atis

1200 G Street, NW   P: **+1** 202-628-6380
Suite 500   W: www.atis.org
Washington, DC 20005

November 13, 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 November 6, 2017, the Alliance for Telecommunications Industry Solutions (ATIS)
filed an *ex parte* notification regarding its meeting with representatives from the Wireless 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 and the SHAKEN
Governance and Certification Authorities. Unfortunately, the presentation given at the meeting was
inadvertently omitted from the filing. Attached is a corrected *ex parte* notification that includes the
presentation given on November 2, 2017.

If there are any questions regarding this matter, please do not hesitate to contact the undersigned.

Sincerely,

Thomas Goode
ATIS General Counsel

cc: Daniel Kahn, CPD Chief
      Ann Stevens, CPD Deputy Division Chief
      Heather Hendrickson, CPD Acting Assistant Division Chief
      Sherwin Siy, CPD Special Counsel

ATIS

1200 G Street, NW
Suite 500
Washington, DC 20005

P: +1 202-628-6380
W: www.atis.org

November 6, 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 November 2, 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 and the SHAKEN Governance and
Certification Authorities.

During the meeting, ATIS provided an update on the industry's 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. As noted during the meeting, ATIS believes
that tackling the challenge of illegal robocalls will require a structure that can be established quickly and
that can evolve as necessary to meet evolving needs. It is equally important that the industry be able to gain
operational experience in the near future to be fully prepared for wide scale SHAKEN deployment. ATIS is
prepared to serve as the SHAKEN Governance Authority and believes that it proposed hybrid approach
appropriately balances important needs.

In attendance representing the WCB were: Daniel Kahn, Competition Policy Division Chief; Ann Stevens,
CPD Deputy Division Chief; Heather Hendrickson, CPD Acting Assistant Division Chief; and Sherwin Siy,
CPD Special Counsel. 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: Daniel Kahn, CPD Chief
       Ann Stevens, CPD Deputy Division Chief
       Heather Hendrickson, CPD Acting Assistant Division Chief
       Sherwin Siy, CPD Special Counsel

SHAKEN

Jim McEachern

Senior Technology Consultant

ATIS

Tom Goode

General Counsel

ATIS

November, 2, 2017

*Advancing ICT Industry Transformation*

atis

Purpose

- Provide an update on industry efforts to create the ecosystem necessary to facilitate the implementation of SHAKEN.

- Provide information on the steps ATIS is taking in the near term.

- Discuss long term deployment strategies.

Key Messages

- Speed and flexibility are very important in tackling this problem.

- It is also important that the industry gain operational experience in the near future to be fully prepared for widescale SHAKEN deployment.

- ATIS is prepared to serve as the STI-GA and is well-positioned to move forward quickly (1st Quarter 2018).

- ATIS' construct recognizes and balances important needs (based on sound technical input, neutral, open and transparent, reflecting evolving needs and capabilities).
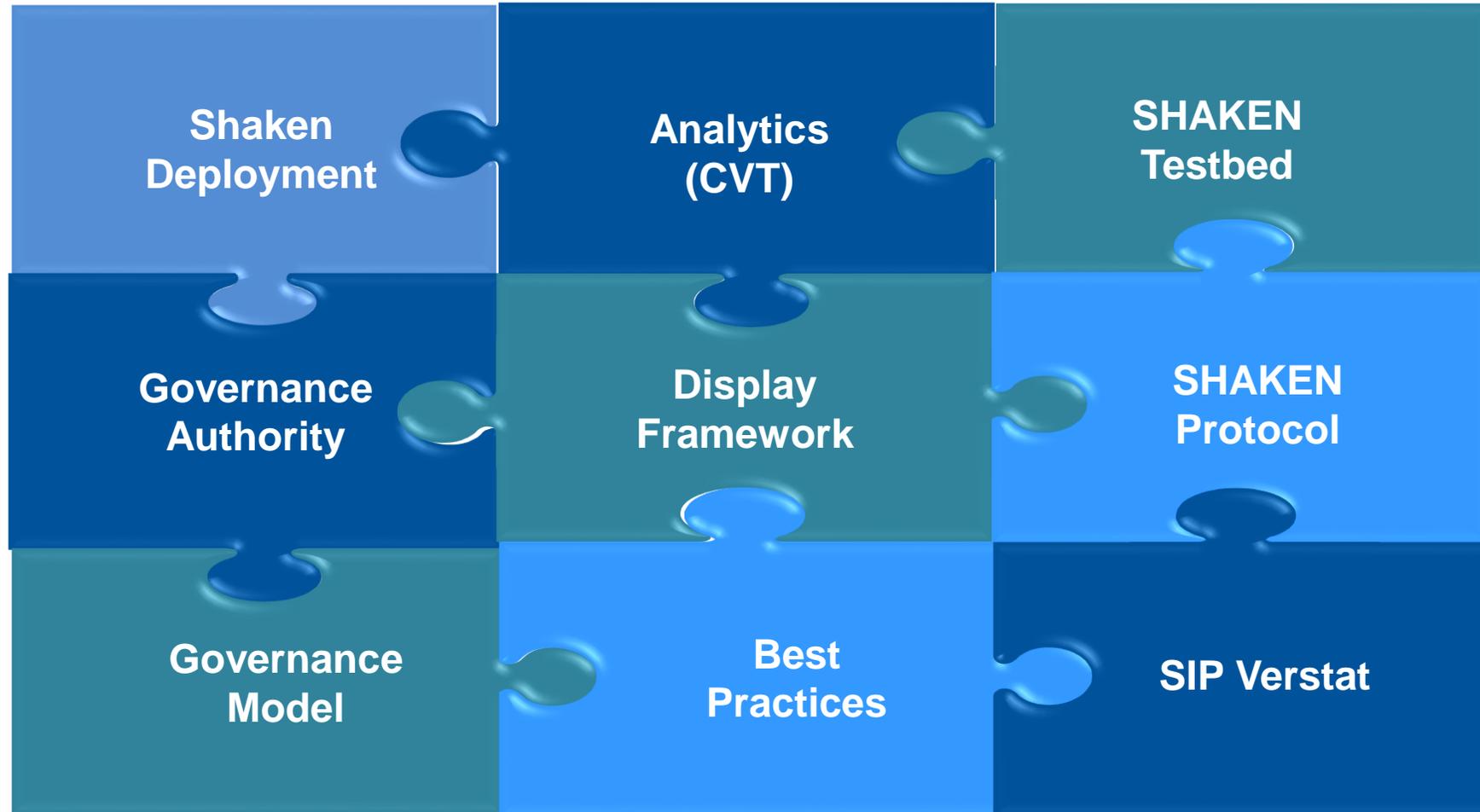
Current Status

- Phase 1 (completed)
  - Publication of the Signature-based Handling of Asserted information using toKENs (SHAKEN) technical specification that describes how calls may be authenticated by service providers (January 2017).

- Phase 2 (completed):
  - Publication of the SHAKEN Governance Model And Certificate Management that describes how SHAKEN will be operationalized by the industry, including the need for a governance authority and policy administrator (July 2017).
    - Also defines the protocol to obtain STI certificates

- Phase 3 (ongoing):
  - Publication of deliverables to address call display issues, implementation guidance/best practices, testing, deployment metrics and to further detail the operation of the policy administrator.

Current Status – Phase 3

- Ongoing ATIS work to support SHAKEN deployment:
  - ATIS/Neustar SHAKEN Testbed (ongoing)
  - STI-PA Operational Procedures (target: 4th quarter 2017)
  - Display framework guidelines
  - Recommended deployment metrics
  - SHAKEN Use Cases
  - Best practices for attestation and Origination ID

SHAKEN & Analytics

SHAKEN
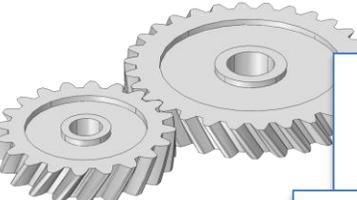
**STI-GA/PA - Governance
"Root of Trust"**

STI-CA
"Certificate Management"

AS ----------------------------------- VS

"Call Processing"

- Sign "good TNs"
- Provide traceability
- Ensure correct use of STI certificates
- Enabling technology

WC Docket No.17-97
Call Authentication Trust Anchor
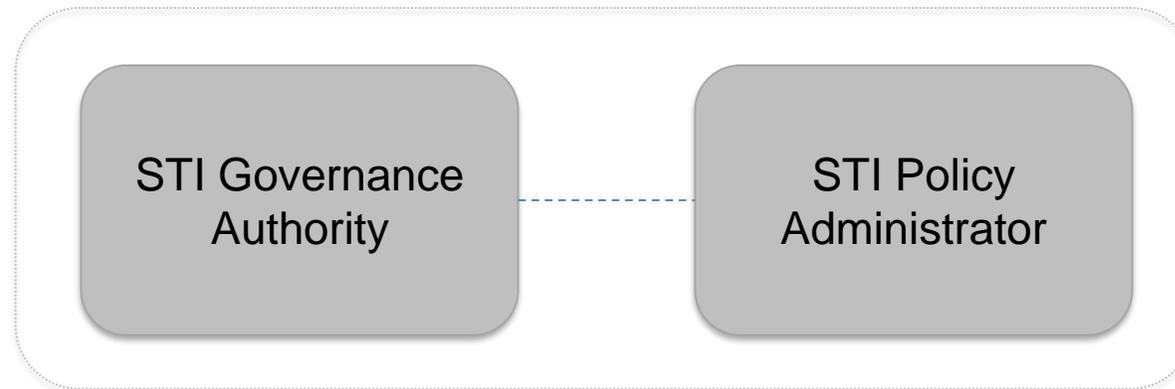
Analytics

Call Blocking
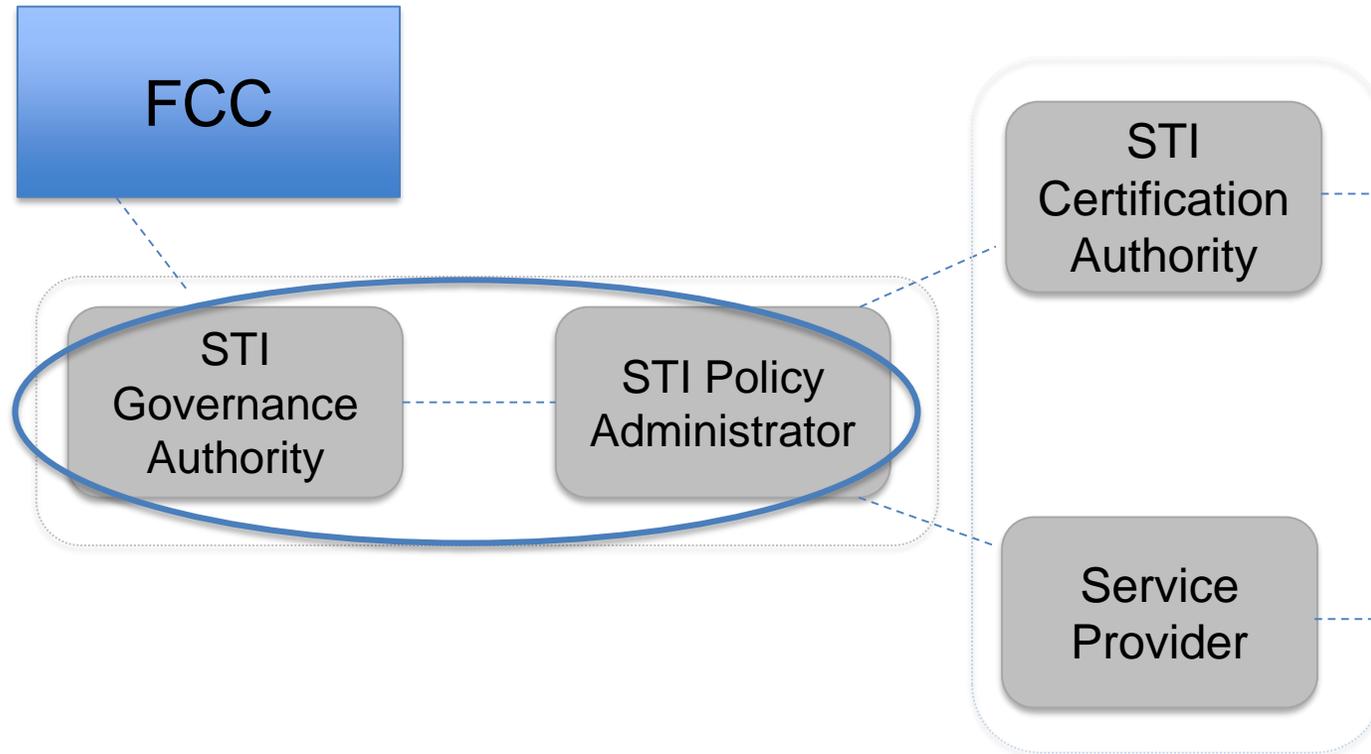
Display to user

Analytics / CVT

- Analyze robocall/spoofing data
- Detect fraudulent calls
- Block unwanted calls (at user's request)
- Provide a consumer service

CG Docket No. 17-59
Advanced Methods to Target and
Eliminate Unlawful Robocalls

Governance Authority and Policy Administrator Roles and Qualifications
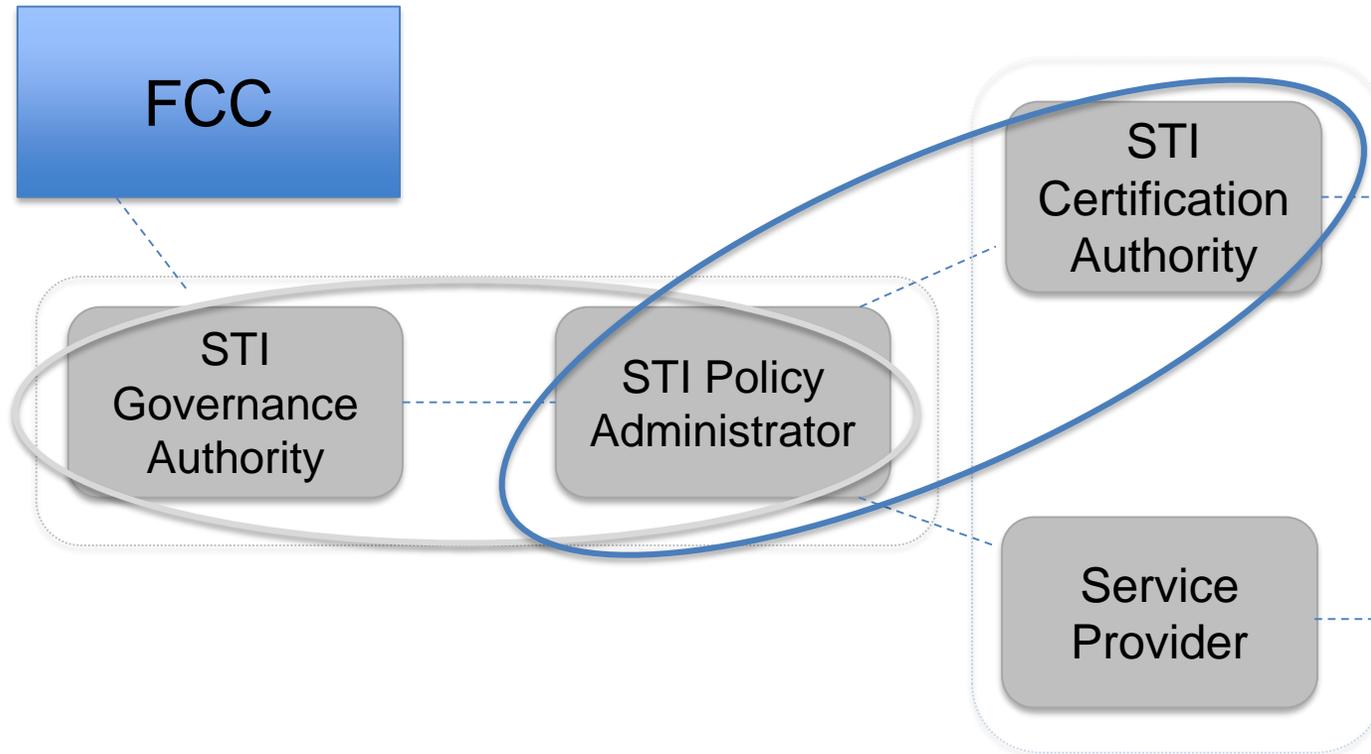
Industry-Developed SHAKEN Governance Model

Key roles:
- **STI Governance Authority (STI-GA)**
  - Defines the rules governing STI Certificates
  - Selects the STI Policy Administrator
- **STI Policy Administrator (STI-PA)**
  - Applies the rules set by the STI-GA
  - Validates that service providers are authorized to obtain STI Certificates
  - Issues "Service Provider Token"

Industry-Developed SHAKEN Governance Model

Key roles:
- **STI Governance Authority (STI-GA)**
  - Defines the rules governing STI Certificates
  - Selects the STI Policy Administrator
- **STI Policy Administrator (STI-PA)**
  - Applies the rules set by the STI-GA
  - Validates that service providers are authorized to obtain STI Certificates
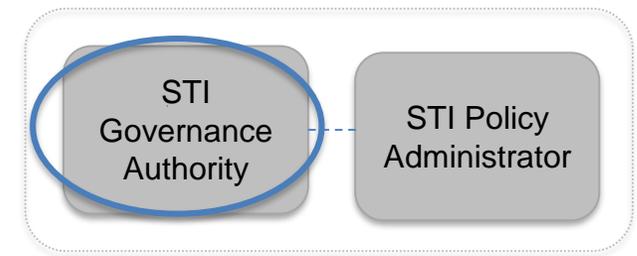 - Issues "Service Provider Token"
  - Approves STI Certification Authorities (STI-CA)
  - Maintains a secure list of all authorized STI-CAs
- **STI Certification Authorities (STI-CA)**
  - Issues STI Certificates to service providers.

STI-GA Qualifications

- Under ATIS' proposed "hybrid" structure, the governance authority would:
  - Be established and operated by the industry under the umbrella of a multi-stakeholder organization in collaboration with FCC;
    - Recognized by the FCC, but independent and able to make necessary changes to policies without lengthy rulemakings or contract negotiations;
  - Use consensus-based, open, and transparent procedures to define the policies governing acquisition/issuance of STI certificates and management of Public Key Infrastructure (PKI);
  - Include broad participation from stakeholders and timely feedback mechanisms;
  - Use flexible processes that allow for the expeditious evolution of policies and procedures based on actual deployment experience and the response of malicious entities; and
  - Leverage industry technical expertise to identify and analyze technical issues.

ATIS as STI-GA

- ATIS is well-positioned to serve as the STI-GA.
  - Proven experience managing complex projects using open, consensus-based and equitable processes.
  - A trusted, technically-focused organization.
  - Membership includes key stakeholders and ATIS has experience in encouraging participation by all segments of the industry.
  - A neutral, industry-led body that can resolve issues fairly, effectively and in timely manner.
  - Expertise managing industry resources and maintaining fair and effective guidelines that are used broadly by the industry.

ATIS as STI-GA

- ATIS also has significant experience with call authentication issues, having developed technical and operational standards to mitigate the impacts of robocalling and caller ID spoofing issues for many years and a key driver in the development of SHAKEN.

  - This familiarity would allow ATIS to address technical issues and/or make modifications to SHAKEN as necessary to address new call authentication challenges.

  - Because of the evolving nature of this problem, changes to the underlying technical specifications may be necessary; these changes are more appropriately addressed by the industry in industry groups such as ATIS Packet Technologies and Systems Committee (PTSC) and the Joint IP-NNI Task Force.

STI-PA Qualifications
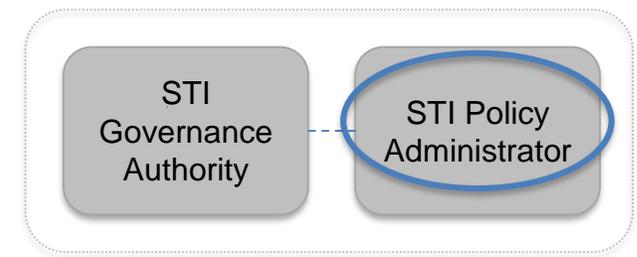
- Detailed STI-PA procedures being defined by ATIS SIP Forum Joint IP-NNI Task Force; this work will provide additional detail about the STI-PA's role in:
    - Implementing policies established by the STI-GA, including policies to confirm that service providers are authorized to request certificates and to authorize the certification authority to issue STI certificates;
    - Managing an active, secure list of approved certification authorities, in the form of their public key certificates, and provide this list to the service provider; and
    - Maintaining a distinct PKI for digitally signing service provider code tokens.

- ATIS believes that, to perform these roles effectively, the STA-PA needs expertise/experience
    - Efficiently executing well-defined processes,
    - Managing industry resources, such as numbering databases and/or certificate management.

Principles Underlying ATIS' STI-GA Construct

STI GA - Balancing Stakeholder Needs

- **ATIS' construct recognizes and balances a range of needs**:
    1. Based on sound technical input
    2. Implementable by the industry
    3. Reflect evolving needs and capabilities
    4. Open and transparent
    5. Neutrally managed
    6. Minimize and fairly allocate cost
   7. Early operational experience

STI-GA: Proposed Structure
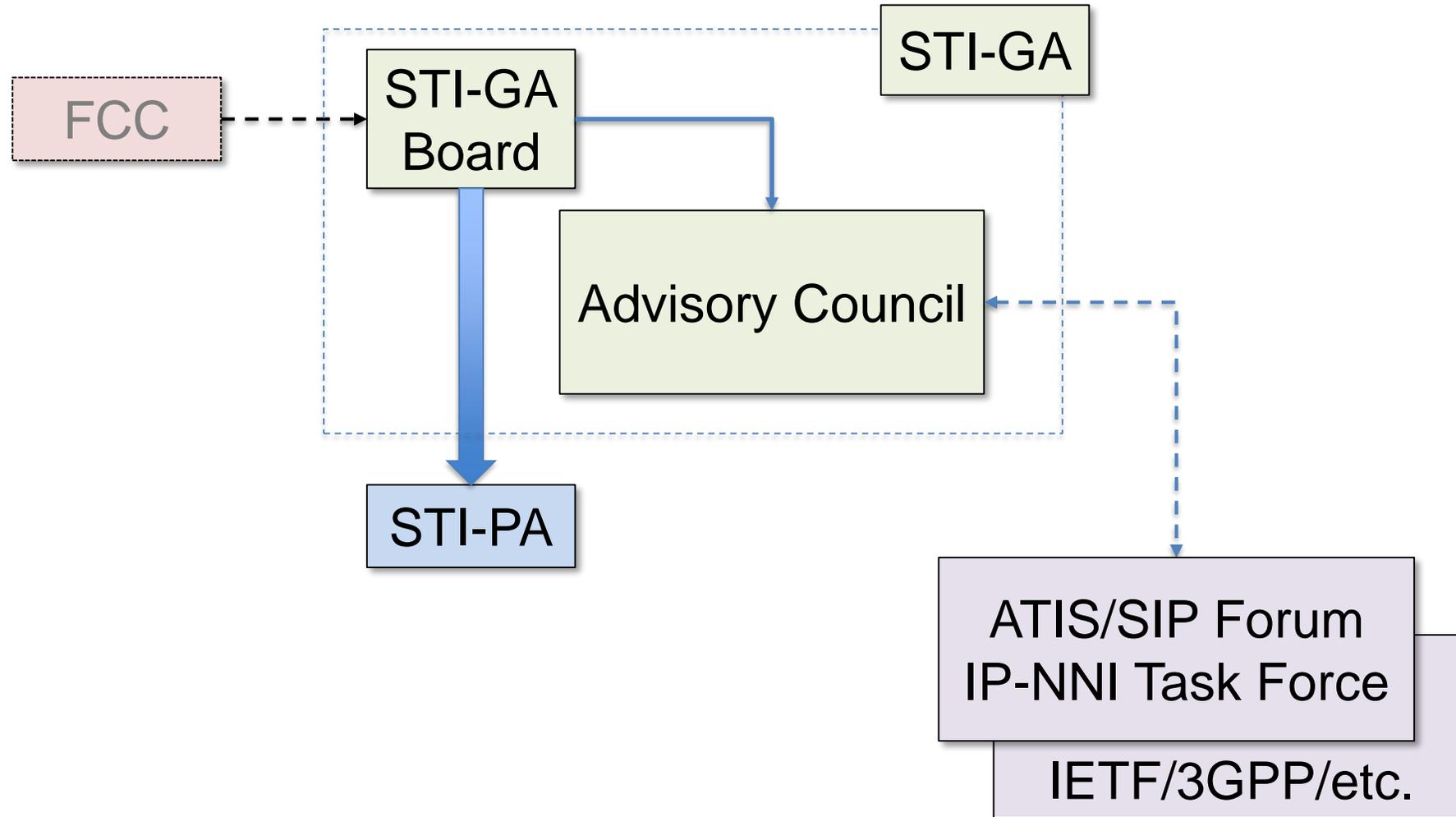
STI GA - Balancing Stakeholder Interests

1. **Based on sound technical input**
   - Ensure input from all interested stakeholders and industry experts

- **IP-NNI Task Force, IETF, and 3GPP provide:**
   - Open technical forums for analysis and debate of technical enhancements to SHAKEN;
   - Analysis of SHAKEN governance alternatives (rules and process) to ensure alignment with technical best practices; and
   - Technical input from widest possible array of industry experts.
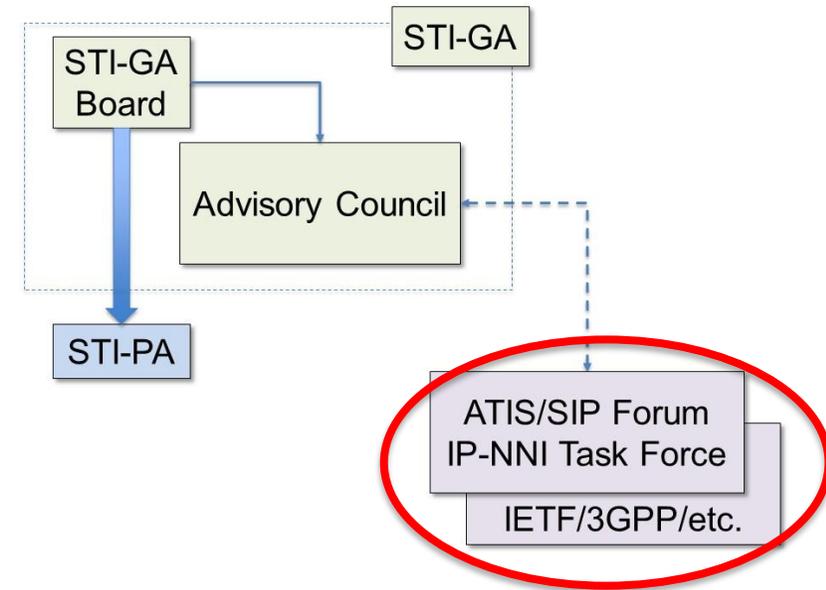
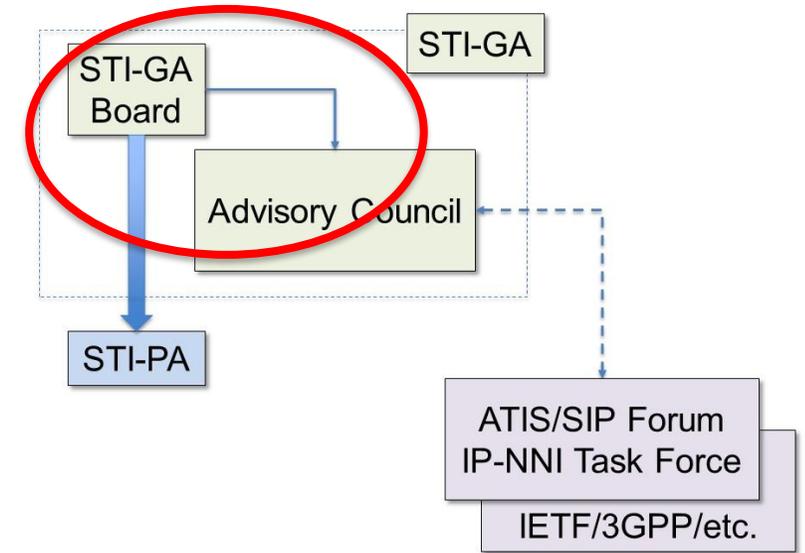# STI GA - Balancing Stakeholder Interests

2. Implementable by the industry

– Ensure deployable and effective solutions

- **Advisory Council:**

  – Appointed by STI-GA to focus on concrete issues;

  – Membership based on expertise - not limited to Board companies;

  – Analyses SHAKEN compliance questions as directed by the SSTI-GA Board;

  – Solicits technical input from relevant industry bodies (e.g., IP-NNI TF, IETF, and 3GPP); and

  – Recommends governance policies to the Board, based on further analysis of technical input.
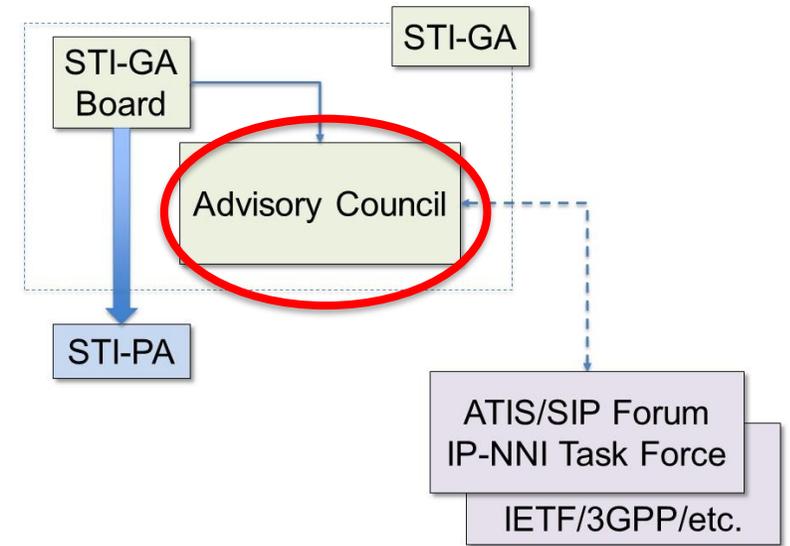
STI GA - Balancing Stakeholder Interests

## 3. Reflect evolving needs and capabilities

– Implementers and other key stakeholders influence direction

- **STI-GA Board:**

  – Assigns tasks to Advisory Council based on SHAKEN Certificate management challenges;

  – Approves potential enhancements to SHAKEN (e.g., Calling Name, or NS/EP) based on recommendations from Advisory Council;

  – Approves governance recommendations; and

  – Establishes and evolves rules for operation of STI-PA.

STI GA - Balancing Stakeholder Interests

4. Open and transparent

- All stakeholders have a voice

- **STI-GA Board**:
  - Represents full scope of SHAKEN stakeholders, while maintaining manageable number of Board members.

- **IP-NNI Task Force**:
  - Provides a technical forum for analysis and open debate of technical aspects of SHAKEN; and
  - Encourages technical input from widest possible array of industry experts.
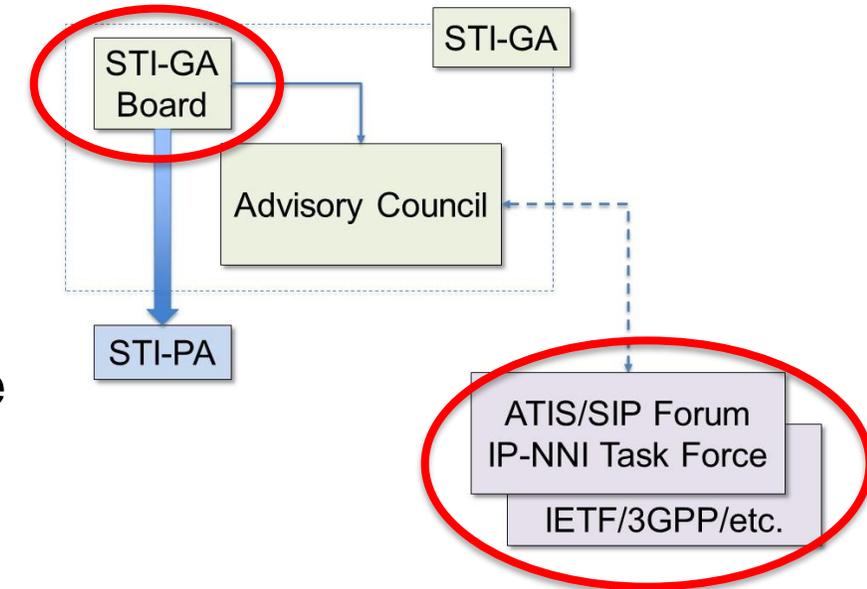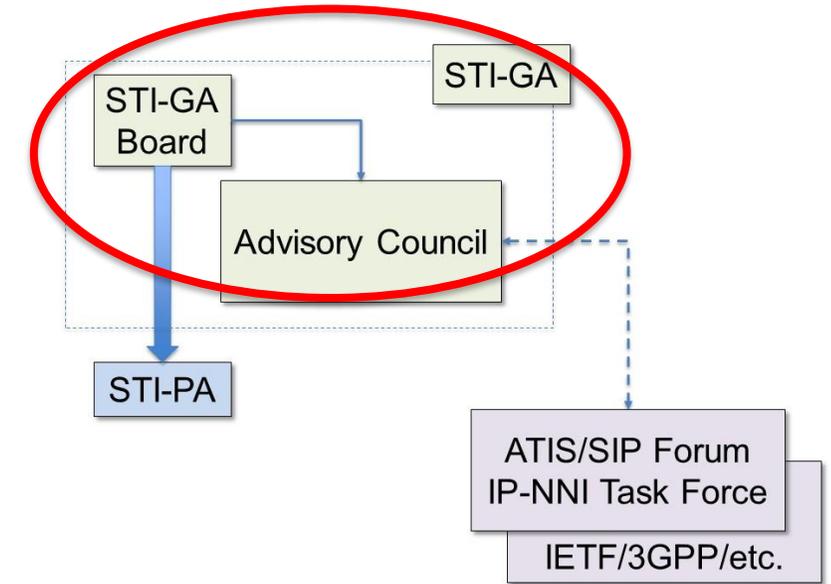
STI GA - Balancing Stakeholder Interests

5. Neutrally managed

– Fair, open, consensus-based process and decision making

- **STI-GA**:

    – Represents all categories of Service Providers:

        • Large SP => Board seat

        • Medium SP => 5-8 Board seats

        • Small SP or associations => 5-10 Board seats

    – Potential for other interested parties to also participate in STI-GA Board; and

   – Structure based on proven ATIS consensus-based process.

STI GA - Balancing Stakeholder Interests

6. Minimize and fairly allocate cost

– Focused on recovering appropriate costs

- **STI Governance Authority:**

  – Not-for-profit

  – Stable funding mechanism that:

    • Allows costs to be equitably distributed among all stakeholders; and

    • Is periodically reviewed and sufficiently flexible to allow modifications to ensure it is narrowly tailored to recovering only appropriate costs.
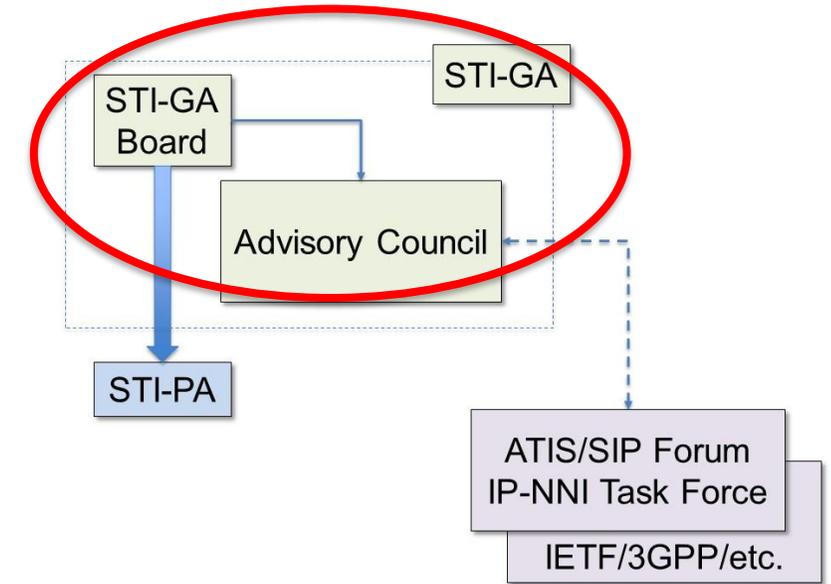
STI GA - Balancing Stakeholder Interests

7. Early operational experience

– Gain experience with certificate management and governance during early SHAKEN deployment.

- **STI Governance Authority:**

  – Launch STI-GA during early SHAKEN deployment phase; and

  – Establish and validate certificate management processes to ensure effective operation as SHAKEN deployment accelerates.
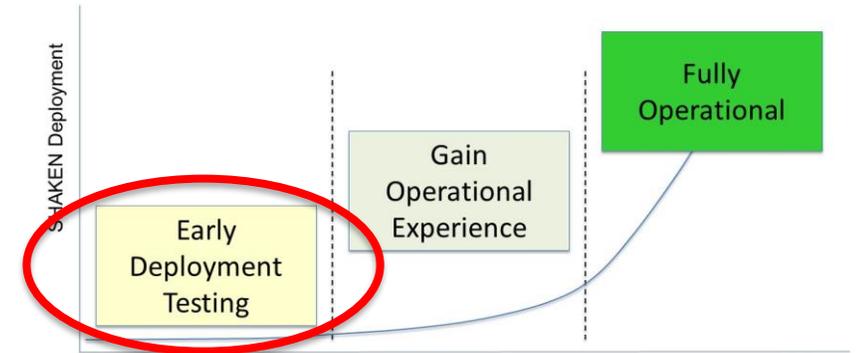
ATIS' Proposed SHAKEN Governance Roll-Out

Operate and Evolve STI-GA:
- Enhance functionality
- Identify & correct certificate misuse
Fully operational phase

2019

Launch STI-GA:
- Operationalize certificate management
- Validate service provider "token" process
Gain operational experience

1Q2018

Define Governance Structure:
- Roles
- Responsibilities
Ready for Pre-Deployment

Now

SHAKEN Governance Rollout

Pre-Deployment

- "Consenting service providers" agree to trust each other's SHAKEN certificates:
  - This could start anytime after the first equipment is installed.
  - Security would not be a major issue at this stage, since it would involve a very small number of major service providers and verification results would not be used.
  - Objective in this phase is to confirm SHAKEN works correctly in an actual network context.
    - Verification information should **<u>not</u>** be displayed to the end user.
    - Analytics would use verification information strictly to gain operational experience and entirely at their own risk.

SHAKEN Governance Rollout

Operational Experience

- STI-GA begins certificate management, potentially with a "manual process:"
  - Establish STI-GA authority and prepare for formal launch; and
  - Gain "operational experience" with certificate management during equipment roll out.

- Initial certificate management process could be as simple as:
  - Select two STI-CAs for an initial time period (e.g., till the end of 2018);
  - Advise all participating service providers of approved STI-CAs;
  - When service providers want to participate, manually confirm OCN and approve participation; and
  - Authorize the service provider to obtain STI-Certificates, either by (manually) giving them a Service Provider Code token, or by (again, manually) advising the STI-CAs.

SHAKEN Governance Rollout

<u>Operational</u>

- Once the STI-PA has been selected, transition to the long-term automated process

- Move beyond the initial phase focused on gaining operational experience

- Analytics can begin using SHAKEN verification results

- Service providers can display verification results to end users

- Security and control become critical

- Initial deployment prepares for widescale deployment supported by a fully automated and scalable processes

Conclusion/Next Steps

- ATIS' work to address robocall issues continues:
  - Develop enhancements to technical specifications;
  - Further detail the SHAKEN Governance Structure.

- ATIS continues to work toward launching the industry led STI-GA in Q1 2018.
  - ATIS believes that it is important that the STI-GA gain early operational experience to validate processes prior to volume deployment.

- ATIS is well-positioned to serve as the STI-GA.

Questions?

Jim McEachern
Senior Technology Consultant, ATIS
jmceachern@atis.org

Susan Miller
President & CEO, ATIS
smiller@atis.org

Tom Goode
General Counsel, ATIS
tgoode@atis.org