

Robocall Mitigation Plan

Tata Communications International Pte. Ltd.

Tata Communications International Pte. Ltd. (“TC Singapore”), together with its global affiliates, provides international voice services to wholesale and enterprise customers around the world. Fraud prevention is an integral service provided to TC Singapore’s wholesale and enterprise customers.

The TC companies worldwide:

- Block more than 6 million fraud call attempts per month.
- Conduct more than 4 million tests on CLI delivery, echo, latency and proper release code reception for quality and fraud prevention.
- Have disconnected more than 200 wholesale carriers for bad performance and completing fraud traffic.
- Have blocked more than 110,000 number ranges.
- Have prevented over \$800,000,000 of damage to their wholesale and enterprise customers in the past 12 months.

The TC Companies have developed their own in-house fraud detection system, the Intelligent Fraud Management System, available to all customers. The TC Companies can also provide individualized fraud-prevention services to meet the needs of customers.

The Intelligent Fraud Management System (IFMS) identifies potential fraudulent traffic patterns based on a standard set of rules. The IFMS triggers alerts that are analyzed and validated 24/7/365 by the fraud prevention team. At the customer termination level, traffic trends are analyzed daily for suspicious surges in traffic volumes. These include unusual volumes to high-priced termination destinations and unexpected one-ring traffic volumes that induce unsuspecting customers to return high-cost international calls. Customized alarm parameters can be set by customers to provide the level of vigilance desired. Such parameters include failed attempts, average call duration, and suspicious call volume from specific origination numbers. Customers can set alarms based on aggregate minutes or terminating cost.

The TC Companies also provide a Dialer Detector that identifies machine-generated fraudulent calls before they materialize into costly minutes. The Dialer Detector is specifically designed to detect and identify robocalling. We monitor traffic that has a display CLI that is different than the country of origin, and then analyze further by number of call attempts and average call duration as compared to standard call parameters. Deviations trigger alerts for further investigation. We have clear communications pathways with our TIER1 partners and can quickly coordinate review and blocking requests. We keep track of carriers that repeatedly send problematic traffic and will block them if they do not implement their own robocall mitigation programs.

The Tata Communications Fraud Prevention programs have been recognized repeatedly:

- Carriers World Award 2019: Winner: Best Security Initiative
- Global Telecoms (GLOTEL) 2019: Shortlisted: Security Solution of the Year
- Global Data Report 2019: Recognized: Leader in Wholesale Antifraud
- Global Carrier Awards 2019: Shortlisted: Best Anti-Fraud Innovation

Accordingly, the TC Companies have taken reasonable and effective steps to ensure that any foreign originating provider or foreign intermediate provider from which they directly receive traffic is not using the TC Companies to carry or process a high volume of illegal traffic onto the US network. The TC Companies' standard agreement with foreign originating and foreign intermediate providers requires compliance with all FCC regulations, expressly including 47 CFR § 64.1200, and permits suspension and termination of service for any violations. Moreover, the onboarding process for both customers and suppliers requires both detailed information about the customer and thorough descriptions of the intended use of voice services, including call destinations and other elements of the traffic profile.

Primary implementation of STIR/SHAKEN has been conducted by TC Singapore's affiliate TC America. TC America has adopted a two-pronged approach to implementation of STIR/SHAKEN. First, TC America has outsourced STIR/SHAKEN certification and validation of a segment of its US interstate traffic to interconnected third-party vendors. Second, TC America has deployed STIR/SHAKEN in its network to add STIR/SHAKEN attestation to its international gateway provider traffic and its interstate intermediate provider traffic.

Accordingly, TC Singapore certifies that (1) all calls that originate on its network are subject to a robocall mitigation program meeting the FCC requirements; (2) any prior certification has not been removed by Commission action; (3) it has not been prohibited from filing in the Robocall Mitigation Database; and (4) it has partially implemented STIR/SHAKEN on the IP portions of its network.

TC Singapore commits to respond fully and within 24 hours to all traceback requests from the Commission, law enforcement, and the industry traceback consortium, and to cooperate with such entities in investigating and stopping any illegal robocallers that use its service to carry or process calls.

Appendix A

Tata Communications Affiliates

Buc Mobile, Inc.
Campaign Registry, Inc. (Canada)
Campaign Registry, Inc. (USA)
Commotion Inc.
Commotion Software Solutions India Pvt Ltd
ITXC IP Holdings S.a r.l.
Kaleyra Africa Ltd
Kaleyra Dominicana SRL
Kaleyra S.P.A.
Kaleyra UK Ltd.
Kaleyra US Inc.
Kaleyra, Inc.
mGAGE ATHENS PC
Novamesh Limited
Oasis Smart E-Sim Pte. Ltd.
Oasis Smart SIM Europe SAS
Sepco Communications (Pty) Limited
Solutions Infini FZ-LLC
Solutions Infini Technologies (India) Private Limited
Tata Communications (America) Inc.
Tata Communications (Australia) Pty Ltd.
Tata Communications (Beijing) Technology Limited
Tata Communications (Belgium) SRL
Tata Communications (Brazil) Participacoes Limitada
Tata Communications (Canada) Ltd.
Tata Communications (France) SAS
Tata Communications (Guam) L.L.C.
Tata Communications (Hong Kong) Limited

Tata Communications (Hungary) Kft
Tata Communications (Ireland) D.A.C.
Tata Communications (Italy) S.R.L
Tata Communications (Japan) K.K.
Tata Communications (Malaysia) SDN. BHD.
Tata Communications (Middle East) FZ LLC
Tata Communications (Netherlands) B.V.
Tata Communications (New Zealand) Limited
Tata Communications (Nordic) AS
Tata Communications (Poland) SP Z.o.o.
Tata Communications (Portugal) Instalacao E Manutencao De Redes, Lda
Tata Communications (Portugal) Unipessoal Lda
Tata Communications (Russia) L.L.C.
Tata Communications (Spain), S.L.
Tata Communications (Sweden) AB
Tata Communications (Switzerland) GmbH
Tata Communications (Taiwan) Ltd.
Tata Communications (Thailand) Limited
Tata Communications (UK) Limited
Tata Communications Collaboration Services Private Limited
Tata Communications Comunicações E Multimídia (Brazil) Limitada
Tata Communications Deutschland GmbH
Tata Communications International Pte. Ltd.
Tata Communications Lanka Limited
Tata Communications Middle East Technology Services L.L.C
Tata Communications Services (International) Pte. Ltd.
Tata Communications South Korea Limited
Tata Communications SVCS Pte Ltd.
Tata Communications Transformation Services (Hungary) KFT
Tata Communications Transformation Services (US) Inc.

Tata Communications Transformation Services Limited

Tata Communications Transformation Services Pte. Ltd.

Tata Communications Transformation Services South Africa (Pty) Ltd.

TC (Shanghai) Network Services Company Limited

TC Networks Switzerland SA

TCPoP Communication GmbH

TCTS Senegal Limited

The Switch Enterprises LLC

VSNL SNOSPV Pte. Ltd.