

# **Local Access Charge Bypass in relation to VoIP Services**

Telecommunications Regulatory Affairs Advisory Committee  
21 April 2015

# The Issue

- A Services-based Operator (“SBO”) licensee complained to OFCA that one of its voice over IP (“VoIP”) customers engaged in Local Access Charge (“LAC”) bypass activities by using the Hong Kong telephone numbers 58xx-xxxx.
- The SBO licensee alleged that the customer had provided external telecommunications services (“ETS”) at overseas and made use of the VoIP service (provided by the SBO licensee) to route external calls from its overseas office (a call centre) via the public Internet to the public switched telephone network (“PSTN”) in Hong Kong.
- OFCA would like to seek views from Members on measures to enable VoIP service providers to prevent customers from engaging in LAC bypass activities with use of VoIP services.

# Background

- Since the ETS market was liberalized in 1999, the provision of ETS has been operated under the LAC regime.
- Local network operators are entitled to receive LAC from ETS operators for conveyance of ETS traffic to and from end users.

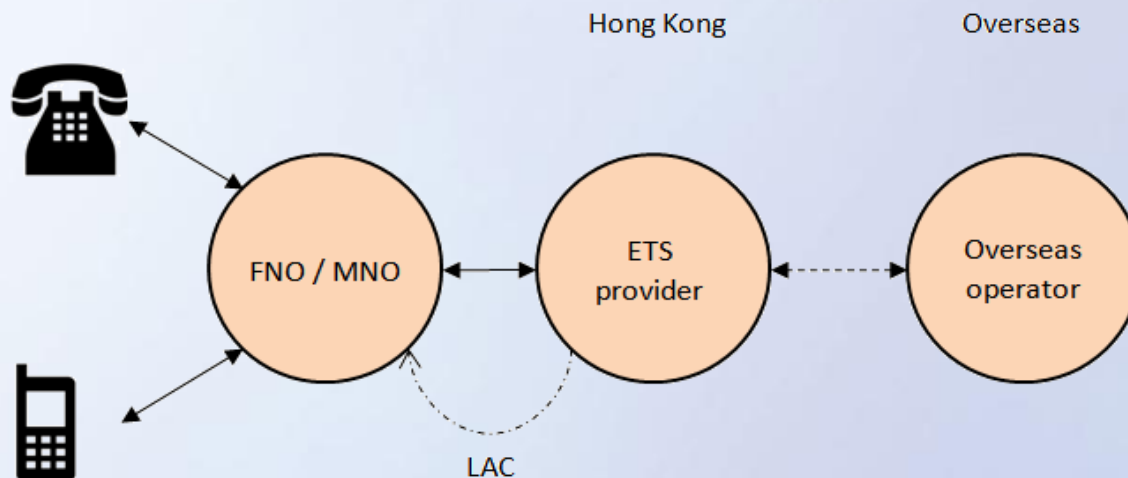


Diagram 1

# VoIP Services

VoIP services may be operated in three modes over the broadband network:

- Mode 1 : The VoIP services are provided by the supplier of the broadband connection to the customer.
- Mode 2 : The VoIP services are provided by VoIP service provider who have direct access to, and interconnection with, the broadband connection under a commercial agreement with the supplier of the broadband connection.
- Mode 3 : The VoIP services are provided by an operator as an application on the Internet which is accessed through any broadband connection of which the supplier has no commercial agreement with the VoIP service provider. The VoIP user may use the service in a nomadic way, i.e. at any location as long as broadband connection is accessible.

# Allowed and Prohibited Scenarios

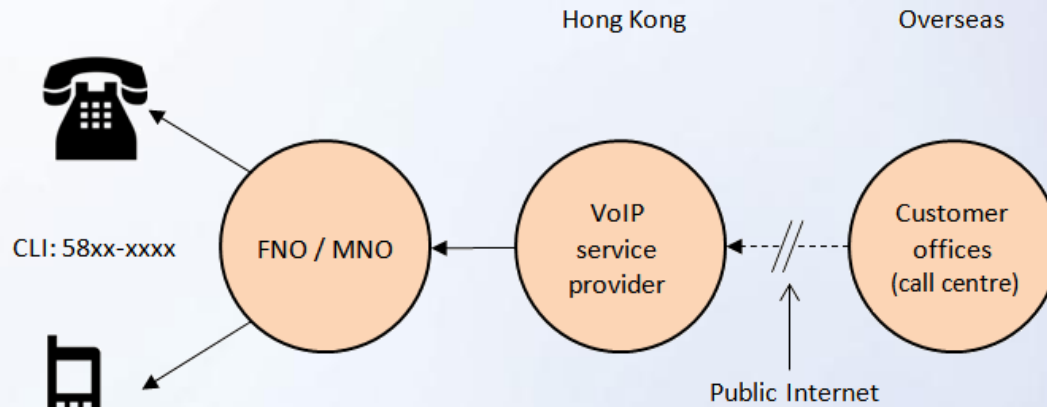


Diagram 2

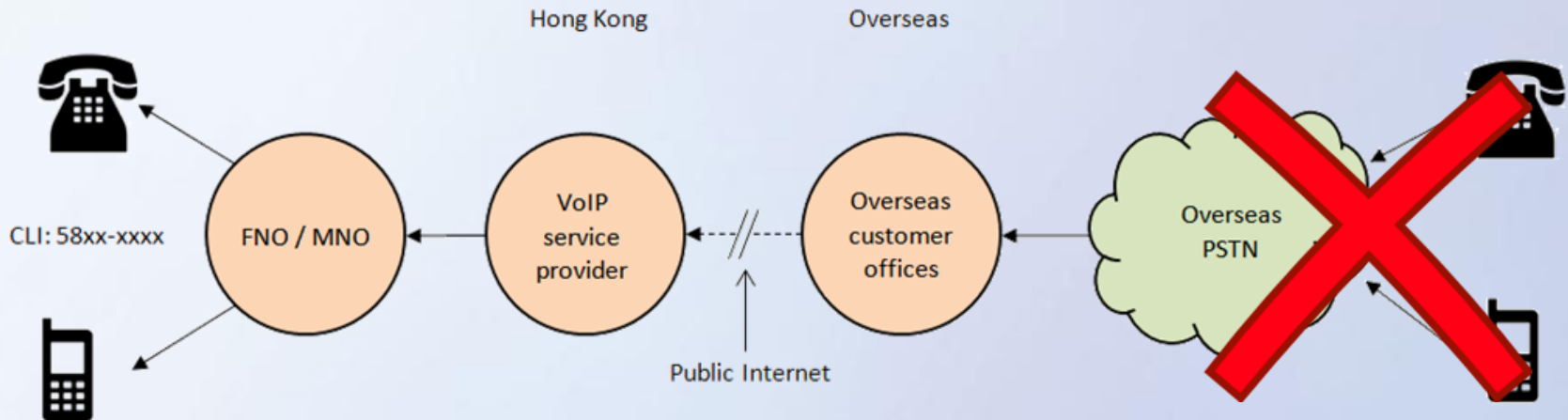


Diagram 3

OFCA will investigate and take appropriate enforcement action against LAC bypass

# Regulatory Regime for VoIP Services

The regime was developed after consultations with the industry and was stated in the following documents:

- the Telecommunications Authority (“TA”) Statement entitled “Regulation of Internet Protocol (IP) Telephony” issued on 20 June 2005 (Para. 35, 49-52);
- the TA Statement entitled “Services-Based Operator Licence” issued on 6 January 2006 (Para. 9-11, 24);
- the “Code of Practice Relating to the Use of Numbers and Codes in the Hong Kong Numbering Plan” (Para. 8(f)); and
- the TA Statement entitled “New Regulatory Regime for Local Access Charge” issued on 23 December 2011 (Para. 65-68).

# Key Underlying Principles of the Regulatory Regime for VoIP Services (1)

- Due to the nomadic nature of VoIP services, users may use the VoIP services at any location as long as a broadband connection is accessible.
- Prohibiting users from using VoIP services at places outside Hong Kong would restrict the users from benefiting from the full capabilities of the new technology, and would not be practicable and enforceable.
- For practical reasons, VoIP traffic communicated between Hong Kong telephone numbers is treated as local calls even though one of the ends is physically located outside Hong Kong.

# Key Underlying Principles of the Regulatory Regime for VoIP Services (2)

- Despite VoIP service may be used by users at overseas, local telephone numbers are allocated to licensed operators in Hong Kong for assignment to their customers to represent local “addresses” or “network terminating points” for communications mainly over the local networks.
- Hong Kong telephone numbers should not be “sold” or passed to overseas operators to enable the overseas operators to assign the numbers to their own customers.
- The VoIP service provider should maintain a direct supplier-customer relationship with the end-users, and be involved in operating or maintaining the VoIP services enjoyed by the end-users assigned with the Hong Kong telephone numbers.



# Statutory Obligations of SBO licensees (1)

- To facilitate enforcement of illegal provision of ETS, the Communications Authority (“CA”) has assigned access codes/calling line identifications (“CLIs”) for the conveyance of ETS traffic to/from the PSTN of Hong Kong are: 15xx, 16xx, and 30(5-9)x.
- The requirements (“Requirements”) are stated in:
  - ◆ The numbering plan for telecommunications services in Hong Kong;
  - ◆ Regulatory Guide for Calling Line Identification Format (HKCA 3101); and
  - ◆ Code of Practice relating to the Use of Numbers and Codes in the Hong Kong Numbering Plan.

# Statutory Obligations of SBO licensees (2)

- Special Condition 2.1 of the SBO licence stipulated that:
  - ◆ *“2.1 The licensee shall conform to a numbering plan made or approved by the Authority and any directions given by the Authority in respect of the numbering plan.”*
  
- Special Condition 7.1 of the SBO licence stipulated that:
  - ◆ *“7.1 For the interconnection between the facilities or services of the licensee and the networks, systems and services of other licensees for the delivery of traffic for the users of the service in Hong Kong, the licensee shall pay such interconnection charges, including, without limitation, local access charge, ... as may be specified by the Authority in the relevant statements and regulatory guides, and/or determined by the Authority from time to time under section 36A of the Ordinance.”*

# Statutory Obligations of SBO licensees (3)

- Special Conditions 8.1 and 8.2 of the SBO licence stipulated that:
  - ◆ *“8.1 The licensee shall conform to any regulatory guide, code of practice or direction issued by the Authority in respect of calling line identification and other calling line identification related services.”*
  - ◆ *“8.2 Without limiting the generality of Special Condition 8.1, the regulatory guide, code of practice or direction issued under that Special Condition may require the licensee to validate the calling line identification against the authenticated customer in order to prevent fraud and spam.”*

# Statutory Obligations of SBO licensees (4)

- For any SBO which contravenes the Requirements and / or the conditions of SBO licences, the CA may impose regulatory sanctions on the licensee, including imposition of financial penalty under section 36C of the TO or suspension of licence.

# Compliance with the Statutory Obligations

- It is therefore the duty of the VoIP service providers to ensure that their operations at all times are in full compliance with the Requirements and their SBO licence conditions.
- ◆ If any misuse of VoIP service is found, the licensee providing the service will have to demonstrate to the CA that it has done its due diligence to comply with the relevant requirements in order to prevent the misuse.
- ◆ Licensees have an obligation to adopt measures to prevent the misuse of VoIP service.

# What VoIP service providers can do to prevent customers from engaging in LAC bypass activities? (1)

- VoIP service providers are advised to adopt the following suggested measures:
  - ◆ As VoIP services have the characteristic that may be used by users in a nomadic manner, licensees should be cautious when providing VoIP services to customers who requests a large quantity of Hong Kong telephone numbers and would likely use the services substantially at overseas.
  - ◆ Licensees for VoIP services should ensure that customers are clear such as by stating in the service contract that VoIP services cannot be used for the provision of ETS from overseas to Hong Kong, i.e. no third-party's traffic from the PSTN at overseas to the PSTN in Hong Kong.

# What VoIP service providers can do to prevent customers from engaging in LAC bypass activities? (2)

- ◆ In providing VoIP services (particularly Mode 3), the licensee may set up a mechanism to closely monitor the situation and ascertain whether the provision of VoIP services to the customer remains appropriate. If found inappropriate, the licensee should stop providing the service to the customer. The licensee should ensure that it has the right to terminate the service pursuant to its contract with the customer.

# Discussion

- Apart from the above measures, are there any other recommended measures which could enable VoIP service providers to prevent customers from engaging in LAC bypass activities with use of VoIP services?
- Members' views and suggestions are kindly sought.



# Thank you