that includes a line item on consumers' bills or otherwise charges them for these services. The CGB reports will be critical here in informing our next steps. If we see that carriers are, in fact, charging consumers for blocking services, I successfully added language requiring the Commission to propose rules prohibiting the carriers from doing so. I will review the forthcoming reports on this topic closely.

So, to take it back to the old Ma Bell ad, while it may seem quaint or even nostalgic, I do long for a day when I can use my phone again – fully and in the way that I want. And I know from my travels across the county that I'm not alone. Bringing phone service to every corner of our nation is one of our defining achievements and voice service still plays a critical role in our communications network. As the old ad put it: "Greetings and best wishes are exchanged . . . affairs of business are transacted. A doctor comes quickly in answer to a hurried call." I'm looking forward to, once again, uttering the words "I'm glad you called." I'm hopeful that our actions today bring us a step closer towards getting back to that place. I vote to approve.

Many thanks to the teams in the Consumer and Governmental Affairs Bureau and the Wireline Competition Bureau, that have ably led the charge on this and other items to tackle these vexing issues. And thank you, in advance, for undertaking the important work of measuring and reporting on the effectiveness of our efforts to combat robocalls.