Response to
TRAI Consultation Paper
On
Internet Telephony
Released on July 22, 2016

I. Executive Summary:

1. All IP networks enhance the service delivery capabilities of networks through convergence; however it is only the underlying technology/network architecture while the delivery channels remain the same.

2. It seems that the Consultation Paper prescribes various forms of 'OTT Communication Services' to seek interconnection of their SIP servers with PSTN/PLMN networks in order to provide unrestricted Internet Telephony.

3. In this regard, it is submitted that only Unified Licensee with Access Authorization can be allowed to provide Internet Telephony on their networks.

4. This consultation paper, cannot be initiated as the fundamental issue of OTT Communication Services and corresponding issue of 'SAME SERVICE SAME RULES' by the Licensor and the Authority have not been decided so far.

5. Further, Internet Telephony requires Access Network (Last Mile) of UL/CMTS/UASL under Licensing Framework.

6. The Access Network to Subscriber of UASL/CMTS/UL (Access) has to be given by that UASL/CMTS/UL (Access). Even a licensee which is not giving such access network to its subscriber (last mile), cannot provide /internet telephony.

7. Any such attempt to provide connectivity through other service provider's internet connection is equal to any OTT Communication Service and not Internet Telephony Service as envisaged under the current licensing regime.

8. An OTT Communication Service (even when provided by a licensee where that licensee does not have an access network) cannot use any numbering or addressing resource to show such OTT Communication Service as Internet Telephony.

9. Internet Telephony (VOIP) is Content as per TRAI regulations e.g. Regulation on Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016 wherein VOIP and Messaging Services Apps are "content" as per TRAI. Thus, there is no case for the interconnection between an Internet Telephony with the PSTN/PLMN networks as the former does not have any network.

10. License provides for Interconnection between Networks only. As per TRAI Act, TRAI can ensure technical compatibility and effective inter-connection between different service providers only. Services Provider as per Act is a licensee. TRAI cannot regulate interconnection between a licensed and an unlicensed entity.

11. Internet Telephony provided by un-licensed entities besides being in violation of license will not only deprive the licensed operators of huge revenue loss but will also result in lesser payout to exchequer in the form of reduced license fee on revenues.

12. In light of the above, <u>we are of the view that the very basis for issuing this consultation paper is incorrect and against the provisions of Indian Telegraph Act and License Conditions.</u>

II. <u>Preamble:</u>

A. <u>Only Unified Licensee with Access Authorization can be allowed to provide Internet Telephony to their subscribers on their networks -</u>

1. The Government, TRAI and Service Providers are bound by the provisions of Indian Telegraph Act, 1885 and TRAI Act of 1997 and the licenses are issued and regulated thereunder. Telecommunication services can be provided by the licensees only.

2. Various examples, given by TRAI in the consultation paper, of different kinds of SIP Calls (like SIP to PSTN Bridging, FMT value added service etc.) are all various forms of 'OTT Communication Services' seeking interconnection of their SIP servers with PSTN/PLMN networks.

3. The scope of ISP License and UASL provide for Internet Telephony (VOIP) in varied forms and respective scopes are subject to various conditions and yet to be decided procedures. This means that any entity providing such service must at least have a license else such service is illegal under the Indian Telegraph Act, 1885. **<u>However, it is an admitted position of the TRAI and the Licensor that OTT Communication</u>**

Services are presently not subject to any regulatory or licensing regime and there are many relevant connected issues.

B. No decision so far on status of OTT Communication by the Government or TRAI – hence this consultation cannot be initiated

1. We would hereby like to submit that the discussion on the issues of OTT Communication services/VOIP or Internet Telephony, as raised in the consultation paper, cannot be initiated as the fundamental issue of OTT Communication Services and corresponding issue of '**SAME SERVICE SAME RULES' by the Licensor and the Authority have not been decided so far.**

2. It cannot be more arbitrary and irrational if for some Internet Telephony (VOIP) cases like SIP to PSTN Bridging and FMT value added service, the Government and the TRAI view them as telecommunication services, which require licensing, whereas other SIP based Internet Telephony (VOIP) is seen by the Government and the TRAI as content/ Information Technology service and hence not being brought under licensing and regulatory regime.

3. It will be equally arbitrary to assume that if a telecom licensee provides OTT/Internet Telephony (VOIP) services then such OTT/Internet Telephony (VOIP) services become licensed services (i.e. requiring license) and if a non-telecom licensee provides same OTT/Internet Telephony (VOIP) services then these services are non-licensed content/IT service.

4. **Hence, it is imperative that TRAI deal only with the issue of Internet Telephony, as permitted under license and address the larger issue of OTT Communications as a part of the separate consultation on OTT and Net Neutrality that is also underway.**

C. "OTT Internet Telephony (VOIP) is Content as per TRAI" - TRAI can only Regulate Interconnection between networks of two Licensees

1. We would like to submit that as per the Regulators position so far, any App service providing VOIP or Internet Telephony is not a telecommunication service. The key example of it is seen from TRAI's own regulations on prohibiting differential tariffs for data services based on content, where VOIP and Messaging Services Apps are content as per TRAI. If a TSP intends to offer different rate for any or all such VOIP Apps, then it is barred from doing so under the Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016 dated 8 February 2016**.**

2. These regulations define content as follows:

"(e) "content" includes all content, applications, services and any other data, including its end-point information, that can be accessed or transmitted over the internet;"

3. **TRAI, therefore, cannot treat such Internet Telephony (VOIP) as telecommunication service in its present consultation and as 'content' in its earlier Regulation.**

4. Further, as per Section 11(b) (iii) of the TRAI Act, TRAI can ensure technical compatibility and effective inter-connection between different service providers only. Services Providers as per Act is a licensee. TRAI cannot regulate interconnection between a licensed and an unlicensed entity.

5. Further, even license clearly states that interconnection is to take place between networks only.

6. **In light of above, we would like to submit that TRAI has no power under the TRAI Act, 1997 to hold said consultation or pass any regulation in this regard.**

D. Under UL (Access Authorization)/ UASL/ CMTS Internet Telephony calls may be interconnected with PSTN but also requires Access Network (Last Mile) of UL/UASL under Licensing Framework

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

1. The UL (Access Service Authorization) mandates the providers to use their own network to provide any service such as Internet Telephony, Internet Services including IPTV, Broadband Services and triple play i.e. voice, video and data. Further, it is Internet Telephony network of the Licensee which may interconnect with PSTN/PLMN network. Hence, Internet Telephony service allowed under Unified License with Access Authorization is bundled along with the Internet bearer provided by the licensee.

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

3. Clause 2.1 (a) (i) of UL(Access Authorization) is reproduced below, in this regard:

"Scope of Access Service: *Scope of this authorization covers the following:*

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."*

4. In this regard, we would like to submit that the UL (Access Services Authorization)/ UAS/CMTS License are ACCESS **Licenses. Only in capacity of ACCESS Licensees, they have been permitted to provide Internet Telephony on their Access Networks.**

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

5. 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.

6. Perusal of the above clauses indicates that;
   - 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.

7. **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.** Hence, the unbundled/app based Internet Telephony over the Public Internet is not allowed to be interconnected with PSTN/PLMN.

8. **We would hereby like to submit that in the current Consultation Paper, TRAI has completely ignored the pre-requisite of Access Network (last mile) of UL (Access/)/UASL/CMTS for accessing the internet, which includes Internet Telephony. The current Consultation Paper only deals with IT infrastructure required for Internet Telephony like SIP System Architecture, User Agent, Registrar etc.**

9. **Thus, the Access Network to Subscriber of UASL/CMTS/UL(Access) has to be given by that UASL/CMTS/UL(Access), this forms an important consideration for any discussion on Internet Telephony i.e. even a licensee which is not giving such access network to its subscriber (last mile), cannot provide internet services/internet telephony.**

10. Thus, if TRAI has to consider interconnection issues and other Internet Telephony issues, **it can only deal with cases where UASL/CMTS/UL (Access) has its access network to provide internet/internet telephony service to its subscriber.**

E. Illegal termination of "Internet Telephony" calls using numbering scheme assigned for mobile/fixed telephony:

1. We would hereby like to highlight recent case wherein an operator, announcing to make "Internet Telephony" calls (calls generated through mobile devices on internet bearer) made through its App and using CLI/numbering levels assigned for fixed telephony and terminating on the PSTN using PoIs meant for termination of calls originated from PSTN (Fixed or Mobile). We believe that subsequent to the Industry representation to DoT &

TRAI, such service was not started by the concerned operator. This case is also acknowledged by the TRAI in its paper on Interconnect Usage Charges.

2. In this regard, we would again like to submit that handing over of "Internet Telephony" calls in such a manner i.e. using CLI/ numbering levels assigned for fixed and/or mobile telephony not only violates the provisions of license and National Numbering Plan but also violates the provisions of current interconnection regime and agreements, exploits the IUC arbitrage and causes loss to terminating operator and exchequer.

3. Further, it is clear from above that the said operator voluntarily did not start the service of Internet Telephony calls provided through the app, as it violated the licensing conditions and was not a legitimate licensing service. Thus, we would like to submit that the service which is in violation to the licensing conditions cannot be legitimized through this Consultation.

F. Level Playing with the OTT services

1. The TRAI Act provides for protection of the interest of both consumers and licensed service providers. TSPs have invested around **Rs. 850,000 Crores** in establishing the networks and have provided affordable services for the masses.

2. While any competition is welcome but it must be ensured that the level playing field is maintained. The Licensing and Regulatory regime cannot allow a situation wherein the licensed entity (who takes spectrum in auctions, sets up network across the country, meets the Rollout Obligations and follows the Law of the land) is treated at lower footing than an unlicensed entity.

3. Further, the licensees are bound by various license conditions wherein the services have to be originated in their network only except in the case of roaming, wherein there is a bilateral roaming agreement between operators. Therefore, there can't be a case of OTT Internet Telephony which can get originated through a network other than that of the respective licensee or the roaming operator with whom the licensee has got into an agreement.

4. We would also like to submit that despite the fact that TSPs are the ones who are required to (a) invest heavily in creating the access infrastructure for the internet, (b) acquire the customers through proper verification processes, and (c) be held accountable for ensuring the Quality of Services for the desired user experience, TSPs role has been envisaged to be 'Passive'. The licensed TSPs unlike the unlicensed entity continue to pay huge levies in the form of license fee, spectrum charges, and capital expenditure to maintain networks. In contrast, unlicensed entity/OTT player are merely riding on the networks of TSPs in India. In addition, the licensed TSPs are subject to various security conditions, various licensing conditions and TRAI's customer centric

regulations; these entities (currently with respect to restricted Telephony) do not comply with.

5. **Internet Telephony provided by un-licensed entities or licensed entities without own network, will not only deprive the licensed operators huge revenue loss but will also result in lesser payout to exchequer in the form of reduced license fee/spectrum usage charges on revenues.**

6. We would also like to submit that the cheaper voice service of Internet Telephony Service Providers is merely the outcome of economic and regulatory arbitrage between PSTN Voice Telephony offered by TSPs and the Internet Telephony/VoIP provided by OTT players. Typically, today, the Indian TSPs realize revenue of around 25 paisa per MB for data services. One MB of data can in turn carry approx. 4 minutes of VoIP traffic. Presently, voice calls have a realization rate of around 36 paisa per minute, whereas a VoIP minute which is 1/4th of 1MB of data realizes only around 6 paisa i.e. 25/4=6.25 per minute. The data price realization is already below cost (India having one of the lowest tariffs) for the affordable access of content over Internet. For this reason too, there should not be any further tilting of level playing field against licensed service providers.

7. **The low data price would further the growth of VoIP/Internet Telephony by unlicensed entities at the cost of PSTN voice telephony and thereby reducing TSPs ability to continue with the lower price of data for accessing the content over Internet.**

III. Query wise Response:

It may be emphasized that the response to the issues raised by the Authority may kindly be read in the context of Internet Telephony as permitted under license and not the OTT Internet Telephony that has been mooted in the present consultation.

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?

COAI Comments:

1. In case ISP Licensee intends to provide Internet Telephony as permitted under UL (AS) along with interconnection to PSTN then ISP shall migrate to UL (Access Authorisation) with applicable entry fee, Performance Bank Guarantee and Financial Bank Guarantee and set-up independent network to provide such services.

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?

COAI Comments:

1. As highlighted in the preamble we would like to submit that IP based network is only the underlying technology/network architecture, there is no change in the delivery channel between TDM & IP based networks**.**

2. Further, existing Interconnection structure for PSTN/PLMN is well defined wherein extensive hierarchy of interconnection has been established and the same may be used.

3. OTT Internet Telephony as mooted in the consultation cannot connect to PSTN/PLMN.

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.

COAI Comments:

1. We would like to submit that Public Internet cannot be construed as an extension of fixed or mobile services. Public Internet is the separate delivery channel.

2. Importantly, Public internet is 'Internet Cloud' which is behind the gateway of ISP/TSP and not the "Internet access of any other TSP" as has been mentioned in the question. A connection to a subscriber of an ISP/TSP cannot be called public internet and cannot be accessed by another ISP/TSP. The TRAI itself has mentioned Public Internet as 'Internet Cloud' in 2008 Consultation paper on the same subject and it cannot now change the definition. Hence, internet telephony, with so called public internet being at last mile level, is not envisaged in the license agreement. Any routing of call, in this manner will be in serious breach of numbering plan, re-selling conditions, CLI tampering and illegal call routing.

3. We respectfully submit that this question has bearing on all the later questions that are being asked by TRAI and none of our answers support such kind of internet telephony.

4. Further, the license conditions themselves acknowledge that internet telephony is different from real time fixed or mobile telephony, hence it cannot called an extension of fixed or mobile telephony.

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.

COAI Comments:

1. The prevailing IUC regulation has specified a ceiling of Re. 0.15 (15 paisa) per minute on transit charge.

2. As only UL (Access) licensee can provide the Internet Telephony calls **hence no need to review the transit Charges.**

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?

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

COAI Comments:

1. As highlighted in the preamble, we would like to submit that since the unrestricted Internet Telephony can only be provided by UL (Access Authorization) with access network and public internet is in cloud and not in last mile given by some another ISP/TSP, the above set of questions are not relevant, if the framework on internet telephony given in the consultation paper is illegal. Notwithstanding, the same we have following comments on the issue:

2. **Internet Telephony being a niche service, should be left under forbearance:**

   a. The initial phase of Internet Telephony services will be confined to subscribers having smart phones and thus making it a niche service. TRAI has mostly followed a practice of forbearance for Niche services and there are numerous instances of such practice for example SMS termination charge, tariff for HD channels, ILD Calling card etc.

   b. 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.

3. If at all TRAI intends to regulate, then:

a. **Termination Charge for call originated in the Internet Network and terminated in the PSTN:**

- 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.**

b. **Termination Charge for call originated in the PSTN Network and terminated in the Internet:**

- 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.**

c. **International termination charge:**

- As explained above, the interconnected/ unrestricted internet telephony has to be originated from the network owned by Unified License (Access Service).

- Since the UL (Access Authorization) operator cannot create its network outside the country, there is no question of internet telephony calls from a foreign location.

- It shall be the responsibility of the interconnected UL(Access Authorization) operator to ensure they do not terminate the Internet Telephony calls originating from the Public Internet (a network not owned by them).

- 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 types 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 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?

COAI Comments:

1. It is reiterated that Internet Telephony as mooted by the Authority in the present consultation is illegal and therefore the issue raised by TRAI is not relevant.

2. Insofar as in case of Internet telephony permitted under UL(AS), any Initiating and receiving the calls from outside the SDCA or service area or the country, needs to be based on current licensing regime.

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?

COAI Comments:

1. As mentioned in Answer to question No. 3 Public internet is Internet Cloud which is behind the gateway of ISP/TSP and not the "Internet access of any other TSP" as has been mentioned in the question. A connection to a subscriber of an ISP/TSP cannot be called public internet and cannot be accessed by another ISP/TSP. The TRAI itself has mentioned Public Internet as Internet Cloud in 2008 Consultation paper on the same subject and it cannot now change the definition. Hence, internet telephony, with so called public internet being at last mile level, is not envisaged in the license agreement. Any routing of call, in this manner will be in serious breach of numbering plan, re-selling conditions, CLI tampering and illegal call routing.

2. Last mile cannot be public internet or public internet cannot be last mile.

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

COAI Comments:

1. As only access licensees i.e. UL/UASL/CMTS (having last Mile network) can provide Internet Telephony, we believe E.164 numbering scheme should be continued.

2. As per National Numbering Plan, mobile, WLL-M and fixed line have distinct numbering series. Internet Telephony being a service distinct from mobile, fixed line and WLL-M requires a separate numbering series as an identifier.

3. Further, in order to handle large number of connections, TRAI should consider recommending 13 digit numbering scheme for the Internet Telephony services as is being considered for M2M services.

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

COAI Comments:

1. As highlighted in the preamble, Internet telephony can only be provided by the UL (Access Service), Number portability can be allowed as per current licensing conditions only between TSPs providing internet connectivity to its customers for internet telephony. However, this is a discussion that is relevant at a much later stage.

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?

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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?

COAI Comments:

1. The 'Emergency number calling' is a critical facility which cannot be overlooked. It is mandatory for all UL/UASL – whether existing or new – to provide this service

2. The Emergency service for VOIP has been mandated by other Regulators as well i.e. Ofcom & FCC.

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.

COAI Comments:

1. TRAI has already prescribed QoS norms for the existing wireline and wireless networks. In the past also, the Authority has held the view that the objective of laying down Quality of Service benchmarks is to:

   - Ensure customer satisfaction by laying down standards of network performance, which the service provider is required to achieve by proper engineering of his network.

- Measure the Quality of Service from time to time and to compare that with the specified norms so as to monitor the level of performance, provided by various service providers' networks.

- Protect the interests of subscribers in regard to Quality of Service, particularly a minimum level of voice quality, which he expects, when he makes a call and pays for it.

2. QOS for legitimate Internet Telephony should be mandated on the same lines as have already been prescribed and are being applied to QoS for ILD Services which have certain defined parameters, like end-to-end delay, jitter, packet loss. Hence, there is no reason for not mandating the QoS for the Internet Telephony.

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

COAI Comments:

1. All the relevant issues have been highlighted by us in the preamble for the Authority's consideration.

Kindly note that one of our members namely Reliance Jio has divergent view on some of the points listed in this response and they may represent separately on the same.

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