



**TCI Telecommunications Commission  
Request for Quotation  
Public Notice 2020-3**

VoIP Traffic Survey in Turks And Caicos Islands

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# 1 Introduction

The digital revolution is changing the way people communicate, but policy and legislation are not keeping pace with the changing environment. The effect that these changes are having on the telecommunications sector include:

- decline in telecommunication revenues and Universal Service Fund contributions;
- large scale fraud such as SIM Banks, bypass traffic resulting in losses of millions of dollars to legitimate operators;
- impact of illegal providers operating without paying license fees;
- massive growth in use of OTT services (WhatsApp, Skype, WeChat, etc.);
- increase in Botnets, viruses, hacking, scams, fake news, denial of service; and
- threats to National Security and law enforcement.

If no action is taken, the majority of international calls will be handled by a few very large (mainly US-based) services like WhatsApp, Skype and Viber and revenues will continue to decline. Changes in policy and legislation are needed but these can only be effective if they are based on fact rather than guesswork. A starting point to gather factual data is a survey of communication traffic on operators' networks. This will show the scale of the problem (how much VoIP/OTT traffic; how much revenue is being lost) and it will help to identify fraud mechanisms.

## 2 Purpose

The purpose of the project is to conduct a survey of international VoIP traffic entering and leaving Turks and Caicos in order that revenue recovery options can be identified, and future revenues can be predicted for different policies and legislation changes through what-if analysis. Without such traffic information, it will be difficult to identify meaningful policy options and even harder to quantify their effects.

## 3 Benefits

The benefits of conducting a traffic survey are:

- It will identify the amount of VoIP/OTT traffic entering/leaving Turks and Caicos
  - allows Regulator, Government Ministries and carriers to assess how much revenue is being lost; and
  - informs policymaking with regard to OTTs.
- It will identify the amount and nature of telecommunications fraud
  - Carriers can take remedial action by blocking illegal/unlicensed services.
  - Regulator can prosecute illegal operators and shut down SIM banks.
  - Carriers benefit from reduction of fraud.
- It will produce a traffic forecast for the next 5 years based on measured data
  - allows estimates of future revenues, and
  - help Ministries (Communications, Finance) assess impact of new policies and legislation (what-if analysis).

## 4 Project Activities

### 4.1 Overview

The project will consist of conducting a survey of international traffic entering and leaving Turks and Caicos on both Digicel and Flow networks using passive monitoring equipment. The Contractor will install a Traffic Survey Unit (TSU) and will connect passive optical bypass units (OBP) on the links to/from the operators' International Gateways. Data collected by the OBP will be transferred to a central processing facility for processing and the production of a detailed traffic report.

### 4.2 Project Phases

The project will be conducted in three phases:

- Phase 1 – Pre-survey tasks: Preparation for survey activities.
- Phase 2 – Survey tasks: Conducting the traffic survey.
- Phase 3 – Post-survey tasks: Processing of data and final report.

### 4.3 Phase 1 – Pre-Survey Tasks

In this phase, the Contractor will carry out the following tasks:

- prepare planning documents for use by all relevant parties, including the TCI Telecommunications Commission (TCITC) and the operators;
- define the hardware environment and specification of network interfaces for the Contractor's sensors;
- procure hardware that is required to meet the specified environment;
- assemble and test the Traffic Survey Unit (TSU); and
- transport all equipment and personnel to Turks & Caicos.

### 4.4 Phase 2 – Survey Tasks

During the survey, the Contractor will carry out the following tasks at various locations in Turks and Caicos:

1. Hold a kick-off meeting with TCITC, followed by a meeting with operators' staff who will be involved in the project. At these meetings the Contractor will:
  - a) describe in detail the planned activities and answer any questions and/or concerns from TCITC and the operators,
  - b) explain how the monitoring equipment will interface to the operators' networks,
  - c) explain how data collected during the survey will be protected in accordance with local laws,
  - d) confirm the operators' sites where the monitoring equipment will be located,
  - e) confirm the dates/times at which equipment will be installed at each of the operators' facilities, and
  - f) agree security procedures for access to the operators' facilities throughout the duration of the survey.
2. Install and test the TSU equipment at assigned locations in Turks and Caicos.
3. Collect data for a period of one week at each operator.
4. At the conclusion of the data collection period, remove all TSU equipment from the operators' facilities.
5. Process the data.

6. Prepare a report of preliminary findings and present this to TCITC staff.

#### 4.5 Phase 3 – Post-Survey Tasks

After the presentation of preliminary findings to TCITC, the Contractor will carry out the following tasks at their own facilities:

1. In-depth processing of the data collected from the traffic survey, including identification of any fraudulent or suspicious activity.
2. Presentation of the final findings, conclusions and recommendations to TCITC.
3. Preparation of a Final Report, which will be delivered to TCITC for review. The purpose of the Final Report is to allow for effective dissemination of the findings to ensure a wide appreciation and acknowledgement of the problems; the proposed solutions; and the need for a rapid response from all stakeholders who have an interest in the Project. The report will be delivered within 4 weeks from the end of the survey and will include:
  - a) the profile of VoIP traffic call minutes by operator, protocol, application and IP address;
  - b) the profile of VoIP traffic measured at each site - based upon a specific duration and traffic loading;
  - c) the estimated call minutes extrapolated over the entire IP network;
  - d) the estimated total loss of revenues to licensed operators;
  - e) the estimated loss of tax / USF fees to TCITC on international VoIP traffic; and
  - f) the forecast of licensed VoIP revenues that could be generated if a full traffic monitoring solution were to be deployed.

## 5 Key Principles

The following paragraphs in this section describe the key principles on which the project is founded, and which must be adhered to in order to guarantee the success of the project.

### 5.1 Data Protection

Protection of traffic data is paramount at all times. The Contractor shall handle data in accordance with principles that would stand up to scrutiny within the governance model. Establishing high quality test data is imperative in order that future performance in managing VoIP fraud and licensed services can be guaranteed.

- a) Data sent for analysis will be held on a secure encrypted server with encrypted upload/download transmission paths.
- b) The Contractor will collect and analyse the data and develop the reports. TCITC will disseminate data in accordance with their governance protocols agreed between relevant stakeholders. Any data disclosure between operators will be handled with sensitivity.
- c) Any future data disclosure into the public domain will be governed by TCITC. Such disclosure may be used, for example, to provide appropriate headline data to support the Turks and Caicos telecommunications strategy.

## 5.2 Confidentiality

Strict confidentiality shall be maintained throughout all phases of the project in order to avoid unnecessary interference with the data collection process and to prevent circumvention of the survey equipment by potentially fraudulent traffic.

## 6 Qualification Requirements

- At least five years' experience in providing telecommunications consultancy or advisory services to regulators and/ or operators;
- Provided policy advisory services to stakeholders in at least three similar island or small population jurisdictions in the past five years – client references will be required; and
- No conflict of interest with TCI operators and any other interested stakeholders.

## 7 Proposal Submission

- The deadline date for submission is **February 5, 2020, at 4:00 PM**;
- All prices tendered must be in United States Dollars (US\$) including all discounts, applicable fees, and charges (TCI taxes and duties do not apply);
- All proposed prices must be valid for at least ninety (90) calendar days from the proposal submission date;
- Tenderers are required to submit a copy of their current Business Licence Certificate in the appropriate class of business; and
- All queries and clarifications regarding this tender shall be submitted via e-mail, and directed to:

Kenva Williams

Acting Director General

Telecommunications Commission

Providenciales

Turks and Caicos Islands

Email: [consultations@tcitelecommission.tc](mailto:consultations@tcitelecommission.tc)

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Please note the Commission reserves the right to accept or reject any tender/ proposal received.