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December 1, 2020

VIA ECFS

Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, SW
Washington, DC 20554

Re: *Exemption from Caller ID Authentication Requirements, WC Docket No. 20-68*

Dear Ms. Dortch:

Enclosed please find AT&T's certification and supporting statement, which it submits to qualify for the exemption from the Commission's caller ID authentication rules for IP networks.

Please contact me should you have any questions.

Respectfully submitted,

A handwritten signature in black ink that reads "Linda S. Vandeloop". The signature is written in a cursive style.

Linda S. Vandeloop
Assistant Vice President
External Affairs/Regulatory

Enclosure

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
)	
Exemption from Caller ID Authentication Requirements)	WC Docket No. 20-68
)	

COMPLIANCE CERTIFICATE

On behalf of AT&T Services, Inc. and its voice services affiliates (“AT&T”), I, Juan G. Flores, Senior Vice President – Core Network Operations of AT&T Services, Inc., certify that I have reviewed the accompanying Statement of AT&T in Support of Request for Exemption (“Statement”). To the best of my knowledge, information, and belief, all statements included in the Statement are true, and it is an accurate summary of AT&T’s existing and planned implementation of the STIR/SHAKEN protocols on or before June 30, 2021. As detailed in the Statement, I therefore further certify that, for the portions of AT&T’s network served by technology that allows for the transmission of Session Initiation Protocol (“SIP”) calls:

1. AT&T has adopted the STIR/SHAKEN authentication framework for calls on AT&T’s Internet Protocol (“IP”) networks by completing the network preparations necessary to deploy the STIR/SHAKEN protocols on AT&T’s IP network, including, but not limited to, by participating in test beds and lab testing and completing commensurate network adjustments to enable the authentication and validation of calls on its network consistent with the STIR/SHAKEN framework;

2. AT&T has agreed voluntarily to participate with other voice service providers in the STIR/SHAKEN authentication framework, as demonstrated by completing formal registration (including payment) and testing with the STI Policy Administrator;

3. AT&T has begun to implement the STIR/SHAKEN authentication framework by completing the necessary network upgrades to at least one network element—e.g., a single switch or session border controller—to enable the authentication and verification of caller identification information consistent with the STIR/SHAKEN standards; and

4. AT&T will be capable of fully implementing the STIR/SHAKEN authentication framework not later than June 30, 2021, as AT&T reasonably foresees that it will have completed all necessary network upgrades to its network infrastructure to enable the authentication and verification of caller identification information for all SIP calls exchanged with STIR/SHAKEN-enabled partners by June 30, 2021.

I state under penalty of perjury that the foregoing is true and correct to the best of my knowledge, information, and belief.

Executed this 30th day of November 2020.



Juan G. Flores
SVP – Core Network Operations
AT&T Services, Inc.

**Before the
FEDERAL COMMUNICATIONS COMMISSION
Washington, DC 20554**

In the Matter of)	
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STATEMENT OF AT&T IN SUPPORT OF REQUEST FOR EXEMPTION

On behalf of its voice services affiliates, AT&T Services, Inc. (collectively, “AT&T”), hereby submits the following statement (“Statement”) in support of AT&T’s request for an exemption from the regulatory requirements promulgated by the Commission pursuant to Section 4(b)(1)(A) of the TRACED Act.¹ Consistent with Sections 64.6306(c) and 1.16 of the Commission’s rules,² the Statement provides factual details supporting the Compliance Certificate of Juan G. Flores, which is being submitted concurrently with this Statement.

The TRACED Act and the Commission’s implementing rules set forth four substantive criteria that a voice service provider must satisfy to qualify for the voluntary implementation exemption for its Internet Protocol (“IP”) network. Specifically, the provider must: (i) have “adopted the STIR/SHAKEN authentication framework for calls on the internet protocol networks;” (ii) have “agreed voluntarily to participate with other providers of voice service in the STIR/SHAKEN authentication framework;” (iii) have “begun to implement the STIR/SHAKEN authentication framework;” and (iv) “be capable of fully implementing the STIR/SHAKEN authentication framework not later than 18 months after” the TRACED Act’s enactment date.³

¹ Pallone-Thune Telephone Robocall Abuse Criminal Enforcement Act, Pub. L. No. 116-105, § 4(b)(1)(A) (2019) (“TRACED Act”); *Call Authentication Trust Anchor*, Second Report and Order, WC Docket No. 17-97, FCC 20-136 (rel. Oct. 1, 2020) (“*Second Report & Order*”) (adopting 47 C.F.R. § 64.6306(a)).

² 47 C.F.R. §§ 64.6306(c), 1.16.

³ TRACED Act § 4(b)(2)(A); 47 C.F.R. § 64.6306(a).

As detailed below,⁴ AT&T's existing and expected implementation of the STIR/SHAKEN protocols on the IP portions of its network satisfies the statutory criteria. AT&T therefore is not subject to regulatory requirements promulgated pursuant to the Commission's authority under Section 4(b)(1)(A) of the TRACED Act and respectfully requests that the Wireline Competition Bureau recognize AT&T's exemption from such requirements.⁵

I. AT&T HAS ADOPTED THE STIR/SHAKEN AUTHENTICATION FRAMEWORK FOR CALLS ON ITS IP NETWORK

The Commission's rules provide that a voice service provider has satisfied the first criterion for the TRACED Act's voluntary implementation exemption to "adopt[] the STIR/SHAKEN authentication framework" if it completes "the network preparations necessary to deploy the STIR/SHAKEN protocols on its network."⁶ The rule explicitly cites testing as one example of such network preparations, including "participation in test beds and lab testing."⁷ As documented in this section and in section III, below, AT&T easily clears this initial hurdle.

Well before the Secure Telephone Identity Governance Authority ("STI-GA") was established, AT&T was among the first voice service providers to participate in lab testing of the STIR/SHAKEN protocols in the ATIS Robocalling Testbed.⁸ Launched in October 2017,⁹ the ATIS Robocalling Testbed provides a physical lab environment that enabled AT&T not only to observe the operation of STIR/SHAKEN, but also to test error cases and, in so doing, identify

⁴ On November 20, 2020, AT&T filed a narrow petition for an extension of the June 30, 2021 implementation deadline pursuant to Section 64.6304(e) of the Commission's rules. 47 C.F.R. § 64.6304(e); Petition for Extension of Implementation Deadline, WC Docket No. 17-97 (filed Nov. 20, 2020) ("Extension Petition"). AT&T's request for exemption thus incorporates the Extension Petition and is predicated on the grant of the Extension Petition.

⁵ See 47 C.F.R. § 64.6301 (requiring implementation of STIR/SHAKEN by voice service providers).

⁶ *Id.* § 64.6306(a)(1); see also TRACED Act § 4(b)(2)(A)(i).

⁷ 47 C.F.R. § 64.6306(a)(1).

⁸ AT&T initiated testing in the ATIS Robocalling Testbed in June 2019.

⁹ See Jonjie Sena, ATIS TOPS Council and Senior Director of Product Marketing, Neustar, Inc., *Joining Forces To Make the FCC's Robocalling Initiative a Reality* (Oct. 24, 2017), <https://www.atis.org/joining-forces-make-fccs-robocalling-initiative-reality/>.

and then work to address implementation and other issues. AT&T will continue to test with other providers—first in the lab environment, then utilizing each provider’s live networks—as AT&T and third-party service providers establish STIR/SHAKEN-enabled traffic exchange. Thus, consistent with the Commission’s rules, AT&T has “adopted the STIR/SHAKEN authentication framework” for Session Initiation Protocol (“SIP”) calls on AT&T’s network.¹⁰

II. AT&T HAS AGREED VOLUNTARILY TO PARTICIPATE WITH OTHER VOICE SERVICE PROVIDERS IN THE STIR/SHAKEN AUTHENTICATION FRAMEWORK

AT&T also satisfies the second statutory criterion for the voluntary implementation exemption, which requires that AT&T “agree[] voluntarily to participate with other voice service providers in the STIR/SHAKEN authentication framework ... by completing formal registration (including payment) and testing with the STI Policy Administrator.”¹¹ AT&T was one of the first providers to participate in pre-launch testing with iconectiv, the Secure Telephone Identity Policy Administrator (“STI-PA”), in November 2019. AT&T submitted its registration request to the Policy Administrator in December 2019, which iconectiv approved on February 24, 2020. AT&T subsequently completed payment to the STI-PA, and AT&T is now among the list of approved service providers on iconectiv’s Policy Administrator website.¹² Additionally, to ensure the STI-PA had sufficient operational funds in 2020, AT&T and three other providers agreed to provide backstop funding. In October 2020, AT&T also completed its transition from

¹⁰ TRACED Act § 4(b)(2)(A)(i). AT&T uses the term “SIP call” herein as the term is defined in the Commission’s rules. *See* 47 C.F.R. § 64.6300(h) (defining “SIP call” as “calls initiated, maintained, and terminated using the Session Initiation Protocol signaling protocol”); *Call Authentication Trust Anchor; Implementation of TRACED Act Section 6(a)—Knowledge of Customers by Entities with Access to Numbering Resources*, Report and Order and Further Notice of Proposed Rulemaking, 35 FCC Rcd 3241 ¶ 38 (2020) (“*First Report & Order*”) (recognizing that application of the STIR/SHAKEN protocols is limited to calls that retain SIP format on an end-to-end basis).

¹¹ 47 C.F.R. § 64.6306(a)(2); *see also* TRACED Act § 4(b)(2)(A)(ii).

¹² *See* iconectiv, Policy Administrator, Authorized Service Providers, <https://authenticate.iconectiv.com/authorized-service-providers-authenticate>.

self-signed SHAKEN certificates and now uses certificates provided by the STI Certificate Authority (“STI-CA”), as contemplated by the STI-GA.

III. AT&T HAS BEGUN TO IMPLEMENT THE STIR/SHAKEN AUTHENTICATION FRAMEWORK

AT&T’s progress implementing STIR/SHAKEN in its network—the third criterion for the voluntary implementation exemption—is well-documented in the Commission’s record. AT&T committed publicly to deploy STIR/SHAKEN in a letter responding to Chairman Pai in November 2018.¹³ In its letter, AT&T provided a timeline that detailed AT&T’s 2019 STIR/SHAKEN deployment plans.¹⁴ Those plans included, among other things, field and lab testing with third-party voice service providers, deployment of additional capacity necessary to accommodate STIR/SHAKEN-enabled voice traffic, enabling signing and verification capabilities for SIP calls on AT&T’s Voice over Long-Term Evolution (“VoLTE”) and consumer Voice over Internet Protocol (“VoIP”) networks, as well as establishing the capability to manually exchange certificates—well ahead of the creation of the Certificate Authority and Policy Administrator by the STI-GA.¹⁵ Moreover, AT&T identified additional workstreams complementary to STIR/SHAKEN implementation, including expanding traffic exchange of STIR/SHAKEN-enabled traffic and launching consumer displays of STIR/SHAKEN results.¹⁶

AT&T delivered on its voluntary commitments and, consistent with the TRACED Act and the Commission’s implementing rules, has continued to make significant progress to enable

¹³ See Letter from Joan Marsh, AT&T, to The Honorable Ajit Pai, FCC, Nov. 19, 2018, *attached to* Letter from Amanda E. Potter, AT&T, to Marlene H. Dortch, FCC, WC Docket No. 17-97 (filed Nov. 19, 2018) (“Nov. 19, 2018 Letter”).

¹⁴ See *id.*, Enclosure (SHAKEN/STIR Implementation Timeline).

¹⁵ See *id.*

¹⁶ See *id.*

STIR/SHAKEN on its network.¹⁷ Specifically, AT&T has enabled network capabilities to authenticate and verify SIP calls from and to customers of AT&T's VoLTE and consumer VoIP services. For VoLTE and consumer VoIP SIP calls that never leave AT&T's network, AT&T authenticates and verifies all such calls by tagging them.¹⁸ AT&T estimates that it tags more than 100 million intra-network SIP calls every day. Similarly, prior to exchanging a VoLTE or consumer VoIP SIP call with another provider, AT&T authenticates and signs all consumer VoIP SIP calls and virtually all VoLTE SIP calls originating on its network and, when it receives signed caller ID authentication from another provider, AT&T verifies all consumer VoIP SIP calls and the vast majority of VoLTE SIP calls at termination.¹⁹ To date, AT&T estimates that it has signed nearly three billion inter-carrier SIP calls and verified more than two billion such calls.

The Commission's rules state that, to satisfy the third statutory criterion for the voluntary implementation exemption for IP networks, a voice service provider must "complete[] the necessary network upgrades to at least one network element ... to enable the authentication and verification of caller identification information consistent with the STIR/SHAKEN standards."²⁰ Enabling the tagging, signing, and verification capabilities on AT&T's network necessitated upgrades that more than satisfy the third criterion of the TRACED Act. To enable authentication/tagging capabilities for intra-network SIP calls, AT&T upgraded the configuration of more than one hundred call processing application servers deployed nationwide in the IP portions of AT&T's network. Operationalizing signing and verification required even more

¹⁷ See Letter from Linda S. Vandeloop, AT&T, to Marlene H. Dortch, FCC, WC Docket No. 17-97 (filed Feb. 5, 2020) ("Feb. 5, 2020 Letter"); Comments of AT&T, WC Docket No. 20-323 (filed Oct. 16, 2020) ("Oct. 16, 2020 Comments").

¹⁸ See 47 C.F.R. § 64.6301(a)(1); Oct. 16, 2020 Comments at 2.

¹⁹ See 47 C.F.R. §§ 64.6301(a)(2)-(3).

²⁰ *Id.* § 64.6306(a)(3) (listing "a single switch or session border controller" as examples of network element upgrades that would satisfy the third criterion); see also TRACED Act § 4(b)(2)(A)(iii).

complex network modifications. As a threshold matter, AT&T’s engineers developed the Secure Telephone Identity-Authentication Service (“STI-AS”) and Verification Service (“STI-VS”) functions—i.e., the signing and verification functions—as well as associated application programming interface (“API”), and then provided the API to ATIS to share with industry. ATIS incorporated AT&T’s work into a technical report that is now available to, and used by, numerous others in industry, including major third-party vendors of STIR/SHAKEN services.²¹

On its own network, AT&T developed and deployed more than one hundred virtual machines to enable the STI-AS and STI-VS functions (i.e., signing and verification). Further, AT&T worked with its vendors to develop network elements with SHAKEN functionality that would support interfaces to the STI-AS/Vs. For example, AT&T worked with its vendor to enhance the capabilities of interconnection session border controllers (“I-SBCs”) to support SHAKEN signing on AT&T’s network, including: 1) recognizing when a SIP call requires a signature, 2) requesting the signature, 3) processing the signature response, and 4) transmitting the SIP call with the appropriate signing information to the terminating carrier.

Having identified and helped to develop the network infrastructure needed to support STIR/SHAKEN, AT&T in late 2018 began installing the new SHAKEN-enabled I-SBCs, replacing hardware that was not SHAKEN-enabled and nearing end of life. AT&T now has 80 SHAKEN-enabled I-SBCs in operation in geographically diverse points across its network. Thus, in summary, AT&T has not only “completed network upgrades to at least one network element,”²² it has upgraded or implemented *hundreds* of such network elements. And among other notable milestones, AT&T developed—and then made public—foundational network

²¹ See ATIS, SIP Forum, ATIS-1000082, *Technical Report on SHAKEN APIs for a Centralized Signing and Signature Validation Server* (May 31, 2018), https://access.atis.org/apps/group_public/document.php?document_id=40779&wg_abbrev=atis_white_papers.

²² 47 C.F.R. § 64.6306(a)(3).

interfaces on which numerous other service providers today are relying to support their own STIR/SHAKEN deployments. AT&T therefore “has begun to implement the STIR/SHAKEN authentication framework” as required to qualify for the voluntary implementation exemption for IP networks.²³

In addition, AT&T is employing the new I-SBCs to exchange VoLTE and consumer VoIP SIP calls with STIR/SHAKEN information with an expanding list of service providers. AT&T either currently is exchanging, or has executed an agreement to enable exchange of, STIR/SHAKEN-enabled AT&T VoLTE traffic with five providers. For AT&T’s consumer VoIP service, the provider count currently stands at four of those five. As noted above, AT&T has exchanged nearly three billion signed SIP calls with its STIR/SHAKEN-enabled partners and has verified more than two billion such calls. As of November 2, 2020, AT&T estimates that it is transmitting approximately 22 million signed SIP calls to third-party voice service providers each day and receiving approximately 21 million signed SIP calls for termination on AT&T’s network.

Moreover, given the increase in demand for STIR/SHAKEN-enabled traffic exchange, AT&T has implemented a process to record and track inquiries, however preliminary in nature, received from other carriers about establishing STIR/SHAKEN-enabled traffic exchange. When AT&T becomes aware that a voice service provider is interested in establishing SIP traffic exchange, AT&T assesses, among other things, the technical and network requirements such traffic exchange would entail, including traffic volume forecasts, capacity requirements, and the potential partner’s STIR/SHAKEN readiness. As detailed further below, AT&T is leveraging

²³ TRACED Act § 4(b)(2)(A)(iii).

this information to plan for the future so that it continues to be well-positioned to expand the reach of STIR/SHAKEN on an accelerated timeline to the extent reasonably practicable.

IV. AT&T WILL BE CAPABLE OF FULLY IMPLEMENTING THE STIR/SHAKEN AUTHENTICATION FRAMEWORK BY JUNE 30, 2021

Finally, AT&T “will be capable of fully implementing the STIR/SHAKEN authentication framework” on or before June 30, 2021.²⁴ The *Second Report & Order* provides that, for the final criterion of the voluntary implementation exemption, a voice service provider must “reasonably foresee[] that it will have completed all necessary upgrades to its network infrastructure to enable the authentication and verification of caller identification information for all SIP calls exchanged with STIR/SHAKEN-enabled partners by June 30, 2021.”²⁵ Consistent with the Commission’s interpretation of the TRACED Act to date, and except as set forth in AT&T’s Extension Petition as to a very small amount of traffic, AT&T satisfies this final requirement.

In addition to its existing implementation of the STIR/SHAKEN protocols and related workstreams described above, AT&T anticipates additional material progress on implementation by June 30, 2021. *First*, AT&T is now in the process of extending authentication/tagging and verification capabilities to its primary business VoIP platform, over which AT&T’s domestic IP FlexReach service and certain web conferencing voice services, among others, are offered. This ongoing work entails, among other workstreams: 1) upgrades to numerous call processing application servers to enable authentication/tagging, and 2) construction of multiple new network elements and associated capacity to enable verification and other enhanced functionalities. AT&T expects to complete this work and begin transitioning to IP end-to-end traffic on the

²⁴ *Id.* § 4(b)(2)(A)(iv); 47 C.F.R. § 64.6306(a)(4).

²⁵ 47 C.F.R. § 64.6306(a)(4).

platform before the June 30, 2021 deadline. Thus, with the limited exception of SIP calls utilizing voice services that AT&T intends to discontinue,²⁶ AT&T will have the capability on or before June 30, 2021 to authenticate and verify all SIP calls that originate and terminate exclusively on its network. In a manner consistent with the STIR/SHAKEN framework, AT&T will authenticate/tag and verify all such intra-network SIP calls.²⁷

Second, where feasible, AT&T will authenticate and sign all SIP calls originating on its network that it exchanges with third-party voice service providers and will transmit all SIP calls with STIR/SHAKEN information to the next voice service provider or intermediate provider in the call path.²⁸ Likewise, where AT&T terminates a SIP call that originates on a third-party network, AT&T will verify all such calls when it receives STIR/SHAKEN information from the originating service provider where feasible.²⁹ Based on July 2020 call volumes, AT&T expects to exchange approximately two-thirds of all AT&T VoLTE and consumer VoIP inter-carrier traffic each month—more than 20 billion minutes of use—with STIR/SHAKEN-enabled partners by the June deadline.³⁰

Third and finally, AT&T continues to engage with voice service providers regarding the exchange of STIR/SHAKEN-enabled traffic. Although AT&T expects that approximately two-thirds of inter-carrier VoLTE and consumer VoIP SIP calls will be exchanged with

²⁶ See 47 C.F.R. § 64.6304(c) (extending the June 30, 2021 implementation deadline for services “which are subject to a pending application for permanent discontinuance of service filed as of June 30, 2021).

²⁷ See *id.* § 64.6301(a)(1).

²⁸ See *id.* § 64.6301(a)(2). Due to a network routing adjustment implemented mid-2020 to address network congestion during the COVID-19 global pandemic, a tiny amount of AT&T-originated VoLTE SIP calls are not expected to be STIR/SHAKEN-enabled by June 30, 2021. See note 4 *supra*.

²⁹ See 47 C.F.R. § 64.6301(a)(3). AT&T recently discovered that a small volume of calls entering AT&T’s network on its wholesale VoIP platform (AT&T VoIP Connect Service or “AVOICS”) and terminating to AT&T VoLTE customers use network elements that cannot retain the SHAKEN header information and thus cannot be verified. See note 4 *supra*.

³⁰ AT&T estimates that VoLTE and consumer VoIP traffic represents roughly 90 percent of overall SIP-enabled voice traffic on its network. For enterprise VoIP traffic—which represents the remaining 10 percent of SIP-enabled inter-carrier traffic—AT&T currently is negotiating with multiple STIR/SHAKEN-enabled providers to establish or expand SIP traffic exchange to cover that remaining traffic.

STIR/SHAKEN-enabled partners by June 30, 2021, establishing exchange of STIR/SHAKEN-enabled calls remains a work in progress for all voice service providers. For example, AT&T's remaining STIR/SHAKEN-enabled traffic is exchanged with more than 1,500 voice service providers. Most of these voice service providers qualify for the extension for "small voice service providers" or non-IP networks (or both) and thus operate networks that are not SIP-enabled or, if they are, are not STIR/SHAKEN-enabled.³¹ AT&T's progress establishing new partnerships for STIR/SHAKEN-enabled traffic exchange thus is not within its sole control.

As noted above, AT&T has established internal mechanisms to track interest in STIR/SHAKEN-enabled traffic exchange and to facilitate an orderly process for implementing such exchange. Where STIR/SHAKEN-enabled providers have expressed an interest in establishing SIP traffic exchange with AT&T, AT&T engages in discussions to evaluate interconnection options with those providers and, where feasible, negotiates and executes agreements with them on commercially reasonable terms. Such discussions and negotiations remain pending with several providers. As more providers enable STIR/SHAKEN and seek to exchange STIR/SHAKEN-enabled traffic with AT&T, AT&T is committed to expanding such traffic exchange on commercially reasonable terms and timelines with voice service providers that share that commitment.³²

³¹ See 47 C.F.R. § 64.6304(a).

³² As previously detailed for the Commission, AT&T is evaluating interconnection options that are focused on the needs of small and rural providers in particular, as the demand for traffic exchange with such providers will increase once the Commission's STIR/SHAKEN extension for small voice service providers expires in June 2023.