

**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)	

**COMMENTS OF THE ALLIANCE
FOR TELECOMMUNICATIONS INDUSTRY SOLUTIONS**

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SUMMARY

ATIS applauds the Commission's efforts to support industry initiatives to mitigate illegal robocalling and caller ID spoofing. ATIS believes that the *NPRM* and *NOI* are appropriately focused on providing clarity about available mitigation tools, rather than creating mandates.

ATIS generally supports the Commission's proposals to allow providers to block calls from unassigned numbers, including numbers that: (1) are invalid under the North American Numbering Plan (NANP), including numbers with unassigned area codes; (2) have not been allocated by the North American Numbering Plan Administrator (NANPA) to any provider; and (3) are allocated to a provider, but not currently assigned to a subscriber. However, as explained more fully in these comments, there are complexities related to blocking these categories of numbers that must be addressed.

Regarding the application of the robocalling mitigation techniques to internationally originated calls purportedly originated from NANP numbers, ATIS supports this proposal, but acknowledges that this will not resolve in any significant way the challenges associated with robocalls and caller ID spoofing originating outside of the U.S.

ATIS also supports the Commission's proposals to: (1) not require providers to obtain an opt-in from subscribers in order to block calls as proposed in the *NPRM*; and (2) exclude calls blocked in accordance with the robocall mitigation techniques proposed in this proceeding from calculation of providers' call completion rates.

While ATIS supports industry efforts to implement SHAKEN, it notes that the blocking of calls with unauthenticated caller ID will not be an effective mitigation technique until there is sufficient saturation of appropriately signed calls. ATIS further notes that SHAKEN is one of many tools that the industry should consider as part of a layered approach to addressing this problem. ATIS believes that the industry is in the best position to determine when caller ID authentication would be added to the industry's toolkit of mitigation strategies to block calls.

ATIS supports the Commission's efforts to provide certainty that utilization of the robocall mitigation techniques discussed in this proceeding will not be deemed to have violated Commission rules or the Communications Act and supports the provision of a safe harbor to protect service providers.

Finally, ATIS agrees with the Commission's suggestion that providers create a "white list" of legitimate callers who give them advanced notice, but recommends that the industry should have the flexibility to create such a list, but not be required to continue to support it if bad actors get access to and begin to spoof the numbers on this list. ATIS also supports the implementation of a process to allow legitimate callers to notify providers when their calls are blocked and to require providers to cease blocking calls when they learn that the calls are legitimate.

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The Alliance for Telecommunications Industry Solutions (ATIS), on behalf of its Industry Numbering Committee (INC), Next Generation Interconnection Interoperability Forum (NGIIF), and Packet Technologies and Systems Committee (PTSC), hereby submits these comments in response to *Notice of Proposed Rulemaking (FNPRM) and Notice of Inquiry (NOI)*, released May 17, 2017, in the above-referenced docket. As a key stakeholder in the development of technical and operational standards pertaining to unlawful robocalling, ATIS is pleased to have the opportunity to respond to the comments in this proceeding.

I. BACKGROUND

ATIS is a global standards development and technical planning organization that develops and promotes worldwide technical and operations standards for information, entertainment, and communications technologies.

- **INC** addresses and resolves industry-wide issues associated with planning, administration, allocation, assignment, and use of the North American Numbering Plan (NANP) numbering resources within the NANP area.
- **NGIIF** provides an open forum to encourage the discussion and resolution of industry-wide issues associated with the operational aspect of telecommunications network

interconnection and interoperability, and the exchange of information concerning relevant topics, such as network architecture, management, testing and operations, and facilities.

- **PTSC** develops and recommends standards and technical reports related to services, architectures, and signaling. PTSC's work programs focus on issues such as Emergency Telecommunications Service (ETS), cybersecurity, IP-to-IP interconnection, lawfully authorized electronic surveillance and the evolution of the public switched telephone network (PSTN).

II. COMMENTS

ATIS applauds the Commission's efforts to support industry initiatives to mitigate illegal robocalling and caller ID spoofing. As has been explained previously, the industry has been working diligently to develop robocall mitigation techniques for many years. ATIS' work to develop operational and technical guidance regarding mass calling events, robocalling, and call authentication started years ago as part of the industry's significant efforts to foster network reliability and improve the customer's experience.

The challenges associated with robocalling are not the result of a lack of industry interest or efforts regarding robocalling but rather are the result of the complexities associated with this matter. The existence of legal and legitimate uses of both robocalling and caller ID spoofing in the U.S. means that any mitigation techniques must be narrowly tailored to address illegal or illegitimate uses. The global nature of this problem, which includes calls originating outside of the U.S. by entities beyond the jurisdiction of the Commission, creates additional challenges that are not easily addressed. The issue therefore cannot be resolved by a simple or single solution – it requires a service provider to take a multi-layered approach and to continually enhance and refine its approach to address enhanced and refined efforts of bad actors.

ATIS appreciates that the *NPRM* and *NOI* appear to be appropriately focused on providing clarity to the industry about available mitigation tools, rather than creating mandates.

ATIS believes that the industry is in the best position to determine how to effectively mitigate illegal caller ID spoofing and robocalling on their networks. Service providers are already implementing diverse mitigation techniques that are more effective than any single technique, which could be more easily identified and evaded by bad actors.

ATIS was an active participant in the industry's Robocall Strike Force and provided key technical and operational input. As noted in the April 2017 report from the industry's robocalling strike force, ATIS has numerous active work programs directed at mitigating the impacts of illegal robocalling and caller ID spoofing. This multi-pronged approach has resulted in the development of:

- Signature-based Handling of Asserted information using toKENs (SHAKEN), which was jointly published by ATIS and the SIP Forum in January 2017. This is a framework for managing the deployment of Secure Telephone Identity (STI) technologies with the purpose of providing end-to-end cryptographic authentication and verification of the telephone identity and other information in an Internet Protocol (IP)-based service provider voice network. This specification defines the framework for telephone service providers to create signatures in Session Initiation Protocol (SIP) and validate initiators of signatures. It defines the various classes of signers and how the verification of a signature can be used toward the mitigation and identification of illegitimate use of national telecommunications infrastructure and to protect its users.
- Interoperability Standards between Next Generation Networks (NGN) for SHAKEN, developed by ATIS NGIIF as a companion to the SHAKEN framework. It provides NGN telephone service providers with a framework and guidance for interoperability as calls process through their networks implementing SHAKEN technologies ensuring the mitigation of illegitimate spoofing of telephone numbers.
- SHAKEN: Governance Model and Certificate Management, which was approved in June 2017. The SHAKEN governance model identifies the key roles/functions involved in distributing and managing SHAKEN certificates. The model envisions a governance authority that would oversee a policy administrator, which would determine who is entitled to get SHAKEN certificates, which would be issued by certificate authorities. The model would specify the protocols that will be used to obtain certification and the "key" that service providers will obtain from the STI Policy Administrator to prove that they are entitled to get SHAKEN certificates.

- A document examining the operational implications of the SHAKEN Governance Model and Certificate Management, which is being developed by NGIIF for publication in the near future.
- The ATIS Robocalling Testbed hosted by the Neustar Trust Lab, which serves as the industry interoperability test facility to validate the effectiveness of industry implementations of SHAKEN. This testbed is open to any service provider with an assigned Operating Company Number (OCN) as well as other stakeholders with solutions relevant to the SHAKEN framework.

ATIS supports the Commission’s efforts to clarify the tools available to service providers and others to address illegal robocalling and caller ID spoofing. ATIS further supports the Commission’s proposal to permit voice service providers to block telephone calls in certain circumstances to protect subscribers from illegal robocalls,¹ but as explained below there are complexities related to the identification and blocking of invalid, unallocated, and unassigned numbers that must be addressed.

A. Definition of “Illegal Robocall”

ATIS supports the definition of “illegal robocall” proposed by the Commission in the *NPRM*. This definition would define an illegal robocall to mean “one that violates the requirements of the Telephone Consumer Protection Act of 1991, the related FCC regulations implementing the Act, or the Telemarketing Sales Rule, as well as any call made for the purpose of defrauding a consumer, as prohibited under a variety of federal and state laws and regulations, including the federal Truth in Caller ID Act.”² ATIS believes that this definition appropriately focuses on those robocalls that violate specific regulations and would not unfairly restrict any legitimate uses of caller ID spoofing. While ATIS supports this proposed definition, it does note that in many cases the difference between a legal and illegal robocall may depend upon the call originator’s intent, which is generally not something that the industry can identify. To the extent

¹ *NPRM* at ¶11.

² *NPRM* at ¶13.

that the caller's intent is necessary to determine whether the call is illegal, it will be not possible for the industry to identify all illegal robocalls. Similarly, ATIS notes that the industry cannot base mitigation techniques on the content of a call as service providers do not have access to this content and call blocking based on call content would be inconsistent with consumers' expectations of privacy with their calls.

B. Blocking at Subscriber's Request

In the *NPRM*, the Commission proposes to permit providers to block calls when the subscriber to a particular telephone number requests that calls originating from that number be blocked.³ ATIS agrees with the Commission that such calls should be deemed to be presumptively spoofed, and have the potential to cause harm both to the called party and to the subscriber who is assigned the number. These numbers can be easily identified and information about subscriber requests for blocking specific numbers can be shared among service providers. However, ATIS believes, to facilitate the sharing of information among providers necessary to effectuate subscriber requests for blocking, the Commission should clarify that service providers are protected from liability associated with such call blocking.

C. Blocking Unassigned Numbers

ATIS generally supports the Commission's proposals to allow providers to block calls from unassigned numbers, including numbers that: (1) are invalid under the North American Numbering Plan (NANP), including numbers with unassigned area codes; (2) have not been allocated by the North American Numbering Plan Administrator (NANPA) to any provider; and (3) are allocated to a provider, but not currently assigned to a subscriber.⁴ However, as

³ *NPRM* at ¶14.

⁴ *NPRM* at ¶16.

explained more fully below, there are complexities related to blocking these categories of numbers that must be addressed. Moreover, while not diminishing ATIS' support for the Commission proposal to provide service providers with additional tools to mitigate illegal robocalling and caller ID spoofing, ATIS notes that widespread blocking of invalid and unallocated numbers could have an unintended negative consequence by driving bad actors to focus their efforts on spoofing assigned/valid numbers.

1. Invalid Numbers

The Commission in the *NPRM* proposes to allow the industry to block calls purporting to originate from numbers that are invalid under the NANP.⁵ ATIS notes that the blocking of invalid numbers generally can be easily implemented by the industry, but notes that there may be valid uses of “invalid” numbers specified in industry standards. Robocalling mitigation techniques therefore should not frustrate compliance with existing industry standards⁶ or governmental requirements.

2. Unallocated Numbers

The Commission also proposes to allow the industry to block calls from numbers from central office codes that are valid but have not yet been allocated by NANPA to any provider.⁷ ATIS generally supports this proposal as no subscriber can actually originate a call from these unallocated central office codes and it is unlikely that there is any legitimate, lawful reason to

⁵ *NPRM* at ¶17.

⁶ For example, the joint ATIS-Telecommunications Industry Association joint standard on Enhanced Wireless 9-1-1 Phase II (J-STD-036-C) permits the use of “911” as the NPA for emergency calls from non-initialized mobile devices. This standard defines non-dialable callback number format as “the digits 911 followed by the 7 least significant digits of the decimal representation of the ESN [electronic serial number]” or, if the International Mobile Station Equipment Identify (IMEI) is known, as “911” plus last 7 digits of IMEI expressed as a decimal number.” Enhanced Wireless 9-1-1 Phase II (J-STD-036-C), Annex C.

⁷ *NPRM* at ¶19.

spoof such a number.

In the *NPRM*, the Commission also seeks comment on whether providers can readily identify numbers that have yet to be allocated to any provider and, if not, whether the NANPA or National Number Pool Administration (PA) could assist by providing this information in a timely, effective way.⁸ ATIS notes that reports on the central office codes available and assigned are publicly posted on the NANPA website.⁹ ATIS does not recommend that service providers rely on reports on thousands-blocks available and assigned that are publicly posted on the PA website because available thousands-blocks could contain up to 100 assigned numbers within those blocks and could result in providers erroneously blocking calls from “legitimate” customers.¹⁰

3. Allocated but Unassigned Numbers

The third category of numbers that the Commission would permit providers to block are calls from numbers that have been allocated to a provider but are not assigned to any of that provider’s subscribers at the time of the call.¹¹ ATIS also supports allowing a service provider to block these types of calls but notes that there are complexities associated with blocking this category of numbers. Importantly, it should be clear that while this proposal is theoretically valid, there are no known reliable methods available in the PSTN today to accomplish accurate

⁸ *NPRM* at ¶20.

⁹ Available at: https://www.nationalnanpa.com/reports/reports_cocodes.html

¹⁰ The “Assigned, Retained & Available Blocks Report” is publicly available on the PA’s website and is updated in real-time. However, while some may assume that a service provider could consult this report to determine whether a call is from a number within a particular thousands-block available for assignment in the pool, there are “contaminated” thousands-blocks available in the pool that makes reliance on this report to identify unallocated numbers inappropriate. Because up to 100 numbers in each “available” block could actually be assigned to subscribers (Commission rules allow donation of thousands-block to the pool that are 10% or less contaminated), reliance on this report could result in providers erroneously blocking calls from a “legitimate” customer. If all service providers begin to block calls that appear to originate from contaminated available blocks, then subscribers with numbers from those blocks could have all of their calls blocked.

¹¹ *NPRM* at ¶21.

blocking of allocated but unassigned numbers; therefore, this proposal would increase the risk that lawful traffic could be blocked.

The Commission also asks whether it should mandate the sharing of information about unassigned numbers to facilitate appropriate robocall blocking.¹² While ATIS believes that it may be possible to share some cached/static information, it does not support the sharing of real time, dynamic data requiring a per-number query. Mandating that service providers share dynamic or real-time data would be unduly burdensome to the industry and could require providers to share data with competitors that the provider considers highly confidential. Such a mandate is inappropriate, particularly given that any perceived benefit of the sharing of information about unassigned numbers amongst competitors may be quickly diminished if/when bad actors adapt to spoofing legitimate assigned numbers to avoid service providers' robocall mitigation techniques.

The Commission further asks whether other providers also determine, in a timely way, whether a specific telephone number is assigned to a subscriber at the time a specific call is made.¹³ ATIS notes that there is no mechanism currently in place for other providers to know this information; in order to do this, substantial effort would be required. Further, developing such a mechanism would require providers to share highly confidential information with their competitors, which could have other negative consequences, unrelated to call completion or robocalling mitigation.

Finally, on this topic, ATIS notes that there are valid calls that originate from “unassigned” numbers. For example, telecommunications carriers may allocate numbers to non-

¹² *NPRM* at ¶22.

¹³ *NPRM* at ¶22.

carrier voice service providers, such as VoIP providers. These numbers may be considered “intermediate” numbers under the Commission’s rules¹⁴ -- and reported by carriers as such on Numbering Resource Utilization and Forecast (NRUF) Form 502 -- rather than “assigned.” Given that these numbers are allocated from carriers to their non-carrier customers for legitimate uses, they should not be included in the category of “unassigned” numbers for which blocking would be permissible.

Similarly, the Commission’s numbering rules and NRUF Form 502 recognize “administrative numbers,” which are used by telecommunications carriers to perform internal administrative or operational functions necessary to maintain reasonable quality of service standards.¹⁵ Calls from these administrative numbers therefore would not appear to be originating from an “assigned number.”¹⁶ Therefore, ATIS notes that efforts aimed at blocking calls from allocated but unassigned numbers, should accommodate the existing, legitimate use of administrative and test numbers and service providers should take care to avoid blocking valid administrative or test calls that the provider’s own employees might be trying to originate.

D. Internationally Originated Calls

In the *NPRM*, the Commission seeks comment on the application of the robocalling mitigation techniques described above to internationally originated calls purportedly from NANP numbers.¹⁷ While ATIS supports this proposal, it acknowledges that this will not resolve in any significant way the challenges associated with robocalls and caller ID spoofing originating outside of the U.S. However, ATIS notes that allowing service providers to apply the same tools

¹⁴ 47 C.F.R. 52.15(f)(1)(v).

¹⁵ 47 C.F.R. 52.15(f)(1)(i).

¹⁶ 47 C.F.R. 52.15(f)(1)(iii).

¹⁷ *NPRM* at ¶24.

to all NANP numbers, regardless of the call's origin, would allow providers to address a modest subset of these calls.

E. Subscriber Consent

The Commission notes that, because no reasonable consumer would want to receive illegal robocalls, providers should not be required to obtain an opt-in from subscribers in order to block calls as proposed in the *NPRM*.¹⁸ ATIS agrees, noting that requiring opt-in consent to block calls as described in the *NPRM* would unnecessarily add burdens and complexity.

F. Call Completion Rates

In the *NPRM*, the Commission proposes to exclude calls blocked in accordance with the robocall mitigation techniques proposed in this proceeding from calculation of providers' call completion rates.¹⁹ ATIS strongly supports this proposal. Service providers should not be penalized under the Commission's call completion rules as they attempt to mitigate the impacts of illegal caller ID spoofing and robocalling.²⁰

G. Objective Standards to Identify Illegal Calls

In the *NOI*, the Commission seeks comment on whether providers should be permitted to block calls for which the Caller ID has not been authenticated once there is wide adoption of the protocols and specifications established by the Internet Engineering Task Force's (IETF) Secure Telephony Identity Revisited (STIR) working group and SHAKEN developed jointly by ATIS and the SIP Forum.²¹ ATIS notes that the blocking of calls with unauthenticated caller ID alone

¹⁸ *NPRM* at ¶25.

¹⁹ *NPRM* at ¶26.

²⁰ ATIS notes that the industry is investigating techniques that may allow an indication that the call or message was unwanted.

²¹ *NOI* at ¶32.

will not be an effective mitigation technique until there is sufficient saturation of appropriately signed calls. Even after this saturation point is reached, the industry will continue to rely on a variety of mitigation techniques to address this complex issue.²² As noted above, a layered approach to this problem is necessary. As implementation of SHAKEN grows, ATIS notes that the industry is in the best position to determine when caller ID authentication would be added to the industry's toolkit of mitigation strategies to block calls. ATIS therefore encourages the Commission to permit and encourage the implementation of robocall mitigation techniques without attempting to dictate specific mitigation strategies.

H. Safe Harbor for the Blocking of Calls Identified Using Objective Standards

In the *NOI*, the Commission seeks comment on providing a safe harbor to protect service providers that block calls in accordance with the proposed robocall mitigation techniques from liability.²³ ATIS supports the Commission's efforts to provide certainty that utilization of the robocall mitigation techniques discussed in this proceeding will not be deemed to have violated Commission rules or the Communications Act. ATIS believes that this safe harbor should include, but not be limited to, compliance with SHAKEN/STIR. This safe harbor should also protect service providers from any proposed liability associated with the sharing of information associated with invalid number categories or subscriber requests to block numbers. It should also be noted that service providers use various techniques to fix invalid signaling information and, while these efforts are often effective, in some cases these efforts may be ineffective and result in inaccurate signaling information. Service providers should be protected by the safe harbor in such circumstances.

²² As noted by the industry's robocalling strike force, there is no silver bullet that would solve this problem; instead, the industry is implementing a diverse multitude of evolving mitigation tools and efforts. Industry Robocall Strike Force Report (April 28, 2017) at p. 1.

²³ *NOI* at ¶34.

I. Protections for Legitimate Callers

ATIS agrees with the Commission that, even with the use of objective standards, there may be some situations in which legitimate calls would be blocked and further agrees that the industry should seek to avoid the blocking of legitimate calls and, instead, seek to ensure that legitimate calls are completed.²⁴ To address this issue and to provide consumers with additional control over which calls they receive, ATIS supports the Commission's suggestion that providers create a "white list" of legitimate callers who give them advanced notice.²⁵ However, ATIS does not believe that such a white list needs to be mandated or that the Commission need specify the mechanisms or timeframes associated with such a list. ATIS believes that the industry should have the flexibility to create such a list, but not be required to continue to support it if bad actors get access to and begin to spoof the numbers on this list.

ATIS supports the implementation of a process to allow legitimate callers to notify providers when their calls are blocked and to require providers to cease blocking calls when they learn that the calls are legitimate.²⁶ Again, ATIS believes the details should be left to the industry to implement, including the timelines for service providers to cease blocking, the information that would serve as proof that a caller is legitimate, and the processes to be followed.²⁷

²⁴ *NOI* at ¶37.

²⁵ *NOI* at ¶38. ATIS further agrees that end-user control and awareness of call blocking being performed on the end-user's traffic is important.

²⁶ *NOI* at ¶39.

²⁷ As previously noted, while service providers' call-blocking mitigation techniques can be based on telephone numbers, they cannot and should not be based on call content, which no carrier can or does monitor, or on caller name, which could not solely be the basis for call blocking by service providers.

III. CONCLUSION

ATIS appreciates the opportunity to provide its input to the *NPRM* and *NOI* and urges the Commission to consider the recommendations above.

Respectfully submitted,



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