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Ref No: RP/FY 16-17/062/275
Dated: 5th September 2016

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New Delhi - 110002

Subject: Airtel's Response to TRAI's Consultation Paper on Internet Telephony (VoIP)

Dear Sir,

This is with reference to your above mentioned consultation paper. In this regard, please find enclosed our response for your kind consideration.

Thanking You
Yours Sincerely
for Bharti Airtel Limited

A handwritten signature in blue ink, appearing to read 'Ravi P. Gandhi', is written over a horizontal line.

Ravi P. Gandhi
Chief Regulatory Officer

encl. : as stated above

Bharti Airtel Response to Consultation Paper on Internet Telephony (VOIP)

At the outset, we thank the Hon'ble authority for providing us an opportunity to submit our views in this consultation paper.

In this consultation paper, the authority has recognized that a license under the Indian Telegraph Act is required to provide Internet Telephony. However, many OTT (Over The Top) players are providing Internet Telephony services without any such authorization. This creates huge regulatory arbitrage between the two set of operators - one operating within the ambit of the license conditions and others that are not covered under any regulatory framework. Even DoT Committee on Net Neutrality has taken cognizance of this disparity and accordingly recommended '**Same Service Same Rules**' in its report dated May 2015. Therefore, we believe that any discussion on Internet Telephony without addressing such an important issue will be a halfhearted approach towards finalizing the regulatory framework on Internet Telephony.

In order to have a level playing field and to get more and more investments for the growth of telecommunication, the companies providing same/substitutable services should be subjected to same rules. Therefore, the OTT companies providing communication services should also follow the rules followed by the licensed service providers. Some such requirements are; payment of revenue share to the government, compliance to KYC, security requirements, lawful interception and compliance with various regulations on consumer protection such as Quality of Services, Tariffs, Unsolicited Communication, Metering and Billing etc. The present regulatory arbitrage in favor of the OTT communication players incentivizes and lures companies to be only OTT players and avoid much-needed investments in creation of telecommunication infrastructure.

OTT communication companies, are competing directly with the licensed telecom service providers in the voice service segment, by providing voice services without making any significant investment on infrastructure and just riding over the broadband infrastructure created by the telecom companies. On the contrary, a telecom service provider invests heavily for acquiring spectrum and deployment of network and complying with various regulations such as payment of revenue share to Government and meeting other compliance requirements.

At present, the financial health of the Industry is in dismal condition. The Industry is laden with debt of more than Rs.3.80 lac crores and is required to make additional investments to the tune of Rs. 5 lac crores to meet the vision of Digital India. The Indian telecom sector is also subject to one of the highest taxes and levies in the world. The sector is barely operating on an ROCE of 1%, which is an unsustainable situation. Therefore, while we debate on the issues raised in the present consultation paper, it is also significant to deliberate about who will be the intended beneficiaries and how it will affect the critical investments required in the broadband sector, especially in rural areas.

The importance of addressing the OTT issue and its timing is also reinforced by the fact that this issue is presently being examined in a large part of the world. European Union has indicated its intention of tightening the rules on such OTT companies. We are quite surprised that TRAI instead of addressing the long pending demand of industry on OTT, has raised only the issue of interconnection of internet telephony. We, therefore, propose that this issue warrant a serious deliberation from the perspective of "Same Service Same Rules," before we engage in the issue of interconnection of Internet telephony with PSTN.

The present consultation paper, erroneously assumes Internet Telephony as pure OTT play and deliberates its interconnection with PSTN/PLMN. Therefore, it is important to deliberate the scope of interconnected "Internet Telephony" permitted under various licenses.

While the Unified License with Access Authorization - UL(AS), allows interconnection of internet telephony network with PSTN, but it also envisages provisioning of Internet telephony using licensee's own network. On the other hand, the ISP Licensee/ Unified Licensee (ISP) permits Internet telephony through Public Internet by use of PC/ SIP phones but does not allow interconnection with PSTN/PLMN. Therefore, the basic assumptions in the consultation paper are not supported by the present license conditions.

Assuming that TRAI will take cognizance of the licensing conditions and restrict the scope of interconnected Internet Telephony to be provided over the licensee's own bearer network, we would like to submit as follows:

- a) Internet Telephony will be a niche service, provided by the telecom service providers to their customers having a smart phone or a device capable of handling SIP services. While the internet Telephony may appear as a cheaper alternative, it would be only available to people owning smart phones, whereas the marginal customers owning feature phones will have access to only PSTN based voice services.
- b) At this juncture, it is important to decide the broad contours of Internet telephony services, e.g. interconnect framework, numbering series, number portability, emergency services, quality of services, etc. as enablers. TRAI should leave the termination charge to forbearance until the service evolves fully and TRAI has sufficient data for determination of termination charge.
- c) As per its past practice of allowing the niche services to develop and flourish under its policy of forbearance, TRAI should only aim to facilitate enabling provisions and leaving the rest to the market dynamics. Numerous other services, including but not limited to SMS Termination charge, Access charges for International Calling Card, wholesale tariff for HD TV channels, etc. have been kept under forbearance in their initial stages of development.
- d) The present IUC framework is confined to PSTN/PLMN based services. Further, the current termination charges for PSTN calls have been arrived at with an assumption of minor imbalance in traffic, i.e. around 5-15% between the access service providers.

- e) We believe that the Internet Telephony Providers, due to their minimal investments, are likely to generate more outgoing calls towards PSTN leading to a huge imbalance in traffic as compared to the PSTN-PSTN. This imbalanced traffic will force the terminating operators to undertake more investments/costs without having earned the revenue corresponding to their full cost of termination since TRAI has fixed the present termination charge at 14 paise per minute, on the basis of incremental cost model (LRIC+), which is much lower than the actual cost.

Without prejudice to above submissions, if TRAI still decides to go ahead with the present consultation paper and mandate the termination charges for Internet telephony call onto the PSTN network, it should be at full cost, including CAPEX. Further, such cost should be derived in a fully transparent manner by sharing the complete details and calculations methodology/ costing models with stakeholders before releasing any final regulation in this regard.

Keeping in view the aforesaid submissions, the detailed response to the issues raised in the consultation paper is as below:

Q1. What should be the additional entry fee, Performance Bank Guarantee (PBG) and Financial Bank Guarantee (FBG) for Internet Service providers if they are also allowed to provide unrestricted Internet Telephony?

Bharti Airtel's Response:

Internet Telephony is the voice telephony services provided using VoIP technology over Internet and is characterized by the numbering series defined by IANA. PSTN Voice on the other hand is a public switched telephone network characterized by numbering series defined in E.164. This PSTN network can use Circuit Switched (TDM based technologies) or Packet switched technologies (including IP) such as NGN. Thus, Internet Telephony is different from voice telephony provided using VOIP technology in PSTN network (such as VoLTE or class 5 NGN).

Before we present response on the question, it is important to reflect on the scope of Internet Telephony allowed under different licenses:

A. Scope of Internet Telephony under Unified License with Access Authorization-UL(AS):

Clause 2.1 (a)(i) of Chapter VIII – Access Service of the Unified license states as below:

“2.1(a)(i) The Access Service under this authorization covers collection, carriage, transmission and delivery of voice and/or non-voice MESSAGES over Licensee's network in the designated Service Area. The Licensee can also provide Internet Telephony, Internet Services including IPTV, Broadband

Services and triple play i.e voice, video and data. While providing Internet Telephony service, the Licensee may interconnect Internet Telephony network with PSTN/PLMN/GMPCS network. The Licensee may provide access service, which could be on wireline and / or wireless media with full mobility, limited mobility and fixed wireless access."

A perusal of the above clause clearly shows that that while Unified License with Access Authorization allows interconnection of internet telephony network with PSTN;

- License mandates the providers to use their own network to provide internet telephony services. Hence, Internet Telephony service allowed under Unified License with Access Authorization is bundled along with the Internet bearer provided by the licensee.

B. Further, while the scope of the license enables the licensee to interconnect the Internet Telephony with PSTN/PLMN/GMPCS, it is not a mandatory condition. Such interconnection has been left to the choice of the licensee.

C. Scope of Internet Telephony under ISP License/ Unified License(ISP):

It is equally relevant to understand the scope of Internet Telephony allowed under Internet License/ Unified License with Internet Service Authorization. Clause 2.1 of Chapter IX – Internet Service of the Unified license states as below:

2.1 (i) The Licensee may provide Internet access including IPTV. The subscriber shall have unrestricted access to all the content available on Internet except for such content which is restricted by the Licensor/designated authority under Law. The Licensee shall not offer VPN/Closed User Group services to its subscribers. The content for IPTV shall be regulated as per law in force from time to time.

*(ii) The Licensee may provide **Internet Telephony through Public Internet** by the use of Personal Computers (PC) or IP based Customer Premises Equipment (CPE) connecting only the following:*

- a) PC to PC; within or outside India*
- b) PC / a device / Adapter conforming to TEC or International Standard in India to PSTN/PLMN abroad.*
- c) Any device / Adapter conforming to TEC or International Standard connected to ISP node with static IP address to similar device / Adapter; within or outside India.*

Explanation: Internet Telephony is a different service in its scope, nature and kind from real time voice service as offered by other licensees like Basic Service Licensees, Cellular Mobile Telephone Service (CMTS) Licensees, Unified Access Service (UAS) Licensees, Unified Licensee (Access Service), Unified Licensee with authorization for access services.

(iii) The Internet Telephony, only as described in condition (ii) above, can be provided

by the Licensee. Voice communication to and from a telephone connected to PSTN/PLMN/GMPCS and use of E.164 numbering is prohibited.

(iv) Addressing scheme for Internet Telephony shall conform to IP addressing Scheme of Internet Assigned Numbers Authority (IANA) only and the same shall not use National Numbering Scheme / plan applicable to subscribers of Basic / Cellular Telephone service. Translation of E.164 number / private number to IP address allotted to any device and vice versa, by the licensee to show compliance with IANA numbering scheme is not permitted.

Perusal of the above clauses indicates that an ISP Licensee;

- ISP license allows provisioning of Internet Telephony over Public Internet but it is not allowed to be interconnected with PSTN.
- Internet Telephony provided over the Public Internet is not allowed to use the numbers allocated under National Number Scheme/Plan for Basic/Cellular Services.
- Further, the translation from E.164 to IANA numbering series is prohibited.

Keeping above deliberation in mind, it can be safely concluded that only bundled Internet Telephony, i.e. Internet Telephony provided by a Unified License over its own network, is allowed to be interconnected with PSTN/PLMN/GMPCS. Hence the unbundled/app based Internet Telephony over the Public Internet is not allowed to be interconnected with PSTN/PLMN/GMPCS. Therefore, a large part of discussion in the consultation paper is not relevant.

Any ISP/ Unified Licensee with Internet Service Authorization, who wants to interconnect the Internet Telephony network with PSTN they should migrate to Unified License with Access Authorization and provide unrestricted internet telephony to their customers by using their own Internet bearer/ infrastructure.

Further, any ISP keen to offer unrestricted and interconnected Internet telephony service, should obtain the Unified License with Access Authorization by paying the applicable entry fee, PBG and FBG.

Internet Telephony provided by unlicensed OTT Communication players:

Many popular OTT Communication Providers are providing Internet Telephony services in the country without being subject to any regulations. This creates regulatory arbitrage between the licensed telecom operators bound by the license conditions and OTT players operating in an unregulated environment with no obligations. DoT Committee on Net Neutrality took cognizance of this aspect and accordingly recommended same service same rules in its report dated May 2015:

8.11

- (iii) *In case of VoIP OTT communication services, there exists a regulatory arbitrage wherein such services also bypass the existing licensing and*

*regulatory regime creating a non-level playing field between TSPs and OTT providers both competing for the same service provision. **Public policy response requires that regulatory arbitrage does not dictate winners and losers in a competitive market for service provision.***

- (iv) *The existence of a pricing arbitrage in VoIP OTT communication services requires a graduated and calibrated public policy response. In case of OTT VoIP international calling services, a liberal approach may be adopted. However, in case of domestic calls (local and national), communication services by TSPs and OTT communication services may be treated similarly from a regulatory angle for the present. The nature of regulatory similarity, the calibration of regulatory response and its phasing can be appropriately determined after public consultations and TRAI's recommendations to this effect.*

This issue is also being examined in other countries as well. The European Union has indicated its intention of tightening the rules on such OTTs. **We propose that this issue assumes huge significance and should, therefore, be considered and deliberated in view of "Same Service Same Rules" principle.**

Q2. Point of Interconnection for Circuit switched Network for various types of calls is well defined. Should same be continued for Internet Telephony calls or is there a need to change Point of Interconnection for Internet Telephony calls?

Bharti Airtel's Response:

The present guidelines for point of interconnection are well defined for PSTN call irrespective of interconnection being on circuit switch or on IP. Since unrestricted/interconnected Internet Telephony is only allowed under Unified License (Access Authorization) using their own network, therefore, it is proposed that the present guidelines for PSTN can be adopted.

Interconnection of Unrestricted Internet Telephony Calls with PSTN network:

- Since, point of interconnection/s are well defined for PSTN, the same may be continued for termination of Internet Telephony calls to the PSTN network.
- Internet Telephony calls should be handed over on a separate trunk group (akin to mobile and fixed line calls) at the existing Point of Interconnect.
- The Internet telephony service provider should handover the call at the far end (i.e. at the switch which is part of the terminating network) as is presently mandated for PSTN.
- The Internet telephony service provider may use the long-distance facility from other operators with carriage charges as per mutually negotiated charges within the framework of IUC.
- In case the SIP Gateway is located elsewhere in India, the call may be handed over to the terminating operator via the NLDO as is being done for inter-circle calls.

- The long distance operators (NLDO/ILDO) to carry internet telephony traffic using separate trunk groups and handover to terminating operator through separate trunk group only.
- In case the SIP Gateway is located in the terminating service area, a direct interconnection shall be established and Internet Telephony calls can be handed over directly at the terminating switch.

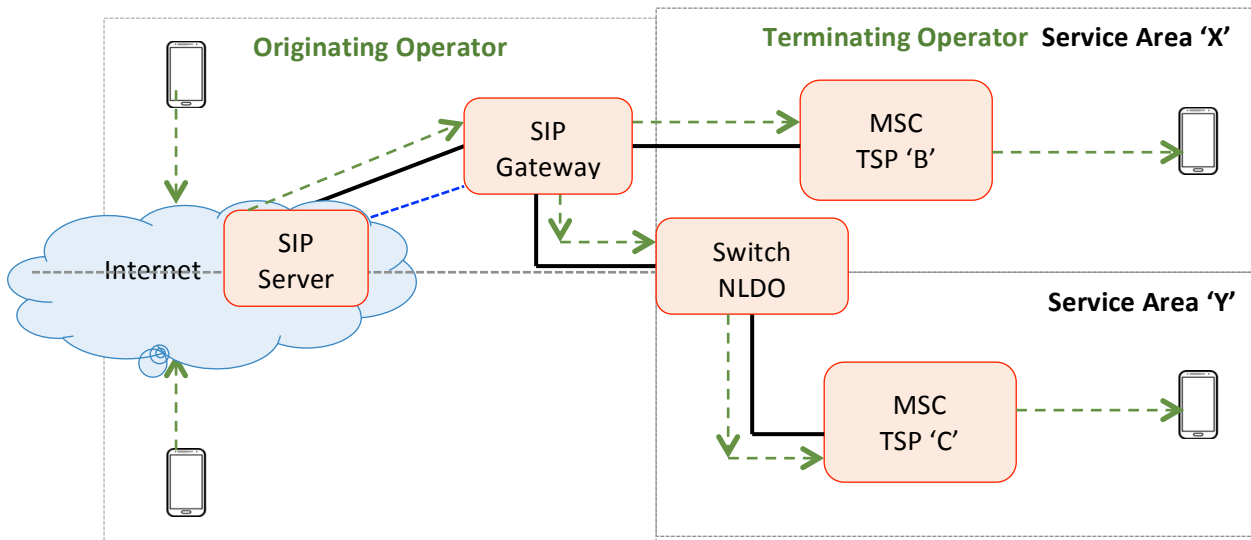


Figure 1 - Point of Interconnection for Internet Telephony Calls terminating into PSTN Network

Q3. Whether accessing of telecom services of the TSP by the subscriber through public Internet (Internet access of any other TSP) can be construed as extension of fixed line or mobile services of the TSP? Please provide full justification in support of your answer.

Bharti Airtel's Response:

Access of telecom services of the TSP by the subscriber through public Internet (Internet access of any other TSP) cannot be construed as an extension of fixed line or mobile services of the TSP. This is because Internet telephony is diverse in scope and nature from fixed line, WLL-M and mobile telephony as explained above.

Q10. What should be the framework for allocation of numbering resource for Internet Telephony services?

Bharti Airtel's Response:

Internet telephony is different in scope and nature from the fixed line, WLL-M and mobile

telephony as explained in response to Question 3.

As per National Numbering Plan, mobile, WLL-M and fixed line have distinct numbering series. The assignment of mobile numbering series is done on a circle basis whereas the STD code together with the levels assigned in the SDCA acts as unique numbering identifiers for fixed line and WLL-M. **Internet Telephony being a service distinct from mobile, fixed line and WLL-M requires a separate numbering series as an identifier.**

In case same number is used for internet telephony, it may have several issues, viz:

- The terminating operator is not able to determine whether the call is PSTN/ Internet Calls
- The terminating operator is also not able to determine whether it's a local/ STD call/ ISD Call, thereby opening a window of regulatory arbitrage and disputes.
- Separate number is also required for routing back the calls from PSTN to Internet
- The internet telephony number may be used independent of the mobile/ fixed line number. In case the services to mobile/ fixed line is terminated, the same number may continue to operate on internet telephony. Therefore, internet telephony number cannot be mixed with mobile or fixed line number.

For the aforesaid reasons, internet telephony warrants separate numbering series as the identifier.

With the multiplicity of operators intending to provide Internet Telephony, the requirement for numbering series will be large. We therefore, recommend **13 digits numbering series may be used for Internet Telephony** as is being proposed for M2M services. A 13 digit numbering for Internet Telephony will provide huge capacity sufficient for many internet telephony providers and will avert any change in the number length for fixed and mobile services for creating additional capacity.

Q5. What should be the termination charge when call is terminating into Internet telephony network?

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Q6. What should be the termination charge for the calls originated from Internet Telephony Network and terminated into the wireline and wireless Network?

Bharti Airtel's Response:

We have the following submissions in reference to termination charge:

a) Internet Telephony is a niche service and should be left under forbearance:

The initial phase of Internet Telephony services will be confined to subscribers having smart phones and thus making it a niche service. Since the source of Internet telephony call will either be a smartphone or a laptop/ computer or a SIP phone; each enabled with broadband connectivity, the internet telephony services will thus be limited to customers

equipped with these basics. As per the present estimate 20-30% of subscribers own smart phones out of which only 60-70% have subscribed to mobile broadband data. From the statistics, it can be safely assumed that Internet Telephony, which appears to be a cheaper alternative, will be limited in its use by people who have smartphones and have subscribed to mobile data. The major chunk of customers uses feature phones will continue to use voice services over PSTN.

TRAI has mostly followed a practice of forbearance for Niche services and there are numerous instances of such practice:

- SMS termination charge - The SMS termination charges were kept under forbearance since 2003. Only after 10 years when the need arose did TRAI chose to regulate the same vide its regulation dated March, 2013.
- Tariff for HD channels: The issue of regulating tariff for HD channels, a niche segment was discussed in 2010. However, TRAI vide its TTO (Addressable Systems) dated 21st July, 2010, opined that HD channels offer niche and premium content that did not warrant price regulation at this time. Even as on date, the tariff for HD channels is under forbearance despite the fact the HD channels have grown substantially and the industry is demanding for it to be regulated.
- International Calling Card: The amendment to the ILD license was done in 2010 to allow the ILDOs to sell International Calling Card. However, the rates for access charges to be paid by ILDO for International Calling card were kept under forbearance until August, 2014 when TRAI decided to regulate the same.

Aligned with the practice of allowing the niche services to develop and flourish under its policy of forbearance, TRAI should only aim to facilitate enabling provisions and leave the termination charges for mutual negotiations between various operators.

b) The present IUC regime is based upon the balanced traffic:

While we recommend that termination charge on Internet Telephony be kept under forbearance, we would like to seek TRAI's attention on the following crucial aspects relevant to the prevailing termination charges for PSTN calls, which holds good as on today:

- TRAI vide its regulation dated 2009 has mandated the FTC/ MTC of 20 paisa per minute.
- During the said consultation, TRAI derived the termination charge using FAC Model but did not consider the **CAPEX cost (Depreciation & Amortization)** while deducing the MTC.
- The said regulation was challenged in the Hon'ble TDSAT which in its Judgment dated 29 September, 2009 laid down the following principles while determining termination charge:

- ✓ **Determination of termination charges to be Cost based and on work done principle. Hence, the same must be above zero (No Bill and Keep)**

“..... various components of IUC namely, Origination charge, carriage charge and termination charge must be held to be the established principle of cost based determination therefor.....” - (114 (12))

✓ **Capital costs must be included in calculations.**

“It is not in controversy that cost would include CAPEX/OPEX and depreciation” - (114 (12))

✓ **Interconnection Charges determined by the Authority must be sustainable in the long run.**

“TRAI was therefore required to consider that all the operators must offer the call charges to its customers which would be sustainable in the long run” - (114(12))

✓ **IUC must be conducive to future investment, especially in rural and difficult terrains**

“It was its duty to adopt such principle which would be conducive for investment in future and in particular in rural and hilly areas.” - (101(5))

✓ **New operator should not be given any undue privileges or subsidization**

“We are also unable to agree with the submission of Mr. Vaidyanathan, that interest of new comers would be the principal ground to adopt a methodology for determination of inter-operator charges. Policy decisions, in our opinion, in this behalf should be clear and explicit.” - (101(10))

- The Appeal filed by TRAI before the Hon’ble Supreme Court challenging the Judgment and order dated 29.09.2010 is still pending. Similarly, review application filed against the judgment and order dated 06.12.2013 is also pending before the Hon’ble Supreme Court.
- The TDSAT judgment has been challenged on the basis of jurisdiction of TDSAT to adjudicate upon regulations framed by TRAI. However, Hon’ble TDSAT being a specialized tribunal for telecommunications industry has thrown light on relevant issues and made insightful observation such as inclusion of CAPEX is important to be considered while fixing the termination charge.
- TRAI, ignoring the TDSAT’s observations in respect of costing, vide regulation its regulation dated Feb 2015 mandated the following:

Type of Traffic	Termination Charge
Wireless to wireless	Re. 0.14 per minute
Wireless to wireline	0 (Zero)
Wireline to wireline	0 (Zero)
Wireline to wireless	0 (Zero)

- In the said regulation, TRAI departed from the time-tested FAC method for determining termination charges and instead used LRIC+ method. Though the said regulation indicates that the costing includes even the CAPEX cost, but we fail to understand that how the cost of termination calculated at 20 paisa without CAPEX cost in 2009 can come down to 14 paisa with CAPEX. Inclusion of CAPEX should

have raised the termination charges from 20 paisa to a higher value. Further, the spectrum cost of 0.78 paisa per minute considered by TRAI is a minor fraction of the actual cost of 6.27 paisa per minute as per our estimates.

- It is pertinent to note that in the Calling Cards Regulation issued on 19.08.2014, months before the issue of the IUC regulation of 2015, TRAI has recognized and recorded that the work done in the network is the same for outgoing and incoming minutes, i.e. the cost per, minute is the same whether the network is utilized for generating an incoming or making an outgoing minute and derived origination charge as Rs 0.40 per minute. This Regulation and its cost determination is as recent as August 2014. However, in the IUC Regulation 2015, TRAI has estimated the cost of mobile termination at Rs 0.14 per minute.
- Due to the above discrepancies, Bharti Airtel Limited and Bharti Hexacom Limited by way of Writ Petition No. 1187/2016 filed in Delhi High Court on 12th February 2016 have challenged the Telecommunication Interconnect Usage Charges (Eleventh Amendment) Regulations, 2015 dated 23rd February, 2015 and the matter is presently pending final adjudication by the court.
- Below cost termination charge impacts operators who have net incoming traffic from the other operators. Every extra minute of traffic is a loss to the terminating operator and therefore, such loss compels us to seek compensation in the form of increased tariffs from the existing customers and put those operators in a competitive disadvantageous position.
- As per the estimates submitted to TRAI during 2014, our cost per minute was 33 paise per minute. A termination charge of 14 paise therefore implies a loss of 19 paise per extra minute terminated by the other operator.
- ***Below cost termination, charge shifts the cost of one operator to another operator.*** In the CPP regime, it is the originating operator who collects revenue from the customer for both outgoing and incoming part of call, and a part of that is shared with terminating operator to compensate against its cost for call termination. However, in the event of termination charges lower than the full cost, the terminating operator ends up subsidizing for the net traffic. This loss exacerbates with an increase in traffic imbalance. A subsidy of this nature helps the competing operator to provide services at lower price at its expense and hence distort the level playing field.
- ***A termination charge fixed at full cost is very important in India due to a substantial traffic imbalance between the operators.*** TRAI while deriving the termination charge had observed that the present imbalance between 7 operators, having more than 90% of traffic, is in the range of 4-14%. We believe that such imbalance is expected to be much higher once the internet telephony is

interconnected with PSTN and therefore would further aggravate the loss to terminating operator.

- **Therefore, any termination charge should allow the interconnecting operator to recover its full cost. A fair compensation to the interconnecting operators will encourage the investment for expansion of telecom services.**

c) Termination Charge for call originated in the PSTN Network and terminated in the Internet:

- There is a fundamental difference between terminations in the PSTN viz-a-viz termination in the Internet. While in PSTN, we follow a CPP (Calling Party Regime) coupled with CPNP (Calling Party Network Pays), thereby implying that the originating subscriber pays for the entire cost of the call and terminating customer is not charged, however, in case of termination of a call in Internet, the charges for the network usage are paid by the terminating customer to the Internet provider (UL/ISP). Hence, a network charges for the call termination are directly paid by the receiving party to the Internet Telephony Provider (UL/ISP). Such a regime is equivalent to RPP regime for call termination. The cost of Internet Telephony Service provider is limited to handling only the signaling and billing.
- Therefore, we are of the view that when the customer is directly paying for the data/internet charges for receiving the call, it is not justifiable/logical to impose any termination charge on the originating operator. **The termination charge for a call from PSTN to Internet Telephony should be nil.**

Q4. Whether present ceiling of transit charge needs to be reviewed or it can be continued at the same level? In case it is to be reviewed, please provide cost details and method to calculate transit charge.

Bharti Airtel's Response:

As per the present IUC regime, transit charges are payable when the originating operator is not in a position to establish direct interconnection with the terminating operator at a switch location in the service area and hands over the traffic via another Access Provider. The prevailing IUC regulation has specified a ceiling of Re. 0.15 (15 paisa) per minute on transit charge.

The Internet Telephony service provider may be allowed to use such transit facility for terminating the Internet telephony calls subject to the condition that all three operators i.e. Internet Telephony service provider, transit operator and terminating operator agree by way of a Tri-partite agreement for termination of such call via a transit operator.

Q7. How to ensure that users of International Internet Telephony calls pay applicable International termination charges?

Bharti Airtel's Response:

As explained above, the interconnected/unrestricted internet telephony has to be originated from the network owned by Unified License (Access Service). Since a UL(AS) operator cannot create its network outside the country, the question of internet telephony call from a foreign location does not arise. It shall be the responsibility of the interconnected UL(AS) operator to ensure they do not terminate the Internet Telephony calls originating from the Public Internet (a network not owned by them).

Further, the location of the Internet Telephony customer is captured only in originating network and is not transferred to the terminating PSTN. Therefore it is only the Internet Telephony provider who knows the location of originating customer. Therefore, the UL(Access Services) operators need to ensure that they are not terminating any call in PSTN which is originating at an international location.

As far as the Internet Telephony calls originated in Public Internet are concerned, these calls are not allowed to be terminated on the PoI in India. Such type of calls are at present being interconnected at international location and are being terminated via ILD gateways. Hence the access providers are able to get the termination charge set at 53 paise for International calls.

Q8. Should an Internet telephony subscriber be able to initiate or receive calls from outside the SDCA, or service area, or the country through the public Internet thus providing limited or full mobility to such subscriber?

Bharti Airtel's Response:

The unrestricted internet telephony is bundled with the internet bearer. Therefore, the location of call origination will be governed by the geographical scope of the UL (AS).

Q9. Should the last mile for an Internet telephony subscriber be the public Internet irrespective of where the subscriber is currently located as long as the PSTN leg abides by all the interconnection rules and regulations concerning NLDO and ILDO?

Bharti Airtel's Response:

We believe that as per the scope of services permitted under Unified License with Access Authorization, internet telephony allowed is limited to providing voice services over its own internet i.e. VOIP services provided by an operator over its own broadband, internet lease line, 2G/3G/ 4G/BWA data services.

However, even if we assume that the last mile for the subscriber is Public Internet, then it has to be Public Internet created by the UL(AS) itself and not created by any other operator i.e. UL(AS) or ISP.

Q11. Whether Number portability should be allowed for Internet Telephony numbers? If yes, what should be the framework?

Bharti Airtel's Response:

Internet Telephony is presently a niche service. We believe that before allowing Internet Telephony Number portability, it should be allowed to grow and mature.

Once, it reaches a critical mass, TRAI may consider allowing Number Portability between the Internet Telephony numbers in the same manner as is being done for Mobile Number Portability.

Q12. Is it possible to provide location information to the police station when the subscriber is making Internet Telephony call to Emergency number? If yes, how? &

Q13. In case it is not possible to provide Emergency services through Internet Telephony, whether informing limitation of Internet Telephony calls in advance to the consumers will be sufficient?

Bharti Airtel's Response:

The provisioning of emergency services should be mandated to the Internet Telephony provider also.

The CDR's available for internet telephony calls will not have any Cell-ID information and therefore it may not be able to provide location information to the security agencies from the CDRs. But it is expected that a large proportion of Internet telephony users are likely to use mobile devices for making Internet Telephony calls. Such mobile devices with broadband Internet connectivity would be largely GPS enabled. Moreover, it is also learnt that DoT has mandated the handset suppliers to manufacture GPS enabled handsets w.e.f 1st Jan, 2018.

We, therefore, believe that in majority of the cases, the location information can be provided by the Internet Telephony service provider, while originating the call to emergency numbers.

It is also worth mentioning that in channel DTMF dialing / tone recognition will not happen in case of internet telephony calls, thereby limiting the customers' ability to interact with IVR based systems. Such IVR based systems are also present in case of emergency services. In such scenarios, the internet telephony service provider will have to deploy suitable solution for facilitating such communication/ interaction.

Q14. Is there a need to prescribe QoS parameters for Internet telephony at present? If yes, what parameter has to be prescribed? Please give your suggestions with justifications.

Bharti Airtel's Response:

Any services, be it voice or data provided to customer should be in line with the prescribed QoS parameters. Further, quality of service issues in internet telephony network will impact the quality of PSTN network as well. TRAI has already prescribed the network & customer service centric QoS parameters for mobile as well as fixed line subscribers. We believe that the same parameters duly attuned can be extended to Internet Telephony as well.

Q15. Any other issue related to the matter of Consultation.

Bharti Airtel's Response:

Nil