

Consultation Paper No.08/2023



Telecom Regulatory Authority of India

Consultation Paper on Definition of International Traffic

New Delhi, India

2nd May 2023

Mahanagar Doorsanchar Bhawan, Jawahar Lal Nehru Marg, New Delhi – 110 002

Written Comments on the Consultation Paper are invited from stakeholders by 30.05.2023 and counter-comments by 13.06.2023. Comments and counter-comments will be posted on TRAI's website. Comments and counter-comments may be sent, preferably in electronic form, to Shri Akhilesh Kumar Trivedi, Advisor (Networks, Spectrum and Licensing), TRAI, on the email ID: advmn@traigov.in.

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CHAPTER I

INTRODUCTION AND BACKGROUND

A. Introduction

- 1.1 Telecom Regulatory Authority of India (hereinafter, also referred to as, “the Authority”) was established in 1997. The Authority is mandated to regulate the telecommunication services, protect the interests of service providers and consumers of the telecommunication sector, and promote and ensure orderly growth of the telecommunications sector in the country. Safeguarding consumer interests is of paramount importance to the Authority.
- 1.2 India is currently the world’s second-largest telecommunications market. There were 1143.02 million wireless subscribers and 27.73 million wireline subscribers in the country as on 31.01.2023. The last two decades have witnessed a remarkable growth in the telecommunication sector in the country.
- 1.3 Currently, the Government of India follows a regime of Unified License for the provision of telecommunication services. Eligible entities may obtain appropriate authorization(s) under the Unified License from the Government and provide a range of telecommunication services to their customers. These telecommunication services include voice call, messaging, etc.
- 1.4 There has been a lot of advancement in mobile messaging services over the years. A brief description of mobile messaging services is given below:
 - (a) Short Messaging Service (SMS) is one of the most common forms of mobile messaging. SMS is a standard text message sent over a cellular

network. SMS is limited to 160 characters per message and is strictly text-based.

(b) Multimedia Messaging Service (MMS) is sent over a cellular network like SMS, but it has key differences. MMS is a text message accompanied by a media file, like a photo, video, or link. MMS requires more data to send and receive than other types of text messages.

1.5 Apart from the above, there are Instant Messaging (IM) applications which use the internet to send and receive messages. Examples of IM applications are WhatsApp, Facebook Messenger, Instagram, Signal, Line etc. IM is, generally, not limited by character count, but it does require both users to have the same application. IM applications allow users to send and receive videos, photos, links, files, etc. Some IM applications also support Voice-over-IP (VoIP) calling including video calling.

1.6 SMS has several advantages over other forms of messaging/ communicating. It is more discreet than a phone conversation, making it ideal for communicating when one does not want to be overheard. For example, an SMS user can send a message during a meeting, on the bus, or anywhere else simply by typing on the keypad of the phone. It is often less time-consuming to send a text message than to make a phone call or send an e-mail. SMS is also a convenient way for deaf and hearing-impaired people to communicate.

1.7 SMS is a store-and-forward service, meaning that when a subscriber sends a text message, the message does not go directly to the recipient's cell phone. The advantage of this method is that the recipient's cell phone does not have to be active, or in range of telecom network for the subscriber to send a message. The message is stored in the Short Message Service Centre (SMSC) of the telecom service provider, for days, if necessary, until the recipient turns his cell phone on or moves into range, at which point the message is delivered.

1.8 Due to advancement in cellular technology, many communication methods like voice call, email and fax are available to international companies for connecting to consumers and clients across borders. However, international SMS remains the most reliable medium at present. With international SMS, businesses can send text messages outside of their country of origin, connecting to customers around the globe. As both feature phones and smartphones are automatically enabled to receive text messages, the customer base for businesses is nearly limitless. The inherent flexibility of the medium also means that it can be used for multiple purposes, from sending out coupons to one-time passwords (OTPs) to reminders about prescription refills and more.

B. Background

1.9 In the year 2021, TRAI received representations from two entities on the matter relating to treatment of their SMS traffic. While one of the entities requested TRAI to instruct telecom service providers (TSPs) to allow transmission of its SMS traffic under the domestic route, the other entity requested TRAI to provide a clarification to TSPs to route its transactional messages under domestic route as compared to an international route.

1.10 Based on these representations, TRAI, through its letter dated 25.10.2021 on the subject- 'Clarification regarding definition of international messages as per License Agreements', requested Department of Telecommunications (DoT), Government of India to peruse the said requests and investigate whether the messages in question are domestic or international in nature. TRAI also sent a reminder to DoT on this subject through a letter of even number dated 30.12.2021.

C. DoT's reference dated 30.08.2022

1.11 Department of Telecommunications (DoT), through a letter dated 30.08.2022 (**Annexure-1**), has requested TRAI to provide its recommendations under Section 11(1)(a) of TRAI Act, 1997 (as amended) on the Definition of International SMS and Domestic SMS. The relevant extract of the said reference is reproduced below:

"4. Currently, no explicit Domestic and International SMS definition is available in License Agreements. As per TRAI's Telecommunication Interconnection Usage Charges (IUC) Regulations, termination charges on domestic SMS are regulated while termination charges on International SMS are under forbearance. However, the definitions of domestic SMS and International SMS are not provided in TRAI regulations also. Further, as per TRAI's Telecom Commercial Communications Customer Preference Regulations (TCCCPR), 2018, TSPs are required to notify the Code of Practice (COP) for entities and some of the TSPs have defined International SMS under CoPs. Keeping in view the extant licensing framework & TRAI regulations, there is a need to define International SMS and Domestic SMS in the license agreement."

5. In view of the above, TRAI is requested to provide its recommendations under section 11(1)(a) of TRAI Act,1997(as amended) on the definition of International SMS and Domestic SMS."

D. Telecommunication traffic

1.12 The load carried on a telecommunication network is called traffic¹, or more specifically 'telecommunication traffic'. The telecommunication traffic is a 'genus'² comprising several 'species' such as voice call, SMS, etc.

¹ Source: https://www.worldscientific.com/doi/10.1142/9789811200267_0013

² Genus is a general class or division, comprising several species.
Source: <https://thelawdictionary.org/genus/#:~:text=In%20the%20civil%20law.,or%20division%2C%20comprising%20several%20species>

- 1.13 Looking from the standpoint of a country, telecommunication traffic comprises domestic traffic (i.e., traffic within the country), and international traffic. Further, in the Indian context, where the country has been divided into 22 telecom circles/ Metro areas for the purpose of granting licenses/ authorization for access services, domestic traffic comprises intra-circle traffic, and inter-circle traffic.
- 1.14 DoT, through its reference dated 30.08.2022, has expressed that "*there is a need to define International SMS and Domestic SMS in the license agreement.*"
- 1.15 Essentially, international SMS is a type of international traffic. Similarly, domestic SMS is a type of domestic traffic. Though the term 'domestic traffic' has not been defined in the Unified License Agreement, its components viz. 'inter-circle traffic', and 'intra-circle traffic' have been specifically defined through the clause 40 and 41³ of the Annexure-I (Definitions of Terms and expressions) to the Unified License Agreement. As intra-circle traffic, and inter-circle traffic are the only two components of domestic traffic, the term 'domestic traffic' has been defined implicitly in the Unified License. Accordingly, the Authority is of the view that the term 'Domestic SMS', which is a type of 'domestic traffic', requires no specific definition as both the components of domestic traffic (viz. 'inter-circle traffic', and 'intra-circle traffic') are already defined in the Unified License.
- 1.16 The Authority notes that the term 'international traffic' has not been defined in the Unified License. As 'international SMS' is a type of 'international traffic', the Authority is of the view that instead of defining international SMS in the Unified License Agreement, it would be appropriate to define the term 'international

³ Annexure-I (Definitions of Terms and expressions) to the Unified License provides, inter-alia, the following definitions:
"40. *INTER – CIRCLE TRAFFIC means the Long Distance traffic originating in one Telecom Circle/Metro Area and terminating in another Telecom Circle/Metro Area.*
41. *INTRA- CIRCLE TRAFFIC means the traffic originating and terminating within boundaries of the same Telecom Circle/Metro Area.*"

traffic'. In case the term 'international traffic' is also defined in the Unified License, all types of telecommunication traffic, domestic as well as international, would have been defined in the Unified License Agreement.

1.17 Keeping the above in view, the Authority is initiating this Consultation Paper for soliciting comments of stakeholders on the definition of international traffic, for inclusion in the license agreements.

1.18 This consultation paper is divided into three chapters. Chapter-I provides a background of the subject. Chapter II examines the issues related to the definition of international traffic. Chapter III lists the issues for consultation.

CHAPTER II

EXAMINATION OF ISSUES

A. Present Licensing Framework

2.9 As indicated in Chapter-I, currently, the Government of India follows a regime of Unified License for the provision of telecommunication services. Eligible entities may obtain appropriate authorization(s) under the Unified License from the Government and provide a range of telecommunication services to their customers.

(1) Domestic Traffic

2.10 The term 'domestic traffic' has not been explicitly defined in the Unified License. However, the para 40 and 41 of Annexure I (Definition of Terms and expression) of the Unified License provide the following definitions of inter-circle traffic and intra-circle traffic:

"40. INTER-CIRCLE TRAFFIC means the Long-Distance traffic originating in one Telecom Circle/ Metro Area and terminating in another Telecom Circle/ Metro Area."

"41. INTRA-CIRCLE TRAFFIC means the traffic originating and terminating within boundaries of the same Telecom Circle/ Metro Area."

2.11 For granting access service licenses/ authorizations, the country has been divided into 22 telecom circles/ Metro areas⁴. As mentioned in the Chapter-I of this consultation paper, the para 40 and 41 of the Annexure I of the Unified License together define domestic traffic, as domestic traffic could either be intra-circle

⁴ The Licensed Service Area (LSA) for access service authorization under Unified License is Telecom Circle/ Metro area. At present, there are 22 LSAs in the country for the purpose of access service authorization.

(within the same telecom circle/ Metro Area) or inter-circle (between different telecom circles/ Metro Areas).

2.12 The following figure illustrates the case for intra-circle traffic. When a customer of Access Service Provider (ASP)-1 sends traffic to a customer of ASP-2 (both the ASPs belonging to the same LSA), the traffic flows through the Points of Interconnection (POI) between the two ASPs.

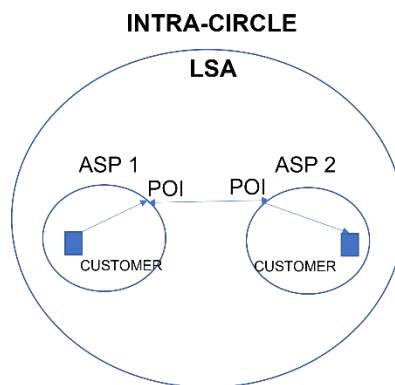


Fig 2.2: Flow of intra-circle traffic⁵

2.13 The following figure illustrates the case for inter-circle traffic. A customer of ASP-1 in LSA-1 sends traffic to a customer of ASP-2 in LSA-2. The traffic is routed from ASP-1 in LSA-1 to a national long- distance operator (NLDO), who, in turn, sends the traffic to the ASP-2 in LSA-2. The ASP-2 terminates the traffic onto the customer.

⁵ Poi: Point of interconnection; ASP: Access service provider

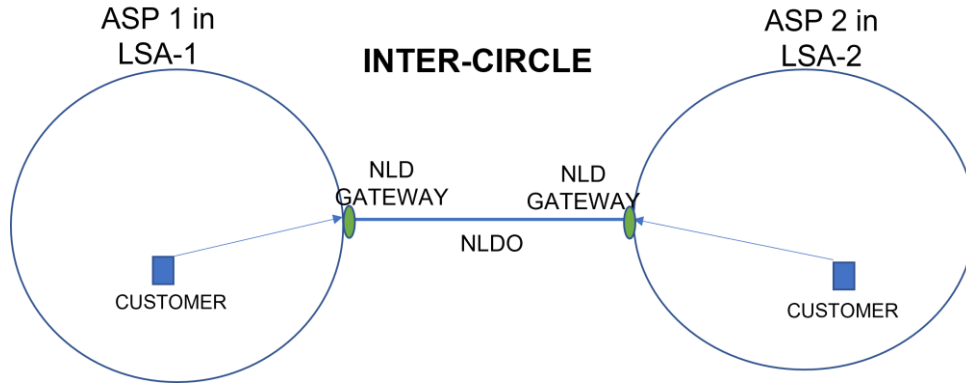


Fig 2.3: Flow of inter-circle traffic⁶

(2) International Traffic

2.14 The Unified License agreement does not provide a definition of international traffic. However, the para 36 and 37 of Annexure I (Definition of Terms and expression) of the Unified License agreement provide the definitions on ILD network and ILD service as below:

"36. INTERNATIONAL LONG-DISTANCE NETWORK means a network of transmission and switching elements connected in a predetermined fashion to provide international bandwidth/ switched bearer interconnection from/ to POP of the ILD Service Provider to/ from the international destination."

"37. INTERNATIONAL LONG-DISTANCE SERVICE means provision of international bandwidth/ switched bearer interconnection over the International Long-Distance Network of the Licensee. Scope of Service provided under the ILD Service Authorization shall be governed by the terms and conditions as provided in Chapter XI."

⁶ NLD: National long distance; LSA: licensed service area

2.15 The para 2 of the Chapter XI (International Long Distance Service) of Unified License provides, *inter-alia*, the scope of International Long Distance (ILD) Authorization as below:

"2. Scope of ILD Service: Scope of this Authorization covers the following:

2.1 The ILD Service Licensee shall have the right to carry switched bearer telecommunication traffic over international long-distance network for providing international connectivity to the Network operated by foreign carriers.

..."

2.16 The para 5 of the Chapter-XI (International Long Distance Service) of the Unified License agreement stipulates, *inter-alia*, the following provisions relating to network Interconnection:

"5. Network Interconnection

5.1 International Long Distance traffic should be routed through network of NLD service providers, to the ILD service providers gateways for onward transmission to international networks. However, the access provider shall not refuse to interconnect with the Licensee directly in situations where POP of ILD service licensee and Switches of Access Provider's (GMSC/ Transit Switch) are located at the same station which is a designated Level -I TAX location.

5.2 Further, the Licensor may direct the Licensee to implement the process whereby the subscribers could have a free choice to make international long distance calls through any Licensee having authorization for access service /NLD Service.

5.3 The licensee who has authorization for International Long Distance, National Long Distance, Access services, may have only one Switch to provide the ILD, NLD and Access services. Separate accounts of all the services are to be maintained by duly apportioning the costs amongst the various services. However, the Access Service through the said Switch may be provided only if the License has the Access Service authorization for the Service Area in which the switch is

located. For this purpose, Media Gateway or its equivalent shall be considered as switch. Separate TAX and Gateway switch is not mandatory.

5.4 While entering into an agreement/arrangement with Foreign Carriers, for provision of end-to-end ILD services including IPLC service, the Licensee shall ensure that the Foreign Carrier does not acquire customers in India and does not raise bills/ collect revenue to/ from any user of the ILD service in India.”

- 2.17 Certain Conditions for routing of international long-distance traffic as given in Chapter-VIII (Access Service) of the Unified License under para 6 (Network Interconnection) are reproduced below:

"6.3 International Long-Distance traffic should be routed through network of NLD service providers, to the ILD service provider's gateways for onward transmission to international networks subject to fulfillment of any Guidelines/ Orders/ Directions/ Regulation issued from time to time by LICENSOR/ TRAI. However, the Licensee shall not refuse to interconnect with the ILD Service licensee directly in situations where POP of ILD service licensee and Switches of Licensee's (GMSC/ Transit Switch) are located at the same station of Level-I TAX.”

- 2.18 The sub clause (iii) of clause 39.23 of chapter VI (Security Conditions) of the Unified License Agreement stipulates as below:

"(iii) For security reasons, domestic traffic of such entities as may be identified/ specified by the Licensor shall not be hauled/ routed to any place outside India. For this purpose, location of satellites serving India for domestic traffic shall not be treated as outside India.”

- 2.19 Figure 2.4 below illustrates the case for international traffic. A customer of a foreign carrier in a foreign country sends traffic to a customer of an ASP in India. The traffic is routed through the ILD Gateway of the ILDO and is handed over through the NLDO to the ASP and onwards to the customer.

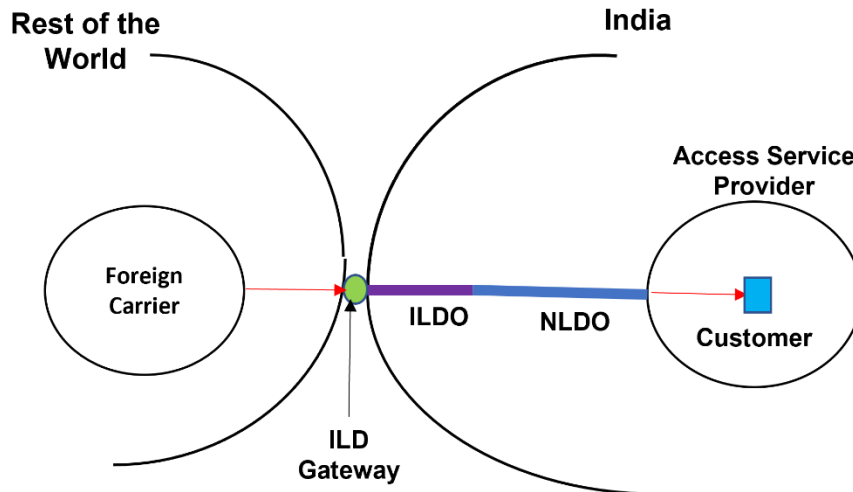


Figure 2.4: Flow of international traffic

2.20 In light of the above discussion, a possible definition of international traffic, which may be included in telecommunication service license agreements, could be as below:

International traffic is the international long-distance traffic originating in one country and terminating in another country, where one of the countries is India.

2.21 In this background, the Authority solicits views of stakeholders on the following questions:

Issues for Consultation

Q1. Whether it would be appropriate to define the term 'international traffic' in the telecommunication service license agreements as 'the international long-distance traffic originating in one country and terminating in another country, where one of the countries is India'? Kindly provide your response with a detailed justification.

- Q2. In case your response to the Q1 is in the negative, kindly provide an alternative definition along with a detailed justification.**
- Q3. Since the terms 'Inter circle traffic' and 'Intra circle traffic' are already defined in the telecommunication service license agreements, whether there is still a need to define the term 'domestic traffic' in the telecommunication service license agreements? If yes, what should be the definition of the term 'domestic traffic'? Kindly provide your response with a detailed justification.**
- Q4. Whether there are any other issues/ suggestions relevant to the subject? If yes, the same may kindly be furnished with proper justification.**

2.22 The following chapter lists the issues for consultation.

CHAPTER III
ISSUES FOR CONSULTATION

Stakeholders are requested to provide responses to the following questions with detailed justifications:

- Q1. Whether it would be appropriate to define the term 'international traffic' in the telecommunication service license agreements as 'the international long-distance traffic originating in one country and terminating in another country, where one of the countries is India'? Kindly provide your response with a detailed justification.**
- Q2. In case your response to the Q1 is in the negative, kindly provide an alternative definition along with a detailed justification.**
- Q3. Since the terms 'Inter circle traffic' and 'Intra circle traffic' are already defined in the telecommunication service license agreements, whether there is still a need to define the term 'domestic traffic' in the telecommunication service license agreements? If yes, what should be the definition of the term 'domestic traffic'? Kindly provide your response with a detailed justification.**
- Q4. Whether there are any other issues/ suggestions relevant to the subject? If yes, the same may kindly be furnished with proper justification.**

F. No.20-405/2013-AS-I
Ministry of Communications
Department of Telecommunications
(Access Service Wing)
20, Ashoka Road, Sanchar Bhawan, New Delhi

Dated the 30th August, 2022

Subject: Issues related to definition of International SMS and Domestic SMS-seeking recommendations of TRAI.

Due to interconnection of PLMN with Internet at different levels like network, devices, application etc. and deployment of the emerging technologies, enterprises use various means for dissemination of information to their customers. In the instant case, telemarketer applications provide an interface between PLMN and Principal Entity (PE) systems, which in turn invariably get connected with internet. Direct or indirect interconnection between PLMN and Internet throw-up policy and regulatory challenges which requires updating the license terms & conditions.

2. TRAI, vide its letters dated M-7/1/16(37)/2021-QcS dated 25.10.2021, and 30.12.2021 has forwarded requests of M/s _____ and M/s _____ to DoT and asked to investigate whether the messages sent by them to their customers are domestic or international in nature.

3. The existing Licensing framework treats domestic & International traffic differently. As per licensing conditions, International traffic should be routed through networks of NLD/ ILD operators as reproduced below:

“6.1 Inter-Circle traffic from one service area to another shall be routed through the network of NLD licensee or the Unified Licensee having authorization of NLD service.

*.....
6.3 International Long Distance traffic should be routed through network of NLD service providers, to the ILD service provider's gateways for onward transmission to international networks subject to fulfilment of any Guidelines/ Orders/ Directions/ Regulation issued from time to time by LICENSOR/ TRAI. However, the Licensee shall not refuse to interconnect with the ILD Service licensee directly in situations where POP of ILD service licensee and Switches of Licensee's (GMSC/ Transit Switch) are located at the same station of Level-I TAX.”*

Further, as per Clause 2.6 (ii) in Access Service authorisation of UL:

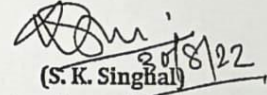
2.6 (ii) Calls from International out-roamers shall be handed over at ILD gateway of Licensed ILDOs and International termination charges shall be paid

to the terminating Access Service providers. Further, calls originated outside the country using Internet telephony shall be routed to ILD gateway like any other International call.

4. Currently, no explicit Domestic and International SMS definition is available in License Agreements. As per TRAI's Telecommunication Interconnection Usage Charges (IUC) Regulations, termination charges on domestic SMS are regulated while termination charges on International SMS are under forbearance. However, the definitions of domestic SMS and International SMS are not provided in TRAI regulations also. Further, as per TRAI's Telecom Commercial Communications Customer Preference Regulations (TCCCPR), 2018, TSPs are required to notify the Code of Practice (CoP) for entities and some of the TSPs have defined International SMS under CoPs. Keeping in view the extant licensing framework & TRAI regulations, there is a need to define International SMS and Domestic SMS in the license agreement.

5. In view of above, TRAI is requested to provide its recommendations under Section 11 (1) (a) of TRAI Act, 1997 (as amended) on the definition of International SMS and Domestic SMS.

6. This is issued with the approval of Hon'ble MoC.


(S. K. Singhal)

Deputy Director General (AS)
Tele No. 23036835

To

The Secretary
Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan,
Jawaharlal Nehru Marg (Old Minto Road), New Delhi – 110002.

LIST OF ACRONYMS

| S. No. | Acronym | Description |
|---------------|----------------|--------------------------------------|
| 1 | ASP | Access Service Provider |
| 2 | DoT | Department of Telecommunications |
| 3 | GMSC | Gateway Mobile Switching Centre |
| 4 | ILD | International Long Distance |
| 5 | ILDO | International Long-Distance Operator |
| 6 | IM | Instant Messaging |
| 7 | IPLC | International Private Leased Circuit |
| 8 | IUC | Interconnect Usage Charge |
| 9 | LSA | Licensed Service Area |
| 10 | MMS | Multimedia Messaging Service |
| 11 | NLD | National Long Distance |
| 12 | OTP | One Time Password |
| 13 | PLMN | Public Land Mobile Network |
| 14 | POP | Point of Presence |
| 15 | SMS | Short Message Service |

| S. No. | Acronym | Description |
|---------------|----------------|---|
| 16 | SMSC | Short Message Service Centre |
| 17 | TCCCPR | Telecom Commercial Communications Customer Preference Regulations |
| 18 | TRAI | Telecom Regulatory Authority of India |
| 19 | TSP | Telecom Service Provider |
| 20 | UL | Unified License |