**ATIS-10000XX**

ATIS Standard on

**Robo-Metrics**

**Alliance for Telecommunications Industry Solutions**

Approved Month DD, YYYY

**Abstract**

This standard defines how extension to the IETF PASSporT and the associated STIR mechanisms are used to sign the Session Initiation Protocol Resource Priority Header (SIP RPH) header field and convey assertions of authorization for Resource-Priority. This standard provides a procedure for providing cryptographic authentication and verification of the information in the Session Initiation Protocol Resource Priority Header (SIP RPH) field in Internet Protocol (IP)-based service provider communication networks in support of National Security / Emergency Preparedness Next Generation Priority Services (NS/EP NGN-PS).Specifically, this standard provides a mechanism for a originating NS/EP NGN-PS Service Provider to cryptographically-sign the SIP RPH and allow a receiving NS/EP NGN-PS Service Provider to verify the validity of the authorization for Resource-Priority and act on the information with confidence (i.e., verifying that the RPH information have not been spoofed or compromised).

**Foreword**

The Alliance for Telecommunications Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The [**COMMITTEE NAME**] Committee [**INSERT MISSION**]. [**INSERT SCOPE**].

The mandatory requirements are designated by the word *shall* and recommendations by the word *should*. Where both a mandatory requirement and a recommendation are specified for the same criterion, the recommendation represents a goal currently identifiable as having distinct compatibility or performance advantages. The word *may* denotes a optional capability that could augment the standard. The standard is fully functional without the incorporation of this optional capability.

Suggestions for improvement of this document are welcome. They should be sent to the Alliance for Telecommunications Industry Solutions, [**COMMITTEE NAME**], 1200 G Street NW, Suite 500, Washington, DC 20005.

At the time of consensus on this document, [**COMMITTEE NAME**], which was responsible for its development, had the following leadership:

[**LEADERSHIP LIST**]

The **[SUBCOMMITTEE NAME]** Subcommittee was responsible for the development of this document.

**Revision History**

| **Date** | **Version** | **Description** | **Author** |
| --- | --- | --- | --- |
|  |  |  |  |

# Table of Contents

[**ATIS-10000XX** i](#_Toc512851749)

[ATIS Standard on i](#_Toc512851750)

[**Robo-Metrics** i](#_Toc512851751)

[**Alliance for Telecommunications Industry Solutions** i](#_Toc512851752)

[**Abstract** i](#_Toc512851753)

[Table of Contents iii](#_Toc512851754)

[Table of Figures iii](#_Toc512851755)

[1 Scope & Purpose 1](#_Toc512851756)

[1.1 Scope 1](#_Toc512851757)

[1.2 Purpose 1](#_Toc512851758)

[1.3 General Assumptions 1](#_Toc512851759)

[2 Normative References 1](#_Toc512851760)

[3 Definitions, Acronyms, & Abbreviations 1](#_Toc512851761)

[3.1 Definitions 2](#_Toc512851762)

[3.2 Acronyms & Abbreviations 2](#_Toc512851763)

[4 Overview 3](#_Toc512851764)

[4.1 Pre-deployment Planning 3](#_Toc512851765)

[4.2 Establish Network Deployment Roadmap 3](#_Toc512851766)

[4.3 Vendor Commitment 3](#_Toc512851767)

[4.4 Lab Testing 3](#_Toc512851768)

[4.5 Inter-Carrier Lab Trials 3](#_Toc512851769)

[4.6 Certificate Infrastructure 3](#_Toc512851770)

[4.6.1 Pre-Establishment of GA/PA 3](#_Toc512851771)

[4.6.2 Post-Establishment of GA/PA 3](#_Toc512851772)

[4.6.3 Transition? 3](#_Toc512851773)

[4.7 FFA 3](#_Toc512851774)

[4.8 4](#_Toc512851775)

[5 Summary 4](#_Toc512851776)

# Table of Figures

**No table of figures entries found.**

# Scope & Purpose

## Scope

## Purpose

## General Assumptions

The following general assumptions are made in this standard:

1. The

# Normative References

The following standards contain provisions which, through reference in this text, constitute provisions of this ATIS Standard. At the time of publication, the editions indicated were valid. All standards are subject to revision, and parties to agreements based on this Standard are encouraged to investigate the possibility of applying the most recent editions of the standards indicated below.

Editor’s Note: the draft RFCs below will be changed to the normative RFC numbers when available from IETF.

[ATIS-1000074], *ATIS Standard on Signature-based Handling of Asserted information using toKENs (SHAKEN).*

[draft-ietf-stir-passport], *Persona Assertion Token.*[[1]](#footnote-1)

[draft-ietf-stir-rfc4474bis], *Authenticated Identity Management in the Session Initiation Protocol.*1

[draft-ietf-stir-rph], PASSporT Extension for Resource-Priority Authorization. 1

[IETF RFC 3325], *Private Extensions to SIP for Asserted Identity within Trusted Networks.*1

[IETF RFC 3261], *SIP: Session Initiation Protocol.*1

[IETF RFC 5280], *Internet X.509 Public Key Infrastructure Certificate and Certificate Revocation List (CRL) Profile.*1

[IETF RFC 3326], *The Reason Header Field for the Session Initiation Protocol (SIP).*1

[IETF RFC 4412], *Communications Resource Priority for the Session Initiation Protocol (SIP).* 1

# Definitions, Acronyms, & Abbreviations

For a list of common communications terms and definitions, please visit the *ATIS Telecom Glossary*, which is located at < <http://www.atis.org/glossary> >.

## Definitions

**NS/EP NGN Priority Services (NS/EP NGN-PS)** [ATIS-1000057] are the evolution of legacy GETS and WPS to achieve service continuity in the packet-switched NGN, and to leverage the NGN to offer new features and priority multimedia services.

Note: NS/EP NGN-PS and NS/EP NGN-GETS are used interchangeable in ATIS standards.

## Acronyms & Abbreviations

|  |  |
| --- | --- |
| 3GPP | 3rd Generation Partnership Project |
| ATIS | Alliance for Telecommunications Industry Solutions |
| B2BUA | Back-to-Back User Agent |
| CRL | Certificate Revocation List |
| CSCF | Call Session Control Function |
| CVT | Call Validation Treatment |
| HTTPS | Hypertext Transfer Protocol Secure |
| IBCF | Interconnection Border Control Function |
| IETF | Internet Engineering Task Force |
| IMS | IP Multimedia Subsystem |
| IP | Internet Protocol |
| JSON | JavaScript Object Notation |
| JWS | JSON Web Signature |
| NNI | Network-to-Network Interface |
| OCSP | Online Certificate Status Protocol |
| PASSporT | Persona Assertion Token |
| PBX | Private Branch Exchange |
| PKI | Public Key Infrastructure |
| SHAKEN | Signature-based Handling of Asserted information using toKENs |
| SIP | Session Initiation Protocol |
| SKS | Secure Key Store |
| SPID | Service Provider Identifier |
| STI | Secure Telephone Identity |
| STI-AS | Secure Telephone Identity Authentication Service |
| STI-CA | Secure Telephone Identity Certification Authority |
| STI-CR | Secure Telephone Identity Certificate Repository |
| STI-VS | Secure Telephone Identity Verification Service |
| STIR | Secure Telephone Identity Revisited |
| TLS | Transport Layer Security |
| TN | Telephone Number |
| TrGW | Transition Gateway |
| UA | User Agent |
| URI | Uniform Resource Identifier |
| UUID | Universally Unique Identifier |
| VoIP | Voice over Internet Protocol |

# Overview

## Pre-deployment Planning

## Establish Network Deployment Roadmap

## Vendor Commitment

## Lab Testing

## Inter-Carrier Lab Trials

## Certificate Infrastructure

### Pre-Establishment of GA/PA

### Post-Establishment of GA/PA

* This would provide metrics to track carriers with certificate management infrastructure in place, including:
  + Register with STI-PA
  + Obtain SPC token
  + Register with STI-CA
  + Obtain initial STI certificate
  + Secure Key store in place
* This would be a binary metric. Once a carrier completes all of the above steps, they pass.  This could be used to develop the following industry metrics:
  + Number of carriers with certificate management infrastructure in place
  + Number of SIP lines served by carriers with certificate management infrastructure in place

### Transition?

## FFA

**Deployment:**

* This would track carriers that have started deployment of full/partial attestation. It would track:
  + STI-AS and STI-VS deployed
  + CSCF upgraded to support SHAKEN
* Specific metrics could include:
  + Number of carriers that have started deployment
  + Total SIP lines for each carrier that has started deployment (this gives an indication of the coverage once that carrier has completed deployment, so it should provide an indication of near-term potential)
  + Number of SIP lines that have complete deployment of SHAKEN (STI-AS and STI-VS) for each carrier that has started deployment. This tracks actual network coverage.
* GW attestation tracking: For each carrier, track:
  + Number of TDM/SIP GWs with attestation and full support of Orig ID
  + Number of SIP international GWs with attestation and full support of Orig ID
  + Possibly require that both of the above include the % of their total GWs with SHAKEN
  + This could be aggregated into an industry total

**Usage- Authentication:**

* Once SHAKEN  is deployed, it may be appropriate (at least initially) to track usage, which could include the following:
  + Calls with full attestation
  + Calls with partial attestation
  + Calls with GW attestation
* For each carrier it may be appropriate (again, at least initially) to track the number of calls in each category and the percent of calls that could have been signed.
* This will provide an indication of actual usage of SHAKEN within individual carriers and within the industry overall

**Usage – Verification:**

* Once SHAKEN  is deployed, it may be appropriate (at least initially) to track how much SHAKEN is being used by other carriers, which could include the following:
  + Incoming calls with full attestation that were processed by STI-VS
  + Incoming calls with partial attestation that were processed by STI-VS
  + Incoming calls with GW attestation that were processed by STI-VS
* For each carrier it may be appropriate (again, at least initially) to track the number of calls in each category and the percent of calls that could have been signed.
* It may also be appropriate to track the verification infrastructure, including:
  + Availability of interfaces from the STI-VS to CVT (including 3rd party)
  + Ability to present “verstat” to UA
  + Actual presentation of “verstat” to UA
* For each of the above, could potentially track number and percent of calls.
* This will track progress by individual carriers and by the overall industry.

## 

# Summary

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Available from the Internet Engineering Task Force (IETF) at: < <https://www.ietf.org/> >. [↑](#footnote-ref-1)