May 4, 2017

Via Email
Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Ex Parte – Advanced Methods to Target and Eliminate Unlawful Robocalls -- CG Docket No. 17-59

Dear Ms. Dortch:

On May 3, 2017 representatives from the Alliance for Telecommunications Industry Solutions (ATIS) met with representatives from the Wireline Competition Bureau to discuss industry efforts to combat unlawful robocalling, including efforts to progress the Signature-based Handling of Asserted information using toKENs (SHAKEN) framework.

During the meeting, ATIS provided an update on the industry’s efforts to finalize the SHAKEN Governance Model and Certificate Management which defines the protocol to obtain Secure Telephone Identify (STI) certificates. ATIS also noted its on-going efforts to further refine the roles and functions of the STI governance authority and STI policy administrator. The written presentation discussed during the meeting is attached hereto.

In attendance representing the WCB were: Kris Monteith, WCB Acting Chief; Ann Stevens, CPD Deputy Division Chief; Dan Kahn, CPD Division Chief; Heather Hendrickson, WCB Attorney Advisor; Sherwin Siy, CPD Special Counsel; Bill Andrle, CPD Attorney; and Alex Espinoza, CPD Attorney. In attendance representing ATIS were Susan Miller, President and CEO; Thomas Goode, General Counsel; and Jim McEachern, Senior Technology Consultant.

A copy of this letter is being filed in the above-referenced docket.

If there are any questions, please contact the undersigned.

Sincerely,

Thomas Goode
ATIS General Counsel
cc: Kris Monteith, WCB Acting Chief
    Ann Stevens, CPD Deputy Division Chief
    Dan Kahn, CPD Division Chief
    Heather Hendrickson, WCB Attorney Advisor
    Sherwin Siy, CPD Special Counsel
    Bill Andrle, CPD Attorney
    Alex Espinoza, CPD Attorney
SHAKEN Governance Authority

Susan Miller  
CEO & President  
ATIS

Jim McEachern  
Senior Technology Consultant  
ATIS

Tom Goode  
General Counsel  
ATIS

May 3, 2017
Background

- There are 2.4 billion robo-calls every month.
- Robo-calls are the #1 consumer complaint to the FCC.
- More than 1 in 10 U.S. adults has been a victim of a phone scam.
- IETF STIR (Secure Telephone Identity Revisited) was chartered to address this problem.
- The ATIS/SIP Forum IP-NNI TF initiated SHAKEN to develop a deployable mechanism for service providers.
- STIR and SHAKEN have been merged into a single specification, with SHAKEN focused on service provider deployment.
- This presentation provides detail on SHAKEN development.
Current Status

• Significant progress on the protocols required to deploy SHAKEN:
  – *SHAKEN* provides the on-the-wire encoding for SIP identity header: January 2017
  – *SHAKEN Governance Model and Certificate Management*, defines the protocol to obtain STI certificates: June 2017

• SHAKEN deployment:
  – Initial focus will be to gain operational experience
  – Volume deployment beginning in 2018

• Formal Governance Authority:
  – Not essential for initial deployment between “cooperating” service providers
  – Will be critical as deployment increases
Mechanism to sign calling party information, including origID and attestation claims, to generate PASSporT token.

STI - AS

STI - CR

Mechanism to verify signature and validate PASSporT claims.

STI - VS

SIP Proxy

On-the-wire encoding of PASSporT token in SIP Identity header.
SHAKEN Governance Model and Certificate Management defines mechanism for service provider to obtain SHAKEN STI Certificates:

- Roles
- Protocols
SHAKEN Terminology

1. Service Provider Token: obtained from STI-PA and used by SP to request STI Certificate from STI-CA

2. STI Certificates: used for “authentication” (STI-AS) and “verification” (STI-VS) in SHAKEN

3. PASSporT Token: included in SIP Identity header “on-the-wire”
SHAKEN Governance Model: Defined Roles

**STI-CA:** The STI Certification Authority (STI-CA) issues STI Certificates to authorized Service providers.

**Service Provider:** Obtains STI Certificates from STI-CA and uses these to authenticate calling party information “on-the-wire”.

Out of Scope for “Governance Model”

In Scope for “Governance Model”
SHAKEN Governance Model – Key Roles

• Key roles in SHAKEN Governance model:
  – STI Governance Authority (STI-GA)
  – STI Policy Administrator (STI-PA)

• These roles are identified and relationships noted but details are stated to be “out of scope” for the SHAKEN Governance Model document.

• Further industry work is needed to “flesh out” the details of these roles separate from the development of the protocol for obtaining certificates.
Role of the STI Governance Authority

- STI Governance Authority:
  - Defines the rules governing STI Certificates:
    - Who can obtain STI Certificates (i.e., criteria)
    - Basis for revoking (if required)
    - Criteria for STI Certification Authority (STI-CA)
  - Selects the STI Policy Administrator
  - Would consult technical experts when developing rules:
    - ATIS’ PTSC, INC, NGIIF, Testbeds FG
    - ATIS/SIP Forum IP-NNI Task Force
  - One governance authority per country
  - Industry-based and consensus driven
Role of the STI Policy Administrator

- STI Policy Administrator:
  - Applies the rules as set by the STI Governance Authority
  - Validates that individual service providers are authorized to obtain STI Certificates
    - Based on criteria defined by STI-GA
  - Issues “Service Provider Token” to authorized service providers allowing them to request STI Certificates
    - Valid for a period of time (e.g., one year)
  - Approves STI Certification Authorities (STI-CA)
  - Maintains a secure list of all authorized STI-CAs
  - May host STI Certificate Repository (STI-CR) for public keys
Criteria for Governance Authority

- Neutral industry body, representing a full range of stakeholders:
  - Service providers: large, small, competitive, fixed, mobile, cable, VoIP, OTT
  - Vendors, including third party application providers
  - Others?

- Use open, multi-stakeholder, consensus-based processes.

- Recognized by the national regulator, but independent:
  - Consider regular briefings to regulator
  - Engage input from regulator

- Streamline operations and processes and minimize costs:
  - Not for profit
Advantages of Multi-stakeholder, Industry Consensus-Based Solution

- SHAKEN governance ecosystem will need to be flexible and innovate as the industry gains experience and robocallers/spammers respond with new strategies:
  - Identify and stop service providers if they abuse the system
  - Develop rules for “corner cases” (e.g., WebRTC, resellers, etc.)
  - Extend SHAKEN to introduce new functionality:
    - CNAM, NS/EP support, Biometric authentication
    - Enhanced traceback
- A neutral, multi-stakeholder, consensus-based, industry body is best-positioned to provide this flexibility and innovation while ensuring accountability.

*SHAKEN Governance Authority based on industry consensus.*
Governance Authority: Several Approaches Considered

- **Regulatory Mandate Approach:**
  - FCC performs the role of STI-GA; operation of GA codified in rules
  - FCC performs or contracts with entity to perform STI-PA role

- **Industry “Committee” Approach:**
  - Multi-stakeholder industry body to serve a STI-GA
  - Operation of STI-GA developed via transparent, consensus-based processes
  - STI-GA selects/oversees STI-PA

- **Hybrid Approach:**
  - Multi-stakeholder industry body to serve a STI-GA
  - Operation of STI-GA developed via transparent, consensus-based processes
  - FCC validates industry body and authority of STI-GA to oversee operations
  - Formal liaisons and updates on operations provided to Commission
Other Possible Models

• While some in the industry are suggesting that the NANPA could be a suitable model for the STI-GA, there have been significant concerns raised regarding this model because:
  – Combining NANPA and STI-GA would not provide significant value, and could be a distraction.
  – Similarities between NANPA and STI-GA are minimal; differences are significant:
    • NANPA manages numbers and number ranges; STI-GA “authenticates” SHAKEN service providers.
    • NANPA requires a flexible, scalable solution; STI-GA allows same solution to apply to all carriers.
    • NANPA tracks all number assignments/reassignments with complexity proportional to the number of potential telephone numbers; STI does not track numbers and complexity is proportional to the number of carriers.
Next Steps

• Complete specification for SHAKEN Governance Model and Certificate Management:
  – Scheduled to be sent to Letter ballot mid May
  – Approved and published late June

• ATIS to continue work defining the Governance Authority role:
  – Strong industry support for governance principles
  – Will continue developing industry consensus on governance details
  – Further briefings will be provided to the FCC
Questions?

Susan Miller  
President and CEO  
smiller@atis.org

Jim McEachern  
Senior Technology Consultant  
jmceachern@atis.org

Tom Goode  
General Counsel  
tgoode@atis.org
Abbreviations

- **STI-AS**: Secure Telephone Identity Authentication Service
- **STI-CA**: Secure Telephone Identity Certification Authority
- **STI-CR**: Secure Telephone Identity Certificate Repository
- **STI-GA**: Secure Telephone Identity Governance Authority
- **STI-PA**: Secure Telephone Identity Policy Administrator
- **STI-VS**: Secure Telephone Identity Verification Service