ATIS-I-0000084

ATIS Technical Report on

ATIS-I-0000084: Enterprise Identity Distributed Ledger Network

Providing Enterprise and Telephone Number Allocation Authentication for Originating Service Provider SHAKEN Attestation

Alliance for Telecommunications Industry Solutions

Approved July 15th, 2021

Abstract

Consumers worldwide have been inundated with illegal robocalls and other unwanted calls to the point that by some estimates, a large percentage no longer answer their phones. This makes it difficult for legitimate businesses to reach consumers in a timely manner with important information, alerts and reminders. Those businesses also bear the expense of follow-up calls and other outreach. Meanwhile, service providers bear costs such as fielding customer complaints and investigating sources of fraudulent traffic.

This Technical Report describes a specification that extends the capabilities of SHAKEN to provide the ecosystem with new options for mitigating illegal robocalls. In addition, it features a distributed ledger infrastructure called the enterprise identity network.

The specification enables an enterprise to establish enterprise identity credentials by applying distributed ledger technology and its cryptographic principles. The enterprise then can place calls signed with its enterprise identity credentials, enabling any originating service provider (OSP) receiving the call to authenticate the enterprise identity of the calling enterprise. When the OSP can authenticate the calling enterprise identity and the originating TN is authorized for use, the OSP can apply SHAKEN A-level attestation to the call.

Foreword

As a leading technology and solutions development organization, the Alliance for Telecommunications Industry Solutions (ATIS) brings together the top global ICT companies to advance the industry's most pressing business priorities. ATIS' nearly 200 member companies are currently working to address the all-internet protocol (IP) transition, 5G, network functions virtualization, big data analytics, cloud services, device solutions, emergency services, M2M, cyber security, network evolution, quality of service, billing support, operations, and much more. These priorities follow a fast-track development lifecycle — from design and innovation through standards, specifications, requirements, business use cases, software toolkits, open-source solutions, and interoperability testing.

ATIS is accredited by the American National Standards Institute (ANSI). The organization is the North American Organizational Partner for the 3rd Generation Partnership Project (3GPP), a founding partner of the oneM2M global initiative, a member of and major U.S. contributor to the International Telecommunication Union (ITU), as well as a member of the Inter-American Telecommunication Commission (CITEL). For more information, visit www.atis.org.

The Alliance for Telecommunications Industry Solutions (ATIS) serves the public through improved understanding between carriers, customers, and manufacturers. The ATIS DLT Focus Group was initiated to validate key aspects of DLT as it applies to real-world challenges facing today's communications industry. From a number of potential use cases, one was selected for a more in-depth analysis and proof of concept. The Enterprise Identity Network use case addresses current challenges differentiating robocalls from legitimate calls placed by enterprises.

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

Table of Contents

Table of Figures