



Ribbon Call Trust[®]

Enabling TDM with an Identity Assurance Solution



Many US and Canadian service providers that still deliver voice and voice interconnect services based on TDM networks, rather than SIP-based IP. A migration from TDM to IP may be desirable, but for many, it is not economically practical, or just not planned at this time. For these service providers, full participation in industry advancements to detect and mitigate robocalls and fraud may be limited or not possible at all.

Authentication and Verification of Caller ID Using STIR/SHAKEN

Network interconnection for many smaller or rural service providers still occurs over TDM, which means these service providers and their customers will not be able to take advantage of STIR/SHAKEN to validate Caller ID to reduce call spoofing and potential nuisance calls. Finding solutions that integrate TDM with STIR/SHAKEN is an important step to bring the benefits of authentication and verification of caller identity to a broader base of service providers. While there are some proposed solutions that enable interworking of TDM networks, there are still no formal, agreed-to industry standards to make this happen. However, there is ongoing work between the Alliance of Telecommunications Industry Solutions (ATIS) and the SIP Forum to address this important issue. As a working member of both bodies, Ribbon is committed to finding a solution to making this happen as it directly affects many of our customers.

Because interworking of TDM with STIR/SHAKEN may still be a ways off, it is important to look at alternatives for interworking TDM and analytics-based Identity Assurance solutions that can detect and mitigate robocalls and fraud.

Identity Assurance with Ribbon

Even with STIR/SHAKEN, it is possible to have legitimate numbers that are spoofed, or calls with a valid identity made with malicious intent. To address caller **intent** and **reputation**, service providers really need an identity assurance solution.

Ribbon Call Trust is an identity assurance solution, designed to assist our customers with the detection and mitigation of robocalls or fraud attacks, and to provide the best possible call validation treatment for each and every call.

At the core of Ribbon Call Trust is Ribbon Identity Hub, a cloud-native Software as a Service platform for Ribbon's identity assurance managed services. One of Ribbon's identity assurance services is Reputation Scoring, providing multi-dimensional real-time reputation scoring and call validation treatment, so each call can be optimally terminated. Optimal call termination means many things and is specific to each call, ranging from normal routing to the called party to outright blocking the call, with many other options in-between.

Enabling TDM with Ribbon Call Trust

Ribbon's Reputation Scoring service is architected to ensure the benefits of knowing caller intent and reputation are available to any service provider, even if they are using a TDM network infrastructure. Integrating TDM is based on the principal of re-using widely deployed technology, leveraging Advanced Intelligent Network (AIN) triggers on call termination which are widely available on currently deployed TDM switches.

The basic procedural steps are as follows, based on Figure 1 below:

- An incoming call terminates on a TDM switch
- Prior to completing the call, the terminating switch utilizing AIN triggers to send a TCAP query, via SIGTRAN, to a Signaling Gateway.
- The Signaling Gateway makes a REST API call requesting and receiving reputation scores and call validation treatment.
- The Signaling Gateway sends back a response to the terminating TDM switch, indicating call treatment and the call is completed accordingly

For many network operators, enabling TDM integration can be done with no additional investment in SS7 or AIN and with minimal to zero investment if they already have a Signaling Gateway in their network.

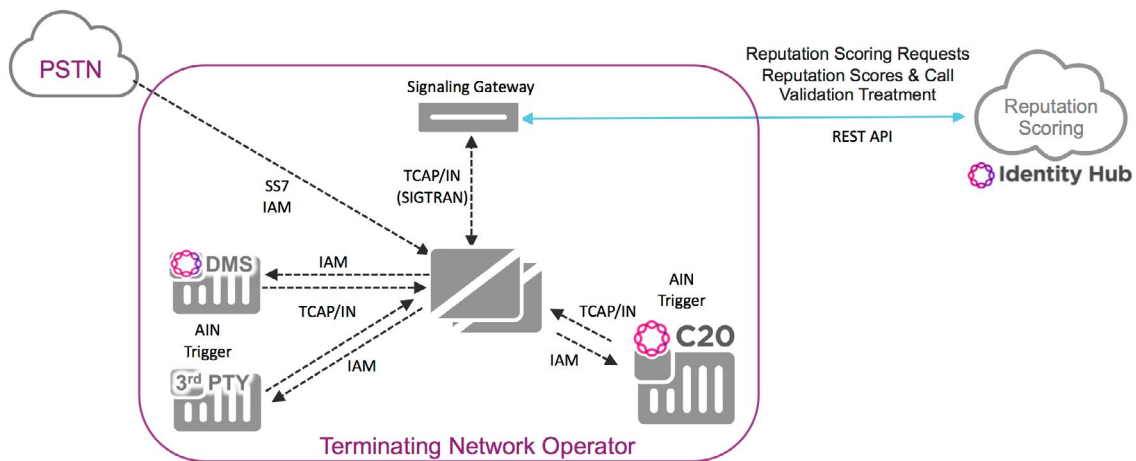



Figure 1 – Enabling TDM with Ribbon Identity Hub

To enable TDM interworking with Reputation Scoring service, Ribbon is currently partnering with Innovative Systems and have fully qualified solution using their APMAX VoIP Services platform as the Signaling Gateway. We believe it is imperative that any service provider be able to take advantage of the benefits of an Identity Assurance solution to dramatically increase the likelihood of achieving the end goal - deliver calls to subscribers so they properly accept the ones they want yet are not subjected to fraud and nuisance calls.

Turning the tide away from ignoring calls to one where calls are confidently answered is what is needed to restore your customer's trust in the phone.

About Ribbon

Ribbon Communications (Nasdaq: RBBN) delivers communications software, IP and optical networking solutions to service providers, enterprises and critical infrastructure sectors globally. We engage deeply with our customers, helping them modernize their networks for improved competitive positioning and business outcomes in today's smart, always-on and data-hungry world. Our innovative, end-to-end solutions portfolio delivers unparalleled scale, performance, and agility, including core to edge software-centric solutions, cloud-native offers, leading-edge security and analytics tools, along with IP and optical networking solutions for 5G. We maintain a keen focus on our commitments to Environmental, Social and Governance (ESG) matters, offering an annual Sustainability Report to our stakeholders. To learn more about Ribbon visit rbbn.com.

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